3 Composition / Information on ingredients

The Item is composed of the following ingredients:

Water	60 – 80%
Esters, Emulsifiers, Inhibitors	20 – 40%
Sodium salt	0 – 1.5%

Figure D-8
Composition of 5 GHz Body Tissue Equivalent Matter

Note: 5 GHz Body 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.

Schmid & Partner Engineering AG

s p e a g

Zeughausstrasse 43, 8004 Zurich, Switzerland
Phone +41 44 245 9700, Fax +41 44 245 9779
info@speag.com, http://www.speag.com

Measurement Certificate / Material Test

Item Name	**Body Tissue Simulating Liquid (MBBL3500-5800V5)**
Product No.	SL AAM 501 EA (Batch: 180423-2)
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 KDB 865664 compliance standard.

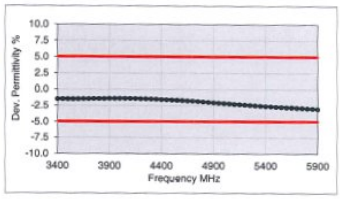
Test Condition

Ambient	Environment temperatur (22 ± 3)°C and humidity < 70%.
TSL Temperature	22°C
Test Date	25-Apr-18
Operator	WM

Additional Information

TSL Density	0.996 g/cm3
TSL Heat-capacity	3.765 kJ/(kg*K)

	Measured			Target		Diff.to Target [%]	
f [MHz]	e'	e''	sigma	eps	sigma	Δ-eps	Δ-sigma
3400	50.7	16.46	3.11	51.5	3.20	-1.5	-2.7
3500	50.5	16.50	3.21	51.3	3.31	-1.6	-3.1
3600	50.4	16.56	3.32	51.2	3.43	-1.5	-3.2
3700	50.3	16.63	3.42	51.1	3.55	-1.5	-3.6
3800	50.2	16.72	3.53	50.9	3.66	-1.4	-3.7
3900	50.1	16.81	3.65	50.8	3.78	-1.3	-3.5
4000	49.9	16.93	3.77	50.6	3.90	-1.5	-3.3
4100	49.8	17.05	3.89	50.5	4.01	-1.4	-3.1
4200	49.6	17.18	4.01	50.4	4.13	-1.5	-2.9
4300	49.5	17.32	4.14	50.2	4.25	-1.5	-2.5
4400	49.3	17.46	4.27	50.1	4.37	-1.6	-2.2
4500	49.2	17.59	4.40	50.0	4.48	-1.5	-1.8
4600	49.0	17.73	4.54	49.8	4.60	-1.7	-1.3
4700	48.8	17.86	4.67	49.7	4.72	-1.8	-1.0
4800	48.6	17.99	4.80	49.6	4.83	-1.9	-0.7
4850	48.5	18.05	4.87	49.5	4.89	-2.0	-0.4
4900	48.4	18.11	4.94	49.4	4.95	-2.1	-0.2
4950	48.3	18.17	5.00	49.4	5.01	-2.1	-0.1
5000	48.2	18.23	5.07	49.3	5.07	-2.2	0.1
5050	48.1	18.29	5.14	49.2	5.12	-2.3	0.3
5100	48.0	18.34	5.20	49.2	5.18	-2.3	0.3
5150	47.9	18.39	5.27	49.1	5.24	-2.4	0.6
5200	47.9	18.45	5.34	49.0	5.30	-2.3	0.8
5250	47.8	18.50	5.40	48.9	5.36	-2.3	0.8
5300	47.7	18.56	5.47	48.9	5.42	-2.4	1.0
5350	47.6	18.61	5.54	48.8	5.47	-2.5	1.2
5400	47.5	18.67	5.61	48.7	5.53	-2.5	1.4
5450	47.4	18.72	5.68	48.7	5.59	-2.6	1.6
5500	47.3	18.77	5.74	48.6	5.65	-2.7	1.6
5550	47.2	18.83	5.81	48.5	5.71	-2.8	1.8
5600	47.1	18.88	5.88	48.5	5.77	-2.8	2.0
5650	47.1	18.93	5.95	48.4	5.82	-2.7	2.1
5700	47.0	18.99	6.02	48.3	5.88	-2.8	2.3
5750	46.9	19.04	6.09	48.3	5.94	-2.8	2.5
5800	46.8	19.10	6.16	48.2	6.00	-2.9	2.7
5850	46.7	19.16	6.23	48.1	6.06	-3.0	2.8
5900	46.6	19.22	6.31	48.1	6.12	-3.0	3.2



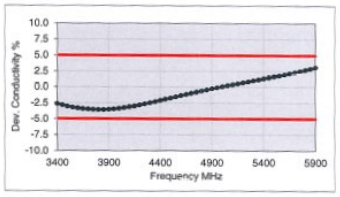


Figure D-9
5 GHz Body Tissue Equivalent Matter

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 Cal Point		Cond. (σ)	Perm. (εr)	CW VALIDATION			MOD. VALIDATION		
								SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
D	750	4/12/2019	3914	750	Head	0.903	42.785	PASS	PASS	PASS	N/A	N/A	N/A
D	835	4/12/2019	3914	835	Head	0.935	42.549	PASS	PASS	PASS	GMSK	PASS	N/A
H	1750	7/16/2018	7409	1750	Head	1.331	41.186	PASS	PASS	PASS	N/A	N/A	N/A
G	1900	8/9/2018	7410	1900	Head	1.429	38.607	PASS	PASS	PASS	GMSK	PASS	N/A
E	2450	2/5/2019	3589	2450	Head	1.825	39.836	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
L	2450	4/29/2019	7308	2450	Head	1.820	37.749	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
E	2600	2/7/2019	3589	2600	Head	1.964	40.460	PASS	PASS	PASS	TDD	PASS	N/A
H	5250	7/5/2018	7409	5250	Head	4.492	34.994	PASS	PASS	PASS	OFDM	N/A	PASS
H	5750	7/5/2018	7409	5750	Head	4.995	34.288	PASS	PASS	PASS	OFDM	N/A	PASS
E	750	2/5/2019	3589	750	Body	0.984	54.096	PASS	PASS	PASS	N/A	N/A	N/A
J	835	3/10/2019	7488	835	Body	0.988	53.868	PASS	PASS	PASS	GMSK	PASS	N/A
D	1750	4/29/2019	3914	1750	Body	1.529	51.886	PASS	PASS	PASS	N/A	N/A	N/A
G	1900	8/10/2018	7410	1900	Body	1.567	52.239	PASS	PASS	PASS	GMSK	PASS	N/A
L	2450	11/6/2018	7308	2450	Body	2.022	51.315	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
K	2600	3/6/2019	7417	2600	Body	2.224	50.170	PASS	PASS	PASS	TDD	PASS	N/A
L	5250	10/29/2018	7308	5250	Body	5.511	48.770	PASS	PASS	PASS	OFDM	N/A	PASS
L	5600	10/29/2018	7308	5600	Body	5.994	48.200	PASS	PASS	PASS	OFDM	N/A	PASS
L	5750	10/29/2018	7308	5750	Body	6.219	47.960	PASS	PASS	PASS	OFDM	N/A	PASS

Table E-2
SAR System Validation Summary – 10g

SAR System	Freq. (MHz)	Date	Probe SN	Probe Cal Point		Cond. (σ)	Perm. (εr)	CW VALIDATION			MOD. VALIDATION		
								SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
K	2450	3/6/2019	7417	2450	Body	2.039	50.67	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
K	2600	3/6/2019	7417	2600	Body	2.224	50.17	PASS	PASS	PASS	TDD	PASS	N/A
L	5250	10/29/2018	7308	5250	Body	5.511	48.77	PASS	PASS	PASS	OFDM	N/A	PASS
L	5600	10/29/2018	7308	5600	Body	5.994	48.2	PASS	PASS	PASS	OFDM	N/A	PASS
L	5750	10/29/2018	7308	5750	Body	6.219	47.96	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 Distance Verification Procedure

The distance verification procedure was performed according to the following procedure:

1. A base station simulator was used to establish an RF connection and to monitor the power levels. The device being tested was placed below the relevant section of the phantom with the relevant side or edge of the device facing toward the phantom.

2. The device was moved toward and away from the phantom to determine the distance at which the mechanism triggers and the output power is reduced, per KDB Publication 616217 D04v01r02 and FCC Guidance. Each applicable test position was evaluated. The distances were confirmed to be the same or larger (more conservative) than the minimum distances provided by the manufacturer.

3. Steps 1 and 2 were repeated for low, mid, and high bands, as appropriate (see note below Table G-2 for more details).

4. Steps 1 through 3 were repeated for all distance-based power reduction mechanisms.

G.3 Main Antenna Verification Summary

Table G-1
Power Measurement Verification for Main Antenna

Mechanism(s)	Mode/Band	Conducted Power (dBm)	
1st		Un-triggered (Max)	Mechanism #1 (Reduced)
Grip	LTE TDD Band 41 (PC3)	24.45	23.52

Table G-2
Distance Measurement Verification for Main Antenna

Mechanism(s)	Test Condition	Band	Distance Measurements (mm)		Minimum Distance per Manufacturer (mm)
			Moving Toward	Moving Away	
Grip	Phablet - Back Side	High	2	4	2
Grip	Phablet - Front Side	High	2	4	2
Grip	Phablet - Bottom Edge	High	4	6	4

*Note: High band refers to: LTE B41

G.4 WIFI Verification Summary

Table G-3
Power Measurement Verification WIFI

Mechanism(s)	Mode/Band	Conducted Power (dBm)	
1st		Un-triggered (Max)	Mechanism #1 (Reduced)
Held-to-Ear	802.11b	21.66	17.57
Held-to-Ear	802.11g	21.00	17.62
Held-to-Ear	802.11n (2.4GHz)	20.64	18.21
Held-to-Ear	802.11a	19.07	17.32
Held-to-Ear	802.11n (5GHz, 20MHz BW)	18.14	17.22

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 April 2018 TCBC Workshop Notes, 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 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		
DCC #1	CA_2C	5, 10, 15, 20	5, 10, 15, 20		SCC #4
DCC #2	CA_2A-5A	5, 10, 15, 20	5, 10		SCC #1
DCC #3	CA_2A-12A	5, 10, 15, 20	5, 10		SCC #3
DCC #4	CA_2A-13A	5, 10, 15, 20	10		SCC #9
DCC #5	CA_2A-17A	5, 10	5, 10		No
DCC #6	CA_2A-30A	5, 10, 15, 20	5, 10		SCC #14
DCC #8	CA_2A-66A (2)	5, 10, 15, 20	5, 10, 15, 20		SCC #1
DCC #9	CA_2A-71A	5, 10, 15, 20	5, 10, 15, 20		SCC #10
DCC #10	CA_4A-4A	5, 10, 15, 20	5, 10, 15, 20		SCC #0
DCC #11	CA_4A-5A (1)	5, 10, 15, 20	5, 10		SCC #3
DCC #12	CA_4A-12A (4)	5, 10, 15, 20	5, 10		SCC #8
DCC #13	CA_4A-13A	5, 10, 15, 20	10		SCC #9
DCC #14	CA_4A-17A	5, 10	5, 10	B17 SCC Only	No
DCC #15	CA_5B	5, 10	5, 10		SCC #1
DCC #16	CA_5A-20A	5, 10	5, 10, 15, 20		No
DCC #17	CA_7C	15, 20	15, 20		No
DCC #18	CA_7A-7A (1)	5, 10, 15, 20	5, 10, 15, 20		No
DCC #19	CA_7A-12A	5, 10, 15, 20	5, 10		SCC #12
DCC #20	CA_12B	5	5, 10		SCC #11
DCC #21	CA_12A-25A	5, 10	5, 10, 15, 20		No
DCC #22	CA_12A-30A	5, 10	5, 10		SCC #14
DCC #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		
DCC #1	CA_2A-2A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		SCC #1
DCC #2	CA_2A-2A-5A	5, 10, 15, 20	5, 10, 15, 20	5, 10		SCC #1
DCC #3	CA_2A-2A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
DCC #4	CA_2C-66A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
DCC #5	CA_2A-2A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
DCC #6	CA_2A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
DCC #7	CA_2A-4A-5A	5, 10, 15, 20	5, 10, 15, 20	5, 10		SCC #1
DCC #8	CA_2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
DCC #9	CA_2A-4A-13A	5, 10, 15, 20	5, 10, 15, 20	10		No
DCC #10	CA_2A-4A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
DCC #11	CA_2A-5B	5, 10, 15, 20	5, 10	5, 10		SCC #1
DCC #12	CA_2A-7A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
DCC #13	CA_2A-12B	5, 10, 15, 20	5	5, 10		No
DCC #14	CA_2A-12A-30A	5, 10, 15, 20	5, 10	5, 10		No
DCC #15	CA_4A-4A-5A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
DCC #16	CA_5B-30A	5, 10	5, 10	5, 10		SCC #1
DCC #17	CA_5B-66A	5, 10	5, 10	5, 10, 15, 20		SCC #1
DCC #18	CA_5A-30A-66A	5, 10	5, 10	5, 10, 15, 20		SCC #9
DCC #19	CA_12A-66C	5, 10	5, 10, 15, 20	5, 10, 15, 20		No
DCC #20	CA_30A-66A-66A	5, 10	5, 10, 15, 20	5, 10, 15, 20		SCC #9
DCC #21	CA_41D	10, 15, 20	10, 15, 20	10, 15, 20		No
DCC #22	CA_41A-41C	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
DCC #23	CA_66D	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
DCC #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		
FCC #1	CA_2A-2A-4A-5A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
FCC #2	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10	B12 SCC Only	No
FCC #3	CA_2A-2A-5A-30A	5, 10, 15, 20	5, 10, 15, 20	5, 10	5, 10		No
FCC #4	CA_2A-2A-5A-66A	5, 10, 15, 20	5, 10, 15, 20	5, 10	5, 10, 15, 20		No
FCC #5	CA_2A-5B-30A	5, 10, 15, 20	5, 10	5, 10	5, 10		SCC #1
FCC #6	CA_2A-5B-66A	5, 10, 15, 20	5, 10	5, 10	5, 10, 15, 20		SCC #1
FCC #7	CA_5B-30A-66A	5, 10	5, 10	5, 10	5, 10		SCC #1
FCC #8	CA_5B-66A-66A	5, 10	5, 10	5, 10, 15, 20	5, 10, 15, 20		SCC #2
FCC #9	CA_5A-30A-66A-66A	5, 10	5, 10	5, 10, 15, 20	5, 10, 15, 20		No
FCC #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	CC5		
SCC #1	CA_2A-5B-30A-66A	5, 10, 15, 20	5, 10	5, 10	5, 10	5, 10, 15, 20		No
SCC #2	CA_2A-5B-66A-66A	5, 10, 15, 20	5, 10	5, 10	5, 10, 15, 20	5, 10, 15, 20		No

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 April 2018 TCBC Workshop Notes, 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 maximum 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. All bands required for SAR testing per FCC KDB procedures were considered. Based on the measured maximum powers below, no additional SAR tests were required for DLCA SAR configurations.

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 KDB 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.

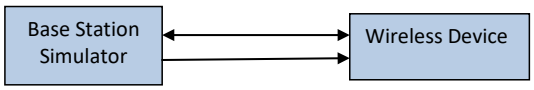


Figure 1
DL CA Power Measurement Setup

1.3 Downlink Carrier Aggregation RF Conducted Powers

1.3.1 LTE Band 71 as PCC

Table 1
Maximum Output Powers

	PCC									SCC				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-71A	LTE B71	5	133297	680.5	QPSK	1	0	68761	634.5	LTE B2	20	900	1960	25.50	25.44
CA_4A-71A	LTE B71	5	133297	680.5	QPSK	1	0	68761	634.5	LTE B4	20	2175	2132.5	25.46	25.44
CA_66A-71A	LTE B71	5	133297	680.5	QPSK	1	0	68761	634.5	LTE B66	20	66786	2145	25.45	25.44

1.3.2 LTE Band 12 as PCC

Table 2
Maximum Output Powers

	PCC									SCC				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_12A-66A (1)	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B66	20	66786	2145	25.47	25.50
CA_12A-66A (2)	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B66	20	66786	2145	25.47	25.50
CA_2A-12A (1)	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B2	20	900	1960	25.48	25.50
CA_4A-12A (1)	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B4	20	2175	2132.5	25.50	25.50
CA_4A-12A (2)	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B4	20	2175	2132.5	25.50	25.50

1.3.3 LTE Band 13 as PCC

Table 3
Maximum Output Powers

	PCC									SCC				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_13A-66A	LTE B13	5	23230	782	QPSK	1	24	5230	751	LTE B66	20	66786	2145	24.89	24.99
CA_2A-13A	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	24.95	24.97
CA_4A-13A	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B4	20	2175	2132.5	24.99	24.97

1.3.4 LTE Band 26 as PCC

Table 4
Maximum Output Powers

	PCC									SCC				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_25A-26A	LTE B26	15	26865	831.5	QPSK	1	0	8865	876.5	LTE B25	20	8365	1962.5	25.44	25.50

1.3.5 LTE Band 66 as PCC

Table 5
Maximum Output Powers

	PCC									SCC				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_12A-66A (1)	LTE B66	20	132572	1770	QPSK	1	99	67036	2170	LTE B12	10	5095	737.5	23.95	23.98
CA_12A-66A (2)	LTE B66	20	132572	1770	QPSK	1	99	67036	2170	LTE B12	10	5095	737.5	23.95	23.98
CA_13A-66A	LTE B66	20	132572	1770	QPSK	1	99	67036	2170	LTE B13	10	5230	751	24.00	23.98
CA_2A-66A	LTE B66	20	132572	1770	QPSK	1	99	67036	2170	LTE B2	20	900	1960	23.93	23.98
CA_5A-66A	LTE B66	20	132572	1770	QPSK	1	99	67036	2170	LTE B5	10	2525	881.5	23.97	23.98
CA_66A-66A	LTE B66	20	132572	1770	QPSK	1	99	67036	2170	LTE B66	20	66536	2120	23.99	23.98
CA_66B	LTE B66	15	132597	1772.5	QPSK	1	0	67061	2172.5	LTE B66	5	66968	2163.2	23.98	23.86
CA_66C	LTE B66	20	132572	1770	QPSK	1	99	67036	2170	LTE B66	20	66838	2150.2	24.00	23.98
CA_66A-71A	LTE B66	20	132572	1770	QPSK	1	99	67036	2170	LTE B71	20	68761	634.5	23.95	23.98

1.3.6 LTE Band 25 as PCC

Table 6
Maximum Output Powers

	PCC									SCC				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_25A-25A (1)	LTE B25	5	26365	1882.5	QPSK	1	0	8365	1962.5	LTE B25	20	8140	1940	23.97	23.99
CA_25A-26A	LTE B25	5	26365	1882.5	QPSK	1	0	8365	1962.5	LTE B26	15	8865	876.5	24.00	23.99

1.3.7 LTE Band 41 as PCC

Table 7
Maximum Output Powers

	PCC									SCC				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_41A-41A (1)	LTE B41	10	41490	2680	QPSK	1	49	41490	2680	LTE B41	20	39750	2506	24.97	25.00
CA_41C (1)	LTE B41	10	41490	2680	QPSK	1	49	41490	2680	LTE B41	20	41346	2665.6	24.95	25.00