
On LTE CA documentation



Problems to be solved

- Improve clarity as to what a LTE CA band combination WID actually covers
 - Not always clear which 2DL CA combos are included in 3DL CA WID
 - Not always clear what is included for the uplink within a DL CA combo WID
 - Root cause is lack of formalized template: info may be there, but every author captures it differently
 - 4DL & 5DL soon coming up: issue bound to get worse if we do nothing

- Enable MCC to collect a list of band combinations covered by 3GPP with minimal extra effort
 - There is strong demand in the industry for an official “list” of LTE CA combination
 - As long as it is not crystal clear & immediately evident what a WID covers, such a list cannot exist
 - (Again: a list of WIDs is NOT a list of CA combos because eg a 3DL CA WID also includes 2DL CA combos)

Proposed approach

- Include a table in each LTE CA WID. Table must convey
 1. Which combos are covered by the WID
 2. Which bandwidths & which number of carriers are to be considered for each band
 3. Uplink CA considerations (eg what is covered) for each combo
 4. Pointer to bandwidth combination sets for each included combo

- Table structure must be generic to enable usage for 4DL, 5DL (and beyond), including cases of multiple carriers for a band

Bands	Bww	Bxx	Byy	Bzz	Baz	BCS & other notes	Uplink
Bandwidth	[1.4, 3, 5, 10, 15, 20]	[1.4, 3, 5, 10, 15, 20]	[1.4, 3, 5, 10, 15, 20]	[1.4, 3, 5, 10, 15, 20]	[1.4, 3, 5, 10, 15, 20]		
1 [eg CA_Bxx_Byy_Baa]	yes/no [# of carriers]	[bandwidth combination sets]					
2 [eg CA_Bxx_Byy_Baa]	yes/no [# of carriers]						
3 [eg CA_Bxx_Byy_Baa]	yes/no [# of carriers]						
....							

Which bandwidth are to be considered for each band?

List of bands covered by this WID

Bands	Bww	Bxx	Byy	Bzz	Baz	BCS & other notes	Uplink
Bandwidth	[1.4, 3, 5, 10, 15, 20]	[1.4, 3, 5, 10, 15, 20]	[1.4, 3, 5, 10, 15, 20]	[1.4, 3, 5, 10, 15, 20]	[1.4, 3, 5, 10, 15, 20]		
1 [eg CA_Bxx_Byy_Baa]	yes/no [# of carriers]	[bandwidth combination sets]					
2 [eg CA_Bxx_Byy_Baa]	yes/no [# of carriers]						
3 [eg CA_Bxx_Byy_Baa]	yes/no [# of carriers]						
....							

Bands	Bww	Bxx	Byy	Bzz	Baz	BCS & other notes	Uplink
Bandwidth	[1.4, 3, 5, 10, 15, 20]	[1.4, 3, 5, 10, 15, 20]	[1.4, 3, 5, 10, 15, 20]	[1.4, 3, 5, 10, 15, 20]	[1.4, 3, 5, 10, 15, 20]		
1 [eg CA_Bxx_Byy_Baa]	yes/no [# of carriers]	[bandwidth combination sets]					
2 [eg CA_Bxx_Byy_Baa]	yes/no [# of carriers]						
3 [eg CA_Bxx_Byy_Baa]	yes/no [# of carriers]						
....							



Which combos is this WID actually covering?

Bands	Bww	Bxx	Byy	Bzz	Baz	BCS & other notes	Uplink
Bandwidth	[1.4, 3, 5, 10, 15, 20]	[1.4, 3, 5, 10, 15, 20]	[1.4, 3, 5, 10, 15, 20]	[1.4, 3, 5, 10, 15, 20]	[1.4, 3, 5, 10, 15, 20]		
1 [eg CA_Bxx_Byy_Baa]	yes/no [# of carriers]	[bandwidth combination sets]					
2 [eg CA_Bxx_Byy_Baa]	yes/no [# of carriers]						
3 [eg CA_Bxx_Byy_Baa]	yes/no [# of carriers]						
....							

Are there combo sets?

What about the UL?
Which UL is allowed?

Does this combo (line 3 in this case) include this band?
Does it include 1 carrier for the band, or more? Contiguous or non-contiguous?

Conclusions

- We propose that each LTE CA WID includes a table with all relevant info “at a glance”
- We have provided a proposed list of items to be captured & corresponding table design
- This proposal is only about documentation; we propose no changes to the current process of technical evaluation
- Comments are welcome

Annex: Example based on RP-141147 (LTE CA B2+B5+B29)

- This WID includes a 3DL CA combo and a 2DL CA combo
 - However the inclusion of the 2DL CA combos is not apparent from the title, hence impossible to track from a work management perspective
 - Here's how our proposed table would have looked like for this WID

Bands	B2	B5	B29	BCS & other notes	Uplink
Bandwidth	<i>[5, 10, 15, 20]</i>	<i>[5, 10]</i>	<i>[3, 5, 10]</i>		
1 CA_B2_B5_B29	Yes (1)	Yes (1)	Yes (1)	0	1UL
2 CA_B5_B29		Yes (1)	Yes (1)	0 <i>(3MHz on B29 not included for this combination)</i>	1UL

Thank you

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