

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3837

Sensor Model Parameters

	C1 fF	C2 fF	α V^{-1}	T1 $ms.V^{-2}$	T2 $ms.V^{-1}$	T3 ms	T4 V^{-2}	T5 V^{-1}	T6
X	43.0	318.33	35.21	9.84	0.30	5.04	1.44	0.26	1.01
Y	49.1	384.74	38.65	8.82	0.54	5.08	0.00	0.61	1.01
Z	53.7	413.46	37.69	6.35	0.68	5.02	0.00	0.54	1.01

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	75.1
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

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Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unc (k=2)
30	55.0	0.75	14.07	14.07	14.07	0.00	1.00	± 13.3 %
64	54.2	0.75	12.22	12.22	12.22	0.00	1.00	± 13.3 %
750	41.9	0.89	9.71	9.71	9.71	0.51	0.83	± 12.0 %
835	41.5	0.90	9.37	9.37	9.37	0.52	0.80	± 12.0 %
1750	40.1	1.37	8.03	8.03	8.03	0.38	0.80	± 12.0 %
1900	40.0	1.40	7.85	7.85	7.85	0.35	0.80	± 12.0 %
2300	39.5	1.67	7.47	7.47	7.47	0.28	0.85	± 12.0 %
2450	39.2	1.80	7.15	7.15	7.15	0.38	0.85	± 12.0 %
2600	39.0	1.96	6.93	6.93	6.93	0.44	0.84	± 12.0 %
5250	35.9	4.71	5.36	5.36	5.36	0.40	1.80	± 13.1 %
5600	35.5	5.07	4.79	4.79	4.79	0.40	1.80	± 13.1 %
5750	35.4	5.22	5.05	5.05	5.05	0.40	1.80	± 13.1 %

^C Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

^F At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

^G Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3837

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unc (k=2)
750	55.5	0.96	9.20	9.20	9.20	0.36	0.92	± 12.0 %
835	55.2	0.97	9.08	9.08	9.08	0.51	0.80	± 12.0 %
1750	53.4	1.49	7.72	7.72	7.72	0.47	0.80	± 12.0 %
1900	53.3	1.52	7.54	7.54	7.54	0.35	0.84	± 12.0 %
2300	52.9	1.81	7.44	7.44	7.44	0.36	0.88	± 12.0 %
2450	52.7	1.95	7.35	7.35	7.35	0.32	0.90	± 12.0 %
2600	52.5	2.16	7.17	7.17	7.17	0.29	0.92	± 12.0 %
5250	48.9	5.36	4.77	4.77	4.77	0.50	1.90	± 13.1 %
5600	48.5	5.77	4.08	4.08	4.08	0.50	1.90	± 13.1 %
5750	48.3	5.94	4.34	4.34	4.34	0.50	1.90	± 13.1 %

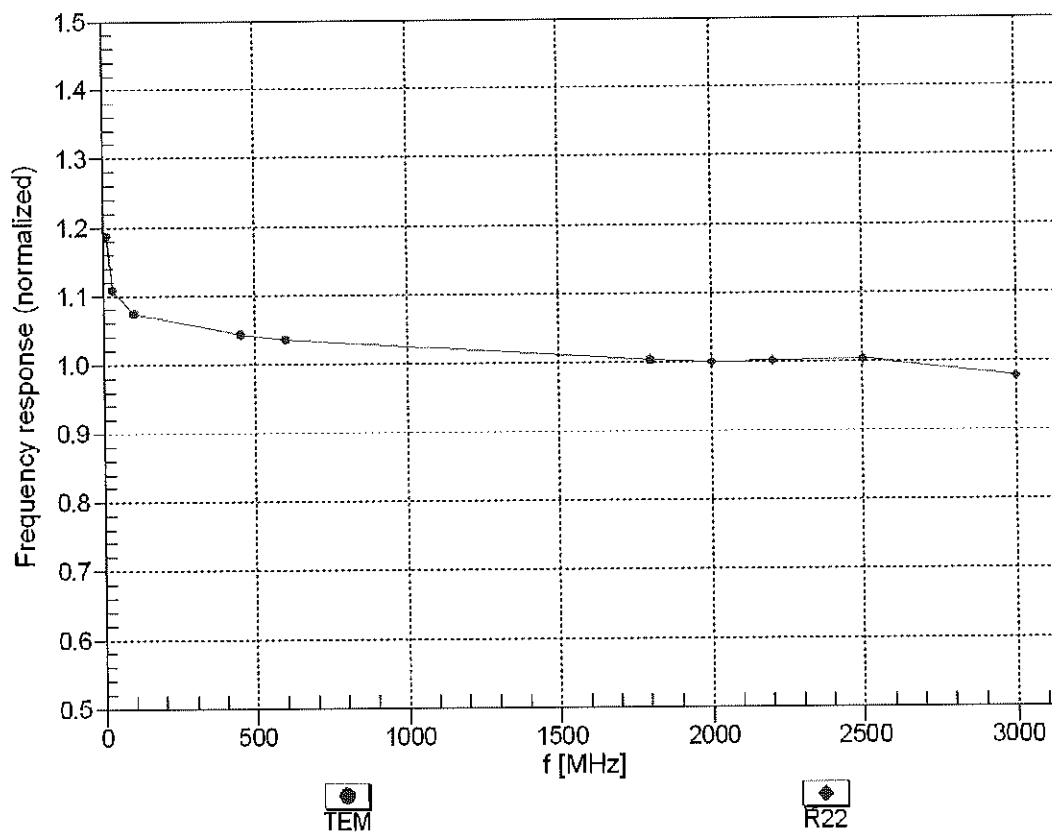
^C Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

^F At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

^G Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

Frequency Response of E-Field

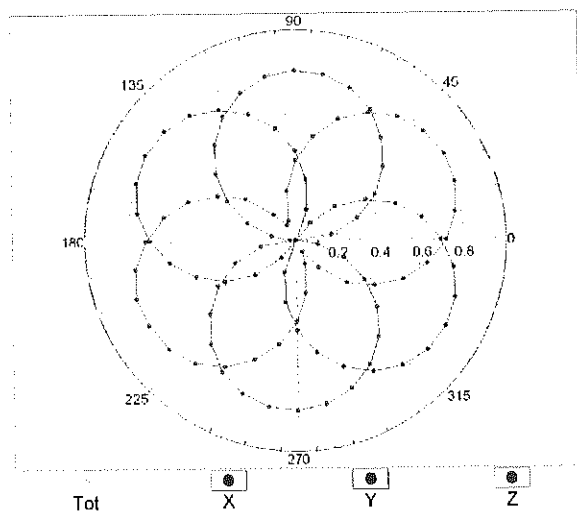
(TEM-Cell:ifi110 EXX, Waveguide: R22)



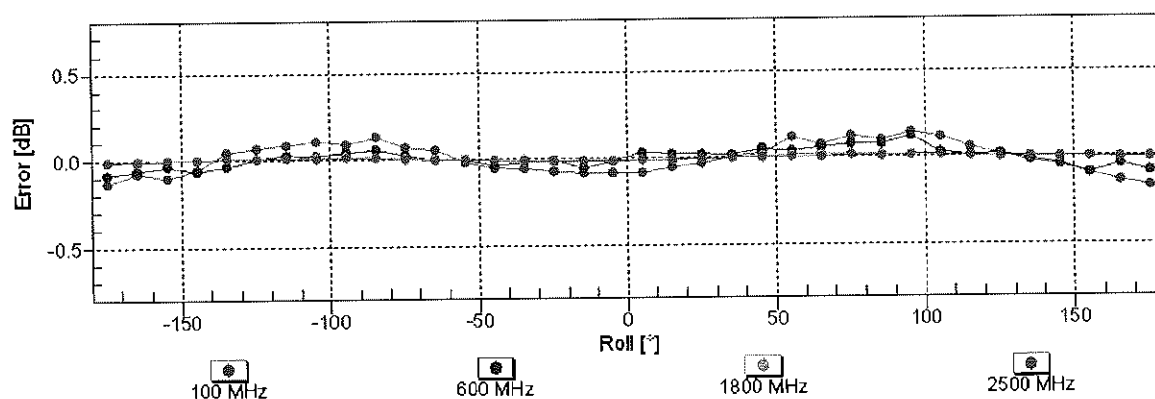
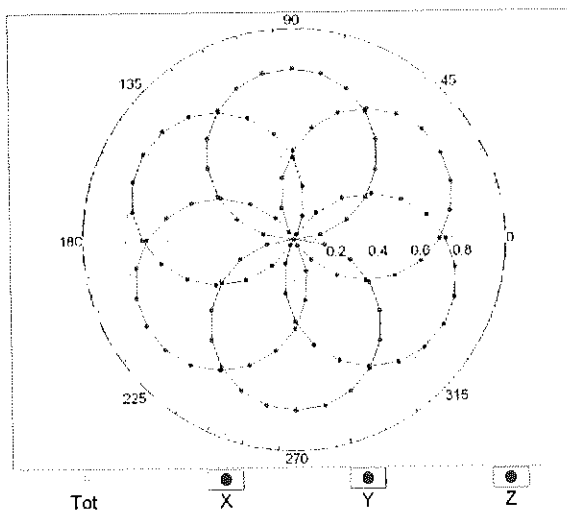
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ ($k=2$)

Receiving Pattern (ϕ), $\theta = 0^\circ$

f=600 MHz, TEM

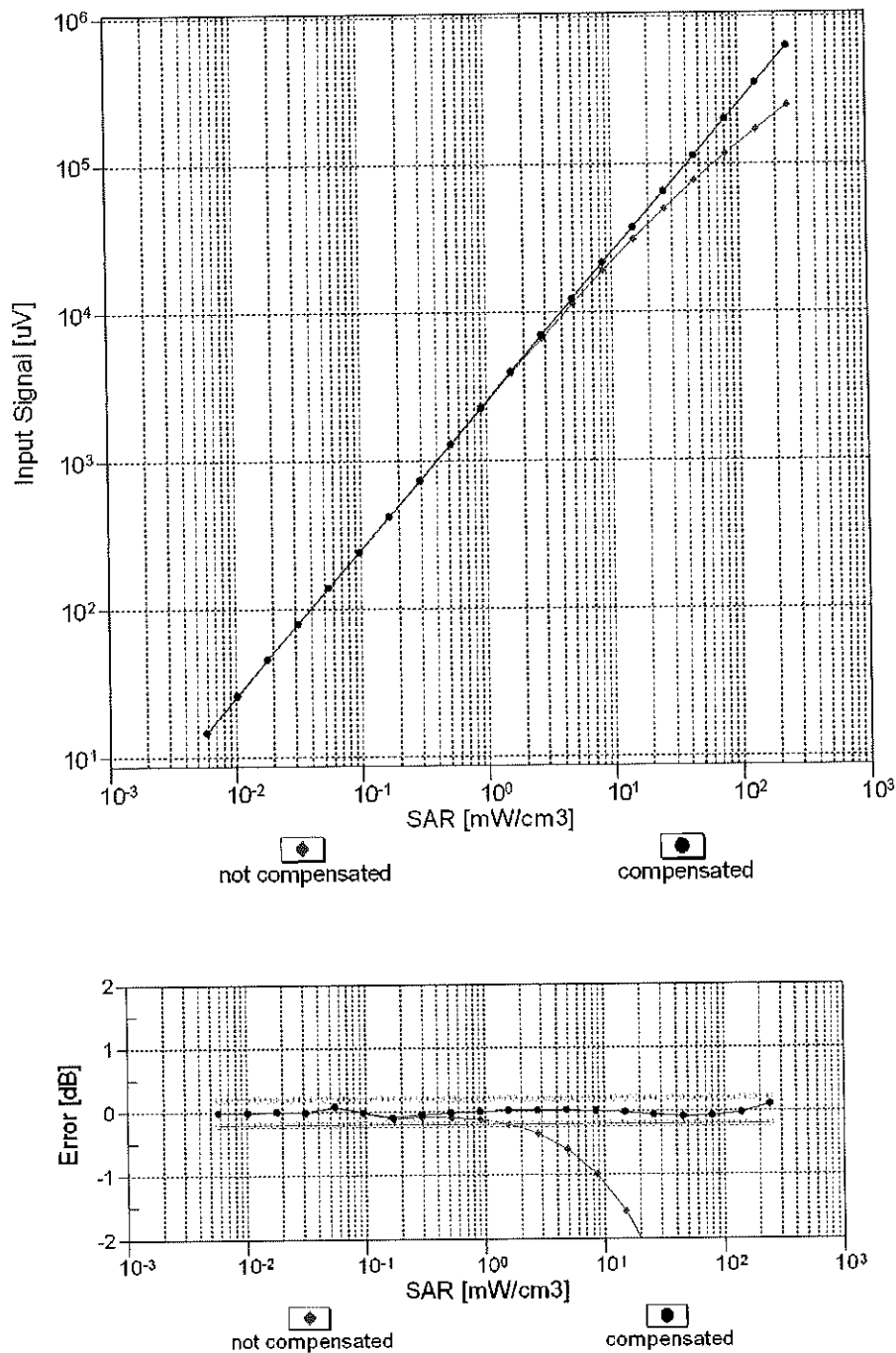


f=1800 MHz, R22



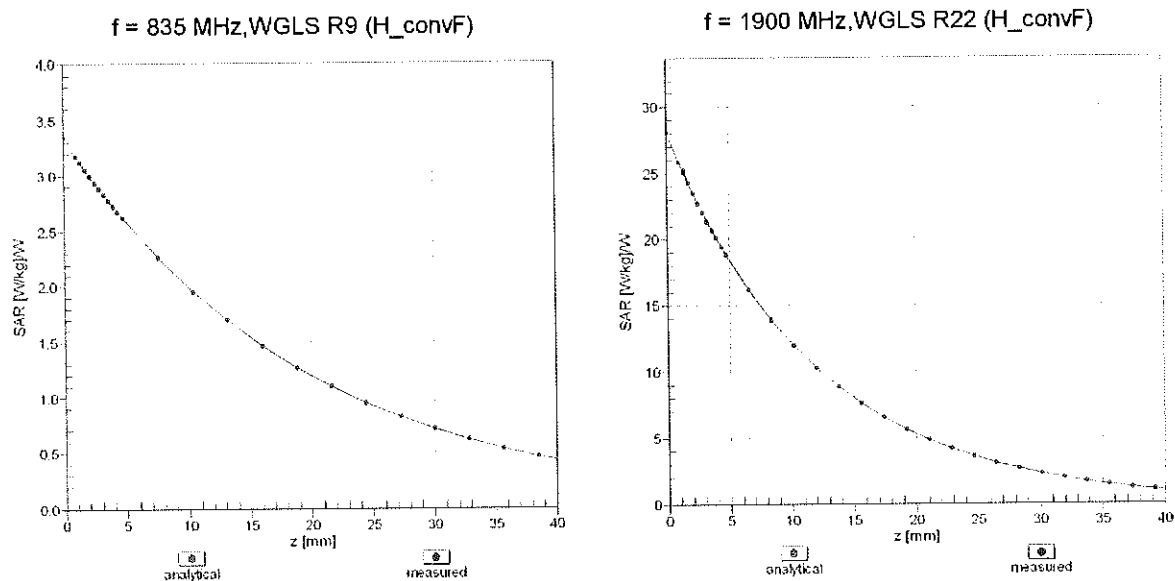
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ (k=2)

Dynamic Range f(SAR_{head})
(TEM cell , f_{eval}= 1900 MHz)



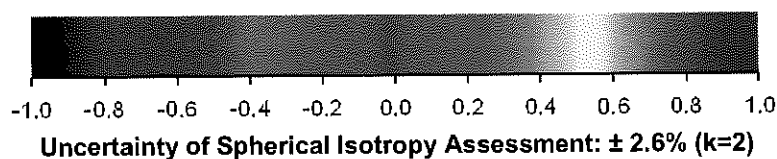
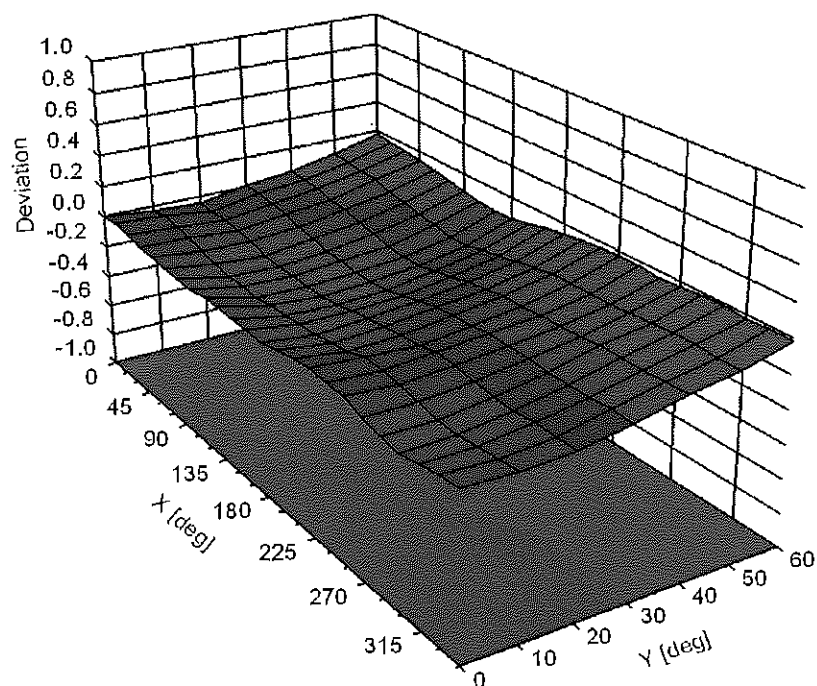
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment



Deviation from Isotropy in Liquid

Error (ϕ, θ), $f = 900 \text{ MHz}$



Appendix: Modulation Calibration Parameters

UID	Rev	Communication System Name	Group	PAR (dB)	Unc ^E (k=2)
0		CW	CW	0.00	± 4.7 %
10010	CAA	SAR Validation (Square, 100ms, 10ms)	Test	10.00	± 9.6 %
10011	CAB	UMTS-FDD (WCDMA)	WCDMA	2.91	± 9.6 %
10012	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	WLAN	1.87	± 9.6 %
10013	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	WLAN	9.46	± 9.6 %
10021	DAC	GSM-FDD (TDMA, GMSK)	GSM	9.39	± 9.6 %
10023	DAC	GPRS-FDD (TDMA, GMSK, TN 0)	GSM	9.57	± 9.6 %
10024	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	GSM	6.56	± 9.6 %
10025	DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	GSM	12.62	± 9.6 %
10026	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	GSM	9.55	± 9.6 %
10027	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	GSM	4.80	± 9.6 %
10028	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	GSM	3.55	± 9.6 %
10029	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	GSM	7.78	± 9.6 %
10030	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	Bluetooth	5.30	± 9.6 %
10031	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	Bluetooth	1.87	± 9.6 %
10032	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	Bluetooth	1.16	± 9.6 %
10033	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	Bluetooth	7.74	± 9.6 %
10034	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	Bluetooth	4.53	± 9.6 %
10035	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	Bluetooth	3.83	± 9.6 %
10036	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	Bluetooth	8.01	± 9.6 %
10037	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	Bluetooth	4.77	± 9.6 %
10038	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	Bluetooth	4.10	± 9.6 %
10039	CAB	CDMA2000 (1xRTT, RC1)	CDMA2000	4.57	± 9.6 %
10042	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	AMPS	7.78	± 9.6 %
10044	CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	AMPS	0.00	± 9.6 %
10048	CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	DECT	13.80	± 9.6 %
10049	CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	DECT	10.79	± 9.6 %
10056	CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	TD-SCDMA	11.01	± 9.6 %
10058	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	GSM	6.52	± 9.6 %
10059	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	WLAN	2.12	± 9.6 %
10060	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	WLAN	2.83	± 9.6 %
10061	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	WLAN	3.60	± 9.6 %
10062	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	WLAN	8.68	± 9.6 %
10063	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	WLAN	8.63	± 9.6 %
10064	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	WLAN	9.09	± 9.6 %
10065	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	WLAN	9.00	± 9.6 %
10066	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	WLAN	9.38	± 9.6 %
10067	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	WLAN	10.12	± 9.6 %
10068	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	WLAN	10.24	± 9.6 %
10069	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	WLAN	10.56	± 9.6 %
10071	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	WLAN	9.83	± 9.6 %
10072	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	WLAN	9.62	± 9.6 %
10073	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	WLAN	9.94	± 9.6 %
10074	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	WLAN	10.30	± 9.6 %
10075	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	WLAN	10.77	± 9.6 %
10076	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	WLAN	10.94	± 9.6 %
10077	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	WLAN	11.00	± 9.6 %
10081	CAB	CDMA2000 (1xRTT, RC3)	CDMA2000	3.97	± 9.6 %
10082	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	AMPS	4.77	± 9.6 %
10090	DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	GSM	6.56	± 9.6 %
10097	CAB	UMTS-FDD (HSDPA)	WCDMA	3.98	± 9.6 %
10098	CAB	UMTS-FDD (HSUPA, Subtest 2)	WCDMA	3.98	± 9.6 %
10099	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	GSM	9.55	± 9.6 %
10100	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-FDD	5.67	± 9.6 %
10101	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %
10102	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10103	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-TDD	9.29	± 9.6 %
10104	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-TDD	9.97	± 9.6 %
10105	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-TDD	10.01	± 9.6 %
10108	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-FDD	5.80	± 9.6 %

10109	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10110	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10111	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-FDD	6.44	± 9.6 %
10112	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-FDD	6.59	± 9.6 %
10113	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-FDD	6.62	± 9.6 %
10114	CAC	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10115	CAC	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	WLAN	8.46	± 9.6 %
10116	CAC	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	WLAN	8.15	± 9.6 %
10117	CAC	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	WLAN	8.07	± 9.6 %
10118	CAC	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	WLAN	8.59	± 9.6 %
10119	CAC	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	WLAN	8.13	± 9.6 %
10140	CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10141	CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-FDD	6.53	± 9.6 %
10142	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10143	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-FDD	6.35	± 9.6 %
10144	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-FDD	6.65	± 9.6 %
10145	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-FDD	5.76	± 9.6 %
10146	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.41	± 9.6 %
10147	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.72	± 9.6 %
10149	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %
10150	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10151	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-TDD	9.28	± 9.6 %
10152	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10153	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-TDD	10.05	± 9.6 %
10154	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10155	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10156	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-FDD	5.79	± 9.6 %
10157	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10158	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-FDD	6.62	± 9.6 %
10159	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-FDD	6.56	± 9.6 %
10160	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-FDD	5.82	± 9.6 %
10161	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10162	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-FDD	6.58	± 9.6 %
10166	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-FDD	5.46	± 9.6 %
10167	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.21	± 9.6 %
10168	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.79	± 9.6 %
10169	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10170	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10171	AAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-FDD	6.49	± 9.6 %
10172	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10173	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10174	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10175	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10176	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10177	CAI	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10178	CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10179	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10180	CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10181	CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10182	CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10183	AAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10184	CAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10185	CAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-FDD	6.51	± 9.6 %
10186	AAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10187	CAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10188	CAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10189	AAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10193	CAC	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	WLAN	8.09	± 9.6 %
10194	CAC	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	WLAN	8.12	± 9.6 %
10195	CAC	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	WLAN	8.21	± 9.6 %
10196	CAC	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10197	CAC	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	WLAN	8.13	± 9.6 %
10198	CAC	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10219	CAC	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	WLAN	8.03	± 9.6 %

10220	CAC	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	WLAN	8.13	± 9.6 %
10221	CAC	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10222	CAC	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	WLAN	8.06	± 9.6 %
10223	CAC	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	WLAN	8.48	± 9.6 %
10224	CAC	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	WLAN	8.08	± 9.6 %
10225	CAB	UMTS-FDD (HSPA+)	WCDMA	5.97	± 9.6 %
10226	CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.49	± 9.6 %
10227	CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.26	± 9.6 %
10228	CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-TDD	9.22	± 9.6 %
10229	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10230	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10231	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-TDD	9.19	± 9.6 %
10232	CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10233	CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10234	CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10235	CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10236	CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10237	CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10238	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10239	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10240	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10241	CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.82	± 9.6 %
10242	CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-TDD	9.86	± 9.6 %
10243	CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-TDD	9.46	± 9.6 %
10244	CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-TDD	10.06	± 9.6 %
10245	CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-TDD	10.06	± 9.6 %
10246	CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-TDD	9.30	± 9.6 %
10247	CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-TDD	9.91	± 9.6 %
10248	CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-TDD	10.09	± 9.6 %
10249	CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-TDD	9.29	± 9.6 %
10250	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-TDD	9.81	± 9.6 %
10251	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-TDD	10.17	± 9.6 %
10252	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-TDD	9.24	± 9.6 %
10253	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-TDD	9.90	± 9.6 %
10254	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-TDD	10.14	± 9.6 %
10255	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-TDD	9.20	± 9.6 %
10256	CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.96	± 9.6 %
10257	CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.08	± 9.6 %
10258	CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-TDD	9.34	± 9.6 %
10259	CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-TDD	9.98	± 9.6 %
10260	CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-TDD	9.97	± 9.6 %
10261	CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-TDD	9.24	± 9.6 %
10262	CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-TDD	9.83	± 9.6 %
10263	CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-TDD	10.16	± 9.6 %
10264	CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-TDD	9.23	± 9.6 %
10265	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10266	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-TDD	10.07	± 9.6 %
10267	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-TDD	9.30	± 9.6 %
10268	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-TDD	10.06	± 9.6 %
10269	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-TDD	10.13	± 9.6 %
10270	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-TDD	9.58	± 9.6 %
10274	CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	WCDMA	4.87	± 9.6 %
10275	CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	WCDMA	3.96	± 9.6 %
10277	CAA	PHS (QPSK)	PHS	11.81	± 9.6 %
10278	CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	PHS	11.81	± 9.6 %
10279	CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	PHS	12.18	± 9.6 %
10290	AAB	CDMA2000, RC1, SO55, Full Rate	CDMA2000	3.91	± 9.6 %
10291	AAB	CDMA2000, RC3, SO55, Full Rate	CDMA2000	3.46	± 9.6 %
10292	AAB	CDMA2000, RC3, SO32, Full Rate	CDMA2000	3.39	± 9.6 %
10293	AAB	CDMA2000, RC3, SO3, Full Rate	CDMA2000	3.50	± 9.6 %
10295	AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	CDMA2000	12.49	± 9.6 %
10297	AAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-FDD	5.81	± 9.6 %
10298	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10299	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-FDD	6.39	± 9.6 %

10300	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10301	AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	WiMAX	12.03	± 9.6 %
10302	AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	WiMAX	12.57	± 9.6 %
10303	AAA	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	WiMAX	12.52	± 9.6 %
10304	AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	WiMAX	11.86	± 9.6 %
10305	AAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)	WiMAX	15.24	± 9.6 %
10306	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)	WiMAX	14.67	± 9.6 %
10307	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)	WiMAX	14.49	± 9.6 %
10308	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	WiMAX	14.46	± 9.6 %
10309	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)	WiMAX	14.58	± 9.6 %
10310	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)	WiMAX	14.57	± 9.6 %
10311	AAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-FDD	6.06	± 9.6 %
10313	AAA	IDEN 1:3	IDEN	10.51	± 9.6 %
10314	AAA	IDEN 1:6	IDEN	13.48	± 9.6 %
10315	AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	WLAN	1.71	± 9.6 %
10316	AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	± 9.6 %
10317	AAC	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	± 9.6 %
10352	AAA	Pulse Waveform (200Hz, 10%)	Generic	10.00	± 9.6 %
10353	AAA	Pulse Waveform (200Hz, 20%)	Generic	6.99	± 9.6 %
10354	AAA	Pulse Waveform (200Hz, 40%)	Generic	3.98	± 9.6 %
10355	AAA	Pulse Waveform (200Hz, 60%)	Generic	2.22	± 9.6 %
10356	AAA	Pulse Waveform (200Hz, 80%)	Generic	0.97	± 9.6 %
10387	AAA	QPSK Waveform, 1 MHz	Generic	5.10	± 9.6 %
10388	AAA	QPSK Waveform, 10 MHz	Generic	5.22	± 9.6 %
10396	AAA	64-QAM Waveform, 100 kHz	Generic	6.27	± 9.6 %
10399	AAA	64-QAM Waveform, 40 MHz	Generic	6.27	± 9.6 %
10400	AAD	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	WLAN	8.37	± 9.6 %
10401	AAD	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	WLAN	8.60	± 9.6 %
10402	AAD	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	WLAN	8.53	± 9.6 %
10403	AAB	CDMA2000 (1xEV-DO, Rev. 0)	CDMA2000	3.76	± 9.6 %
10404	AAB	CDMA2000 (1xEV-DO, Rev. A)	CDMA2000	3.77	± 9.6 %
10406	AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	CDMA2000	5.22	± 9.6 %
10410	AAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9, Subframe Conf=4)	LTE-TDD	7.82	± 9.6 %
10414	AAA	WLAN CCDF, 64-QAM, 40MHz	Generic	8.54	± 9.6 %
10415	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	WLAN	1.54	± 9.6 %
10416	AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	WLAN	8.23	± 9.6 %
10417	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	WLAN	8.23	± 9.6 %
10418	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preamble)	WLAN	8.14	± 9.6 %
10419	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preamble)	WLAN	8.19	± 9.6 %
10422	AAB	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	WLAN	8.32	± 9.6 %
10423	AAB	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	WLAN	8.47	± 9.6 %
10424	AAB	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	WLAN	8.40	± 9.6 %
10425	AAB	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	WLAN	8.41	± 9.6 %
10426	AAB	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	WLAN	8.45	± 9.6 %
10427	AAB	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	WLAN	8.41	± 9.6 %
10430	AAD	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	LTE-FDD	8.28	± 9.6 %
10431	AAD	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	LTE-FDD	8.38	± 9.6 %
10432	AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	LTE-FDD	8.34	± 9.6 %
10433	AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	LTE-FDD	8.34	± 9.6 %
10434	AAA	W-CDMA (BS Test Model 1, 64 DPCH)	WCDMA	8.60	± 9.6 %
10435	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10447	AAD	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.56	± 9.6 %
10448	AAD	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.53	± 9.6 %
10449	AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.51	± 9.6 %
10450	AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.48	± 9.6 %

10451	AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	WCDMA	7.59	± 9.6 %
10456	AAB	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	WLAN	8.63	± 9.6 %
10457	AAA	UMTS-FDD (DC-HSDPA)	WCDMA	6.62	± 9.6 %
10458	AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	CDMA2000	6.55	± 9.6 %
10459	AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	CDMA2000	8.25	± 9.6 %
10460	AAA	UMTS-FDD (WCDMA, AMR)	WCDMA	2.39	± 9.6 %
10461	AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10462	AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.30	± 9.6 %
10463	AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.56	± 9.6 %
10464	AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10465	AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	± 9.6 %
10466	AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	± 9.6 %
10467	AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10468	AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	± 9.6 %
10469	AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.56	± 9.6 %
10470	AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10471	AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	± 9.6 %
10472	AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	± 9.6 %
10473	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10474	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	± 9.6 %
10475	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	± 9.6 %
10477	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	± 9.6 %
10478	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	± 9.6 %
10479	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %
10480	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.18	± 9.6 %
10481	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.45	± 9.6 %
10482	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.71	± 9.6 %
10483	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.39	± 9.6 %
10484	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.47	± 9.6 %
10485	AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.59	± 9.6 %
10486	AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.38	± 9.6 %
10487	AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.60	± 9.6 %
10488	AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.70	± 9.6 %
10489	AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.31	± 9.6 %
10490	AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	± 9.6 %
10491	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %

10492	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.41	± 9.6 %
10493	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	± 9.6 %
10494	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %
10495	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.37	± 9.6 %
10496	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	± 9.6 %
10497	AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	± 9.6 %
10498	AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.40	± 9.6 %
10499	AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.68	± 9.6 %
10500	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	± 9.6 %
10501	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.44	± 9.6 %
10502	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.52	± 9.6 %
10503	AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.72	± 9.6 %
10504	AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.31	± 9.6 %
10505	AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	± 9.6 %
10506	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %
10507	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.36	± 9.6 %
10508	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	± 9.6 %
10509	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.99	± 9.6 %
10510	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.49	± 9.6 %
10511	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.51	± 9.6 %
10512	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %
10513	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.42	± 9.6 %
10514	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.45	± 9.6 %
10515	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	WLAN	1.58	± 9.6 %
10516	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	WLAN	1.57	± 9.6 %
10517	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	WLAN	1.58	± 9.6 %
10518	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	WLAN	8.23	± 9.6 %
10519	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	WLAN	8.39	± 9.6 %
10520	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	WLAN	8.12	± 9.6 %
10521	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	WLAN	7.97	± 9.6 %
10522	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10523	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	WLAN	8.08	± 9.6 %
10524	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	WLAN	8.27	± 9.6 %
10525	AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10526	AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	WLAN	8.42	± 9.6 %
10527	AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	WLAN	8.21	± 9.6 %
10528	AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10529	AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10531	AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	WLAN	8.43	± 9.6 %
10532	AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	WLAN	8.29	± 9.6 %
10533	AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	WLAN	8.38	± 9.6 %
10534	AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	WLAN	8.45	± 9.6 %

10535	AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10536	AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	WLAN	8.32	± 9.6 %
10537	AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	WLAN	8.44	± 9.6 %
10538	AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	WLAN	8.54	± 9.6 %
10540	AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	WLAN	8.39	± 9.6 %
10541	AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	WLAN	8.46	± 9.6 %
10542	AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	WLAN	8.65	± 9.6 %
10543	AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	WLAN	8.65	± 9.6 %
10544	AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	WLAN	8.47	± 9.6 %
10545	AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	WLAN	8.55	± 9.6 %
10546	AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	WLAN	8.35	± 9.6 %
10547	AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	WLAN	8.49	± 9.6 %
10548	AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	WLAN	8.37	± 9.6 %
10550	AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	WLAN	8.38	± 9.6 %
10551	AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	WLAN	8.50	± 9.6 %
10552	AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	WLAN	8.42	± 9.6 %
10553	AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10554	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	WLAN	8.48	± 9.6 %
10555	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	WLAN	8.47	± 9.6 %
10556	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	WLAN	8.50	± 9.6 %
10557	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	WLAN	8.52	± 9.6 %
10558	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	WLAN	8.61	± 9.6 %
10560	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	WLAN	8.73	± 9.6 %
10561	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	WLAN	8.56	± 9.6 %
10562	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	WLAN	8.69	± 9.6 %
10563	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	WLAN	8.77	± 9.6 %
10564	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)	WLAN	8.25	± 9.6 %
10565	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10566	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle)	WLAN	8.13	± 9.6 %
10567	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle)	WLAN	8.00	± 9.6 %
10568	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle)	WLAN	8.37	± 9.6 %
10569	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle)	WLAN	8.10	± 9.6 %
10570	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle)	WLAN	8.30	± 9.6 %
10571	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	WLAN	1.99	± 9.6 %
10572	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	WLAN	1.99	± 9.6 %
10573	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	WLAN	1.98	± 9.6 %
10574	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	WLAN	1.98	± 9.6 %
10575	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)	WLAN	8.59	± 9.6 %
10576	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)	WLAN	8.60	± 9.6 %
10577	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10578	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	WLAN	8.49	± 9.6 %
10579	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	WLAN	8.36	± 9.6 %
10580	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10581	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	WLAN	8.35	± 9.6 %
10582	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	WLAN	8.67	± 9.6 %
10583	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	WLAN	8.59	± 9.6 %
10584	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	WLAN	8.60	± 9.6 %
10585	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10586	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	WLAN	8.49	± 9.6 %
10587	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	WLAN	8.36	± 9.6 %

10588	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10589	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	WLAN	8.35	± 9.6 %
10590	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	WLAN	8.67	± 9.6 %
10591	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	WLAN	8.63	± 9.6 %
10592	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10593	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	WLAN	8.64	± 9.6 %
10594	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10595	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10596	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	WLAN	8.71	± 9.6 %
10597	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	WLAN	8.72	± 9.6 %
10598	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	WLAN	8.50	± 9.6 %
10599	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10600	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	WLAN	8.88	± 9.6 %
10601	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10602	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	WLAN	8.94	± 9.6 %
10603	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	WLAN	9.03	± 9.6 %
10604	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10605	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	WLAN	8.97	± 9.6 %
10606	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10607	AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	WLAN	8.64	± 9.6 %
10608	AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	WLAN	8.77	± 9.6 %
10609	AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	WLAN	8.57	± 9.6 %
10610	AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	WLAN	8.78	± 9.6 %
10611	AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10612	AAB	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	WLAN	8.77	± 9.6 %
10613	AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	WLAN	8.94	± 9.6 %
10614	AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	WLAN	8.59	± 9.6 %
10615	AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10616	AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10617	AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10618	AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	WLAN	8.58	± 9.6 %
10619	AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	WLAN	8.86	± 9.6 %
10620	AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	WLAN	8.87	± 9.6 %
10621	AAB	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	WLAN	8.77	± 9.6 %
10622	AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	WLAN	8.68	± 9.6 %
10623	AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10624	AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	WLAN	8.96	± 9.6 %
10625	AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	WLAN	8.96	± 9.6 %
10626	AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10627	AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	WLAN	8.88	± 9.6 %
10628	AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	WLAN	8.71	± 9.6 %
10629	AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	WLAN	8.85	± 9.6 %
10630	AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	WLAN	8.72	± 9.6 %
10631	AAB	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10632	AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10633	AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10634	AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	WLAN	8.80	± 9.6 %
10635	AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10636	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10637	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10638	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	WLAN	8.86	± 9.6 %
10639	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	WLAN	8.85	± 9.6 %
10640	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	WLAN	8.98	± 9.6 %
10641	AAC	IEEE 802.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	WLAN	9.06	± 9.6 %
10642	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	WLAN	9.06	± 9.6 %
10643	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	WLAN	8.89	± 9.6 %
10644	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	WLAN	9.05	± 9.6 %
10645	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	WLAN	9.11	± 9.6 %
10646	AAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	± 9.6 %
10647	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	± 9.6 %
10648	AAA	CDMA2000 (1x Advanced)	CDMA2000	3.45	± 9.6 %
10652	AAD	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.91	± 9.6 %
10653	AAD	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.42	± 9.6 %
10654	AAD	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.96	± 9.6 %

10655	AAE	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.21	± 9.6 %
10658	AAA	Pulse Waveform (200Hz, 10%)	Test	10.00	± 9.6 %
10659	AAA	Pulse Waveform (200Hz, 20%)	Test	6.99	± 9.6 %
10660	AAA	Pulse Waveform (200Hz, 40%)	Test	3.98	± 9.6 %
10661	AAA	Pulse Waveform (200Hz, 60%)	Test	2.22	± 9.6 %
10662	AAA	Pulse Waveform (200Hz, 80%)	Test	0.97	± 9.6 %
10670	AAA	Bluetooth Low Energy	Bluetooth	2.19	± 9.6 %

^E Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

APPENDIX D: SAR TISSUE SPECIFICATIONS

Measurement Procedure for Tissue verification:

- 1) The network analyzer and probe system was configured and calibrated.
- 2) The probe was immersed in the tissue. The tissue was placed in a nonmetallic container. Trapped air bubbles beneath the flange were minimized by placing the probe at a slight angle.
- 3) The complex admittance with respect to the probe aperture was measured
- 4) The complex relative permittivity ϵ' can be calculated from the below equation (Pournaropoulos and Misra):

$$Y = \frac{j2\omega\epsilon_r\epsilon_0}{[\ln(b/a)]^2} \int_a^b \int_a^b \int_0^\pi \cos\phi' \frac{\exp[-j\omega r(\mu_0\epsilon_r'\epsilon_0)^{1/2}]}{r} d\phi' d\rho' d\rho$$

where Y is the admittance of the probe in contact with the sample, the primed and unprimed coordinates refer to source and observation points, respectively, $r^2 = \rho^2 + \rho'^2 - 2\rho\rho'\cos\phi'$, ω is the angular frequency, and $j = \sqrt{-1}$.

3 Composition / Information on ingredients

3.2 Mixtures

Description: Aqueous solution with surfactants and inhibitors

Declarable, or hazardous components:

CAS: 107-21-1 EINECS: 203-473-3 Reg.nr.: 01-2119456816-28-0000	Ethandiol STOT RE 2, H373; Acute Tox. 4, H302	>1.0-4.9%
CAS: 68608-26-4 EINECS: 271-781-5 Reg.nr.: 01-2119527859-22-0000	Sodium petroleum sulfonate Eye Irrit. 2, H319	< 2.9%
CAS: 107-41-5 EINECS: 203-489-0 Reg.nr.: 01-2119539582-35-0000	Hexylene Glycol / 2-Methyl-pentane-2,4-diol Skin Irrit. 2, H315; Eye Irrit. 2, H319	< 2.9%
CAS: 68920-66-1 NLP: 500-236-9 Reg.nr.: 01-2119489407-26-0000	Alkoxylated alcohol, > C₁₆ Aquatic Chronic 2, H411; Skin Irrit. 2, H315; Eye Irrit. 2, H319	< 2.0%

Additional information:

For the wording of the listed risk phrases refer to section 16.

Not mentioned CAS-, EINECS- or registration numbers are to be regarded as Proprietary/Confidential.

The specific chemical identity and/or exact percentage concentration of proprietary components is withheld as a trade secret.

Table D-I
Composition of the Tissue Equivalent Matter

Note: 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

FCC ID: A3LSMT547U		SAR EVALUATION REPORT		Approved by: Quality Manager
Test Dates: 08/19/19 - 08/26/19	DUT Type: Portable Tablet			APPENDIX D: Page 1 of 2

Measurement Certificate / Material Test

Item Name **Body Tissue Simulating Liquid (MBBL600-6000V6)**
Product No. **SL AAM U16 BC (Batch: 181029-1)**
Manufacturer **SPEAG**

Measurement Method

TSL dielectric parameters measured using calibrated DAK probe.

Target Parameters

Target parameters as defined in the KDB 865664 compliance standard.

Test Condition

Ambient Condition 22°C ; 30% humidity

TSL Temperature 22°C

Test Date 30 Oct 18

Operator CL

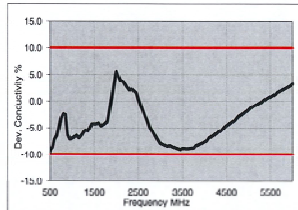
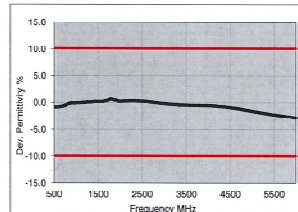
Additional Information

TSL Density

TSL Heat capacity

Results

f (MHz)	Measured			Target		Diff. to Target (%)	
	ϵ'	ϵ''	σ	eps	sigma	Δ -eps	Δ -sigma
600	55.1	21.3	0.95	55.3	0.97	-0.4	-2.1
825	55.1	20.8	0.96	55.2	0.98	-0.3	-2.0
835	55.1	20.6	0.96	55.1	0.99	0.0	-2.5
850	55.1	20.4	0.96	55.2	0.99	-0.1	-3.0
900	55.0	19.7	0.99	55.0	1.00	0.0	-0.7
1400	54.2	15.6	1.22	54.1	1.28	0.2	-4.7
1450	54.1	15.4	1.24	54.0	1.30	0.2	-4.6
1500	54.1	15.3	1.27	53.9	1.33	0.3	-4.5
1650	54.0	15.1	1.30	53.9	1.36	0.2	-4.4
1600	53.9	15.0	1.33	53.8	1.39	0.2	-4.3
1625	53.9	14.9	1.35	53.8	1.41	0.3	-4.3
1640	53.9	14.9	1.36	53.7	1.42	0.3	-4.2
1650	53.8	14.9	1.36	53.7	1.43	0.3	-4.0
1700	53.8	14.8	1.40	53.6	1.46	0.4	-4.1
1750	53.7	14.7	1.43	53.4	1.49	0.5	-4.0
1800	53.7	14.6	1.45	53.3	1.52	0.5	-3.9
1810	53.7	14.6	1.47	53.3	1.52	0.8	-3.3
1825	53.7	14.6	1.48	53.3	1.52	0.8	-2.6
1850	53.6	14.5	1.50	53.3	1.52	0.6	-1.3
1900	53.5	14.5	1.53	53.3	1.52	0.4	0.7
1950	53.5	14.5	1.57	53.3	1.52	0.4	3.3
2000	53.4	14.4	1.60	53.3	1.62	0.2	6.3
2050	53.4	14.4	1.64	53.2	1.57	0.3	4.5
2100	53.3	14.4	1.68	53.2	1.62	0.2	3.7
2150	53.3	14.4	1.72	53.1	1.60	0.4	3.6
2200	53.2	14.4	1.76	53.0	1.71	0.3	2.9
2250	53.1	14.4	1.81	53.0	1.76	0.2	2.8
2300	53.1	14.4	1.85	52.9	1.81	0.4	2.2
2350	53.0	14.5	1.89	52.8	1.85	0.3	2.2
2400	52.9	14.5	1.94	52.8	1.90	0.2	2.1
2425	52.9	14.5	1.98	52.7	1.95	0.4	1.5
2500	52.8	14.6	2.03	52.6	2.02	0.3	0.5
2550	52.7	14.6	2.07	52.6	2.09	0.2	-1.0
2600	52.6	14.7	2.12	52.5	2.16	0.2	-1.9



3500	51.1	15.5	3.02	51.3	3.31	-0.4	-8.8
3700	50.5	15.7	3.24	51.1	3.55	-0.5	-8.8
4000	48.1	16.7	5.77	48.0	5.90	-1.8	-0.6
5250	48.0	18.3	5.34	49.0	5.36	-1.9	-0.4
5300	47.9	18.4	5.41	48.9	5.42	-2.0	-0.2
5500	47.5	18.6	5.70	48.6	5.65	-2.2	0.8
5600	47.3	18.8	5.84	48.5	5.77	-2.3	1.3
5700	47.1	18.9	5.99	48.3	5.88	-2.5	1.8
5800	47.0	19.0	6.14	48.2	6.00	-2.6	2.3

Figure D-2
750 – 5800 MHz 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.	PERM.	CW VALIDATION			MOD. VALIDATION		
							(σ)	(ε _r)	SENSITIVITY	PROBE	PROBE	MOD.	DUTY FACTOR	PAR
AM2	750	6/11/2019	7490	EX3DV4	750	Body	0.952	53.861	PASS	PASS	PASS	N/A	N/A	N/A
AM4	750	4/23/2019	7532	EX3DV4	750	Body	0.973	53.428	PASS	PASS	PASS	N/A	N/A	N/A
AM8	750	8/2/2019	7416	EX3DV4	750	Body	0.961	53.730	PASS	PASS	PASS	N/A	N/A	N/A
AM8	835	8/2/2019	7416	EX3DV4	835	Body	0.994	53.524	PASS	PASS	PASS	GMSK	PASS	N/A
AM6	1750	3/12/2019	7427	EX3DV4	1750	Body	1.456	51.525	PASS	PASS	PASS	N/A	N/A	N/A
AM4	1900	4/23/2019	7532	EX3DV4	1900	Body	1.582	51.521	PASS	PASS	PASS	GMSK	PASS	N/A
AM2	2450	6/14/2019	7490	EX3DV4	2450	Body	1.998	50.854	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
AM8	2450	8/6/2019	7416	EX3DV4	2450	Body	2.034	51.918	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
AM6	2450	3/13/2019	7427	EX3DV4	2450	Body	2.007	50.511	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
AM8	2600	8/5/2019	7416	EX3DV4	2600	Body	2.212	51.681	PASS	PASS	PASS	TDD	PASS	N/A
AM6	2600	3/13/2019	7427	EX3DV4	2600	Body	2.148	50.284	PASS	PASS	PASS	TDD	PASS	N/A
AM7	5250	4/8/2019	3837	EX3DV4	5250	Body	5.453	47.040	PASS	PASS	PASS	OFDM	N/A	PASS
AM7	5600	4/8/2019	3837	EX3DV4	5600	Body	5.950	46.354	PASS	PASS	PASS	OFDM	N/A	PASS
AM7	5750	4/8/2019	3837	EX3DV4	5750	Body	6.176	46.059	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)	
		Un-triggered (Max)	Mechanism #1 (Reduced)
Grip	UMTS 850	23.93	16.45
Grip	UMTS 1750	23.94	13.39
Grip	UMTS 1900	23.87	13.32
Grip	LTE FDD Band 71	24.37	16.33
Grip	LTE FDD Band 12	23.65	16.08
Grip	LTE FDD Band 17	24.28	16.14
Grip	LTE FDD Band 13	23.63	16.01
Grip	LTE FDD Band 14	24.17	16.08
Grip	LTE FDD Band 26	24.15	16.07
Grip	LTE FDD Band 5	24.03	16.01
Grip	LTE FDD Band 66	23.14	11.12
Grip	LTE FDD Band 4	24.08	13.08
Grip	LTE FDD Band 25	24.12	13.45
Grip	LTE FDD Band 2	24.36	13.33
Grip	LTE FDD Band 7	23.54	11.81
Grip	LTE TDD Band 41 (PC3)	23.54	14.03
Grip	LTE TDD Band 41 (PC2)	25.58	14.53

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	Body - Back Side	Low	19	21	16
Grip	Body - Back Side	Mid	19	21	16
Grip	Body - Back Side	High	19	21	16
Grip	Body - Top Edge	Low	16	18	16
Grip	Body - Top Edge	Mid	16	18	16
Grip	Body - Top Edge	High	16	18	16

*Note: Low band refers to: UMTS B5, LTE B5/12/13/14/17/26/71; Mid band refers to: UMTS B2/4, LTE B2/4/25/66; High band refers to: LTE B7/41

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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)
Grip	802.11b	19.23	11.56
Grip	802.11g	17.17	11.41
Grip	802.11n (2.4GHz)	16.13	11.96
Grip	802.11a	15.78	8.56
Grip	802.11n (5GHz, 20MHz BW)	14.36	8.45
Grip	802.11ac (20MHz BW)	14.48	8.54
Grip	802.11n (5GHz, 40MHz BW)	12.01	8.53
Grip	802.11ac (40MHz BW)	11.1	8.91
Grip	802.11ac (80MHz BW)	9.48	8.49

Table G-4
Distance Measurement Verification for WIFI

Mechanism(s)	Test Condition	Band	Distance Measurements (mm)		Minimum Distance per Manufacturer (mm)
			Moving Toward	Moving Away	
Grip	Body - Back Side	2.4GHz	12	14	9
Grip	Body - Back Side	5GHz	12	14	9
Grip	Body - Top Edge	2.4GHz	10	12	7
Grip	Body - Top Edge	5GHz	10	12	7

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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.

Table 1 – Example of Exclusion Table for SISO Configurations

Index	PCC	Supported Component Carriers (SCCs)				Restrictions	Completely Covered by Measurement Superset
		SCC1	SCC2	SCC3	SCC4		
001-01	CA_2A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-02	CA_2A-2A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-03	CA_2A-2A-4A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-04	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-05	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-06	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-07	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-08	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-09	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-10	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-11	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-12	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-13	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-14	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-15	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-16	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-17	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-18	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-19	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-20	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-21	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-22	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-23	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-24	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-25	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-26	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-27	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-28	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-29	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-30	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-31	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-32	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-33	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-34	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-35	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-36	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-37	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-38	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-39	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-40	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-41	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-42	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-43	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-44	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-45	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-46	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-47	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-48	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-49	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-50	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-51	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-52	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-53	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-54	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-55	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-56	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-57	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-58	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-59	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-60	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-61	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-62	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-63	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-64	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-65	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-66	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-67	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-68	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-69	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-70	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-71	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-72	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-73	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-74	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-75	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-76	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-77	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-78	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-79	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-80	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-81	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-82	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-83	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-84	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-85	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-86	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-87	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-88	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-89	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-90	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-91	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-92	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-93	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-94	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-95	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-96	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-97	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-98	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-99	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01
001-100	CA_2A-2A-4A-12A	5, 10, 15, 18	5, 10, 15, 18				001-01

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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.

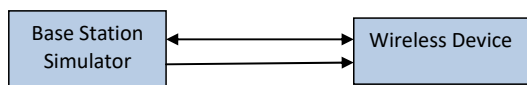


Figure 1
DL CA Power Measurement Setup

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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 Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	PCC				PCC (DL) Freq. [MHz]	SCC 1				SCC 2				Power	
					Mod.	PCC UL RB	PCC UL RB Offset	PCC (DL) Channel		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 TxPower with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_66A-71A	LTE B71	10	133172	668	QPSK	1	0	68636	622	LTE B66	20	66786	2145	-	-	-	-	24.51	24.40
CA_4A-71A	LTE B71	10	133172	668	QPSK	1	0	68636	622	LTE B4	20	2175	2132.5	-	-	-	-	24.37	24.40
CA_2A-4A-71A	LTE B71	10	133172	668	QPSK	1	0	68636	622	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	24.40	24.40

1.3.2 LTE Band 12 as PCC

Table 2
Maximum Output Powers

Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	PCC				PCC (DL) Freq. [MHz]	SCC 1				SCC 2				Power	
					Mod.	PCC UL RB	PCC UL RB Offset	PCC (DL) Channel		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 TxPower with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-12A (1)	LTE B12	3	23025	700.5	QPSK	1	7	5025	730.5	LTE B2	20	900	1960	-	-	-	-	23.75	23.77
CA_4A-12A (1)	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B4	20	2175	2132.5	-	-	-	-	23.69	23.70
CA_4A-12A (2)	LTE B12	3	23025	700.5	QPSK	1	7	5025	730.5	LTE B4	20	2175	2132.5	-	-	-	-	23.74	23.77
CA_12A-66A (1)	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B66	20	66786	2145	-	-	-	-	23.68	23.70
CA_12A-66A (2)	LTE B12	3	23025	700.5	QPSK	1	7	5025	730.5	LTE B66	20	66786	2145	-	-	-	-	23.76	23.77
CA_2A-2A-12A	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B2	20	900	1960	LTE B2	20	700	1940	23.71	23.70
CA_2A-4A-12A	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	23.69	23.70
CA_2A-7A-12A	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B2	20	900	1960	LTE B7	20	3100	2655	23.42	23.70
CA_2A-12A-66A	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	23.70	23.70
CA_2A-12B	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B12	10	5107	738.7	LTE B2	20	900	1960	23.66	23.70
CA_4A-4A-12A	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	23.75	23.70
CA_4A-7A-12A (1)	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B4	20	2175	2132.5	LTE B7	20	3100	2655	23.49	23.70
CA_4A-12B	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B12	10	5107	738.7	LTE B4	20	2175	2132.5	23.77	23.70
CA_7A-12B	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B12	10	5107	738.7	LTE B7	20	3100	2655	23.51	23.70
CA_12A-66A-66A	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B66	20	66786	2145	LTE B66	20	67236	2190	23.65	23.70
CA_12A-66C	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	23.76	23.70
CA_12B-66A	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B12	10	5107	738.7	LTE B66	20	66786	2145	23.80	23.70

1.3.3 LTE Band 13 as PCC

Table 3
Maximum Output Powers

Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	PCC				PCC (DL) Freq. [MHz]	SCC 1				SCC 2				Power	
					Mod.	PCC UL RB	PCC UL RB Offset	PCC (DL) Channel		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 TxPower with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-2A-13A	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	LTE B2	20	700	1940	23.70	23.68
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	23.73	23.68
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	23.74	23.68
CA_13A-66A-66A	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B66	20	66786	2145	LTE B66	20	67236	2190	23.72	23.68
CA_13A-66B	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B66	15	66786	2145	LTE B66	5	66879	2154.3	23.67	23.68
CA_13A-66C	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	23.70	23.68

1.3.4 LTE Band 26 as PCC

Table 4
Maximum Output Powers

Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	PCC				PCC (DL) Freq. [MHz]	SCC 1				SCC 2				Power	
					Mod.	PCC UL RB	PCC UL RB Offset	PCC (DL) Channel		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 TxPower with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_26A-41A	LTE B26	5	26715	816.5	QPSK	1	0	8715	861.5	LTE B41	20	40620	2593	-	-	-	-	24.31	24.32
CA_25A-26A	LTE B26	5	26715	816.5	QPSK	1	0	8715	861.5	LTE B25	20	8365	1962.5	-	-	-	-	24.39	24.32
CA_26A-26A-26A	LTE B26	5	26715	816.5	QPSK	1	0	8715	861.5	LTE B25	20	8365	1962.5	LTE B25	20	8590	1985	24.38	24.32
CA_26A-41C	LTE B26	5	26715	816.5	QPSK	1	0	8715	861.5	LTE B41	20	40620	2593	LTE B41	20	40422	2573.2	24.51	24.32

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1.3.5 LTE Band 5 as PCC

Table 5
Maximum Output Powers

Combination	PCC										SCC 1				SCC 2				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]	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-7A	LTE B5	5	20425	826.5	QPSK	1	0	2425	871.5	LTE B7	20	3100	2655	-	-	-	-	24.21	24.20	
CA 2A-2A-5A	LTE B5	5	20425	826.5	QPSK	1	0	2425	871.5	LTE B2	20	900	1960	LTE B2	20	700	1940	24.19	24.20	
CA 2A-4A-5A	LTE B5	5	20425	826.5	QPSK	1	0	2425	871.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	24.18	24.20	
CA 2A-5A-66A	LTE B5	5	20425	826.5	QPSK	1	0	2425	871.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	24.18	24.20	
CA 2A-5B	LTE B5	5	20425	826.5	QPSK	1	0	2425	871.5	LTE B5	10	2497	878.7	LTE B2	20	900	1960	24.21	24.20	
CA 4A-4A-5A	LTE B5	5	20425	826.5	QPSK	1	0	2425	871.5	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	24.20	24.20	
CA 5A-66A-66A	LTE B5	5	20425	826.5	QPSK	1	0	2425	871.5	LTE B66	20	66786	2145	LTE B66	20	67236	2190	24.20	24.20	
CA 5A-66C	LTE B5	5	20425	826.5	QPSK	1	0	2425	871.5	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	24.20	24.20	
CA 5B-66A	LTE B5	5	20425	826.5	QPSK	1	0	2425	871.5	LTE B5	10	2497	878.7	LTE B66	20	66786	2145	24.19	24.20	
CA 5A-66B	LTE B5	5	20425	826.5	QPSK	1	0	2425	871.5	LTE B66	15	66786	2145	LTE B66	5	66879	2154.3	24.20	24.20	

1.3.6 LTE Band 66 as PCC

Table 6
Maximum Output Powers

Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC				SCC 1				SCC 2				Power			
				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]	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-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B2	20	900	1960	-	-	-	-	23.39	23.39
CA 12A-66A (1)	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B12	10	5095	737.5	-	-	-	-	23.38	23.39
CA 12A-66A (2)	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B12	10	5095	737.5	-	-	-	-	23.38	23.39
CA 66A-71A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B71	20	68761	634.5	-	-	-	-	23.37	23.39
CA 66B	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	5	66604	2126.8	-	-	-	-	23.43	23.39
CA 2A-2A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B2	20	900	1960	LTE B2	20	700	1940	23.39	23.39
CA 2A-5A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B2	20	900	1960	LTE B5	10	2525	881.5	23.37	23.39
CA 2A-7A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B2	20	900	1960	LTE B7	20	3100	2655	23.41	23.39
CA 2A-12A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B2	20	900	1960	LTE B12	10	5095	737.5	23.37	23.39
CA 2A-29A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B2	20	900	1960	LTE B29	10	9715	722.5	23.39	23.39
CA 2A-66A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	20	67236	2190	LTE B2	20	900	1960	23.36	23.39
CA 2A-66C	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	20	66882	2134.6	LTE B2	20	900	1960	23.38	23.39
CA 5A-66A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	20	67236	2190	LTE B5	10	2525	881.5	23.35	23.39
CA 5A-66C	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	20	66882	2134.6	LTE B5	10	2525	881.5	23.39	23.39
CA 5B-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	23.34	23.39
CA 7A-66A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	20	67236	2190	LTE B7	20	3100	2655	22.81	23.39
CA 7A-66C	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	20	66882	2134.6	LTE B7	20	3100	2655	23.40	23.39
CA 12A-66A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	20	67236	2190	LTE B12	10	5095	737.5	23.35	23.39
CA 12A-66C	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	20	66882	2134.6	LTE B12	10	5095	737.5	23.37	23.39
CA 12B-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B12	5	5095	737.5	LTE B12	5	5047	732.7	23.36	23.39
CA 2A-66B	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	5	66604	2126.8	LTE B2	20	900	1960	23.34	23.39
CA 5A-66B	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	5	66604	2126.8	LTE B5	10	2525	881.5	23.38	23.39
CA 7A-66B	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	5	66604	2126.8	LTE B7	20	3100	2655	23.34	23.39
CA 12A-66B	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	5	66604	2126.8	LTE B12	10	5095	737.5	23.33	23.39
CA 13A-66A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	20	67236	2190	LTE B13	10	5230	751	23.39	23.39
CA 13A-66B	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	5	66604	2126.8	LTE B13	10	5230	751	23.32	23.39
CA 13A-66C	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	20	66882	2134.6	LTE B13	10	5230	751	23.35	23.39
CA 66A-66C	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	20	67038	2170.2	LTE B66	20	67236	2190	23.34	23.39
CA 66C-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	20	66882	2134.6	LTE B66	20	67236	2190	23.34	23.39

1.3.7 LTE Band 4 as PCC

Table 7
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) 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]	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)		
CA 2A-4A	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B2	20	900	1960	-	-	-	-	24.10	24.21		
CA 4A-12A (1)	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B12	10	5095	737.5	-	-	-	-	24.11	24.21		
CA 4A-12A (2)	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B12	10	5095	737.5	-	-	-	-	24.11	24.21		
CA 4A-29A	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B29	10	9715	722.5	-	-	-	-	24.13	24.21		
CA 4A-71A	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B71	20	68761	634.5	-	-	-	-	24.15	24.21		
CA 2A-4A-4A	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B4	20	2300	2145	LTE B2	20	900	1960	24.19	24.21		
CA 2A-4A-5A	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B2	20	900	1960	LTE B5	10	2525	881.5	24.21	24.21		
CA 2A-4A-7A	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B2	20	900	1960	LTE B7	20	3100	2655	23.91	24.21		
CA 2A-4A-12A	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B2	20	900	1960	LTE B12	10	5095	737.5	24.20	24.21		
CA 2A-4A-13A	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B2	20	900	1960	LTE B13	10	5230	751	24.20	24.21		
CA 2A-4A-29A	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B2	20	900	1960	LTE B29	10	9715	722.5	24.14	24.21		
CA 2A-4A-71A	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B2	20	900	1960	LTE B71	20	68761	634.5	24.15	24.21		
CA 4A-4A-5A	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B4	20	2300	2145	LTE B5	10	2525	881.5	24.13	24.21		
CA 4A-4A-7A (1)	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B4	20	2300	2145	LTE B7	20	3100	2655	23.83	24.21		
CA 4A-4A-12A	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B4	20	2300	2145	LTE B12	10	5095	737.5	24.21	24.21		
CA 4A-4A-13A	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B4	20	2300	2145	LTE B13	10	5230	751	24.21	24.21		
CA 4A-4A-29A	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B4	20	2300	2145	LTE B29	10	9715	722.5	24.20	24.21		
CA 4A-7A-7A	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B7	20	3100	2655	LTE B7	20	2850	2630	23.91	24.21		
CA 4A-7A-12A (1)	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B7	20	3100	2655	LTE B12	10	5095	737.5	24.17	24.21		
CA 4A-12A	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B12	5	5095	737.5	LTE B12	5	5047	732.7	24.19	24.21		
CA 4A-7C	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B7	20	3100	2655	LTE B7	20	2902	2635.2	23.86	24.21		
CA 2A-2A-2A	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B2	20	900	1960	LTE B2	20	700	1940	24.21	24.21		

1.3.8 LTE Band 25 as PCC

Table 8
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) 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]	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_25A-41A	LTE B25	10	26365	1882.5	QPSK	1	0	8365	1962.5	LTE B41	20	40620	2593	-	-	-	-	24.09	23.94
CA_25A-26A	LTE B25	10	26365	1882.5	QPSK	1	0	8365	1962.5	LTE B26	15	8865	876.5	-	-	-	-	23.99	23.94
CA_25A-25A-26A	LTE B25	10	26365	1882.5	QPSK	1	0	8365	1962.5	LTE B25	20	8140	1940	LTE B26	5	8865	876.5	23.98	23.94
CA_25A-41C	LTE B25	10	26365	1882.5	QPSK	1	0	8365	1962.5	LTE B41	20	40620	2593	LTE B41	20	40422	2573.2	24.05	23.94

1.3.9 LTE Band 7 as PCC

Table 9
Maximum Output Powers

Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC				PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC 1			SCC 2			Power			
				PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset			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-7A	LTE B7	20	21350	2560	QPSK	1	0	3350	2680	LTE B5	10	2525	881.5	-	-	-	23.64	23.62	
CA_2A-4A-7A	LTE B7	20	21350	2560	QPSK	1	0	3350	2680	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	23.62	23.62
CA_2A-7A-7A	LTE B7	20	21350	2560	QPSK	1	0	3350	2680	LTE B7	20	2850	2630	LTE B2	20	900	1960	23.58	23.62
CA_2A-7A-12A	LTE B7	20	21350	2560	QPSK	1	0	3350	2680	LTE B2	20	900	1960	LTE B12	10	5095	737.5	23.62	23.62
CA_2A-7A-66A	LTE B7	20	21350	2560	QPSK	1	0	3350	2680	LTE B2	20	900	1960	LTE B66	20	66786	2145	23.59	23.62
CA_2A-7C	LTE B7	20	21350	2560	QPSK	1	0	3350	2680	LTE B7	20	3152	2660.2	LTE B2	20	900	1960	23.60	23.62
CA_4A-4A-7A (1)	LTE B7	20	21350	2560	QPSK	1	0	3350	2680	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	23.60	23.62
CA_4A-7A-7A	LTE B7	20	21350	2560	QPSK	1	0	3350	2680	LTE B7	20	2850	2630	LTE B4	20	2175	2132.5	23.57	23.62
CA_4A-7A-12A (1)	LTE B7	20	21350	2560	QPSK	1	0	3350	2680	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	23.60	23.62
CA_4A-7C	LTE B7	20	21350	2560	QPSK	1	0	3350	2680	LTE B7	20	3152	2660.2	LTE B4	20	2175	2132.5	23.58	23.62
CA_7A-66A-66A	LTE B7	20	21350	2560	QPSK	1	0	3350	2680	LTE B66	20	66786	2145	LTE B66	20	67236	2190	23.60	23.62
CA_7A-12B	LTE B7	20	21350	2560	QPSK	1	0	3350	2680	LTE B12	5	5095	737.5	LTE B12	5	5047	732.7	23.50	23.62
CA_7A-66C	LTE B7	20	21350	2560	QPSK	1	0	3350	2680	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	23.58	23.62

1.3.10 LTE Band 41 PC3 as PCC

Table 10
Maximum Output Powers

Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC					SCC 1			SCC 2			Power				
				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]	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	20	39750	2506	QPSK	1	0	39750	2506	LTE B41	20	41490	2680					23.97	23.97
CA 41A-41C	LTE B41	20	39750	2506	QPSK	1	0	39750	2506	LTE B41	20	41292	2660.2	LTE B41	20	41490	2680	23.97	23.97
CA 41C-41A	LTE B41	20	39750	2506	QPSK	1	0	39750	2506	LTE B41	20	39948	2525.8	LTE B41	20	41490	2680	23.92	23.97
CA 41D	LTE B41	20	39750	2506	QPSK	1	0	39750	2506	LTE B41	20	39948	2525.8	LTE B41	20	40146	2545.6	23.95	23.97

1.3.11 LTE Band 41 PC2 as PCC

Table 11
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#	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]	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_41A-41A (1)	LTE B41 PC2	20	39750	2506	QPSK	1	0	39750	2506	LTE B41 PC2	20	41490	2680	-	-	-	-	25.39	25.27
CA_41A-41C	LTE B41 PC2	20	39750	2506	QPSK	1	0	39750	2506	LTE B41 PC2	20	41292	2660.2	LTE B41 PC2	20	41490	2680	25.43	25.27
CA_41C-41A	LTE B41 PC2	20	39750	2506	QPSK	1	0	39750	2506	LTE B41 PC2	20	39948	2525.8	LTE B41 PC2	20	41490	2680	25.42	25.27
CA_41D	LTE B41 PC2	20	39750	2506	QPSK	1	0	39750	2506	LTE B41 PC2	20	39948	2525.8	LTE B41 PC2	20	40146	2545.6	25.44	25.27

FCC ID: A3LSMT547U		SAR EVALUATION REPORT		Reviewed by: Quality Manager
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