



WiMAX Forum® Air Interface Specifications

WiMAX Forum® Mobile System Profile

WMF-T23-001-R020v02

WMF Approved

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WiMAX Forum Proprietary

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2

3 **Abstract**

4 This document specifies the WiMAX Forum® mobile air interface system profile Release 2, for the
5 purpose of certification of conformant Subscriber Stations and Base Stations. The profile is based on
6 IEEE Std 802.16m. WiMAX Forum Mobile Air Interface system profile Release 2 is backward
7 compatible to Certification Release 1b of WiMAX Forum Mobile System Profile Release 1 as specified
8 in [2] and [3]. This air interface profile document specifies feature level compliance requirements for
9 MAC layer, PHY layer and Multicarrier aspects of the system. It also includes the listing of the
10 corresponding trait packages where details of those are defined through association with PICS elements in
11 the WiMAX Forum® Mobile air interface Protocol Implementation Conformance Statement Release 2
12 [4].

13 **1. Scope**

14 This document specifies the WiMAX Forum® mobile air interface system profile Release 2, for the
15 purpose of certification of conformant Subscriber Stations and Base Stations. The profile is based on
16 IEEE Std 802.16m and backward compatible to Certification Release 1b of WiMAX Forum Mobile
17 System Profile Release 1 as specified in [2] and [3]. Although this document includes features related to
18 the categorization of Release 2 devices, the details of device categorization including relevant parameters
19 are covered in [5].

1 2. References

- 2
- 3 [1] IEEE Std 802.16m/D12, “DRAFT Amendment to IEEE Standard for Local and metropolitan area
4 networks Part 16: Air Interface for Broadband Wireless Access Systems, Advanced Air Interface”
5 2011-02-17
- 6 [2] WMF-T23-001-R010v09_MSP, WiMAX Forum® Mobile System Profile Release 1, 2010-09-07
- 7 [3] WMF-T24-002-R010_TPA, WiMAX Forum® Trait Packages Release 1
- 8 [4] WMF-T24-001-R020_PICS, WiMAX Forum® Mobile air interface Protocol Implementation
9 Conformance Statement Release 2
- 10 [5] WMF-T23-00X-Rnnn MDC, WiMAX Forum® Mobile Device Categories

3. Definitions

For the purposes of the present document, the following terms and definitions apply:

3.1 Abbreviations

3.2 Definitions of system profiles

Definitions of different terms used in the System Profile provided in this subsection.

3.3 Conventions

3.3.1 Item column

The Item column contains a number that identifies each description in the table.

9

3.3.2 Description column

The description column describes in free text each respective item (e.g., sub-features, parameters, timers, etc.).

13

3.3.3 Reference column

The reference column indicates the section of standard [1] from which the item is derived.

16

3.3.4 Status column

The following notations are used in the status column to indicate whether each item is mandatory or optional in IEEE Std 802.16m [1].

19

Table 1. Status Column Entries

m	Explicitly shown as mandatory in the standard. It is required to implement
pm	Potentially mandatory, required for the system to perform basic operations (Not explicitly shown as mandatory in the standard). It is required to implement.
o	Explicitly mentioned as optional in the standard or is not explicitly mentioned but has capability negotiations. It may or may not be implemented.
oi	Qualified options need a mutually exclusive or selectable option from a set. One or more of the options from the set shall be supported.
po	Potentially optional. Not explicitly mentioned as mandatory, but from the standard we may conclude it is, though not really required for the system to perform basic operations. We have to decide whether it should be defined as optional
n/a	Not applicable – in the given context, it is impossible to use the capability.

20

3.3.5 BS/MS Required column

The MSR/BSR columns indicate whether the item is required for every BS/MS to implement for WiMAX® certification purposes.

1

Table 2. Required Column Entries

Y or y	Required to implement
N or n	Not required to implement.
IOBS-NNNN	Inter-operable Options: Item belongs to NNNN group of features for which it is requested to provide testing procedure and distinct labeling of BS equipment as relevant to BS operation with a certain channel bandwidth. More specifically <ul style="list-style-type: none"> ▪ The item is not required to get general “WiMAX® certified” label and ▪ Is required to get distinct “WiMAX certified with NNNN capability label
IOMS-NNNN	Inter-operable Options: Item belongs to NNNN group of features for which it is requested to provide testing procedure and distinct labeling of MS equipment as relevant to MS operation with a certain channel bandwidth. More specifically <ul style="list-style-type: none"> ▪ The item is not required to get general “WiMAX certified” label and ▪ It is required to get distinct “WiMAX certified with NNNN capability” label
n/a	Not applicable

2

3 The following Inter-operable Options are defined and used in this document.

4

IO Option	Description
IOBS/IOMS-T16C	Group of Inter-operable Option features related to 1/16 CP length operation in T DD system.
IOBS/IOMS-T8C	Group of Inter-operable Option features related to 1/8 CP length operation in 8.75MHz or 7MHz TDD system.
IOBS-LS5	Group of Inter-operable Option features related to legacy support operation in 5 MHz TDD system.
IOBS/IOMS-LS7	Group of Inter-operable Option features related to legacy support operation in 7 MHz TDD system.
IOBS/IOMS-LS87	Group of Inter-operable Option features related to legacy support operation in 8.75MHz TDD system.
IOBS-LS10	Group of Inter-operable Option features related to legacy support operation in 10 MHz TDD system.
IOBS/IOMS-LUL	Group of Inter-operable Option features related to longer UL frame operation in T DD system. This feature is applicable to specific applications only such as public safety/smart grid/M2M/etc.
IOBS/IOMS-F16C	Group of Inter-operable Option features related to 1/16 CP length operation in F DD system.
IOBS/IOMS-F8C	Group of Inter-operable Option features related to 1/8 CP length operation in FD D system.
IOBS-SNDC	Group of Inter-operable Option features related to Sounding CDM operation.
IOBS-SNDF	Group of Inter-operable Option features related to Sounding FDM operation.
IOBS-2TXB	Group of Inter-operable Option features related to 2 transmit antenna ABS operation.

IOBS-4TXB	Group of Inter-operable Option features related to 4 transmit antenna ABS operation.
IOMS-1TXM	Group of Inter-operable Option features related to 1 transmit antenna AMS operation.
IOMS-2TXM	Group of Inter-operable Option features related to 2 transmit antenna AMS operation.
IOMS-4TXM	Group of Inter-operable Option features related to 4 transmit antenna AMS operation.
IOMS-EDI0	Group of Inter-operable Option features related to EDI type 0 operation.
IOBS/IOMS-EDI3	Group of Inter-operable Option features related to EDI type 3 operation.
IOBS/IOMS-MC	Group of Inter-operable Option features related to Multi-carrier
IOBS/IOMS-MCTD	Group of Inter-operable Option features related to TDD Intra-Band Non-contiguous Carrier Aggregation
IOBS/IOMS-MCFD	Group of Inter-operable Option features related to FDD Intra-Band Non-contiguous Carrier Aggregation
IOBS/IOMS-MCSA	Group of Inter-operable Option features related to Carrier Aggregation Support with Subcarrier Alignment
IOBS/IOMS-MCSN	Group of Inter-operable Option features related to Carrier Aggregation Support without Subcarrier Alignment
IOBS/IOMS-MCAA	Group of Inter-operable Option features related to asymmetric carrier aggregation
IOBS/IOMS-MCLU	Group of Inter-operable Option features related to Preferred carrier selection by Location Update
IOBS/IOMS-AGPS	Group of Inter-operable Option features related to AGPS operation.
IOBS/IOMS-IPv6	Group of Inter-operable Option features related to IPv6 operation.
IOBS/IOMS-ROHCv4	Group of Inter-operable Option features related to ROHCv4 operation.
IOBS/IOMS-ROHCv6	Group of Inter-operable Option features related to ROHCv6 operation.
IOBS/IOMS-ETH	Group of Inter-operable Option features related to Ethernet CS operation.
IOBS/IOMS-ES1	Group of Inter-operable Option features related to emergency service support for E911 type services.
IOBS/IOMS-ES2	Group of Inter-operable Option features related to emergency service support for NS/EP services.
IOBS/IOMS-ES3	Group of Inter-operable Option features related to support of emergency alert using L2XFER message type 9.

IOBS/IOMS-NDS	Group of Inter-operable Option features related to support for obtaining NSP list using AAI-SII-ADV.
IOBS/IOMS-RNG	Group of Inter-operable Option features related to unsolicited UL BW allocation during network entry.
IOBS/IOMS-SLP1	Group of Inter-operable Option features related to the use of Bitmap to indicate the listening sub-frames in the Listening Window.
IOBS/IOMS-SLP2	Group of Inter-operable Option features related to operation of keeping the FFBC H during Sleep Mode.
IOMS-DCR	Group of Inter-operable Option features related to DCR mode operation.
IOBS/IOMS-CLC	Group of Inter-operable Option features related to Co-located Coexistence operation.
IOBS/IOMS-CLC-1	Group of Inter-operable Option features related to CLC Type I operation.
IOBS/IOMS-CLC-2	Group of Inter-operable Option features related to CLC Type II - Subtype 1 operation.
IOBS/IOMS-CLC-3	Group of Inter-operable Option features related to CLC Type II - Subtype 3 operation.
IOBS/IOMS-CLC-4	Group of Inter-operable Option features related to CLC Type III operation.
IOBS-MC	Group of Inter-operable Option features related to multi-carrier.
IOBS-DRNG	Group of Inter-operable Option features related to Dedicated Ranging operation.
IOBS-ZSLM	Group of Inter-operable Option features related to Zone Switch from LZone to MZone operation.
IOBS-ZSML	Group of Inter-operable Option features related to Zone Switch from MZone to LZone operation.
IOBS/IOMS-ORAT	Group of Inter-operable Option features related to Inter-RAT HO support using L2 transfer message operation.
IOMS/IOMS-MIH	Group of Inter-operable Option features related to Inter-RAT HO support using MIH frame.

1

2 3.3.6 BS/MS Values column

3 The MSV/BSV columns indicate the specific value or range of values for each BS/MS to implement for
4 WiMAX certification purposes.

Table 3. Value Column Entries

xx	Set to value xx
aa - bb	Set to range aa - bb
n/a	Not applicable

6

1 **3.3.7 Trait Package**

2 This column specifies the associated trait package ID to each item.

3 **3.3.8 Comment column**

4 The comment column provides additional clarification and reasoning for each item.

5 **3.3.9 Duplexing Mode Column**

6 This column indicates whether the item is applied to TDD or FDD system.

7 **Table 4. Duplexing Mode Column Entries**

TDD	Applicable to TDD only
FDD	Applicable to FDD only
Common	Applicable to both TDD and FDD with identical function, procedure, and parameters.
TDD, FDD	Applicable to both TDD and FDD, but the details of the profile item, related to functionality, procedure, and/or parameters may be different depending on the duplex mode.

8

1 **4. PHY Profile**

2 **4.1 Profiles of BS and MS**

3 **4.1.1 Frame Configuration**

4 **4.1.1.1 TDD Mode**

5 Table 5 specifies the FFT sizes corresponding to various channel bandwidths. Note that channel
6 bandwidths supported by tone dropping are not used.

7 **Table 5. Channel Bandwidth and FFT Sizes**

Channel Bandwidth (MHz)	FFT Size
5	512
7	1024
8.75	1024
10	1024
20	2048

8 **Table 6. Cyclic Prefix**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	1/16 Cyclic Prefix	16.3.2.4	oi-PG1-2	IOBS-T16C	IOMS-T16C				TDD
2	1/8 Cyclic Prefix	16.3.2.4	oi-PG1-2	Y	Y				TDD
3	1/4 Cyclic Prefix	16.3.2.4	oi-PG1-2	N	N				TDD

9 **Table 7. Legacy Support R1.0**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Legacy Support R1.0 5MHz	16.3.3.5.1	o	IOBS-LS5	Y				TDD
2	Legacy Support R1.0 10MHz	16.3.3.5.1	o	IOBS-LS510	Y				TDD
3	Legacy Support R1.0 8.75MHz	16.3.3.5.1	o	IOBS-LS87	IOMS-LS87				TDD
4	Legacy Support R1.0 7MHz	16.3.3.5.1	o	IOBS-LS7	IOMS-LS7				TDD
5	Support of UL TDM	16.3.3.5.1	o	N	N				TDD
6	Support of UL	16.3.3.5.1	o	Y	Y				TDD

	FDM								
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Table 8. Frame Configuration for 5 MHz

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Frame configuration index to support 1/16 Cyclic Prefix	16.3.3.3, 16.3.3.7	o	IOBS-T16C	IOMS-T16C	0, 1, 2	The same as BS values		TDD
2	Frame configuration index to support 1/16 Cyclic Prefix.	16.3.3.3, 16.3.3.7	o	IOBS-LUL	IOMS-LUL	3	The same as BS values		TDD
3	Frame configuration index to support 1/8 Cyclic Prefix	16.3.3.2.2, 16.3.3.7	o	Y	Y	0, 1, 2	The same as BS values		TDD
4	Frame configuration index to support 1/8 Cyclic Prefix.	16.3.3.2.2, 16.3.3.7	o	IOBS-LUL	IOMS-LUL	3	The same as BS values		TDD
5	Frame configuration index to support 1/4 Cyclic Prefix	16.3.3.4, 16.3.3.7	o	N	N				TDD
6	Frame configuration index to support legacy R1.0 MS (29:18)	16.3.3.5.1, 16.3.3.7	o	IOBS-LS5	Y	5, 7, 9, 11, 13, 15, 20, 21.	The same as BS values		TDD
7	Frame configuration index to support legacy R1.0 MS (35:12)	16.3.3.5.1, 16.3.3.7	o	IOBS-LS5	Y	22, 23, 24, 25, 26, 27, 28, 29, 30	The same as BS values		TDD

3

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Table 9. Frame Configuration for 10 MHz

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Frame configuration	16.3.3.3,	o	IOBS-	IOMS-	0, 1, 2	The same		TDD

	index to support 1/16 Cyclic Prefix	16.3.3.7		T16C	T16C		as BS values		
2	Frame configuration index to support 1/16 Cyclic Prefix.	16.3.3.3, 16.3.3.7	o	IOBS-LUL	IOMS-LUL	3	The same as BS values		TDD
3	Frame configuration index to support 1/8 Cyclic Prefix	16.3.3.2.2, 16.3.3.7	o	Y	Y	0, 1, 2	The same as BS values		TDD
4	Frame configuration index to support 1/8 Cyclic Prefix.	16.3.3.2.2, 16.3.3.7	o	IOBS-LUL	IOMS-LUL	3	The same as BS values		TDD
5	Frame configuration index to support 1/4 Cyclic Prefix	16.3.3.4, 16.3.3.7	o	N	N				TDD
6	Frame configuration index to support legacy R1.0 MS (29:18)	16.3.3.5.1, 16.3.3.7	o	IOBS-LS510	Y	5, 7, 9, 11, 13, 15, 20, 21	The same as BS values		TDD
7	Frame configuration index to support legacy R1.0 MS (35:12)	16.3.3.5.1, 16.3.3.7	o	IOBS-LS510	Y	22, 23, 24, 25, 26, 27, 28, 29, 30	The same as BS values		TDD
8	Frame configuration index to support co-ex with other RAT or a long TTG	16.3.3.7	o	Y	Y	17, 18, 19	The same as BS values		TDD

1

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Table 10. Frame Configuration for 20 MHz

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Frame configuration index to support 1/16 Cyclic Prefix	16.3.3.3, 16.3.3.7	o	IOBS-T16C	IOMS-T16C	0, 1, 2	The same as BS values		TDD
2	Frame configuration	16.3.3.3,	o	IOBS-	IOMS-	3	The same as		TDD

	index to support 1/16 Cyclic Prefix.	16.3.3.7		LUL	LUL		BS values		
3	Frame configuration index to support 1/8 Cyclic Prefix	16.3.3.2.2, 16.3.3.7	o	Y	Y	0, 1, 2	The same as BS values		TDD
4	Frame configuration index to support 1/8 Cyclic Prefix.	16.3.3.2.2, 16.3.3.7	o	IOBS-LUL	IOMS-LUL	3	The same as BS values		TDD
5	Frame configuration index to support 1/4 Cyclic Prefix	16.3.3.4, 16.3.3.7	o	N	N				TDD

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Table 11. Frame Configuration for 8.75 MHz

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Frame configuration index to support 1/16 Cyclic Prefix	16.3.3.3, 16.3.3.7	o	IOBS-T16C	IOMS-T16C	0, 1	The same as BS values		TDD
2	Frame configuration index to support 1/8 Cyclic Prefix	16.3.3.2.2, 16.3.3.7	o	IOBS-T8C	IOMS-T8C	0, 1	The same as BS values		TDD
3	Frame configuration index to support 1/4 Cyclic Prefix	16.3.3.4, 16.3.3.7	o	N	N				TDD
4	Frame configuration index to support R1.0 MS	16.3.3.5.1, 16.3.3.7	o	IOBS-LS87	IOMS-LS87	4, 6, 8, 10	The same as BS values		TDD

3

4

Table 12. Frame Configuration for 7 MHz

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Frame configuration index to support 1/16 Cyclic Prefix	16.3.3.3, 16.3.3.7	o	IOBS-T16C	IOMS-T16C	0, 1	The same as BS values		TDD

2	Frame configuration index to support 1/8 Cyclic Prefix	16.3.3.2.2, 16.3.3.7	o	IOBS-T8C	IOMS-T8C	0	The same as BS values		TDD
3	Frame configuration index to support 1/4 Cyclic Prefix	16.3.3.4, 16.3.3.7	o	N	N				TDD
4	Frame configuration index to support R1.0 MS	16.3.3.5.1, 16.3.3.7	o	IOBS-LS7	IOMS-LS7	3, 5	The same as BS values		TDD

1

2 **Table 13. Frame Configuration for Bandwidth Supported by Tone Dropping**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Frame configurations for BW supported by tone dropping based on 10MHz	16.3.2.4	o	N	N				TDD
2	Frame Configurations for BW supported by tone dropping based on 20MHz	16.3.2.4	o	N	N				TDD

3

4

5 **Table 14. Long TTI**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Downlink (the whole subframes)	16.3.3.1	o	Y	Y				TDD
2	Uplink (the whole subframes)	16.3.3.1	o	Y	Y				TDD

5

6 **4.1.1.2 FDD/HFDD Mode**

7 **Error! Reference source not found.** 14 specifies the FFT sizes corresponding to various channel
8 bandwidths. Note that channel bandwidths supported by tone dropping are not used.

9

10 **Table 15. Channel Bandwidth and FFT Sizes**

Channel Bandwidth (MHz)	FFT Size
5	512
7	1024
8.75	1024
10	1024
20	2048

1

Table 16. Cyclic Prefix

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	1/16 Cyclic Prefix	16.3.2.4	o-i-PG1-2	IOBS-F16C	IOMS-F16C				FDD
2	1/8 Cyclic Prefix	16.3.2.4	o-i-PG1-2	IOBS-F8C	IOMS-F8C				FDD
3	1/4 Cyclic Prefix	16.3.2.4	o-i-PG1-2	N	N				FDD

2

3

Table 17. Frame Configuration for 5 MHz

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Frame configuration index to support 1/16 Cyclic Prefix	16.3.3.3, 16.3.3.7	o	IOBS-F16C	IOMS-F16C	4	4		FDD
2	Frame configuration index to support 1/8 Cyclic Prefix	16.3.3.2.1, 16.3.3.7	o	IOBS-F8C	IOMS-F8C	4	4		FDD
3	Frame configuration index to support 1/4 Cyclic Prefix	16.3.3.4, 16.3.3.7	o	N	N	-			FDD

4

5

Table 18. Frame Configuration for 10 MHz

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Frame configuration index to support 1/16 Cyclic Prefix	16.3.3.3, 16.3.3.7	o	IOBS-F16C	IOMS-F16C	4	4		FDD
2	Frame configuration index to support 1/8 Cyclic Prefix	16.3.3.2.1, 16.3.3.7	o	IOBS-F8C	IOMS-F8C	4	4		FDD
3	Frame configuration index to support 1/4 Cyclic Prefix	16.3.3.4, 16.3.3.7	o	N	N				FDD

6

7

Table 19. Frame Configuration for 20 MHz

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Frame configuration index to support	16.3.3.3,	o	IOBS-	IOMS-	4	4		FDD

	1/16 Cyclic Prefix	16.3.3.7		F16C	F16C				
2	Frame configuration index to support 1/8 Cyclic Prefix	16.3.3.2.1, 16.3.3.7	o	IOBS-F8C	IOMS-F8C	4	4		FDD
3	Frame configuration index to support 1/4 Cyclic Prefix	16.3.3.4, 16.3.3.7	o	N	N	-			FDD

1

2

Table 20. Frame Configuration for 8.75 MHz

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Frame configuration index to support 1/16 Cyclic Prefix	16.3.3.3, 16.3.3.7	o	N	N	3	3		FDD
2	Frame configuration index to support 1/8 Cyclic Prefix	16.3.3.2.1, 16.3.3.7	o	N	N	3	3		FDD
3	Frame configuration index to support 1/4 Cyclic Prefix	16.3.3.4, 16.3.3.7	o	N	N				FDD

3

4

Table 21. Frame Configuration for 7 MHz

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Frame configuration index to support 1/16 Cyclic Prefix	16.3.3.3, 16.3.3.7	o	IOBS-F16C	IOMS-F16C	2	2		FDD
2	Frame configuration index to support 1/8 Cyclic Prefix	16.3.3.2.1, 16.3.3.7	o	IOBS-F8C	IOMS-F8C	2	2		FDD
3	Frame configuration index to support 1/4 Cyclic Prefix	16.3.3.4, 16.3.3.7	o	N	N				FDD

5

Table 22. Frame Configuration for Bandwidth Supported by Tone Dropping

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Frame configurations for BW supported by tone dropping based on 10MHz	16.3.2.4	o	N	N	-	-	-	FDD
2	Frame Configurations for	16.3.2.4	o	N	N	-	-	-	FDD

	BW supported by tone dropping based on 20MHz								
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Table 23. Long TTI

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Downlink (4 subframes)	16.3.3.1	o	Y	Y				FDD
2	Uplink (4 subframes)	16.3.3.1	o	Y	Y				FDD

3

4

[Table 24. Support of Legacy HFDD R1.5 MS]

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	[Frame configurations to support Legacy R1.5 H-FDD MS]		o	N	N				FDD

Note on Item 1: Need to discuss again after SPWG and 16m discussion relative to definition of legacy support

5

4.1.2 Downlink PHY Structure

4.1.2.1 Sub-frame Type Support

Table 25. Sub-frame Type Support

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	PRU for different subframe types (Ref: added Frame_Structure reference later)		m	Y	Y				Common

4.1.2.2 Frequency Partitioning

Table 26. Frequency Partitioning

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Reuse-1 with one freq partition (FP0, FP1, FP2, FP3)	16.3.4.2.3	oi-PG2-1	Y	Y	DFPC=0	The same as BS values		Common

	= (1:0:0:0)								
2	Reuse-3 with three freq partitions (FP0, FP1, FP2, FP3) = (0:1:1:1)	16.3.4.2.3	oi-PG2-1	Y	Y	DFPC=1	The same as BS values		Common
3	FFR with four partitions (FP0, FP1, FP2, FP3) = (1:1:1:1)	16.3.4.2.3	oi-PG2-1	Y	Y	DFPC=2,3,4,5,6 (2048 FFT) DFPC=2,3,4,5 (1024 FFT) DFPC=2,3,4 (512 FFT)	The same as BS values		Common
4	Reuse-2 with two partitions (FP0, FP1, FP2, FP3) = (0:1:1:0)	16.3.4.2.3	oi-PG2-1	N	N				Common
5	Reuse-2 with three partitions (FP0, FP1, FP2, FP3) = (1:1:1:0)	16.3.4.2.3	oi-PG2-1	N	N				Common
6	Reuse-1 with one freq partition for SFH only	16.3.5.2.1	m	Y	Y	DFPC = 0, DSAC = 0, DCASSB0 = 0, DCASMB0 = 0	The same as BS values		Common
Note on Item 6: DSAC = 0 (all miniband without subband), DFPC = 0 (reuse 1 only), DCASSB0 = 0 (no subband CRU allocated), and DCASMB0 = 0 (no miniband CRU allocated)									

1

2 4.1.2.3 Downlink Subchannelization and Resource Unit

3

Table 27. Downlink Subchannelization and Resource Unit

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Distributed LRU (DLRU)	16.3.4.1.1	m	Y	Y	-			Common
2	Miniband Contiguous LRU (NLRU)	16.3.4.1.2	o	Y	Y	-			Common
3	Subband Contiguous LRU (SLRU)	16.3.4.1.2	o	Y	Y	-			Common
4	A-MAP logical resource unit (MLRU)	16.3.4.3.4	m	Y	Y	-			Common

5	Subchannelization for SFH	16.3.5.2.1	m	Y	Y	-			Common
6	subchannelization for OL Region	16.3.4.3.1	o	N	N				Common

1

2 4.1.2.4 Pilot Pattern

3

Table 28. Pilot Pattern

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	1 stream pilot patterns for CLRU with interlaced pilots	16.3.4.4.1, 16.3.4.4.3	o	Y	Y	-			Common
2	2 stream pilot patterns for DLRU & CLRU with interlaced pilots	16.3.4.4.1, 16.3.4.4.3	m	Y	Y	-			Common
3	3 & 4 stream pilot patterns for CLRU	16.3.4.4.1, 16.3.4.4.3	o	Y	Y	-			Common
4	5, 6, 7 & 8 stream pilot patterns for CLRU	16.3.4.4.1, 16.3.4.4.3	o	N	N	-			Common
5	CoFIP for OL region type 1	16.3.4.4.1	o	N	N	-			Common

4

5 4.1.2.5 MIMO Midamble

6

Table 29. MIMO Midamble

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of MIMO Midamble	16.3.4.4.2	m	Y	Y	-			Common

1

2 **4.1.2.6 Traffic Guard Subcarrier**

3 **Table 30. Traffic Guard Subcarrier**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Guard subcarrier use as miniband CRU (NLRU)	16.3.4.5	o	N	N	-			Common

4

5 **4.1.3 Uplink PHY Structure**

6 **4.1.3.1 Frequency Partitioning**

7 **Table 31. Frequency Partitioning**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Reuse-1 with one freq partition (FP0, FP1, FP2, FP3) =(1:0:0:0)	16.3.7.2.3	oi-PG2-2	Y	Y	UFPC=0	The same as BS values		Common
2	Reuse-3 with three freq partitions (FP0, FP1, FP2, FP3) =(0:1:1:1)	16.3.7.2.3	oi-PG2-2	Y	Y	UFPC=1	The same as BS values		Common
3	FFR with four partitions (FP0, FP1, FP2, FP3) =(1:1:1:1)	16.3.7.2.3	oi-PG2-2	Y	Y	UFPC=2,3,4,5,6 (2048 FFT) UFPC=2,3,4,5 (1024 FFT) UFPC=2,3,4 (512 FFT)	The same as BS values		Common
4	Reuse-2 with two partitions (FP0, FP1, FP2, FP3) =(0:1:1:0)	16.3.7.2.3	oi-PG2-2	N	N	-			Common
5	Reuse-2 with three partitions (FP0, FP1, FP2, FP3) =(1:1:1:0)	16.3.7.2.3	oi-PG2-2	N	N	-			Common

1

2 **4.1.3.2 Uplink Subchannelization and Resource Unit**

3 **Table 32. Uplink Subchannelization and Resource Unit**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Distributed LRU (DLRU)	16.3.7.1.1	pm	Y	Y				Common
2	Miniband Contiguous LRU (NLRU)	16.3.7.1.2	o	Y	Y				Common
3	Subband Contiguous LRU (SLRU)	16.3.7.1.2	pm	Y	Y				Common
4	UL Control Channels - Bandwidth request channels	16.3.7.3.3.1	pm	Y	Y				Common
5	UL Control Channels - Fast Feedback Channels	16.3.7.3.3.2	o	Y	Y				Common
6	UL Control Channels - HARQ feedback (ACK/NACK) channels	16.3.7.3.3.2	pm	Y	Y				Common
7	UL Control Channels - synchronized ranging channels	16.3.8.1.4	pm	Y	Y				Common
8	UL Control Channels - asynchronous ranging channels: format 0	16.3.8.1.4	oi-PG2-3	Y	Y				Common
9	UL Control Channels - asynchronous ranging channels: format 1	16.3.8.1.4	oi-PG2-3	N	N				Common
10	UL Control Channels - sounding channels	16.3.8.1.3	o	IOBS-SNDC or IOBS-SNDF	Y				Common

4

5 **4.1.3.3 Pilot Pattern**

6 **Table 33. Pilot Pattern**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode

1	1 stream pilot patterns for DLRU & CRLU	16.3.7.4	pm	Y	Y				Common
2	2 stream pilot patterns for DLRU & CRLU	16.3.7.4	o	Y	Y				Common
3	3 & 4 stream pilot patterns for CRLU	16.3.7.4	o	IOBS-4TXB	Y				Common
4	1 & 2 stream pilot for PUSC DLRU	16.3.7.4	o	IOBS-4TXB	Y				TDD
5	8 stream pilot patterns for CRLU (MU MIMO only)	16.3.7.4	o	N	N	-			Common
6	pilots for type-4 subframe (8.75MHz BW)	16.3.7.4	o	IOBS-LS87	IOMS-LS87				TDD

1

2 4.1.3.4 WirelessMAN-OFDMA Systems Support

3 **Table 34. WirelessMAN-OFDMA Systems Support**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Basic Symbol Structure for FDM based UL PUSC Zone Support	16.3.7.3.5.1	o	Y	Y				TDD
2	Resource Block for FDM based UL PUSC Zone Support (using 16m PUSC)	16.3.7.3.5.2	o	Y	Y				TDD
3	Subchannelization for FDM based UL PUSC Zone Support using the required permutation	16.3.7.3.5.3	o	Y	Y				TDD

4

5 4.1.3.5 Uplink Sounding

6 **Table 35. Uplink Sounding**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
	Reference to 4.1.7.5		o	IOBS-SNDC or IOBS-SNDF	Y				Common

1

2 **4.1.3.6 Traffic Guard Subcarrier**

3 **Table 36. Traffic Guard Subcarrier**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Guard subcarrier use as miniband CRU (NLRU)	16.3.7.5.	o	N	N	-			Common

4

5 **4.1.4 Fractional Frequency Reuse**

6 **4.1.4.1 Downlink FFR**

7 **Table 37. Downlink FFR**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of downlink FFR	16.2.21.1	o	Y	Y				Common
2	Support of resource metric & feedbacks	16.2.21.1.1	o	N	N				Common
3	Support of FFR measurement report by AAI_FFR-CMD/AI_FFR-REP	16.2.21.1.1	o	Y	Y				Common
4	Support of Long-Short FPI Switch	16.3.5.5.2.4.5	o	N	N				Common
5	Support of Long-term FPI report	16.3.5.5.2.4.5	o	N	N				Common

8

9 **4.1.4.2 Uplink FFR**

10 **Table 38. Uplink FFR**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of uplink FFR	16.2.21.2	o	Y	Y				Common

11

4.1.5 Channel Coding

4.1.5.1 Data Channel

Table 39. Encoder

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Data Burst CRC encoding	16.3.10.1.1	m	Y	Y				Common
2	Data Burst partition process	16.3.10.1.2	m	Y	Y				Common
3	FEC Block randomization	16.3.10.1.3	m	Y	Y				Common
4	FEC Block CRC encoding	16.3.10.1.4	m	Y	Y				Common
5	FEC Encoding	16.3.10.1.5	m	Y	Y				Common
6	Bit selection and repetition	16.3.10.1.6	m	Y	Y				Common
7	Bit Collection	16.3.10.1.7	m	Y	Y				Common

Table 40. Modulation

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	DL QPSK	8.4.9.4.2	m	Y	Y				Common
2	DL 16QAM	8.4.9.4.2	m	Y	Y				Common
3	DL 64QAM	8.4.9.4.2	o	Y	Y				Common
4	UL QPSK	8.4.9.4.2	m	Y	Y				Common
5	UL 16QAM	8.4.9.4.2	m	Y	Y				Common
6	UL 64QAM	8.4.9.4.2	o	Y	Y				Common

1

2 **4.1.5.2 Control Channel**

3 **Table 41. Encoder**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	FEC Encoding (TBCC)	16.3.10.2.1	m	Y	Y				Common
2	Bit Separation	16.3.10.2.2	m	Y	Y				Common
3	subblock interleaver	16.3.10.2.3	m	Y	Y				Common
4	Bit grouping	16.3.10.2.4	m	Y	Y				Common
5	Bit Selection	16.3.10.2.5	m	Y	Y				Common

4 **4.1.5.3 HARQ**

5 **Table 42. IR HARQ**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	HARQ Redundancy selection - DL	16.3.10.4.1	m	Y	Y				Common
2	HARQ Redundancy selection - UL	16.3.10.4.1	m	Y	Y				Common

6

7 **Table 43. Constellation Rearrangement**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of Constellation rearrangement versions (MIMO stream = 1)	16.3.10.4.2	m	Y	Y	-			Common
2	Support of Constellation rearrangement versions (MIMO stream > 1)	16.3.10.4.2	m	Y	Y	-			Common
3	Support of DL CoRe version explicit signaling	16.3.10.4.2	m	Y	Y				Common
4	Support of UL CoRe version implicit calculation	16.3.10.4.2	m	Y	Y				Common

8

9 **Table 44. Event Driven Indicator**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package	Duplexing Mode

								ID	
1	Support of EDI type 3 - Event-driven indicator to indicate occupancy status of HARQ soft buffer	16.3.8.3.1.1	o	IOBS-EDI3	IOMS-EDI3				Common

4.1.5.4 Subcarrier Randomization

Table 45. Subcarrier Randomization

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	PRBS for subcarrier randomization	16.3.10.3.1	m	Y	Y				Common
2	Data subcarrier randomization	16.3.10.3.2	m	Y	Y				Common
3	Pilot subcarrier randomization	16.3.10.3.3	m	Y	Y				Common

4.1.6 Downlink Control Structure

4.1.6.1 Advanced Preamble (A-Preamble)

Table 46. Primary Advanced Preamble (PA-Preamble)

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Primary A-Preamble	16.3.5.1.1	pm	Y	Y		PA Preamble index = 0, 1, 2		Common

Table 47. Secondary Advanced Preamble (SA-Preamble)

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Secondary A-Preamble	16.3.5.1.2	pm	Y	Y	Number of ABS Antennas = 2 or 4			Common

1

2 4.1.6.2 Superframe Header (SFH)

3 **Table 48. Primary Superframe Header (P-SFH)**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Tx period (every superframe)	16.3.5.2.1.1	m	Y	Y				Common
2	P-SFH code rate	16.3.5.3.1.1	m	Y	Y	1/24	1/24		Common

4

5 **Table 49. Secondary Superframe Header (S-SFH)**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	S-SFH code rate	16.3.5.3.1.2	m	Y	Y	1/24, 1/12, 1/4	1/24, 1/12, 1/4		Common
2	Tx period of SP1 IE	16.3.5.2.1.2	pm	Y	Y	40ms			Common
3	Tx period of SP2 IE	16.3.5.2.1.2	pm	Y	Y	80ms			Common
4	Tx period of SP3 IE	16.3.5.2.1.2	pm	Y	Y	TBD			Common
5	Additional aperiodic transmission of the changed S-SFH SPx IE	16.3.5.2.1.2		N	N				Common

6

7 4.1.6.3 Advanced MAP (A-MAP)

8 **Table 50. Location of A-MAP Region for FFR**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Non-user specific, HARQ feedback, Power control A-MAPs in the reuse-1 freq partition	16.3.5.2.2	oi-PG3-1	Y	Y				Common
2	Non-user specific, HARQ feedback, Power control A-MAPs in the power-boosted	16.3.5.2.2	oi-PG3-1	Y	Y				Common

	reuse-3 freq partition (DFPC = 1 (i.e. 0:1:1:1))							
3	Non-user specific, HARQ feedback, Power control A-MAPs in the power-boosted reuse-3 freq partition (the other applicable freq partitions than DFPC = 1 (i.e. 0:1:1:1))	16.3.5.2.2		Y	Y			Common
4	Assignment A-MAP in the reuse-1 freq partition	16.3.5.2.2	oi-PG3-2	Y	Y			Common
5	Assignment A-MAP in the power-boosted reuse-3 freq partition (DFPC = 1 (i.e. 0:1:1:1))	16.3.5.2.2	oi-PG3-2	Y	Y			Common
6	Assignment A-MAP in the power-boosted reuse-3 freq partition only (the other applicable freq partitions than DFPC = 1 (i.e. 0:1:1:1))	16.3.5.2.2		N	N			Common
7	Assignment A-MAP in the reuse-1 and the power-boosted reuse-3 freq partitions	16.3.5.2.2	oi-PG3-2	Y	Y			Common

1

Table 51. A-MAP Transmission/Reception

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of Non-User Specific A-MAP IE	16.3.5.5.2.1	pm	Y	Y				Common
2	Support of Non-User Specific A-MAP Extension IE	16.3.5.5.2.1	n/a	N	N				Common
3	Support of DL Basic Assignment A-MAP IE	16.3.5.5.2.4.1	pm	Y	Y				Common
4	Support of UL Basic Assignment A-MAP IE	16.3.5.5.2.4.2	oi-PG3-3	Y	Y				Common
5	Support of DL subband Assignment A-MAP IE	16.3.5.5.2.4.3	o	Y	Y				Common
6	Support of UL subband Assignment A-MAP IE	16.3.5.5.2.4.4	oi-PG3-3	Y	Y				Common
7	Support of Broadcast Assignment A-MAP IE	16.3.5.5.2.4.13	pm	Y	Y				Common
8	Support of Extended Assignment A-MAP IE	16.3.5.5.2.4.14	n/a	N	N				Common
9	Assignment A-MAP IE, Code rate	16.3.5.3.2.4	m	Y	Y	(1/2, 1/4), (1/2, 1/8)	(1/2, 1/4), (1/2, 1/8)		Common
10	Support of HARQ Feedback A-MAP IE	16.3.5.5.2.2	pm	Y	Y				Common
11	Support of Power Control A-MAP IE	16.3.5.5.2.3	pm	Y	Y				Common

2

Table 52. A-MAP Power Boosting

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	A-MAP Power Boosting	16.3.5.4.1		Y	N/A				Common

Table 53. HARQ Feedback A-MAP Resource Index

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	HARQ Feedback A-MAP Index Parameter with STID only	16.3.5.3.2.2	oi-PG3-4	N	N				Common
2	HARQ Feedback A-MAP Index Parameter with the lowest LRU index only	16.3.5.3.2.2	oi-PG3-4	N	N				Common
3	HARQ Feedback A-MAP Index Parameter with STID and the lowest LRU index	16.3.5.3.2.2	oi-PG3-4	Y	Y				Common

4.1.7 Uplink Control Structure

4.1.7.1 Uplink control channel for FFR

Table 54. Location of UL control channel for FFR

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	UL fast feedback, HARQ feedback, Bandwidth request channel in the reuse-1 freq partition	16.3.7.3.3	oi-PG3-5	Y	Y				Common
2	UL fast feedback, HARQ feedback, Bandwidth request channel in the power-boosted reuse-3 freq partition (UFPC = 1 (i.e. 0:1:1:1))	16.3.7.3.3	oi-PG3-5	Y	Y				Common
3	UL fast feedback, HARQ feedback, Bandwidth request channel in the power-boosted reuse-3 freq partition (the other applicable freq partitions than UFPC = 1 (i.e.	16.3.7.3.3		Y	Y				Common

	0:1:1:1))								
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1

2 **4.1.7.2 Primary Fast Feedback Channel**

3 **Table 55. Physical Channel Structure**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Coding, modulation and physical channel structure of primary fast feedback channel (refer to Tables 96~112 in 4.1.11.3 for its information content)	16.3.8.2.1.1	o	Y	Y				Common

4

5 **4.1.7.3 Secondary Fast Feedback Channel**

6 **Table 56. Physical Channel Structure**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Coding, modulation and physical channel structure of secondary fast feedback channel (refer to Tables 96~112 in 4.1.11.3 for its information content)	16.3.8.2.1.2	o	Y	Y				Common

7

8 **4.1.7.4 HARQ Feedback Channel**

9 **Table 57. Physical Channel Structure**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Coding, modulation and physical channel structure of HARQ feedback channel	16.3.8.2.2	pm	Y	Y				Common

10

11 **4.1.7.5 Sounding Channel**

12 **Table 58. Physical Channel Structure**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
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1	Support of FDM (Decimation in frequency domain)	16.3.8.2.3.1	o	IOBS-SNDF	Y				Common
2	Support of CDM (Cyclic shift separation)	16.3.8.2.3.1	o	IOBS-SNDFC	Y				Common
3	Support of antenna switching among UL Tx antennas	16.3.8.2.3.2	o	IOBS-SNDC or IOBS-SNDF	IOMS-2TXM or IOMS-4TXM				Common
4	Support of antenna switching among DL Rx antennas	16.3.8.2.3.2	o	N	N				TDD

1

2 4.1.7.6 Ranging Channel for Non-synchronized AMSSs

3

Table 59. Physical Channel Structure

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Non-synchronized ranging physical channel structure format 0 in 16m-only mode	16.3.8.1.4.1	oi-PG3-6	Y	Y				Common
2	Non-synchronized ranging physical channel structure format 1 in 16m-only mode	16.3.8.1.4.1	oi-PG3-6	N	N				Common
3	Non-synchronized ranging physical channel structure in FDM legacy-support mode	16.3.8.1.4.3	o	IOBS-LS5, IOBS-LS7, IOBS-LS87, or IOBS-LS10	Y				TDD
4	Non-synchronized ranging physical channel structure format 0 in TDM legacy-support mode	16.3.8.1.4.1	o	N	N				TDD
5	Non-synchronized	16.3.8.1.4.1	o	N	N				TDD

	ranging physical channel structure format 1 in TDM legacy-support mode								
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2 **4.1.7.7 Ranging Channel for Synchronized AMSS**

3 **Table 60. Physical Channel Structure**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Synchronized ranging physical channel structure in 16m-only mode	16.3.8.1.4.2	pm	Y	Y				Common
2	Synchronized ranging physical channel structure in FDM legacy-support mode	16.3.8.1.4.3	o	IOBS-LS5, IOBS-LS7, IOBS-LS87, or IOBS-LS10	Y				TDD
3	Synchronized ranging physical channel structure in TDM legacy-support mode	16.3.8.1.4.2	o	N	N				TDD

4

5 **4.1.7.8 Bandwidth Request Channel**

6 **Table 61. Physical Channel Structure**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Coding, modulation and physical channel structure of bandwidth request channel preamble part	16.3.8.2.5	pm	Y	Y				Common
2	Coding, modulation and physical channel structure of bandwidth request channel message part	16.3.8.2.5	o	Y	Y				Common

7

8 **Table 62. Information Content**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
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1	Support of preamble only (5 step)	16.2.11.1.1	pm	Y	Y				Common
2	Support of preamble and message (3 step)	16.2.11.1.1	o	Y	Y				Common

1

2 **4.1.8 Control Mechanism**

3 **4.1.8.1 Uplink Power Control**

4 **Table 63. Uplink Power Control**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of uplink power control	16.3.8.4	m	Y	Y				Common

5

6 **Table 64. Control Channel TX PC correction by PC-A-MAP**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of PC-A-MAP	16.3.8.4.3	pm	Y	Y				Common

7

8 **Table 65. MS TX Status Report**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of Period-based report	16.3.8.4 .7	oi-PG3-7	Y	Y				Common
2	Support of event driven report	16.3.8.4 .7	oi-PG3-7	Y	Y				Common

9

10 **Table 66. Initial Ranging Power Control**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Power control for initial ranging transmission	16.3.8.4.4	o	Y	Y				Common

11

12 **Table 67. Initial Network Entry/Re-entry Power Control**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of Power Control in Initial Network Entry	16.3.8.4.8	o	Y	Y				Common

	and ReEntry								
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1

Table 68. Handover Power Control

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of Power Control in Handover with CDMA_RNG_FLAG = 0b0	16.3.8.4.9	oi-PG3-8	Y	Y				Common
2	Support of Power Control in Handover with CDMA_RNG_FLAG = 0b1	16.3.8.4.9	oi-PG3-8	Y	Y				Common
3	Support of Power Control in Zone Switch	16.3.8.4.9	o	Y	Y				TDD

2

Table 69. Sounding Channel Power Control

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Power control for sounding channel transmission	16.3.8.4.5	o	IOBS-SNDC or IOBS-SNDF	Y				Common
2	Support of sounding power boosting	16.3.8.4.5	o	IOBS-SNDC or IOBS-SNDF	Y		3dB		Common

3

Table 70. Concurrent Transmission of Uplink Control Channel and Data

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Power control in Concurrent transmission of uplink control channel and data	16.3.8.4.6	o	N/A	Y				Common

4

Table 71. Power Control Parameter Signaling

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of NI updates by SFH SP3	16.3.5.5.1.2	o	Y	Y				Common
2	Support of NI broadcast by AAI-ULPC-NI message	16.2.3.32	m	Y	Y				Common

3	Support of power control parameter broadcast by AAI-SCD message	16.2.3.31	m	Y	Y				Common
4	Support of power control offset unicast by AAI-UL-POWER-ADJ	16.2.3.33	m	Y	Y				Common
5	Support of power correction by AAI-RNG-ACK message	16.2.3.3	o	Y	Y				Common

1

2 4.1.8.2 Ranging

3 **Table 72. Non-Dynamic Ranging**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of non-dynamic ranging	16.3.5.5.1.2	pm	Y	Y				Common

4

5 **Table 73. Dynamic Ranging**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of dynamic ranging for handover	16.3.5.5.2.4.13	o	Y	Y				Common

6

7 4.1.9 Channel Measurement

8 4.1.9.1 RSSI

9 **Table 74. RSSI Measurement**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of RSSI mean and variance measurement	16.3.13.2	o	N/A	Y				Common

10

1 **4.1.9.2 CINR**

2 **Table 75. CINR Measurement**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of CINR mean and variance measurement	16.3.13.3	o	N/A	Y				Common

3

4 **4.1.9.3 SIR**

5 **Table 76. SIR Measurement**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of SIR mean	16.3.13.4	o	N/A	Y				Common

6

7 **4.1.9.4 Downlink Noise and Interference Level**

8 **Table 77. Downlink Noise and Interference Level Measurement**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of DL NI mean and variance measurement	16.3.13.5	o	N/A	Y				Common

9

10 **4.1.10 A-MAP and HARQ Operation**

11 **4.1.10.1 MAP Relevance and HARQ Timing**

12 **Table 78. Processing Time**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	$T_{UL_Rx_Processing}$	16.2.14.2 .2	m	Y	Y	3 or 4 subframes	-	-	TDD, FDD
2	$T_{UL_Tx_Processing}$	16.2.14.2 .2	m	Y	Y	-	3 subframes		TDD, FDD

3	T _{DL_Rx_Proc} essing	16.2.14.2 .2	m	Y	Y	-	3 subfr ames		TDD, FDD
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Table 79. A-MAP Relevance

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	DL Default TTI A-MAP Relevance	16.2.14.2 .2	m	Y	Y	-	-	-	TDD, FDD
2	UL Default TTI A-MAP Relevance	16.2.14.2 .2	m	Y	Y	-	-	-	TDD, FDD
3	DL A-MAP Relevance for long TTI Transmission in the same frame (TDD)	16.2.14.2 .2	o	Y	Y	-	-	-	FDD
4	UL A-MAP Relevance for long TTI Transmission in the same frame (TDD)	16.2.14.2 .2	o	Y	Y	-	-	-	FDD
5	DL A-MAP Relevance for long TTI Transmission in the next frame (TDD)	16.2.14.2 .2	o	Y	Y	-	-	-	FDD
6	UL A-	16.2.14.2	o	Y	Y	-	-	-	FDD

	MAP Relevance for long TTI Transmission in the next frame (TDD)	.2							
7	DL Long TTI A-MAP Relevance (FDD)	16.2.14.2 .2	o	Y	Y	-	-	-	FDD
8	UL Long TTI A-MAP Relevance (FDD)	16.2.14.2 .2	o	Y	Y	-	-	-	FDD

1

2

Table 80. HARQ Feedback Delay

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	DL Default TTI HARQ Feedback Delay	16.2.14.2 .2	m	Y	Y				TDD, FDD
2	UL Default TTI HARQ Feedback Delay	16.2.14.2 .2	m	Y	Y				TDD, FDD
3	DL Long TTI HARQ Feedback Delay	16.2.14.2 .2	o	Y	Y				TDD, FDD
4	UL Long TTI HARQ Feedback Delay	16.2.14.2 .2	o	Y	Y				TDD, FDD

3

1 **4.1.10.2 HARQ**

2 **Table 81. Support for Downlink HARQ Incremental Redundancy**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	DL maximum retransmission number (DL_N_MAX_ReTx)	16.2.14.2 .1.1	m	Y	Y	4	4		TDD, FDD
2	DL retransmission max interval (T_ReTx_Interval)	16.2.14.2 .1.1	m	Y	Y	8	8		TDD, FDD

3

4 **Table 82. Support for Uplink HARQ Incremental Redundancy**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
3	UL maximum retransmission number (UL_N_MAX_ReTx)	16.2.14.2 .1.2	m	Y	Y	4	4		TDD, FDD

5

6 **4.1.10.3 Persistent Allocation (PA)**

7 **Table 83. Persistent Allocation (PA)**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support for PA	16.2.7	o	Y	Y				Common

8

9 **4.1.10.4 Group Resource Allocation (GRA)**

10 **Table 84. Group Resource Allocation (GRA)**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support for GRA	16.2.9	o	N	N				Common

1

2

Table 85. Group Configuration

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	DL MIMO mode set	16.2.9.2	o	N	N				TDD, FDD
2	UL MIMO mode set	16.2.9.2	o	N	N				TDD, FDD
3	Resource size set	16.2.9.2	o	N	N	-	-	-	TDD, FDD
4	HARQ burst size set	16.2.9.2	o	N	N				TDD, FDD
5	User bitmap size	16.2.9.4. 1	o	N	N				TDD, FDD

3

4.1.10.5 S-SFH Update

Table 86. S-SFH Update Procedure

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	S-SFH Update procedure	16.2.24	m	Y	Y				Common

6

4.1.11 Downlink MIMO

4.1.11.1 Downlink MIMO General

Table 87. Number of Tx antenna

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of 2 Tx Ant codebook and midamble.	16.3.6.2.5.5	pm	IOBS-2TXB	Y				Common
2	Support of 4 Tx Ant codebook and midamble.	16.3.6.2.5.5	o	IOBS-4TXB	Y				Common
3	Support of 8 Tx Ant codebook and	16.3.6.2.5.5	o	N	N				Common

	midamble.								
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1

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Table 88. Number of Streams for SU-MIMO

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of 1 stream for SU MIMO	16.3.6.1.3, 16.3.6.2.4	oi-PG4-1	Y	Y				
2	Support of 2 streams for SU MIMO	16.3.6.1.3, 16.3.6.2.4	oi-PG4-1	Y	Y				
3	Support of 3 streams for SU MIMO	16.3.6.1.3, 16.3.6.2.4	oi-PG4-1	IOBS-4TXB	IOMS-4TXB				
4	Support of 4 streams for SU MIMO	16.3.6.1.3, 16.3.6.2.4	oi-PG4-1	IOBS-4TXB	IOMS-4TXB				
5	Support of 5 streams for SU MIMO	16.3.6.1.3, 16.3.6.2.4	oi-PG4-1	N	N				
6	Support of 6 streams for SU MIMO	16.3.6.1.3, 16.3.6.2.4	oi-PG4-1	N	N				
7	Support of 7 streams for SU MIMO	16.3.6.1.3, 16.3.6.2.4	oi-PG4-1	N	N				
8	Support of 8 streams for SU MIMO	16.3.6.1.3, 16.3.6.2.4	oi-PG4-1	N	N				

3

4

Table 89. Number of Streams for MU-MIMO

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of 2 streams for MU MIMO from BS point of view	16.3.6.1.3, 16.3.6.2.4	O	Y	Y				Common

2	Support of 3 streams for MU MIMO from BS point of view	16.3.6.1.3, 16.3.6.2.4	o	IOBS-4TXB	Y				Common
3	Support of 4 streams for MU MIMO from BS point of view	16.3.6.1.3, 16.3.6.2.4	o	IOBS-4TXB	Y				Common
4	Support of 8 streams for MU MIMO from BS point of view	16.3.6.1.3, 16.3.6.2.4	o	N	N				Common
5	Support of 1 stream for MU MIMO from MS point of view	16.3.6.1.3	o	Y	Y				Common
6	Support of 2 streams for MU MIMO from MS point of view	16.3.6.1.3	o	IOBS-4TXB	Y				Common

1

2 4.1.11.2 Downlink MIMO Mode

3 **Table 90. Mode 0 (TxD, SFBC, non-adaptive precoder, vertical encoding)**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of MIMO Mode 0	16.3.6.2.1	m	Y	Y				Common
2	OL SU-MIMO, DLRU, outside OL Region	16.3.6.2.1	pm	Y	Y				Common
3	OL SU-MIMO, NLRU, outside OL Region	16.3.6.2.1	o	Y	Y				Common
4	OL SU-MIMO, SLRU, outside OL Region	16.3.6.2.1	o	Y	Y				Common
5	OL SU-MIMO, DLRU, inside OL Region	16.3.6.2.1	o	N	N				Common

4

1 **Table 91. Mode 1 (SM with non-adaptive precoder, vertical encoding)**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of MIMO Mode 1	16.3.6.2.1	o	Y	Y				Common
2	OL SU-MIMO, DLRU, outside OL Region	16.3.6.2.1	o	Y	Y				Common
3	OL SU-MIMO, NLRU, outside OL Region	16.3.6.2.1	o	Y	Y				Common
4	OL SU-MIMO, SLRU, outside OL Region	16.3.6.2.1	o	Y	Y				Common
5	OL SU-MIMO, DLRU, inside OL Region	16.3.6.2.1	o	N	N				Common
6	OL SU-MIMO, SLRU, inside OL Region	16.3.6.2.1	o	N	N				Common

2

3 **Table 92. Mode 2 (SM with adaptive precoder, vertical encoding)**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of MIMO Mode 2	16.3.6.2.1	o	Y	Y				Common
2	Codebook based CL SU-MIMO, NLRU	16.3.6.2.1	o	Y	Y				Common
3	Codebook based CL SU-MIMO, SLRU	16.3.6.2.1	o	Y	Y				Common
4	Sounding based CL SU-MIMO, NLRU for TDD only	16.3.6.2.1	o	IOBS-SNDC or IOBS-SNDF	Y				TDD
5	Sounding based CL SU-MIMO, SLRU for TDD only	16.3.6.2.1	o	IOBS-SNDC or IOBS-SNDF	Y				TDD

4

5 **Table 93. Mode 3 (SM with non-adaptive precoder, multi-layer encoding)**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode

1	Support of MIMO Mode 3	16.3.6.2.2	o	Y	Y				Common
2	OL MU-MIMO, SLRU, outside OL Region	16.3.6.2.2	o	Y	Y				Common
3	OL MU-MIMO, SLRU, inside OL Region	16.3.6.2.2	o	N	N				Common

1

2

Table 94. Mode 4 (SM with adaptive precoder, multi-layer encoding)

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of MIMO Mode 4	16.3.6.2.2	o	Y	Y				Common
2	Codebook based CL MU-MIMO, NLRU	16.3.6.2.2	o	Y	Y				Common
3	Codebook based CL MU-MIMO, SLRU	16.3.6.2.2	o	Y	Y				Common
4	Sounding based CL MU-MIMO, NLRU for TDD only	16.3.6.2.2	o	IOBS-SNDC or IOBS-SNDF	Y				TDD
5	Sounding based CL MU-MIMO, SLRU for TDD only	16.3.6.2.2	o	IOBS-SNDC or IOBS-SNDF	Y				TDD

3

4

Table 95. Mode 5 (TxD, CDR with non-adaptive precoder, vertical encoding)

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of MIMO Mode 5	16.3.6.2.1	o	N	N				Common
2	OL SU-MIMO, NLRU, inside OL Region	16.3.6.2.1	o	N	N				Common
3	OL SU-MIMO, SLRU, inside OL Region	16.3.6.2.1	o	N	N				Common

5

6

4.1.11.3 Feedback Support for DL MIMO

7

Table 96. Support of Concurrent MFM Report

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait	Duplexing
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								Package ID	Mode
1	Support of concurrent MFM report			Y	Y	2	2		Common
Note on Item 1: Including FBCH, MFH, AAI-SBS-MIMO-FBK. Maximum 2 per carrier per AMS (one FBCH and one AAI-SBS-MIMO-FBK/MFH)									
1									

2

Table 97. Base Mode

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Packa ge ID	Duplexing Mode
1	Support of Base mode	16.3.6.2.5.5	O	Y	Y	Codebook_mode == 0b00, Codebook_coordination == 0b0			Common
2	Base codebook with codebook coordination disabled (Nt = 2, 3bit)	16.3.6.2.5.5	O	IOBS - 2TXB	Y				Common
3	Base codebook with codebook coordination enabled (Nt = 2, 3bit)	16.3.6.2.5.5	O	N	N				Common
4	Subset of Base codebook with codebook coordination disabled (Nt=4, 4bit)	16.3.6.2.5.5	O	IOBS - 4TXB	Y	Codebook_subset == 0b1			Common
5	Subset of Base codebook with codebook coordination enabled	16.3.6.2.5.5	O	N	N				Common

	(Nt = 4, 4bit)								
6	Base codebook (Nt=4, 6bit)	16.3.6.2.5.5	O	IOBS - 4TXB	Y	Codebook_subset == 0b0			Common
7	Base codebook with codebook coordination disabled (Nt=8, 4bit)	16.3.6.2.5.5	O	N	N				Common
8	Base codebook with codebook coordination enabled (Nt = 8, 4bit)	16.3.6.2.5.5	O	N	N				Common

1

2

Table 98. Transformation Mode

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of Transformation mode	16.3.6.2.5.5.1	O	Y	Y	Codebook_mode == 0b01			Common
2	Transformed base cookbook (Nt=2)	16.3.6.2.5.5.1	O	IOBS - 2TXB	Y				Common
3	Transformed base cookbook (Nt=4)	16.3.6.2.5.5.1	O	IOBS - 4TXB	Y				Common
4	Transformed base cookbook (Nt=8)	16.3.6.2.5.5.1	O	N	N				Common

3

4

Table 99. Differential Mode

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait	Duplexing
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								Package ID	Mode
1	Support of Differential mode	16.3.6.2.5.5.2	o	N	N				Common
2	Differential cookbook (Nt=2)	16.3.6.2.5.5.2	o	N	N				Common
3	Differential cookbook (Nt=4)	16.3.6.2.5.5.2	o	N	N				Common
4	Differential cookbook (Nt=8)	16.3.6.2.5.5.2	o	N	N				Common

1

2

Table 100. MIMO Feedback Mode 0

Item	Description	Reference	Status	BS R	MS R	BSV	MS V	Trait Package ID	Duplexing Mode
1	Support of MIMO feedback mode 0	16.3.6.2.5.3	o	Y	Y	Measurement Method == 0b0			Common
2	Reporting feedback of MIMO mode 0 and 1 for outside open-loop region using FBCH	16.3.6.2.5.3, 16.3.8.3.1.5	o	Y	Y				Common
3	Reporting feedback of MIMO mode 0 and 1 for outside open-loop region using MFH	16.3.6.2.5.3, 16.3.5.5.2.4. 11	o	Y	Y				Common
4	Reporting feedback of MIMO mode 0 and 1 for outside open-loop region using AAI_SingleBS_MIMO_FBK	16.3.6.2.5.3, 16.3.5.5.2.4. 11	o	Y	Y				Common
5	Reporting feedback of MIMO mode 0 and 1 for inside open-loop region using FBCH	16.3.6.2.5.3, 16.3.8.3.1.5	o	N	N				Common
6	Reporting feedback of MIMO mode 0 and 1 for inside open-loop region using MFH	16.3.6.2.5.3, 16.3.5.5.2.4. 11	o	N	N				Common
7	Reporting feedback of MIMO mode 0 and 1 for inside open-loop region using AAI_SingleBS_MIMO_FBK	16.3.6.2.5.3, 16.3.5.5.2.4. 11	o	N	N				Common
8	Reporting feedback using FBCH with q>0	16.3.6.2.5.3, 16.3.8.3.1.5	o	N	N				Common

	(Reporting of long-term FPI)								
9	Reporting feedback using FBCH with q=0 (No Reporting of long-term FPI)	16.3.6.2.5.3, 16.3.8.3.1.5	o	Y	Y				Common

1

2

Table 101. MIMO Feedback Mode 1

Item	Description	Reference	Status	BS R	MS R	BS V	MS V	Trait Package ID	Duplexing Mode
1	Support of MIMO feedback mode 1	16.3.6.2.5.3	o	N	N				Common
2	Reporting feedback of MIMO mode 5 for inside open-loop region using FBCH	16.3.6.2.5.3, 16.3.8.3.1.5	o	N	N				Common
3	Reporting feedback of MIMO mode 5 for inside open-loop region using AAI_SingleBS_MIMO_FBK	16.3.6.2.5.3, 16.3.5.5.2.4.1 1	o	N	N				Common

3

4

Table 102. MIMO Feedback Mode 2

Item	Description	Reference	Status	BS R	MS R	BSV	MS V	Trait Package ID	Duplexing Mode
1	Support of MIMO feedback mode 2	16.3.6.2.5.3	o	Y	Y	Measurement Method == 0b0			Common
2	Reporting feedback of MIMO mode 1 for outside open-loop region using FBCH	16.3.6.2.5.3 , 16.3.8.3.1.5	o	Y	Y	Feedback format == 0 or 3			Common
3	Reporting feedback of MIMO mode 1 for outside open-loop region using AAI_SingleBS_MIMO_FBK	16.3.6.2.5.3 , 16.3.5.5.2.4 .11	o	Y	Y				Common
4	Reporting feedback of MIMO mode 5 for inside open-loop region using FBCH	16.3.6.2.5.3 , 16.3.8.3.1.5	o	N	N				Common
5	Reporting feedback of MIMO mode 5 for	16.3.6.2.5.3 ,	o	N	N				Common

	inside open-loop region using AAI_SingleBS_MIMO_FBK	16.3.5.5.2.4 .11							
6	Reporting feedback using FBCH with q=0	16.3.6.2.5.3 , 16.3.8.3.1.5	o	N	N				Common

1

2

Table 103. MIMO Feedback Mode 3

Item	Description	Reference	Status	BS R	MS R	BSV	MS V	Trait Package ID	Duplexing Mode
1	Support of MIMO feedback mode 3	16.3.6.2.5.3	o	Y	Y	Codebook_mode == 0b00 or 0b01, Codebook_coordination = 0b0			Comm on
2	Reporting feedback of MIMO mode 2 using FBCH	16.3.6.2.5.3 , 16.3.8.3.1.5	o	Y	Y	Feedback format == 0, 1, 2, or 3			Comm on
3	Reporting feedback of MIMO mode 2 using AAI_SingleBS_MIMO_FBK	16.3.6.2.5.3 , 16.3.5.5.2.4 .11	o	Y	Y				Comm on
4	Reporting feedback of MIMO mode 2 using FBCH for differential codebook	16.3.6.2.5.3 , 16.3.8.3.1.5	o	N	N	specify Feedback format(0/1/2/3)			Comm on
5	Reporting feedback using FBCH with q=0	16.3.6.2.5.3 , 16.3.8.3.1.5	o	Y	Y				Comm on

3

4

Table 104. MIMO Feedback Mode 4

Item	Description	Reference	Status	BS R	MS R	BSV	MS V	Trait Package ID	Duplexing Mode
1	Support of MIMO feedback mode 4	16.3.6.2.5.3	o	Y	Y	Codebook_coordination = 0b0			Comm on
2	Reporting feedback of MIMO mode 2 (LT-PMI) using FBCH (q > 0)	16.3.6.2.5.3 , 16.3.8.3.1.5	o	Y	Y	Feedback format == 0 or 1			Comm on
3	Reporting feedback of MIMO mode 2 (LT-PMI) using MFH	16.3.6.2.5.3 , 16.3.5.5.2.4 .11	o	Y	Y				Comm on

4	Reporting feedback of MIMO mode 2 (LT-PMI) using AAI_SingleBS_MIMO_FBK	16.3.6.2.5.3, 16.3.5.5.2.4. .11	o	Y	Y				Comm on
5	Reporting feedback of MIMO mode 2 (LT-BF) using FBCH (q=0)	16.3.6.2.5.3 , 16.3.8.3.1.5	o	Y	Y	Feedback format == 0			Comm on
6	Reporting feedback of MIMO mode 2 (LT-BF) using AAI_SingleBS_MIMO_FBK	16.3.6.2.5.3 , 16.3.5.5.2.4. .11	o	Y	Y				Comm on

1

2

Table 105. MIMO Feedback Mode 5

Item	Description	Reference	Status	BS R	MS R	BSV	MS V	Trait Package ID	Duplexing Mode
1	Support of MIMO feedback mode 5	16.3.6.2.5.3	o	Y	Y	Measurement Method == 0b0			Common
2	Reporting feedback of MIMO mode 3 for outside open-loop region using FBCH	16.3.6.2.5.3, 16.3.8.3.1.5	o	Y	Y	Feedback format == 0 or 3			Common
3	Reporting feedback of MIMO mode 3 for outside open-loop region using AAI_SingleBS_MIMO_FBK	16.3.6.2.5.3, 16.3.5.5.2.4. .11	o	Y	Y				Common
4	Reporting feedback of MIMO mode 3 for inside open-loop region using FBCH	16.3.6.2.5.3, 16.3.8.3.1.5	o	N	N				Common
5	Reporting feedback of MIMO mode 3 for inside open-loop region using AAI_SingleBS_MIMO_FBK	16.3.6.2.5.3, 16.3.5.5.2.4. .11	o	N	N				Common
6	Reporting feedback using FBCH with q=0	16.3.6.2.5.3, 16.3.8.3.1.5	o	N	N				Common

3

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Table 106. MIMO Feedback Mode 6

Item	Description	Reference	Status	BS	MS	BSV	MS	Trait	Duplexi
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m			us	R	R		V	Packa ge ID	ng Mode
1	Support of MIMO feedback mode 6	16.3.6.2.5.3	o	Y	Y	Codebook_mode == 0b01, Codebook_coordinat ion == 0b0			Comm on
2	Reporting feedback of MIMO mode 4 using FBCH	16.3.6.2.5.3 , 16.3.8.3.1.5	o	Y	Y	Feedback format == 0, 1, 2, or 3			Comm on
3	Reporting feedback of MIMO mode 4 using AAI_SingleBS_MIMO _FBK	16.3.6.2.5.3 , 16.3.5.5.2.4 .11	o	Y	Y				Comm on
4	Reporting feedback of MIMO mode 4 using FBCH for differential codebook mode	16.3.6.2.5.3 , 16.3.8.3.1.5	o	N	N				Comm on
5	Reporting feedback using FBCH with q=0	16.3.6.2.5.3 , 16.3.8.3.1.5	o	N	N				Comm on

1

2

Table 107. MIMO Feedback Mode 7

It e m	Description	Reference	Stat us	BS R	MS R	BSV	MS V	Trait Packa ge ID	Duplexi ng Mode
1	Support of MIMO feedback mode 7	16.3.6.2.5.3	o	Y	Y	Codebook_coordinat ion == 0b0			Comm on
2	Reporting feedback of MIMO mode 4 (LT-PMI) using FBCH (q>0)	16.3.6.2.5.3 , 16.3.8.3.1.5	o	Y	Y	Feedback format == 0 or 1			Comm on
3	Reporting feedback of MIMO mode 4 (LT-PMI) using MFH	16.3.6.2.5.3 , 16.3.5.5.2.4 .11	o	Y	Y				Comm on
4	Reporting feedback of MIMO mode 4 (LT-PMI) using AAI_SingleBS_MIMO _FBK	16.3.6.2.5.3 , 16.3.5.5.2.4 .11	o	Y	Y				Comm on
5	Reporting feedback of MIMO mode 4 (LT-BF) using FBCH (q=0)	16.3.6.2.5.3 , 16.3.8.3.1.5	o	Y	Y	Feedback format == 0			Comm on
6	Reporting feedback of MIMO mode 4 (LT- ,	16.3.6.2.5.3	o	Y	Y				Comm

	BF) using AAI_SingleBS_MIMO_FBK	16.3.5.5.2.4 .11								on
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Table 108. Covariance Matrix Feedback

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of Covariance matrix feedback	16.3.6.2.5.5.1	o	Y	Y				Common
2	Reporting feedback of Covariance matrix using CMFH	16.3.6.2.5.5.1, 16.3.5.5.2.4.1 1	o	Y	Y				Common
3	Reporting feedback of Covariance matrix using AAI_SingleBS_MIMO_FBK	16.3.6.2.5.5.1, 16.3.5.5.2.4.1 1	o	Y	Y				Common

3

4

Table 109. Event Driven Indicator

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of EDI type 0 - Switch MIMO feedback mode between distributed and localized	16.3.8.3.1.1	o	Y	IOMS-EDI0				Common

5

6

Table 110. Feedback Allocation A-MAP IE

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of ACK allocation flag	16.3.5.5.2.4.5	o	Y	Y				Common
Note on Item 1: Maximum 1 ACK allocation flag per uplink frame									

7

8

Table 111. Feedback Polling A-MAP IE

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of ACK allocation flag	16.3.5.5.2.4.11		Y	Y				Common
Note on Item 1: Maximum 1 ACK allocation flag per uplink frame									

1

2

Table 112. Feedback Parameter Change

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of fast feedback parameter change by AAI_UL_POWER_ADJ message	16.2.3.33	o	N	N				Common

3

4

Open Loop MIMO Region

5

Table 113. Type 0

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of MIMO mode 0 and 1 in DLRU	16.3.6.2.5.1	o	N	N				Common

6

7

Table 114. Type 1

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of MIMO mode 5 in NLRU	16.3.6.2.5.1	o	N	N				Common
2	Support of MIMO mode 5 in SLRU	16.3.6.2.5.1	o	N	N				Common

8

9

Table 115. Type 2

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of MIMO mode 1 and 3 in SLRU	16.3.6.2.5.1	o	N	N				Common

10

4.1.12 Uplink MIMO

11

4.1.12.1 Uplink MIMO General

12

Table 116. Number of Tx antenna

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
------	-------------	-----------	--------	-----	-----	-----	-----	------------------	----------------

1	1 Transmit antennas	16.3.9.1.1	pm	Y	IOMS-1TXM				Common
2	2 Transmit antennas	16.3.9.3	o	Y	IOMS-2TXM				Common
3	4 Transmit antennas	16.3.9.3	o	Y	IOMS-4TXM				Common

Note on Item 1: At least one of item 1, 2 or 3 is required to be implemented in MS.
Note on Item 2: At least one of item 1, 2 or 3 is required to be implemented in MS.
Note on Item 3: At least one of item 1, 2 or 3 is required to be implemented in MS.

1

Table 117. Number of Streams of SU-MIMO

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of 1 stream for SU MIMO	16.3.9.1.3, 16.3.9.2.4	oi-PG4-2	Y	Y				Common
2	Support of 2 streams for SU MIMO	16.3.9.1.3, 16.3.9.2.4	oi-PG4-2	Y	IOMS-2TXM or IOMS-4TXM				Common
3	Support of 3 streams for SU MIMO	16.3.9.1.3, 16.3.9.2.4	oi-PG4-2	IOBS-4TXB	IOMS-4TXB				Common
4	Support of 4 streams for SU MIMO	16.3.9.1.3, 16.3.9.2.4	oi-PG4-2	IOBS-4TXB	IOMS-4TXB				Common

2

Table 118. Number of Streams of MU-MIMO

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of 1 stream for MU MIMO from MS point of view	16.3.9.1.3, 16.3.9.2.4	o	Y	Y				Common
2	Support of 2 streams for MU MIMO from MS point of view	16.3.9.1.3, 16.3.9.2.4	o	IOBS-4TXB	IOMS-2TXM or IOMS-4TXM				Common
3	Support of 3 streams for MU MIMO from MS point of view	16.3.9.1.3, 16.3.9.2.4	o	N	N				Common
4	Support of 4 streams for MU	16.3.9.1.3, 16.3.9.2.4	o	N	N				Common

	MIMO from MS point of view								
5	Support of 2 streams for MU MIMO from BS point of view	16.3.9.1.3	o	Y	Y				Common
6	Support of 3 streams for MU MIMO from BS point of view	16.3.9.1.3	o	IOBS-4TXB	Y				Common
7	Support of 4 streams for MU MIMO from BS point of view	16.3.9.1.3	o	IOBS-4TXB	Y				Common
8	Support of 8 streams for MU MIMO from BS point of view	16.3.9.1.3	o	N	N				Common

1

2 4.1.12.2 Uplink MIMO Mode

3 **Table 119. Mode 0 (TxD, SFBC, non-adaptive precoder, vertical encoding)**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of MIMO mode 0	16.3.9.2.1	o	Y	IOMS- 2TXM or IOMS- 4TXM				Common
2	OL SU-MIMO, DLRU	16.3.9.2.1	o	Y	IOMS- 2TXM or IOMS- 4TXM				Common
3	OL SU-MIMO, NLRU	16.3.9.2.1	o	Y	IOMS- 2TXM or IOMS- 4TXM				Common

4

5 **Table 120. Mode 1 (SM with non-adaptive precoder, vertical encoding)**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of MIMO mode 1	16.3.9.2.1	pm	Y	Y				Common
2	OL SU-MIMO, DLRU	16.3.9.2.1	oi-PG4-3	Y	Y				Common
3	OL SU-MIMO, NLRU	16.3.9.2.1	oi-PG4-3	Y	Y				Common
4	OL SU-MIMO,	16.3.9.2.1	oi-	Y	Y				Common

	SLRU		PG4-3						
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1

2 **Table 121. Mode 2 (SM with adaptive precoder, vertical encoding)**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of MIMO mode 2	16.3.9.2.1	o	Y	IOMS-2TXM or IOMS-4TXM				Common
2	Codebook based CL SU-MIMO, DLRU	16.3.9.2.1	o	Y	IOMS-2TXM or IOMS-4TXM				Common
3	Codebook based CL SU-MIMO, NLRU	16.3.9.2.1	o	Y	IOMS-2TXM or IOMS-4TXM				Common
4	Codebook based CL SU-MIMO, SLRU	16.3.9.2.1	o	Y	IOMS-2TXM or IOMS-4TXM				Common
5	Midamble based CL SU-MIMO, DLRU for TDD only	16.3.9.2.1	o	N	N				TDD
6	Midamble based CL SU-MIMO, NLRU for TDD only	16.3.9.2.1	o	N	N				TDD
7	Midamble based CL SU-MIMO, SLRU for TDD only	16.3.9.2.1	o	N	N				TDD

3

4 **Table 122. Mode 3 (CSM with non-adaptive precoder, vertical encoding)**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of MIMO mode 3	16.3.9.2.2	o	Y	Y				Common
2	OL MU-MIMO, DLRU	16.3.9.2.2	o	Y	Y				Common
3	OL MU-MIMO, NLRU	16.3.9.2.2	o	Y	Y				Common
4	OL MU-MIMO, SLRU	16.3.9.2.2	o	Y	Y				Common

5

Table 123. Mode 4 (CSM with adaptive precoder, vertical encoding)

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of MIMO mode 4	16.3.9.2.2	o	Y	IOMS-2TXM or IOMS-4TXM				Common
2	Codebook based CL MU-MIMO, DLRU	16.3.9.2.2	o	Y	IOMS-2TXM or IOMS-4TXM				Common
3	Codebook based CL MU-MIMO, NLRU	16.3.9.2.2	o	Y	IOMS-2TXM or IOMS-4TXM				Common
4	Codebook based CL MU-MIMO, SLRU	16.3.9.2.2	o	Y	IOMS-2TXM or IOMS-4TXM				Common
5	Midamble based CL MU-MIMO, DLRU for TDD only	16.3.9.2.2	o	N	N				TDD
6	Midamble based CL MU-MIMO, NLRU for TDD only	16.3.9.2.2	o	N	N				TDD
7	Midamble based CL MU-MIMO, SLRU for TDD only	16.3.9.2.2	o	N	N				TDD

4.1.13 Downlink Multi-BS MIMO

4.1.13.1 Single-BS Processing

Table 124. PMI Restriction

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of PMI restriction	16.5.1.2	o	N	N				Common

Table 125. PMI Recommendation

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of PMI	16.5.1.2	o	N	N				Common

	recommendation									
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1 **4.1.13.2 Multi-BS Processing**

2 **Table 126. CL-MD**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of CL-MD	16.5.1.3	o	N	N				Common

3 **Table 127. Co-MIMO**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of Co-MIMO	16.5.1.3	o	N	N				Common

4 **4.1.13.3 Multi-BS MIMO Triggering Mechanism**

5 **Table 128. Multi-BS MIMO Triggering Mechanism**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of Multi-BS MIMO triggering mechanism	16.5.1.4	o	N	N				Common

6 **4.1.14 Uplink Multi-BS MIMO**

7 **4.1.14.1 Single-BS Processing**

8 **Table 129. Single-BS Processing**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of Single BS precoding with Multi-BS Coordination	16.5.2.1	o	N	N				Common

9 **4.1.14.2 Multi-BS Processing**

10 **Table 130. Multi-BS Processing**

Item	Description	Reference	Status	BSR	MSR	BSV	MSV	Trait Package ID	Duplexing Mode
1	Support of Multi BS joint MIMO processing	16.5.2.2	o	N	N				Common

1 **5. Multi-Carrier Support**

2 **5.1 Profiles of BS and MS**

3 All multi-carrier features listed in this document are optional in Release 2 profile (For this reason, the top item, i.e.
4 'Multi-carrier support' is filled with IOBS-MC and IOMS-MC for both BS and MS. In the document, 'Y' in 'BS/MS
5 required field' indicates a mandatory feature, and "IO" does an optional feature, on condition that the relevant
6 BS/MS supports multi-carrier function. None of the features in the document is applicable to BS/MS supporting
7 single-carrier function only.

8 **Table 131. Inter-/Intra-band Carrier Aggregation**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Multi-carrier support	16.3.3.6 16.2.8	o	IOBS-MC	IOMS-MC		TDD, FDD

9

10 **5.1.1 Frame Configuration for Multi-Carrier Support**

11 **5.1.1.1 Inter-/Intra-band Carrier Aggregation**

12 **Table 132. Inter-/Intra-band Carrier Aggregation**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	TDD Inter-Band Carrier Aggregation	16.3.3.6 16.2.8	o	N	N		TDD
2	TDD Intra-Band Non-contiguous Carrier Aggregation	16.3.3.6 16.2.8	o	IOBS-MCTD	IOMS-MCTD		TDD
3	TDD Intra-Band Contiguous Carrier Aggregation	16.3.3.6 16.2.8	o	Y	Y		TDD
4	FDD Inter-Band Carrier Aggregation	16.3.3.6 16.2.8	o	N	N		FDD
5	FDD Intra-Band Non-contiguous Carrier Aggregation	16.3.3.6 16.2.8	o	IOBS-MCFD	IOMS-MCFD		FDD
6	FDD Intra-Band Contiguous Carrier Aggregation	16.3.3.6 16.2.8	o	Y	Y		FDD

13

14 **5.1.1.2 Frame Structure to Support Legacy R1.0 MS with Multicarrier Operation**

15 **Table 133. Frame Structure to Support Legacy R1.0 MS with Multicarrier Operation**

Item	Description	Reference	Status	BSR	MSR	Trait Package	Duplexing Mode

						ID	
1	Carrier aggregation of carriers that contain both AAI zone and WirelessMAN-OFDMA zone	16.3.3.6.1	o	Y	Y		TDD
2	Carrier aggregation of the carriers configured as follows; One carrier contains both AAI zone and WirelessMAN-OFDMA zone, but the others do AAI zone only	16.3.3.6.1	o	N	N		TDD

1

2 5.1.1.3 Subcarrier Alignment

3 **Table 134. Subcarrier Alignment**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Signaling of frequency offset adjust for subcarrier alignment indication	16.3.3.6.2	o	Y	Y		Common
2	Carrier Aggregation Support with Subcarrier Alignment	16.3.3.6.2	o	IOBS-MCSA	IOMS-MCSA		Common
3	Carrier Aggregation Support without Subcarrier Alignment	16.3.3.6.2	o	IOBS-MCSN	IOMS-MCSN		Common

4

5 5.1.1.4 Use of Guard Subcarrier

6 **Table 135. Use of Guard Subcarrier**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Downlink	16.3.3.6.1, 16.3.3.6.3, 16.3.4.5	o	N	N		Common
2	Uplink	16.3.3.6.1, 16.3.3.6.3, 16.3.7.5, 16.3.8.5	o	N	N		Common

7

8 5.1.2 Support of MC Mode

9 5.1.2.1 Support of MC Mode

10 **Table 136. Support of MC Mode**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Carrier Aggregation	16.2.8.1~16.2.8.2.11.2	o	Y	Y		TDD, FDD
2	Carrier Switching	16.2.8.1~16.2.8.2.11.3, 16.9.2.4	o	N	N		Common

3	Basic MC Mode	16.2.8.1~16.2.8.2.3.2, 16.2.8.2.11.2	o	N	N		Common
4	Both Carrier Aggregation and Carrier Switching	16.2.8.1~ 16.2.8.2.11.3 16.9.2.4	o	N	N		TDD, FDD

1

2 **5.1.3 Network Entry and Capability Negotiation**

3 **5.1.3.1 Network Entry and Capability Negotiation**

4 **Table 137. Network Entry and Capability Negotiation**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Network Entry Procedure for Multi-Carrier Support	16.2.8.2.3	o	Y	Y		Common

5

6 **5.1.4 Secondary Carrier Assignment**

7 **5.1.4.1 Secondary Carrier Assignment**

8 **Table 138. Secondary Carrier Assignment**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of secondary carrier assignment procedure	16.2.8.2.3.2, 16.2.3.51, 16.2.3.52	o	Y	Y		Common

9 Note on Item 1: by AAI_MC-ADV, AAI_MC-REQ/RSP

10

11 **5.1.5 MC Aggregation Support**

12 **5.1.5.1 Activation and Deactivation**

13 **Table 139. Activation and Deactivation**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of Carrier aggregation by AAI-CM-CMD/IND	16.2.8.2.11.1, 16.2.3.53, 16.2.3.54	o	Y	Y		Common
2	Support of periodic ranging over activated secondary carrier	16.2.8.2.4	o	N	N		Common

13 Note on Item 2: Related to inter-band carrier aggregation

1 5.1.5.2 Sleep Mode Operation

Table 140. Sleep Mode Operation

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of sleep mode entering MAC control message transaction over primary carrier	16.2.8.2.10.1	m	Y	Y		Common
2	Support of applying negotiated sleep mode parameters in all active carriers.	16.2.8.2.10.1	m	Y	Y		Common
3	Support of primary carrier change without sleep mode termination	16.2.8.2.10.1	o	N	N		Common
4	Support of traffic indication MAC control message transmission/monitoring over primary carrier	16.2.8.2.10.1	o	Y	Y		Common
5	ABS's transmission of SCH for early termination of data transmission over active secondary carrier	16.2.8.2.10.1 16.2.2.1.3.4	o	Y	N/A		Common
6	AMS's transmission of SCH in response to SCH sent by ABS for early termination of data transmission over active secondary carrier	16.2.8.2.10.1 16.2.2.1.3.4	o	N/A	Y		Common
7	Stopping DL/UL scheduling on early terminated secondary carrier	16.2.8.2.10.1	o	Y	N/A		Common

3 5.1.5.3 Bandwidth Request Handling

Table 141. Bandwidth Request Handling

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	BR support over primary carrier	16.2.8.2.6.1	o	Y	Y		Common
2	Piggybacked BR support over secondary carrier	16.2.8.2.6.1	o	Y	Y		Common
3	The contention-based BR support over secondary carrier (only for case when Carrier-specific PHY control mode is applied)	16.2.8.2.6.1	o	Y	Y		Common

7.5.1.5.4 Fast Feedback Handling

Table 142. Fast Feedback Handling

Item	Description	Reference	Status	BSR	MSR	Trait Package	Duplexing Mode
------	-------------	-----------	--------	-----	-----	---------------	----------------

						ID	
1	Allocation of Fast feedback channel on uplink of each active carrier (for symmetric carrier aggregation)	16.2.8.2.8	o	Y	Y		Common
2	Support of Carrier-specific PHY control mode	16.2.8.2.8.1	o	Y	Y		Common

1

2 **5.1.5.5 Asymmetric Carrier Aggregation Support**

3 **Table 143. Asymmetric Carrier Aggregation Support**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	DL only activation from fully configured carrier as secondary carrier	16.2.8.2.11.1	o	IOBS-MCAA	IOMS-MCAA		Common
2	Feedback on primary carrier for the secondary fully configured carrier of which only DL is activated.	16.2.8.2.8	o	IOBS-MCAA	IOMS-MCAA		Common
3	Partially configured carrier activation as secondary carrier	16.2.8.1	o	N	N		FDD
4	Feedback on primary carrier for the activated secondary partially configured carrier	16.2.8.2.8	o	N	N		FDD

4

5 **5.1.6 Carrier Switching Support**

6 **5.1.6.1 Support of Primary to Secondary Switching**

7 **Table 144. Support of Primary to Secondary Switching**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of Primary to Secondary Switching by AAI_DSA	16.2.8.2.11.3	o	N	N		Common

Note on Item 1: This feature is related with E-MBS.

8

9 **5.1.6.2 Carrier Switching Operation**

10 **Table 145. Carrier Switching Operation**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of switching to partially configured carriers	16.2.8.1, 16.2.8.2.11.3	o	N	N		Common
2	Support of switching to fully	16.2.8.1,	o	N	N		Common

	configured carriers	16.2.8.2.11.3					
Note on Item 1: This feature is related with E-MBS.							
Note on Item 2: This feature is related with E-MBS.							

1

2 5.1.7 Scanning

3 5.1.7.1 Scanning with Multi-carrier Support

4 **Table 146. Scanning with Multi-carrier Support**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of Event-triggered scanning of secondary carrier	16.2.8.2.11.1	o	N	N		Common

Note on Item 1: related to inter-band carrier aggregation

5

6 5.1.8 Handover

7 5.1.8.1 Handover

8 **Table 147. Handover**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	secondary carrier pre-assignment by AAI_HO-CMD message	16.2.8.2.9.2.3	o	Y	Y		Common
2	HO_Reentry_Interleaving_Interval = 0 for Multi-carrier EBB HO	16.2.6.3.5.2 16.2.8.2.9.2.2		N	N		Common

Note on Item 2: Apply to carrier-aggregation-capable AMS with multiple RFs only.

9

10 5.1.9 Primary Carrier Change Support

11 5.1.9.1 Primary Carrier Change Support

12 **Table 148. Primary Carrier Change Support**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of Primary Carrier Change to active carrier	16.2.8.2.11.2	o	N	N		Common
2	Support of primary carrier change to inactive carrier	16.2.8.2.11.2	o	Y	Y		Common
3	Support of periodic ranging over the new primary carrier during primary	16.2.8.2.11.2	o	N	N		Common

	carrier change procedure						
Note on Item 3: related to inter-band carrier aggregation							

1

2 **5.1.10 Idle Mode Support**

3 **5.1.10.1 Support of Idle Mode Operation**

4 **Table 149. Support of Idle Mode Operation**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of multicarrier paging	16.2.8.2.10.2	o	Y	Y		Common
2	Paging carrier selection based on DID modulo N	16.2.8.2.10.2	o	Y	Y		Common
3	Preferred carrier selection by Location Update	16.2.8.2.10.2	o	IOBS-MCLU	IOMS-MCLU		Common
4	Support of Paging carrier indication	16.2.8.2.10.2	o	Y	Y		Common

Note on Item 3: related to inter-band carrier aggregation

5

6. MAC Profile

6.1 Profiles of BS and MS

6.1.1 Bandwidth Request (BR) and Allocation

6.1.1.1 Contention-based Random Access BR Processing

Table 150. Contention-based Random Access BR Processing

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of Informing of minimum access class	16.2.11.1.1	o	N	N	-	Common
2	Support of 3-step BR procedure	16.2.11.1.1	o	Y	Y	-	Common
3	Support of 5-step BR procedure	16.2.11.1.1	m	Y	Y	-	Common
4	Support of BR ACK A-MAP IE	16.2.11.1.1	m	Y	Y	-	Common
5	Support of predefined BR index	16.2.11.1.5.1, 16.2.12.12.4	o	Y	Y	-	Common
6	Support for multiple BR ACK MAP IE in a frame	16.2.11.1.1	o	Y	Y	-	Common

6.1.1.2 Standalone BR

Table 151. Standalone BR

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of Standalone BR Header	16.2.11.1.2	m	Y	Y	-	Common
2	Support of polling for standalone BR Header transmission	16.2.11.1.2	o	Y	Y	-	Common

Note on Item 2: For the BS, this item means the capability of polling for BR header without STID. For the MS, when the BR header is sent in response to a poll, it does not include STID.

6.1.1.3 Piggyback BR

Table 152. Piggyback BR

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of Piggybacked Bandwidth Request	16.2.11.1.3	o	Y	Y	-	Common

1 **6.1.1.4 BR Using Fast Feedback Channel**

2 **Table 153. BR Using Fast Feedback Channel**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of BR Indication flag feedback	16.2.11.1.4.1	o	N	N		Common
2	Support of ertPS BR using ertPS/aGP- Service BR Indicator	16.2.11.1.4.2	o	Y	Y	QoS_LEG_PKG1	Common
3	Support of aGPS BR using ertPS/aGP- Service BR Indicator	16.2.11.1.4.2	o	IOBS-AGPS	IOMS-AGPS	QoS_AGPS_PKG1	Common
Note on Item 2: This item will be revisited after legacy scheduling services are clarified in the IEEE 802.16m spec.							

3

4 **6.1.2 Service Flow Management**

5 **6.1.2.1 Service Flow Addition**

6 **Table 154. Service Flow Addition**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of service flow addition (AMS initiated)	16.2.3.47, 16.2.12.6.1	o	N	N	-	Common
2	Support of service flow addition (ABS initiated)	16.2.3.47, 16.2.12.6.1	m	Y	Y		Common
3	Support of Coupled Group Create/ Change	16.2.12.12.5	o	N	N	-	Common
4	Support of group parameter create/change	16.2.12.12.6	o	N	N		Common

7

8 **6.1.2.2 Service Flow Change**

9 **Table 155. Service Flow Change**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of service flow change (AMS initiated)	16.2.3.47, 16.2.12.6.2	o	N	N		Common
2	Support of service flow change (ABS initiated)	16.2.3.47, 16.2.12.6.2	m	Y	Y		Common

10

1 **6.1.2.3 Service Flow Release**

2 **Table 156. Service Flow Release**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of service flow release (AMS initiated), limited to handling of failure in service flow addition	16.2.3.47, 16.2.12.6.2	o	Y	Y		Common
2	Support of service flow release (ABS initiated)	16.2.3.47, 16.2.12.6.2	m	Y	Y		Common

3

4 **6.1.3 Quality of Service**

5 **6.1.3.1 Support of Legacy scheduling services**

6 **Table 157. Support of Legacy scheduling services**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of legacy scheduling services	6.3.5,	m	Y	Y		Common

7

8 **6.1.3.2 Support of Adaptive granting and polling service (aGPS)**

9 **Table 158. Support of Adaptive granting and polling service (aGPS)**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of adaptive granting and polling service (aGP service)	16.2.12.7	o	IOBS-AGPS	IOMS-AGPS		Common
2	Support of ABS- initiated adaptation	16.2.12.7.1	o	N	N	-	Common
3	Support of AMS- initiated adaptation	16.2.12.7.1	o	IOBS-AGPS	IOMS-AGPS		Common
4	QoS parameter adaptation using Service Specific Scheduling Control Header	16.2.2.1.3.3	o	IOBS-AGPS	IOMS-AGPS		Common
5	Support of QoS mapping during Handover	16.2.12.7.1.1	o	IOBS-AGPS	IOMS-AGPS		Common

10

6.1.4 PHS

6.1.4.1 PHS

Table 159. PHS

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of PHS	5.2.3	o	Y	Y		Common

6.1.5 CS Options and Functions

6.1.5.1 IPCS

Table 160. IPCS

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of IP CS PDU format and classification rule	5.2, 5.2.5	pm	Y	Y		Common
2	Support of IPv4 CS	5.2, 5.2.5, 16.2.3.8	oi	Y	Y		Common
3	Support of IPv6 CS	5.2, 5.2.5, 16.2.3.8	oi	IOBS-IPv6	IOMS-IPv6		Common
4	Support of Packet IP CS	5.2, 5.2.5, 16.2.3.8	oi	N	N		Common

Note on Item 1: General support of IPCS, not IP version specific

Note on Item 4: Refer to the CS type in the AAI-REG-REQ message (bit#14=1), which means each SDU of the service flows of this CS type may carry either IPv4 or IPv6

6.1.5.2 ROHC

Table 161. ROHC

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	ROHC support for IPv4	5.2.5.1	o	IOBS-ROHCv4	IOMS-ROHCv4	CS_ROHCv4_PKG1	Common
2	ROHC support for IPv6	5.2.5.1	o	IOBS-ROHCv6	IOMS-ROHCv6	CS_ROHCv6_PKG1	Common

6.1.5.3 Ethernet CS

Table 162. Service Flow Addition

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
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1	Support of Ethernet CS	5.2.4	o	IOBS-ETH	IOMS-ETH			Common
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2 **6.1.5.4 Support of Multiprotocol Flow**

3 **Table 163. Support of Multiprotocol Flow**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of multiple protocols on the same flow.	5.2.6	o	Y	Y		Common

4 Note on Item 1: only IP related protocols are used in the "multiple protocols"

5

6 **6.1.6 MAC Header Formats**

7 **6.1.6.1 Support of AGMH**

8 **Table 164. Support of AGMH**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of AGMH	16.2.2.1.1	m	Y	Y		Common

9

10 **6.1.6.2 Support of Short Packet MAC Header**

11 **Table 165. Support of Short Packet MAC Header**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of short packet MAC header	16.2.2.1.2	o	Y	Y		Common

12

13 **6.1.6.3 Support of Signaling Headers**

14 **Table 166. Support of Signaling Headers**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of MAC signaling header	16.2.2.1.3.1	m	Y	Y		Common

15

16 **6.1.6.4 Extended Headers Group Format**

17 **Table 167. Extended Headers Group Format**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of extended header	16.2.2.2	m	Y	Y		Common

	group						
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1

2 **6.1.7 Construction and Re-assembly of MAC PDU**

3 **6.1.7.1 Construction and Re-assembly of MAC PDU**

4 **Table 168. Construction and Re-assembly of MAC PDU**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Multiplexing	16.2.2.2.4, 16.2.4.2,16.2.4.6	o	Y	Y	-	Common
2	Fragmentation	16.2.4.4	m	Y	Y		Common
3	Packing	16.2.4.5	o	Y	Y		Common
4	MAC PDU Concatenation	16.2.4.3	o	Y	Y		Common
5	Padding	16.2.4.7	m	Y	Y		Common
6	Support of CMAC protection for unicast MAC Control Messages	16.2.4.8	m	Y	Y		Common
7	Support of large size of connection payloads in a MAC PDU with payloads from multiple connections	16.2.2.2.4	o	N	N	-	Common
8	Support of MAC PDU encryption and decryption	16.2.4.6	m	Y	Y		Common
9	Capability of transmitting and receiving MAC PDUs larger than 2047 bytes	16.2.2.2	o	Y	Y		Common

5

6 **6.1.8 MAC Control Message**

7 **6.1.8.1 MAC Control Message**

8 **Table 169. MAC Control Message**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Capability of receiving and transmitting MAC control messages	16.2.3	m	Y	Y		Common
2	Support of Control Connection Channels	16.2.10.1	o	Y	Y	-	Common
3	Capability to fragment MAC control messages	16.2.3 16.2.4.4.2	o	Y	Y		Common
4	Support of encryption / decryption of unicast MAC control messages	16.2.5.3.3	m	Y	Y		Common

5	Support of ASN.1 byte unaligned PER encoding for MAC control messages	16.2.3 Annex R	m	Y	Y		Common
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2 **6.1.9 ARQ**

3 **6.1.9.1 ARQ**

4 **Table 170. ARQ**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	ARQ implementation	16.2.13	o	Y	Y		Common
2	Cumulative ARQ feedback	16.2.13.2.1,16.2.13.5.3.2	o	Y	Y		Common
3	Selective ARQ feedback	16.2.13.2.1,16.2.13.5.3.2	o	Y	Y		Common
4	ARQ feedback polling mechanism	16.2.13.2.2	o	Y	Y		Common
5	Unsolicited bandwidth allocation for ARQ feedback in case of ARQ feedback poll by ABS	16.2.13.2.2	o	N	N	-	Common
6	ARQ feedback triggering conditions	16.2.13.2.3	o	Y	Y		Common
7	ARQ block retransmission with rearrangement	16.2.13.1.2	o	Y	Y		Common
8	HARQ local NAK in the ARQ tx. state machine	16.2.13.5.2.2	o	N	N		Common
9	ARQ purging	16.2.13.5.3.4	o	Y	Y		Common
10	ARQ discard	16.2.13.5.3.3	o	Y	Y		Common
11	Support ARQ Synch loss operation	16.2.13.5.4,16.2.13.5.5	o	Y	Y		Common
12	ARQ Reset	16.2.13.5.4	o	Y	Y		Common
13	ARQ buffer management	16.2.13.5.6	o	Y	N/A		Common
14	ARQ Error detection	16.2.13.5.3.2	o	Y	Y		Common
15	SDU in-order delivery	16.2.13.5.3.5	o	Y	Y		Common
16	ARQ Feedback using control message	16.2.13.2.1	o	Y	Y		Common

Note on Item 4: This requirement is applied to the receiver only, and sending the polling header at the transmitter side is optional

5

1 **6.1.10 MAC Support for HARQ**

2 **6.1.10.1 MAC Support for HARQ**

3 **Table 171. MAC Support for HARQ**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	H-ARQ Support	16.2.14	m	Y	Y		Common
2	Capability of DL HARQ channels Number negotiation	16.2.14.2.1.1	m	Y	Y		Common
3	Capability of UL HARQ channels Number negotiation	16.2.14.2.1.2	m	Y	Y		Common
4	DL HARQ Buffering Capability	16.2.14.2.1.3	m	Y	Y		Common
5	UL HARQ Buffering Capability	16.2.14.2.1.4	m	Y	Y		Common
6	Support of UL HARQ Tx offset	16.2.14.2.2	m	Y	Y		Common
7	Support of DL HARQ feedback offset	16.2.14.2.2	m	Y	Y		Common
8	Support of UL HARQ feedback offset	16.2.14.2.2	m	Y	Y		Common
9	ARQ-HARQ interworking based on local NACK	16.2.14.5	o	N	N		Common
10	Combined Feedback scheme for ROHC and HARQ	16.2.14.6	o	N	N		Common

4

5 **6.1.11 Reliability of MAC Control Message**

6 **6.1.11.1 Reliability of MAC Control Message**

7 **Table 172. Reliability of MAC Control Message**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of retransmission based on HARQ Local NAK	16.2.22	o	N	N	-	Common
2	Support of message ACK using AAI_MSG-ACK	16.2.22	o	Y	Y		Common
3	Support of message ACK using ACK extended header	16.2.22	o	N	N	-	Common

8

9 **6.1.12 Emergency Service Support**

10 **6.1.12.1 Emergency Service Support**

11 **Table 173. Emergency Service Support**

Item	Description	Reference	Status	BSR	MSR	Trait	Duplexing

							Package ID	Mode
1	Emergency service support for E911 type services	16.2.12.8	o	IOBS-ES1	IOMS-ES1			Common
2	Emergency service support for NS/EP services	16.2.12.8	o	IOBS-ES2	IOMS-ES2			Common
3	Ranging purpose indication for E911 type emergency support	16.2.12.8	o	IOBS-ES1	IOMS-ES1			Common
4	Ranging purpose indication for NS/EP type emergency support	16.2.12.8	o	IOBS-ES2	IOMS-ES2			Common
5	QoS and service flow parameters pre-defined for emergency support	16.2.12.8	o	IOBS-ES1/ES2	IOMS-ES1/ES2			Common
6	Emergency service flow management through DSx procedure	16.2.12.10	o	IOMS-ES1/ES2	IOMS-ES1/ES2			Common
7	Support of Emergency Alert using L2XFER message type 9	16.2.12.11	o	IOBS-ES3	IOMS-ES3			Common

1

2 **6.1.13 L2 Transfer Message**

3 **6.1.13.1 L2 Transfer Message**

4 **Table 174. L2 Transfer Message**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of L2 SMS	16.2.25	o	N	N	-	Common

5

6 **6.1.14 GRA**

7 **6.1.14.1 GRA**

8 **Table 175. GRA**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of AAI_GRP_CFG message	16.2.3.48	o	N	N	-	Common

9

1 **6.1.15 Multicast Group**

2 **6.1.15.1 Multicast Group**

3 **Table 176. Multicast Group**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of Multicast Group identification	16.2.1.2.6 16.3.5.5.2.4.13 16.2.3.47.2	o	N	N		Common

4
5

6 **6.1.16 Network Discovery and Selection**

7 **6.1.16.1 Obtaining Network Service Providers' List**

8 **Table 177. Obtaining Network Service Providers' List**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support for obtaining NSP list using AAI-SBC-REQ/RSP	16.2.3.5, 16.2.3.6 (C1113r5)	o	Y	Y		Common
2	Support for obtaining NSP list using AAI-SII-ADV	16.2.3.50	o	IOBS-NDS	IOMS-NDS		Common

9

10 **6.1.17 Network Entry**

11 **6.1.17.1 MS Scanning and Synchronization**

12 **Table 178. MS Scanning and Synchronization**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support for MS scanning and synchronization	16.2.15.1, 16.2.8.2.3	m	Y	Y		Common

13

14 **6.1.17.2 MS DL/UL Parameter Acquisition**

15 **Table 179. MS DL/UL Parameter Acquisition**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support for DL/UL parameter acquisition	16.2.15.2	m	Y	Y		Common

16

1 **6.1.17.3 Initial Ranging**

2 **Table 180. Initial Ranging**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Contention-based initial ranging and automatic adjustments	16.2.15.3	m	Y	Y		Common
2	Support for unsolicited UL BW allocation during network entry	16.2.15	o	IOBS-RNG	IOMS-RNG		Common

3

4 **6.1.17.4 MS Basic Capability Negotiation**

5 **Table 181. MS Basic Capability Negotiation**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	MS capability negotiation	16.2.15.4	m	Y	Y		Common

6

7 **6.1.17.5 MS Authorization and Key Exchange**

8 **Table 182. MS Authorization and Key Exchange**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	MS authentication/authorization and key exchange	16.2.15.5	pm	Y	Y		Common

9

10 **6.1.17.6 MS Capability Exchange and Registration**

11 **Table 183. MS Capability Exchange and Registration**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Capability exchange and registration	16.2.15.6, 16.2.8.2.3	m	Y	Y		Common
2	Establishment of default service flow	16.2.15.6	m	Y	Y		Common
3	CRID assignment during network entry	16.2.15.6	m	Y	Y		Common
4	Acquisition of global carrier configuration information	16.2.15.6	m	Y	Y		Common

12

13 **6.1.17.7 IP Address Acquisition**

14 **Table 184. IP Address Acquisition**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	IP Address assignment in	16.2.15.6	o	N	N	-	Common

	REG-RSP						
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1

2 **6.1.18 Sleep Mode**

3 **6.1.18.1 Support of Sleep Mode**

4 **Table 185. Support of Sleep Mode**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of Sleep Mode	16.2.17	pm	Y	Y		Common

Note on Item 1: Definition of Sleep Mode in D10 and possibly in D11 still includes multiple inconsistencies which must be fixed

5

6 **6.1.18.2 Sleep Mode Initiation**

7 **Table 186. Sleep Mode Initiation**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	MS Initiated Sleep Mode request	16.2.17.1	oi	Y	Y		Common
2	Unsolicited Sleep Mode request by ABS	16.2.17.1	oi	N	N		Common

8

9 **6.1.18.3 Sleep Cycle Operation**

10 **Table 187. Sleep Cycle Operation**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Fixed size of SC	16.2.17.2.1	oi	Y	Y		Common
2	Sleep Cycle update (SC reset to ISC based on NSCF = 0b00 upon positive traffic indication message or data)	16.2.17.2.1	oi	Y	Y		Common
3	Sleep Cycle update (SC doubling based on NSCF = 0b01 upon positive traffic indication message or data)	16.2.17.2.1	oi	Y	Y		Common
4	Sleep Cycle update(SC reset to another ISC based on NSCF = 0b10 upon positive traffic indication message	16.2.17.2.1	oi	Y	Y		Common

	or data)						
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1

2 6.1.18.4 Listening Windows Operations

3 **Table 188. Listening Windows Operations**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Implicit Listening Window Extension	16.2.17.2.3.2	o	Y	Y		Common
2	Implicit Listening Window Termination	16.2.17.2.3	o	Y	Y		Common
3	AMS initiated Explicit Listening Window Extension	16.2.17.2.3.2	o	N	N		Common
4	ABS initiated Explicit Listening Window Extension	16.2.17.2.3.2	o	Y	Y		Common
5	AMS initiated Listening Window Termination with explicit signaling	16.2.17.2.3	o	N	N		Common
6	ABS initiated Listening Window Termination with explicit signaling	16.2.17.2.3	o	Y	Y		Common
7	DL traffic indication through AAI_TRF-IND	16.2.17.2.3.1	o	Y	Y		Common
8	Error handling for the lost AAI-TRF-IND	16.2.17.2.3.1	m	Y	Y		Common
9	Support for SLPID Update using AAI-TRF-IND message	16.2.3.26 16.2.17.2.3.1	o	N	N		Common
10	ACK of SCH during Sleep Mode	16.2.2.1.3.4 16.2.2.2.5 16.2.17.2.4	m	Y	Y		Common
11	Bitmap to indicate the listening sub-frames in the Listening Window	16.2.3.24 16.2.3.25 16.2.17.2.1	o	IOBS-SLP1	IOMS-SLP1		Common

4

5 6.1.18.5 Sleep Cycle Setting Update

6 **Table 189. Sleep Cycle Setting Update**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Sleep Cycle setting switching with DSx message initiated by AMS	16.2.17.2.4	o	N	N	-	Common

2	Sleep Cycle setting switching with DSx message initiated by ABS	16.2.17.2.4	o	Y	Y		Common
3	Sleep Cycle setting change with DSx message initiated by AMS	16.2.17.2.4	o	N	N	-	Common
4	Sleep Cycle setting change with DSx message initiated by ABS	16.2.17.2.4	o	Y	Y		Common
5	Sleep Cycle setting change by AAI_SLP REQ initiated by AMS	16.2.17.2.4	o	Y	Y	-	Common
6	Sleep Cycle setting change by AAI_SLP RSP initiated by ABS	16.2.17.2.4	o	Y	Y		Common
7	Sleep Cycle setting switching by AAI_SLP REQ initiated by AMS	16.2.17.2.4	o	Y	Y	-	Common
8	Sleep Cycle setting switching by AAI_SLP-RSP initiated by ABS	16.2.17.2.4	o	Y	Y		Common
9	Sleep Cycle setting switching with Service Specific Scheduling Control Header	16.2.17.2.4	o	IOBS-AGPS	IOMS-AGPS	-	Common

1

2 6.1.18.6 Interruption to Sleep Mode

3 **Table 190. Interruption to Sleep Mode**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Interruption to Sleep Cycle operation (implicit)	16.2.17.2.6.1	o	Y	Y		Common
2	Interruption to Sleep Cycle operation (explicit - without Scheduled Sleep Cycle, AMS goes back to sleep after receiving SCH and does not change its sleep cycle)	16.2.17.2.6.1	o	N	N		Common
3	Interruption to Sleep Cycle operation (explicit - with Scheduled Sleep Cycle)	16.2.17.2.6.1	o	N	N		Common
4	Reception of Multicast Transmission during Sleep Mode	16.2.17.2.6.2	o	NA	N	-	Common
5	SFH Update during Sleep Mode	16.2.17	o	NA	Y		Common

4

1 **6.1.18.7 FFBCH Operation during Sleep Mode**

2 **Table 191. FFBCH Operation during Sleep Mode**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Keeping the FFBCH during Sleep Mode	16.2.17.2.5	o	IOBS-SLP2	IOBS-SLP2		Common
2	Sending Fast Feedback Information during Sleep Window	16.2.17.2.5	o	N	N	-	Common
3	Deallocation of FFBCH through AAI_SLP-REQ/RSP	16.2.17.2.5	o	Y	Y	-	Common
4	Automatic Deallocation of FFBCH at the beginning of Sleep Window	16.2.17.2.5	o	N	N		Common

3

4 **6.1.18.8 Sleep Mode Termination**

5 **Table 192. Sleep Mode Termination**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Sleep Mode Termination by AMS using AAI-SLP-REQ message	16.2.17.3	oi	Y	Y		Common
2	Sleep Mode Termination request by ABS using unsolicited AAI-SLP-RSP message	16.2.17.3	oi	Y	Y		Common
3	Implicit sleep termination	16.2.17.3	o	Y	Y		Common

6

7 **6.1.19 Idle Mode**

8 **6.1.19.1 Support of Idle Mode**

9 **Table 193. Support of Idle Mode**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of Idle mode	16.2.18	pm	Y	Y		Common

10

11 **6.1.19.2 Paging Group Assignment**

12 **Table 194. Paging Group Assignment**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Single paging group support by	16.2.18	oi-1	Y	Y		Common

	MS							
2	Single paging group support by BS	16.2.18	oi-2	Y	Y			Common
3	Multiple paging groups per MS	16.2.18	oi-1	N	N			Common
4	Multiple paging groups per BS	16.2.18	oi-2	Y	N/A			Common

1

2 **6.1.19.3 Idle Mode Initiation**

3 **Table 195. Idle Mode Initiation**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	MS initiated idle mode entry	16.2.18.1.1	pm	Y	Y		Common
2	Type 1 BS initiated idle mode entry	16.2.18.1.2	po	N	N		Common
3	Type 2 BS initiated idle mode entry	16.2.18.1.2	po	Y	Y		Common
4	Mobility information in idle mode request message	16.2.18.1.1 16.2.3.21	o	N	N		Common
5	Maintain MS' connection information at BS with Management Resource Holding Timer during Idle Mode initiation	16.2.18.1.1 16.2.18.1.2	m	Y	N/A		Common
6	Negotiation of retaining MS service and operational information through Idle Mode Retain Information element in AAI-DREG-REQ/RSP messages	16.2.3.21 16.2.3.2216.2.18.1.1 16.2.18.1.2	o	Y	Y		Common
7	Support of De-registration ID	16.2.3.22 16.2.3.23 16.2.18.2.3	m	Y	Y		Common
8	Support of MAC address hash in AAI-PAG-ADV message in legacy network mode	16.2.3.23 16.2.18.2.2	pm	Y	Y		Common

Note on Item 3: In this case, REQ_Duration in the unsolicited AAI-DREG-RSP message shall be set to 0

4

5 **6.1.19.4 Location Update**

6 **Table 196. Location Update**

Item	Description	Reference	Status	BSR	MSR	Trait Package	Duplexing Mode

						ID	
1	Paging group based location update for the case of single Paging Group configured for the AMS	16.2.18.4.1.1	m	Y	Y		Common
2	Paging group location update with PG_LU-timer	16.2.18.4.1.1	o	N	N	-	Common
3	Timer based location update	16.2.18.4.1.2	m	Y	Y		Common
4	Power down location update	16.2.18.4.1.3	m	Y	Y		Common
5	Mobility information in location update message	16.2.18.4.1	o	N	N		Common
6	Paging cycle change request by AMS	16.2.18.4.1	o	Y	Y		Common
7	Paging information update by ABS during location update	16.2.18.4.1	o	Y	Y		Common
8	Secure Location Update	16.2.18.4.2	o	Y	Y		Common
9	Un-secure Location Update	16.2.18.4.2	m	Y	Y		Common
10	Redirection of AMS to other ABS during location update	16.2.18.4.2	o	N	N		Common

1

2 6.1.19.5 Paging Operation

3 **Table 197. Paging Operation**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Capability to broadcast or receive PGID Info	16.2.18.2.3 16.2.3.24	m	Y	Y		Common
2	Support of broadcasting paging message	16.2.18.2.2 16.2.3.23	m	Y	Y		Common
3	The frame-level extension of paging listening interval indicated by extension flag in the paging message	16.2.18.2.2	o	Y	Y		Common
4	Paging frame selection	16.2.18.2.3	m	Y	Y		Common
5	Paging operation in multiple paging group assignment to the AMS	16.2.18	o	N	N	-	Common

4 Note on Item 3: Due to existence of pending un-transmitted fragments of the paging message

5

6 6.1.19.6 Services in Idle Mode

6 **Table 198. Services in Idle Mode**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode

1	Emergency alert indicator in Paging message	16.2.3.23 16.2.18.2.2	o	IOBS-ES3	IOMS-ES3		Common
2	L2 SMS support during Idle mode	16.2.25	o	N	N		Common

1

2 6.1.19.7 Expedited NE from Idle Mode

3 **Table 199. Expedited NE from Idle Mode**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Shortened network reentry from Idle Mode support	16.2.18.5	o	Y	Y		Common
2	Omit AAI-SBC-REQ and AAI-SBC-RSP MAC control messages during reentry processing	16.2.18.5 16.2.3.2	o	Y	Y		Common
3	Omit PKM Authentication phase	16.2.18.5 16.2.3.2	o	Y	Y		Common
4	Omit AAI-REG-REQ and AAI-REG-RSP message during reentry processing	16.2.18.5 16.2.3.2	o	Y	Y		Common
5	Omit higher layer protocol triggering for IP address refresh during reentry processing	16.2.18.5 16.2.3.2	o	Y	Y		Common

4

5 6.1.20 DCR Mode

6 6.1.20.1 Support of DCR Mode

7 **Table 200. Support of DCR Mode**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of DCR mode	16.2.19	o	Y	IOMS-DCR	-	Common

Note on Item 1: Activation of the context retention timer in the network side including ABS should be clarified in the spec

8

9 6.1.20.2 DCR Mode Initiation

10 **Table 201. DCR Mode Initiation**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Initiated from connected state	16.2.19.1	o	Y	IOMS-DCR	-	Common

2	Initiated from Idle state	16.2.19.2	o	N	N	-	Common
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1

2 **6.1.20.3 DCR Mode Operation**

3 **Table 202. DCR Mode Operation**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	DCR mode extension	16.2.19.3	o	N	N	-	Common

4

5 **6.1.20.4 DCR Mode Termination**

6 **Table 203. DCR Mode Termination**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	DCR mode termination	16.2.19.5	o	Y	IOMS-DCR	-	Common

7

8 **6.1.20.5 Network Re-entry from Mode**

9 **Table 204. Network Re-entry from Mode**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Expedited network re-entry with MS information retention	16.2.19.4	o	Y	IOMS-DCR	-	Common

10

11 **6.1.20.6 CRID Update**

12 **Table 205. CRID Update**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	CRID update	16.2.3.2	o	N	N	-	Common

13

14 **6.1.21 Co-located Coexistence**

15 **6.1.21.1 Co-located Coexistence**

16 **Table 206. Co-located Coexistence**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of Co-located Coexistence	16.2.20	o	IOBS-CLC	IOMS-CLC	-	Common

17

1 **6.1.21.2 CLC Mode Activation**

2 **Table 207. CLC Mode Activation**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Fast reactivation of CLC class I and II during HO	16.2.20	o	IOBS-CLC	IOMS-CLC	-	Common

3

4 **6.1.21.3 CLC Mode Operation**

5 **Table 208. CLC Mode Operation**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of CLC Type I	16.2.20.1	o	IOBS-CLC-1	IOMS-CLC-1	-	Common
2	Support of CLC Type II - Subtype 1	16.2.20.2.1	o	IOBS-CLC-2	IOMS-CLC-2	-	Common
3	Support of CLC Type II - Subtype 2	16.2.20.2.2	o	N	N	-	Common
4	Support of CLC Type II - Subtype 3	16.2.20.2.3	o	IOBS-CLC-3	IOMS-CLC-3	-	Common
5	Support of CLC Type III	16.2.20.3	o	IOBS-CLC-4	IOMS-CLC-4	-	Common
6	Capability to omit scheduled HARQ retransmissions due to collision with a scheduled CLC active interval	16.2.20	o	IOBS-CLC	IOMS-CLC	-	Common
7	Interference level report using CLC Report parameters	16.2.3.17	o	N	N	-	Common

6

7 **6.1.21.4 CLC Mode Deactivation**

8 **Table 209. CLC Mode Deactivation**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	CLC mode deactivation	16.2.20	o	IOBS-CLC	IOMS-CLC	-	Common

9

1 **6.1.22 Power Management for the Active Mode**

2 **6.1.22.1 Power Management for the Active Mode**

3 **Table 210. Power Management for the Active Mode**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	AMS's battery level report	16.2.23	o	N	N		Common

4

5 **6.1.23 Coverage Loss**

6 **6.1.23.1 Coverage Loss**

7 **Table 211. Coverage Loss**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Coverage Loss detection at AMS	16.2.26.2	m	Y	Y		Common
2	Coverage Loss detection at ABS	16.2.26.1	m	Y	Y		Common
3	CRID update	16.2.3.2	o	Y	Y		Common
4	Support of optimized network reentry after coverage loss with supplied CRID	16.2.26.3	o	Y	Y		Common
5	Support of optimized network reentry after detecting ABS restart with supplied CRID	16.2.26.4	o	Y	Y		Common

8

9 **6.1.24 Security Features**

10 **6.1.24.1 Authorization Policy Support**

11 **Table 212. Authorization Policy Support**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	802.16m "No authorization" support	16.2.5.2.2	o	Y	Y		Common
2	802.16m "EAP based" authorization support	16.2.5.2.2	pm	Y	Y		Common

12

13 **6.1.24.2 PKM Version 3 Support**

14 **Table 213. PKM Version 3 Support**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	PMK derivation and management	16.2.5.2.1.1.1	m	Y	Y		Common
2	AK derivation and management	16.2.5.2.1.1.2	m	Y	Y		Common

3	CMAC key derivation management	16.2.5.2.1.1.3	m	Y	Y		Common
4	TEK derivation and management	16.2.5.2.1.1.4	m	Y	Y		Common
5	Key agreement 3-way handshake after {re}authentication	16.2.5.2.1.4	pm	Y	Y		Common
6	ICV size negotiation during key agreement in network entry	16.2.5.2.1.4	m	Y	Y		Common
7	Support of CCM SA	16.2.5.2.2	pm	Y	Y		Common
8	Support of CTR SA	16.2.5.2.2	o	Y	Y		Common
9	Key update during Lzone-to-Mzone zone switch	16.2.5.2.1.5.6	do	Y	Y		Common
10	Key update during Mzone-to-Lzone zone switch	16.2.5.2.1.5.7	do	Y	Y	-	Common
11	Key update during Handover	16.2.5.2.1.5.4	m	Y	Y		Common
12	Key usage during Location Update and Network reentry from Idle mode	16.2.5.2.1.5.5	o	Y	Y		Common

1

2 6.1.24.3 Cryptographic Suites

3 **Table 214. Cryptographic Suites**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	No data encryption, no data authentication	16.2.5.2.2	pm	Y	Y		Common
2	CCM-Mode 128-bit AES	16.2.5.2.3.1.1	pm	Y	Y		Common
3	CTR Mode 128-bit AES	16.2.5.2.3.1.2	o	Y	Y		Common
4	CMAC calculation	16.2.5.2.3.2	pm	Y	Y		Common

4

5 6.1.24.4 Message Encryption/Authentication

6 **Table 215. Message Encryption/Authentication**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of signaling messages integrity protection	16.2.5.3.3	pm	Y	Y		Common
2	Support of signaling messages confidentiality and integrity protection	16.2.5.3.3	pm	Y	Y		Common

7

8 6.1.24.5 MS Privacy

9 **Table 216. MS Privacy**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode

1	Support of MSID privacy	16.2.5.3.1	pm	Y	Y		Common
2	Support of MS location privacy	16.2.5.3.2	pm	Y	Y		Common

1

2 **6.1.25 Neighbor Advertisement**

3 **6.1.25.1 AAI_NBR-ADV**

4 **Table 217. AAI_NBR-ADV**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Broadcast transmission	16.2.6.1.1	m	Y	Y		Common
2	Unicast transmission	16.2.6.1.1	o	N	N	-	Common
3	Capability of encoding full SFH SPs information	16.2.3.13	oi	Y	Y		Common
4	Capability of encoding delta SFH information	16.2.3.13	oi	Y	Y		Common
5	Support of broadcasting different AAI_NBR-ADV segments independently	16.2.6.1.1	pm	Y	Y		Common

5

6 **6.1.25.2 AAI_MC-ADV**

7 **Table 218. AAI_MC-ADV**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of broadcasting the available carrier information	16.2.8.2.3.1	o	IOBS-MC	Y		Common

8

9 **6.1.26 Scanning**

10 **6.1.26.1 Scanning Initiation**

11 **Table 219. Scanning Initiation**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	AMS initiated Scanning (AAI_SCN-REQ)	16.2.6.1.2	pm	Y	Y		Common
2	ABS initiated Scanning (AAI_SCN-RSP)	16.2.6.1.2	o	Y	Y		Common
3	Event Triggered Scan request	16.2.6.1.2	pm	Y	Y		Common
4	Scanning using Neighbor ABS index with physical carrier index	16.2.3.14	oi	Y	Y		Common

		16.2.3.15					
5	Scanning using full BS_ID with physical carrier index and preamble index	16.2.3.14 16.2.3.15	oi	Y	Y		Common
6	Scanning using Nbr_Bitmap_Index with physical carrier index	16.2.3.14 16.2.3.15	oi	Y	Y	-	Common
7	Scanning serving ABS's carriers, which has Multi-carrier capability	16.2.6.1.2 16.2.8.2.9.1.2	o	IOBS-MC	Y		Common
8	Scanning with prioritized BS order	16.2.6.1.2	o	N	N		Common
9	Scanning of only fully configured carriers of neighbor ABS	16.2.8.2.9.1.2	pm	Y	Y		Common
10	Scanning using Req_Bitmap_Index with physical carrier	16.2.3.15	o	N	N		Common
11	Scan Report using Rsp_Bitmap_Index with physical carrier	16.2.3.16	o	N	N		Common
Note on Item 4: This item operates in combination with item #1 or #2							
Note on Item 5: This item operates in combination with item #1 or #2							
Note on Item 7: This item operates in combination with item #1 or #2							
Note on Item 9: This item operates in combination with item #1 or #2							

1

2 6.1.26.2 Scan Reporting Type Support

3 **Table 220. Scan Reporting Type Support**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Periodic scan report	16.2.6.2	o	Y	Y		Common
2	One-time scan report	16.2.6.2	o	Y	Y		Common
3	Event triggered scan report	16.2.6.2	o	Y	Y		Common

4

5 6.1.27 HO Trigger

6 6.1.27.1 Trigger Metrics

7 **Table 221. Trigger Metrics**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	BS CINR mean	16.2.6.2	o	Y	Y		Common
2	BS RSSI mean	16.2.6.2	o	Y	Y		Common
3	Relative Delay	16.2.6.2	o	N	N	-	Common
4	BS RTD	16.2.6.2	o	N	N	-	Common

5	Number of missed superframes	16.2.6.2	o	N	N		Common
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1

2 6.1.27.2 Complex Trigger Conditions

3 **Table 222. Complex Trigger Conditions**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Complex Trigger conditions	16.2.6.2	o	Y	Y		Common

4

5 6.1.28 HO Procedures

6 6.1.28.1 Generic HO Features

7 **Table 223. Generic HO Features**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of HO Re-entry Mode 0: General HO support	16.2.6.3.2	pm	Y	Y		Common
2	HO initiated by AMS	16.2.6.3.2	pm	Y	Y		Common
3	HO initiated by ABS	16.2.6.3.2	o	Y	Y		Common
4	Preallocation of STID	16.2.6.3.3	o	Y	Y		Common
5	HO rejection	16.2.6.3.3	o	Y	Y		Common
6	Capability of omitting CDMA HO ranging	16.2.6.3.5.1	o	Y	Y		Common
7	Contention based CDMA HO Ranging	16.2.6.3.5.1	o	Y	Y		Common
8	Dynamic ranging opportunity allocation in AAI_HO-CMD	16.2.6.3.5.1	o	Y	Y		Common
9	Dedicated ranging code allocation in AAI_HO-CMD	16.2.6.3.5.1	o	IOBS-DRNG	Y		Common
10	Dynamic ranging channel allocation for HO by broadcast A-MAP IE	16.2.6.3.5.1	o	Y	Y		Common
11	Multiple HO candidate T-ABS in AAI_HO-CMD	16.2.6.3.3	o	Y	Y		Common
12	Send AAI_HO-IND in case of Target ABS selection in case of multiple candidate T-ABS	16.2.6.3.3	o	Y	Y		Common
13	Send AAI_HO-IND in case of All target ABSs in AAI_HO-CMD are unreachable.	16.2.6.3.4	o	N	N		Common
14	Send AAI_HO-IND in case of AMS unable to maintain communication with the serving ABS until expiration	16.2.6.3.4	o	N	N		Common

	of disconnect time						
15	Send AAI_HO-IND in case of HO cancel	16.2.6.3.4	o	Y	Y		Common
16	Indicate target ABS SFH mismatch in case of HO cancel	16.2.3.10 16.2.6.3.3	o	N	N		Common
17	Omit AAI_SBC-REQ/RSP management messages during reentry processing	16.2.3.12	o	Y	Y		Common
18	Omit PKM Authentication phase	16.2.3.12	o	Y	Y		Common
19	Seamless HO (Allowing data communications before completion of AAI_RNG-REQ/RSP transaction)	16.2.3.12	o	N	N		Common
20	Omit AAI_REG-REQ/RSP message and higher layer protocol triggering (for IP address refresh) during reentry processing.	16.2.3.12	o	Y	Y		Common
21	Full service and operational state transfer or sharing between Serving ABS and Target ABS	16.2.3.12	o	Y	Y		Common
22	Provision of delta SFH information of neighbor ABS in AAI_HO-CMD	16.2.6.3.3	o	Y	Y		Common
Note on Item 21: Note: Describe the context of the MS to be transferred between the serving ABS and target ABS.							

1

2 6.1.28.2 Entry-Before-Break HO (HO Re-entry Mode 1)

3 **Table 224. Entry-Before-Break HO (HO Re-entry Mode 1)**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Support of HO Re-entry Mode 1: Maintain connection with serving BS during network re-entry at target BS	16.2.6.3.5.2	o	N	N	-	Common
2	HO_Reentry_Interleaving_Interval > 0 for Single-carrier EBB HO	16.2.6.3.5.2	o	N	N	-	Common

4

5 6.1.28.3 HO support from WirelessMAN-OFDMA Reference System to Advanced 6 WirelessMAN-OFDMA System

7 **Table 225. HO support from WirelessMAN-OFDMA Reference System to Advanced WirelessMAN-OFDMA System**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Indication of mixed mode ABS by MAC version	16.2.6.4.1.1.1	o	Y	Y		TDD

2	Indication support of MZone presence by FCH	16.2.6.4.1.1.1 16.10.1.1	pm	Y	Y		TDD
3	Direct HO from 16e BS to 16m only ABS	16.2.6.4.1.2.2	o	Y	Y		TDD
4	Support of Zone Switch from LZone to MZone	16.2.6.4.1.2.1	pm	Y	Y		TDD
5	Zone Switch from Lzone to Mzone during network re-entry	16.2.6.4.1.2.1	o	IOBS-ZSLM	Y		TDD
6	Switch to Mzone after network entry to Lzone	16.2.6.4.1.2.1	o	Y	Y		TDD
7	Support of Zone Switch with Zone Swith Mode 0	16.2.6.4.1.2.1	o	Y	Y		TDD
8	Support of Zone Switch with Zone Switch Mode 1	16.2.6.4.1.2.1	o	N	N		TDD
9	Context Mapping during Zone Switch	16.2.6.4.1.3	pm	Y	Y		TDD
10	Zone Switch capability indication in Lzone	16.2.6.4.1.2.1 16.10.2.2	pm	Y	Y		TDD
Note on Item 3: Group requests clarification on sentence regarding to 'blind scanning' pg 371 line 50. Detection method of neighbor ABS (16m only) is out of scope of this item. This is missing and should be described in the standard.							
Note on Item 7: Breaks communication in LZone before performing network reentry in Mzone							
Note on Item 6: Maintain connection in LZone during network reentry in Mzone							

1
2 **6.1.28.4 HO Support from Advanced WirelessMAN-OFDMA System to WirelessMAN-OFDMA**
3 **Reference System**

4 **Table 226. HO Support from Advanced WirelessMAN-OFDMA System to WirelessMAN-OFDMA**
5 **Reference System**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Include LZone MOB_NBR-ADV transmission timeoffset in AAI_NBR-ADV in Mzone	16.2.3.13	o	Y	N/A	-	TDD
2	Include neighbor R1 BS information (BSID, preamble index, BW, Center Frequency) in the AAI_NBR-ADV	16.2.3.13	o	Y	N/A	-	TDD
3	HO from MZone in mixed-mode ABS to YBS	16.2.6.4.2	o	Y	Y		TDD
4	Include LZone MOB_NBR-ADV transmission interval in AAI_NBR-		o	N	N	-	TDD

	ADV in Mzone	16.2.3.13					
5	HO from AAI-only ABS to YBS	16.2.6.4.2.4	o	Y	Y		TDD
6	Support of Zone Switch from MZone to LZone	16.2.6.4.2.5	o	IOBS-ZSML	Y	-	TDD
7	Context Mapping during Zone Switch	16.2.6.4.2.3	o	Y	Y	-	TDD

1

2 **6.1.28.5 InterRAT HO**

3 **Table 227. InterRAT HO**

Item	Description	Reference	Status	BSR	MSR	Trait Package ID	Duplexing Mode
1	Inter-RAT HO support using L2 transfer message with Transfer-Type = 5 (ORAT-MSG)	16.2.6.5	o	IOBS-ORAT	IOMS-ORAT		Common
2	Inter-RAT HO support using the MIH frame (802.21)	16.2.6.5	o	IOBS-MIH	IOMS-MIH		Common

4

5