

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.

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s p e a g

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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/cm ³
TSL Heat-capacity	3.765 kJ/(kg·K)

f [MHz]	Measured			Target			Diff.to Target [%]	
	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	16.62	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	1.8	
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	

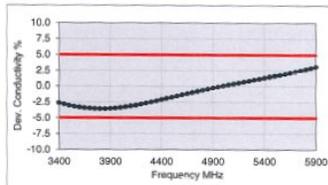
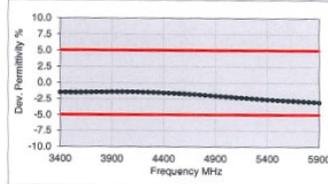


Figure D-9
5 GHz Body Tissue Equivalent Matter

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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.		CW VALIDATION			MOD. VALIDATION		
							(σ)	(εr)	SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
AM7	750	4/8/2019	3837	EX3DV4	750	Head	0.881	42.402	PASS	PASS	PASS	N/A	N/A	N/A
AM6	750	3/14/2019	7427	EX3DV4	750	Head	0.861	42.073	PASS	PASS	PASS	N/A	N/A	N/A
AM8	835	3/14/2019	7427	EX3DV4	835	Head	0.894	41.807	PASS	PASS	PASS	GMSK	PASS	N/A
AM7	835	4/10/2019	3837	EX3DV4	835	Head	0.914	41.210	PASS	PASS	PASS	GMSK	PASS	N/A
AM2	1750	11/14/2018	7416	EX3DV4	1750	Head	1.348	39.703	PASS	PASS	PASS	N/A	N/A	N/A
AM6	1750	3/14/2019	7427	EX3DV4	1750	Head	1.349	39.903	PASS	PASS	PASS	N/A	N/A	N/A
AM7	1900	4/10/2019	3837	EX3DV4	1900	Head	1.456	38.971	PASS	PASS	PASS	GMSK	PASS	N/A
AM6	1900	3/14/2019	7427	EX3DV4	1900	Head	1.444	39.663	PASS	PASS	PASS	GMSK	PASS	N/A
AM3	2450	3/6/2019	7420	EX3DV4	2450	Head	1.824	38.536	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
AM2	2450	11/12/2018	7416	EX3DV4	2450	Head	1.845	39.366	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
AM6	2450	3/14/2019	7427	EX3DV4	2450	Head	1.840	38.779	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
E	2450	2/5/2019	3589	EX3DV4	2450	Head	1.825	39.836	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
AM6	2600	3/19/2019	7427	EX3DV4	2600	Head	1.921	38.175	PASS	PASS	PASS	TDD	PASS	N/A
E	2600	2/7/2019	3589	EX3DV4	2600	Head	1.964	40.460	PASS	PASS	PASS	TDD	PASS	N/A
AM8	5250	11/6/2018	7491	EX3DV4	5250	Head	4.572	35.010	PASS	PASS	PASS	OFDM	N/A	PASS
AM8	5600	11/6/2018	7491	EX3DV4	5600	Head	4.958	34.387	PASS	PASS	PASS	OFDM	N/A	PASS
AM8	5750	11/6/2018	7491	EX3DV4	5750	Head	5.125	34.098	PASS	PASS	PASS	OFDM	N/A	PASS
AM6	750	3/12/2019	7427	EX3DV4	750	Body	0.937	53.296	PASS	PASS	PASS	N/A	N/A	N/A
AM4	835	4/23/2019	7532	EX3DV4	835	Body	1.005	53.199	PASS	PASS	PASS	GMSK	PASS	N/A
AM2	835	11/8/2018	7416	EX3DV4	835	Body	0.986	54.641	PASS	PASS	PASS	GMSK	PASS	N/A
AM7	835	2/21/2019	3837	EX3DV4	835	Body	1.013	53.782	PASS	PASS	PASS	GMSK	PASS	N/A
AM6	1750	3/12/2019	7427	EX3DV4	1750	Body	1.528	51.589	PASS	PASS	PASS	N/A	N/A	N/A
AM5	1900	12/7/2018	3318	ES3DV3	1900	Body	1.584	51.208	PASS	PASS	PASS	GMSK	PASS	N/A
AM7	1900	2/22/2019	3837	EX3DV4	1900	Body	1.575	51.902	PASS	PASS	PASS	GMSK	PASS	N/A
AM8	1900	10/31/2018	7491	EX3DV4	1900	Body	1.568	52.993	PASS	PASS	PASS	GMSK	PASS	N/A
AM1	2450	4/22/2019	7421	EX3DV4	2450	Body	2.026	50.280	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
AM6	2450	3/12/2019	7427	EX3DV4	2450	Body	2.007	50.511	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
K	2450	3/6/2019	7417	EX3DV4	2450	Body	2.039	50.670	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
AM1	2600	4/2/2019	7421	EX3DV4	2600	Body	2.161	50.025	PASS	PASS	PASS	TDD	PASS	N/A
K	2600	3/12/2019	7427	EX3DV4	2600	Body	2.148	50.284	PASS	PASS	PASS	TDD	PASS	N/A
A	2600	3/6/2019	7417	EX3DV4	2600	Body	2.224	50.170	PASS	PASS	PASS	TDD	PASS	N/A
AM8	5250	11/2/2018	7491	EX3DV4	5250	Body	5.412	48.292	PASS	PASS	PASS	OFDM	N/A	PASS
AM8	5600	11/2/2018	7491	EX3DV4	5600	Body	5.872	47.700	PASS	PASS	PASS	OFDM	N/A	PASS
AM8	5750	11/2/2018	7491	EX3DV4	5750	Body	6.115	47.406	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.		CW VALIDATION			MOD. VALIDATION		
							(σ)	(εr)	SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
AM6	1750	3/12/2019	7427	EX3DV4	1750	Body	1.528	51.589	PASS	PASS	PASS	N/A	N/A	N/A
AM5	1900	12/7/2018	3318	ES3DV3	1900	Body	1.584	51.208	PASS	PASS	PASS	GMSK	PASS	N/A
AM7	1900	2/22/2019	3837	EX3DV4	1900	Body	1.575	51.902	PASS	PASS	PASS	GMSK	PASS	N/A
AM8	1900	10/31/2018	7491	EX3DV4	1900	Body	1.568	52.993	PASS	PASS	PASS	GMSK	PASS	N/A
AM6	2450	3/12/2019	7427	EX3DV4	2450	Body	2.007	50.511	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
AM6	2600	3/12/2019	7427	EX3DV4	2600	Body	2.148	50.284	PASS	PASS	PASS	TDD	PASS	N/A
AM8	5250	11/2/2018	7491	EX3DV4	5250	Body	5.412	48.292	PASS	PASS	PASS	OFDM	N/A	PASS
AM8	5600	11/2/2018	7491	EX3DV4	5600	Body	5.872	47.700	PASS	PASS	PASS	OFDM	N/A	PASS
AM8	5750	11/2/2018	7491	EX3DV4	5750	Body	6.115	47.406	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.

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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.

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G.3 Main Antenna Verification Summary

Table G-1
Power Measurement Verification for Main Antenna

Mechanism(s)		Mode/Band	Conducted Power (dBm)		
1st	2nd		Un-triggered (Max)	Mechanism #1 (Reduced)	Mechanism #2 (Reduced)
Hotspot On		GPRS 1900	25.6	22.59	
Grip		GPRS 1900	25.59	22.58	
Hotspot On	Grip	GPRS 1900	25.6	22.6	22.61
Grip	Hotspot On	GPRS 1900	25.61	22.6	22.59
Hotspot On		UMTS 1750	24.35	21.37	
Grip		UMTS 1750	24.32	21.31	
Hotspot On	Grip	UMTS 1750	24.3	21.38	21.4
Grip	Hotspot On	UMTS 1750	24.28	21.32	21.33
Hotspot On		UMTS 1900	24.62	21.66	
Grip		UMTS 1900	24.6	21.64	
Hotspot On	Grip	UMTS 1900	24.62	21.65	21.66
Grip	Hotspot On	UMTS 1900	24.6	21.65	21.67
Hotspot On		PCS EVDO	24.13	21.02	
Grip		PCS EVDO	24.1	21	
Hotspot On	Grip	PCS EVDO	24.09	21.03	20.96
Grip	Hotspot On	PCS EVDO	24.07	20.99	21.01
Hotspot On		LTE FDD Band 66	24.45	21.26	
Grip		LTE FDD Band 66	24.48	21.27	
Hotspot On	Grip	LTE FDD Band 66	24.43	21.23	21.3
Grip	Hotspot On	LTE FDD Band 66	24.42	21.22	21.2
Hotspot On		LTE FDD Band 4	24.69	21.48	
Grip		LTE FDD Band 4	24.66	21.45	
Hotspot On	Grip	LTE FDD Band 4	24.62	21.49	21.5
Grip	Hotspot On	LTE FDD Band 4	24.63	21.55	21.47
Hotspot On		LTE FDD Band 25	24.59	21.52	
Grip		LTE FDD Band 25	24.6	21.53	
Hotspot On	Grip	LTE FDD Band 25	24.56	21.54	21.56
Grip	Hotspot On	LTE FDD Band 25	24.59	21.53	21.52
Hotspot On		LTE FDD Band 2	24.53	21.5	
Grip		LTE FDD Band 2	24.54	21.51	
Hotspot On	Grip	LTE FDD Band 2	24.57	21.5	21.52
Grip	Hotspot On	LTE FDD Band 2	24.55	21.52	21.44
Hotspot On		LTE FDD Band 7	22.32	20.1	
Held-to-Ear		LTE TDD Band 41 (PC2)	27.31	23.14	
Hotspot On		LTE TDD Band 41 (PC2)	27.31	23.66	
Held-to-Ear	Hotspot On	LTE TDD Band 41 (PC2)	27.31	23.14	23.13
Hotspot On	Held-to-Ear	LTE TDD Band 41 (PC2)	27.31	23.66	23.14

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	Mid	16	18	10
Grip	Phablet - Bottom Edge	Mid	7	9	3

*Note: Mid band refers to: CDMA BC1, GSM1900, UMTS B2/4, LTE B2/4/25/66

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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	20.99	11.92
Held-to-Ear	802.11g	18.98	11.93
Held-to-Ear	802.11n (2.4GHz)	18.85	11.77
Held-to-Ear	802.11a	17.76	10.97
Held-to-Ear	802.11n (5GHz, 20MHz BW)	17.00	11.15
Held-to-Ear	802.11ac (20MHz BW)	17.06	11.15
Held-to-Ear	802.11n (5GHz, 40MHz BW)	15.05	11.03
Held-to-Ear	802.11ac (40MHz BW)	15.13	11.15
Held-to-Ear	802.11ac (80MHz BW)	13.70	10.29

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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.

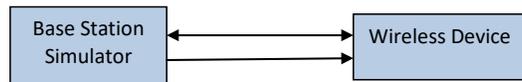


Figure 1
DL CA Power Measurement Setup

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1.3 Downlink Carrier Aggregation RF Conducted Powers

1.3.1 LTE Band 71 as PCC

Table 1
Maximum Output Powers

Combination	PCC									SCC 1				Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	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-71A	LTE B71	15	133297	680.5	QPSK	1	0	68761	634.5	LTE B2	20	900	1960	25.12	25.14
CA_4A-71A	LTE B71	15	133297	680.5	QPSK	1	0	68761	634.5	LTE B4	20	2175	2132.5	25.12	25.14
CA_66A-71A	LTE B71	15	133297	680.5	QPSK	1	0	68761	634.5	LTE B66	20	66786	2145	25.15	25.14

1.3.2 LTE Band 12 as PCC

Table 2
Maximum Output Powers

Combination	PCC									SCC 1				Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	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-12A (1)	LTE B12	5	23095	707.5	QPSK	1	12	5095	737.5	LTE B2	20	900	1960	24.78	24.84
CA_4A-12A (1)	LTE B12	5	23095	707.5	QPSK	1	12	5095	737.5	LTE B4	20	2175	2132.5	24.67	24.84
CA_4A-12A (2)	LTE B12	5	23095	707.5	QPSK	1	12	5095	737.5	LTE B4	20	2175	2132.5	24.67	24.84
CA_12A-66A (1)	LTE B12	5	23095	707.5	QPSK	1	12	5095	737.5	LTE B66	20	66786	2145	24.68	24.84
CA_12A-66A (2)	LTE B12	5	23095	707.5	QPSK	1	12	5095	737.5	LTE B66	20	66786	2145	24.68	24.84
CA_7A-12A	LTE B12	5	23095	707.5	QPSK	1	12	5095	737.5	LTE B7	20	3100	2655	24.67	24.84

1.3.3 LTE Band 13 as PCC

Table 3
Maximum Output Powers

Combination	PCC									SCC 1				Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	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-13A	LTE B13	10	23230	782	QPSK	1	25	5230	751	LTE B2	20	900	1960	24.51	24.57
CA_4A-13A	LTE B13	10	23230	782	QPSK	1	25	5230	751	LTE B4	20	2175	2132.5	24.53	24.57
CA_13A-66A	LTE B13	5	23230	782	QPSK	1	24	5230	751	LTE B66	20	66786	2145	24.61	24.71

1.3.4 LTE Band 26 as PCC

Table 4
Maximum Output Powers

Combination	PCC									SCC 1				Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	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	10	26740	819	QPSK	1	25	8740	864	LTE B25	20	8365	1962.5	24.82	24.99
CA_26A-41A	LTE B26	10	26740	819	QPSK	1	25	8740	864	LTE B41	20	40620	2593	24.93	24.99

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1.3.5 LTE Band 66 as PCC

Table 5
Maximum Output Powers

Combination	PCC									SCC 1				Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	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_66A-66A	LTE B66	10	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	67236	2190	24.57	24.74
CA_66B	LTE B66	10	132322	1745	QPSK	1	0	66786	2145	LTE B66	10	66687	2135.1	24.62	24.74
CA_66C	LTE B66	10	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	66642	2130.6	24.64	24.74
CA_2A-66A	LTE B66	10	132322	1745	QPSK	1	0	66786	2145	LTE B2	20	900	1960	24.65	24.74
CA_5A-66A	LTE B66	10	132322	1745	QPSK	1	0	66786	2145	LTE B5	10	2525	881.5	24.63	24.74
CA_12A-66A (1)	LTE B66	10	132322	1745	QPSK	1	0	66786	2145	LTE B12	10	5095	737.5	24.69	24.74
CA_12A-66A (2)	LTE B66	10	132322	1745	QPSK	1	0	66786	2145	LTE B12	10	5095	737.5	24.64	24.74
CA_13A-66A	LTE B66	10	132322	1745	QPSK	1	0	66786	2145	LTE B13	10	5230	751	24.62	24.74
CA_66A-71A	LTE B66	10	132322	1745	QPSK	1	0	66786	2145	LTE B71	20	68761	634.5	24.65	24.74
CA_7A-66A	LTE B66	10	132322	1745	QPSK	1	0	66786	2145	LTE B7	20	3100	2655	24.76	24.74

1.3.6 LTE Band 25 as PCC

Table 6
Maximum Output Powers

Combination	PCC									SCC 1				Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	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-25A (1)	LTE B25	15	26115	1857.5	QPSK	1	36	8115	1937.5	LTE B25	20	8590	1985	24.64	24.65
CA_25A-26A	LTE B25	15	26115	1857.5	QPSK	1	36	8115	1937.5	LTE B26	15	8865	876.5	24.64	24.65
CA_25A-41A	LTE B25	15	26115	1857.5	QPSK	1	36	8115	1937.5	LTE B41	20	40620	2593	24.69	24.65

1.3.7 LTE Band 7 as PCC

Table 7
Maximum Output Powers

Combination	PCC									SCC 1				Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	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-7A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B2	20	900	1960	22.36	22.43
CA_4A-7A (1)	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B4	20	2175	2132.5	22.39	22.43
CA_5A-7A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B5	10	2525	881.5	22.37	22.43
CA_7A-7A (1)	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B7	20	2850	2630	22.51	22.43
CA_7A-12A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B12	10	5095	737.5	22.48	22.43
CA_7A-66A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B66	20	66786	2145	22.51	22.43

1.3.8 LTE Band 41 as PCC

Table 8
Maximum Output Powers

Combination	PCC									SCC 1				Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	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_41C (1)	LTE B41	20	40185	2549.5	QPSK	1	0	40185	2549.5	LTE B41	20	40383	2569.3	24.53	24.50
CA_41A-41A	LTE B41	20	40185	2549.5	QPSK	1	0	40185	2549.5	LTE B41	20	41490	2680	24.49	24.50

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1.3.9 LTE Band 41 PC2 as PCC

Table 9
Maximum Output Powers

Combination	PCC									SCC 1			Power		
	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	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_41C (1)	LTE B41 PC2	20	40185	2549.5	QPSK	1	0	40185	2549.5	LTE B41 PC2	20	40383	2569.3	27.73	27.66
CA_41A-41A	LTE B41 PC2	20	40185	2549.5	QPSK	1	0	40185	2549.5	LTE B41 PC2	20	41540	2680	27.61	27.66

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