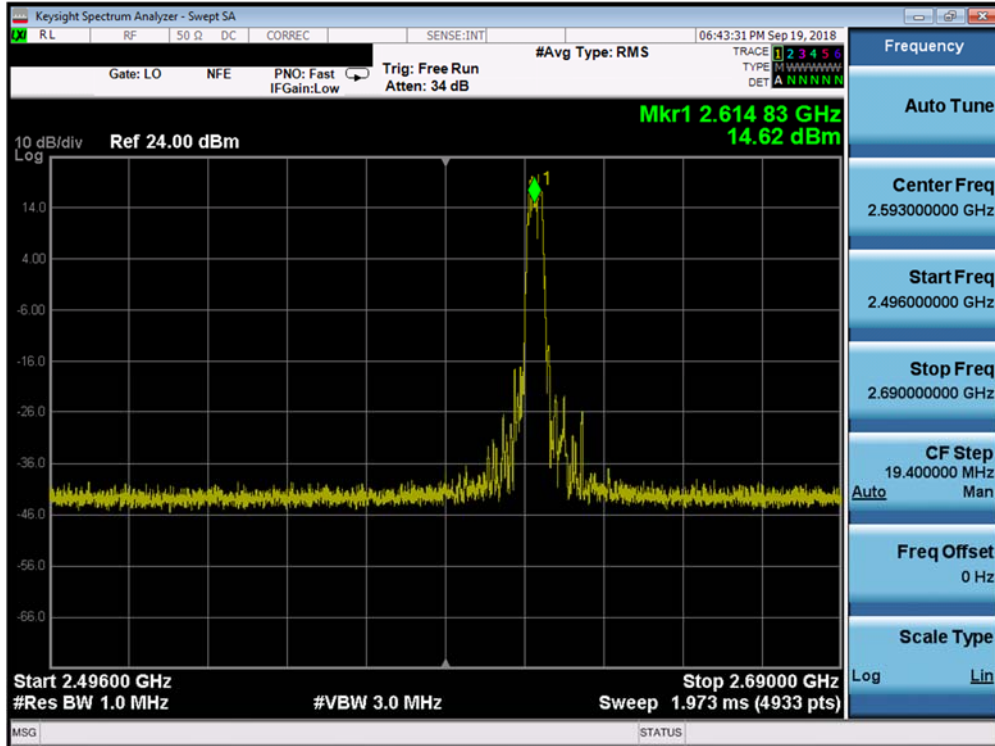
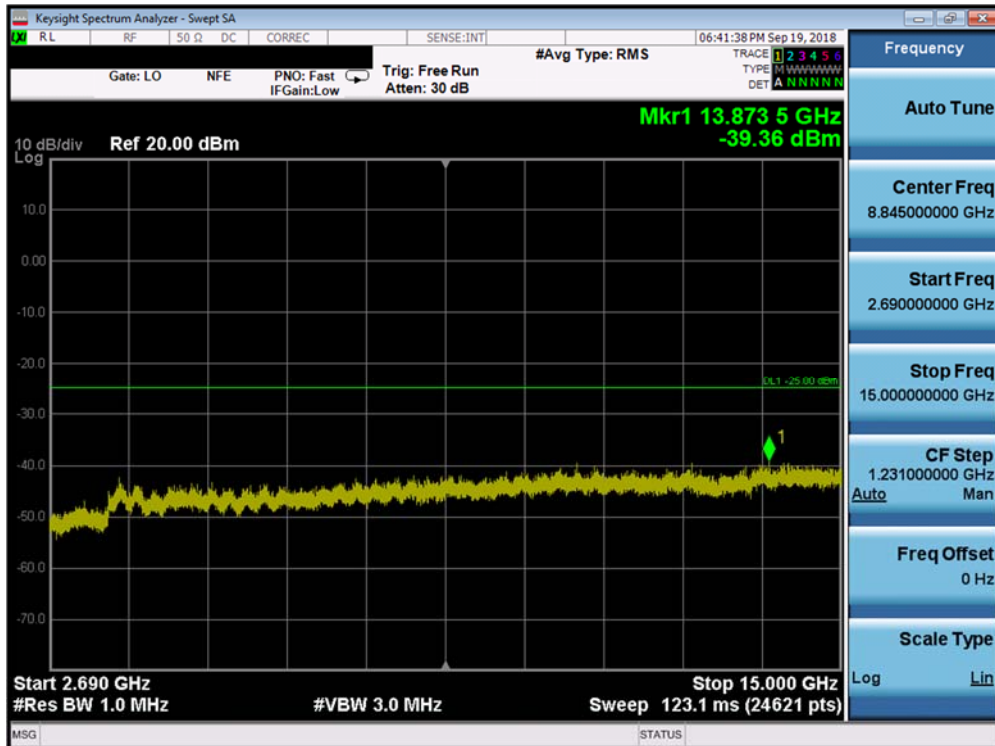


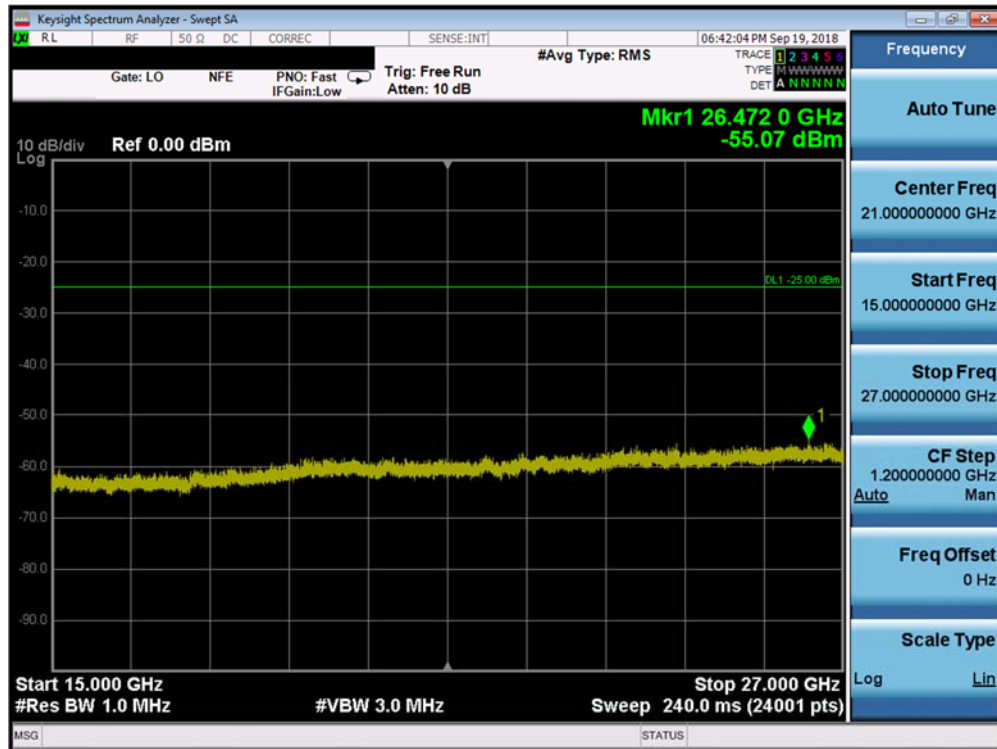


Plot 7-160. Conducted Spurious Plot (Band 41 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

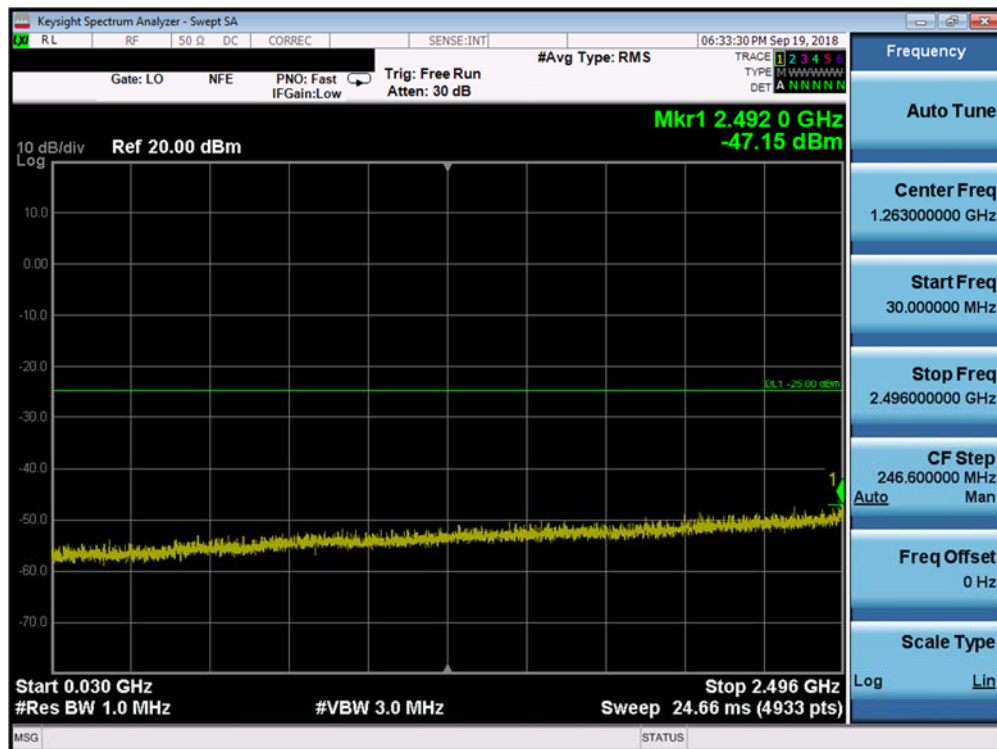


Plot 7-161. Conducted Spurious Plot (Band 41 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

FCC ID: A3LSMA9200	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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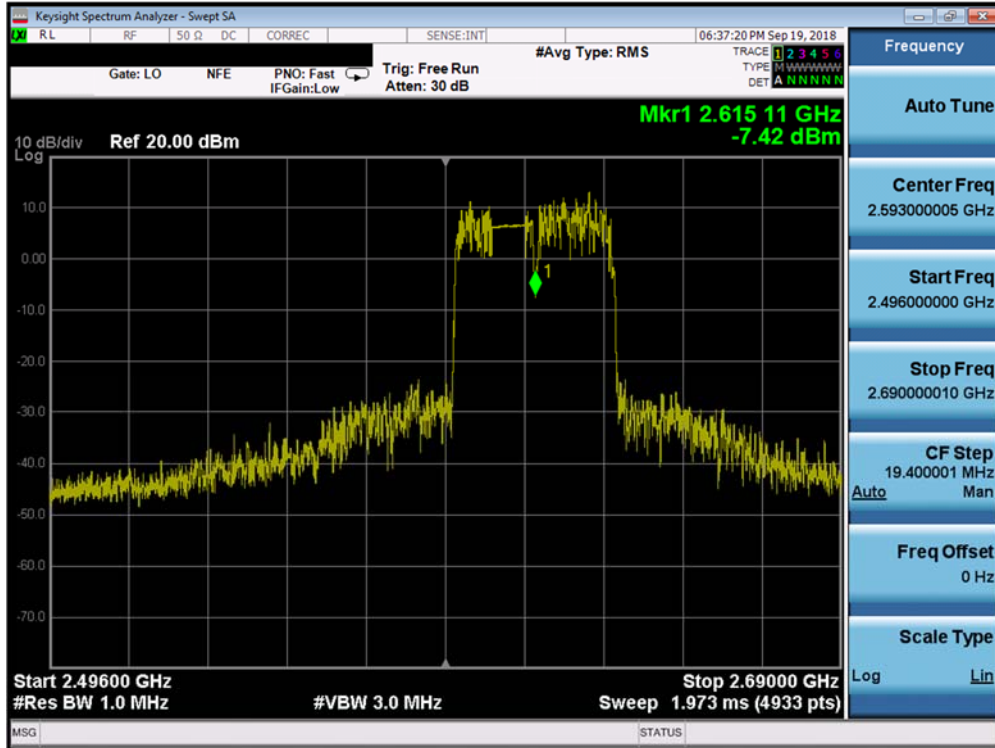


Plot 7-162. Conducted Spurious Plot (Band 41 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

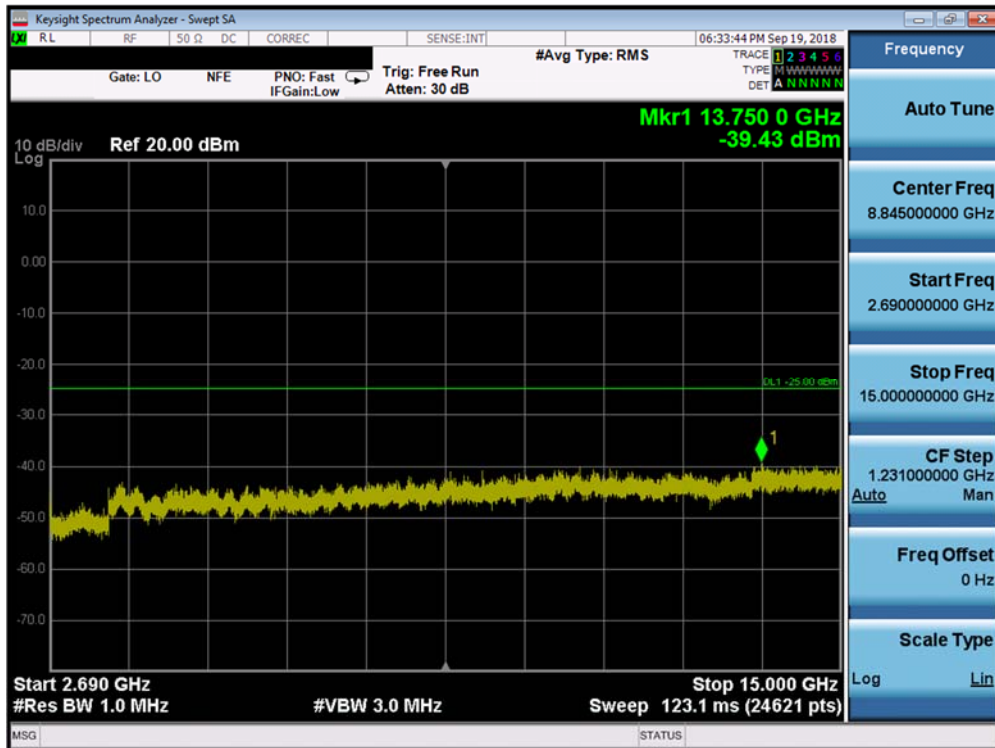


Plot 7-163. Conducted Spurious Plot (Band 41 – 20.0MHz QPSK – PCC 100/0 SCC 100/0 – Mid Channel)

FCC ID: A3LSMA9200	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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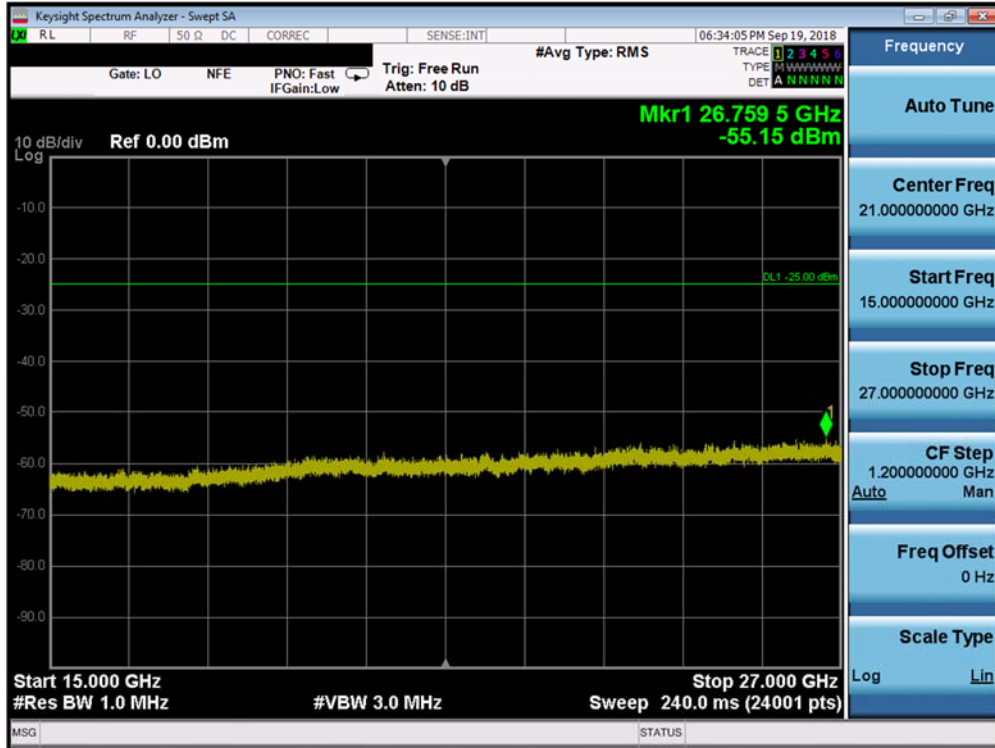


Plot 7-164. Conducted Spurious Plot (Band 41 – 20.0MHz QPSK – PCC 100/0 SCC 100/0 – Mid Channel)

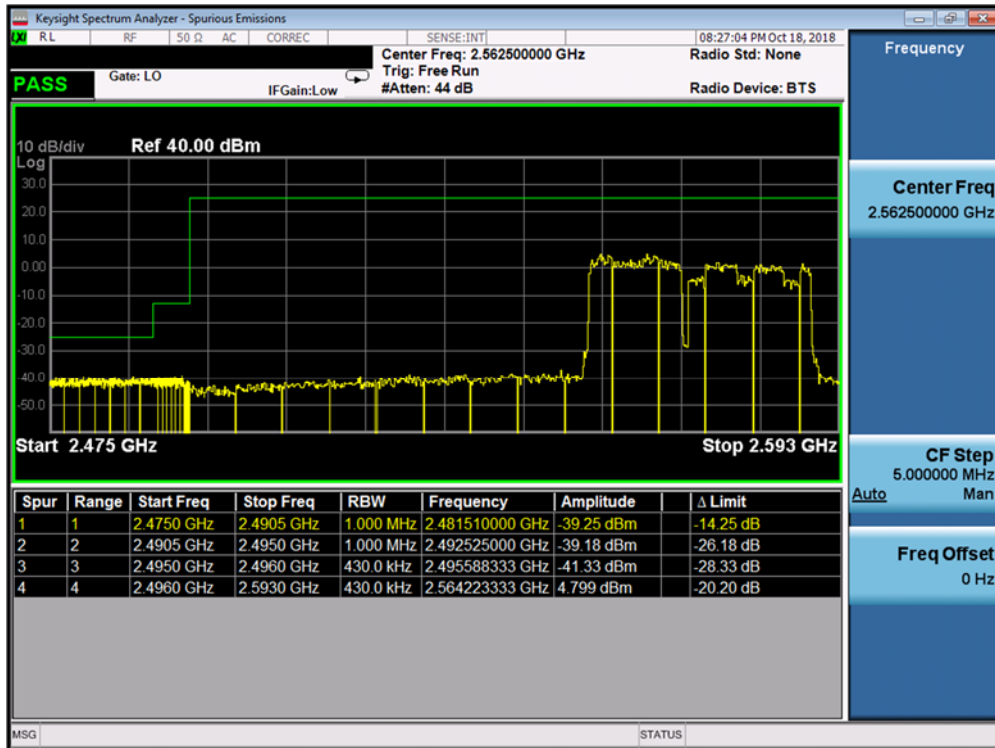


Plot 7-165. Conducted Spurious Plot (Band 41 – 20.0MHz QPSK – PCC 100/0 SCC 100/0 – Mid Channel)

FCC ID: A3LSMA9200	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset	Page 107 of 143

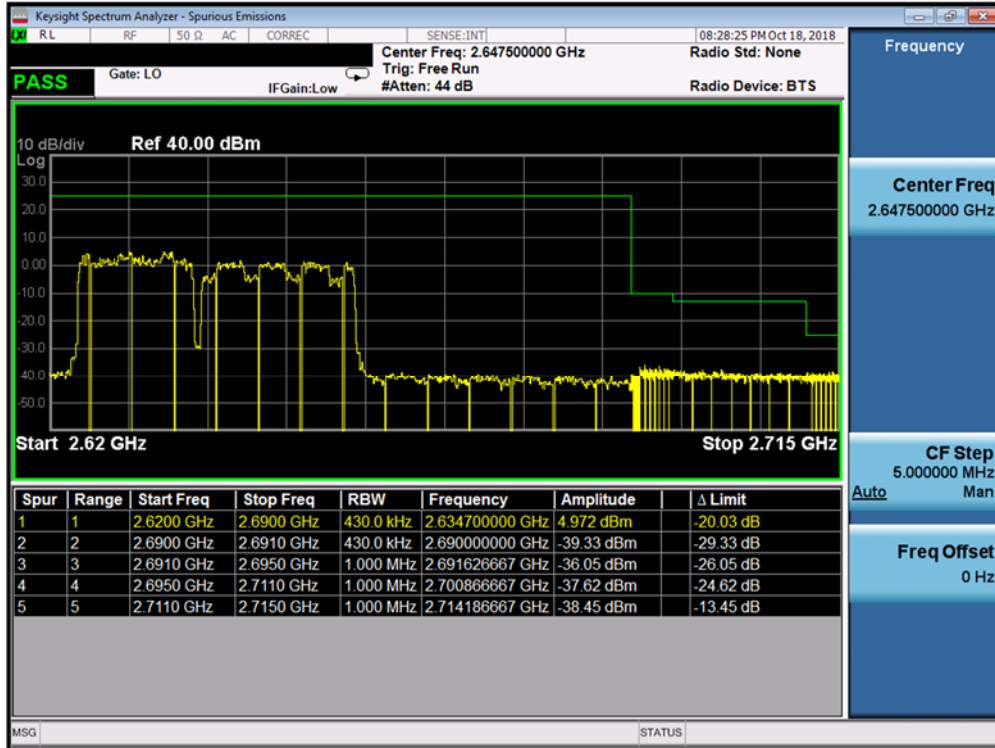


Plot 7-166. Conducted Spurious Plot (Band 41 – 20.0MHz QPSK – PCC 100/0 SCC 100/0 – Mid Channel)

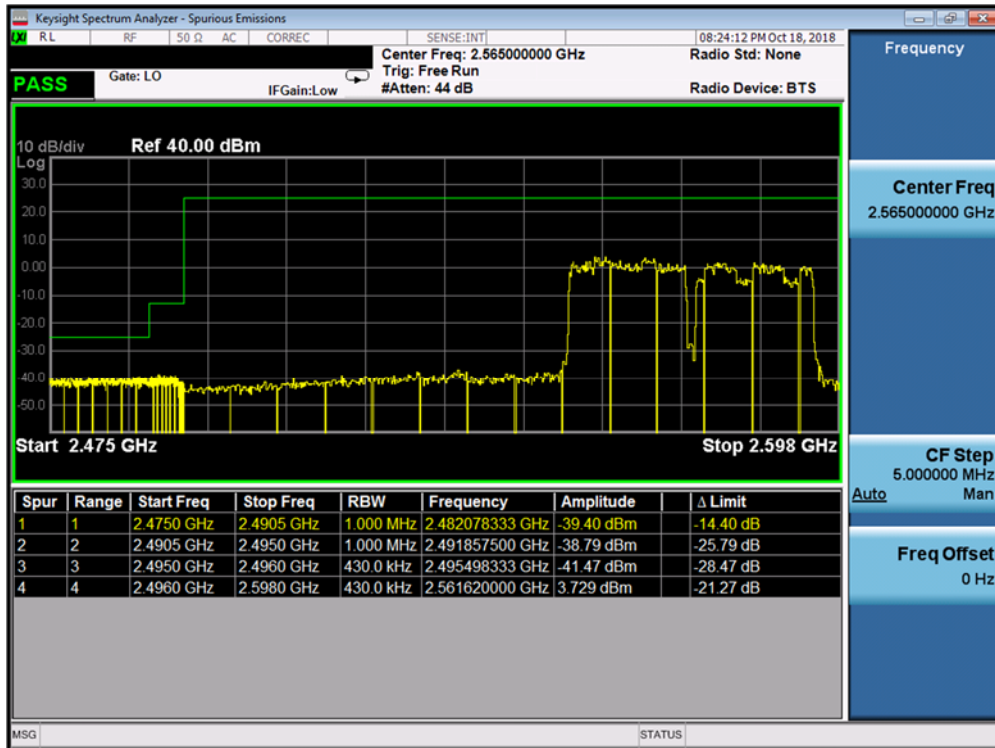


Plot 7-167. Lower ACP Plot (Band 41 QPSK – PCC:15 MHz SCC:20 MHz – Full RB)

FCC ID: A3LSMA9200	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset		Page 108 of 143

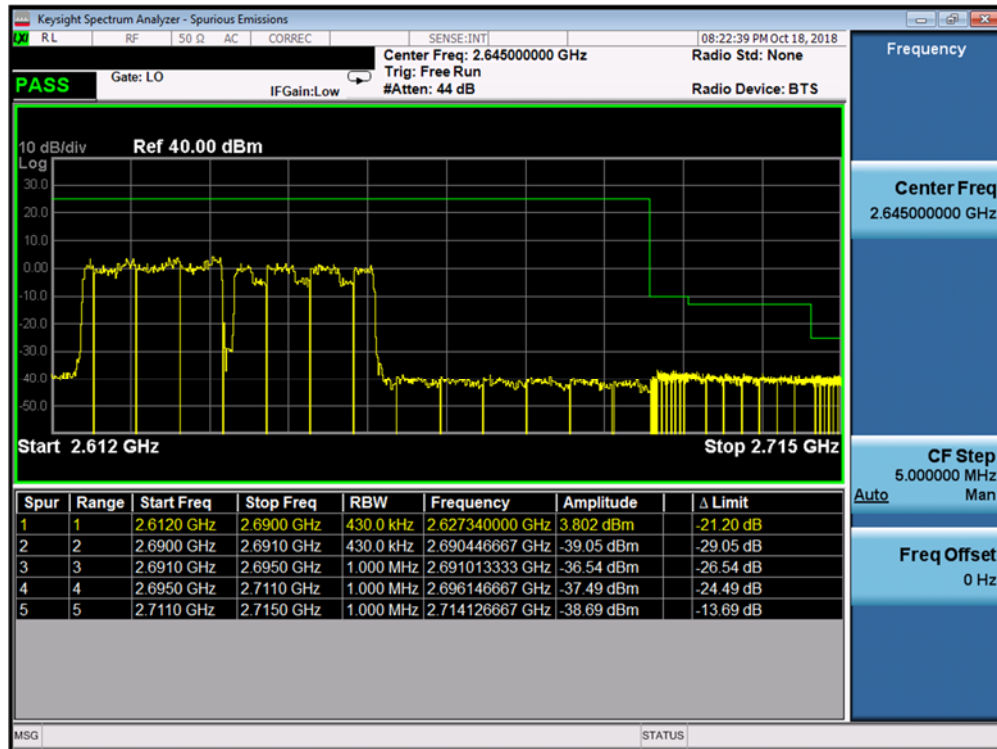


Plot 7-168. Upper ACP Plot (Band 41 QPSK – PCC:15 MHz SCC:20 MHz – Full RB)



Plot 7-169. Lower ACP Plot (Band 41 QPSK – PCC:20 MHz SCC:20 MHz – Full RB)

FCC ID: A3LSMA9200	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset		Page 109 of 143



Plot 7-170. Upper ACP Plot (Band 41 QPSK – PCC:20 MHz SCC:20 MHz – Full RB)

FCC ID: A3LSMA9200	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset		Page 110 of 143

7.7 Radiated Power (ERP/EIRP)

Test Overview

Effective Radiated Power (ERP) and Equivalent Isotropic Radiated Power (EIRP) measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

Test Procedures Used

KDB 971168 D01 v03r01 – Section 5.2.1

ANSI/TIA-603-E-2016 – Section 2.2.17

Test Settings

1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation. For signals with burst transmission, the signal analyzer's "time domain power" measurement capability is used
2. RBW = 1 – 5% of the expected OBW, not to exceed 1MHz
3. VBW $\geq$ 3 x RBW
4. Span = 1.5 times the OBW
5. No. of sweep points $\geq$ 2 x span / RBW
6. Detector = RMS
7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto". Trigger is set to enable triggering only on full power bursts with the sweep time set less than or equal to the transmission burst duration
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation. For signals with burst transmission, the "gating" function was enabled to ensure that measurements are performed during times in which the transmitter is operating at its maximum power
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize

FCC ID: A3LSMA9200	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

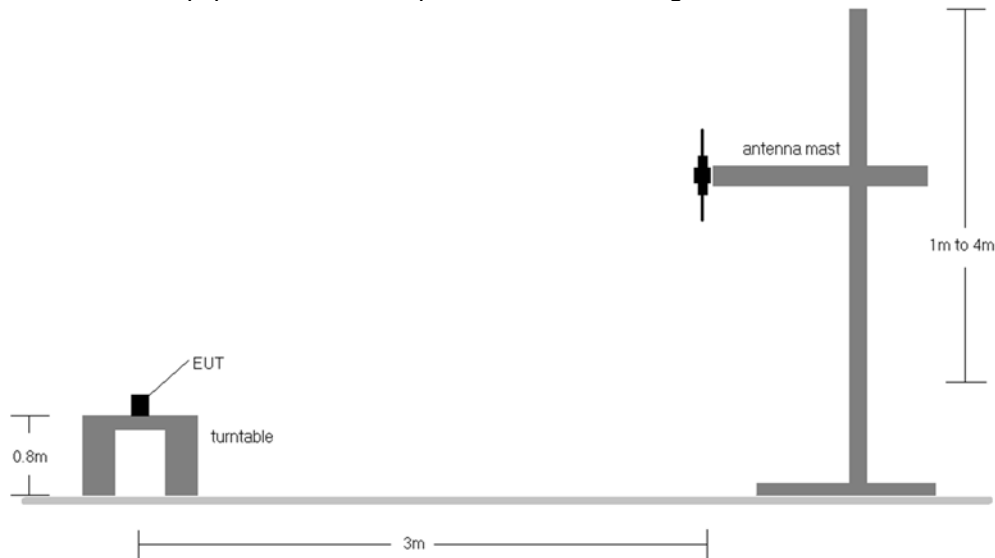


Figure 7-6. Radiated Test Setup <1GHz

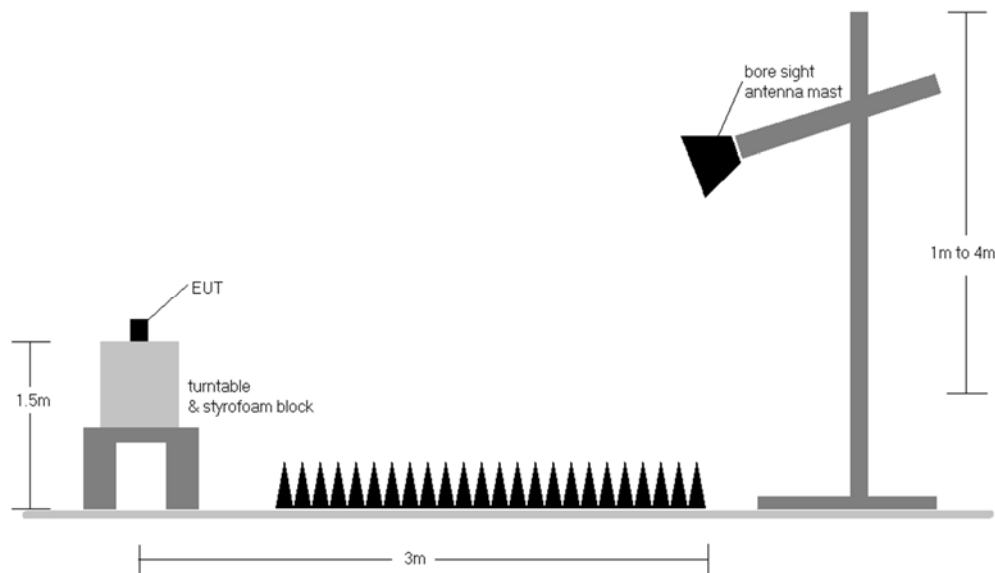


Figure 7-7. Radiated Test Setup >1GHz

Test Notes

- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 2) This unit was tested with its standard battery.

FCC ID: A3LSMA9200	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
699.70	1.4	QPSK	H	150	358	1 / 0	19.96	1.10	18.91	0.078	34.77	-15.86	21.06	0.128	36.99	-15.93
707.50	1.4	QPSK	H	150	2	1 / 0	20.16	1.13	19.14	0.082	34.77	-15.63	21.29	0.135	36.99	-15.70
715.30	1.4	QPSK	H	150	1	1 / 0	20.00	1.16	19.01	0.080	34.77	-15.76	21.16	0.131	36.99	-15.83
715.30	1.4	16-QAM	H	150	1	1 / 0	19.57	1.16	18.58	0.072	34.77	-16.19	20.73	0.118	36.99	-16.26
699.70	1.4	64-QAM	H	150	358	1 / 0	18.66	1.10	17.61	0.058	34.77	-17.16	19.76	0.095	36.99	-17.23
700.50	3	QPSK	H	150	0	1 / 0	19.96	1.10	18.91	0.078	34.77	-15.86	21.06	0.128	36.99	-15.93
707.50	3	QPSK	H	150	0	1 / 0	19.91	1.13	18.89	0.077	34.77	-15.88	21.04	0.127	36.99	-15.95
714.50	3	QPSK	H	150	3	1 / 0	20.25	1.16	19.26	0.084	34.77	-15.51	21.41	0.138	36.99	-15.58
714.50	3	16-QAM	H	150	0	1 / 0	19.96	1.16	18.97	0.079	34.77	-15.80	21.12	0.129	36.99	-15.87
714.50	3	64-QAM	H	150	0	1 / 0	18.76	1.16	17.77	0.060	34.77	-17.00	19.92	0.098	36.99	-17.07

Table 7-5. ERP Data (Band 12)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
701.50	5	QPSK	H	150	1	1 / 0	20.05	1.11	19.01	0.080	34.77	-15.77	21.16	0.130	36.99	-15.83
707.50	5	QPSK	H	150	8	1 / 0	20.06	1.13	19.04	0.080	34.77	-15.73	21.19	0.132	36.99	-15.80
713.50	5	QPSK	H	150	5	1 / 0	19.96	1.15	18.96	0.079	34.77	-15.81	21.11	0.129	36.99	-15.88
701.50	5	16-QAM	H	150	1	1 / 0	19.57	1.11	18.53	0.071	34.77	-16.25	20.68	0.117	36.99	-16.31
713.50	5	64-QAM	H	150	5	1 / 0	18.51	1.15	17.51	0.056	34.77	-17.26	19.66	0.093	36.99	-17.33
704.00	10	QPSK	H	150	358	1 / 0	19.96	1.12	18.93	0.078	34.77	-15.84	21.08	0.128	36.99	-15.91
707.50	10	QPSK	H	150	1	1 / 0	20.46	1.13	19.44	0.088	34.77	-15.33	21.59	0.144	36.99	-15.40
711.00	10	QPSK	H	150	5	1 / 0	19.96	1.14	18.95	0.079	34.77	-15.82	21.10	0.129	36.99	-15.89
707.50	10	16-QAM	H	150	1	1 / 0	19.56	1.13	18.54	0.071	34.77	-16.23	20.69	0.117	36.99	-16.30
704.00	10	64-QAM	H	150	358	1 / 0	18.46	1.12	17.43	0.055	34.77	-17.34	19.58	0.091	36.99	-17.41
707.50	10	QPSK	V	150	80	1 / 0	18.56	1.16	17.57	0.057	34.77	-17.20	19.72	0.094	36.99	-17.27

Table 7-6. ERP Data (Band 12/17)

FCC ID: A3LSMA9200	 MEASUREMENT REPORT (CERTIFICATION) 			Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset		Page 113 of 143

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
824.70	1.4	QPSK	H	150	7	1 / 5	20.17	1.50	19.52	0.090	38.45	-18.93	21.67	0.147	40.61	-18.94
836.50	1.4	QPSK	H	150	9	1 / 5	21.23	1.50	20.58	0.114	38.45	-17.87	22.73	0.187	40.61	-17.88
848.30	1.4	QPSK	H	150	7	1 / 5	21.99	1.50	21.34	0.136	38.45	-17.11	23.49	0.223	40.61	-17.12
848.30	1.4	16-QAM	H	150	7	1 / 5	20.83	1.50	20.18	0.104	38.45	-18.27	22.33	0.171	40.61	-18.28
848.30	1.4	64-QAM	H	150	7	1 / 5	19.76	1.50	19.11	0.081	38.45	-19.34	21.26	0.134	40.61	-19.35
825.50	3	QPSK	H	150	12	1 / 14	20.49	1.50	19.84	0.096	38.45	-18.61	21.99	0.158	40.61	-18.62
836.50	3	QPSK	H	150	10	1 / 14	21.42	1.50	20.77	0.119	38.45	-17.68	22.92	0.196	40.61	-17.69
847.50	3	QPSK	H	150	10	1 / 14	22.08	1.50	21.43	0.139	38.45	-17.02	23.58	0.228	40.61	-17.03
847.50	3	16-QAM	H	150	10	1 / 14	21.02	1.50	20.37	0.109	38.45	-18.08	22.52	0.179	40.61	-18.09
847.50	3	64-QAM	H	150	10	1 / 14	19.91	1.50	19.26	0.084	38.45	-19.19	21.41	0.138	40.61	-19.20
826.50	5	QPSK	H	150	13	1 / 24	20.85	1.50	20.20	0.105	38.45	-18.25	22.35	0.172	40.61	-18.26
836.50	5	QPSK	H	150	9	1 / 24	21.63	1.50	20.98	0.125	38.45	-17.47	23.13	0.206	40.61	-17.48
846.50	5	QPSK	H	150	6	1 / 24	22.22	1.50	21.57	0.144	38.45	-16.88	23.72	0.236	40.61	-16.89
846.50	5	16-QAM	H	150	6	1 / 24	21.05	1.50	20.40	0.110	38.45	-18.05	22.55	0.180	40.61	-18.06
846.50	5	64-QAM	H	150	6	1 / 24	20.23	1.50	19.58	0.091	38.45	-18.87	21.73	0.149	40.61	-18.88
829.00	10	QPSK	H	150	6	1 / 49	20.99	1.50	20.34	0.108	38.45	-18.11	22.49	0.177	40.61	-18.12
836.50	10	QPSK	H	150	8	1 / 49	21.50	1.50	20.85	0.122	38.45	-17.60	23.00	0.200	40.61	-17.61
844.00	10	QPSK	H	150	8	1 / 49	21.83	1.50	21.18	0.131	38.45	-17.27	23.33	0.215	40.61	-17.28
844.00	10	16-QAM	H	150	8	1 / 49	20.94	1.50	20.29	0.107	38.45	-18.16	22.44	0.175	40.61	-18.17
844.00	10	64-QAM	H	150	8	1 / 49	19.96	1.50	19.31	0.085	38.45	-19.14	21.46	0.140	40.61	-19.15
846.50	5	QPSK	V	150	70	1 / 24	21.76	1.50	21.11	0.129	38.45	-17.34	23.26	0.212	40.61	-17.35

Table 7-7. ERP Data (Band 5)

FCC ID: A3LSMA9200	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1710.70	1.4	QPSK	H	150	50	1 / 5	16.78	5.56	22.34	0.171	30.00	-7.66
1732.50	1.4	QPSK	H	150	337	1 / 5	17.42	5.32	22.74	0.188	30.00	-7.26
1754.30	1.4	QPSK	H	150	50	1 / 5	16.02	5.09	21.11	0.129	30.00	-8.89
1732.50	1.4	16-QAM	H	150	337	1 / 5	16.34	5.32	21.66	0.147	30.00	-8.34
1732.50	1.4	64-QAM	H	150	337	1 / 5	15.00	5.32	20.32	0.108	30.00	-9.68
1711.50	3	QPSK	H	150	8	1 / 0	16.75	5.55	22.30	0.170	30.00	-7.70
1732.50	3	QPSK	H	150	8	1 / 0	17.09	5.32	22.41	0.174	30.00	-7.59
1753.50	3	QPSK	H	150	8	1 / 0	16.20	5.10	21.30	0.135	30.00	-8.70
1711.50	3	16-QAM	H	150	8	1 / 0	15.66	5.55	21.21	0.132	30.00	-8.79
1711.50	3	64-QAM	H	150	8	1 / 0	14.57	5.55	20.12	0.103	30.00	-9.88
1712.50	5	QPSK	H	150	346	1 / 0	15.45	5.55	21.00	0.126	30.00	-9.00
1732.50	5	QPSK	H	150	346	1 / 0	16.97	5.32	22.29	0.170	30.00	-7.71
1752.50	5	QPSK	H	150	346	1 / 0	16.05	5.10	21.15	0.130	30.00	-8.85
1732.50	5	16-QAM	H	150	346	1 / 0	16.04	5.32	21.36	0.137	30.00	-8.64
1732.50	5	64-QAM	H	150	346	1 / 0	15.17	5.32	20.49	0.112	30.00	-9.51
1715.00	10	QPSK	H	150	337	1 / 0	15.89	5.53	21.42	0.139	30.00	-8.58
1732.50	10	QPSK	H	150	337	1 / 0	16.85	5.32	22.17	0.165	30.00	-7.83
1750.00	10	QPSK	H	150	337	1 / 0	15.97	5.12	21.09	0.129	30.00	-8.91
1732.50	10	16-QAM	H	150	337	1 / 0	15.83	5.32	21.15	0.130	30.00	-8.85
1732.50	10	64-QAM	H	150	337	1 / 0	14.76	5.32	20.08	0.102	30.00	-9.92
1717.50	15	QPSK	H	150	363	1 / 74	16.57	5.51	22.08	0.161	30.00	-7.92
1732.50	15	QPSK	H	150	363	1 / 74	17.49	5.32	22.81	0.191	30.00	-7.19
1747.50	15	QPSK	H	150	363	1 / 74	16.17	5.14	21.31	0.135	30.00	-8.69
1732.50	15	16-QAM	H	150	363	1 / 74	16.47	5.32	21.79	0.151	30.00	-8.21
1732.50	15	64-QAM	H	150	363	1 / 74	15.36	5.32	20.68	0.117	30.00	-9.32
1720.00	20	QPSK	H	150	346	1 / 99	16.36	5.49	21.85	0.153	30.00	-8.15
1732.50	20	QPSK	H	150	346	1 / 99	17.09	5.32	22.41	0.174	30.00	-7.59
1745.00	20	QPSK	H	150	346	1 / 99	16.22	5.15	21.37	0.137	30.00	-8.63
1732.50	20	16-QAM	H	150	346	1 / 99	16.20	5.32	21.52	0.142	30.00	-8.48
1732.50	20	64-QAM	H	150	346	1 / 99	15.45	5.32	20.77	0.119	30.00	-9.23
1732.50	15	QPSK	V	150	136	1 / 74	15.82	5.32	21.14	0.130	30.00	-8.86

Table 7-8. EIRP Data (Band 4)

FCC ID: A3LSMA9200	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset	Page 115 of 143

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
2557.50	5	QPSK	V	150	72	1 / 24	16.56	5.94	22.51	0.178	33.01	-10.50
2605.00	5	QPSK	V	150	72	1 / 9	16.13	6.12	22.25	0.168	33.01	-10.76
2652.50	5	QPSK	V	150	70	1 / 3	16.13	6.33	22.46	0.176	33.01	-10.55
2557.50	5	16-QAM	V	150	72	1 / 24	15.69	5.94	21.64	0.146	33.01	-11.37
2557.50	5	64-QAM	V	150	72	1 / 24	14.63	5.94	20.57	0.114	33.01	-12.44
2560.00	10	QPSK	V	150	71	1 / 49	16.44	5.95	22.39	0.173	33.01	-10.62
2605.00	10	QPSK	V	150	68	1 / 45	16.20	6.12	22.32	0.171	33.01	-10.69
2650.00	10	QPSK	V	150	71	1 / 5	16.23	6.32	22.55	0.180	33.01	-10.46
2650.00	10	16-QAM	V	150	71	1 / 49	15.48	6.32	21.80	0.151	33.01	-11.21
2650.00	10	64-QAM	V	150	71	1 / 49	14.47	6.32	20.79	0.120	33.01	-12.22
2562.50	15	QPSK	V	150	74	1 / 0	16.52	5.96	22.48	0.177	33.01	-10.53
2605.00	15	QPSK	V	150	71	1 / 52	16.47	6.12	22.59	0.181	33.01	-10.42
2647.50	15	QPSK	V	150	70	1 / 8	16.27	6.31	22.58	0.181	33.01	-10.43
2605.00	15	16-QAM	V	150	71	1 / 0	15.65	6.12	21.77	0.150	33.01	-11.24
2605.00	15	64-QAM	V	150	71	1 / 0	14.49	6.12	20.61	0.115	33.01	-12.40
2565.00	20	QPSK	V	150	73	1 / 99	16.59	5.97	22.56	0.180	33.01	-10.45
2605.00	20	QPSK	V	150	70	1 / 76	16.37	6.12	22.49	0.178	33.01	-10.52
2645.00	20	QPSK	V	150	69	1 / 99	16.34	6.30	22.63	0.183	33.01	-10.38
2645.00	20	16-QAM	V	150	69	1 / 99	15.54	6.30	21.84	0.153	33.01	-11.17
2645.00	20	64-QAM	V	150	69	1 / 99	14.61	6.30	20.91	0.123	33.01	-12.10
2645.00	20	QPSK	H	150	342	1 / 99	15.46	6.30	21.76	0.150	33.01	-11.25

Table 7-9. EIRP Data (Band 41)

FCC ID: A3LSMA9200	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset	Page 116 of 143

7.8 Radiated Spurious Emissions Measurements

Test Overview

Radiated spurious emissions measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas.

Test Procedures Used

KDB 971168 D01 v03r01 – Section 5.8

ANSI/TIA-603-E-2016 – Section 2.2.12

Test Settings

1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
2. VBW $\geq 3 \times$ RBW
3. Span = 1.5 times the OBW
4. No. of sweep points $\geq 2 \times$ span / RBW
5. Detector = RMS
6. Trace mode = Average (Max Hold for pulsed emissions)
7. The trace was allowed to stabilize

FCC ID: A3LSMA9200	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset	Page 117 of 143

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

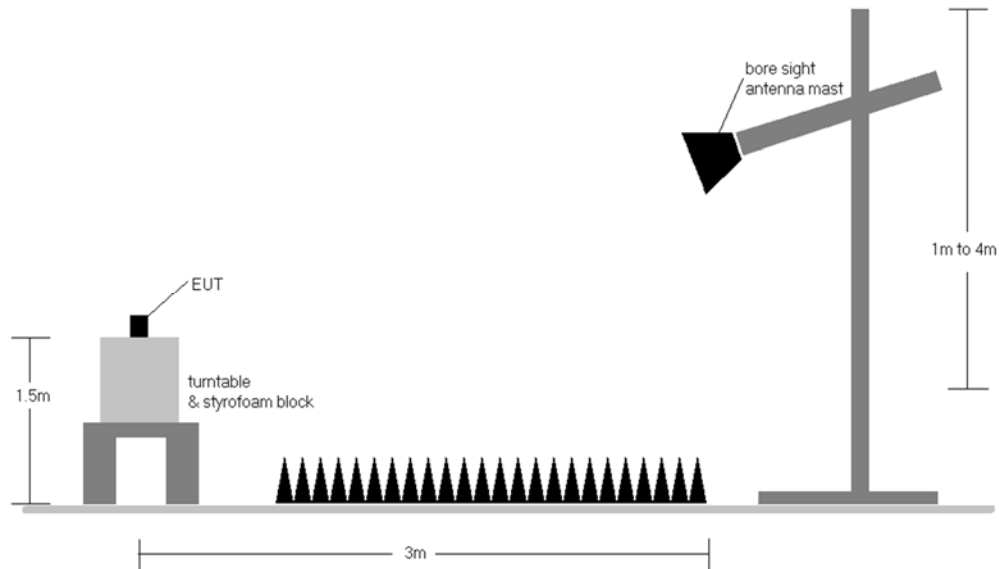


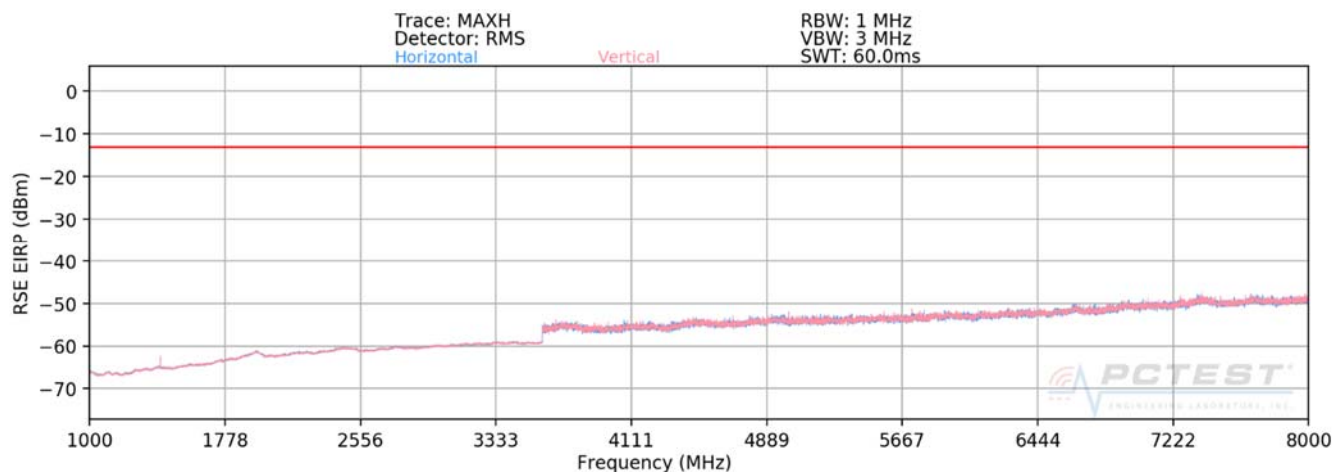
Figure 7-8. Test Instrument & Measurement Setup

Test Notes

- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 2) This unit was tested with its standard battery.
- 3) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.
- 4) Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
- 5) The "-" shown in the following RSE tables are used to denote a noise floor measurement.

FCC ID: A3LSMA9200	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset	Page 118 of 143

Band 17/12



Plot 7-171. Radiated Spurious Plot above 1GHz (Band 17/12)

OPERATING FREQUENCY: 704.00 MHz
CHANNEL: 23060
MODULATION SIGNAL: QPSK
BANDWIDTH: 5.0 MHz
DISTANCE: 3 meters
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1408.00	H	164	271	-77.75	7.54	-70.21	-57.2
2112.00	H	150	130	-78.21	8.85	-69.36	-56.4
2816.00	H	-	-	-79.64	10.12	-69.52	-56.5

Table 7-10. Radiated Spurious Data (Band 17/12– Low Channel)

FCC ID: A3LSMA9200	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset		Page 119 of 143

OPERATING FREQUENCY: 707.50 MHz
 CHANNEL: 23095
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 5.0 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1415.00	H	215	249	-78.03	7.63	-70.40	-57.4
2122.50	H	-	-	-78.41	8.86	-69.55	-56.5
2830.00	H	-	-	-79.34	10.10	-69.25	-56.2

Table 7-11. Radiated Spurious Data (Band 17/12– Mid Channel)

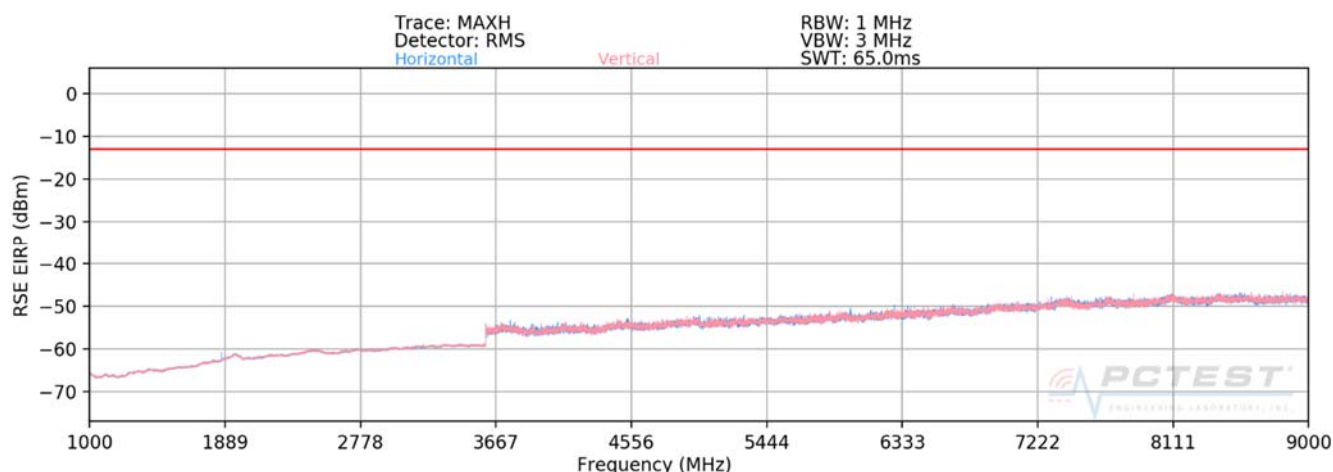
OPERATING FREQUENCY: 711.00 MHz
 CHANNEL: 23130
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 5.0 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1422.00	H	147	115	-76.23	7.72	-68.51	-55.5
2133.00	H	147	188	-73.06	8.87	-64.19	-51.2
2844.00	H	-	-	-77.97	10.07	-67.90	-54.9

Table 7-12. Radiated Spurious Data (Band 17/12– High Channel)

FCC ID: A3LSMA9200	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset	Page 120 of 143

Band 5



Plot 7-172. Radiated Spurious Plot above 1GHz (Band 5)

OPERATING FREQUENCY: 825.50 MHz
CHANNEL: 26805
MODULATION SIGNAL: QPSK
BANDWIDTH: 3.0 MHz
DISTANCE: 3 meters
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1651.00	H	-	-	-75.32	9.39	-65.93	-52.9
2476.50	H	102	116	-70.06	8.78	-61.28	-48.3
3302.00	H	-	-	-70.46	8.43	-62.03	-49.0

Table 7-13. Radiated Spurious Data (Band 5 – Low Channel)

FCC ID: A3LSMA9200	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset		Page 121 of 143

OPERATING FREQUENCY: 836.50 MHz
 CHANNEL: 26915
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 3.0 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1673.00	V	113	267	-74.54	9.44	-65.10	-52.1
2509.50	V	118	121	-70.39	8.72	-61.67	-48.7
3346.00	V	-	-	-70.43	8.72	-61.71	-48.7

Table 7-14. Radiated Spurious Data (Band 5 – Mid Channel)

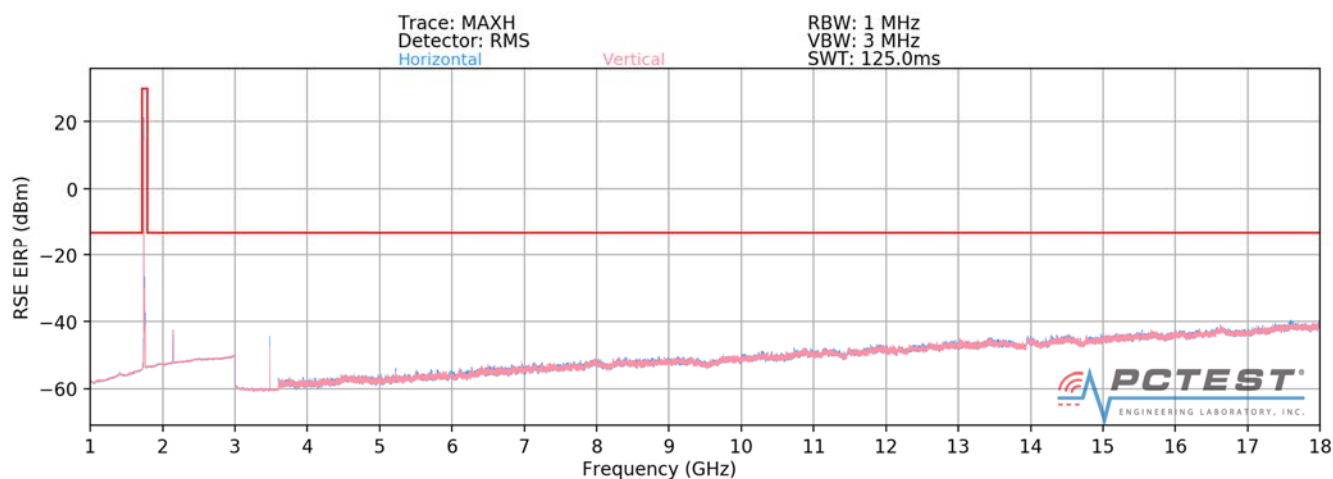
OPERATING FREQUENCY: 847.50 MHz
 CHANNEL: 27025
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 3.0 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1695.00	V	-	-	-75.32	9.48	-65.84	-52.8
2542.50	V	314	8	-71.01	8.57	-62.44	-49.4
3390.00	V	-	-	-70.94	9.01	-61.93	-48.9

Table 7-15. Radiated Spurious Data (Band 5 – High Channel)

FCC ID: A3LSMA9200	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset	Page 122 of 143

Band 4



Plot 7-173. Radiated Spurious Plot above 1GHz (Band 4)

OPERATING FREQUENCY: 1717.50 MHz
CHANNEL: 20025
MODULATION SIGNAL: QPSK
BANDWIDTH: 15.0 MHz
DISTANCE: 3 meters
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3435.00	H	113	326	-57.68	9.84	-47.84	-34.8
5152.50	H	319	125	-67.66	10.70	-56.96	-44.0
6870.00	H	182	350	-65.95	11.67	-54.28	-41.3
8587.50	H	-	-	-67.96	11.10	-56.86	-43.9

Table 7-16. Radiated Spurious Data (Band 4 – Low Channel)

FCC ID: A3LSMA9200	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset		Page 123 of 143

OPERATING FREQUENCY: 1732.50 MHz
 CHANNEL: 20175
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 15.0 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3465.00	H	134	325	-57.58	9.88	-47.70	-34.7
5197.50	H	140	319	-68.40	10.76	-57.65	-44.6
6930.00	H	137	45	-68.51	11.74	-56.77	-43.8
8662.50	H	-	-	-68.12	11.02	-57.10	-44.1

Table 7-17. Radiated Spurious Data (Band 4 – Mid Channel)

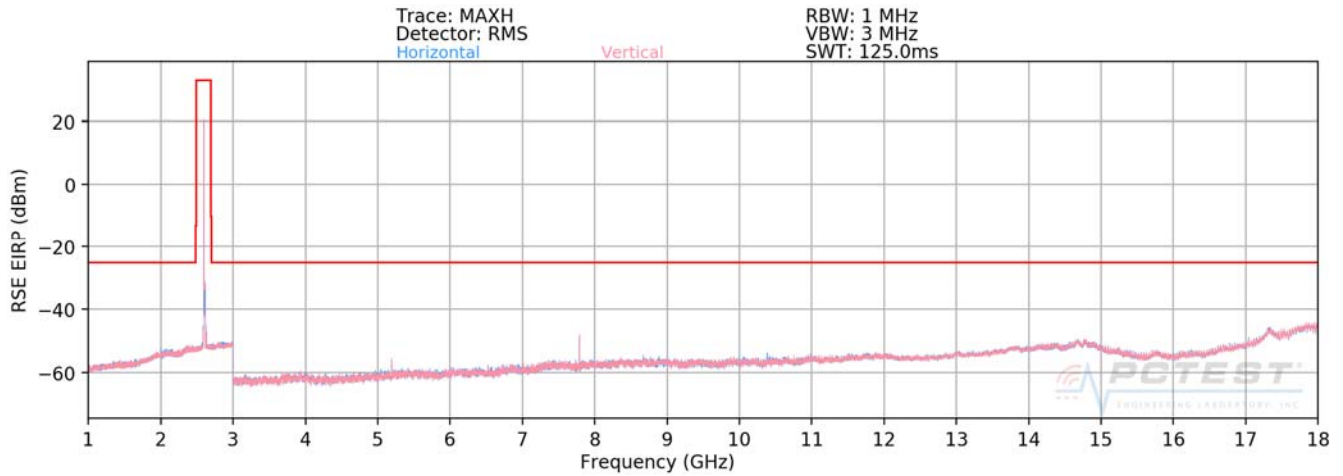
OPERATING FREQUENCY: 1747.50 MHz
 CHANNEL: 20325
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 15.0 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3495.00	H	149	319	-64.44	9.92	-54.52	-41.5
5242.50	H	129	321	-70.40	10.73	-59.67	-46.7
6990.00	H	118	286	-71.42	11.84	-59.58	-46.6
8737.50	H	-	-	-68.36	10.99	-57.38	-44.4

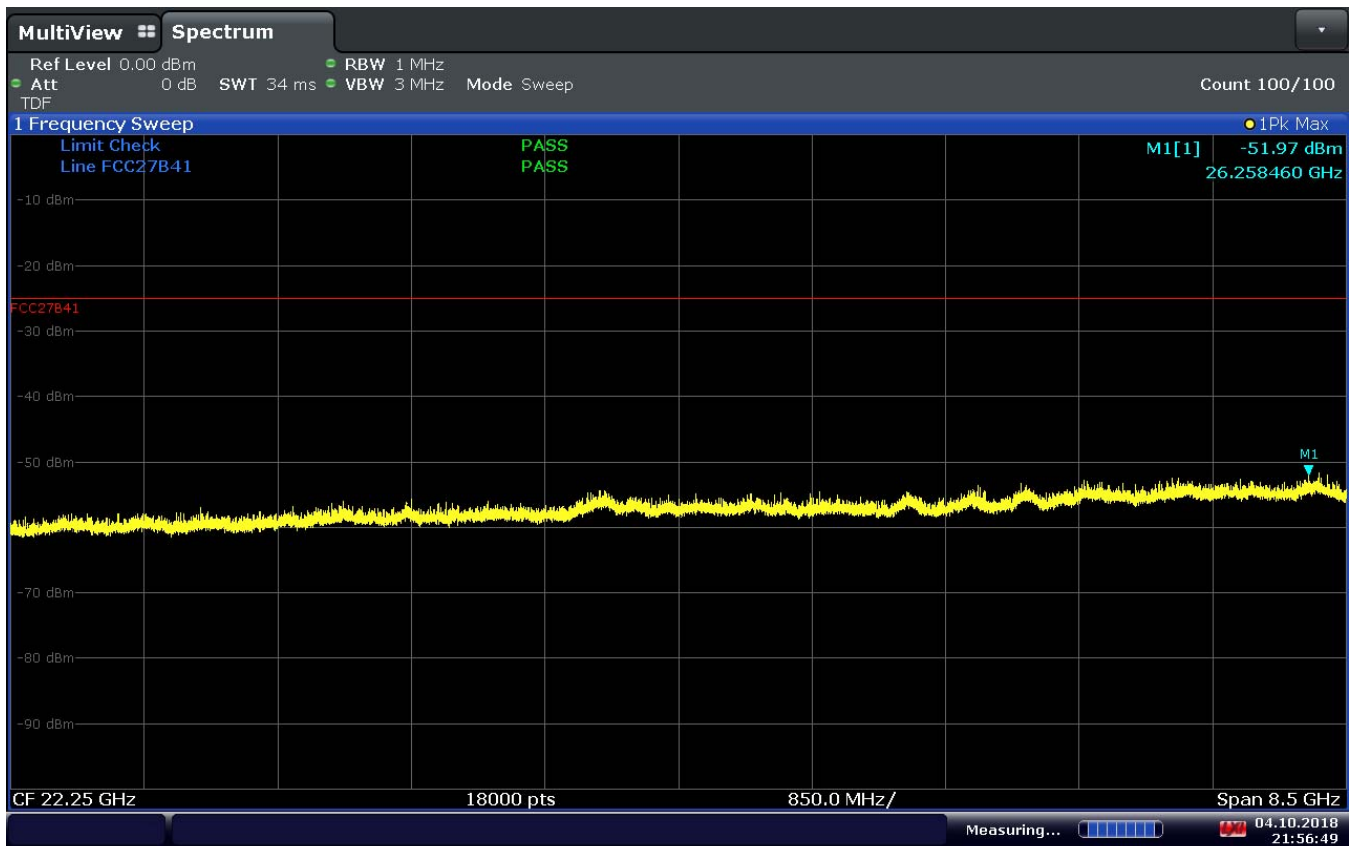
Table 7-18. Radiated Spurious Data (Band 4 – High Channel)

FCC ID: A3LSMA9200	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset	Page 124 of 143

Band 41 (Narrow Band)



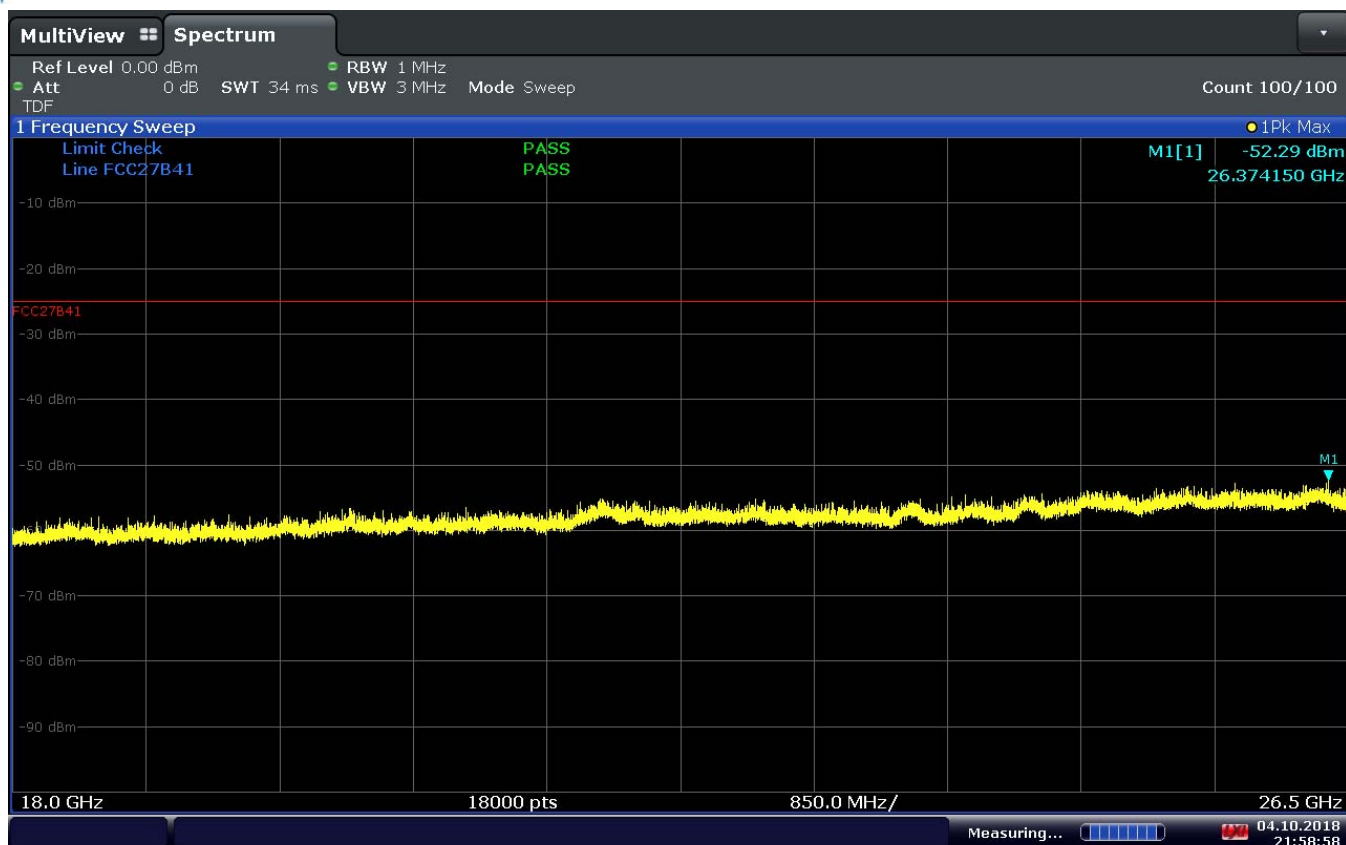
Plot 7-174. Radiated Spurious Plot 1GHz - 18GHz (Band 41)



21:56:50 04.10.2018

Plot 7-175. Radiated Spurious Plot 18GHz - 26.5GHz (Band 41), H Pol.

FCC ID: A3LSMA9200	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset	Page 125 of 143



21:58:58 04.10.2018

Plot 7-176. Radiated Spurious Plot 18GHz – 26.5GHz (Band 41) , V Pol.

OPERATING FREQUENCY: 2565.00 MHz
CHANNEL: 40340
MODULATION SIGNAL: QPSK
BANDWIDTH: 20.0 MHz
DISTANCE: 3 meters
LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5130.00	H	313	189	-52.32	8.78	-43.54	-18.5
7695.00	H	100	126	-41.09	9.31	-31.78	-6.8
10260.00	H	246	176	-44.19	9.78	-34.41	-9.4
12825.00	H	111	267	-50.71	8.80	-41.91	-16.9
15390.00	H	-	-	-49.76	8.89	-40.88	-15.9

Table 7-19. Radiated Spurious Data (Band 41 – Low Channel)

FCC ID: A3LSMA9200	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset	Page 126 of 143

OPERATING FREQUENCY: 2605.00 MHz
 CHANNEL: 40740
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 20.0 MHz
 DISTANCE: 3 meters
 LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5210.00	H	294	172	-56.18	9.03	-47.16	-22.2
7815.00	H	111	295	-52.15	9.29	-42.86	-17.9
10420.00	H	330	116	-50.31	9.50	-40.81	-15.8
13025.00	H	396	152	-51.60	8.75	-42.85	-17.8
15630.00	H	-	-	-48.66	8.47	-40.19	-15.2

Table 7-20. Radiated Spurious Data (Band 41 – Mid Channel)

OPERATING FREQUENCY: 2645.00 MHz
 CHANNEL: 41140
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 20.0 MHz
 DISTANCE: 3 meters
 LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5290.00	H	313	189	-51.77	8.99	-42.78	-17.8
7935.00	H	100	126	-40.04	9.35	-30.69	-5.7
10580.00	H	246	176	-42.46	9.39	-33.07	-8.1
13225.00	H	111	267	-48.87	8.67	-40.20	-15.2
15870.00	H	-	-	-48.09	8.46	-39.64	-14.6

Table 7-21. Radiated Spurious Data (Band 41 – High Channel)

FCC ID: A3LSMA9200	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset	Page 127 of 143

7.9 Uplink Carrier Aggregation Radiated Measurements

\$2.1053, \$27.53(m)

Test Overview

Radiated spurious emissions measurements are performed using the substitution method described in ANSI/TIA-603-D-2010 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as peak measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

Test Procedures Used

KDB 971168 D01 v02r02 – Section 5.8

ANSI/TIA-603-D-2010 – Section 2.2.12

Test Settings

1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
2. VBW $\geq 3 \times$ RBW
3. No. of sweep points $\geq 2 \times$ span / RBW
4. Detector = RMS
5. Trace mode = Max Hold
6. The trace was allowed to stabilize

FCC ID: A3LSMA9200	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset	Page 128 of 143

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

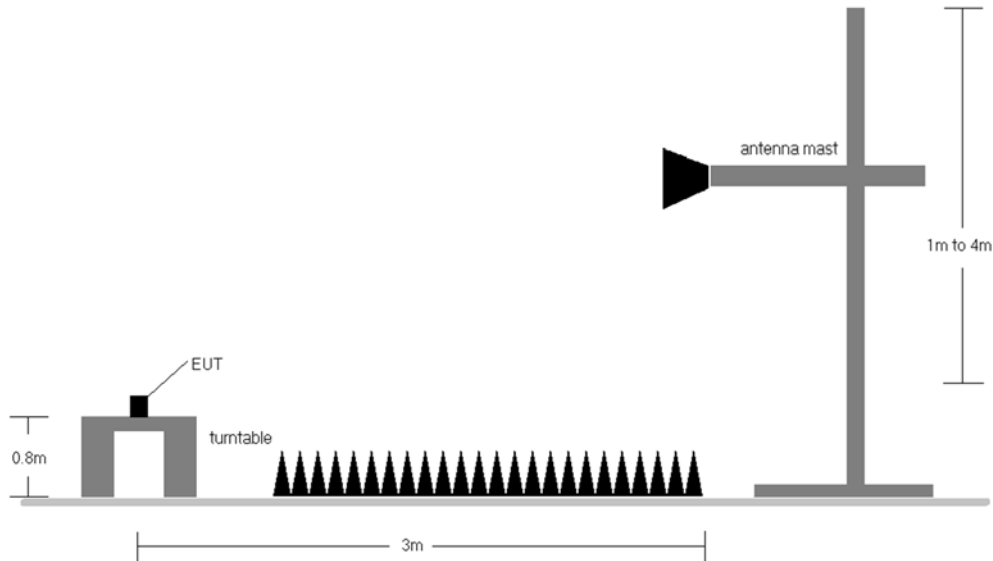
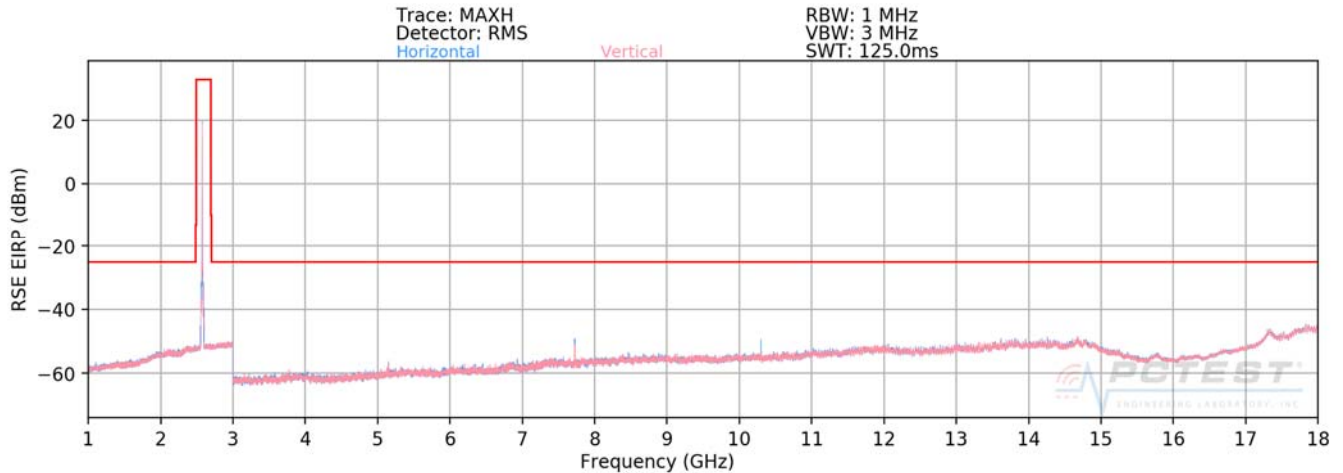


Figure 7-9. Test Instrument & Measurement Setup

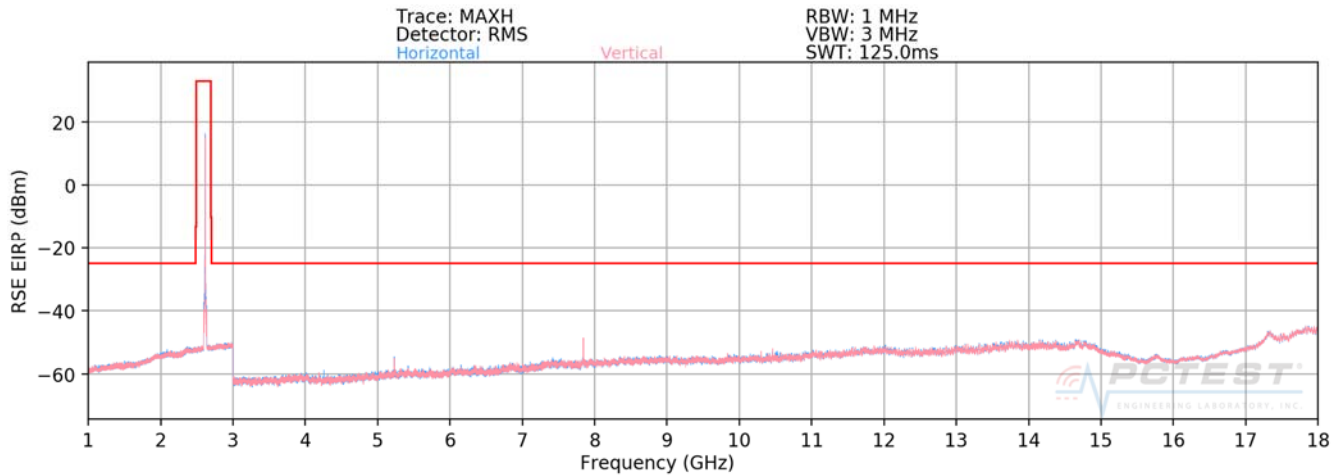
Test Notes

- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 2) This unit was tested with its standard battery.
- 3) Radiated spurious emissions measurements were evaluated for the two contiguous channels using various combinations of RB size, RB offset, modulation, and channel bandwidth. The worst case (highest) emissions were found while operating with QPSK modulation with both carriers set to transmit using 1RB.
- 4) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.
- 5) Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
- 6) No significant emissions were found as a result of two uplink carriers operating contiguously.

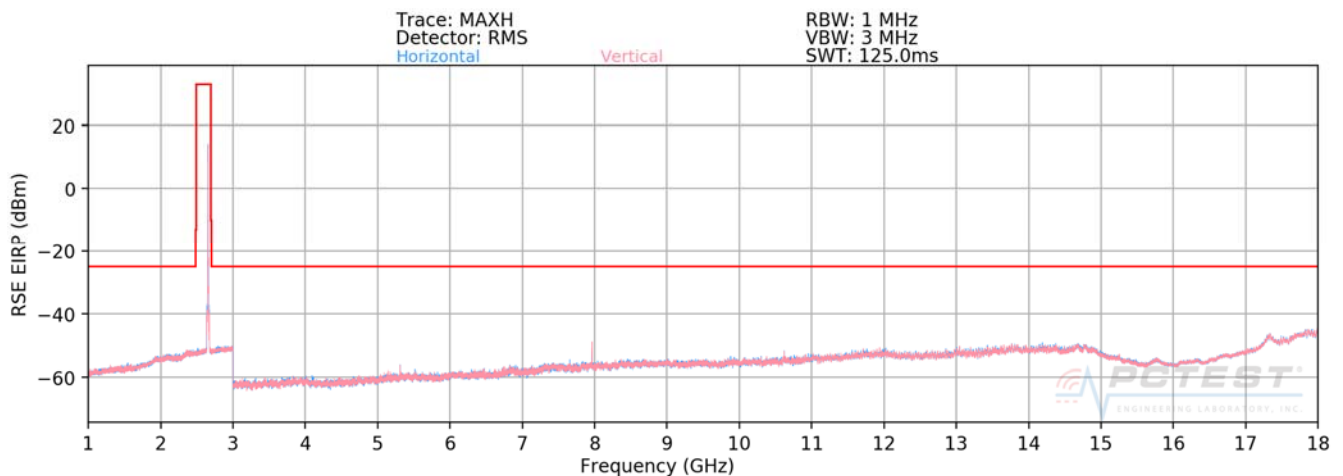
FCC ID: A3LSMA9200	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset	Page 129 of 143



Plot 7-177. Radiated Spurious Plot (ULCA B41 Low Channel PCC: RB 1 Offset 99, SCC: RB 1 Offset 0)

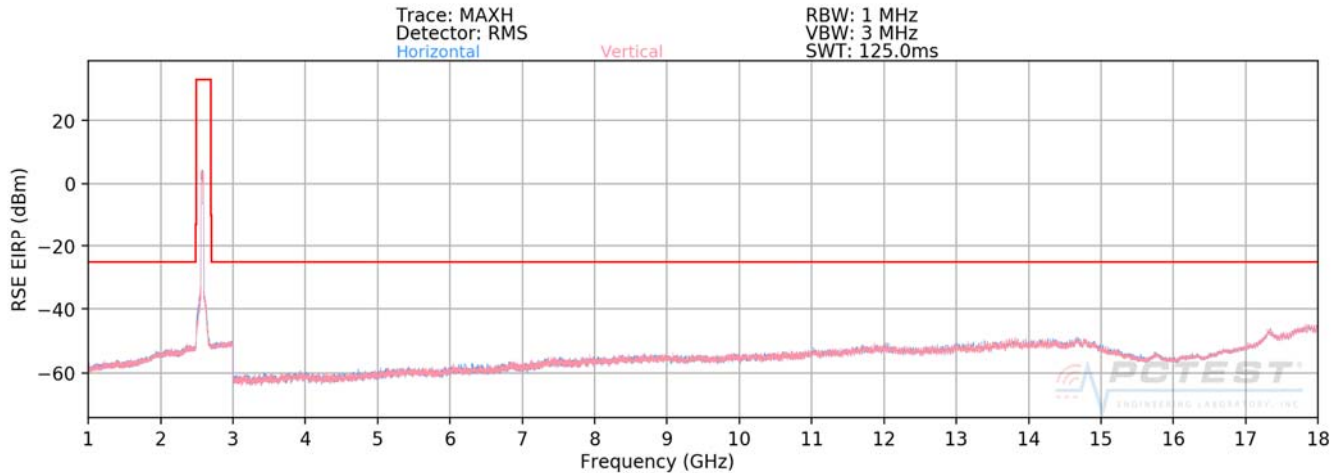


Plot 7-178. Radiated Spurious Plot (ULCA B41 Mid Channel PCC: RB 1 Offset 99, SCC: RB 1 Offset 0)

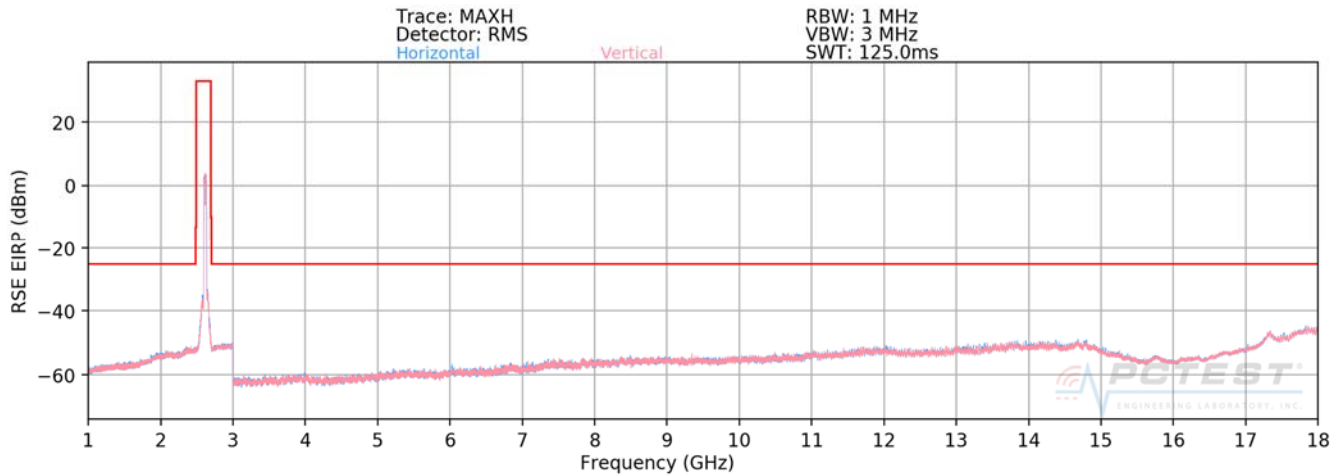


Plot 7-179. Radiated Spurious Plot (ULCA B41 High Channel PCC: RB 1 Offset 99, SCC: RB 1 Offset 0)

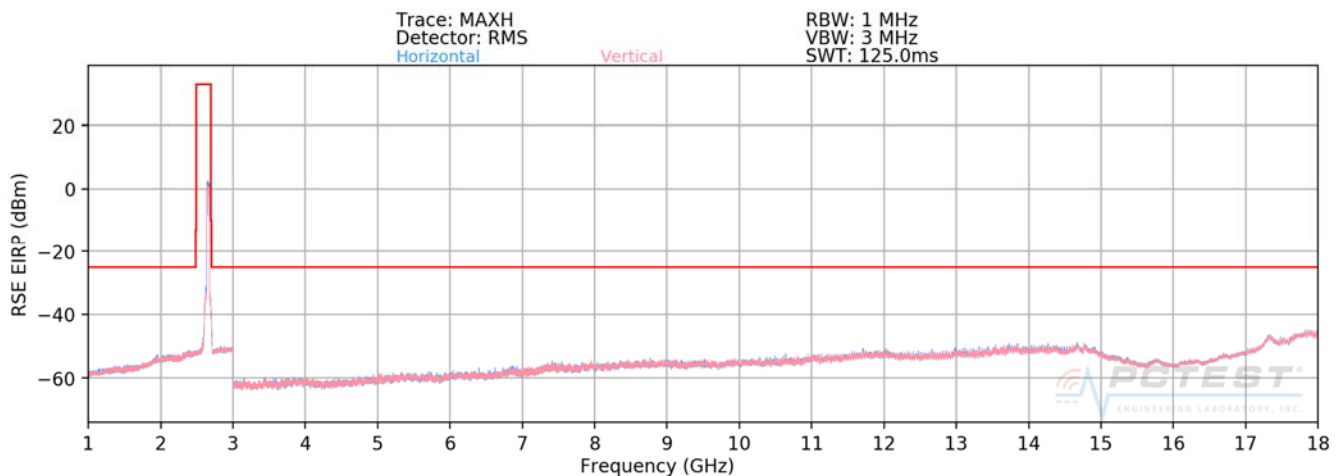
FCC ID: A3LSMA9200	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset		Page 130 of 143



Plot 7-180. Radiated Spurious Plot (ULCA B41 Low Channel PCC: RB 100 Offset 0, SCC: RB 100 Offset 0)



Plot 7-181. Radiated Spurious Plot (ULCA B41 Mid Channel PCC: RB 100 Offset 0, SCC: RB 100 Offset 0)



Plot 7-182. Radiated Spurious Plot (ULCA B41 High Channel PCC: RB 100 Offset 0, SCC: RB 100 Offset 0)

FCC ID: A3LSMA9200	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1809140179-03.A3L	Test Dates: 8/30 - 10/18/2018	EUT Type: Portable Handset	Page 131 of 143

OPERATING FREQUENCY (PCC): 2565.00 MHz
 OPERATING FREQUENCY (SCC): 2584.80
 CHANNEL (PCC): 40340
 CHANNEL (SCC): 40538
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 20.0 MHz
 DISTANCE: 3 meters
 LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5130.00	H	206	53	-61.78	8.63	-53.15	-28.1
7695.00	H	136	310	-53.26	8.56	-44.70	-19.7
10260.00	H	155	51	-55.31	9.61	-45.70	-20.7
12825.00	H	210	301	-53.91	9.08	-44.82	-19.8
15390.00	H	-	-	-53.75	8.44	-45.30	-20.3

Table 7-22. Radiated Spurious Data (ULCA B41 Low Channel PCC: RB 1 Offset 99, SCC: RB 1 Offset 0)

OPERATING FREQUENCY (PCC): 2605.00 MHz
 OPERATING FREQUENCY (SCC): 2624.80
 CHANNEL (PCC): 40740
 CHANNEL (SCC): 40938
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 20.0 MHz
 DISTANCE: 3 meters
 LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5210.00	H	188	48	-59.81	8.68	-51.12	-26.1
7815.00	H	132	328	-52.56	8.70	-43.86	-18.9
10420.00	H	118	46	-54.73	9.57	-45.16	-20.2
13025.00	H	197	295	-54.55	8.92	-45.63	-20.6
15630.00	H	-	-	-53.08	8.20	-44.88	-19.9

Table 7-23. Radiated Spurious Data (ULCA B41 Mid Channel PCC: RB 1 Offset 99, SCC: RB 1 Offset 0)

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OPERATING FREQUENCY (PCC):	2645.00	MHz
OPERATING FREQUENCY (SCC):	2664.80	
CHANNEL (PCC):	41140	
CHANNEL (SCC):	41338	
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5290.00	H	107	61	-62.57	8.71	-53.86	-28.9
7935.00	H	127	319	-54.20	8.75	-45.45	-20.4
10580.00	H	116	49	-53.27	9.47	-43.80	-18.8
13225.00	H	183	267	-55.19	9.02	-46.17	-21.2
15870.00	H	-	-	-53.39	8.16	-45.23	-20.2

Table 7-24. Radiated Spurious Data (ULCA B41 High Channel PCC: RB 1 Offset 99, SCC: RB 1 Offset 0)

FCC ID: A3LSMA9200	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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7.10 Frequency Stability / Temperature Variation

Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI/TIA-603-E-2016. The frequency stability of the transmitter is measured by:

- a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

For Part 22, the frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ (± 2.5 ppm) of the center frequency. For Part 27, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Procedure Used

ANSI/TIA-603-E-2016

Test Settings

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a "standby" condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

Test Setup

The EUT was connected via an RF cable to a spectrum analyzer with the EUT placed inside an environmental chamber.

Test Notes

None

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Band 12/17 Frequency Stability Measurements

OPERATING FREQUENCY: 707,500,000 Hz
 CHANNEL: 23790
 REFERENCE VOLTAGE: 4.26 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.26	+ 20 (Ref)	707,499,861	-139	-0.0000196
100 %		- 30	707,499,930	-70	-0.0000099
100 %		- 20	707,499,971	-29	-0.0000041
100 %		- 10	707,499,911	-89	-0.0000125
100 %		0	707,499,826	-174	-0.0000247
100 %		+ 10	707,499,837	-163	-0.0000230
100 %		+ 20	707,499,907	-93	-0.0000131
100 %		+ 30	707,499,818	-182	-0.0000257
100 %		+ 40	707,499,829	-171	-0.0000241
100 %		+ 50	707,499,912	-88	-0.0000125
BATT. ENDPOINT	3.42	+ 20	707,499,991	-9	-0.0000012

Table 7-25. Frequency Stability Data (Band 12/17)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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Band 12/17 Frequency Stability Measurements

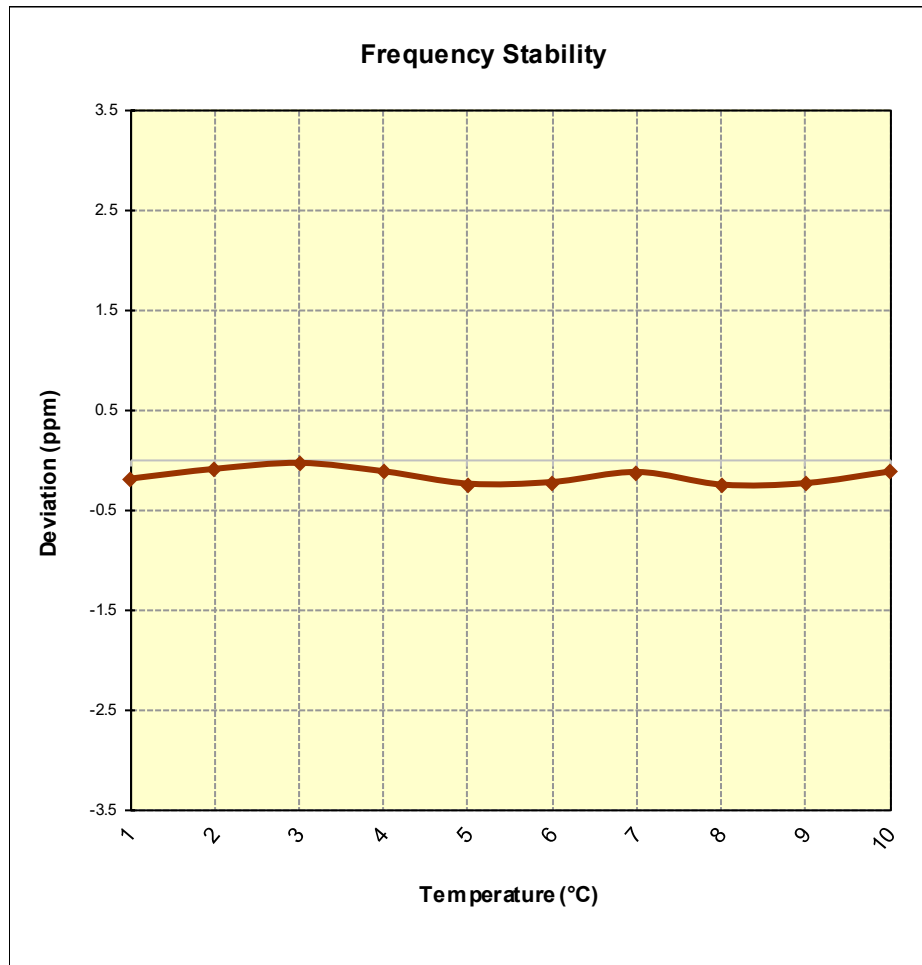


Figure 7-10. Frequency Stability Graph (Band 12/17)

FCC ID: A3LSMA9200		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 5 Frequency Stability Measurements

OPERATING FREQUENCY: 831,500,000 Hz
 CHANNEL: 26865
 REFERENCE VOLTAGE: 4.26 VDC
 DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.26	+ 20 (Ref)	831,499,967	-33	-0.0000040
100 %		- 30	831,499,965	-35	-0.0000043
100 %		- 20	831,499,978	-22	-0.0000026
100 %		- 10	831,499,859	-141	-0.0000170
100 %		0	831,499,966	-34	-0.0000041
100 %		+ 10	831,499,887	-113	-0.0000136
100 %		+ 20	831,499,933	-67	-0.0000081
100 %		+ 30	831,499,854	-146	-0.0000175
100 %		+ 40	831,499,916	-84	-0.0000101
100 %		+ 50	831,499,985	-15	-0.0000018
BATT. ENDPOINT	3.42	+ 20	831,499,885	-115	-0.0000138

Table 7-26. Frequency Stability Data (Band 5)

FCC ID: A3LSMA9200	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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Band 5 Frequency Stability Measurements

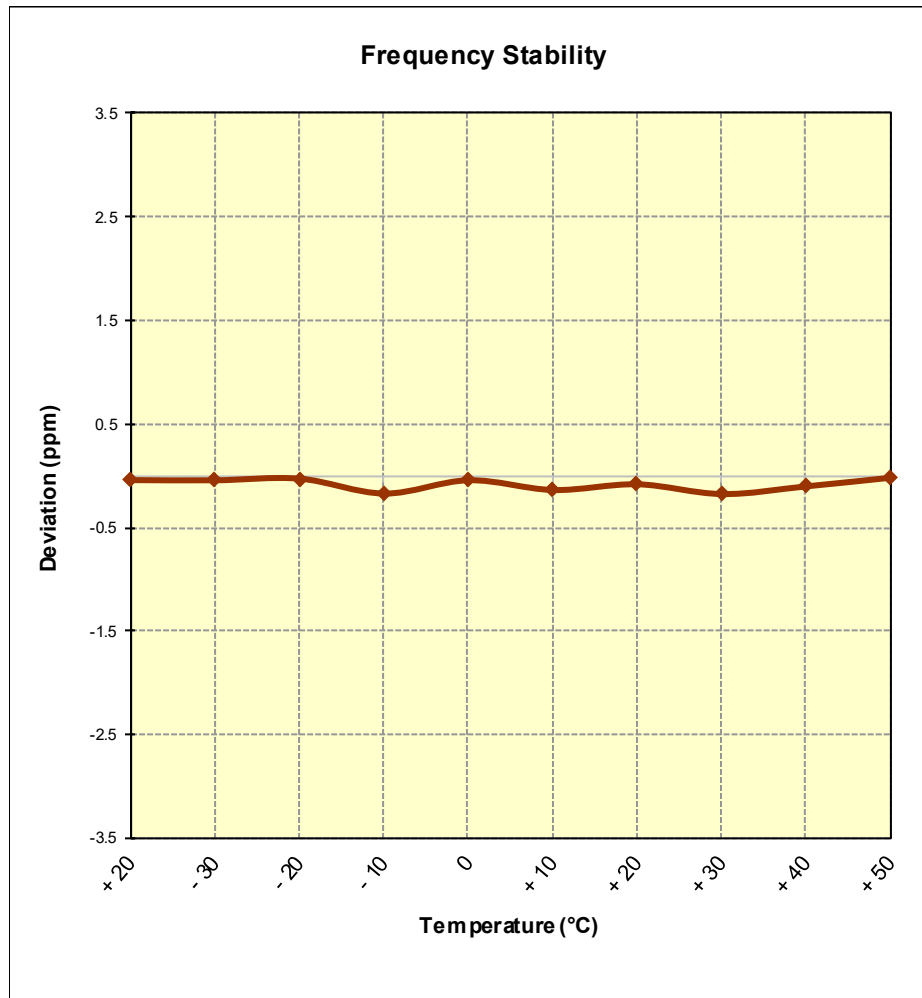


Figure 7-11. Frequency Stability Graph (Band 5)

FCC ID: A3LSMA9200	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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Band 4 Frequency Stability Measurements

OPERATING FREQUENCY: 1,745,000,000 Hz
 CHANNEL: 132322
 REFERENCE VOLTAGE: 4.26 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.26	+ 20 (Ref)	1,744,999,865	-135	-0.0000077
100 %		- 30	1,744,999,854	-146	-0.0000084
100 %		- 20	1,744,999,948	-52	-0.0000030
100 %		- 10	1,744,999,902	-98	-0.0000056
100 %		0	1,744,999,998	-2	-0.0000001
100 %		+ 10	1,744,999,822	-178	-0.0000102
100 %		+ 20	1,744,999,936	-64	-0.0000037
100 %		+ 30	1,744,999,909	-91	-0.0000052
100 %		+ 40	1,744,999,989	-11	-0.0000006
100 %		+ 50	1,744,999,932	-68	-0.0000039
BATT. ENDPOINT	3.42	+ 20	1,744,999,992	-8	-0.0000005

Table 7-27. Frequency Stability Data (Band 4)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

FCC ID: A3LSMA9200	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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Band 4 Frequency Stability Measurements

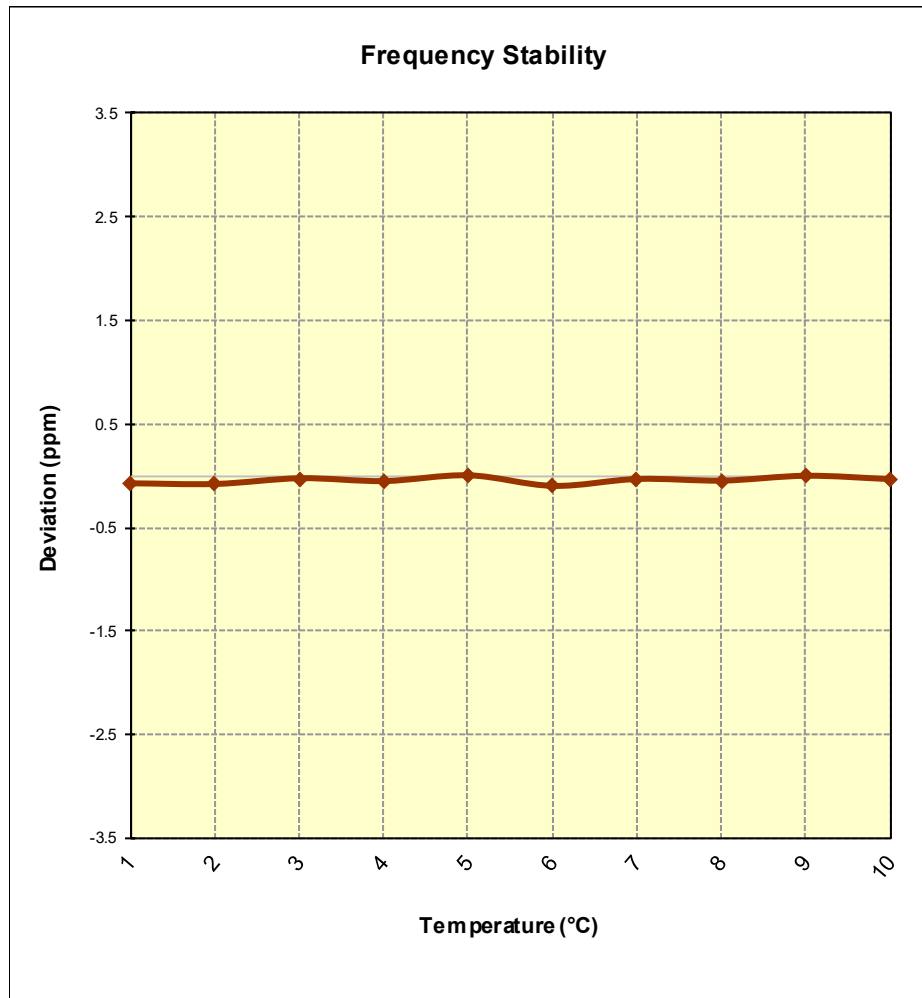


Figure 7-12. Frequency Stability Graph (Band 4)

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Band 41 Frequency Stability Measurements

OPERATING FREQUENCY: 2,593,000,000 Hz
 CHANNEL: 40620
 REFERENCE VOLTAGE: 4.26 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.26	+ 20 (Ref)	2,592,999,940	-60	-0.0000023
100 %		- 30	2,592,999,849	-151	-0.0000058
100 %		- 20	2,592,999,861	-139	-0.0000053
100 %		- 10	2,592,999,998	-2	-0.0000001
100 %		0	2,592,999,958	-42	-0.0000016
100 %		+ 10	2,592,999,920	-80	-0.0000031
100 %		+ 20	2,592,999,991	-9	-0.0000003
100 %		+ 30	2,592,999,832	-168	-0.0000065
100 %		+ 40	2,592,999,820	-180	-0.0000069
100 %		+ 50	2,592,999,978	-22	-0.0000009
BATT. ENDPOINT	3.42	+ 20	2,592,999,952	-48	-0.0000019

Table 7-28. Frequency Stability Data (Band 41)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

FCC ID: A3LSMA9200	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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Band 41 Frequency Stability Measurements

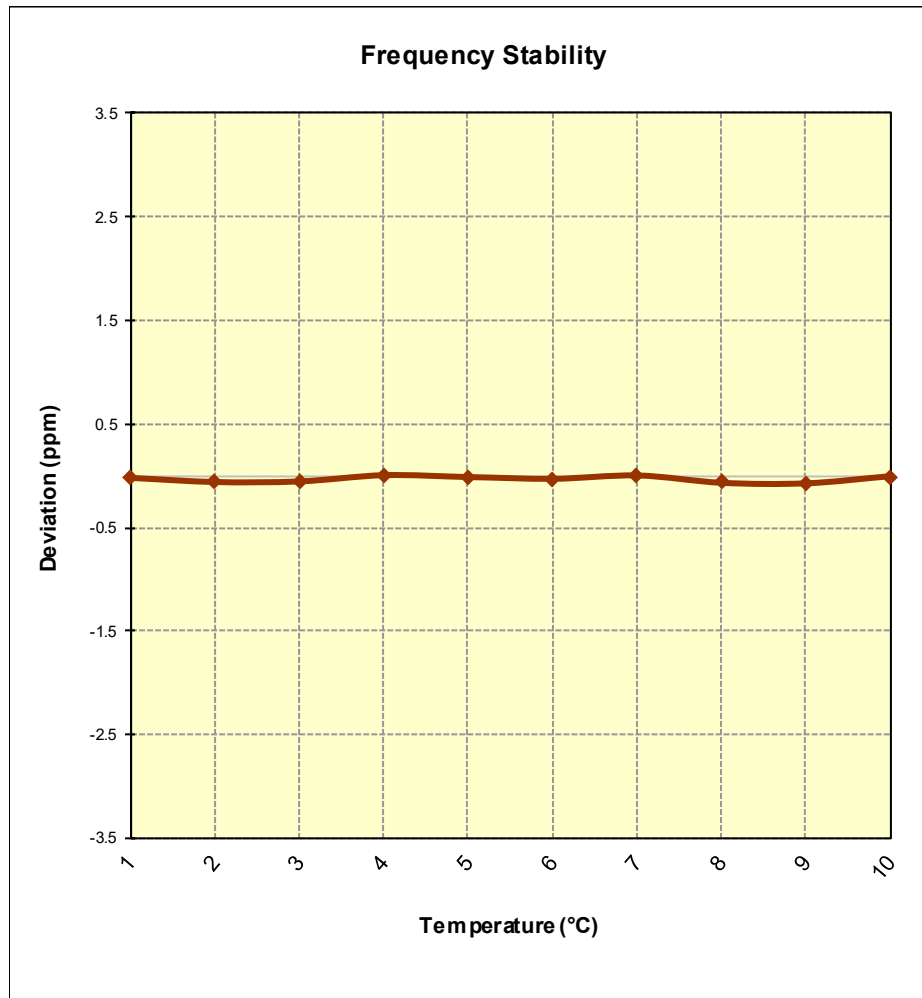


Figure 7-13. Frequency Stability Graph (Band 41)

FCC ID: A3LSMA9200		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMA9200** complies with all the requirements of Part 22 & 27 of the FCC Rules for LTE operation only.

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