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Measurement Certificate / Material Test

Item Name	**Head Tissue Simulating Liquid (HSL750V2)**
Product No.	SL AAH 075 AA (Batch: 170612-4)
Manufacturer	SPEAG

Measurement Method

TSL dielectric parameters measured using calibrated DAK probe.

Setup Validation

Validation results were within ± 2.5% towards the target values of Methanol.

Target Parameters

Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

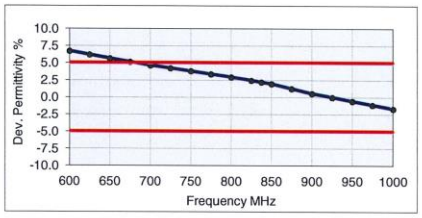
Test Condition

Ambient	Environment temperatur (22 ± 3)°C and humidity < 70%.
TSL Temperature	22°C
Test Date	20-Jun-17
Operator	CL

Additional Information

TSL Density	1.284 g/cm^3
TSL Heat-capacity	2.701 kJ/(kg*K)

	Measured			Target		Diff.to Target [%]	
f [MHz]	e'	e''	sigma	eps	sigma	Δ-eps	Δ-sigma
600	45.6	22.97	0.77	42.7	0.88	6.7	-13.1
625	45.2	22.73	0.79	42.6	0.88	6.2	-10.6
650	44.9	22.49	0.81	42.5	0.89	5.6	-8.2
675	44.5	22.27	0.84	42.3	0.89	5.1	-5.8
700	44.2	22.05	0.86	42.2	0.89	4.6	-3.5
725	43.8	21.88	0.88	42.1	0.89	4.2	-1.0
750	43.5	21.72	0.91	41.9	0.89	3.8	1.4
775	43.2	21.55	0.93	41.8	0.90	3.4	3.7
800	42.9	21.38	0.95	41.7	0.90	2.9	6.0
825	42.6	21.24	0.97	41.6	0.91	2.4	7.5
838	42.5	21.17	0.99	41.5	0.91	2.2	8.2
850	42.3	21.09	1.00	41.5	0.92	2.0	8.9
875	42.0	20.98	1.02	41.5	0.94	1.2	8.3
900	41.7	20.87	1.05	41.5	0.97	0.5	7.7
925	41.5	20.76	1.07	41.5	0.98	0.0	8.7
950	41.2	20.64	1.09	41.4	0.99	-0.6	9.7
975	40.9	20.55	1.11	41.4	1.00	-1.1	10.9
1000	40.6	20.46	1.14	41.3	1.01	-1.7	12.1



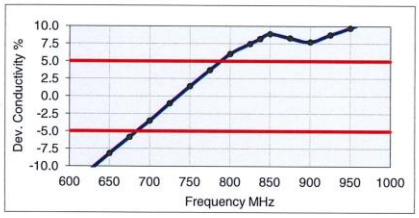


Figure D-3
750MHz Head Tissue Equivalent Matter

3 Composition / Information on ingredients

The Item is composed of the following ingredients:

Water	50 – 73 %	
Non-ionic detergents	25 – 50 %	polyoxyethylenesorbitan monolaurate
NaCl	0 – 2 %	
Preservative	0.05 – 0.1%	Preventol-D7

Safety relevant ingredients:

CAS-No. 55965-84-9	< 0.1 %	aqueous preparation, containing 5-chloro-2-methyl-3(2H)-isothiazolone and 2-methyyl-3(2H)-isothiazolone
CAS-No. 9005-64-5	<50 %	polyoxyethylenesorbitan monolaurate

According to international guidelines, the product is not a dangerous mixture and therefore not required to be marked by symbols.

Figure D-4
Composition of 2.4 GHz Head Tissue Equivalent Matter

Note: 2.4 GHz head liquid recipes are proprietary SPEAG. Since the composition is approximate to the actual liquids utilized, the manufacturer tissue-equivalent liquid data sheets are provided below.

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Measurement Certificate / Material Test

Item Name	**Head Tissue Simulating Liquid (HBBL1900-3800V3)**
Product No.	SL AAH 196 AB (Batch: 170619-1)
Manufacturer	SPEAG

Measurement Method

TSL dielectric parameters measured using calibrated DAK probe.

Setup Validation

Validation results were within ± 2.5% towards the target values of Methanol.

Target Parameters

Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

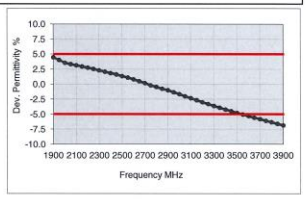
Test Condition

Ambient	Environment temperatur (22 ± 3)°C and humidity < 70%.
TSL Temperature	22°C
Test Date	20-Jun-17
Operator	CL

Additional Information

TSL Density 1.054 g/cm^3
TSL Heat-capacity 3.389 kJ/(kg*K)

	Measured			Target		Diff.to Target [%]	
f [MHz]	e'	e''	sigma	eps	sigma	Δ-eps	Δ-sigma
1900	41.8	12.2	1.3	40.0	1.4	4.5	-8.2
1950	41.6	12.3	1.3	40.0	1.4	4.0	-4.6
2000	41.4	12.4	1.4	40.0	1.4	3.6	-1.3
2050	41.2	12.6	1.4	39.9	1.4	3.3	-0.9
2100	41.1	12.7	1.5	39.8	1.5	3.1	-0.6
2150	40.9	12.8	1.5	39.7	1.5	2.9	-0.2
2200	40.7	12.9	1.6	39.6	1.6	2.7	0.2
2250	40.6	13.0	1.6	39.6	1.6	2.5	0.5
2300	40.4	13.2	1.7	39.5	1.7	2.3	1.1
2350	40.2	13.3	1.7	39.4	1.7	2.1	1.5
2400	40.0	13.4	1.8	39.3	1.8	1.8	2.1
2450	39.8	13.5	1.8	39.2	1.8	1.6	2.6
2500	39.7	13.7	1.9	39.1	1.9	1.3	2.6
2550	39.5	13.7	2.0	39.1	1.9	1.1	2.2
2600	39.3	13.9	2.0	39.0	2.0	0.8	2.5
2650	39.1	14.0	2.1	38.9	2.0	0.5	2.6
2700	39.0	14.2	2.1	38.9	2.1	0.2	2.7
2750	38.7	14.3	2.2	38.8	2.1	-0.2	2.6
2800	38.6	14.4	2.2	38.8	2.2	-0.4	2.5
2850	38.4	14.5	2.3	38.7	2.2	-0.8	2.6
2900	38.2	14.6	2.3	38.6	2.3	-1.0	2.6
2950	38.1	14.7	2.4	38.6	2.3	-1.3	2.6
3000	37.9	14.8	2.5	38.5	2.4	-1.7	2.6
3050	37.7	14.8	2.5	38.4	2.5	-2.0	2.8
3100	37.5	14.9	2.6	38.4	2.5	-2.3	2.8
3150	37.3	15.0	2.6	38.3	2.6	-2.6	2.9
3200	37.1	15.1	2.7	38.3	2.6	-3.0	2.9
3250	37.0	15.1	2.7	38.2	2.7	-3.3	3.0
3300	36.8	15.2	2.8	38.2	2.7	-3.6	3.1
3350	36.6	15.3	2.8	38.1	2.8	-3.9	3.2
3400	36.4	15.3	2.9	38.0	2.8	-4.2	3.3
3450	36.3	15.4	3.0	38.0	2.9	-4.5	3.4
3500	36.1	15.5	3.0	37.9	2.9	-4.8	3.5
3550	36.0	15.5	3.1	37.9	3.0	-5.0	3.6
3600	35.8	15.6	3.1	37.8	3.0	-5.3	3.8
3650	35.7	15.7	3.2	37.8	3.1	-5.6	3.7
3700	35.5	15.7	3.2	37.7	3.1	-5.8	3.9
3750	35.4	15.8	3.3	37.6	3.2	-6.1	3.9
3800	35.2	15.9	3.4	37.6	3.2	-6.3	4.1
3850	35.1	15.9	3.4	37.5	3.3	-6.6	4.1



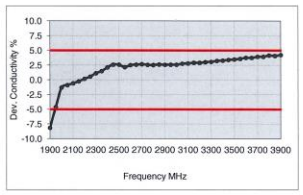


Figure D-5
2.4 GHz Head Tissue Equivalent Matter

2 Composition / Information on ingredients

The Item is composed of the following ingredients:

Water	50 – 65%
Mineral oil	10 – 30%
Emulsifiers	8 – 25%
Sodium salt	0 – 1.5%

Figure D-6
Composition of 5 GHz Head Tissue Equivalent Matter

Note: 5GHz head liquid recipes are proprietary SPEAG. Since the composition is approximate to the actual liquids utilized, the manufacturer tissue-equivalent liquid data sheets are provided below.

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Measurement Certificate / Material Test

Item Name	**Head Tissue Simulating Liquid (HBBL3500-5800V5)**
Product No.	SL AAH 502 AG (Batch: 170613-1)
Manufacturer	SPEAG

Measurement Method
TSL dielectric parameters measured using calibrated DAK probe.

Setup Validation
Validation results were within ± 2.5% towards the target values of Methanol.

Target Parameters
Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

Test Condition

Ambient	Environment temperatur (22 ± 3)°C and humidity < 70%.
TSL Temperature	22°C
Test Date	20-Jun-17
Operator	CL

Additional Information

TSL Density	0.985 g/cm^3
TSL Heat-capacity	3.383 kJ/(kg*K)

	Measured			Target		Diff.to Target [%]	
f [MHz]	e'	e''	sigma	eps	sigma	Δ-eps	Δ-sigma
3400	38.6	15.03	2.84	38.0	2.81	1.5	1.1
3500	38.5	15.00	2.92	37.9	2.91	1.5	0.3
3600	38.3	14.98	3.00	37.8	3.02	1.3	-0.5
3700	38.2	14.96	3.08	37.7	3.12	1.3	-1.2
3800	38.1	14.96	3.16	37.6	3.22	1.4	-1.9
3900	38.0	14.95	3.24	37.5	3.32	1.4	-2.5
4000	37.9	14.95	3.33	37.4	3.43	1.5	-2.8
4100	37.8	14.96	3.41	37.2	3.53	1.5	-3.3
4200	37.6	15.00	3.50	37.1	3.63	1.3	-3.6
4300	37.5	15.05	3.60	37.0	3.73	1.3	-3.5
4400	37.4	15.11	3.70	36.9	3.84	1.4	-3.5
4500	37.2	15.18	3.80	36.8	3.94	1.1	-3.5
4600	37.1	15.24	3.90	36.7	4.04	1.2	-3.5
4700	37.0	15.29	4.00	36.6	4.14	1.2	-3.4
4800	36.8	15.35	4.10	36.4	4.25	1.0	-3.4
4850	36.8	15.35	4.14	36.4	4.30	1.1	-3.6
4900	36.7	15.38	4.19	36.3	4.35	1.0	-3.6
4950	36.6	15.39	4.24	36.3	4.40	0.9	-3.6
5000	36.5	15.42	4.29	36.2	4.45	0.8	-3.6
5050	36.5	15.43	4.34	36.2	4.50	0.9	-3.6
5100	36.4	15.46	4.39	36.1	4.55	0.8	-3.6
5150	36.3	15.48	4.43	36.0	4.60	0.7	-3.8
5200	36.2	15.50	4.48	36.0	4.66	0.6	-3.8
5250	36.1	15.53	4.54	35.9	4.71	0.5	-3.5
5300	36.1	15.55	4.58	35.9	4.76	0.6	-3.7
5350	36.0	15.56	4.63	35.8	4.81	0.5	-3.7
5400	35.9	15.57	4.68	35.8	4.86	0.4	-3.7
5450	35.9	15.59	4.73	35.7	4.91	0.6	-3.7
5500	35.8	15.61	4.78	35.6	4.96	0.4	-3.7
5550	35.7	15.65	4.83	35.6	5.01	0.3	-3.7
5600	35.6	15.66	4.88	35.5	5.07	0.2	-3.7
5650	35.6	15.70	4.93	35.5	5.12	0.4	-3.6
5700	35.5	15.72	4.98	35.4	5.17	0.2	-3.6
5750	35.4	15.76	5.04	35.4	5.22	0.1	-3.4
5800	35.4	15.78	5.09	35.3	5.27	0.3	-3.4
5850	35.3	15.81	5.14	35.3	5.34	0.0	-3.7
5900	35.3	15.82	5.19	35.3	5.40	0.0	-3.9

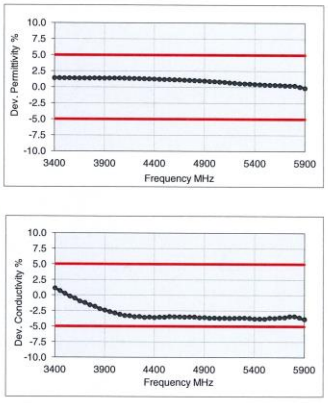

Figure D-7
5GHz Head Tissue Equivalent Matter

APPENDIX E: SAR SYSTEM VALIDATION

Per FCC KDB Publication 865664 D02v01r02, SAR system validation status should be documented to confirm measurement accuracy. The SAR systems (including SAR probes, system components and software versions) used for this device were validated against its performance specifications prior to the SAR measurements. Reference dipoles were used with the required tissue- equivalent media for system validation, according to the procedures outlined in FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013. Since SAR probe calibrations are frequency dependent, each probe calibration point was validated at a frequency within the valid frequency range of the probe calibration point, using the system that normally operates with the probe for routine SAR measurements and according to the required tissue-equivalent media.

A tabulated summary of the system validation status including the validation date(s), measurement frequencies, SAR probes and tissue dielectric parameters has been included.

Table E-1
SAR System Validation Summary – 1g

SAR SYSTEM #	FREQ. [MHz]	DATE	PROBE SN	PROBE TYPE	PROBE CAL. POINT		COND.	PERM.	CW VALIDATION			MOD. VALIDATION		
							(σ)	(εr)	SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
I	750	3/6/2018	3287	ES3DV3	750	Head	0.904	42.386	PASS	PASS	PASS	N/A	N/A	N/A
H	750	8/30/2017	7410	EX3DV4	750	Head	0.911	43.081	PASS	PASS	PASS	N/A	N/A	N/A
E	835	3/5/2018	3213	ES3DV3	835	Head	0.925	43.335	PASS	PASS	PASS	GMSK	PASS	N/A
H	1750	8/30/2017	7410	EX3DV4	1750	Head	1.395	38.864	PASS	PASS	PASS	N/A	N/A	N/A
G	1900	8/31/2017	3332	ES3DV3	1900	Head	1.457	40.398	PASS	PASS	PASS	GMSK	PASS	N/A
G	2300	10/16/2017	3332	ES3DV3	2300	Head	1.715	39.101	PASS	PASS	PASS	N/A	N/A	N/A
G	2450	10/16/2017	3332	ES3DV3	2450	Head	1.880	38.615	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
G	2600	10/16/2017	3332	ES3DV3	2600	Head	2.051	38.039	PASS	PASS	PASS	TDD	PASS	N/A
H	5250	1/31/2018	3589	EX3DV4	5250	Head	4.516	36.066	PASS	PASS	PASS	OFDM	N/A	PASS
H	5600	1/31/2018	3589	EX3DV4	5600	Head	4.869	35.597	PASS	PASS	PASS	OFDM	N/A	PASS
H	5750	1/31/2018	3589	EX3DV4	5750	Head	5.112	35.351	PASS	PASS	PASS	OFDM	N/A	PASS
H	750	8/30/2017	7410	EX3DV4	750	Body	0.956	56.276	PASS	PASS	PASS	N/A	N/A	N/A
I	750	3/6/2018	3287	ES3DV3	750	Body	0.951	56.970	PASS	PASS	PASS	N/A	N/A	N/A
E	835	3/16/2018	3213	ES3DV3	835	Body	0.968	53.713	PASS	PASS	PASS	GMSK	PASS	N/A
K	1750	5/1/2017	7406	EX3DV4	1750	Body	1.514	51.685	PASS	PASS	PASS	N/A	N/A	N/A
J	1900	3/9/2018	3914	EX3DV4	1900	Body	1.533	53.731	PASS	PASS	PASS	GMSK	PASS	N/A
K	2300	5/3/2017	7406	EX3DV4	2300	Body	1.790	51.121	PASS	PASS	PASS	N/A	N/A	N/A
K	2450	5/3/2017	7406	EX3DV4	2450	Body	1.995	50.521	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
K	2600	5/3/2017	7406	EX3DV4	2600	Body	2.203	49.895	PASS	PASS	PASS	TDD	PASS	N/A
D	5250	10/24/2017	7308	EX3DV4	5250	Body	5.405	48.529	PASS	PASS	PASS	OFDM	N/A	PASS
D	5600	10/24/2017	7308	EX3DV4	5600	Body	5.910	47.818	PASS	PASS	PASS	OFDM	N/A	PASS
D	5750	10/24/2017	7308	EX3DV4	5750	Body	6.135	47.546	PASS	PASS	PASS	OFDM	N/A	PASS

Table E-2
SAR System Validation Summary – 10g

SAR SYSTEM #	FREQ. [MHz]	DATE	PROBE SN	PROBE TYPE	PROBE CAL. POINT		COND.	PERM.	CW VALIDATION			MOD. VALIDATION		
							(σ)	(εr)	SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
D	5250	10/24/2017	7308	EX3DV4	5250	Body	5.405	48.529	PASS	PASS	PASS	OFDM	N/A	PASS
D	5600	10/24/2017	7308	EX3DV4	5600	Body	5.910	47.818	PASS	PASS	PASS	OFDM	N/A	PASS

NOTE: While the probes have been calibrated for both CW and modulated signals, all measurements were performed using communication systems calibrated for CW signals only. Modulations in the table above represent test configurations for which the measurement system has been validated per FCC KDB Publication 865664 D01v01r04 for scenarios when CW probe calibrations are used with other signal types. SAR systems were validated for modulated signals with a periodic duty cycle, such as GMSK, or with a high peak to average ratio (>5 dB), such as OFDM according to FCC KDB Publication 865664 D01v01r04.

APPENDIX G POWER REDUCTION VERIFICATION

Per the May 2017 TCBC Workshop Notes, demonstration of proper functioning of the power reduction mechanisms is required to support the corresponding SAR configurations. The verification process was divided into two parts: (1) evaluation of output power levels for individual or multiple triggering mechanisms and (2) evaluation of the triggering distances for proximity-based sensors.

G.1 Power Verification Procedure

The power verification was performed according to the following procedure:

1. A base station simulator was used to establish a conducted RF connection and the output power was monitored. The power measurements were confirmed to be within expected tolerances for all states before and after a power reduction mechanism was triggered.
2. Step 1 was repeated for all relevant modes and frequency bands for the mechanism being investigated.
3. Steps 1 and 2 were repeated for all individual power reduction mechanisms and combinations thereof. For the combination cases, one mechanism was switched to a 'triggered' state at a time; powers were confirmed to be within tolerances after each additional mechanism was activated.

G.2 WIFI Verification Summary

Table G-1
Power Measurement Verification WIFI

Mechanism(s)	Mode/Band	Conducted Power (dBm)	
		Un-triggered (Max)	Mechanism #1 (Reduced)
Held-to-Ear	802.11b	19.47	15.49
Held-to-Ear	802.11g	17.77	15.36
Held-to-Ear	802.11n (2.4GHz)	16.05	15.11

Note: 802.11ac was not measured due to equipment limitation.

APPENDIX H: DOWNLINK LTE CA RF CONDUCTED POWERS

1.1 LTE Downlink Only Carrier Aggregation Test Reduction Methodology

SAR test exclusion for LTE downlink Carrier Aggregation is determined by power measurements according to the number of component carriers (CCs) supported by the product implementation. Per FCC Guidance, the following test reduction methodology was applied to determine the combinations required for conducted power measurements.

LTE DLCA Test Reduction Methodology:

- The supported combinations were arranged by the number of component carriers in columns.
- Any limitations on the PCC or SCC for each combination were identified alongside the combination (e.g. CA_2A-2A-4A-12A, but B12 can only be configured as a SCC).
- Power measurements were performed for "supersets" (LTE CA combinations with multiple components carriers) and any "subsets" (LTE CA combinations with fewer component carriers) that were not completely covered by the supersets.
- Only subsets that have the exact same components as a superset were excluded for measurement.
- When there were certain restrictions on component carriers that existed in the superset that were not applied for the subset, the subset configuration was additionally evaluated.
- Both inter-band and intra-band downlink carrier aggregation scenarios were considered.
- Downlink CA combinations for SISO and 4x4 Downlink MIMO operations were measured independently, per May 2017 TCBC Workshop notes.

Table 1 – Example of Exclusion Table for SISO Configurations

Index	2CC	Supported Channel Bandwidth [MHz]		Restriction	Completely Covered by Measurement Superset
		CC1	CC2		
2CC #1	CA_2C	5, 10, 15, 20	5, 10, 15, 20		3CC #6
2CC #2	CA_2A-5A	5, 10, 15, 20	5, 10		3CC #1
2CC #3	CA_2A-12A	5, 10, 15, 20	5, 10		3CC #3
2CC #4	CA_2A-13A	5, 10, 15, 20	10		3CC #9
2CC #5	CA_2A-17A	5, 10	5, 10		No
2CC #6	CA_2A-30A	5, 10, 15, 20	5, 10		3CC #14
2CC #8	CA_2A-66A (2)	5, 10, 15, 20	5, 10, 15, 20		3CC #1
2CC #9	CA_2A-71A	5, 10, 15, 20	5, 10, 15, 20		3CC #10
2CC #10	CA_4A-4A	5, 10, 15, 20	5, 10, 15, 20		3CC #6
2CC #11	CA_4A-5A (1)	5, 10, 15, 20	5, 10		3CC #1
2CC #12	CA_4A-12A (4)	5, 10, 15, 20	5, 10		3CC #8
2CC #13	CA_4A-13A	5, 10, 15, 20	10		3CC #9
2CC #14	CA_4A-17A	5, 10	5, 10	B17 SCC Only	No
2CC #15	CA_5B	5, 10	5, 10		3CC #1
2CC #16	CA_5A-25A	5, 10	5, 10, 15, 20		No
2CC #17	CA_7C	15, 20	15, 20		No
2CC #18	CA_7A-7A (1)	5, 10, 15, 20	5, 10, 15, 20		Yes
2CC #19	CA_7A-12A	5, 10, 15, 20	5, 10		3CC #12
2CC #20	CA_12B	5	5, 10		3CC #13
2CC #21	CA_12A-25A	5, 10	5, 10, 15, 20		No
2CC #22	CA_12A-30A	5, 10	5, 10		3CC #14
2CC #23	CA_41A-41A (1)	5, 10, 15, 20	5, 10, 15, 20		No

Index	3CC	Supported Channel Bandwidth [MHz]			Restriction	Completely Covered by Measurement Superset
		CC1	CC2	CC3		
3CC #1	CA_2A-2A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		4CC #1
3CC #2	CA_2A-2A-5A	5, 10, 15, 20	5, 10, 15, 20	5, 10		4CC #1
3CC #3	CA_2A-2A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
3CC #4	CA_2C-66B	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #5	CA_2A-2A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #6	CA_2A-4A-5A	5, 10, 15, 20	5, 10, 15, 20	5, 10		4CC #1
3CC #7	CA_2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
3CC #8	CA_2A-4A-13A	5, 10, 15, 20	5, 10, 15, 20	10		No
3CC #9	CA_2A-4A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #11	CA_2A-5B	5, 10, 15, 20	5, 10	5, 10		4CC #5
3CC #12	CA_2A-12A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
3CC #13	CA_2A-12A-30A	5, 10, 15, 20	5, 10	5, 10		No
3CC #15	CA_4A-4A-5A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
3CC #16	CA_5B-30A	5, 10	5, 10	5, 10		3CC #1
3CC #17	CA_5B-66A	5, 10	5, 10	5, 10, 15, 20		3CC #1
3CC #18	CA_5A-30A-66A	5, 10	5, 10	5, 10, 15, 20		4CC #9
3CC #19	CA_12A-66C	5, 10	5, 10, 15, 20	5, 10, 15, 20		No
3CC #20	CA_30A-66A-66A	5, 10	5, 10, 15, 20	5, 10, 15, 20		4CC #9
3CC #21	CA_41D	10, 15, 20	10, 15, 20	10, 15, 20		No
3CC #22	CA_41A-41C	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #23	CA_66D	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #24	CA_66A-66C	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No

Index	4CC	Supported Channel Bandwidth [MHz]				Restriction	Completely Covered by Measurement Superset
		CC1	CC2	CC3	CC4		
4CC #1	CA_2A-2A-4A-5A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
4CC #2	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10	B12 SCC Only	No
4CC #3	CA_2A-2A-5A-30A	5, 10, 15, 20	5, 10, 15, 20	5, 10	5, 10		No
4CC #4	CA_2A-2A-5A-66A	5, 10, 15, 20	5, 10, 15, 20	5, 10	5, 10, 15, 20		No
4CC #5	CA_2A-5B-30A	5, 10, 15, 20	5, 10	5, 10	5, 10		3CC #1
4CC #6	CA_2A-5B-66A	5, 10, 15, 20	5, 10	5, 10	5, 10, 15, 20		3CC #1
4CC #7	CA_5B-30A-66A	5, 10	5, 10	5, 10	5, 10		3CC #1
4CC #8	CA_5B-66A-66A	5, 10	5, 10	5, 10, 15, 20	5, 10, 15, 20		3CC #2
4CC #9	CA_5A-30A-66A-66A	5, 10	5, 10	5, 10, 15, 20	5, 10, 15, 20		No
4CC #10	CA_41E	15, 20	15, 20	15, 20	20		No

Index	SCC	Supported Channel Bandwidth [MHz]				Restriction	Completely Covered by Measurement Superset
		CC1	CC2	CC3	CC4		
SCC #1	CA_2A-5B-30A-66A	5, 10, 15, 20	5, 10	5, 10	5, 10		No
SCC #2	CA_2A-5B-66A-66A	5, 10, 15, 20	5, 10	5, 10	5, 10, 15, 20		No

Table 2 – Example of Exclusion Table for 4x4 Downlink MIMO Configurations

Index	2CC	Supported Channel Bandwidth [MHz]		Restriction	Completely Covered by Measurement Superset
		CC1	CC2		
2CC #M1	CA_[2C]	5, 10, 15, 20	5, 10, 15, 20		3CC #M6
2CC #M2	CA_[2A]-2A	5, 10, 15, 20	5, 10, 15, 20		3CC #M1
2CC #M3	CA_[2A]-[2A]	5, 10, 15, 20	5, 10, 15, 20		No
2CC #M4	CA_[2A]-4A (2)	5, 10, 15, 20	5, 10, 15, 20		3CC #M1
2CC #M5	CA_[2A]-[4A] (2)	5, 10, 15, 20	5, 10, 15, 20		No
2CC #M6	CA_[2A]-5A	5, 10, 15, 20	5, 10		3CC #M3
2CC #M7	CA_[2A]-12A (1)	5, 10, 15, 20	3, 5, 10		No
2CC #M8	CA_[2A]-13A	5, 10, 15, 20	10		3CC #M4
2CC #M9	CA_[2A]-17A	5, 10	5, 10		No
2CC #M10	CA_[2A]-29A (2)	5, 10, 15, 20	5, 10	B29 SCC Only	3CC #M12
2CC #M11	CA_[2A]-30A	5, 10, 15, 20	5, 10		3CC #M5
2CC #M12	CA_[2A]-66A (2)	5, 10, 15, 20	5, 10, 15, 20		4CC #M1
2CC #M13	CA_2A-[66A] (2)	5, 10, 15, 20	5, 10, 15, 20		4CC #M2
2CC #M14	CA_[2A]-[66A] (2)	5, 10, 15, 20	5, 10, 15, 20		No
2CC #M15	CA_[2A]-71A	5, 10, 15, 20	5, 10, 15, 20		3CC #M11
2CC #M16	CA_5A-[66A]	5, 10	5, 10, 15, 20		3CC #M16
2CC #M17	CA_12A-[66A] (4)	5, 10	5, 10, 15, 20		3CC #M17
2CC #M18	CA_13A-[66A]	5, 10	5, 10, 15, 20		3CC #M19
2CC #M19	CA_30A-[66A]	5, 10	5, 10, 15, 20		3CC #M20
2CC #M20	CA_[66B]	5, 10, 15	5, 10, 15		4CC #M4
2CC #M21	CA_[66C]	5, 10, 15, 20	5, 10, 15, 20		4CC #M6
2CC #M22	CA_[66A]-66A	5, 10, 15, 20	5, 10, 15, 20		3CC #M28
2CC #M23	CA_[66A]-[66A]	5, 10, 15, 20	5, 10, 15, 20		No

Index	3CC	Supported Channel Bandwidth [MHz]			Restriction	Completely Covered by Measurement Superset
		CC1	CC2	CC3		
3CC #M1	CA_[2A]-2A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M2	CA_[2A]-2A-5A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
3CC #M3	CA_[2A]-2A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
3CC #M4	CA_[2A]-2A-13A	5, 10, 15, 20	5, 10, 15, 20	10		No
3CC #M5	CA_[2A]-2A-30A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
3CC #M6	CA_[2A]-2C-[66A]	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M7	CA_2C-[66A]	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M8	CA_[2C]-[66A]	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M9	CA_[2A]-2A-66A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M10	CA_2A-2A-[66A]	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M11	CA_[2A]-2A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M12	CA_[2A]-4A-29A	5, 10, 15, 20	5, 10, 15, 20	5, 10	B29 SCC Only	No
3CC #M13	CA_[2A]-4A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M14	CA_[2A]-5B	5, 10, 15, 20	5, 10	5, 10		4CC #M1
3CC #M15	CA_[2A]-5A-66A	5, 10, 15, 20	5, 10	5, 10, 15, 20		No
3CC #M16	CA_2A-5A-[66A]	5, 10, 15, 20	5, 10	5, 10, 15, 20		No
3CC #M17	CA_2A-12A-[66A]	5, 10, 15, 20	5, 10	5, 10, 15, 20		No
3CC #M18	CA_[2A]-13A-66A	5, 10, 15, 20	5, 10	5, 10, 15, 20		No
3CC #M19	CA_2A-13A-[66A]	5, 10, 15, 20	5, 10	5, 10, 15, 20		No
3CC #M20	CA_2A-30A-[66A]	5, 10, 15, 20	5, 10	5, 10, 15, 20		No
3CC #M21	CA_[2A]-66B	5, 10, 15, 20	5, 10, 15	5, 10, 15		4CC #M3
3CC #M22	CA_2A-[66B]	5, 10, 15, 20	5, 10, 15	5, 10, 15		4CC #M4
3CC #M23	CA_[2A]-[66B]	5, 10, 15, 20	5, 10, 15	5, 10, 15		No
3CC #M24	CA_[2A]-66C	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		4CC #M5
3CC #M25	CA_2A-[66C]	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		4CC #M6
3CC #M26	CA_[2A]-[66C]	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M27	CA_[2A]-66A-66A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M28	CA_2A-[66A]-66A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M29	CA_[2A]-66A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No

Index	4CC	Supported Channel Bandwidth [MHz]				Restriction	Completely Covered by Measurement Superset
		CC1	CC2	CC3	CC4		
4CC #M1	CA_[2A]-5B-66A	5, 10, 15, 20	5, 10	5, 10	5, 10, 15, 20		No
4CC #M2	CA_2A-5B-[66A]	5, 10, 15, 20	5, 10	5, 10	5, 10, 15, 20		No
4CC #M3	CA_[2A]-5A-66B	5, 10, 15, 20	5, 10	5, 10, 15	5, 10, 15		No
4CC #M4	CA_2A-5A-[66B]	5, 10, 15, 20	5, 10	5, 10, 15	5, 10, 15		No
4CC #M5	CA_[2A]-5A-66C	5, 10, 15, 20	5, 10	5, 10, 15, 20	5, 10, 15, 20		No
4CC #M6	CA_2A-5A-[66C]	5, 10, 15, 20	5, 10	5, 10, 15, 20	5, 10, 15, 20		No

Note: [CC] indicates component carrier with 4x4 DL MIMO antenna configuration

1.2 LTE Downlink Only Carrier Aggregation Test Selection and Setup

SAR test exclusion for LTE downlink Carrier Aggregation is determined by power measurements according to the number component carriers (CCs) supported by the product implementation. For those configurations required by FCC Guidance, conducted power measurements with LTE Carrier Aggregation (CA) (downlink only) active are made in accordance to KDB Publication 941225 D05Av01r02. The RRC connection is only handled by one cell, the primary component carrier (PCC) for downlink and uplink communications. After making a data connection to the PCC, the UE device adds secondary component carrier(s) (SCC) on the downlink only. All uplink communications and acknowledgements remain identical to specifications when downlink carrier aggregation is inactive on the PCC. Additional conducted output powers are measured with the downlink carrier aggregation active for the configuration with highest measured maximum conducted power with downlink carrier aggregation inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.

Per FCC KDB Publication 941225 D05Av01r02, no SAR measurements are required for carrier aggregation configurations when the average output power with downlink only carrier aggregation active is not more than 0.25 dB higher than the average output power with downlink only carrier aggregation inactive.

General PCC and SCC configuration selection procedure

- PCC uplink channel, channel bandwidth, modulation and RB configurations were selected based on section C)3)b)ii) of KBD 941225 D05 V01r02. The downlink PCC channel was paired with the selected PCC uplink channel according to normal configurations without carrier aggregation.
- To maximize aggregated bandwidth, highest channel bandwidth available for that CA combination was selected for SCC. For inter-band CA, the SCC downlink channels were selected near the middle of their transmission bands. For contiguous intra-band CA, the downlink channel spacing between the component carriers was set to multiple of 300 kHz less than the nominal channel spacing defined in section 5.4.1A of 3GPP TS 36.521. For non-contiguous intra-band CA, the downlink channel spacing between the component carriers was set to be larger than the nominal channel spacing and provided maximum separation between the component carriers.
- All selected PCC and SCC(s) remained fully within the uplink/downlink transmission band of the respective component carrier.
- When a device supports LTE capabilities with overlapping transmission frequency ranges, the standalone powers from the band with a larger transmission frequency range can be used to select measurement configurations for the band with the fully covered transmission frequency range.

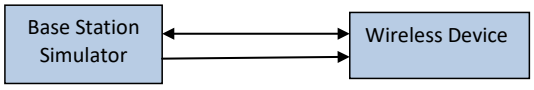

Figure 1
SISO CA Power Measurement Setup

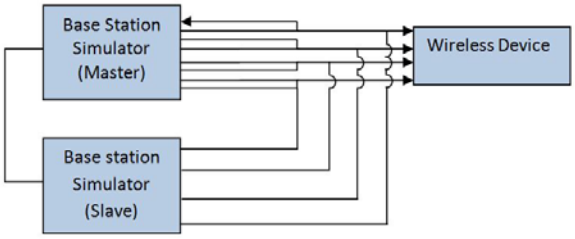

Figure 2
4x4 DL MIMO CA Power Measurement Setup

1.3 SISO Downlink Carrier Aggregation RF Conducted Powers

1.3.1 LTE Band 12 as PCC

Table 1
Maximum Output Powers

	PCC									SCC 1					SCC 2					SCC 3					Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_12A-25A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B25	20	8365	1962.5	-	-	-	-	-	-	-	-	25.46	25.49
CA_12A-66A (1)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	25.48	25.49
CA_12A-66A (2)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	25.48	25.49
CA_2A-12A (1)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	-	-	-	-	-	-	-	-	25.47	25.49
CA_4A-12A (1)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	25.49	25.49
CA_4A-12A (2)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	25.49	25.49
CA_4A-12B	LTE B12	5	23095	707.5	QPSK	1	0	5095	737.5	LTE B12	5	5047	732.7	LTE B4	20	2175	2132.5	-	-	-	-	25.49	25.47
CA_12A-30A-66A-66A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.49	25.49
CA_2A-12A-30A-66A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B30	10	9820	2355	LTE B66	20	66786	2145	25.48	25.49
CA_2A-12A-66A-66A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.49	25.49
CA_2A-12A-66C	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	25.47	25.49
CA_2A-2A-12A-30A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B30	10	9820	2355	25.48	25.49
CA_2A-2A-12A-66A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	25.49	25.49
CA_2A-2A-12B	LTE B12	5	23095	707.5	QPSK	1	0	5095	737.5	LTE B12	5	5047	732.7	LTE B2	20	900	1960	LTE B2	20	700	1940	25.49	25.47
CA_2A-4A-12A-30A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B30	10	9820	2355	25.46	25.49
CA_2A-4A-4A-12A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	25.50	25.49
CA_4A-4A-12A-30A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	LTE B30	10	9820	2355	25.50	25.49
CA_2A-4A-7A-12A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B7	20	3100	2655	25.50	25.49

1.3.2 LTE Band 17 as PCC

Table 2
Maximum Output Powers

	PCC									SCC 1				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-17A	LTE B17	10	23790	710	QPSK	1	0	5790	740	LTE B2	10	900	1960	25.50	25.49
CA_4A-17A	LTE B17	10	23790	710	QPSK	1	0	5790	740	LTE B4	10	2175	2132.5	25.49	25.49

1.3.3 LTE Band 13 as PCC

Table 3
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-4A-13A	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	25.32	25.30
CA_4A-4A-13A	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	25.29	25.30
CA_2A-13A-66A-66A	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.45	25.45
CA_2A-13A-66B	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	LTE B66	15	66786	2145	LTE B66	5	66879	2154.3	25.44	25.45
CA_2A-13A-66C	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	25.48	25.45
CA_2A-2A-13A-66A	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	25.46	25.45

1.3.4 LTE Band 14 as PCC

Table 4
Maximum Output Powers

	PCC									SCC 1				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_14A-30A	LTE B14	5	23330	793	QPSK	1	12	5330	763	LTE B30	10	9820	2355	25.37	25.40
CA_14A-66A	LTE B14	5	23330	793	QPSK	1	12	5330	763	LTE B66	20	66786	2145	25.43	25.40
CA_2A-14A	LTE B14	5	23330	793	QPSK	1	12	5330	763	LTE B2	20	900	1960	25.39	25.40

1.3.1 LTE Band 5 as PCC

Table 5
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				SCC 4				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_5A-25A	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B25	20	8365	1962.5	-	-	-	-	-	-	-	-	-	-	-	-	25.40	25.40
CA_5A-66B	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B66	15	66786	2145	LTE B66	5	66879	2154.3	-	-	-	-	-	-	-	-	25.41	25.40
CA_2A-2A-4A-5A	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B4	20	2175	2132.5	-	-	-	-	25.38	25.40
CA_2A-2A-5A-30A	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B30	10	9820	2355	-	-	-	-	25.36	25.40
CA_2A-2A-5A-66A	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	-	-	-	-	25.37	25.40
CA_2A-4A-4A-5A	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	25.36	25.40
CA_2A-4A-5A-30A	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B30	10	9820	2355	-	-	-	-	25.37	25.40
CA_2A-4A-5B	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B5	10	2453	874.3	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	25.38	25.40
CA_2A-5A-30A-66A	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B2	20	900	1960	LTE B30	10	9820	2355	LTE B66	20	66786	2145	-	-	-	-	25.39	25.40
CA_2A-5A-66A-66A	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	67236	2190	-	-	-	-	25.38	25.40
CA_4A-4A-5B	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B5	10	2453	874.3	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	25.39	25.40
CA_5A-30A-66A-66A	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	LTE B66	20	67236	2190	-	-	-	-	25.36	25.40
CA_5B-66A-66A	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B5	10	2453	874.3	LTE B66	20	66786	2145	LTE B66	20	67236	2190	-	-	-	-	25.39	25.40
CA_5B-66C	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B5	10	2453	874.3	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	-	-	-	-	25.40	25.40
CA_2A-2A-5A-66C	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	25.39	25.40
CA_2A-5B-30A-66A	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B5	10	2453	874.3	LTE B2	20	900	1960	LTE B30	10	9820	2355	LTE B66	20	66786	2145	25.40	25.40

1.3.2 LTE Band 26 as PCC

Table 6
Maximum Output Powers

	PCC									SCC 1				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_25A-26A	LTE B26	3	26865	831.5	QPSK	1	0	8865	876.5	LTE B25	20	8365	1962.5	25.50	25.46
CA_26A-41A	LTE B26	5	26865	831.5	QPSK	1	0	8865	876.5	LTE B41	20	40620	2593	25.44	25.45

1.3.3 LTE Band 4 as PCC

Table 7
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-4A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B2	20	900	1960	-	-	-	-	-	-	-	-	24.67	24.66
CA_4A-12A (1)	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B12	10	5095	737.5	-	-	-	-	-	-	-	-	24.57	24.66
CA_4A-12A (2)	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B12	10	5095	737.5	-	-	-	-	-	-	-	-	24.68	24.66
CA_4A-17A	LTE B4	5	20300	1745	QPSK	1	0	2300	2145	LTE B17	10	5790	740	-	-	-	-	-	-	-	-	24.60	24.59
CA_4A-29A	LTE B4	5	20300	1745	QPSK	1	0	2300	2145	LTE B29	10	9715	722.5	-	-	-	-	-	-	-	-	24.67	24.59
CA_2A-4A-13A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B2	20	900	1960	LTE B13	10	5230	751	-	-	-	-	24.66	24.66
CA_4A-12B	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B12	5	5095	737.5	LTE B12	5	5047	732.7	-	-	-	-	24.64	24.66
CA_4A-4A-13A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B4	20	2050	2120	LTE B13	10	5230	751	-	-	-	-	24.67	24.66
CA_4A-4A-29A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B4	20	2050	2120	LTE B29	10	9715	722.5	-	-	-	-	24.70	24.66
CA_4A-4A-7A (1)	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B4	20	2050	2120	LTE B7	20	3100	2655	-	-	-	-	24.67	24.66
CA_2A-2A-4A-4A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B4	20	2050	2120	LTE B2	20	900	1960	LTE B2	20	700	1940	24.64	24.66
CA_2A-2A-4A-5A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B5	10	2525	881.5	24.70	24.66
CA_2A-4A-12A-30A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B2	20	900	1960	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	24.61	24.66
CA_2A-4A-29A-30A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B2	20	900	1960	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	24.70	24.66
CA_2A-4A-4A-12A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B4	20	2050	2120	LTE B2	20	900	1960	LTE B12	10	5095	737.5	24.64	24.66
CA_2A-4A-4A-5A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B4	20	2050	2120	LTE B2	20	900	1960	LTE B5	10	2525	881.5	24.67	24.66
CA_2A-4A-5A-30A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	24.69	24.66
CA_2A-4A-5B	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	24.64	24.66
CA_4A-4A-12A-30A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B4	20	2050	2120	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	24.69	24.66
CA_4A-4A-5B	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B4	20	2050	2120	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	24.68	24.66
CA_2A-4A-7A-7A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B2	20	900	1960	LTE B7	20	3100	2655	LTE B7	20	2850	2630	24.65	24.66
CA_2A-4A-7C	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B2	20	900	1960	LTE B7	20	3100	2655	LTE B7	20	2902	2635.2	24.66	24.66
CA_2A-4A-7A-12A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B2	20	900	1960	LTE B7	20	3100	2655	LTE B12	10	5095	737.5	24.67	24.66

1.3.4 LTE Band 66 as PCC

Table 8
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				SCC 4				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_12A-66A (1)	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B12	10	5095	737.5	-	-	-	-	-	-	-	-	-	-	-	-	24.69	24.66
CA_12A-66A (2)	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B12	10	5095	737.5	-	-	-	-	-	-	-	-	-	-	-	-	24.67	24.66
CA_14A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B14	10	5330	763	-	-	-	-	-	-	-	-	-	-	-	-	24.68	24.66
CA_2A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B2	20	900	1960	-	-	-	-	-	-	-	-	-	-	-	-	24.70	24.66
CA_7A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B7	20	3100	2655	-	-	-	-	-	-	-	-	-	-	-	-	24.57	24.66
CA_29A-30A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	-	-	-	-	-	-	-	-	24.69	24.66
CA_5A-66B	LTE B66	5	132322	1745	QPSK	1	0	66786	2145	LTE B66	15	66693	2135.7	LTE B5	10	2525	881.5	-	-	-	-	-	-	-	-	24.70	24.59
CA_66A-66C	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	67038	2170.2	LTE B66	20	67236	2190	-	-	-	-	-	-	-	-	24.70	24.66
CA_66D	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	66588	2125.2	LTE B66	20	66984	2164.8	-	-	-	-	-	-	-	-	24.69	24.66
CA_66C-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	66588	2125.2	LTE B66	20	67236	2190	-	-	-	-	-	-	-	-	24.68	24.66
CA_12A-30A-66A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	67236	2190	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	-	-	-	-	24.64	24.66
CA_2A-12A-30A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B2	20	900	1960	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	-	-	-	-	24.66	24.66
CA_2A-12A-66A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	67236	2190	LTE B2	20	900	1960	LTE B12	10	5095	737.5	-	-	-	-	24.70	24.66
CA_2A-12A-66C	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	66588	2125.2	LTE B2	20	900	1960	LTE B12	10	5095	737.5	-	-	-	-	24.69	24.66
CA_2A-13A-66A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	67236	2190	LTE B2	20	900	1960	LTE B13	10	5230	751	-	-	-	-	24.68	24.66
CA_2A-13A-66B	LTE B66	5	132322	1745	QPSK	1	0	66786	2145	LTE B66	15	66693	2135.7	LTE B2	20	900	1960	LTE B13	10	5230	751	-	-	-	-	24.57	24.59
CA_2A-13A-66C	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	66588	2125.2	LTE B2	20	900	1960	LTE B13	10	5230	751	-	-	-	-	24.67	24.66
CA_2A-2A-12A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B12	10	5095	737.5	-	-	-	-	24.69	24.66
CA_2A-2A-13A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B13	10	5230	751	-	-	-	-	24.68	24.66
CA_2A-2A-5A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B5	10	2525	881.5	-	-	-	-	24.69	24.66
CA_2A-2A-66A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	67236	2190	LTE B2	20	900	1960	LTE B2	20	700	1940	-	-	-	-	24.65	24.66
CA_2A-2A-66B	LTE B66	5	132322	1745	QPSK	1	0	66786	2145	LTE B66	15	66693	2135.7	LTE B2	20	900	1960	LTE B2	20	700	1940	-	-	-	-	24.60	24.59
CA_2A-5A-30A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	-	-	-	-	24.64	24.66
CA_2A-5A-66A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	67236	2190	LTE B2	20	900	1960	LTE B5	10	2525	881.5	-	-	-	-	24.67	24.66
CA_5A-30A-66A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	67236	2190	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	-	-	-	-	24.67	24.66
CA_5B-66A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	67236	2190	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	-	-	-	-	24.68	24.66
CA_5B-66C	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	66588	2125.2	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	-	-	-	-	24.66	24.66
CA_2A-2A-5A-66C	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	66588	2125.2	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B5	10	2525	881.5	24.69	24.66
CA_2A-5B-30A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	LTE B30	10	9820	2355	24.70	24.66

1.3.5 LTE Band 2 as PCC

Table 9
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				SCC 4				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-12A (1)	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B12	10	5095	737.5	-	-	-	-	-	-	-	-	-	-	-	-	24.63	24.65
CA_2A-14A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B14	10	5330	763	-	-	-	-	-	-	-	-	-	-	-	-	24.65	24.65
CA_2A-17A	LTE B2	5	19175	1907.5	QPSK	1	0	1175	1987.5	LTE B17	10	5790	740	-	-	-	-	-	-	-	-	-	-	-	-	24.55	24.61
CA_2A-29A	LTE B2	5	19175	1907.5	QPSK	1	0	1175	1987.5	LTE B29	10	9715	722.5	-	-	-	-	-	-	-	-	-	-	-	-	24.54	24.61
CA_2A-4A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	-	-	-	-	24.62	24.65
CA_2A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	-	-	-	-	24.63	24.65
CA_2C	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	20	902	1960.2	-	-	-	-	-	-	-	-	-	-	-	-	24.64	24.65
CA_2A-4A-13A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B13	10	5230	751	-	-	-	-	-	-	-	-	24.67	24.65
CA_2A-12A-30A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	-	-	-	-	24.64	24.65
CA_2A-12A-66A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	LTE B66	20	67236	2190	-	-	-	-	24.62	24.65
CA_2A-12A-66C	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	-	-	-	-	24.67	24.65
CA_2A-13A-66A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B13	10	5230	751	LTE B66	20	66786	2145	LTE B66	20	67236	2190	-	-	-	-	24.69	24.65
CA_2A-13A-66B	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B13	10	5230	751	LTE B66	15	66786	2145	LTE B66	5	66879	2154.3	-	-	-	-	24.61	24.65
CA_2A-13A-66C	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B13	10	5230	751	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	-	-	-	-	24.70	24.65
CA_2A-2A-12A-30A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	20	700	1940	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	-	-	-	-	24.64	24.65
CA_2A-2A-12A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	20	700	1940	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	-	-	-	-	24.69	24.65
CA_2A-2A-12B	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	20	700	1940	LTE B12	5	5095	737.5	LTE B12	5	5047	732.7	-	-	-	-	24.70	24.65
CA_2A-2A-13A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	20	700	1940	LTE B13	10	5230	751	LTE B66	20	66786	2145	-	-	-	-	24.70	24.65
CA_2A-2A-29A-30A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	20	700	1940	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	-	-	-	-	24.67	24.65
CA_2A-2A-4A-4A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	20	700	1940	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	24.68	24.65
CA_2A-2A-4A-5A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	20	700	1940	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	-	-	-	-	24.70	24.65
CA_2A-2A-5A-30A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	20	700	1940	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	-	-	-	-	24.64	24.65
CA_2A-2A-5A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	20	700	1940	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	-	-	-	-	24.61	24.65
CA_2A-2A-66A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	20	700	1940	LTE B66	20	66786	2145	LTE B66	20	67236	2190	-	-	-	-	24.70	24.65
CA_2A-4A-12A-30A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	-	-	-	-	24.66	24.65
CA_2A-4A-29A-30A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	-	-	-	-	24.67	24.65
CA_2A-4A-4A-12A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	LTE B12	10	5095	737.5	-	-	-	-	24.61	24.65
CA_2A-4A-4A-5A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	LTE B5	10	2525	881.5	-	-	-	-	24.69	24.65
CA_2A-4A-5A-30A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	-	-	-	-	24.67	24.65
CA_2A-4A-5B	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	-	-	-	-	24.69	24.65
CA_2A-5A-30A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	-	-	-	-	24.66	24.65
CA_2A-5A-66A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	LTE B66	20	67236	2190	-	-	-	-	24.70	24.65
CA_2A-4A-7A-7A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B7	20	3100	2655	LTE B7	20	2850	2630	-	-	-	-	24.67	24.65
CA_2A-4A-7C	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B7	20	3100	2655	LTE B7	20	2902	2635.2	-	-	-	-	24.64	24.65
CA_2A-4A-7A-12A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B7	20	3100	2655	LTE B12	10	5095	737.5	-	-	-	-	24.59	24.65
CA_2A-2A-5A-66C	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	20	700	1940	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	24.62	24.65
CA_2A-5B-30A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	LTE B30	10	9820	2355	LTE B66	20	66786	2145	24.68	24.65

1.3.6 LTE Band 25 as PCC

Table 10
Maximum Output Powers

	PCC									SCC 1				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_12A-25A	LTE B25	20	26590	1905	QPSK	1	0	8590	1985	LTE B12	10	5095	737.5	24.67	24.65
CA_25A-25A (1)	LTE B25	20	26590	1905	QPSK	1	0	8590	1985	LTE B25	20	8140	1940	24.66	24.65
CA_25A-26A	LTE B25	20	26590	1905	QPSK	1	0	8590	1985	LTE B26	15	8865	876.5	24.67	24.65
CA_25A-41A	LTE B25	20	26590	1905	QPSK	1	0	8590	1985	LTE B41	20	40620	2593	24.41	24.65
CA_5A-25A	LTE B25	20	26590	1905	QPSK	1	0	8590	1985	LTE B5	10	2525	881.5	24.66	24.65

1.3.7 LTE Band 7 as PCC

Table 11
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_7B	LTE B7	15	20825	2507.5	QPSK	1	74	2825	2627.5	LTE B7	5	2918	2636.8	-	-	-	-	-	-	-	-	23.64	23.67
CA_7A-66A	LTE B7	20	21100	2535	QPSK	1	50	3100	2655	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	23.60	23.68
CA_4A-4A-7A (1)	LTE B7	20	21100	2535	QPSK	1	50	3100	2655	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	23.53	23.68
CA_2A-4A-7A-7A	LTE B7	20	21100	2535	QPSK	1	50	3100	2655	LTE B7	20	2850	2630	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	23.49	23.68
CA_2A-4A-7C	LTE B7	20	21100	2535	QPSK	1	50	3100	2655	LTE B7	20	2902	2635.2	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	23.52	23.68
CA_2A-4A-7A-12A	LTE B7	20	21100	2535	QPSK	1	50	3100	2655	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	23.59	23.68

1.3.1 LTE Band 30 as PCC

Table 12
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				SCC 4				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_14A-30A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B14	10	5330	763	-	-	-	-	-	-	-	-	-	-	-	-	25.08	25.04
CA_29A-30A-66A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B29	10	9715	722.5	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	25.20	25.04
CA_12A-30A-66A-66A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	LTE B66	20	67236	2190	-	-	-	-	25.15	25.04
CA_2A-12A-30A-66A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	-	-	-	-	25.11	25.04
CA_2A-12A-66A-30A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B12	10	5095	737.5	-	-	-	-	25.12	25.04
CA_2A-2A-29A-30A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B29	10	9715	722.5	-	-	-	-	25.14	25.04
CA_2A-2A-5A-30A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B5	10	2525	881.5	-	-	-	-	25.16	25.04
CA_2A-4A-12A-30A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	-	-	-	-	25.17	25.04
CA_2A-4A-29A-30A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B29	10	9715	722.5	-	-	-	-	25.18	25.04
CA_2A-4A-5A-30A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	-	-	-	-	25.13	25.04
CA_2A-5A-30A-66A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	-	-	-	-	25.17	25.04
CA_4A-4A-12A-30A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	LTE B12	10	5095	737.5	-	-	-	-	25.12	25.04
CA_5A-30A-66A-66A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	LTE B66	20	67236	2190	-	-	-	-	25.14	25.04
CA_2A-5B-30A-66A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	LTE B66	20	66786	2145	25.19	25.04

1.3.2 LTE Band 41 as PCC

Table 13
Maximum Output Powers

	PCC									SCC 1				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_41A-41A (1)	LTE B41	15	39750	2506	QPSK	1	0	39750	2506	LTE B41	20	41490	2680	24.93	24.89
CA_41C (1)	LTE B41	15	39750	2506	QPSK	1	0	39750	2506	LTE B41	20	39921	2523.1	24.94	24.89

1.4 4x4 Downlink MIMO RF Conduction Powers

This device supports downlink 4x4 MIMO operations for some LTE bands. Uplink transmission is limited to a single output stream. When carrier aggregation was applicable, the general test selection and setup procedures described in Section 1.2 were applied.

Per May 2017 TCB Workshop Notes, SAR for 4x4 DL MIMO was not needed since the maximum average output power in 4x4 DL MIMO mode was not more than 0.25 dB higher than the maximum output power with 4x4 DL MIMO inactive. Additionally, SAR for 4x4 MIMO Downlink Carrier Aggregation was not needed since the maximum average output power in 4x4 MIMO Downlink Carrier Aggregation mode was not more than 0.25 dB higher than the maximum output power with 4x4 MIMO Downlink and downlink carrier aggregation inactive.

1.4.1 LTE 4x4 DL MIMO Standalone Powers

Table 14
Maximum Output Powers

LTE Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Modulation	RB Size	RB Offset	4x4 DL MIMO Tx. Power [dBm]	Single Antenna Tx. Power [dBm]	Target Power [dBm]
4	20	20300	1745	QPSK	1	0	24.55	24.66	24.2
66	20	132322	1745	QPSK	1	0	24.61	24.66	24.2
2	20	19100	1900	QPSK	1	0	24.60	24.65	24.2
25	20	26590	1905	QPSK	1	0	24.61	24.65	24.2

1.4.2 LTE Band 12 as PCC

Table 15
Maximum Output Powers

	PCC										SCC 1					SCC 2					Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_[4A]-12A (2)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	-	-	-	-	-	25.40	25.49
CA_12A-[66A] (1)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	-	-	-	-	-	25.37	25.49
CA_12A-[66A] (2)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	-	-	-	-	-	25.37	25.49
CA_[2A]-12A (1)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	-	-	-	-	-	25.36	25.49
CA_[4A]-12A (1)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	-	-	-	-	-	25.40	25.49
CA_12A-30A-[66A]	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2 MIMO	LTE B30	10	9820	2355	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	25.33	25.49
CA_[4A]-7A-12A (1)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	LTE B7	20	3100	2655	2x2 MIMO	25.47	25.49
CA_12A-[66A]-66A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	LTE B66	20	67236	2190	2x2 MIMO	25.34	25.49
CA_[4A]-12A-30A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	LTE B30	10	9820	2355	2x2 MIMO	25.35	25.49
CA_12A-[66C]	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	LTE B66	20	66984	2164.8	4x4 MIMO	25.38	25.49
CA_[2A]-12A-30A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B30	10	9820	2355	2x2 MIMO	25.33	25.49
CA_[2A]-2A-12A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B2	20	700	1940	2x2 MIMO	25.38	25.49
CA_[2A]-12A-66A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B66	20	66786	2145	2x2 MIMO	25.38	25.49
CA_[2A]-4A-12A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B4	20	2175	2132.5	2x2 MIMO	25.40	25.49
CA_2A-12A-[66A]	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	25.34	25.49
CA_2A-[4A]-12A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	25.36	25.49
CA_[4A]-4A-12A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	LTE B4	10	2350	2150	2x2 MIMO	25.42	25.49

1.4.3 LTE Band 17 as PCC

Table 16
Maximum Output Powers

	PCC										SCC 1					Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_[2A]-17A	LTE B17	10	23790	710	QPSK	1	0	5790	740	2x2 MIMO	LTE B2	10	900	1960	4x4 MIMO	25.42	25.49
CA_[4A]-17A	LTE B17	10	23790	710	QPSK	1	0	5790	740	2x2 MIMO	LTE B4	10	2175	2132.5	4x4 MIMO	25.43	25.49

1.4.1 LTE Band 13 as PCC

Table 17
Maximum Output Powers

	PCC										SCC 1					SCC 2					Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_[4A]-13A	LTE B13	10	23230	782	QPSK	1	0	5230	751	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	-	-	-	-	-	25.27	25.30
CA_13A-[66B]	LTE B13	5	23230	782	QPSK	1	0	5230	751	2x2 MIMO	LTE B66	15	66786	2145	4x4 MIMO	LTE B66	5	66879	2154.3	4x4 MIMO	25.33	25.45
CA_[2A]-13A-66A	LTE B13	5	23230	782	QPSK	1	0	5230	751	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B66	20	66786	2145	2x2 MIMO	25.33	25.45
CA_[2A]-4A-13A	LTE B13	10	23230	782	QPSK	1	0	5230	751	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B4	20	2175	2132.5	2x2 MIMO	25.33	25.45
CA_2A-13A-[66A]	LTE B13	5	23230	782	QPSK	1	0	5230	751	2x2 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	25.31	25.30
CA_13A-[66C]	LTE B13	5	23230	782	QPSK	1	0	5230	751	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	LTE B66	20	66984	2164.8	4x4 MIMO	25.35	25.45
CA_13A-[66A]-66A	LTE B13	5	23230	782	QPSK	1	0	5230	751	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	LTE B66	20	67236	2190	2x2 MIMO	25.32	25.45
CA_[2A]-2A-13A	LTE B13	10	23230	782	QPSK	1	0	5230	751	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B2	20	700	1940	2x2 MIMO	25.32	25.45

1.4.1 LTE Band 5 as PCC

Table 18
Maximum Output Powers

	PCC										SCC 1					SCC 2					Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_[2A]-4A-5A	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B4	20	2175	2132.5	2x2 MIMO	25.38	25.40
CA_[2A]-2A-5A	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B2	20	700	1940	2x2 MIMO	25.37	25.40
CA_[2A]-5A-30A	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B30	10	9820	2355	2x2 MIMO	25.36	25.40
CA_2A-5A-[66A]	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	2x2 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	25.41	25.40
CA_[4A]-4A-5A	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	LTE B4	10	2350	2150	2x2 MIMO	25.37	25.40
CA_[2A]-5A-66A	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B66	20	66786	2145	2x2 MIMO	25.42	25.40
CA_[4A]-5A-30A	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	LTE B30	10	9820	2355	2x2 MIMO	25.41	25.40
CA_5A-30A-[66A]	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	2x2 MIMO	LTE B30	10	9820	2355	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	25.35	25.40
CA_2A-[4A]-5A	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	2x2 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	25.38	25.40
CA_5A-[66A]-66A	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	LTE B66	20	67236	2190	2x2 MIMO	25.42	25.40

1.4.2 LTE Band 4 as PCC

Table 19
Maximum Output Powers

	PCC										SCC 1					SCC 2					Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_[4A]-12A (2)	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	-	-	-	-	-	24.64	24.66
CA_[2A]-[4A]	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B2	20	900	1960	4x4 MIMO	-	-	-	-	-	24.55	24.66
CA_[4A]-13A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B13	10	5230	751	2x2 MIMO	-	-	-	-	-	24.65	24.66
CA_[2A]-4A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	-	-	-	-	-	24.65	24.66
CA_[4A]-17A	LTE B4	5	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B17	10	5790	740	2x2 MIMO	-	-	-	-	-	24.53	24.59
CA_[4A]-12A (1)	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	-	-	-	-	-	24.64	24.66
CA_[4A]-29A	LTE B4	5	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B29	10	9715	722.5	2x2 MIMO	-	-	-	-	-	24.52	24.59
CA_[4A]-[4A]	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B4	20	2050	2120	4x4 MIMO	-	-	-	-	-	24.61	24.66
CA_[2A]-2A-4A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B2	20	700	1940	2x2 MIMO	24.65	24.66
CA_[2A]-4A-13A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B13	10	5230	751	2x2 MIMO	24.63	24.66
CA_[2A]-4A-5A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	24.62	24.66
CA_2A-[4A]-29A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B29	10	9715	722.5	2x2 MIMO	24.63	24.66
CA_[4A]-4A-29A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B4	20	2050	2120	2x2 MIMO	LTE B29	10	9715	722.5	2x2 MIMO	24.65	24.66
CA_[4A]-4A-29A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	2x2 MIMO	LTE B4	20	2050	2120	4x4 MIMO	LTE B29	10	9715	722.5	2x2 MIMO	24.64	24.66
CA_[4A]-7A-12A (1)	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B7	20	3100	2655	2x2 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	24.67	24.66
CA_[2A]-4A-29A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B29	10	9715	722.5	2x2 MIMO	24.66	24.66
CA_2A-2A-[4A]	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B2	20	700	1940	2x2 MIMO	24.67	24.66
CA_2A-[4A]-30A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B30	10	9820	2355	2x2 MIMO	24.63	24.66
CA_[4A]-12A-30A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	LTE B30	10	9820	2355	2x2 MIMO	24.66	24.66
CA_[4A]-4A-5A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B4	20	2050	2120	2x2 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	24.62	24.66
CA_[4A]-4A-5A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	2x2 MIMO	LTE B4	20	2050	2120	4x4 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	24.66	24.66
CA_2A-[4A]-7A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B7	20	3100	2655	2x2 MIMO	24.69	24.66
CA_[2A]-4A-30A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B30	10	9820	2355	2x2 MIMO	24.64	24.66
CA_2A-[4A]-4A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B4	20	2050	2120	2x2 MIMO	LTE B2	20	900	1960	2x2 MIMO	24.69	24.66
CA_2A-[4A]-4A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	2x2 MIMO	LTE B4	20	2050	2120	4x4 MIMO	LTE B2	20	900	1960	2x2 MIMO	24.67	24.66
CA_[4A]-29A-30A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B29	10	9715	722.5	2x2 MIMO	LTE B30	10	9820	2355	2x2 MIMO	24.67	24.66
CA_[4A]-5A-30A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	LTE B30	10	9820	2355	2x2 MIMO	24.65	24.66
CA_[4A]-7A-7A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B7	20	3100	2655	2x2 MIMO	LTE B7	20	2850	2630	2x2 MIMO	24.65	24.66
CA_[2A]-4A-12A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	24.65	24.66
CA_[2A]-4A-4A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	2x2 MIMO	LTE B4	20	2050	2120	4x4 MIMO	LTE B2	20	900	1960	4x4 MIMO	24.64	24.66
CA_2A-[4A]-12A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	24.64	24.66
CA_2A-[4A]-5A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	24.66	24.66
CA_[4A]-4A-12A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B4	20	2050	2120	2x2 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	24.67	24.66
CA_[4A]-4A-12A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	2x2 MIMO	LTE B4	20	2050	2120	4x4 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	24.64	24.66

1.4.3 LTE Band 66 as PCC

Table 20
Maximum Output Powers

	PCC									SCC 1					SCC 2					Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_[2A]-[66A]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B2	20	900	1960	4x4 MIMO	-	-	-	-	-	24.55	24.66
CA_12A-[66A] (1)	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	-	-	-	-	-	24.59	24.66
CA_12A-[66A] (2)	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	-	-	-	-	-	24.59	24.66
CA_29A-[66A]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B29	10	9715	722.5	2x2 MIMO	-	-	-	-	-	24.55	24.66
CA_[66A]-[66A]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B66	20	67236	2190	4x4 MIMO	-	-	-	-	-	24.56	24.66
CA_12A-30A-[66A]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	LTE B30	10	9820	2355	2x2 MIMO	24.60	24.66
CA_13A-[66B]	LTE B66	5	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B66	15	66693	2135.7	4x4 MIMO	LTE B13	10	5230	751	2x2 MIMO	24.56	24.59
CA_[2A]-13A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B13	10	5230	751	2x2 MIMO	24.54	24.66
CA_[2A]-66B	LTE B66	5	132322	1745	QPSK	1	0	66786	2145	2x2 MIMO	LTE B66	15	66693	2135.7	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	24.60	24.59
CA_2A-13A-[66A]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B13	10	5230	751	2x2 MIMO	24.54	24.66
CA_2A-[66C]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B66	20	66588	2125.2	4x4 MIMO	LTE B2	20	900	1960	2x2 MIMO	24.52	24.66
CA_[66A]-[66C]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B66	20	67038	2170.2	4x4 MIMO	LTE B66	20	67236	2190	4x4 MIMO	24.55	24.66
CA_[66C]-[66A]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B66	20	66588	2125.2	4x4 MIMO	LTE B66	20	67236	2190	4x4 MIMO	24.59	24.66
CA_12A-[66A]-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	2x2 MIMO	LTE B66	20	67236	2190	4x4 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	24.53	24.66
CA_12A-[66A]-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B66	20	67236	2190	2x2 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	24.53	24.66
CA_13A-[66C]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B66	20	66588	2125.2	4x4 MIMO	LTE B13	10	5230	751	2x2 MIMO	24.53	24.66
CA_[2A]-66C	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	2x2 MIMO	LTE B66	20	66588	2125.2	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	24.56	24.66
CA_2A-5A-[66A]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	24.53	24.66
CA_12A-[66C]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B66	20	66588	2125.2	4x4 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	24.55	24.66
CA_[2A]-2A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B2	20	700	1940	2x2 MIMO	24.52	24.66
CA_[2A]-5A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	24.54	24.66
CA_[2A]-[66C]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B66	20	66588	2125.2	4x4 MIMO	LTE B2	20	900	1960	4x4 MIMO	24.52	24.66
CA_2A-2A-[66A]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B2	20	700	1940	2x2 MIMO	24.53	24.66
CA_2A-[66A]-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B66	20	67236	2190	2x2 MIMO	LTE B2	20	900	1960	2x2 MIMO	24.55	24.66
CA_2A-[66A]-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	2x2 MIMO	LTE B66	20	67236	2190	4x4 MIMO	LTE B2	20	900	1960	2x2 MIMO	24.52	24.66
CA_5A-30A-[66A]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	LTE B30	10	9820	2355	2x2 MIMO	24.56	24.66
CA_13A-[66A]-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B66	20	67236	2190	2x2 MIMO	LTE B13	10	5230	751	2x2 MIMO	24.54	24.66
CA_13A-[66A]-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	2x2 MIMO	LTE B66	20	67236	2190	4x4 MIMO	LTE B13	10	5230	751	2x2 MIMO	24.53	24.66
CA_[2A]-12A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	24.52	24.66
CA_[2A]-66A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	2x2 MIMO	LTE B66	20	67236	2190	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	24.53	24.66
CA_2A-12A-[66A]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	24.53	24.66
CA_2A-[66B]	LTE B66	5	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B66	15	66693	2135.7	4x4 MIMO	LTE B2	20	900	1960	2x2 MIMO	24.59	24.59
CA_5A-[66A]-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B66	20	67236	2190	2x2 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	24.55	24.66
CA_5A-[66A]-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	2x2 MIMO	LTE B66	20	67236	2190	4x4 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	24.55	24.66

1.4.4 LTE Band 2 as PCC

Table 21
Maximum Output Powers

	PCC										SCC 1					SCC 2					Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_[2A]-[66A]	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B66	20	66786	2145	4x4 MIMO	-	-	-	-	-	24.67	24.65
CA_[2A]-[4A]	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	-	-	-	-	-	24.64	24.65
CA_[2A]-[2A]	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B2	20	700	1940	4x4 MIMO	-	-	-	-	-	24.62	24.65
CA_[2A]-17A	LTE B2	5	19175	1907.5	QPSK	1	0	1175	1987.5	4x4 MIMO	LTE B17	10	5790	740	2x2 MIMO	-	-	-	-	-	24.46	24.61
CA_[2C]	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B2	20	902	1960.2	4x4 MIMO	-	-	-	-	-	24.65	24.65
CA_[2A]-29A	LTE B2	5	19175	1907.5	QPSK	1	0	1175	1987.5	4x4 MIMO	LTE B29	10	9715	722.5	2x2 MIMO	-	-	-	-	-	24.51	24.61
CA_[2A]-4A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B4	20	2175	2132.5	2x2 MIMO	-	-	-	-	-	24.65	24.65
CA_[2A]-12A (1)	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	-	-	-	-	-	24.62	24.65
CA_[2A]-13A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B13	10	5230	751	2x2 MIMO	LTE B66	20	66786	2145	2x2 MIMO	24.63	24.65
CA_[2A]-2A-4A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B2	20	700	1940	2x2 MIMO	LTE B4	20	2175	2132.5	2x2 MIMO	24.69	24.65
CA_[2A]-2A-4A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	2x2 MIMO	LTE B2	20	700	1940	4x4 MIMO	LTE B4	20	2175	2132.5	2x2 MIMO	24.62	24.65
CA_[2A]-4A-13A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B4	20	2175	2132.5	2x2 MIMO	LTE B13	10	5230	751	2x2 MIMO	24.66	24.65
CA_[2A]-4A-5A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B4	20	2175	2132.5	2x2 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	24.65	24.65
CA_[2A]-66B	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B66	15	66786	2145	2x2 MIMO	LTE B66	5	66879	2154.3	2x2 MIMO	24.64	24.65
CA_2A-13A-[66A]	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	2x2 MIMO	LTE B13	10	5230	751	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	24.66	24.65
CA_2A-[4A]-29A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	LTE B29	10	9715	722.5	2x2 MIMO	24.67	24.65
CA_2A-[66C]	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	LTE B66	20	66984	2164.8	4x4 MIMO	24.64	24.65
CA_[2A]-29A-30A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B29	10	9715	722.5	2x2 MIMO	LTE B30	10	9820	2355	2x2 MIMO	24.65	24.65
CA_[2A]-2A-5A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B2	20	700	1940	2x2 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	24.64	24.65
CA_[2A]-2A-5A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	2x2 MIMO	LTE B2	20	700	1940	4x4 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	24.69	24.65
CA_[2A]-4A-29A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B4	20	2175	2132.5	2x2 MIMO	LTE B29	10	9715	722.5	2x2 MIMO	24.63	24.65
CA_[2A]-5A-30A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	LTE B30	10	9820	2355	2x2 MIMO	24.65	24.65
CA_[2A]-66C	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B66	20	66786	2145	2x2 MIMO	LTE B66	20	66984	2164.8	2x2 MIMO	24.70	24.65
CA_2A-2A-[4A]	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	2x2 MIMO	LTE B2	20	700	1940	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	24.60	24.65
CA_2A-[4A]-30A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	LTE B30	10	9820	2355	2x2 MIMO	24.61	24.65
CA_2A-5A-[66A]	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	2x2 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	24.65	24.65
CA_2A-[4A]-7A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	LTE B7	20	3100	2655	2x2 MIMO	24.66	24.65
CA_[2A]-12A-30A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	LTE B30	10	9820	2355	2x2 MIMO	24.65	24.65
CA_[2A]-2A-12A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B2	20	700	1940	2x2 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	24.69	24.65
CA_[2A]-2A-12A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	2x2 MIMO	LTE B2	20	700	1940	4x4 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	24.69	24.65
CA_[2A]-2A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B2	20	700	1940	2x2 MIMO	LTE B66	20	66786	2145	2x2 MIMO	24.62	24.65
CA_[2A]-2A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	2x2 MIMO	LTE B2	20	700	1940	4x4 MIMO	LTE B66	20	66786	2145	2x2 MIMO	24.62	24.65
CA_[2A]-4A-30A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B4	20	2175	2132.5	2x2 MIMO	LTE B30	10	9820	2355	2x2 MIMO	24.61	24.65
CA_[2A]-5A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	LTE B66	20	66786	2145	2x2 MIMO	24.64	24.65
CA_[2A]-[66C]	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B66	20	66786	2145	4x4 MIMO	LTE B66	20	66984	2164.8	4x4 MIMO	24.70	24.65
CA_2A-2A-[66A]	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B2	20	700	1940	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	24.64	24.65
CA_2A-[4A]-4A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	LTE B4	10	2350	2150	2x2 MIMO	24.61	24.65
CA_2A-[66A]-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	LTE B66	20	67236	2190	2x2 MIMO	24.60	24.65
CA_[2A]-12A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	LTE B66	20	66786	2145	2x2 MIMO	24.63	24.65
CA_[2A]-2A-13A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B2	20	700	1940	2x2 MIMO	LTE B13	10	5230	751	2x2 MIMO	24.68	24.65
CA_[2A]-2A-13A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	2x2 MIMO	LTE B2	20	700	1940	4x4 MIMO	LTE B13	10	5230	751	2x2 MIMO	24.66	24.65
CA_[2A]-4A-12A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B4	20	2175	2132.5	2x2 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	24.66	24.65
CA_[2A]-4A-4A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B4	20	2175	2132.5	2x2 MIMO	LTE B4	10	2350	2150	2x2 MIMO	24.61	24.65
CA_[2A]-66A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B66	20	66786	2145	2x2 MIMO	LTE B66	20	67236	2190	2x2 MIMO	24.63	24.65
CA_2A-12A-[66A]	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	2x2 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	24.70	24.65
CA_2A-[4A]-12A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	24.69	24.65
CA_2A-[4A]-5A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	24.65	24.65
CA_2A-[66B]	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	2x2 MIMO	LTE B66	15	66786	2145	4x4 MIMO	LTE B66	5	66879	2154.3	4x4 MIMO	24.65	24.65

1.4.5 LTE Band 25 as PCC

Table 22
Maximum Output Powers

	PCC										SCC 1					Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_[25A]-[25A] (1)	LTE B25	20	26590	1905	QPSK	1	0	8590	1985	4x4 MIMO	LTE B25	20	8140	1940	4x4 MIMO	24.65	24.65

1.4.6 LTE Band 7 as PCC

Table 23
Maximum Output Powers

	PCC										SCC 1					SCC 2					Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_[4A]-7A-12A (1)	LTE B7	20	21100	2535	QPSK	1	50	3100	2655	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	23.62	23.68
CA_2A-[4A]-7A	LTE B7	20	21100	2535	QPSK	1	50	3100	2655	2x2 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	23.65	23.68
CA_[4A]-7A-7A	LTE B7	20	21100	2535	QPSK	1	50	3100	2655	2x2 MIMO	LTE B7	20	2850	2630	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	23.60	23.68

1.4.1 LTE Band 30 as PCC

Table 24
Maximum Output Powers

	PCC										SCC 1					SCC 2					Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_12A-30A-[66A]	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	2x2 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	25.20	25.04
CA_[2A]-29A-30A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B29	10	9715	722.5	2x2 MIMO	25.16	25.04
CA_[2A]-5A-30A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	25.13	25.04
CA_2A-[4A]-30A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	2x2 MIMO	LTE B2	20	900	1960	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	25.15	25.04
CA_[4A]-12A-30A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	25.17	25.04
CA_[2A]-12A-30A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B12	10	5095	737.5	2x2 MIMO	25.10	25.04
CA_[2A]-4A-30A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B4	20	2175	2132.5	2x2 MIMO	25.16	25.04
CA_[4A]-29A-30A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	LTE B29	10	9715	722.5	2x2 MIMO	25.09	25.04
CA_[4A]-5A-30A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	2x2 MIMO	LTE B4	20	2175	2132.5	4x4 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	25.18	25.04
CA_5A-30A-[66A]	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	2x2 MIMO	LTE B5	10	2525	881.5	2x2 MIMO	LTE B66	20	66786	2145	4x4 MIMO	25.12	25.04

1.5 LAA Downlink Carrier Aggregation

This device supports LAA with downlink carrier aggregation only. It uses carrier aggregation in the downlink to combine LTE in the unlicensed spectrum (i.e. LTE Band 46) with LTE in the licensed band (served as PCC). All uplink communications and acknowledgements on the PCC remain identical to specifications when downlink carrier aggregation is inactive. Due to the wide downlink bandwidth, each Band 46 sub-band, represented by subscripts A, B, C, and D, was evaluated independently. The general test selection and setup procedures described in Section 1.2 were applied.

Per FCC KDB Publication 941225 D05Av01r02, no SAR measurements are required for carrier aggregation configurations when the average output power with downlink only carrier aggregation active is not more than 0.25 dB higher than the average output power with downlink only carrier aggregation inactive.

1.5.1 SISO LAA Downlink Carrier Aggregation RF Conducted Powers

1.5.1.1 LTE Band 13 as PCC

Table 25
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_13A-46$_A$A-66A	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B46$_A$	20	47290	5200	LTE B66	20	66786	2145	-	-	-	-	25.49	25.45
CA_13A-46$_B$A-66A	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B46$_B$	20	48290	5300	LTE B66	20	66786	2145	-	-	-	-	25.48	25.45
CA_13A-46$_C$A-66A	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B46$_C$	20	51290	5600	LTE B66	20	66786	2145	-	-	-	-	25.45	25.45
CA_13A-46$_D$A-66A	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B46$_D$	20	53140	5785	LTE B66	20	66786	2145	-	-	-	-	25.46	25.45
CA_13A-46$_A$D	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B46$_A$	20	47290	5200	LTE B46$_A$	20	47488	5219.8	LTE B46$_A$	20	47092	5180.2	25.45	25.45
CA_13A-46$_B$D	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B46$_B$	20	48290	5300	LTE B46$_B$	20	48488	5319.8	LTE B46$_B$	20	48092	5280.2	25.44	25.45
CA_13A-46$_C$D	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B46$_C$	20	51290	5600	LTE B46$_C$	20	51488	5619.8	LTE B46$_C$	20	51092	5580.2	25.43	25.45
CA_13A-46$_D$D	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B46$_D$	20	53140	5785	LTE B46$_D$	20	53338	5804.8	LTE B46$_D$	20	52942	5765.2	25.46	25.45
CA_13A-46$_A$C-66A	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B46$_A$	20	47290	5200	LTE B46$_A$	20	47488	5219.8	LTE B66	20	66786	2145	25.47	25.45
CA_13A-46$_B$C-66A	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B46$_B$	20	48290	5300	LTE B46$_B$	20	48488	5319.8	LTE B66	20	66786	2145	25.46	25.45
CA_13A-46$_C$C-66A	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B46$_C$	20	51290	5600	LTE B46$_C$	20	51488	5619.8	LTE B66	20	66786	2145	25.44	25.45
CA_13A-46$_D$C-66A	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B46$_D$	20	53140	5785	LTE B46$_D$	20	53338	5804.8	LTE B66	20	66786	2145	25.45	25.45

1.5.1.2 LTE Band 5 as PCC

Table 26
Maximum Output Powers

Combination	PCC									SCC 1					SCC 2					SCC 3				Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_5A-46$_A$A (1)	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B46$_A$	20	47290	5200	-	-	-	-	-	-	-	-	25.41	25.40
CA_5A-46$_B$A (1)	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B46$_B$	20	48290	5300	-	-	-	-	-	-	-	-	25.40	25.40
CA_5A-46$_C$A (1)	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B46$_C$	20	51290	5600	-	-	-	-	-	-	-	-	25.39	25.40
CA_5A-46$_D$A (1)	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B46$_D$	20	53140	5785	-	-	-	-	-	-	-	-	25.41	25.40
CA_5A-46$_A$C (1)	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B46$_A$	20	47290	5200	LTE B46$_A$	20	47488	5219.8	-	-	-	-	25.41	25.40
CA_5A-46$_B$C (1)	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B46$_B$	20	48290	5300	LTE B46$_B$	20	48488	5319.8	-	-	-	-	25.39	25.40
CA_5A-46$_C$C (1)	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B46$_C$	20	51290	5600	LTE B46$_C$	20	51488	5619.8	-	-	-	-	25.39	25.40
CA_5A-46$_D$C (1)	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B46$_D$	20	53140	5785	LTE B46$_D$	20	53338	5804.8	-	-	-	-	25.39	25.40
CA_5A-46$_A$D (1)	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B46$_A$	20	47290	5200	LTE B46$_A$	20	47488	5219.8	LTE B46$_A$	20	47092	5180.2	25.30	25.40
CA_5A-46$_B$D (1)	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B46$_B$	20	48290	5300	LTE B46$_B$	20	48488	5319.8	LTE B46$_B$	20	48092	5280.2	25.32	25.40
CA_5A-46$_C$D (1)	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B46$_C$	20	51290	5600	LTE B46$_C$	20	51488	5619.8	LTE B46$_C$	20	51092	5580.2	25.25	25.40
CA_5A-46$_D$D (1)	LTE B5	5	20525	836.5	QPSK	1	12	2525	881.5	LTE B46$_D$	20	53140	5785	LTE B46$_D$	20	53338	5804.8	LTE B46$_D$	20	52942	5765.2	25.26	25.40

1.5.1.3 LTE Band 4 as PCC

Table 27
Maximum Output Powers

Combination	PCC									SCC 1				SCC 2				SCC 3				Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_4A-46$_A$A-46$_D$A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B46$_A$	20	47090	5180	LTE B46$_D$	20	53540	5825	-	-	-	-	24.62	24.66
CA_4A-46$_B$A-46$_C$C	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B46$_B$	20	47090	5180	LTE B46$_D$	20	53540	5825	LTE B46$_D$	20	53342	5805.2	24.61	24.66
CA_4A-46$_B$A-46$_C$C	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B46$_D$	20	53540	5825	LTE B46$_A$	20	47090	5180	LTE B46$_A$	20	47288	5199.8	24.62	24.66
CA_4A-46$_A$D	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B46$_A$	20	47290	5200	LTE B46$_A$	20	47488	5219.8	LTE B46$_A$	20	47092	5180.2	24.59	24.66
CA_4A-46$_B$D	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B46$_B$	20	48290	5300	LTE B46$_B$	20	48488	5319.8	LTE B46$_B$	20	48092	5280.2	24.61	24.66
CA_4A-46$_C$D	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B46$_C$	20	51290	5600	LTE B46$_C$	20	51488	5619.8	LTE B46$_C$	20	51092	5580.2	24.60	24.66
CA_4A-46$_D$D	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B46$_D$	20	53140	5785	LTE B46$_D$	20	53338	5804.8	LTE B46$_D$	20	52942	5765.2	24.62	24.66

1.5.1.4 LTE Band 66 as PCC

Table 28
Maximum Output Powers

Combination	PCC									SCC 1				SCC 2				SCC 3				SCC 4				Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_13A-46$_A$A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B13	10	5230	751	LTE B46$_A$	20	47290	5200	-	-	-	-	-	-	-	-	24.67	24.66
CA_13A-46$_B$A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B13	10	5230	751	LTE B46$_B$	20	48290	5300	-	-	-	-	-	-	-	-	24.65	24.66
CA_13A-46$_A$A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B13	10	5230	751	LTE B46$_C$	20	51290	5600	-	-	-	-	-	-	-	-	24.63	24.66
CA_13A-46$_A$A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B13	10	5230	751	LTE B46$_D$	20	53140	5785	-	-	-	-	-	-	-	-	24.66	24.66
CA_46$_A$A-66A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	67236	2190	LTE B46$_A$	20	47290	5200	-	-	-	-	-	-	-	-	24.62	24.66
CA_46$_A$A-66A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	67236	2190	LTE B46$_B$	20	48290	5300	-	-	-	-	-	-	-	-	24.60	24.66
CA_46$_A$A-66A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	67236	2190	LTE B46$_C$	20	51290	5600	-	-	-	-	-	-	-	-	24.62	24.66
CA_46$_A$A-66A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	67236	2190	LTE B46$_D$	20	53140	5785	-	-	-	-	-	-	-	-	24.63	24.66
CA_2A-46$_A$A-46$_A$A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B2	20	900	1960	LTE B46$_A$	20	47090	5180	LTE B46$_D$	20	53540	5825	-	-	-	-	24.64	24.66
CA_13A-46$_A$C-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B13	10	5230	751	LTE B46$_A$	20	47290	5200	LTE B46$_B$	20	47488	5219.8	-	-	-	-	24.63	24.66
CA_13A-46$_C$C-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B13	10	5230	751	LTE B46$_B$	20	48290	5300	LTE B46$_B$	20	48488	5319.8	-	-	-	-	24.64	24.66
CA_13A-46$_A$C-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B13	10	5230	751	LTE B46$_C$	20	51290	5600	LTE B46$_C$	20	51488	5619.8	-	-	-	-	24.60	24.66
CA_13A-46$_C$C-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B13	10	5230	751	LTE B46$_D$	20	53140	5785	LTE B46$_D$	20	53338	5804.8	-	-	-	-	24.63	24.66
CA_46$_A$C-66A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	67236	2190	LTE B46$_A$	20	47290	5200	LTE B46$_B$	20	47488	5219.8	-	-	-	-	24.62	24.66
CA_46$_C$C-66A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	67236	2190	LTE B46$_B$	20	48290	5300	LTE B46$_B$	20	48488	5319.8	-	-	-	-	24.61	24.66
CA_46$_A$C-66A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	67236	2190	LTE B46$_C$	20	51290	5600	LTE B46$_C$	20	51488	5619.8	-	-	-	-	24.66	24.66
CA_46$_C$C-66A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	67236	2190	LTE B46$_D$	20	53140	5785	LTE B46$_D$	20	53338	5804.8	-	-	-	-	24.60	24.66
CA_2A-46$_A$A-46$_C$C-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B2	20	900	1960	LTE B46$_A$	20	47090	5180	LTE B46$_D$	20	53540	5825	LTE B46$_D$	20	53342	5805.2	24.58	24.66
CA_2A-46$_A$A-46$_C$C-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B2	20	900	1960	LTE B46$_D$	20	53540	5825	LTE B46$_A$	20	47090	5180	LTE B46$_A$	20	47288	5199.8	24.59	24.66
CA_2A-46$_B$D-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B2	20	900	1960	LTE B46$_A$	20	47290	5200	LTE B46$_B$	20	47488	5219.8	LTE B46$_A$	20	47092	5180.2	24.62	24.66
CA_2A-46$_B$D-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B2	20	900	1960	LTE B46$_B$	20	48290	5300	LTE B46$_B$	20	48488	5319.8	LTE B46$_B$	20	48092	5280.2	24.61	24.66
CA_2A-46$_B$D-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B2	20	900	1960	LTE B46$_C$	20	51290	5600	LTE B46$_C$	20	51488	5619.8	LTE B46$_C$	20	51092	5580.2	24.61	24.66
CA_2A-46$_B$D-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B2	20	900	1960	LTE B46$_D$	20	53140	5785	LTE B46$_D$	20	53338	5804.8	LTE B46$_D$	20	52942	5765.2	24.61	24.66
CA_46$_A$D-66A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	67236	2190	LTE B46$_A$	20	47290	5200	LTE B46$_B$	20	47488	5219.8	LTE B46$_A$	20	47092	5180.2	24.62	24.66
CA_46$_B$D-66A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	67236	2190	LTE B46$_B$	20	48290	5300	LTE B46$_B$	20	48488	5319.8	LTE B46$_B$	20	48092	5280.2	24.63	24.66
CA_46$_C$D-66A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	67236	2190	LTE B46$_C$	20	51290	5600	LTE B46$_C$	20	51488	5619.8	LTE B46$_C$	20	51092	5580.2	24.59	24.66
CA_46$_D$D-66A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	67236	2190	LTE B46$_D$	20	53140	5785	LTE B46$_D$	20	53338	5804.8	LTE B46$_D$	20	52942	5765.2	24.61	24.66

1.5.1.5 LTE Band 2 as PCC

Table 29
Maximum Output Powers

Combination	PCC									SCC 1					SCC 2					SCC 3					SCC 4				Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-46$_A$-46$_A$-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B46$_A$	20	47090	5180	LTE B46$_D$	20	53540	5825	LTE B66	20	66786	2145	-	-	-	-	24.65	24.65
CA_2A-2A-46$_D$	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	20	700	1940	LTE B46$_A$	20	47290	5200	LTE B46$_B$	20	47488	5219.8	LTE B46$_A$	20	47092	5180.2	24.69	24.65
CA_2A-2A-46$_D$	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	20	700	1940	LTE B46$_A$	20	48290	5300	LTE B46$_B$	20	48488	5319.8	LTE B46$_B$	20	48092	5280.2	24.69	24.65
CA_2A-2A-46$_D$	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	20	700	1940	LTE B46$_C$	20	51290	5600	LTE B46$_C$	20	51488	5619.8	LTE B46$_C$	20	51092	5580.2	24.70	24.65
CA_2A-2A-46$_D$	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	20	700	1940	LTE B46$_D$	20	53140	5785	LTE B46$_D$	20	53338	5804.8	LTE B46$_D$	20	52942	5765.2	24.69	24.65
CA_2A-46$_A$-46$_A$-C-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B46$_A$	20	47090	5180	LTE B46$_D$	20	53540	5825	LTE B46$_D$	20	53342	5805.2	LTE B66	20	66786	2145	24.67	24.65
CA_2A-46$_A$-46$_A$-C-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B46$_D$	20	53540	5825	LTE B46$_A$	20	47090	5180	LTE B46$_A$	20	47288	5199.8	LTE B66	20	66786	2145	24.70	24.65
CA_2A-46$_D$-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B46$_A$	20	47290	5200	LTE B46$_A$	20	47488	5219.8	LTE B46$_A$	20	47092	5180.2	LTE B66	20	66786	2145	24.70	24.65
CA_2A-46$_D$-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B46$_B$	20	48290	5300	LTE B46$_A$	20	48488	5319.8	LTE B46$_B$	20	48092	5280.2	LTE B66	20	66786	2145	24.69	24.65
CA_2A-46$_D$-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B46$_C$	20	51290	5600	LTE B46$_C$	20	51488	5619.8	LTE B46$_C$	20	51092	5580.2	LTE B66	20	66786	2145	24.68	24.65
CA_2A-46$_D$-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B46$_D$	20	53140	5785	LTE B46$_D$	20	53338	5804.8	LTE B46$_D$	20	52942	5765.2	LTE B66	20	66786	2145	24.69	24.65

1.5.1.1 LTE Band 7 as PCC

Table 30
Maximum Output Powers

Combination	PCC									SCC 1				SCC 2				SCC 3				Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_7A-46$_A$A (1)	LTE B7	20	21100	2535	QPSK	1	50	3100	2655	LTE B46$_A$	20	47290	5200	-	-	-	-	-	-	-	-	23.69	23.68
CA_7A-46$_B$A (1)	LTE B7	20	21100	2535	QPSK	1	50	3100	2655	LTE B46$_B$	20	48290	5300	-	-	-	-	-	-	-	-	23.68	23.68
CA_7A-46$_C$A (1)	LTE B7	20	21100	2535	QPSK	1	50	3100	2655	LTE B46$_C$	20	51290	5600	-	-	-	-	-	-	-	-	23.69	23.68
CA_7A-46$_D$A (1)	LTE B7	20	21100	2535	QPSK	1	50	3100	2655	LTE B46$_D$	20	53140	5785	-	-	-	-	-	-	-	-	23.68	23.68
CA_7A-46$_A$C (1)	LTE B7	20	21100	2535	QPSK	1	50	3100	2655	LTE B46$_A$	20	47290	5200	LTE B46$_A$	20	47488	5219.8	-	-	-	-	23.70	23.68
CA_7A-46$_B$C (1)	LTE B7	20	21100	2535	QPSK	1	50	3100	2655	LTE B46$_B$	20	48290	5300	LTE B46$_B$	20	48488	5319.8	-	-	-	-	23.69	23.68
CA_7A-46$_C$C (1)	LTE B7	20	21100	2535	QPSK	1	50	3100	2655	LTE B46$_C$	20	51290	5600	LTE B46$_C$	20	51488	5619.8	-	-	-	-	23.70	23.68
CA_7A-46$_D$C (1)	LTE B7	20	21100	2535	QPSK	1	50	3100	2655	LTE B46$_D$	20	53140	5785	LTE B46$_D$	20	53338	5804.8	-	-	-	-	23.69	23.68
CA_7A-46$_A$D (1)	LTE B7	20	21100	2535	QPSK	1	50	3100	2655	LTE B46$_A$	20	47290	5200	LTE B46$_A$	20	47488	5219.8	LTE B46$_A$	20	47092	5180.2	23.69	23.68
CA_7A-46$_B$D (1)	LTE B7	20	21100	2535	QPSK	1	50	3100	2655	LTE B46$_B$	20	48290	5300	LTE B46$_B$	20	48488	5319.8	LTE B46$_B$	20	48092	5280.2	23.67	23.68
CA_7A-46$_C$D (1)	LTE B7	20	21100	2535	QPSK	1	50	3100	2655	LTE B46$_C$	20	51290	5600	LTE B46$_C$	20	51488	5619.8	LTE B46$_C$	20	51092	5580.2	23.68	23.68
CA_7A-46$_D$D (1)	LTE B7	20	21100	2535	QPSK	1	50	3100	2655	LTE B46$_D$	20	53140	5785	LTE B46$_D$	20	53338	5804.8	LTE B46$_D$	20	52942	5765.2	23.67	23.68

1.5.2 4x4 DL MIMO LAA Downlink Carrier Aggregation RF Conducted Powers

1.5.2.1 LTE Band 4 as PCC

Table 31
Maximum Output Powers

Combination	PCC										SCC 1					SCC 2					SCC 3					Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_[4A]-46$_A$-46$_A$A	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B46$_A$	20	47090	5180	2x2 MIMO	LTE B46$_D$	20	53540	5825	2x2 MIMO	-	-	-	-	-	24.65	24.66
CA_[4A]-46$_A$-46$_D$C	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B46$_C$	20	47090	5180	2x2 MIMO	LTE B46$_D$	20	53540	5825	2x2 MIMO	LTE B46$_C$	20	53342	5805.2	2x2 MIMO	24.68	24.66
CA_[4A]-46$_A$-46$_C$C	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B46$_D$	20	53540	5825	2x2 MIMO	LTE B46$_A$	20	47090	5180	2x2 MIMO	LTE B46$_A$	20	47288	5199.8	2x2 MIMO	24.68	24.66
CA_[4A]-46$_B$D	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B46$_A$	20	47290	5200	2x2 MIMO	LTE B46$_A$	20	47488	5219.8	2x2 MIMO	LTE B46$_A$	20	47092	5180.2	2x2 MIMO	24.67	24.66
CA_[4A]-46$_A$D	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B46$_B$	20	48290	5300	2x2 MIMO	LTE B46$_B$	20	48488	5319.8	2x2 MIMO	LTE B46$_B$	20	48092	5280.2	2x2 MIMO	24.67	24.66
CA_[4A]-46$_B$D	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B46$_C$	20	51290	5600	2x2 MIMO	LTE B46$_C$	20	51488	5619.8	2x2 MIMO	LTE B46$_C$	20	51092	5580.2	2x2 MIMO	24.68	24.66
CA_[4A]-46$_D$D	LTE B4	20	20300	1745	QPSK	1	0	2300	2145	4x4 MIMO	LTE B46$_D$	20	53140	5785	2x2 MIMO	LTE B46$_D$	20	53338	5804.8	2x2 MIMO	LTE B46$_D$	20	52942	5765.2	2x2 MIMO	24.69	24.66

1.5.2.2 LTE Band 66 as PCC

Table 32
Maximum Output Powers

Combination	PCC										SCC 1					SCC 2					SCC 3					Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_[2A]-46$_A$A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B46$_A$	20	47290	5200	2x2 MIMO	-	-	-	-	-	24.65	24.66
CA_[2A]-46$_A$A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B46$_B$	20	48290	5300	2x2 MIMO	-	-	-	-	-	-	-	-	-	-	24.64	24.66
CA_[2A]-46$_A$A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	2x2 MIMO	LTE B2	20	900	1960	4x4 MIMO	LTE B46$_C$	20	51290	5600	2x2 MIMO	-	-	-	-	-	24.64	24.66
CA_[2A]-46$_A$A-66A	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B46$_D$	20	53140	5785	2x2 MIMO	-	-	-	-	-	-	-	-	-	-	24.67	24.66
CA_46$_A$A-46$_A$-[66A]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B46$_A$	20	47090	5180	2x2 MIMO	LTE B46$_D$	20	53540	5825	2x2 MIMO	-	-	-	-	-	24.61	24.66
CA_46$_A$A-46$_C$-[66A]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B46$_C$	20	51290	5600	2x2 MIMO	LTE B46$_D$	20	53540	5825	2x2 MIMO	LTE B46$_C$	20	53342	5805.2	2x2 MIMO	24.64	24.66
CA_46$_A$-46$_C$C-[66A]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B46$_D$	20	53540	5825	2x2 MIMO	LTE B46$_A$	20	47090	5180	2x2 MIMO	LTE B46$_A$	20	47288	5199.8	2x2 MIMO	24.61	24.66
CA_46$_A$D-[66A]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B46$_A$	20	47290	5200	2x2 MIMO	LTE B46$_A$	20	47488	5219.8	2x2 MIMO	LTE B46$_A$	20	47092	5180.2	2x2 MIMO	24.62	24.66
CA_46$_B$D-[66A]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B46$_B$	20	48290	5300	2x2 MIMO	LTE B46$_B$	20	48488	5319.8	2x2 MIMO	LTE B46$_B$	20	48092	5280.2	2x2 MIMO	24.61	24.66
CA_46$_C$D-[66A]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B46$_C$	20	51290	5600	2x2 MIMO	LTE B46$_C$	20	51488	5619.8	2x2 MIMO	LTE B46$_C$	20	51092	5580.2	2x2 MIMO	24.63	24.66
CA_46$_D$D-[66A]	LTE B66	20	132322	1745	QPSK	1	0	66786	2145	4x4 MIMO	LTE B46$_D$	20	53140	5785	2x2 MIMO	LTE B46$_D$	20	53338	5804.8	2x2 MIMO	LTE B46$_D$	20	52942	5765.2	2x2 MIMO	24.66	24.66

1.5.2.3 LTE Band 2 as PCC

Table 33
Maximum Output Powers

Combination	PCC										SCC 1					SCC 2					SCC 3					Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_[2A]-46$_A$A-46$_D$A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B46$_A$	20	47090	5180	2x2 MIMO	LTE B46$_D$	20	53540	5825	2x2 MIMO	-	-	-	-	-	24.61	24.65
CA_[2A]-46$_A$A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B46$_A$	20	47290	5200	2x2 MIMO	LTE B66	20	66786	2145	2x2 MIMO	-	-	-	-	-	24.59	24.65
CA_[2A]-46$_A$A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B46$_B$	20	48290	5300	2x2 MIMO	LTE B66	20	66786	2145	2x2 MIMO	-	-	-	-	-	25.60	24.65
CA_[2A]-46$_A$A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B46$_C$	20	51290	5600	2x2 MIMO	LTE B66	20	66786	2145	2x2 MIMO	-	-	-	-	-	24.65	24.65
CA_[2A]-46$_A$A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B46$_D$	20	53140	5785	2x2 MIMO	LTE B66	20	66786	2145	2x2 MIMO	-	-	-	-	-	24.66	24.65
CA_[2A]-46$_A$A-46$_D$C	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B46$_A$	20	47090	5180	2x2 MIMO	LTE B46$_D$	20	53540	5825	2x2 MIMO	LTE B46$_D$	20	53342	5805.2	2x2 MIMO	24.60	24.65
CA_[2A]-46$_A$A-46$_D$C	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B46$_D$	20	53540	5825	2x2 MIMO	LTE B46$_A$	20	47090	5180	2x2 MIMO	LTE B46$_A$	20	47288	5199.8	2x2 MIMO	24.63	24.65
CA_[2A]-46$_D$D	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B46$_A$	20	47290	5200	2x2 MIMO	LTE B46$_A$	20	47488	5219.8	2x2 MIMO	LTE B46$_A$	20	47092	5180.2	2x2 MIMO	24.63	24.65
CA_[2A]-46$_D$D	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B46$_B$	20	48290	5300	2x2 MIMO	LTE B46$_B$	20	48488	5319.8	2x2 MIMO	LTE B46$_B$	20	48092	5280.2	2x2 MIMO	24.65	24.65
CA_[2A]-46$_D$D	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B46$_C$	20	51290	5600	2x2 MIMO	LTE B46$_C$	20	51488	5619.8	2x2 MIMO	LTE B46$_C$	20	51092	5580.2	2x2 MIMO	24.62	24.65
CA_[2A]-46$_D$D	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	4x4 MIMO	LTE B46$_D$	20	53140	5785	2x2 MIMO	LTE B46$_D$	20	53338	5804.8	2x2 MIMO	LTE B46$_D$	20	52942	5765.2	2x2 MIMO	24.62	24.65