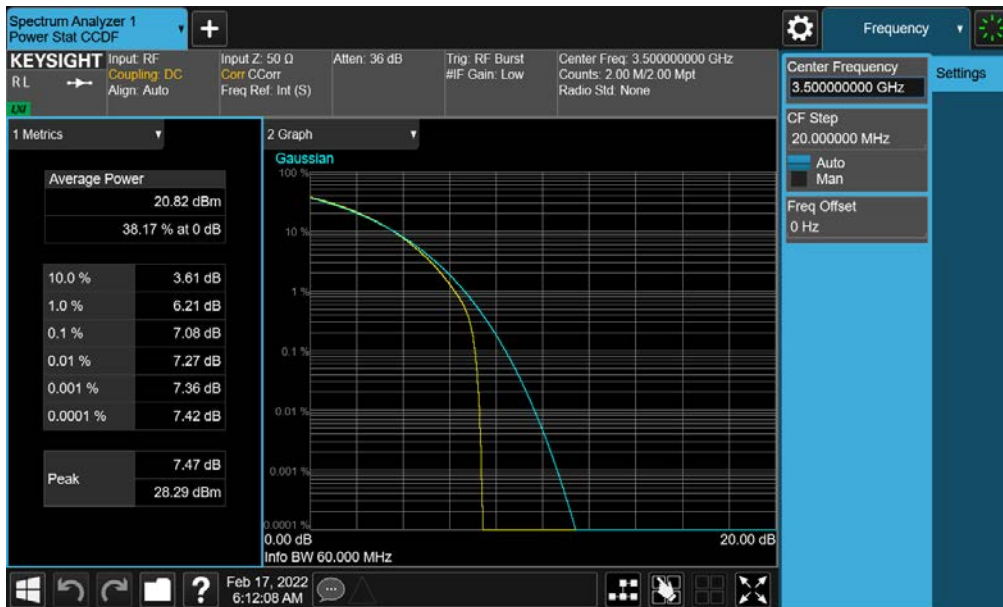




FCC ID: A3LSMS901E	PCTEST Proud to be part of Samsung	PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
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Plot 7-181. PAR Plot (NR Band n77 - 60MHz DFT-s-OFDM BPSK - Full RB- DoD-Band - Ant G - SRS 1)

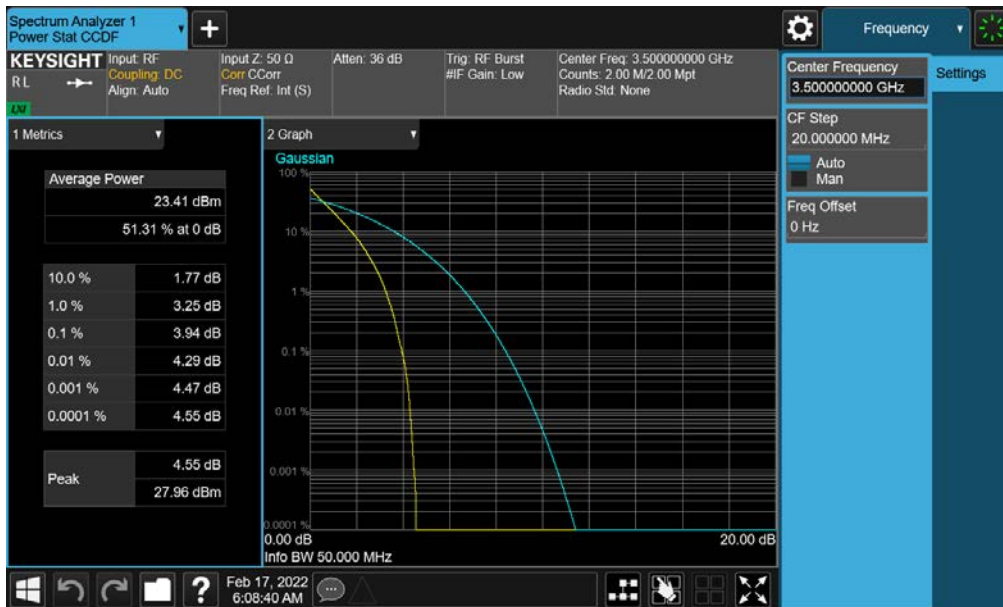


Plot 7-182. PAR Plot (NR Band n77 - 60MHz CP-OFDM QPSK - Full RB- DoD-Band - Ant G - SRS 1)

FCC ID: A3LSMS901E	PCTEST Proud to be part of Samsung	PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)	Approved by: Technical Manager
Test Report S/N: 1M2202030012-03.A3L	Test Dates: 2/1/2022 - 2/28/2022	EUT Type: Portable Handset	Page 110 of 149



Plot 7-183. PAR Plot (NR Band n77 - 60MHz CP-OFDM 256-QAM - Full RB- DoD-Band - Ant G - SRS 1)



Plot 7-184. PAR Plot (NR Band n77 - 50MHz DFT-s-OFDM BPSK - Full RB- DoD-Band - Ant G - SRS 1)

FCC ID: A3LSMS901E	PCTEST Proud to be part of Samsung	PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
Test Report S/N: 1M2202030012-03.A3L	Test Dates: 2/1/2022 - 2/28/2022	EUT Type: Portable Handset		Page 111 of 149



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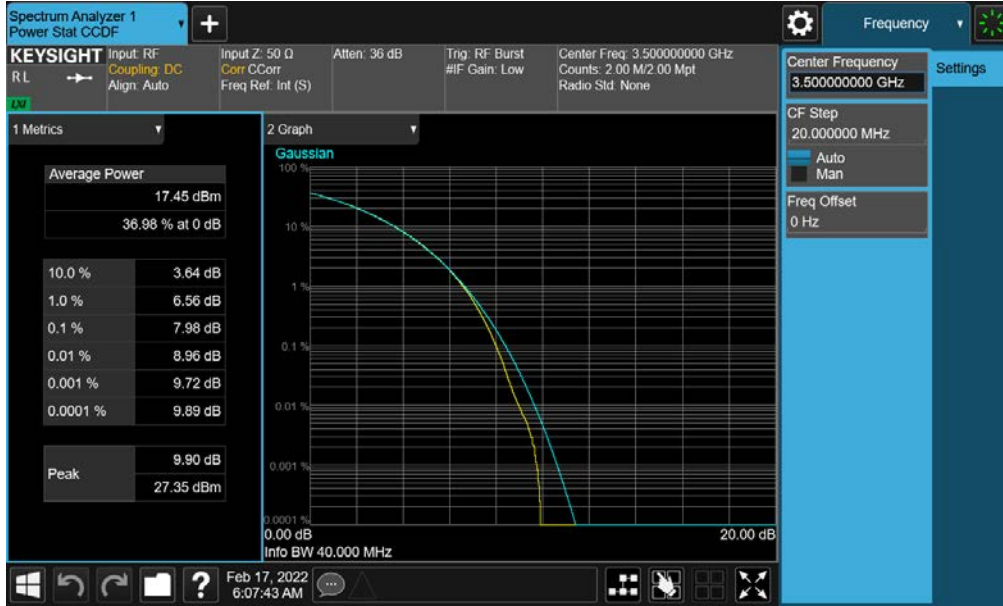


Plot 7-187. PAR Plot (NR Band n77 - 40MHz DFT-s-OFDM BPSK - Full RB- DoD-Band - Ant G - SRS 1)



Plot 7-188. PAR Plot (NR Band n77 - 40MHz CP-OFDM QPSK - Full RB- DoD-Band - Ant G - SRS 1)

FCC ID: A3LSMS901E	PCTEST Proud to be part of Samsung	PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)	Approved by: Technical Manager
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Plot 7-189. PAR Plot (NR Band n77 - 40MHz CP-OFDM 256-QAM - Full RB- DoD-Band - Ant G - SRS 1)



Plot 7-190. PAR Plot (NR Band n77 - 30MHz DFT-s-OFDM BPSK - Full RB- DoD-Band - Ant G - SRS 1)

FCC ID: A3LSMS901E	PCTEST Proud to be part of Samsung	PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
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Plot 7-193. PAR Plot (NR Band n77 - 20MHz DFT-s-OFDM BPSK - Full RB- DoD-Band - Ant G - SRS 1)



Plot 7-194. PAR Plot (NR Band n77 - 20MHz CP-OFDM QPSK - Full RB- DoD-Band - Ant G - SRS 1)

FCC ID: A3LSMS901E	PCTEST Proud to be part of Samsung	PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)	Approved by: Technical Manager
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Plot 7-195. PAR Plot (NR Band n77 - 20MHz CP-OFDM 256-QAM - Full RB- DoD-Band - Ant G - SRS 1)

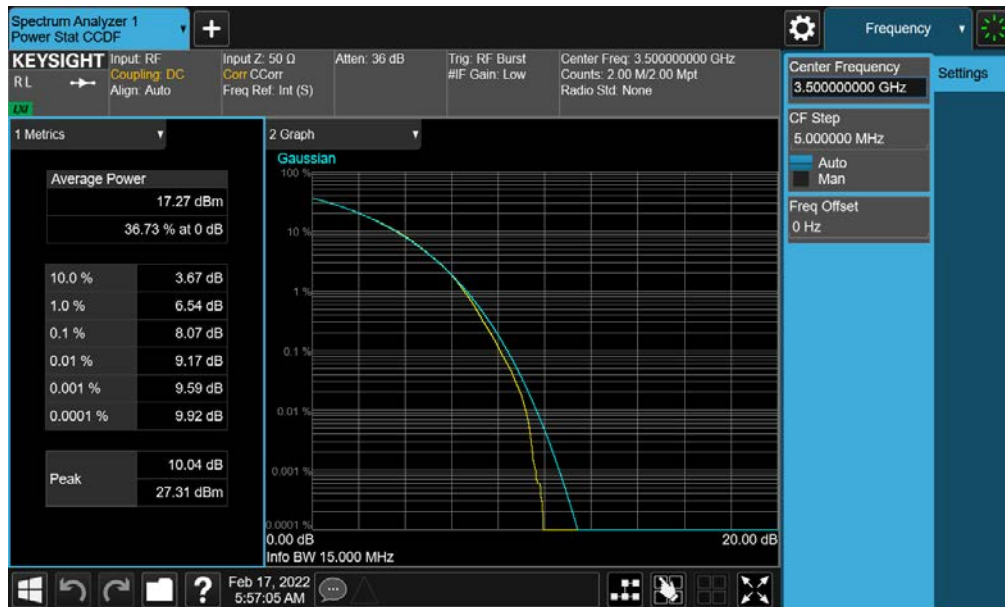


Plot 7-196. PAR Plot (NR Band n77 - 15MHz DFT-s-OFDM BPSK - Full RB- DoD-Band - Ant G - SRS 1)

FCC ID: A3LSMS901E	PCTEST Proud to be part of Samsung	PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
Test Report S/N: 1M2202030012-03.A3L	Test Dates: 2/1/2022 - 2/28/2022	EUT Type: Portable Handset		Page 117 of 149



Plot 7-197. PAR Plot (NR Band n77 - 15MHz CP-OFDM QPSK - Full RB- DoD-Band - Ant G - SRS 1)

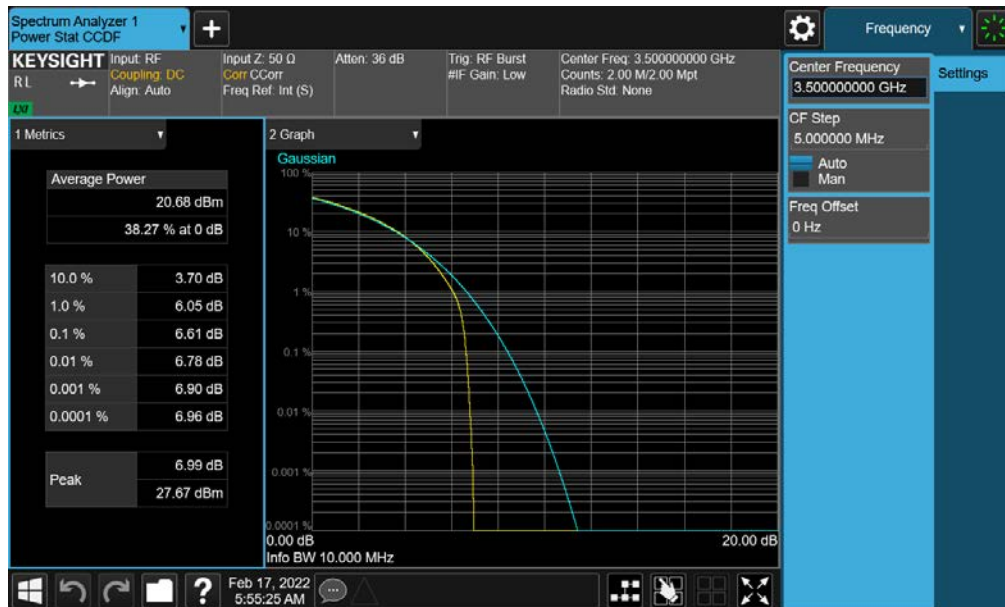


Plot 7-198. PAR Plot (NR Band n77 - 15MHz CP-OFDM 256-QAM - Full RB- DoD-Band - Ant G - SRS 1)

FCC ID: A3LSMS901E	PCTEST Proud to be part of Samsung	PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)	Approved by: Technical Manager
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Plot 7-199. PAR Plot (NR Band n77 - 10MHz DFT-s-OFDM BPSK - Full RB- DoD-Band - Ant G - SRS 1)





Plot 7-200. PAR Plot (NR Band n77 - 10MHz CP-OFDM QPSK - Full RB- DoD-Band - Ant G - SRS 1)

FCC ID: A3LSMS901E	PCTEST Proud to be part of Samsung	PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)	Approved by: Technical Manager
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Plot 7-201. PAR Plot (NR Band n77 - 10MHz CP-OFDM 256-QAM - Full RB- DoD-Band - Ant G - SRS 1)

FCC ID: A3LSMS901E		PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
Test Report S/N: 1M2202030012-03.A3L	Test Dates: 2/1/2022 - 2/28/2022	EUT Type: Portable Handset		Page 120 of 149

7.7 Radiated Power (EIRP)

Test Overview

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 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 $\geq 3 \times$ RBW
4. Span = 1.5 times the OBW
5. No. of sweep points $\geq 2 \times$ 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

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Test Setup

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

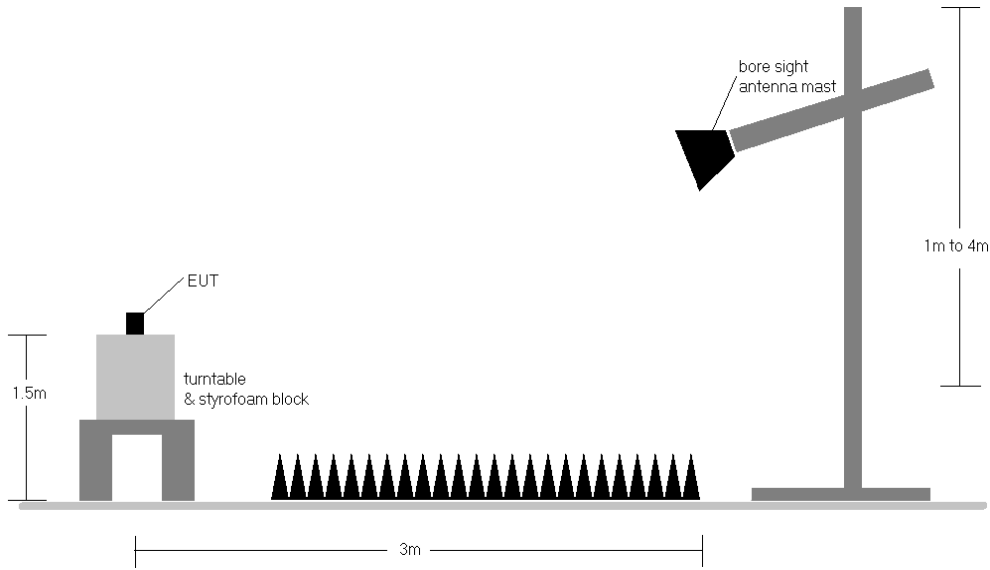




Figure 7-6. Radiated Test Setup >1GHz



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) For NR operation, all subcarrier spacings (SCS) and transmission schemes (e.g. CP-OFDM and DFT-s-OFDM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

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Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
100 MHz	π/2 BPSK	3750.00	V	114	277	6.83	1 / 136	13.46	20.29	0.107	30.00	-9.71
	π/2 BPSK	3840.00	V	100	271	6.47	1 / 68	13.97	20.44	0.111	30.00	-9.56
	π/2 BPSK	3930.00	V	1066	279	6.49	1 / 68	14.70	21.19	0.132	30.00	-8.81
	QPSK	3750.00	V	114	277	6.83	1 / 136	13.44	20.27	0.107	30.00	-9.73
	QPSK	3840.00	V	100	271	6.47	1 / 68	14.06	20.53	0.113	30.00	-9.47
	QPSK	3930.00	V	1066	279	6.49	1 / 68	14.76	21.25	0.133	30.00	-8.75
90 MHz	16-QAM	3930.00	V	1066	279	6.49	1 / 68	14.02	20.51	0.113	30.00	-9.49
	π/2 BPSK	3745.02	V	111	287	6.81	1 / 183	13.47	20.28	0.107	30.00	-9.72
	π/2 BPSK	3840.00	V	129	277	6.47	1 / 61	13.87	20.35	0.108	30.00	-9.65
	π/2 BPSK	3934.98	V	108	278	6.49	1 / 183	14.69	21.18	0.131	30.00	-8.82
	QPSK	3745.02	V	111	287	6.81	1 / 183	13.43	20.24	0.106	30.00	-9.76
	QPSK	3840.00	V	129	277	6.47	1 / 61	13.92	20.40	0.110	30.00	-9.60
80 MHz	QPSK	3934.98	V	108	278	6.49	1 / 183	14.68	21.16	0.131	30.00	-8.84
	QPSK	3934.98	V	108	278	6.49	1 / 183	14.00	20.49	0.112	30.00	-9.51
	π/2 BPSK	3740.01	V	111	287	6.78	1 / 162	13.74	20.53	0.113	30.00	-9.47
	π/2 BPSK	3840.00	V	129	277	6.47	1 / 54	14.08	20.55	0.114	30.00	-9.45
	π/2 BPSK	3939.99	V	108	278	6.48	1 / 162	14.82	21.30	0.135	30.00	-8.70
	QPSK	3740.01	V	111	287	6.78	1 / 162	13.74	20.52	0.113	30.00	-9.48
70 MHz	QPSK	3840.00	V	129	277	6.47	1 / 54	14.21	20.69	0.117	30.00	-9.31
	QPSK	3939.99	V	108	278	6.48	1 / 162	14.80	21.27	0.134	30.00	-8.73
	16-QAM	3939.99	V	108	278	6.48	1 / 162	14.02	20.49	0.112	30.00	-9.51
	π/2 BPSK	3735.00	V	111	287	6.76	1 / 94	13.78	20.54	0.113	30.00	-9.46
	π/2 BPSK	3840.00	V	129	277	6.47	1 / 47	14.07	20.54	0.113	30.00	-9.46
	π/2 BPSK	3945.00	V	108	278	6.47	1 / 94	14.89	21.36	0.137	30.00	-8.64
60 MHz	QPSK	3735.00	V	111	287	6.76	1 / 94	13.31	20.07	0.102	30.00	-9.93
	QPSK	3840.00	V	129	277	6.47	1 / 47	14.00	20.47	0.112	30.00	-9.53
	QPSK	3945.00	V	108	278	6.47	1 / 94	14.91	21.38	0.137	30.00	-8.62
	16-QAM	3945.00	V	108	278	6.47	1 / 94	14.14	20.60	0.115	30.00	-9.40
	π/2 BPSK	3730.02	V	111	287	6.73	1 / 121	13.76	20.49	0.112	30.00	-9.51
	π/2 BPSK	3840.00	V	129	277	6.47	1 / 40	14.31	20.79	0.120	30.00	-9.21
50 MHz	π/2 BPSK	3949.98	V	108	278	6.46	1 / 81	14.95	21.41	0.138	30.00	-8.59
	QPSK	3730.02	V	111	287	6.73	1 / 121	13.43	20.16	0.104	30.00	-9.84
	QPSK	3840.00	V	129	277	6.47	1 / 40	14.36	20.83	0.121	30.00	-9.17
	QPSK	3949.98	V	108	278	6.46	1 / 81	14.41	20.87	0.122	30.00	-9.13
	16-QAM	3840.00	V	129	277	6.47	1 / 40	13.46	19.94	0.099	30.00	-10.06
	π/2 BPSK	3725.01	V	111	287	6.71	1 / 99	13.37	20.07	0.102	30.00	-9.93
40 MHz	π/2 BPSK	3840.00	V	129	277	6.47	1 / 33	13.89	20.36	0.109	30.00	-9.64
	π/2 BPSK	3954.99	V	108	278	6.43	1 / 99	14.81	21.24	0.133	30.00	-8.76
	QPSK	3725.01	V	111	287	6.71	1 / 99	13.32	20.03	0.101	30.00	-9.97
	QPSK	3840.00	V	129	277	6.47	1 / 33	13.92	20.40	0.110	30.00	-9.80
	QPSK	3954.99	V	108	278	6.43	1 / 99	14.61	21.05	0.127	30.00	-8.95
	16-QAM	3840.00	V	129	277	6.47	1 / 33	13.11	19.59	0.091	30.00	-10.41
30 MHz	π/2 BPSK	3720.00	V	111	287	6.68	1 / 79	13.56	20.25	0.106	30.00	-9.75
	π/2 BPSK	3840.00	V	129	277	6.47	1 / 26	14.15	20.62	0.115	30.00	-9.38
	π/2 BPSK	3960.00	V	108	278	6.41	1 / 79	15.06	21.47	0.140	30.00	-8.53
	QPSK	3720.00	V	111	287	6.68	1 / 79	13.73	20.41	0.110	30.00	-9.59
	QPSK	3840.00	V	129	277	6.47	1 / 26	14.24	20.72	0.118	30.00	-9.28
	QPSK	3960.00	V	108	278	6.41	1 / 79	14.55	20.96	0.125	30.00	-9.04
20 MHz	16-QAM	3840.00	V	129	277	6.47	1 / 26	13.39	19.86	0.097	30.00	-10.14
	π/2 BPSK	3715.02	V	111	287	6.66	1 / 58	13.45	20.10	0.102	30.00	-9.90
	π/2 BPSK	3840.00	V	129	277	6.47	1 / 19	14.14	20.62	0.115	30.00	-9.38
	π/2 BPSK	3964.98	V	108	278	6.39	1 / 58	15.06	21.45	0.140	30.00	-8.55
	QPSK	3715.02	V	111	287	6.66	1 / 58	13.45	20.11	0.102	30.00	-9.89
	QPSK	3840.00	V	129	277	6.47	1 / 19	14.18	20.65	0.116	30.00	-9.35
15 MHz	QPSK	3964.98	V	108	278	6.39	1 / 58	14.76	21.15	0.130	30.00	-8.85
	16-QAM	3840.00	V	129	277	6.47	1 / 19	13.41	19.88	0.097	30.00	-10.12
	π/2 BPSK	3710.01	V	111	287	6.63	1 / 37	13.20	19.83	0.096	30.00	-10.17
	π/2 BPSK	3840.00	V	129	277	6.47	1 / 25	13.96	20.43	0.110	30.00	-9.57
	π/2 BPSK	3969.99	V	108	278	6.37	1 / 25	14.93	21.31	0.135	30.00	-8.69
	QPSK	3710.01	V	111	287	6.63	1 / 25	13.10	19.73	0.094	30.00	-10.27
10 MHz	QPSK	3840.00	V	129	277	6.47	1 / 25	13.91	20.38	0.109	30.00	-9.62
	QPSK	3969.99	V	108	278	6.37	1 / 25	14.68	21.05	0.127	30.00	-8.95
	16-QAM	3840.00	V	129	277	6.47	1 / 25	13.31	19.78	0.095	30.00	-10.22
	π/2 BPSK	3707.51	V	111	287	6.62	1 / 28	13.02	19.64	0.092	30.00	-10.36
	π/2 BPSK	3840.00	V	129	277	6.47	1 / 28	13.93	20.40	0.110	30.00	-9.60
	π/2 BPSK	3972.50	V	108	278	6.36	1 / 19	14.94	21.30	0.135	30.00	-8.70
5 MHz	QPSK	3707.51	V	111	287	6.62	1 / 28	13.20	19.81	0.096	30.00	-10.19
	QPSK	3840.00	V	129	277	6.47	1 / 28	13.93	20.40	0.110	30.00	-9.60
	QPSK	3972.50	V	108	278	6.36	1 / 19	14.59	20.95	0.124	30.00	-9.05
	16-QAM	3840.00	V	129	277	6.47	1 / 28	13.07	19.54	0.090	30.00	-10.46
	π/2 BPSK	3705.00	V	111	287	6.60	1 / 17	13.22	19.83	0.096	30.00	-10.17
	π/2 BPSK	3840.00	V	129	277	6.47	1 / 12	13.56	20.03	0.101	30.00	-9.97
100 MHz	π/2 BPSK	3975.00	V	108	278	6.35	1 / 6	14.75	21.10	0.129	30.00	-8.90
	QPSK	3705.00	V	111	287	6.60	1 / 17	13.03	19.63	0.092	30.00	-10.37
	QPSK	3840.00	V	129	277	6.47	1 / 12	13.58	20.06	0.101	30.00	-9.94
	QPSK	3975.00	V	108	278	6.35	1 / 6	14.57	20.92	0.124	30.00	-9.08
	16-QAM	3975.00	V	108	278	6.35	1 / 6	13.90	20.25	0.106	30.00	-9.75
	QPSK (CP-OFDM)	3930.0	V	103	284	6.49	1 / 68	13.26	19.75	0.095	30.00	-10.25
QPSK (Opposite Pol.)	3930.0	H	111	141	5.99	1 / 68	15.17	21.16	0.131	30.00	-8.84	
QPSK (WCP)	3930.0	V	150	126	6.49	1 / 136	9.21	15.70	0.037	30.00	-14.30	

Table 7-2. EIRP Data (NR Band n77 – C-Band - Ant G - SRS 1)

FCC ID: A3LSMS901E	 PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
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Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
100 MHz	$\pi/2$ BPSK	3750.00	H	115	36	5.98	1 / 136	6.01	11.99	0.016	30.00	-18.01
	$\pi/2$ BPSK	3840.00	H	111	36	6.02	1 / 68	5.84	11.86	0.015	30.00	-18.14
	$\pi/2$ BPSK	3930.00	H	106	39	5.99	1 / 68	4.84	10.83	0.012	30.00	-19.17
	QPSK	3750.00	H	115	36	5.98	1 / 136	6.08	12.06	0.016	30.00	-17.94
	QPSK	3840.00	H	111	36	6.02	1 / 68	5.96	11.98	0.016	30.00	-18.02
	QPSK	3930.00	H	106	39	5.99	1 / 68	4.00	9.99	0.010	30.00	-20.01
	16-QAM	3750.00	H	115	36	5.98	1 / 136	5.19	11.17	0.013	30.00	-18.83
	16-QAM	3840.00	H	111	36	6.02	1 / 68	4.67	10.69	0.012	30.00	-19.31
100 MHz	16-QAM	3930.00	H	106	39	5.99	1 / 68	3.55	9.54	0.009	30.00	-20.46
	QPSK (CP-OFDM)	3750.0	H	115	40	5.98	1 / 136	6.30	12.28	0.017	30.00	-17.72
	QPSK (Opposite Pol.)	3750.0	V	103	79	6.83	1 / 136	4.95	11.78	0.015	30.00	-18.22



Table 7-3. EIRP Data (NR Band n77 – C-Band - Ant C - SRS 2)

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
100 MHz	$\pi/2$ BPSK	3750.00	H	108	343	5.98	1 / 136	6.33	12.31	0.017	30.00	-17.69
	$\pi/2$ BPSK	3840.00	H	103	341	6.02	1 / 204	7.74	13.76	0.024	30.00	-16.24
	$\pi/2$ BPSK	3930.00	H	100	301	5.99	1 / 204	10.21	16.20	0.042	30.00	-13.80
	QPSK	3750.00	H	108	343	5.98	1 / 136	6.28	12.26	0.017	30.00	-17.74
	QPSK	3840.00	H	103	341	6.02	1 / 204	7.76	13.78	0.024	30.00	-16.22
	QPSK	3930.00	H	100	301	5.99	1 / 204	9.95	15.94	0.039	30.00	-14.06
	16-QAM	3750.00	H	108	343	5.98	1 / 136	5.54	11.52	0.014	30.00	-18.48
	16-QAM	3840.00	H	103	341	6.02	1 / 204	6.56	12.58	0.018	30.00	-17.42
	16-QAM	3930.00	H	100	301	5.99	1 / 204	9.34	15.33	0.034	30.00	-14.67
100 MHz	QPSK (CP-OFDM)	3930.0	H	106	306	5.99	1 / 136	9.11	15.10	0.032	30.00	-14.90
	QPSK (Opposite Pol.)	3930.0	V	183	354	5.99	1 / 204	8.54	14.53	0.028	30.00	-15.47

Table 7-4. EIRP Data (NR Band n77 – C-Band - Ant H - SRS 3)



Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
100 MHz	$\pi/2$ BPSK	3750.00	H	100	31	5.98	1 / 68	1.19	7.17	0.005	30.00	-22.83
	$\pi/2$ BPSK	3840.00	H	108	31	6.02	1 / 68	-0.51	5.51	0.004	30.00	-24.49
	$\pi/2$ BPSK	3930.00	H	103	33	5.99	1 / 68	-0.54	5.45	0.004	30.00	-24.55
	QPSK	3750.00	H	100	31	5.98	1 / 68	1.28	7.26	0.005	30.00	-22.74
	QPSK	3840.00	H	108	31	6.02	1 / 68	-1.30	4.72	0.003	30.00	-25.28
	QPSK	3930.00	H	103	33	5.99	1 / 68	-0.53	5.46	0.004	30.00	-24.54
	16-QAM	3750.00	H	100	31	5.98	1 / 68	0.49	6.47	0.004	30.00	-23.53
	16-QAM	3840.00	H	108	31	6.02	1 / 68	-1.91	4.11	0.003	30.00	-25.89
	16-QAM	3930.00	H	103	33	5.99	1 / 68	-1.35	4.64	0.003	30.00	-25.36
100 MHz	QPSK (CP-OFDM)	3750.0	H	103	30	5.98	1 / 68	1.57	7.55	0.006	30.00	-22.45
	QPSK (Opposite Pol.)	3750.0	V	103	329	6.83	1 / 68	-0.69	6.14	0.004	30.00	-23.86

Table 7-5. EIRP Data (NR Band n77 – C-Band - Ant D - SRS 4)

FCC ID: A3LSMS901E		PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
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Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
100 MHz	π/2 BPSK	3500.01	H	134	310	7.74	1 / 68	13.61	21.35	0.136	30.00	-8.65
	QPSK	3500.01	H	134	310	7.74	1 / 68	13.65	21.39	0.138	30.00	-8.61
	16-QAM	3500.01	H	134	310	7.74	1 / 68	12.37	20.11	0.102	30.00	-9.89
90 MHz	π/2 BPSK	3495.00	H	134	310	7.72	1 / 61	13.64	21.37	0.137	30.00	-8.63
	π/2 BPSK	3500.01	H	134	310	7.74	1 / 61	13.62	21.36	0.137	30.00	-8.64
	π/2 BPSK	3504.99	H	134	310	7.71	1 / 61	13.63	21.34	0.136	30.00	-8.66
	QPSK	3495.00	H	134	310	7.72	1 / 183	13.57	21.30	0.135	30.00	-8.70
	QPSK	3500.01	H	134	310	7.74	1 / 61	13.81	21.55	0.143	30.00	-8.45
	QPSK	3504.99	H	134	310	7.71	1 / 61	13.64	21.35	0.137	30.00	-8.65
80 MHz	16-QAM	3500.01	H	134	310	7.74	1 / 61	12.44	20.17	0.104	30.00	-9.83
	π/2 BPSK	3490.02	H	134	310	7.71	1 / 54	13.71	21.42	0.139	30.00	-8.58
	π/2 BPSK	3500.01	H	134	310	7.74	1 / 162	13.52	21.25	0.133	30.00	-8.75
	π/2 BPSK	3510.00	H	134	310	7.68	1 / 54	13.57	21.26	0.134	30.00	-8.74
	QPSK	3490.02	H	134	310	7.71	1 / 54	13.70	21.41	0.138	30.00	-8.59
	QPSK	3500.01	H	134	310	7.74	1 / 162	13.60	21.34	0.136	30.00	-8.66
70 MHz	QPSK	3510.00	H	134	310	7.68	1 / 54	13.75	21.44	0.139	30.00	-8.56
	16-QAM	3510.00	H	134	310	7.68	1 / 54	12.44	20.12	0.103	30.00	-9.88
	π/2 BPSK	3485.01	H	134	310	7.70	1 / 47	13.66	21.36	0.137	30.00	-8.64
	π/2 BPSK	3500.01	H	134	310	7.74	1 / 94	13.61	21.35	0.136	30.00	-8.65
	π/2 BPSK	3514.98	H	134	310	7.66	1 / 141	13.65	21.30	0.135	30.00	-8.70
	QPSK	3485.01	H	134	310	7.70	1 / 47	13.61	21.31	0.135	30.00	-8.69
60 MHz	QPSK	3500.01	H	134	310	7.74	1 / 94	13.69	21.42	0.139	30.00	-8.58
	QPSK	3514.98	H	134	310	7.66	1 / 141	13.67	21.32	0.136	30.00	-8.68
	16-QAM	3500.01	H	134	310	7.74	1 / 94	12.33	20.07	0.102	30.00	-9.93
	π/2 BPSK	3480.00	H	134	310	7.69	1 / 121	14.11	21.80	0.151	30.00	-8.20
	π/2 BPSK	3500.01	H	134	310	7.74	1 / 81	14.02	21.76	0.150	30.00	-8.24
	π/2 BPSK	3519.99	H	134	310	7.63	1 / 81	14.00	21.63	0.146	30.00	-8.37
50 MHz	QPSK	3480.00	H	134	310	7.69	1 / 121	14.13	21.82	0.152	30.00	-8.18
	QPSK	3500.01	H	134	310	7.74	1 / 81	14.19	21.93	0.156	30.00	-8.07
	QPSK	3519.99	H	134	310	7.63	1 / 81	14.08	21.72	0.148	30.00	-8.28
	16-QAM	3500.01	H	134	310	7.74	1 / 81	12.87	20.61	0.115	30.00	-9.39
	π/2 BPSK	3475.02	H	134	310	7.68	1 / 99	14.08	21.75	0.150	30.00	-8.25
	π/2 BPSK	3500.01	H	134	310	7.74	1 / 33	14.06	21.80	0.151	30.00	-8.20
40 MHz	π/2 BPSK	3525.00	H	134	310	7.61	1 / 33	14.00	21.61	0.145	30.00	-8.39
	QPSK	3475.02	H	134	310	7.68	1 / 99	14.09	21.77	0.150	30.00	-8.23
	QPSK	3500.01	H	134	310	7.74	1 / 33	14.13	21.86	0.154	30.00	-8.14
	QPSK	3525.00	H	134	310	7.61	1 / 33	14.13	21.74	0.149	30.00	-8.26
	16-QAM	3500.01	H	134	310	7.74	1 / 33	12.77	20.51	0.112	30.00	-9.49
	π/2 BPSK	3470.01	H	134	310	7.66	1 / 79	14.28	21.95	0.157	30.00	-8.05
30 MHz	π/2 BPSK	3500.01	H	134	310	7.74	1 / 79	14.16	21.90	0.155	30.00	-8.10
	π/2 BPSK	3529.98	H	134	310	7.58	1 / 79	14.27	21.85	0.153	30.00	-8.15
	QPSK	3470.01	H	134	310	7.66	1 / 79	14.43	22.09	0.162	30.00	-7.91
	QPSK	3500.01	H	134	310	7.74	1 / 79	14.27	22.00	0.159	30.00	-8.00
	QPSK	3529.98	H	134	310	7.58	1 / 79	14.32	21.90	0.155	30.00	-8.10
	16-QAM	3470.01	H	134	310	7.66	1 / 79	13.01	20.68	0.117	30.00	-9.32
20 MHz	π/2 BPSK	3465.00	H	134	310	7.65	1 / 58	14.38	22.03	0.160	30.00	-7.97
	π/2 BPSK	3500.01	H	134	310	7.74	1 / 58	14.12	21.86	0.153	30.00	-8.14
	π/2 BPSK	3534.99	H	134	310	7.56	1 / 58	14.27	21.83	0.152	30.00	-8.17
	QPSK	3465.00	H	134	310	7.65	1 / 58	14.43	22.08	0.161	30.00	-7.92
	QPSK	3500.01	H	134	310	7.74	1 / 58	14.14	21.87	0.154	30.00	-8.13
	QPSK	3534.99	H	134	310	7.56	1 / 58	14.31	21.87	0.154	30.00	-8.13
15 MHz	16-QAM	3465.00	H	134	310	7.65	1 / 58	12.93	20.58	0.114	30.00	-9.42
	π/2 BPSK	3460.02	H	134	310	7.64	1 / 37	14.45	22.09	0.162	30.00	-7.91
	π/2 BPSK	3500.01	H	134	310	7.74	1 / 37	14.08	21.82	0.152	30.00	-8.18
	π/2 BPSK	3540.00	H	134	310	7.53	1 / 37	14.47	22.00	0.159	30.00	-8.00
	QPSK	3460.02	H	134	310	7.64	1 / 37	14.62	22.26	0.168	30.00	-7.74
	QPSK	3500.01	H	134	310	7.74	1 / 37	14.12	21.86	0.154	30.00	-8.14
10 MHz	QPSK	3540.00	H	134	310	7.53	1 / 37	14.43	21.96	0.157	30.00	-8.04
	16-QAM	3540.00	H	134	310	7.53	1 / 37	13.06	20.59	0.115	30.00	-9.41
	π/2 BPSK	3457.50	H	134	310	7.63	1 / 19	14.34	21.98	0.158	30.00	-8.02
	π/2 BPSK	3500.01	H	134	310	7.74	1 / 28	14.01	21.75	0.150	30.00	-8.25
	π/2 BPSK	3542.49	H	134	310	7.52	1 / 28	14.38	21.90	0.155	30.00	-8.10
	QPSK	3457.50	H	134	310	7.63	1 / 19	14.30	21.94	0.156	30.00	-8.06
100 MHz	QPSK	3500.01	H	134	310	7.74	1 / 28	14.12	21.85	0.153	30.00	-8.15
	QPSK	3542.49	H	134	310	7.52	1 / 28	14.41	21.93	0.156	30.00	-8.07
	16-QAM	3457.50	H	134	310	7.63	1 / 19	12.98	20.61	0.115	30.00	-9.39
	π/2 BPSK	3455.01	H	134	310	7.63	1 / 17	14.17	21.80	0.151	30.00	-8.20
	π/2 BPSK	3500.01	H	134	310	7.74	1 / 17	14.09	21.83	0.152	30.00	-8.17
	π/2 BPSK	3544.98	H	134	310	7.50	1 / 17	14.23	21.74	0.149	30.00	-8.26
100 MHz	QPSK	3455.01	H	134	310	7.63	1 / 17	14.08	21.71	0.148	30.00	-8.29
	QPSK	3500.01	H	134	310	7.74	1 / 17	14.15	21.89	0.155	30.00	-8.11
	QPSK	3544.98	H	134	310	7.50	1 / 17	14.41	21.91	0.155	30.00	-8.09
	16-QAM	3544.98	H	134	310	7.50	1 / 17	13.01	20.51	0.113	30.00	-9.49
100 MHz	QPSK (CP-OFDM)	3500.0	H	134	308	7.74	1 / 68	12.31	20.05	0.101	30.00	-9.95
	QPSK (Opposite Pol.)	3500.0	V	100	279	7.16	1 / 136	14.14	21.30	0.135	30.00	-8.70
	QPSK (WCP)	3500.0	H	123	68	7.74	1 / 204	7.85	15.59	0.036	30.00	-14.41

Table 7-6. EIRP Data (NR Band n77 (DoD) - Ant G - SRS 1)

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Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
100 MHz	$\pi/2$ BPSK	3500.01	H	106	98	7.16	1 / 136	7.76	14.92	0.031	30.00	-15.08
	QPSK	3500.01	H	106	98	7.16	1 / 136	7.78	14.94	0.031	30.00	-15.06
	16-QAM	3500.01	H	106	98	7.16	1 / 136	6.72	13.88	0.024	30.00	-16.12
	QPSK (CP-OFDM)	3500.0	V	111	101	7.16	1 / 68	6.85	14.01	0.025	30.00	-15.99
	QPSK (Opposite Pol.)	3500.0	H	121	126	7.74	1 / 68	5.81	13.55	0.023	30.00	-16.45



Table 7-7. EIRP Data (NR Band n77 (DoD) - Ant C - SRS 2)

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
100 MHz	$\pi/2$ BPSK	3500.01	V	140	356	7.16	1 / 204	6.89	14.05	0.025	30.00	-15.95
	QPSK	3500.01	V	140	356	7.16	1 / 204	6.81	13.97	0.025	30.00	-16.03
	16-QAM	3500.01	V	140	356	7.16	1 / 204	6.01	13.17	0.021	30.00	-16.83
	QPSK (CP-OFDM)	3500.0	V	134	356	7.16	1 / 204	5.72	12.88	0.019	30.00	-17.12
	QPSK (Opposite Pol.)	3500.0	H	156	347	7.74	1 / 204	5.51	13.25	0.021	30.00	-16.75

Table 7-8. EIRP Data (NR Band n77 (DoD) - Ant H - SRS 3)

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
100 MHz	$\pi/2$ BPSK	3500.01	H	118	22	7.74	1 / 204	6.15	13.89	0.024	30.00	-16.11
	QPSK	3500.01	H	118	22	7.74	1 / 204	6.19	13.93	0.025	30.00	-16.07
	16-QAM	3500.01	H	118	22	7.74	1 / 204	5.34	13.08	0.020	30.00	-16.92
	QPSK (CP-OFDM)	3500.0	H	118	18	7.74	1 / 204	4.41	12.15	0.016	30.00	-17.85
	QPSK (Opposite Pol.)	3500.0	V	115	323	7.16	1 / 204	4.80	11.96	0.016	30.00	-18.04

Table 7-9. EIRP Data (NR Band n77 (DoD) - Ant D - SRS 4)

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7.8 Radiated Spurious Emissions Measurements

Test Overview



Radiated spurious emissions measurements are performed using the field strength conversion method described in KDB 971168 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using horizontally and vertically 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 maximum power, and at the appropriate frequencies.

Test Procedures Used

KDB 971168 D01 v03r01 – Section 5.8

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

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Test Setup

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

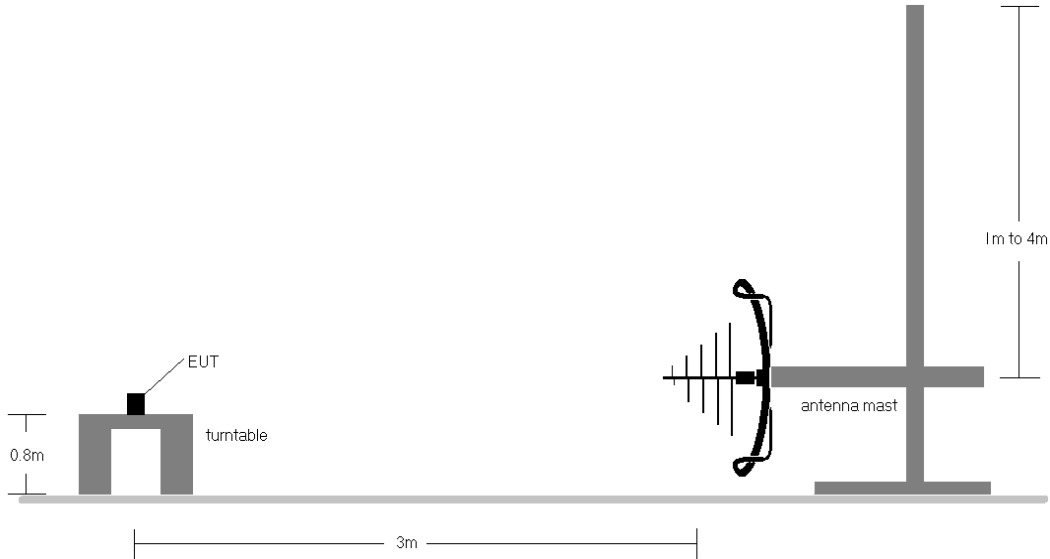


Figure 7-7. Test Instrument & Measurement Setup < 1GHz

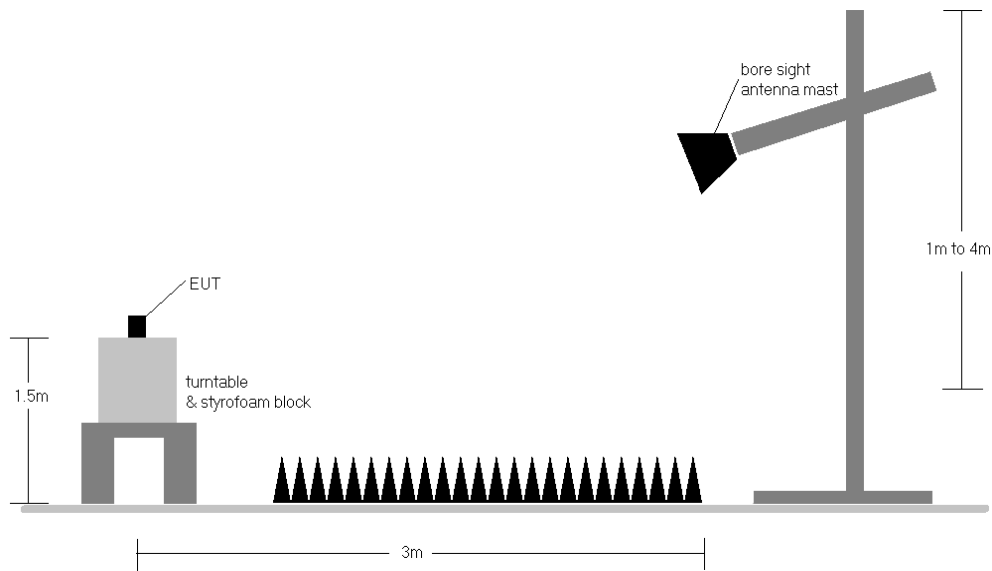






Figure 7-8. Test Instrument & Measurement Setup >1 GHz

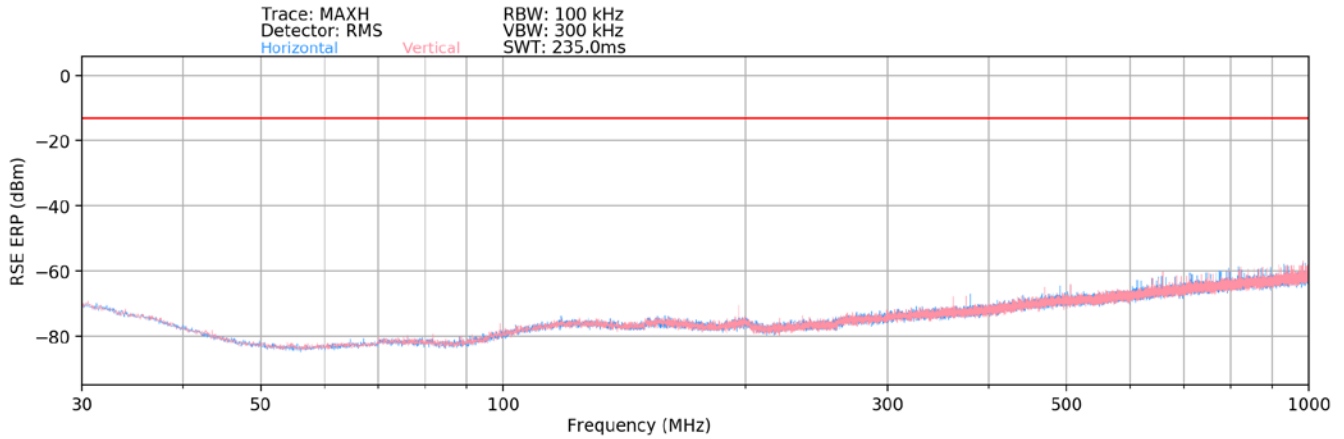
<p>FCC ID: A3LSMS901E</p>		<p>PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)</p> 	<p>Approved by: Technical Manager</p>
<p>Test Report S/N: 1M2202030012-03.A3L</p>	<p>Test Dates: 2/1/2022 - 2/28/2022</p>	<p>EUT Type: Portable Handset</p>	<p>Page 128 of 149</p>

Test Notes

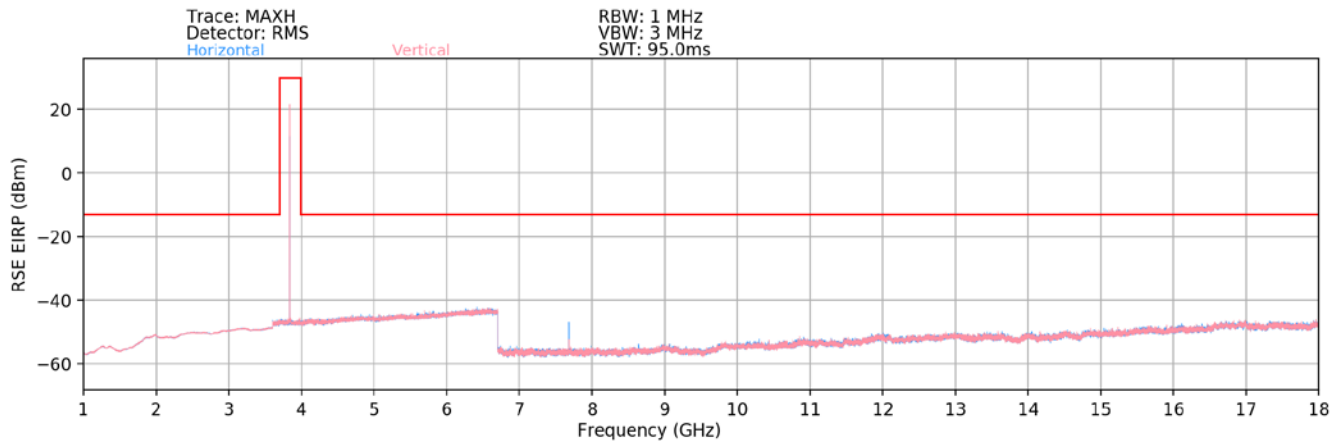
- 1) Field strengths are calculated using the Measurement quantity conversions in KDB 971168 Section 5.8.4.
 - b) $E(\text{dB}\mu\text{V}/\text{m}) = \text{Measured amplitude level (dBm)} + 107 + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}$
 - d) $\text{EIRP (dBm)} = E(\text{dB}\mu\text{V}/\text{m}) + 20\log D - 104.8$; where D is the measurement distance in meters.
- 2) 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.
- 3) This unit was tested with its standard battery.
- 4) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case setup is reported in the tables below.
- 5) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.
- 6) 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.
- 7) The "-" shown in the following RSE tables are used to denote a noise floor measurement.
- 8) For NR operation, all subcarrier spacings (SCS) and transmission schemes (e.g. CP-OFDM and DFT-s-OFDM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.
- 9) Spurious emissions shown in this section are measured while operating in EN-DC mode with Sub 6GHz NR carrier as well as an LTE carrier (anchor). Spurious emissions from the NR carrier device, is subject to the rules under which the NR carrier operates. Spurious emission caused by the LTE carrier must meet the requirements of the rules under which the LTE carrier operates.

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NR Band n77 – C-Band - Ant G - SRS 1



Plot 7-202. Radiated Spurious Plot (NR Band n77 – C-Band - Ant G - SRS 1)





Plot 7-203. Radiated Spurious Plot (NR Band n77 – C-Band - Ant G - SRS 1)

Bandwidth (MHz):	100
Frequency (MHz):	3750.00
RB / Offset:	1 / 136
Mode:	Stand Alone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7500.00	H	131	297	-66.95	8.35	48.40	-46.86	-13.00	-33.86
11250.00	H	222	42	-70.44	12.39	48.95	-46.31	-13.00	-33.31
15000.00	H	-	-	-78.51	15.39	43.88	-51.38	-13.00	-38.38
18750.00	H	-	-	-58.76	1.27	49.51	-55.29	-13.00	-42.29
22500.00	H	-	-	-58.23	2.99	51.76	-53.04	-13.00	-40.04

Table 7-10. Radiated Spurious Data (NR Band n77 – Low Channel – C-Band - Ant G - SRS 1)

FCC ID: A3LSMS901E		PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
Test Report S/N: 1M2202030012-03.A3L	Test Dates: 2/1/2022 - 2/28/2022	EUT Type: Portable Handset		Page 130 of 149

Bandwidth (MHz):	100
Frequency (MHz):	3840.00
RB / Offset:	1 / 136
Mode:	Stand Alone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7680.00	H	127	364	-62.55	7.53	51.98	-43.28	-13.00	-30.28
11520.00	H	212	360	-77.56	12.86	42.30	-52.96	-13.00	-39.96
15360.00	H	-	-	-78.50	15.97	44.47	-50.79	-13.00	-37.79
19200.00	H	-	-	-58.99	1.73	49.74	-55.06	-13.00	-42.06
23040.00	H	-	-	-58.05	2.96	51.91	-52.89	-13.00	-39.89

Table 7-11. Radiated Spurious Data (NR Band n77 – Mid Channel – C-Band - Ant G - SRS 1)

Bandwidth (MHz):	100
Frequency (MHz):	3930.00
RB / Offset:	1 / 136
Mode:	Stand Alone



Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7860.00	H	115	358	-61.25	8.10	53.85	-41.41	-13.00	-28.41
11790.00	H	-	-	-78.38	13.19	41.81	-53.45	-13.00	-40.45
15720.00	H	-	-	-78.65	17.00	45.35	-49.90	-13.00	-36.90
19650.00	H	-	-	-58.51	2.16	50.65	-54.15	-13.00	-41.15
23580.00	H	-	-	-58.28	2.95	51.67	-53.13	-13.00	-40.13

Table 7-12. Radiated Spurious Data (NR Band n77 – High Channel – C-Band - Ant G - SRS 1)

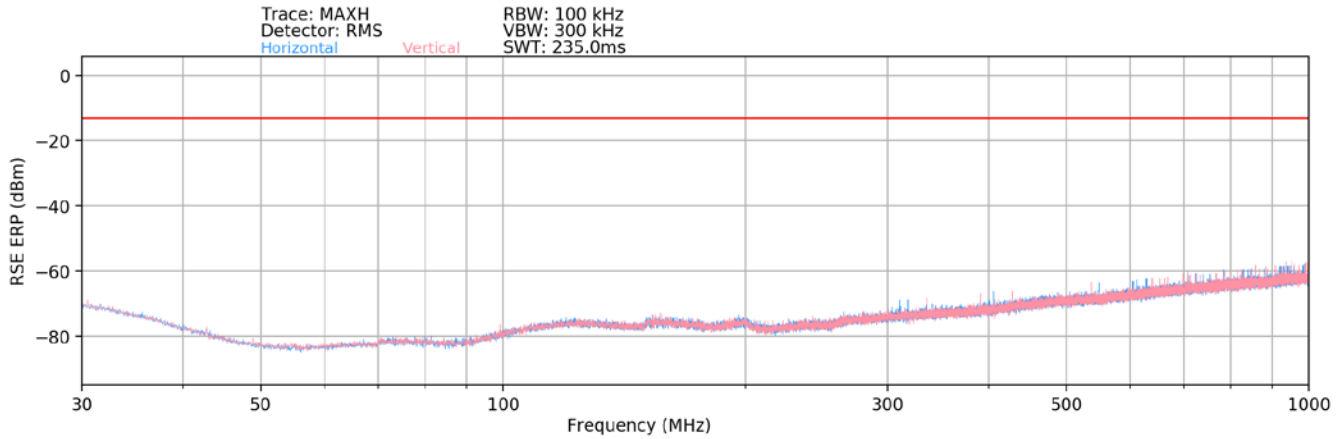
Case:	w/ Wireless Charging Pad
Bandwidth (MHz):	100
Frequency (MHz):	3930.00
RB / Offset:	1 / 136
Mode:	Stand Alone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7860.00	H	130	324	-64.65	8.10	50.45	-44.81	-13.00	-31.81
11790.00	H	-	-	-78.45	13.19	41.74	-53.52	-13.00	-40.52
15720.00	H	-	-	-78.87	17.00	45.13	-50.12	-13.00	-37.12
19650.00	H	-	-	-58.47	2.16	50.69	-54.11	-13.00	-41.11
23580.00	H	-	-	-58.73	2.95	51.22	-53.58	-13.00	-40.58

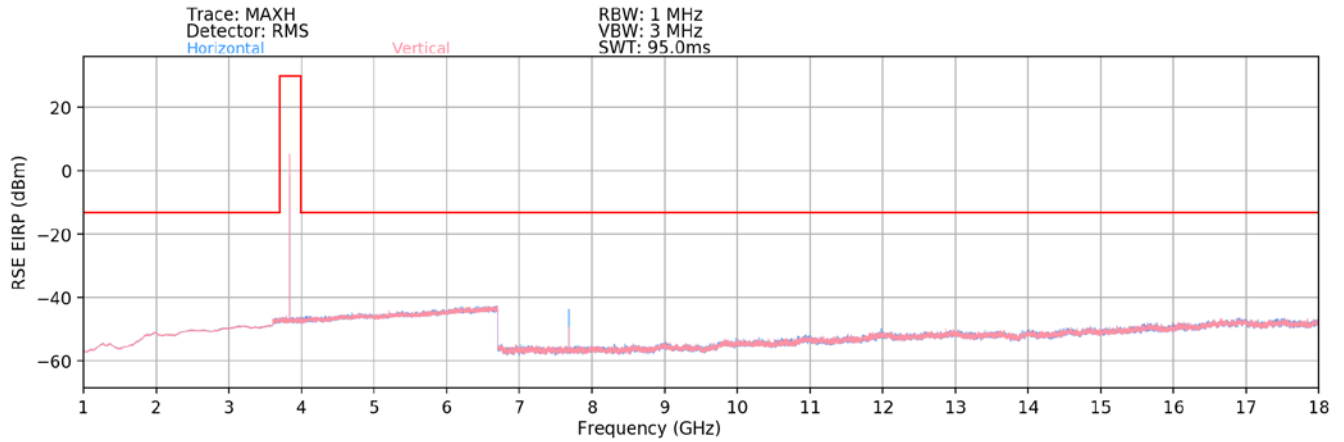
Table 7-13. Radiated Spurious Data with WCP (NR Band n77 – C-Band - Ant G - SRS 1)

FCC ID: A3LSMS901E	 PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE) 		Approved by: Technical Manager
Test Report S/N: 1M2202030012-03.A3L	Test Dates: 2/1/2022 - 2/28/2022	EUT Type: Portable Handset	Page 131 of 149

NR Band n77 – C-Band - Ant C - SRS 2



Plot 7-204. Radiated Spurious Plot (NR Band n77 – C-Band - Ant C - SRS 2)





Plot 7-205. Radiated Spurious Plot (NR Band n77 – C-Band - Ant C - SRS 2)

Bandwidth (MHz):	100
Frequency (MHz):	3750.00
RB / Offset:	1 / 136
Mode:	Stand Alone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7500.00	H	158	315	-64.39	8.35	50.96	-44.30	-13.00	-31.30
11250.00	H	-	-	-78.44	12.39	40.95	-54.31	-13.00	-41.31
15000.00	H	-	-	-79.06	15.39	43.33	-51.93	-13.00	-38.93
18750.00	H	-	-	-58.68	1.27	49.59	-55.21	-13.00	-42.21

Table 7-14. Radiated Spurious Data (NR Band n77 – Low Channel – C-Band - Ant C - SRS 2)

FCC ID: A3LSMS901E	 PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
Test Report S/N: 1M2202030012-03.A3L	Test Dates: 2/1/2022 - 2/28/2022	EUT Type: Portable Handset	Page 132 of 149

Bandwidth (MHz):	100
Frequency (MHz):	3840.00
RB / Offset:	1 / 136
Mode:	Stand Alone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7680.00	H	167	316	-59.50	7.53	55.03	-40.23	-13.00	-27.23
11520.00	H	272	247	-74.65	12.86	45.21	-50.05	-13.00	-37.05
15360.00	H	-	-	-78.87	15.97	44.10	-51.16	-13.00	-38.16
19200.00	H	-	-	-58.43	1.73	50.30	-54.50	-13.00	-41.50
23040.00	H	-	-	-58.34	2.96	51.62	-53.18	-13.00	-40.18

Table 7-15. Radiated Spurious Data (NR Band n77 – Mid Channel – C-Band - Ant C - SRS 2)

Bandwidth (MHz):	100
Frequency (MHz):	3930.00
RB / Offset:	1 / 136
Mode:	Stand Alone



Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7860.00	H	142	12	-57.39	8.10	57.71	-37.55	-13.00	-24.55
11790.00	H	265	23	-68.23	13.19	51.96	-43.30	-13.00	-30.30
15720.00	H	-	-	-79.06	17.00	44.94	-50.31	-13.00	-37.31
19650.00	H	-	-	-58.70	2.16	50.46	-54.34	-13.00	-41.34
23580.00	H	-	-	-58.14	2.95	51.81	-52.99	-13.00	-39.99

Table 7-16. Radiated Spurious Data (NR Band n77 – High Channel – C-Band - Ant C - SRS 2)

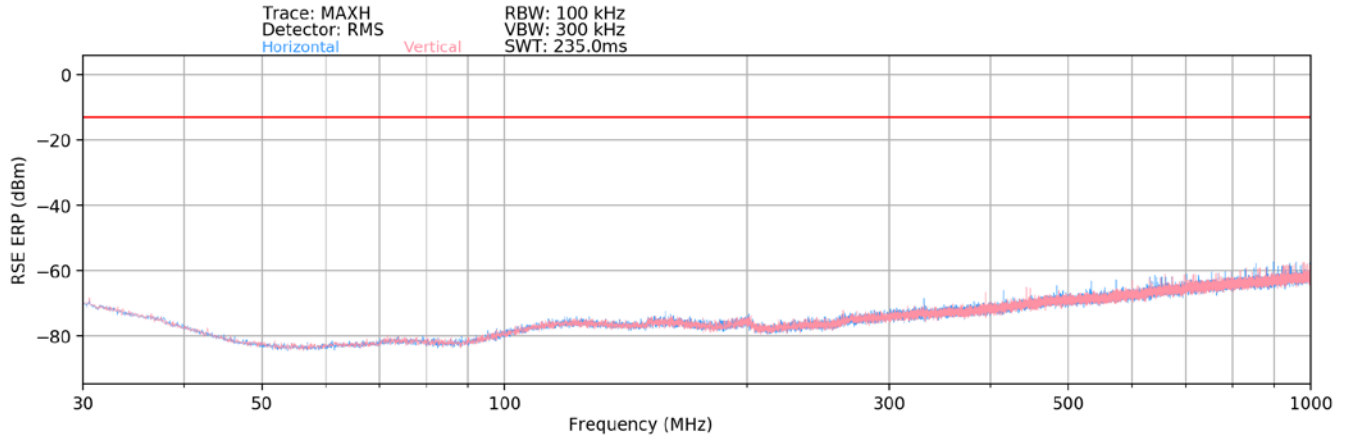
Case:	w/ Wireless Charging Pad
Bandwidth (MHz):	100
Frequency (MHz):	3930.00
RB / Offset:	1 / 136
Mode:	Stand Alone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7860.00	H	134	311	-58.67	8.10	56.43	-38.83	-13.00	-25.83
11790.00	H	348	366	-69.36	13.19	50.83	-44.43	-13.00	-31.43
15720.00	H	-	-	-79.02	17.00	44.98	-50.27	-13.00	-37.27
19650.00	H	-	-	-58.09	2.16	51.07	-53.73	-13.00	-40.73
23580.00	H	-	-	-58.36	2.95	51.59	-53.21	-13.00	-40.21

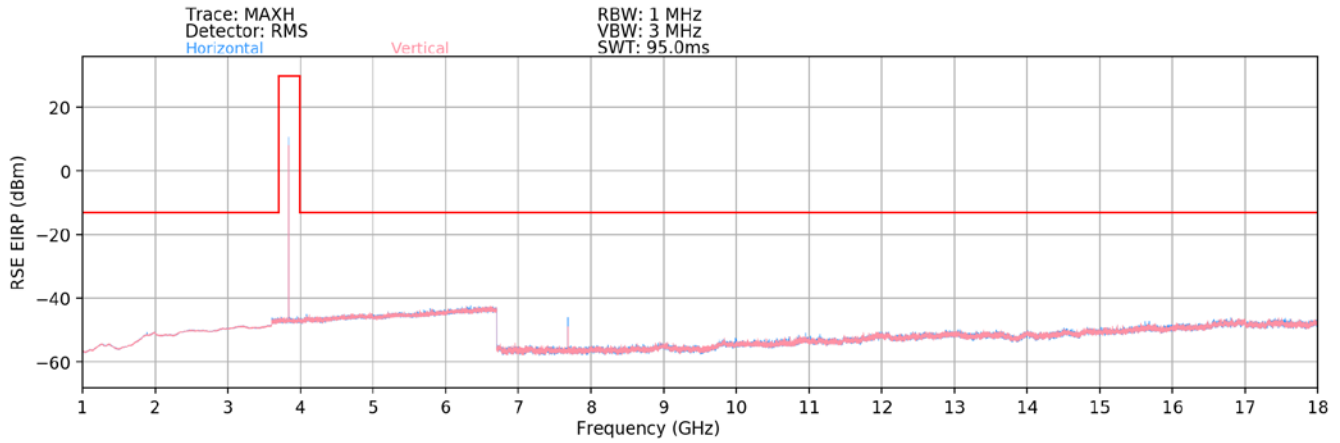
Table 7-17. Radiated Spurious Data with WCP (NR Band n77 – C-Band - Ant C - SRS 2)

FCC ID: A3LSMS901E	 PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE) 		Approved by: Technical Manager
Test Report S/N: 1M2202030012-03.A3L	Test Dates: 2/1/2022 - 2/28/2022	EUT Type: Portable Handset	Page 133 of 149

NR Band n77 – C-Band - Ant H - SRS 3



Plot 7-206. Radiated Spurious Plot (NR Band n77 – C-Band - Ant H - SRS 3)





Plot 7-207. Radiated Spurious Plot (NR Band n77 – C-Band - Ant H - SRS 3)

Bandwidth (MHz):	100
Frequency (MHz):	3750.00
RB / Offset:	1 / 136
Mode:	Stand Alone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7500.00	H	133	10	-66.98	8.35	48.37	-46.89	-13.00	-33.89
11250.00	H	-	-	-78.26	12.39	41.13	-54.13	-13.00	-41.13
15000.00	H	-	-	-78.82	15.39	43.57	-51.69	-13.00	-38.69
18750.00	H	-	-	-58.17	1.27	50.10	-54.70	-13.00	-41.70

Table 7-18. Radiated Spurious Data (NR Band n77 – Low Channel – C-Band - Ant H - SRS 3)

FCC ID: A3LSMS901E		PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
Test Report S/N: 1M2202030012-03.A3L	Test Dates: 2/1/2022 - 2/28/2022	EUT Type: Portable Handset		Page 134 of 149

Bandwidth (MHz):	100
Frequency (MHz):	3840.00
RB / Offset:	1 / 136
Mode:	Stand Alone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7680.00	H	123	369	-60.84	7.53	53.69	-41.57	-13.00	-28.57
11520.00	H	153	298	-77.57	12.86	42.29	-52.97	-13.00	-39.97
15360.00	H	-	-	-78.32	15.97	44.65	-50.61	-13.00	-37.61
19200.00	H	-	-	-58.21	1.73	50.52	-54.28	-13.00	-41.28
23040.00	H	-	-	-58.97	2.96	50.99	-53.81	-13.00	-40.81

Table 7-19. Radiated Spurious Data (NR Band n77 – Mid Channel – C-Band - Ant H - SRS 3)

Bandwidth (MHz):	100
Frequency (MHz):	3930.00
RB / Offset:	1 / 136
Mode:	Stand Alone



Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7860.00	H	138	4	-58.91	8.10	56.19	-39.07	-13.00	-26.07
11790.00	H	-	-	-78.45	13.19	41.74	-53.52	-13.00	-40.52
15720.00	H	-	-	-78.97	17.00	45.03	-50.22	-13.00	-37.22
19650.00	H	-	-	-58.87	2.16	50.29	-54.51	-13.00	-41.51

Table 7-20. Radiated Spurious Data (NR Band n77 – High Channel – C-Band - Ant H - SRS 3)

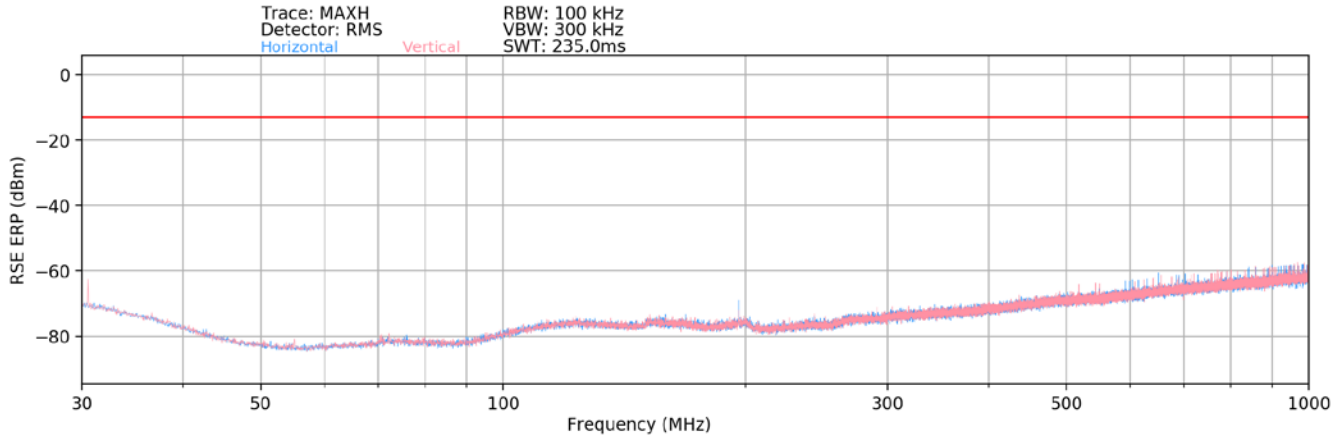
Case:	w/ Wireless Charging Pad
Bandwidth (MHz):	100
Frequency (MHz):	3930.0
RB / Offset:	1 / 136
Mode:	Stand Alone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7860.00	H	361	126	-60.06	8.10	55.04	-40.22	-13.00	-27.22
11790.00	H	-	-	-78.47	13.19	41.72	-53.54	-13.00	-40.54
15720.00	H	-	-	-78.93	17.00	45.07	-50.18	-13.00	-37.18
19650.00	H	-	-	-58.56	2.16	50.60	-54.20	-13.00	-41.20

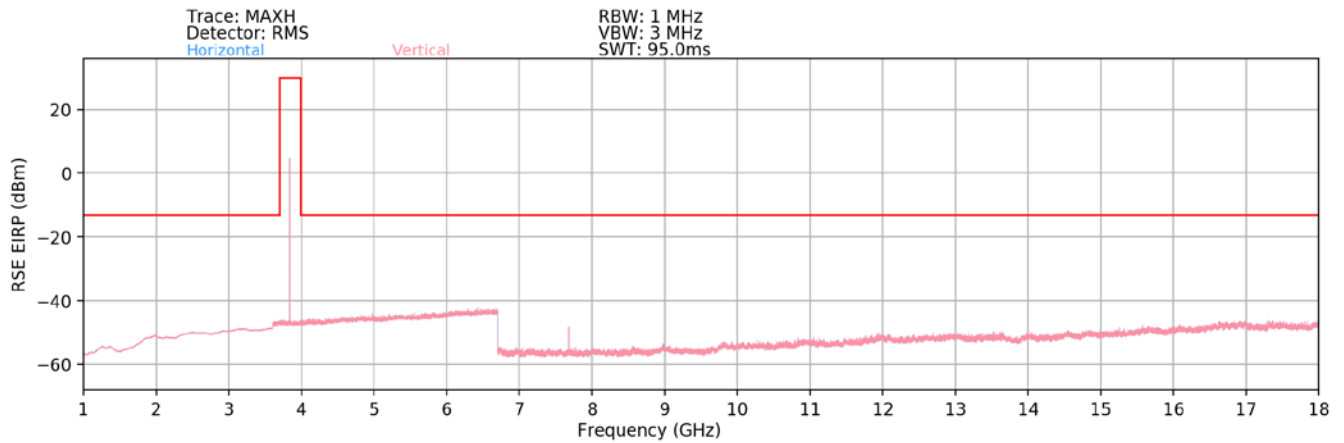
Table 7-21. Radiated Spurious Data with WCP (NR Band n77 – C-Band - Ant H - SRS 3)

FCC ID: A3LSMS901E	 PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE) 		Approved by: Technical Manager
Test Report S/N: 1M2202030012-03.A3L	Test Dates: 2/1/2022 - 2/28/2022	EUT Type: Portable Handset	Page 135 of 149

NR Band n77 – C-Band - Ant D - SRS 4



Plot 7-208. Radiated Spurious Plot (NR Band n77 – C-Band - Ant D - SRS 4)





Plot 7-209. Radiated Spurious Plot (NR Band n77 – C-Band - Ant D - SRS 4)

Bandwidth (MHz):	100
Frequency (MHz):	3750.00
RB / Offset:	1 / 136
Mode:	Stand Alone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7500.00	V	242	3	-69.88	8.35	45.47	-49.79	-13.00	-36.79
11250.00	V	-	-	-78.29	12.39	41.10	-54.16	-13.00	-41.16
15000.00	V	-	-	-77.88	15.39	44.51	-50.75	-13.00	-37.75
18750.00	V	-	-	-59.04	1.27	49.23	-55.57	-13.00	-42.57

Table 7-22. Radiated Spurious Data (NR Band n77 – Low Channel – C-Band - Ant D - SRS 4)

FCC ID: A3LSMS901E		PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
Test Report S/N: 1M2202030012-03.A3L	Test Dates: 2/1/2022 - 2/28/2022	EUT Type: Portable Handset		Page 136 of 149

Bandwidth (MHz):	100
Frequency (MHz):	3840.00
RB / Offset:	1 / 136
Mode:	Stand Alone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7680.00	V	346	359	-59.19	7.53	55.34	-39.92	-13.00	-26.92
11520.00	V	-	-	-79.30	12.86	40.56	-54.70	-13.00	-41.70
15360.00	V	-	-	-79.44	15.97	43.53	-51.73	-13.00	-38.73
19200.00	V	-	-	-58.69	1.73	50.04	-54.76	-13.00	-41.76

Table 7-23. Radiated Spurious Data (NR Band n77 – Mid Channel – C-Band - Ant D - SRS 4)

Bandwidth (MHz):	100
Frequency (MHz):	3930.00
RB / Offset:	1 / 136
Mode:	Stand Alone



Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7860.00	V	287	268	-55.23	8.10	59.87	-35.39	-13.00	-22.39
11790.00	V	247	343	-76.14	13.19	44.05	-51.21	-13.00	-38.21
15720.00	V	-	-	-78.20	17.00	45.80	-49.45	-13.00	-36.45
19650.00	V	-	-	-58.56	2.16	50.60	-54.20	-13.00	-41.20
23580.00	V	-	-	-58.72	2.95	51.23	-53.57	-13.00	-40.57

Table 7-24. Radiated Spurious Data (NR Band n77 – High Channel – C-Band - Ant D - SRS 4)

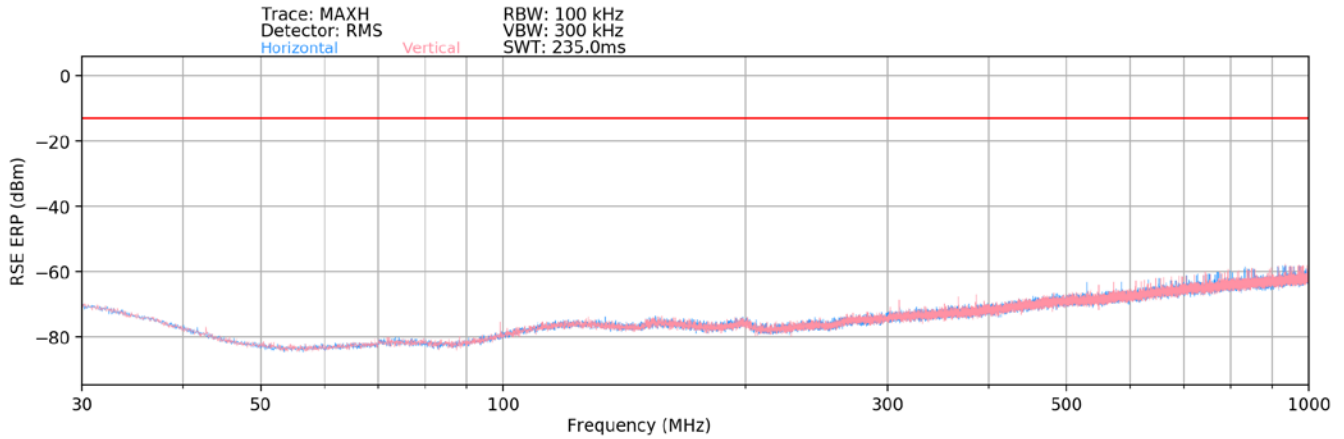
Case:	w/ Wireless Charging Pad
Bandwidth (MHz):	100
Frequency (MHz):	3930.0
RB / Offset:	1 / 136
Mode:	Stand Alone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7860.00	V	130	343	-56.54	8.10	58.56	-36.70	-13.00	-23.70
11790.00	V	-	-	-77.79	13.19	42.40	-52.86	-13.00	-39.86
15720.00	V	-	-	-78.72	17.00	45.28	-49.97	-13.00	-36.97
19650.00	V	-	-	-58.31	2.16	50.85	-53.95	-13.00	-40.95

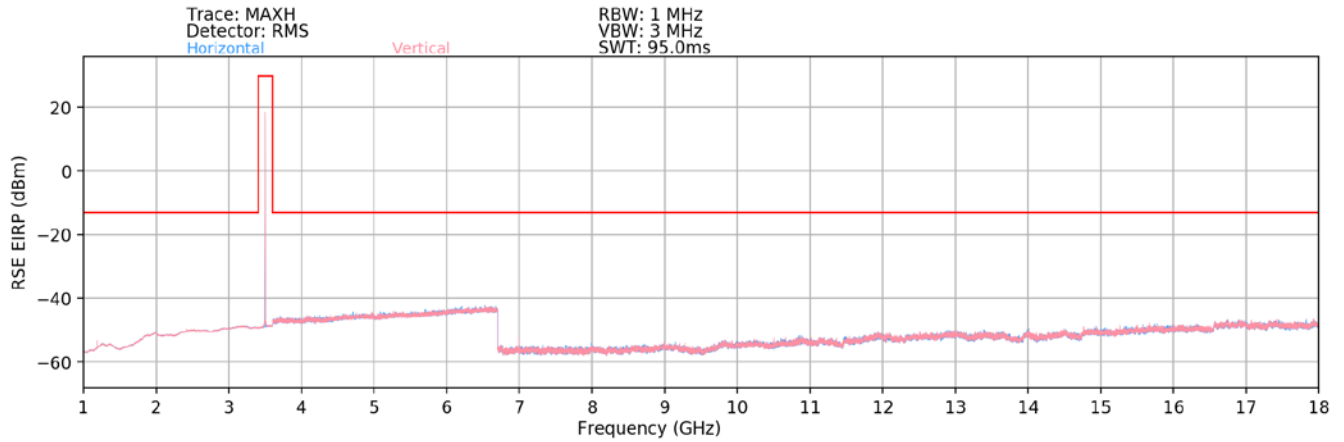
Table 7-25. Radiated Spurious Data with WCP (NR Band n77 – C-Band - Ant D - SRS 4)

FCC ID: A3LSMS901E	 PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE) 		Approved by: Technical Manager
Test Report S/N: 1M2202030012-03.A3L	Test Dates: 2/1/2022 - 2/28/2022	EUT Type: Portable Handset	Page 137 of 149

NR Band n77 (DoD Band) - Ant G - SRS 1



Plot 7-210. Radiated Spurious Plot (NR Band n77 (DoD) - Ant G - SRS 1)



Plot 7-211. Radiated Spurious Plot (NR Band n77 (DoD) - Ant G - SRS 1)

Bandwidth (MHz):	100
Frequency (MHz):	3500.01
RB / Offset:	1 / 136
Mode:	Stand Alone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7000.02	H	131	9	-65.22	7.82	49.60	-45.65	-13.00	-32.65
10500.03	H	-	-	-78.09	11.39	40.30	-54.95	-13.00	-41.95
14000.04	H	-	-	-77.96	14.35	43.39	-51.87	-13.00	-38.87
17500.05	H	-	-	-77.92	17.73	46.81	-48.45	-13.00	-35.45

Table 7-26. Radiated Spurious Data (NR Band n77 (DoD) – Low Channel - Ant G - SRS 1)

FCC ID: A3LSMS901E	PCTEST Proud to be part of Samsung	PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)	Approved by: Technical Manager
Test Report S/N: 1M2202030012-03.A3L	Test Dates: 2/1/2022 - 2/28/2022	EUT Type: Portable Handset	Page 138 of 149

Bandwidth (MHz):	100
Frequency (MHz):	3500.01
RB / Offset:	1 / 136
Mode:	Stand Alone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7000.02	H	131	9	-65.22	7.82	49.60	-45.65	-13.00	-32.65
10500.03	H	-	-	-78.09	11.39	40.30	-54.95	-13.00	-41.95
14000.04	H	-	-	-77.96	14.35	43.39	-51.87	-13.00	-38.87
17500.05	H	-	-	-77.92	17.73	46.81	-48.45	-13.00	-35.45

Table 7-27. Radiated Spurious Data (NR Band n77 (DoD) – Mid Channel - Ant G - SRS 1)

Bandwidth (MHz):	100
Frequency (MHz):	3930.00
RB / Offset:	1 / 136



Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7860.00	H	115	358	-61.25	8.10	53.85	-41.41	-13.00	-28.41
11790.00	H	-	-	-78.38	13.19	41.81	-53.45	-13.00	-40.45
15720.00	H	-	-	-78.65	17.00	45.35	-49.90	-13.00	-36.90
19650.00	H	-	-	-58.51	2.16	50.65	-54.15	-13.00	-41.15
23580.00	H	-	-	-58.28	2.95	51.67	-53.13	-13.00	-40.13

Table 7-28. Radiated Spurious Data (NR Band n77 (DoD) – High Channel - Ant G - SRS 1)

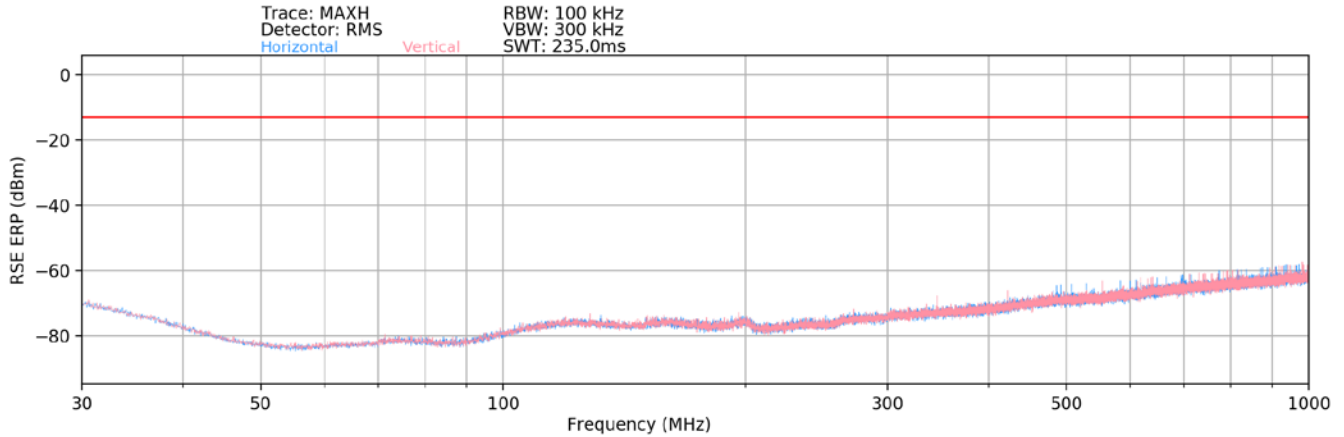
Case:	w/ Wireless Charging Pad
Bandwidth (MHz):	100
Frequency (MHz):	3500.01
RB / Offset:	1 / 136
Mode:	Stand Alone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7000.02	H	164	281	-55.40	7.82	59.42	-35.83	-13.00	-22.83
10500.03	H	-	-	-78.41	11.39	39.98	-55.27	-13.00	-42.27
14000.04	H	-	-	-78.35	14.35	43.00	-52.26	-13.00	-39.26
17500.05	H	-	-	-77.83	17.73	46.90	-48.36	-13.00	-35.36

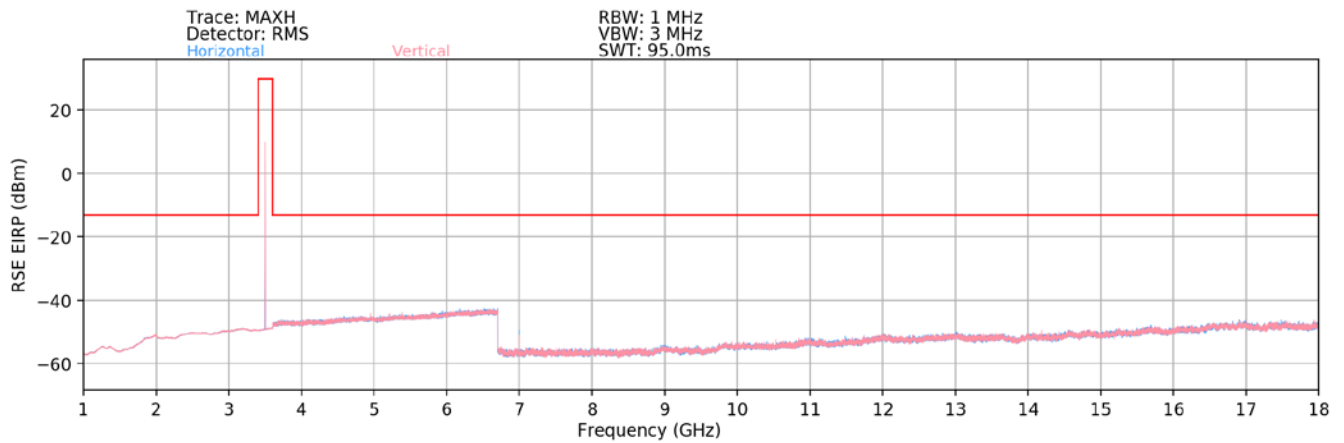
Table 7-29. Radiated Spurious Data with WCP (NR Band n77 (DoD) - Ant G - SRS 1)

FCC ID: A3LSMS901E		PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
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NR Band n77 (DoD Band) - Ant C - SRS 2)



Plot 7-212. Radiated Spurious Plot (NR Band n77 (DoD) - Ant C - SRS 2)





Plot 7-213. Radiated Spurious Plot (NR Band n77 (DoD) - Ant C - SRS 2)

Bandwidth (MHz):	100
Frequency (MHz):	3750.00
RB / Offset:	1 / 136

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7500.00	H	158	315	-64.39	8.35	50.96	-44.30	-13.00	-31.30
11250.00	H	-	-	-78.44	12.39	40.95	-54.31	-13.00	-41.31
15000.00	H	-	-	-79.06	15.39	43.33	-51.93	-13.00	-38.93
18750.00	H	-	-	-58.68	1.27	49.59	-55.21	-13.00	-42.21

Table 7-30. Radiated Spurious Data (NR Band n77 (DoD) – Low Channel - Ant C - SRS 2)

FCC ID: A3LSMS901E		PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
Test Report S/N: 1M2202030012-03.A3L	Test Dates: 2/1/2022 - 2/28/2022	EUT Type: Portable Handset		Page 140 of 149

Bandwidth (MHz):	100
Frequency (MHz):	3500.01
RB / Offset:	1 / 136
Mode:	Stand Alone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7000.02	H	150	355	-66.26	7.82	48.56	-46.69	-13.00	-33.69
10500.03	H	-	-	-78.76	11.39	39.63	-55.62	-13.00	-42.62
14000.04	H	-	-	-78.75	14.35	42.60	-52.66	-13.00	-39.66
17500.05	H	-	-	-78.64	17.73	46.09	-49.17	-13.00	-36.17

Table 7-31. Radiated Spurious Data (NR Band n77 (DoD) – Mid Channel - Ant C - SRS 2)

Bandwidth (MHz):	100
Frequency (MHz):	3930.00
RB / Offset:	1 / 136



Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7860.00	H	142	12	-57.39	8.10	57.71	-37.55	-13.00	-24.55
11790.00	H	265	23	-68.23	13.19	51.96	-43.30	-13.00	-30.30
15720.00	H	-	-	-79.06	17.00	44.94	-50.31	-13.00	-37.31
19650.00	H	-	-	-58.70	2.16	50.46	-54.34	-13.00	-41.34
23580.00	H	-	-	-58.14	2.95	51.81	-52.99	-13.00	-39.99

Table 7-32. Radiated Spurious Data (NR Band n77 (DoD) – High Channel - Ant C - SRS 2)

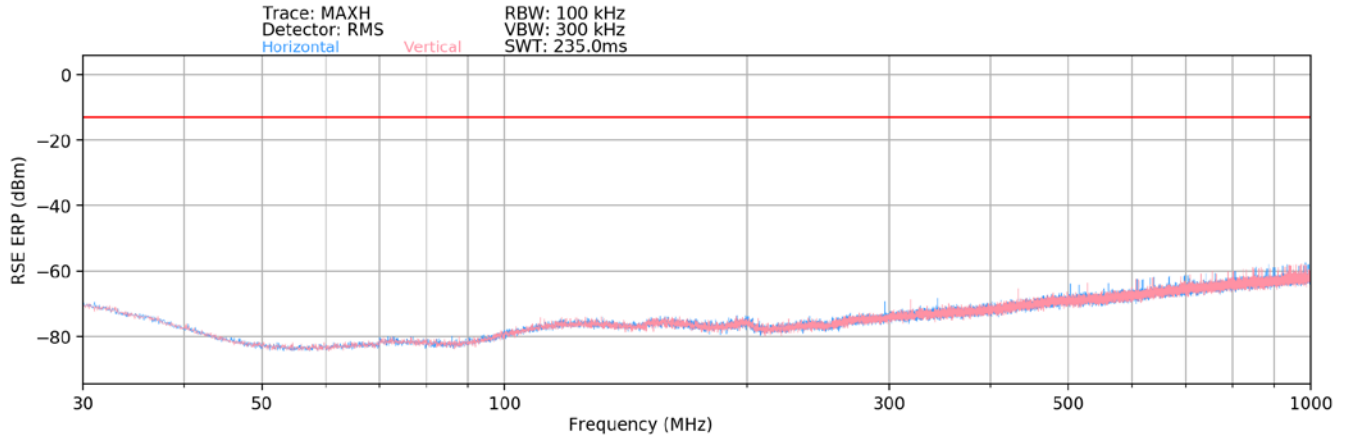
Case:	w/ Wireless Charging Pad
Bandwidth (MHz):	100
Frequency (MHz):	3500.01
RB / Offset:	1 / 136
Mode:	Stand Alone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7000.02	H	158	29	-68.16	7.82	46.66	-48.59	-13.00	-35.59
10500.03	H	-	-	-78.73	11.39	39.66	-55.59	-13.00	-42.59
14000.04	H	-	-	-78.70	14.35	42.65	-52.61	-13.00	-39.61
17500.05	H	-	-	-78.73	17.73	46.00	-49.26	-13.00	-36.26

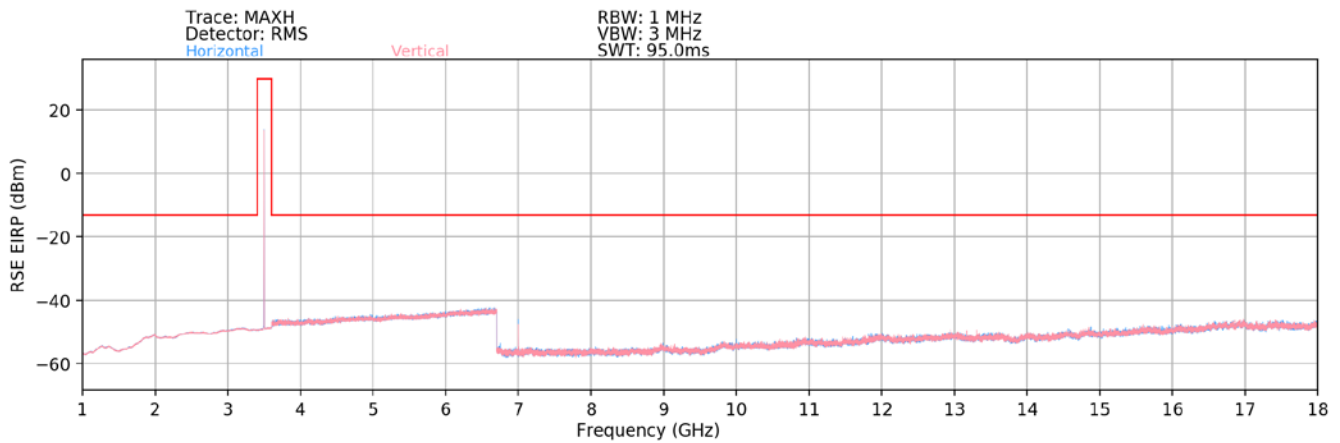
Table 7-33. Radiated Spurious Data with WCP (NR Band n77 (DoD) - Ant C - SRS 2)

FCC ID: A3LSMS901E	 PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE) 		Approved by: Technical Manager
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NR Band n77 (DoD Band) - Ant H - SRS 3



Plot 7-214. Radiated Spurious Plot (NR Band n77 (DoD) - Ant H - SRS 3)





Plot 7-215. Radiated Spurious Plot (NR Band n77 (DoD) - Ant H - SRS 3)

Bandwidth (MHz):	100
Frequency (MHz):	3750.00
RB / Offset:	1 / 136

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7500.00	H	133	10	-66.98	8.35	48.37	-46.89	-13.00	-33.89
11250.00	H	-	-	-78.26	12.39	41.13	-54.13	-13.00	-41.13
15000.00	H	-	-	-78.82	15.39	43.57	-51.69	-13.00	-38.69
18750.00	H	-	-	-58.17	1.27	50.10	-54.70	-13.00	-41.70

Table 7-34. Radiated Spurious Data (NR Band n77 (DoD) – Low Channel - Ant H - SRS 3)

FCC ID: A3LSMS901E		PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
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Bandwidth (MHz):	100
Frequency (MHz):	3500.01
RB / Offset:	1 / 136
Mode:	Stand Alone
Anchor Band:	0

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7000.02	H	343	27	-63.67	7.82	51.15	-44.10	-13.00	-31.10
10500.03	H	-	-	-78.67	11.39	39.72	-55.53	-13.00	-42.53
14000.04	H	-	-	-78.58	14.35	42.77	-52.49	-13.00	-39.49
17500.05	H	-	-	-78.42	17.73	46.31	-48.95	-13.00	-35.95

Table 7-35. Radiated Spurious Data (NR Band n77 (DoD) – Mid Channel - Ant H - SRS 3)

Bandwidth (MHz):	100
Frequency (MHz):	3930.00
RB / Offset:	1 / 136



Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7860.00	H	138	4	-58.91	8.10	56.19	-39.07	-13.00	-26.07
11790.00	H	-	-	-78.45	13.19	41.74	-53.52	-13.00	-40.52
15720.00	H	-	-	-78.97	17.00	45.03	-50.22	-13.00	-37.22
19650.00	H	-	-	-58.87	2.16	50.29	-54.51	-13.00	-41.51

Table 7-36. Radiated Spurious Data (NR Band n77 (DoD) – High Channel - Ant H - SRS 3)

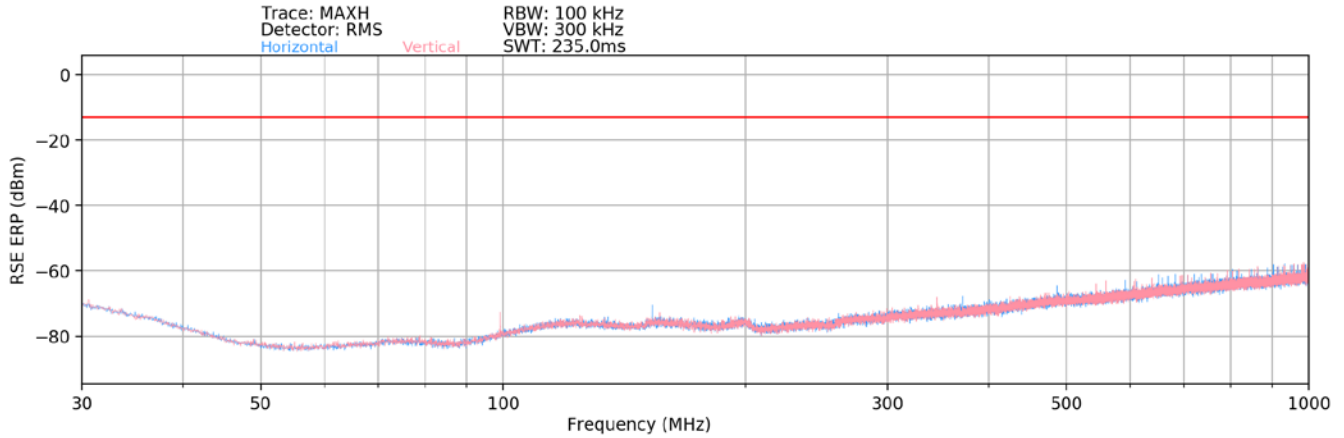
Case:	w/ Wireless Charging Pad
Bandwidth (MHz):	100
Frequency (MHz):	3500.01
RB / Offset:	1 / 136
Mode:	Stand Alone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7000.02	H	159	292	-64.36	7.82	50.46	-44.79	-13.00	-31.79
10500.03	H	-	-	-78.52	11.39	39.87	-55.38	-13.00	-42.38
14000.04	H	-	-	-78.65	14.35	42.70	-52.56	-13.00	-39.56
17500.05	H	-	-	-78.24	17.73	46.49	-48.77	-13.00	-35.77

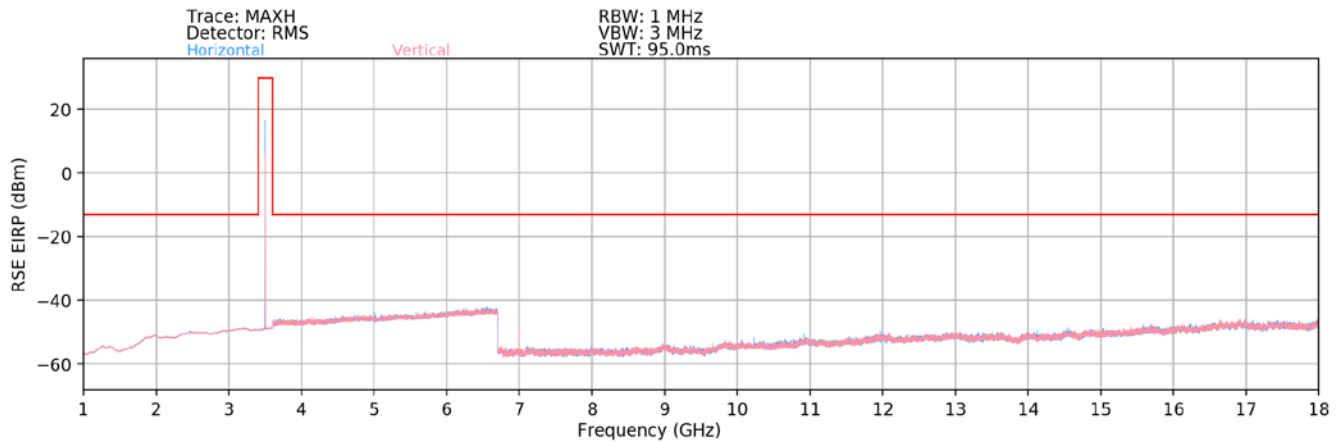
Table 7-37. Radiated Spurious Data with WCP (NR Band n77 (DoD) - Ant H - SRS 3)

FCC ID: A3LSMS901E	 PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE) 		Approved by: Technical Manager
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NR Band n77 (DoD Band) - Ant D - SRS 4



Plot 7-216. Radiated Spurious Plot (NR Band n77 (DoD) - Ant D - SRS 4)





Plot 7-217. Radiated Spurious Plot (NR Band n77 (DoD) - Ant D - SRS 4)

Bandwidth (MHz):	100
Frequency (MHz):	3750.00
RB / Offset:	1 / 136

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7500.00	V	242	3	-69.88	8.35	45.47	-49.79	-13.00	-36.79
11250.00	V	-	-	-78.29	12.39	41.10	-54.16	-13.00	-41.16
15000.00	V	-	-	-77.88	15.39	44.51	-50.75	-13.00	-37.75
18750.00	V	-	-	-59.04	1.27	49.23	-55.57	-13.00	-42.57

Table 7-38. Radiated Spurious Data (NR Band n77 (DoD) – Low Channel - Ant D - SRS 4)

FCC ID: A3LSMS901E		PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
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Bandwidth (MHz):	100
Frequency (MHz):	3500.01
RB / Offset:	1 / 136
Mode:	Stand Alone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7000.02	H	117	344	-65.29	7.82	49.53	-45.72	-13.00	-32.72
10500.03	H	-	-	-79.19	11.39	39.20	-56.05	-13.00	-43.05
14000.04	H	-	-	-79.11	14.35	42.24	-53.02	-13.00	-40.02
17500.05	H	-	-	-78.86	17.73	45.87	-49.39	-13.00	-36.39

Table 7-39. Radiated Spurious Data (NR Band n77 (DoD) – Mid Channel - Ant D - SRS 4)

Bandwidth (MHz):	100
Frequency (MHz):	3930.00
RB / Offset:	1 / 136



Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7860.00	V	287	268	-55.23	8.10	59.87	-35.39	-13.00	-22.39
11790.00	V	247	343	-76.14	13.19	44.05	-51.21	-13.00	-38.21
15720.00	V	-	-	-78.20	17.00	45.80	-49.45	-13.00	-36.45
19650.00	V	-	-	-58.56	2.16	50.60	-54.20	-13.00	-41.20
23580.00	V	-	-	-58.72	2.95	51.23	-53.57	-13.00	-40.57

Table 7-40. Radiated Spurious Data (NR Band n77 (DoD) – High Channel - Ant D - SRS 4)

Case:	w/ Wireless Charging Pad
Bandwidth (MHz):	100
Frequency (MHz):	3500.01
RB / Offset:	1 / 136
Mode:	Stand Alone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7000.02	H	183	300	-68.88	7.82	45.94	-49.31	-13.00	-36.31
10500.03	H	-	-	-79.09	11.39	39.30	-55.95	-13.00	-42.95
14000.04	H	-	-	-79.15	14.35	42.20	-53.06	-13.00	-40.06
17500.05	H	-	-	-79.05	17.73	45.68	-49.58	-13.00	-36.58

Table 7-41. Radiated Spurious Data with WCP (NR Band n77 (DoD) - Ant D - SRS 4)

FCC ID: A3LSMS901E	 PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE) 		Approved by: Technical Manager
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7.9 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.

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

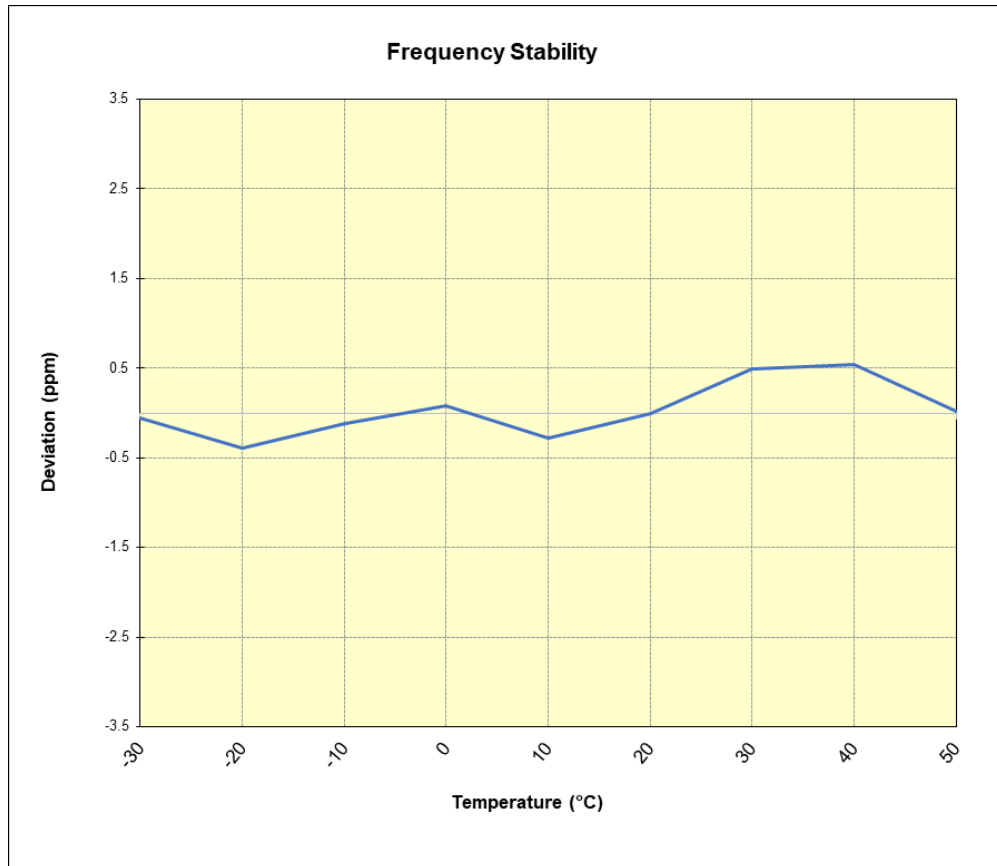
None

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NR Band n77 C-Band - Ant G - SRS 1

NR Band n77 C-Band					
Operating Frequency (Hz):		3,840,000,000			
Ref. Voltage (VDC):		4.40			
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.40	- 30	3,839,980,923	-196	-0.0000051
		- 20	3,839,979,640	-1,478	-0.0000385
		- 10	3,839,980,665	-453	-0.0000118
		0	3,839,981,416	297	0.0000077
		+ 10	3,839,980,060	-1,058	-0.0000276
		+ 20 (Ref)	3,839,981,118	0	0.0000000
		+ 30	3,839,983,020	1,902	0.0000495
		+ 40	3,839,983,173	2,055	0.0000535
Battery Endpoint	3.85	+ 20	3,839,983,120	2,002	0.0000521

Table 7-42. NR Band n77 Frequency Stability Data



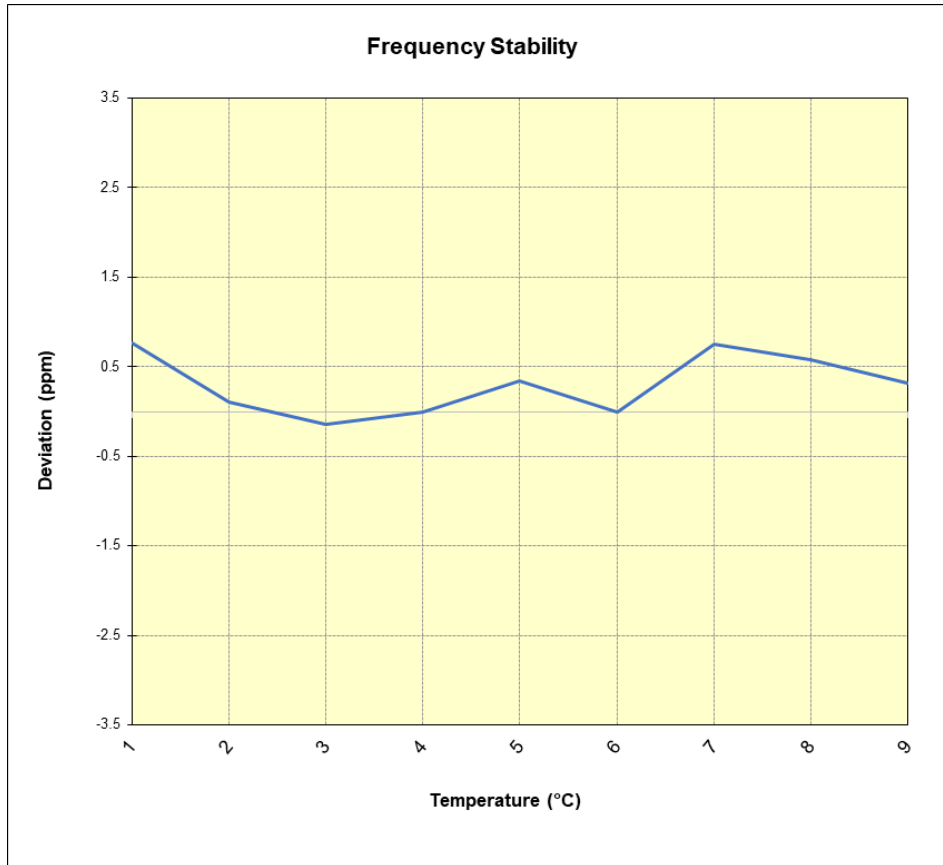
Plot 7-218. NR Band n77 Frequency Stability Chart

FCC ID: A3LSMS901E	PCTEST Proud to be part of Samsung	PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)	Approved by: Technical Manager
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NR Band n77 DoD-Band - Ant G - SRS 1

NR Band n78 DoD					
Operating Frequency (Hz):		3,500,000,000			
Ref. Voltage (VDC):		4.40			
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.40	- 30	3,499,993,112	2,663	0.0000761
		- 20	3,499,990,842	393	0.0000112
		- 10	3,499,989,968	-481	-0.0000137
		0	3,499,990,439	-10	-0.0000003
		+ 10	3,499,991,639	1,190	0.0000340
		+ 20 (Ref)	3,499,990,449	0	0.0000000
		+ 30	3,499,993,087	2,638	0.0000754
		+ 40	3,499,992,493	2,044	0.0000584
Battery Endpoint	3.85	+ 20	3,499,989,721	-728	-0.0000208

Table 7-43. NR Band n77 Frequency Stability Data





Plot 7-219. NR Band n77 Frequency Stability Chart

FCC ID: A3LSMS901E	PCTEST Proud to be part of Samsung	PART 27 MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)	Approved by: Technical 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: A3LSMS901E** complies with all the requirements of Part 27 of the FCC rules.

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Test Report S/N: 1M2202030012-03.A3L	Test Dates: 2/1/2022 - 2/28/2022	EUT Type: Portable Handset		Page 149 of 149