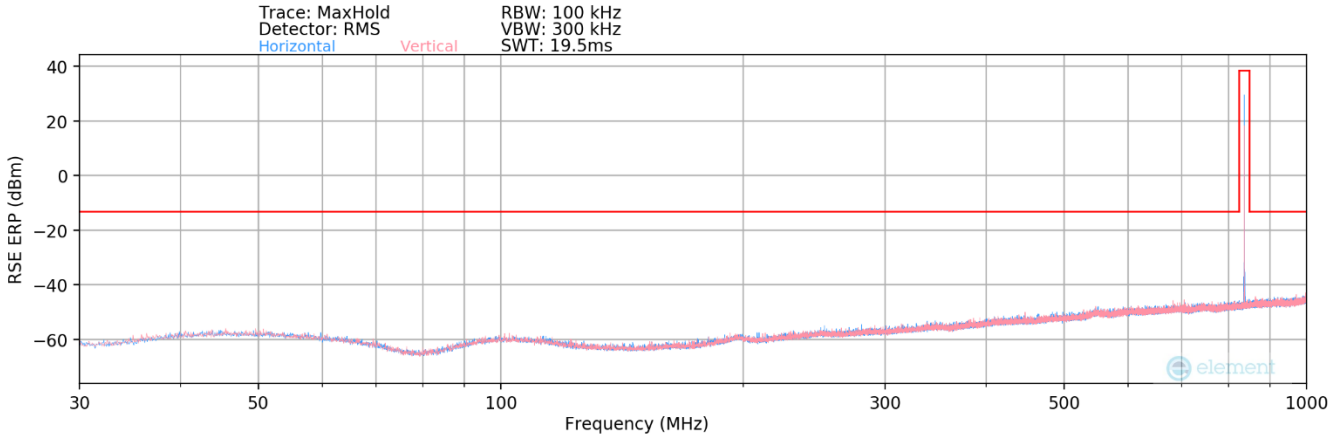
GSM/GPRS Cell – Ant1

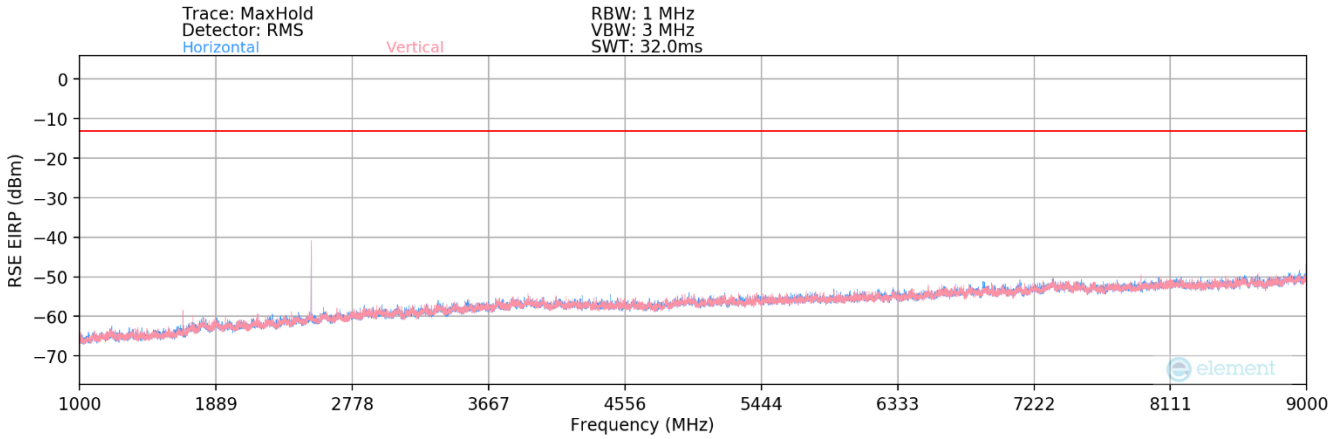


Plot 7-191. Radiated Spurious Plot (GPRS Cell – Ant1)

Mode:	GPRS 1 Tx Slot
Channel:	190
Frequency (MHz):	836.6

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
545.68	V	-	-	-78.29	25.56	54.27	-43.14	-13.00	-30.14
902.98	V	-	-	-81.14	30.68	56.54	-40.87	-13.00	-27.87

Table 7-30. Radiated Spurious Data (GPRS Cell – Mid Channel – Ant1)



Plot 7-192. Radiated Spurious Plot (GPRS Cell – Ant1)

Mode:	GPRS 1 Tx Slot
Channel:	128
Frequency (MHz):	824.2

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]
1648.40	V	122	312	-47.71	-7.66	51.63	-43.63	-13.00	-30.63
2472.60	V	114	229	-48.42	-3.98	54.60	-40.65	-13.00	-27.65
3296.80	V	-	-	-76.08	-0.98	29.94	-65.31	-13.00	-52.31
4121.00	V	-	-	-75.52	1.09	32.57	-62.69	-13.00	-49.69
4945.20	V	-	-	-76.49	1.94	32.45	-62.81	-13.00	-49.81
5769.40	V	-	-	-76.90	3.99	34.09	-61.17	-13.00	-48.17

Table 7-31. Radiated Spurious Data (GPRS Cell – Low Channel – Ant1)

Mode:	GPRS 1 Tx Slot
Channel:	190
Frequency (MHz):	836.6

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]
1673.20	V	124	324	-51.54	-7.37	48.09	-47.16	-13.00	-34.16
2509.80	V	114	231	-48.27	-3.74	54.99	-40.26	-13.00	-27.26
3346.40	V	-	-	-75.05	-0.39	31.56	-63.69	-13.00	-50.69
4183.00	V	-	-	-76.36	1.11	31.75	-63.51	-13.00	-50.51
5019.60	V	-	-	-76.45	2.27	32.82	-62.44	-13.00	-49.44
5856.20	V	-	-	-76.75	3.50	33.75	-61.51	-13.00	-48.51

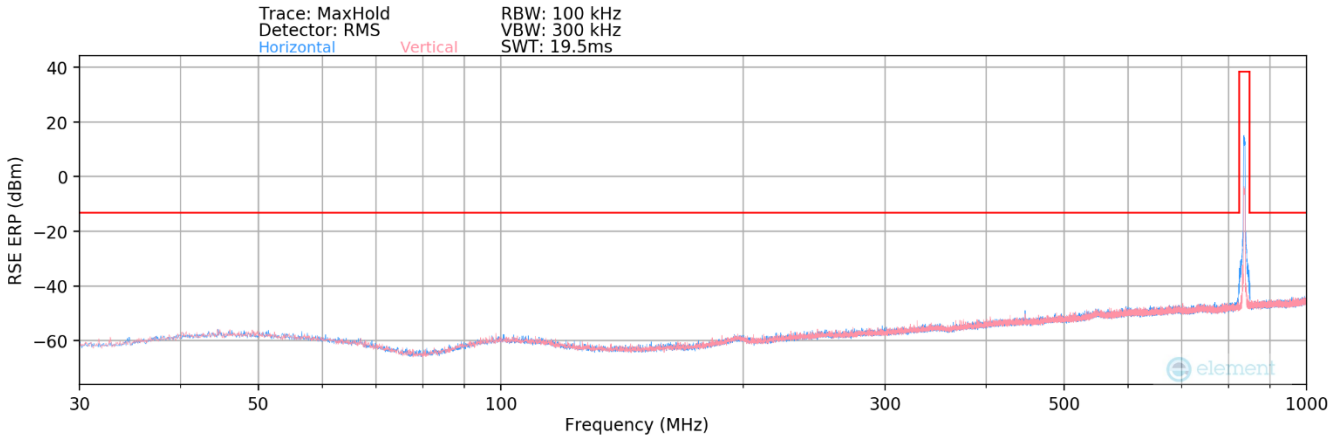
Table 7-32. Radiated Spurious Data (GPRS Cell – Mid Channel – Ant1)

Mode:	GPRS 1 Tx Slot
Channel:	251
Frequency (MHz):	848.8

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]
1697.60	V	113	325	-62.56	-7.10	37.34	-57.91	-13.00	-44.91
2546.40	V	100	221	-46.12	-3.17	57.71	-37.55	-13.00	-24.55
3395.20	V	-	-	-76.27	-0.34	30.39	-64.87	-13.00	-51.87
4244.00	V	-	-	-75.46	0.88	32.42	-62.83	-13.00	-49.83
5092.80	V	-	-	-76.82	2.85	33.03	-62.23	-13.00	-49.23
5941.60	V	-	-	-76.63	3.46	33.83	-61.43	-13.00	-48.43

Table 7-33. Radiated Spurious Data (GPRS Cell – High Channel – Ant1)

WCDMA Cell – Ant1

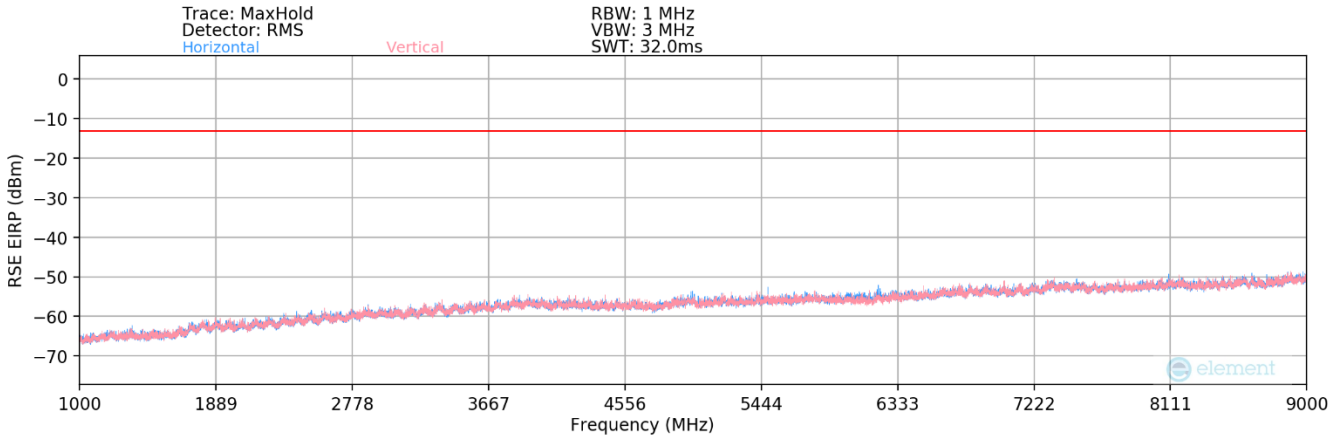


Plot 7-193. Radiated Spurious Plot (WCDMA Cell – Ant1)

Mode:	WCDMA RMC
Channel:	190
Frequency (MHz):	836.6

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
548.80	V	-	-	-79.89	25.64	52.75	-44.66	-13.00	-31.66
933.52	V	-	-	-81.72	30.87	56.15	-41.26	-13.00	-28.26

Table 7-34. Radiated Spurious Data (WCDMA Cell – Mid Channel – Ant1)



Plot 7-194. Radiated Spurious Plot (WCDMA Cell – Ant1)

Mode:	WCDMA RMC
Channel:	4132
Frequency (MHz):	826.4

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]
1652.80	V	131	331	-73.89	-7.60	25.51	-69.74	-13.00	-56.74
2479.20	V	-	-	-75.75	-3.86	27.39	-67.87	-13.00	-54.87
3305.60	V	-	-	-76.78	-0.76	29.46	-65.79	-13.00	-52.79
4132.00	V	-	-	-76.42	1.31	31.89	-63.37	-13.00	-50.37
4958.40	V	-	-	-77.28	2.11	31.83	-63.43	-13.00	-50.43
5784.80	V	-	-	-77.89	3.92	33.03	-62.23	-13.00	-49.23

Table 7-35. Radiated Spurious Data (WCDMA Cell – Low Channel – Ant1)

Mode:	WCDMA RMC
Channel:	4183
Frequency (MHz):	836.6

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]
1673.20	V	124	324	-74.62	-7.37	25.01	-70.24	-13.00	-57.24
2509.80	V	-	-	-75.12	-3.74	28.14	-67.11	-13.00	-54.11
3346.40	V	-	-	-76.12	-0.39	30.49	-64.76	-13.00	-51.76
4183.00	V	-	-	-77.12	1.11	30.99	-64.27	-13.00	-51.27
5019.60	V	-	-	-77.21	2.27	32.06	-63.20	-13.00	-50.20
5856.20	V	-	-	-77.48	3.50	33.02	-62.24	-13.00	-49.24

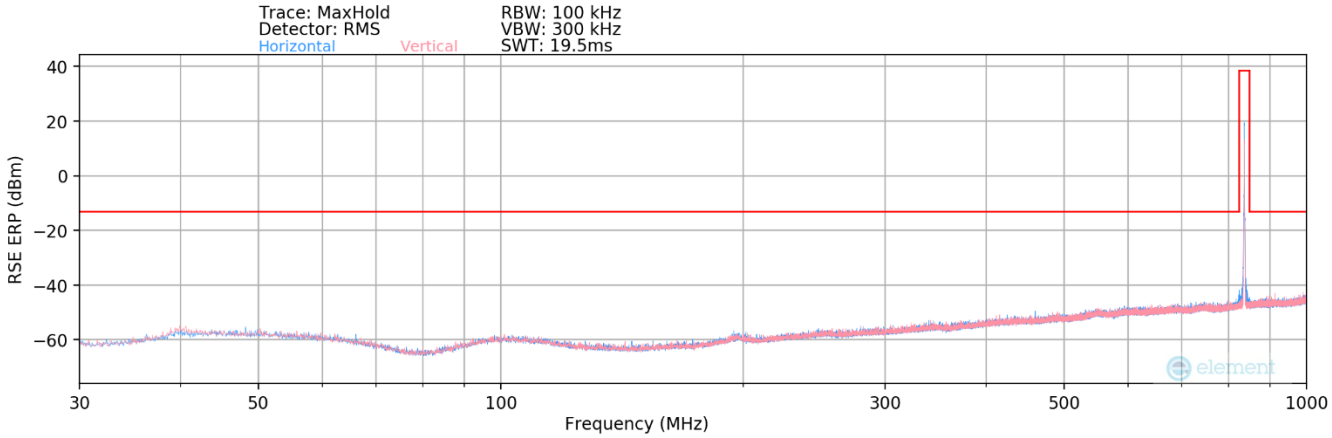
Table 7-36. Radiated Spurious Data (WCDMA Cell – Mid Channel – Ant1)

Mode:	WCDMA RMC
Channel:	4233
Frequency (MHz):	846.6

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]
1693.20	V	127	316	-71.69	-7.18	28.13	-67.13	-13.00	-54.13
2539.80	V	-	-	-76.65	-3.10	27.25	-68.01	-13.00	-55.01
3386.40	V	-	-	-77.42	-0.29	29.29	-65.97	-13.00	-52.97
4233.00	V	-	-	-76.35	1.02	31.67	-63.58	-13.00	-50.58
5079.60	V	-	-	-77.02	2.23	32.21	-63.05	-13.00	-50.05
5926.20	V	-	-	-77.35	3.32	32.97	-62.29	-13.00	-49.29

Table 7-37. Radiated Spurious Data (WCDMA Cell – High Channel – Ant1)

LTE Band 26/5 – Ant 2

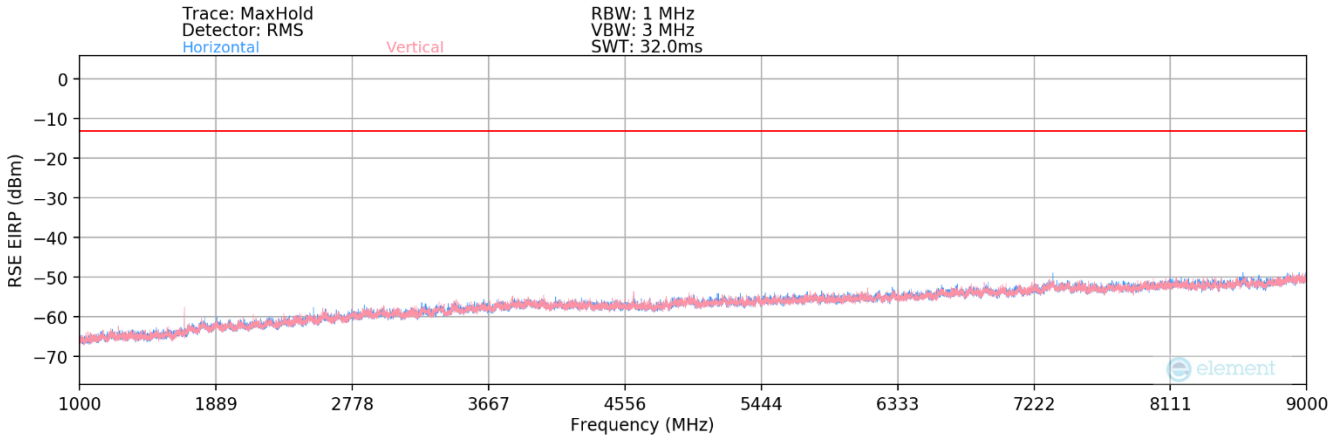


Plot 7-195. Radiated Spurious Plot (LTE Band 26/5 – Ant2)

Bandwidth (MHz):	15
Frequency (MHz):	836.5
RB / Offset:	1 / 37

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
545.50	V	-	-	-78.56	25.56	54.00	-43.41	-13.00	-30.41
933.47	V	-	-	-81.24	30.87	56.63	-40.78	-13.00	-27.78

Table 7-38. Radiated Spurious Data (LTE Band 26/5 – Mid Channel – Ant2)



Plot 7-196. Radiated Spurious Plot (LTE Band 26/5 – Ant2)

Bandwidth (MHz):	15
Frequency (MHz):	831.5
RB / Offset:	1 / 37

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]
1663.00	V	140	241	-74.67	-7.47	24.86	-70.40	-13.00	-57.40
2494.50	V	-	-	-74.98	-3.83	28.19	-67.06	-13.00	-54.06
3326.00	V	-	-	-76.12	-0.50	30.38	-64.87	-13.00	-51.87
4157.50	V	-	-	-77.21	1.28	31.07	-64.19	-13.00	-51.19
4989.00	V	-	-	-77.04	2.30	32.26	-63.00	-13.00	-50.00
5820.50	V	-	-	-77.98	3.64	32.66	-62.60	-13.00	-49.60

Table 7-39. Radiated Spurious Data (LTE Band 26/5 – Low Channel – Ant2)

Bandwidth (MHz):	15
Frequency (MHz):	836.5
RB / Offset:	1 / 37

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]
1673.00	V	125	231	-72.17	-7.37	27.46	-67.80	-13.00	-54.80
2509.50	V	-	-	-75.01	-3.74	28.25	-67.01	-13.00	-54.01
3346.00	V	-	-	-76.12	-0.39	30.49	-64.77	-13.00	-51.77
4182.50	V	-	-	-77.20	1.11	30.91	-64.35	-13.00	-51.35
5019.00	V	-	-	-77.35	2.26	31.91	-63.35	-13.00	-50.35
5855.50	V	-	-	-77.89	3.51	32.62	-62.64	-13.00	-49.64

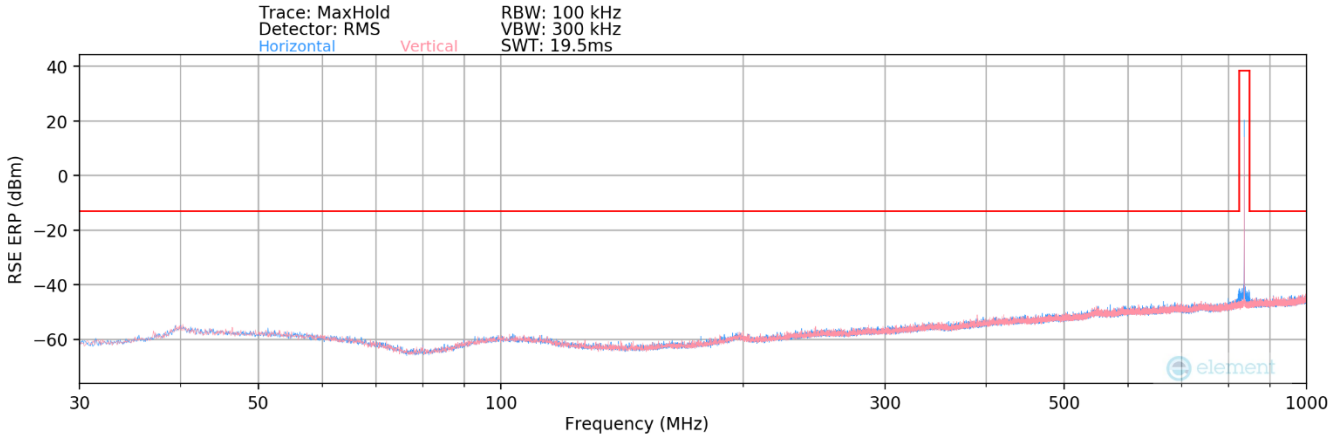
Table 7-40. Radiated Spurious Data (LTE Band 26/5 – Mid Channel – Ant2)

Bandwidth (MHz):	15
Frequency (MHz):	841.5
RB / Offset:	1 / 37

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]
1683.00	V	125	234	-67.56	-7.28	32.16	-63.09	-13.00	-50.09
2524.50	V	-	-	-75.71	-3.43	27.86	-67.39	-13.00	-54.39
3366.00	V	-	-	-76.53	0.02	30.49	-64.77	-13.00	-51.77
4207.50	V	-	-	-76.56	1.05	31.49	-63.77	-13.00	-50.77
5049.00	V	-	-	-77.12	2.46	32.34	-62.92	-13.00	-49.92
5890.50	V	-	-	-77.34	3.16	32.82	-62.44	-13.00	-49.44

Table 7-41. Radiated Spurious Data (LTE Band 26/5 – High Channel – Ant2)

NR Band n5 – Ant2

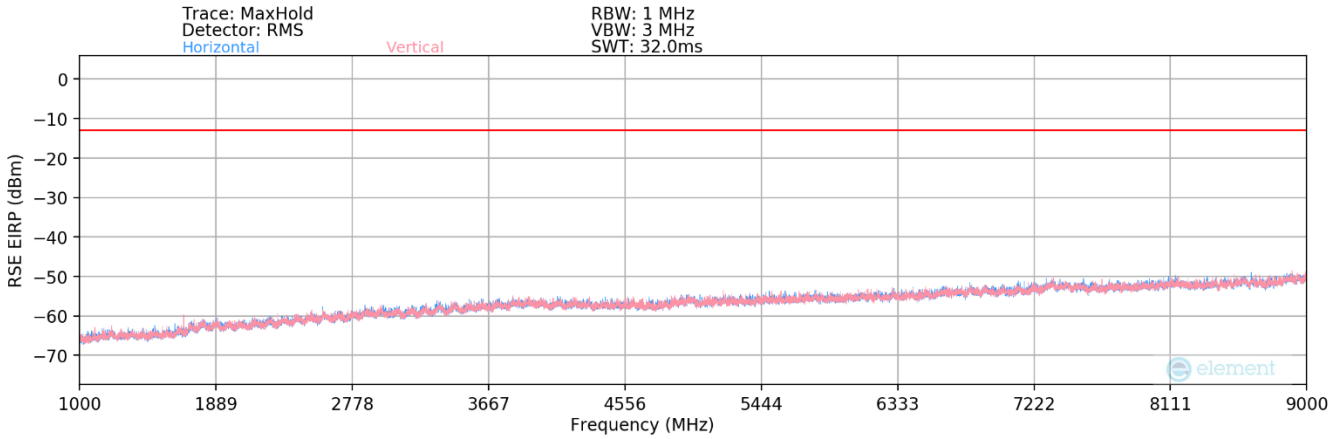


Plot 7-197. Radiated Spurious Plot (NR Band n5 – Ant2)

Bandwidth (MHz):	20
Frequency (MHz):	836.5
RB / Offset:	1 / 53

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
545.64	V	-	-	-79.89	25.56	52.67	-44.74	-13.00	-31.74
933.62	V	-	-	-81.23	30.87	56.64	-40.77	-13.00	-27.77

Table 7-42. Radiated Spurious Data (NR Band n5 – Mid Channel – Ant2)



Plot 7-198. Radiated Spurious Plot (NR Band n5 – Ant2)

Bandwidth (MHz):	20
Frequency (MHz):	834
RB / Offset:	1 / 53

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]
1668.00	V	138	236	-74.72	-7.42	24.86	-70.40	-13.00	-57.40
2502.00	V	-	-	-74.65	-3.87	28.48	-66.78	-13.00	-53.78
3336.00	V	-	-	-75.98	-0.44	30.58	-64.68	-13.00	-51.68
4170.00	V	-	-	-77.12	1.13	31.01	-64.25	-13.00	-51.25
5004.00	V	-	-	-76.93	2.16	32.23	-63.03	-13.00	-50.03
5838.00	V	-	-	-77.45	3.41	32.96	-62.29	-13.00	-49.29

Table 7-43. Radiated Spurious Data (NR Band n5 – Low Channel – Ant2)

Bandwidth (MHz):	20
Frequency (MHz):	836.5
RB / Offset:	1 / 53

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]
1673.00	V	125	231	-72.95	-7.37	26.68	-68.58	-13.00	-55.58
2509.50	V	-	-	-75.01	-3.74	28.25	-67.01	-13.00	-54.01
3346.00	V	-	-	-75.98	-0.39	30.63	-64.63	-13.00	-51.63
4182.50	V	-	-	-76.89	1.11	31.22	-64.04	-13.00	-51.04
5019.00	V	-	-	-77.12	2.26	32.14	-63.12	-13.00	-50.12
5855.50	V	-	-	-77.35	3.51	33.16	-62.10	-13.00	-49.10

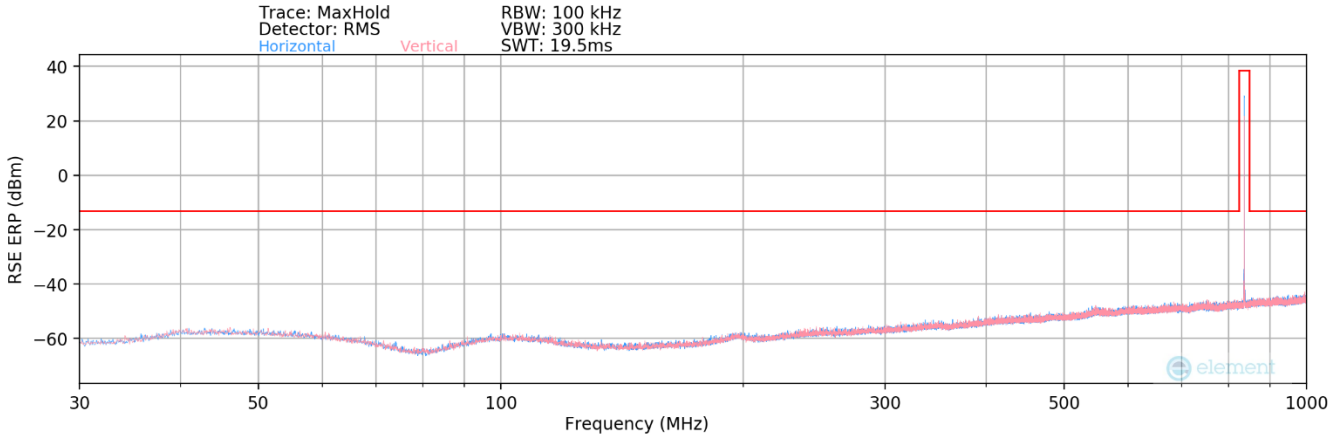
Table 7-44. Radiated Spurious Data (NR Band n5 – Mid Channel – Ant2)

Bandwidth (MHz):	20
Frequency (MHz):	839
RB / Offset:	1 / 53

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]
1678.00	V	120	236	-69.83	-7.32	29.85	-65.41	-13.00	-52.41
2517.00	V	-	-	-75.32	-3.59	28.09	-67.17	-13.00	-54.17
3356.00	V	-	-	-76.12	-0.21	30.67	-64.59	-13.00	-51.59
4195.00	V	-	-	-76.89	1.23	31.34	-63.92	-13.00	-50.92
5034.00	V	-	-	-77.12	2.45	32.33	-62.93	-13.00	-49.93
5873.00	V	-	-	-76.32	3.20	33.88	-61.38	-13.00	-48.38

Table 7-45. Radiated Spurious Data (NR Band n5 – High Channel – Ant2)

GSM/GPRS Cell – Ant2

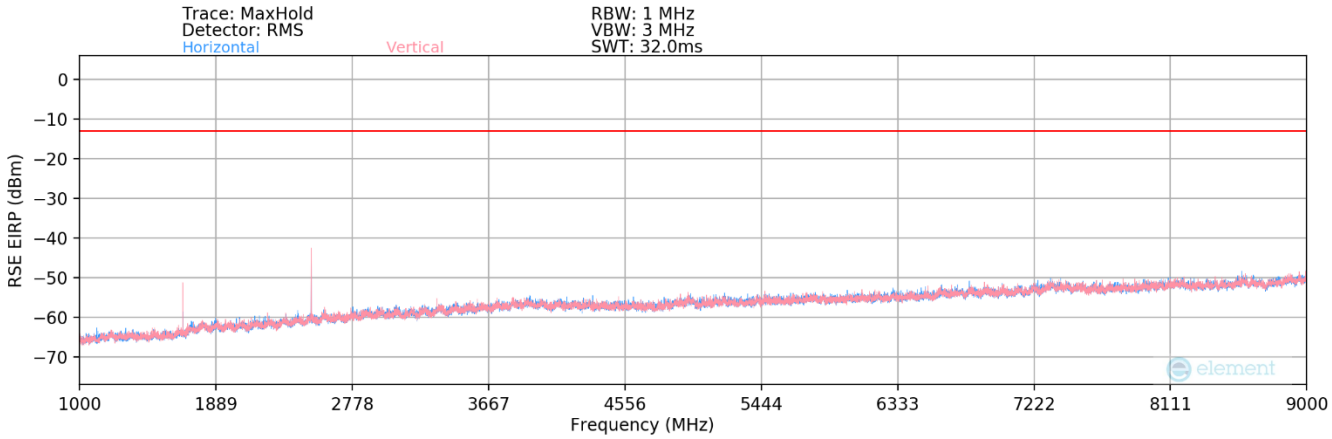


Plot 7-199. Radiated Spurious Plot (GPRS Cell – Ant2)

Mode:	GPRS 1 Tx Slot
Channel:	190
Frequency (MHz):	836.6

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
534.82	V	-	-	-79.89	25.12	52.23	-45.18	-13.00	-32.18
952.15	V	-	-	-81.83	30.91	56.08	-41.33	-13.00	-28.33

Table 7-46. Radiated Spurious Data (GPRS Cell – Mid Channel – Ant2)



Plot 7-200. Radiated Spurious Plot (GPRS Cell – Ant2)

Mode:	GPRS 1 Tx Slot
Channel:	128
Frequency (MHz):	824.2

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]
1648.40	V	140	227	-57.16	-7.66	42.18	-53.08	-13.00	-40.08
2472.60	V	118	226	-54.14	-3.98	48.88	-46.37	-13.00	-33.37
3296.80	V	-	-	-75.89	-0.98	30.13	-65.12	-13.00	-52.12
4121.00	V	-	-	-75.27	1.09	32.82	-62.44	-13.00	-49.44
4945.20	V	-	-	-76.45	1.94	32.49	-62.77	-13.00	-49.77
5769.40	V	-	-	-77.17	3.99	33.82	-61.44	-13.00	-48.44

Table 7-47. Radiated Spurious Data (GPRS Cell – Low Channel – Ant2)

Mode:	GPRS 1 Tx Slot
Channel:	190
Frequency (MHz):	836.6

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]
1673.20	V	118	237	-62.28	-7.37	37.35	-57.90	-13.00	-44.90
2509.80	V	125	231	-51.50	-3.74	51.76	-43.49	-13.00	-30.49
3346.40	V	-	-	-74.74	-0.39	31.87	-63.38	-13.00	-50.38
4183.00	V	-	-	-75.67	1.11	32.44	-62.82	-13.00	-49.82
5019.60	V	-	-	-74.97	2.27	34.30	-60.96	-13.00	-47.96
5856.20	V	-	-	-75.99	3.50	34.51	-60.75	-13.00	-47.75

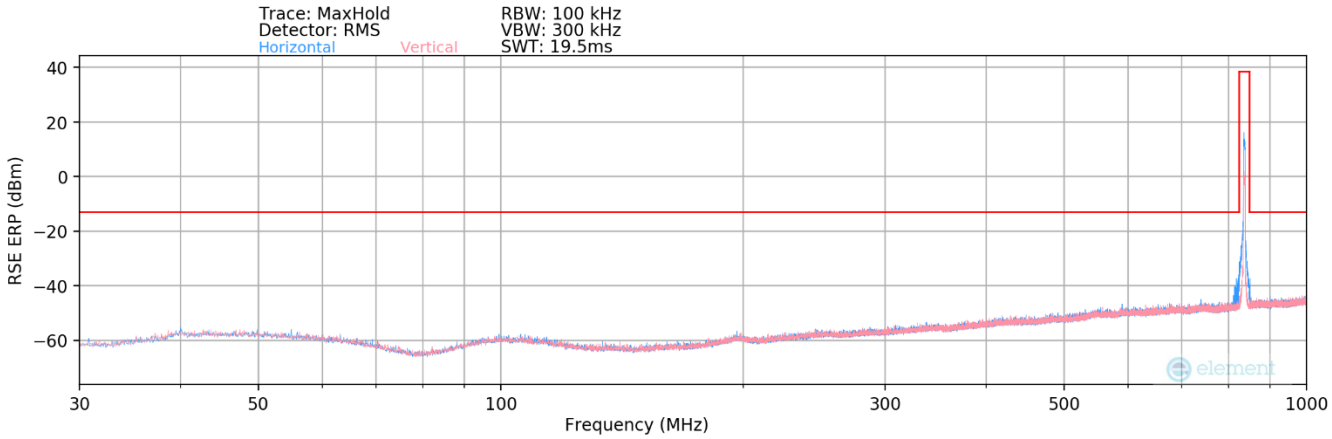
Table 7-48. Radiated Spurious Data (GPRS Cell – Mid Channel – Ant2)

Mode:	GPRS 1 Tx Slot
Channel:	251
Frequency (MHz):	848.8

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]
1697.60	V	103	241	-64.88	-7.10	35.02	-60.23	-13.00	-47.23
2546.40	V	140	229	-55.77	-3.17	48.06	-47.20	-13.00	-34.20
3395.20	V	-	-	-76.24	-0.34	30.42	-64.84	-13.00	-51.84
4244.00	V	-	-	-75.47	0.88	32.41	-62.84	-13.00	-49.84
5092.80	V	-	-	-76.34	2.85	33.51	-61.75	-13.00	-48.75
5941.60	V	-	-	-76.43	3.46	34.03	-61.23	-13.00	-48.23

Table 7-49. Radiated Spurious Data (GPRS Cell – High Channel – Ant2)

WCDMA Cell – Ant2

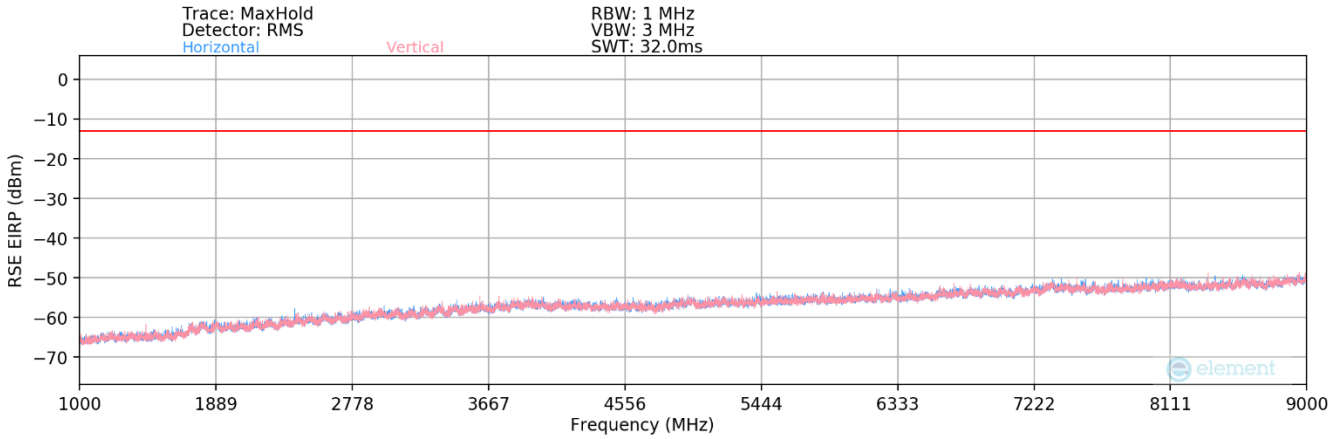


Plot 7-201. Radiated Spurious Plot (WCDMA Cell – Ant2)

Mode:	WCDMA RMC
Channel:	4183
Frequency (MHz):	836.6

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
545.29	V	-	-	-79.82	25.55	52.73	-44.67	-13.00	-31.67
902.98	V	-	-	-81.15	30.68	56.53	-40.88	-13.00	-27.88

Table 7-50. Radiated Spurious Data (WCDMA Cell – Mid Channel – Ant2)



Plot 7-202. Radiated Spurious Plot (WCDMA Cell – Ant2)

Mode:	WCDMA RMC
Channel:	4132
Frequency (MHz):	826.4

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]
1652.80	V	141	238	-74.45	-7.60	24.95	-70.30	-13.00	-57.30
2479.20	V	-	-	-75.62	-3.86	27.52	-67.74	-13.00	-54.74
3305.60	V	-	-	-76.92	-0.76	29.32	-65.93	-13.00	-52.93
4132.00	V	-	-	-76.45	1.31	31.86	-63.40	-13.00	-50.40
4958.40	V	-	-	-77.21	2.11	31.90	-63.36	-13.00	-50.36
5784.80	V	-	-	-77.89	3.92	33.03	-62.23	-13.00	-49.23

Table 7-51. Radiated Spurious Data (WCDMA Cell – Low Channel – Ant2)

Mode:	WCDMA RMC
Channel:	4183
Frequency (MHz):	836.6

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]
1673.20	V	126	223	-74.87	-7.37	24.76	-70.49	-13.00	-57.49
2509.80	V	-	-	-75.15	-3.74	28.11	-67.14	-13.00	-54.14
3346.40	V	-	-	-76.02	-0.39	30.59	-64.66	-13.00	-51.66
4183.00	V	-	-	-77.15	1.11	30.96	-64.30	-13.00	-51.30
5019.60	V	-	-	-77.35	2.27	31.92	-63.34	-13.00	-50.34
5856.20	V	-	-	-77.45	3.50	33.05	-62.21	-13.00	-49.21

Table 7-52. Radiated Spurious Data (WCDMA Cell – Mid Channel – Ant2)

Mode:	WCDMA RMC
Channel:	4233
Frequency (MHz):	846.6

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]
1693.20	V	126	225	-72.12	-7.18	27.70	-67.56	-13.00	-54.56
2539.80	V	-	-	-76.56	-3.10	27.34	-67.92	-13.00	-54.92
3386.40	V	-	-	-77.42	-0.29	29.29	-65.97	-13.00	-52.97
4233.00	V	-	-	-76.35	1.02	31.67	-63.58	-13.00	-50.58
5079.60	V	-	-	-77.16	2.23	32.07	-63.19	-13.00	-50.19
5926.20	V	-	-	-77.35	3.32	32.97	-62.29	-13.00	-49.29

Table 7-53. Radiated Spurious Data (WCDMA Cell – High Channel – Ant2)

7.9 Frequency Stability / Temperature Variation

Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI C63.26:2015. 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 and RSS-132, the frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5 ppm) of the center frequency.

Test Procedure Used

ANSI C63.26:2015 – Section 5.6

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

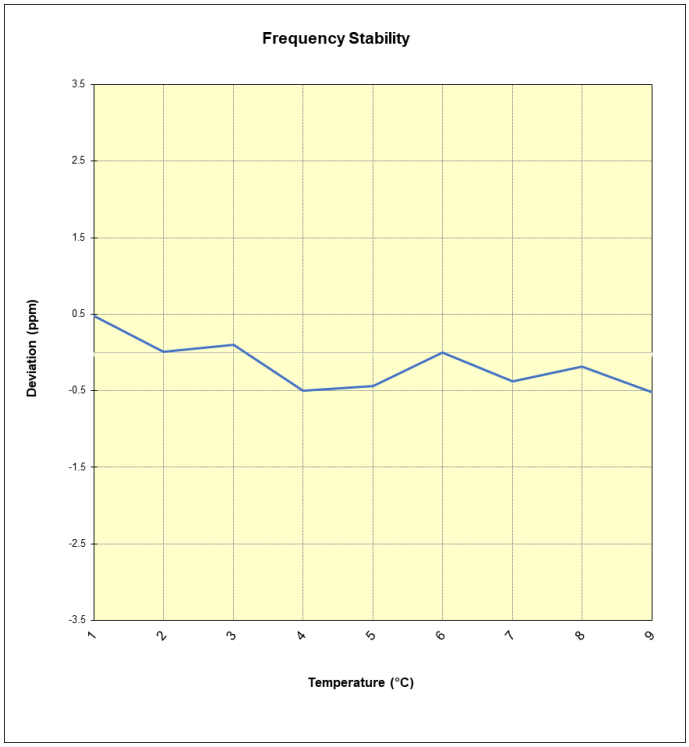
None

LTE Band 26/5

Operating Frequency (Hz):	836,500,000
Ref. Voltage (VDC):	4.446
Deviation Limit:	± 0.00025% or 2.5 ppm

Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.446	- 30	836,505,872	402	0.0000481
		- 20	836,505,478	8	0.0000010
		- 10	836,505,552	82	0.0000098
		0	836,505,050	-420	-0.0000502
		+ 10	836,505,107	-363	-0.0000434
		+ 20 (Ref)	836,505,470	0	0.0000000
		+ 30	836,505,156	-314	-0.0000375
		+ 40	836,505,316	-154	-0.0000184
		+ 50	836,505,035	-435	-0.0000520
Battery Endpoint	3.648	+ 20	836,504,695	-775	-0.0000926

Table 7-54. LTE Band 26/5 Frequency Stability Data



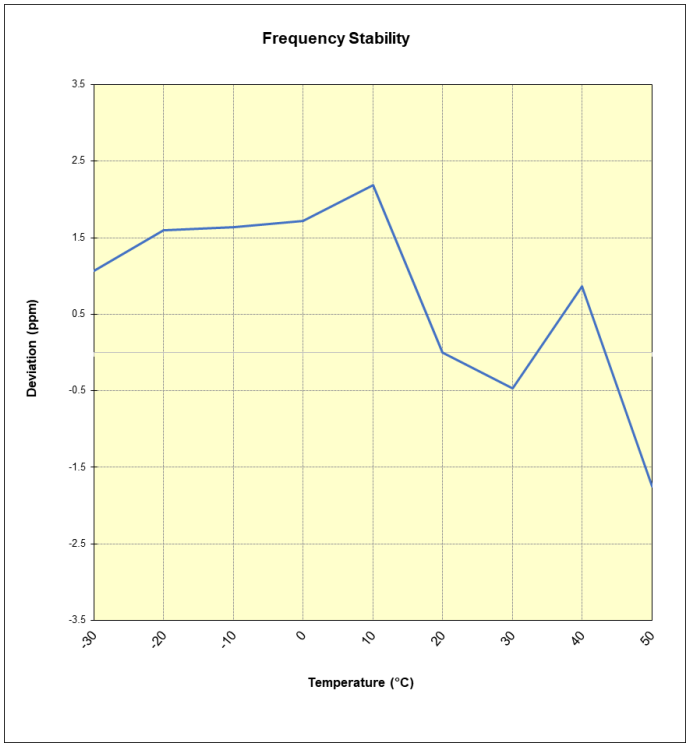
Plot 7-203. LTE Band 26/5 Frequency Stability Chart

NR Band n5

Operating Frequency (Hz):	836,500,000
Ref. Voltage (VDC):	4.446
Deviation Limit:	± 0.00025% or 2.5 ppm

Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.446	- 30	836,534,401	893	0.0001068
		- 20	836,534,844	1,336	0.0001597
		- 10	836,534,876	1,368	0.0001635
		0	836,534,946	1,438	0.0001719
		+ 10	836,535,339	1,831	0.0002189
		+ 20 (Ref)	836,533,508	0	0.0000000
		+ 30	836,533,120	-388	-0.0000464
		+ 40	836,534,230	722	0.0000863
		+ 50	836,532,040	-1,468	-0.0001755
Battery Endpoint	3.648	+ 20	836,531,923	-1,585	-0.0001895

Table 7-55. NR Band n5 Frequency Stability Data



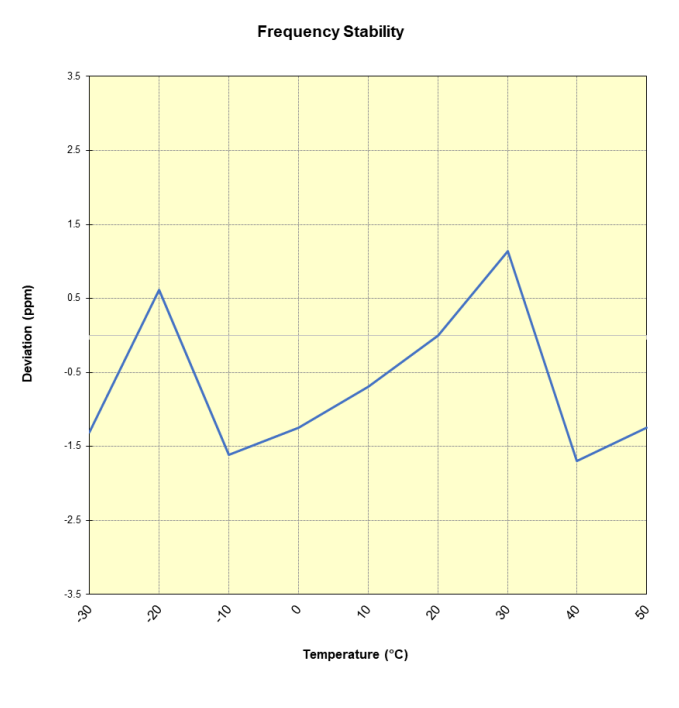
Plot 7-204. NR Band n5 Frequency Stability Chart

GSM/GPRS Cellular

Operating Frequency (Hz):	836,600,000
Ref. Voltage (VDC):	4.446
Deviation Limit:	± 0.00025% or 2.5 ppm

Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.446	- 30	836,602,212	-1,097	-0.0001311
		- 20	836,603,822	513	0.0000613
		- 10	836,601,963	-1,346	-0.0001609
		0	836,602,270	-1,039	-0.0001242
		+ 10	836,602,734	-575	-0.0000687
		+ 20 (Ref)	836,603,309	0	0.0000000
		+ 30	836,604,258	949	0.0001134
		+ 40	836,601,889	-1,420	-0.0001697
		+ 50	836,602,270	-1,039	-0.0001242
Battery Endpoint	3.648	+ 20	836,603,342	33	0.0000039

Table 7-56. GSM/GPRS Cell Frequency Stability Data



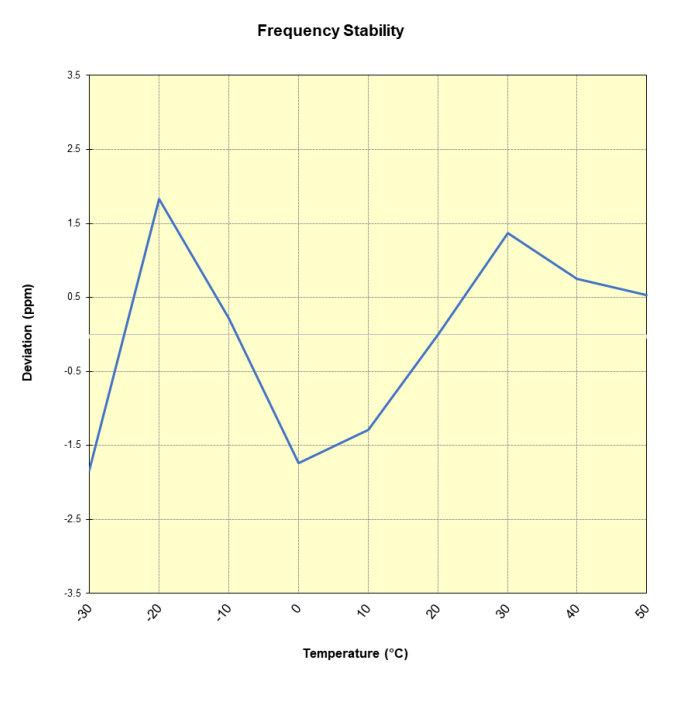
Plot 7-205. GSM/GPRS Cell Frequency Stability Chart

WCDMA Cellular

Operating Frequency (Hz):	836,600,000
Ref. Voltage (VDC):	4.446
Deviation Limit:	± 0.00025% or 2.5 ppm

Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.446	- 30	836,560,002	-1,537	-0.0001837
		- 20	836,563,066	1,527	0.0001825
		- 10	836,561,726	187	0.0000224
		0	836,560,089	-1,450	-0.0001733
		+ 10	836,560,464	-1,075	-0.0001285
		+ 20 (Ref)	836,561,539	0	0.0000000
		+ 30	836,562,682	1,143	0.0001366
		+ 40	836,562,169	630	0.0000753
		+ 50	836,561,985	446	0.0000533
Battery Endpoint	3.648	+ 20	836,561,971	432	0.0000516

Table 7-57. WCDMA Cell Frequency Stability Data



Plot 7-206. WCDMA Cell Frequency Stability Char

8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMA576JPN** complies with all the requirements of Part 22 of the FCC rule. **FCC ID: A3LSMA576U** (Model: SM-A576U1) included in this report have been reviewed and are deemed acceptable to support the compliance of **FCC ID: A3LSMA576JPN**

9.0 APPENDIX A – DATA REFERENCING RESULTS

Overview

The spot-check data presented in this section was measured on the variant model following the guidance of the FCC's Data Referencing guidance in KDB 484596 D01 v03. Each spot-check test on the EUT was performed using the same procedure and setting that were used to perform the test on the corresponding reference device. For the worst-case RSE data, the measurement is determined by an actual emission and not by noise floor.

All test cases were performed to verify the variant EUT is still in compliance with the spot-checked results to the reference device and was performed using the guidance of ANSI C63.26-2015.

Notes

1. Each spot check test on the EUT was performed using the same procedure and setting that were used to perform the test on the corresponding reference device.

Conducted Spot-Checks – SC-54G

Maximum Burst-Averaged Output Power		
Band	Channel	GPRS [dBm] 1 Tx Slot
GSM 850	251	32.36

Table 9-1. Conducted Output Power Measurements (Spot-check) – GPRS 850 – Ant1

Maximum Burst-Averaged Output Power		
Band	Channel	GPRS [dBm] 1 Tx Slot
GSM 850	251	31.89

Table 9-2. Conducted Output Power Measurements (Spot-check) – GPRS 850 – Ant2

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
20 MHz	QPSK	167300	836.5	1 / 53	24.27

Table 9-3. Conducted Output Power Measurements (Spot-check) – NR Band 5 – Ant1

Plot 9-1. Occupied Bandwidth (Spot-check) – GPRS 850

Plot 9-2. Occupied Bandwidth (Spot-check) – NR n5

Radiated Spot-Checks – SC-54G

Frequency [MHz]	Mode	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
836.60	GSM850	H	110	285	28.68	1.08	**27.61**	**0.576**	38.45	-10.85

Table 9-4. ERP Measurements (Spot-check) – GPRS 850

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
20 MHz	QPSK	834.00	H	107	279	1.07	1 / 104	21.38	**20.30**	0.107	38.45	-18.15

Table 9-5. ERP Measurements (Spot-check) – NR n5

Results

FCC Rules	Test Item	Test Case	Units	Limit	Reference Model: SM-A576U1	Variant Model: SC-54G	Deviation (dB)	Max Deviation (dB)	Pass/Fail
22	Conducted Output Power	High Ch. 251, Ant A	dBm	N/A	32.78	32.36	-0.43	1	PASS
		High Ch. 251, Ant E	dBm	N/A	32.84	31.89	-0.94	1	PASS
	Occupied Bandwidth	Mid Ch. 190, Ant A	kHz	N/A	248.59	245.10	-3.49	N/A	PASS
	ERP	Mid Ch. 190, Ant A	dBm	38.45	29.54	27.61	-1.93	3	PASS

Table 9-6. Summary of Spot-checks – GPRS 850

FCC Rules	Test Item	Test Case	Units	Limit	Reference Model: SM-A576U1	Variant Model: SC-54G	Deviation (dB)	Max Deviation (dB)	Pass/Fail
22	Conducted Output Power	Mid Ch. 167300, 20MHz, QPSK, ANT A	dBm	N/A	24.74	24.27	-0.47	1	PASS
	Occupied Bandwidth	Mid Ch. 167300, 20MHz, QPSK, ANT A	MHz	N/A	17.96	17.96	0.00	N/A	PASS
	ERP	Low Ch. 166800, 20MHz, QPSK, ANT A	dBm	38.45	21.28	20.30	-0.98	3	PASS

Table 9-7. Summary of Spot-checks – NR n5

- END OF TEST REPORT -