

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]
20 MHz	$\pi/2$ BPSK	1860.00	V	126	1	8.28	1 / 104	13.87	22.15	0.164	33.01	-10.86
	$\pi/2$ BPSK	1882.50	V	128	2	8.29	1 / 53	14.15	22.45	0.176	33.01	-10.56
	$\pi/2$ BPSK	1905.00	V	122	3	8.32	1 / 1	13.85	22.16	0.165	33.01	-10.85
	QPSK	1860.00	V	126	1	8.28	1 / 53	13.88	22.16	0.164	33.01	-10.85
	QPSK	1882.50	V	128	2	8.29	1 / 53	14.11	22.41	0.174	33.01	-10.60
	QPSK	1905.00	V	122	3	8.32	1 / 1	13.86	22.18	0.165	33.01	-10.83
15 MHz	16-QAM	1882.50	V	128	2	8.29	1 / 53	12.87	21.17	0.131	33.01	-11.84
	$\pi/2$ BPSK	1857.50	V	126	1	8.28	1 / 1	13.84	22.12	0.163	33.01	-10.89
	$\pi/2$ BPSK	1882.50	V	128	2	8.29	1 / 39	14.38	22.67	0.185	33.01	-10.34
	$\pi/2$ BPSK	1907.50	V	122	3	8.32	1 / 77	13.80	22.12	0.163	33.01	-10.89
	QPSK	1857.50	V	126	1	8.28	1 / 1	13.96	22.24	0.167	33.01	-10.77
	QPSK	1882.50	V	128	2	8.29	1 / 1	14.31	22.60	0.182	33.01	-10.41
10 MHz	QPSK	1907.50	V	122	3	8.32	1 / 1	13.87	22.19	0.166	33.01	-10.82
	16-QAM	1882.50	V	128	2	8.29	1 / 1	12.98	21.27	0.134	33.01	-11.74
	$\pi/2$ BPSK	1855.00	V	126	1	8.28	1 / 1	13.85	22.12	0.163	33.01	-10.89
	$\pi/2$ BPSK	1882.50	V	128	2	8.29	1 / 1	14.14	22.44	0.175	33.01	-10.57
	$\pi/2$ BPSK	1910.00	V	122	3	8.33	1 / 26	13.66	21.99	0.158	33.01	-11.02
	QPSK	1855.00	V	126	1	8.28	1 / 50	13.99	22.26	0.168	33.01	-10.75
5 MHz	QPSK	1882.50	V	128	2	8.29	1 / 1	14.16	22.46	0.176	33.01	-10.55
	QPSK	1910.00	V	122	3	8.33	1 / 1	13.48	21.81	0.152	33.01	-11.20
	16-QAM	1882.50	V	128	2	8.29	1 / 1	12.74	21.03	0.127	33.01	-11.98
	$\pi/2$ BPSK	1852.50	V	126	1	8.27	1 / 1	13.59	21.87	0.154	33.01	-11.14
	$\pi/2$ BPSK	1882.50	V	128	2	8.29	1 / 1	13.78	22.08	0.161	33.01	-10.94
	$\pi/2$ BPSK	1912.50	V	122	3	8.34	1 / 12	13.64	21.97	0.158	33.01	-11.04
20 MHz	QPSK	1852.50	V	126	1	8.27	1 / 23	13.64	21.92	0.155	33.01	-11.10
	QPSK	1882.50	V	128	2	8.29	1 / 1	13.73	22.02	0.159	33.01	-10.99
	QPSK	1912.50	V	122	3	8.34	1 / 23	12.54	20.88	0.122	33.01	-12.13
	16-QAM	1882.50	V	128	2	8.29	1 / 1	12.60	20.90	0.123	33.01	-12.11
	QPSK (CP-OFDM)	1882.50	V	128	2	8.29	1 / 53	13.20	21.49	0.141	33.01	-11.52
	QPSK (Opposite Pol.)	1882.50	H	121	4	8.29	1 / 53	11.08	19.37	0.086	33.01	-13.64
	QPSK (WCP)	1882.50	V	124	16	8.29	1 / 53	12.35	20.64	0.116	33.01	-12.37

Table 7-18. EIRP Data (NR Band n25/2 – Ant 0)

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]
20 MHz	$\pi/2$ BPSK	1860.00	V	173	311	8.28	1 / 104	15.31	23.59	0.229	33.01	-9.42
	$\pi/2$ BPSK	1882.50	V	173	302	8.29	1 / 104	15.25	23.54	0.226	33.01	-9.47
	$\pi/2$ BPSK	1905.00	V	168	307	8.32	1 / 53	14.87	23.19	0.208	33.01	-9.82
	QPSK	1860.00	V	173	311	8.28	1 / 104	14.74	23.02	0.200	33.01	-9.99
	QPSK	1882.50	V	173	302	8.29	1 / 1	15.25	23.54	0.226	33.01	-9.47
	QPSK	1905.00	V	168	307	8.32	1 / 53	14.14	22.45	0.176	33.01	-10.56
15 MHz	16-QAM	1882.50	V	173	302	8.29	1 / 1	14.41	22.70	0.186	33.01	-10.31
	$\pi/2$ BPSK	1857.50	V	173	311	8.28	1 / 77	15.21	23.49	0.223	33.01	-9.52
	$\pi/2$ BPSK	1882.50	V	173	302	8.29	1 / 77	15.39	23.68	0.233	33.01	-9.33
	$\pi/2$ BPSK	1907.50	V	168	307	8.32	1 / 1	14.69	23.01	0.200	33.01	-10.00
	QPSK	1857.50	V	173	311	8.28	1 / 77	14.77	23.05	0.202	33.01	-9.96
	QPSK	1882.50	V	173	302	8.29	1 / 1	15.35	23.64	0.231	33.01	-9.37
10 MHz	QPSK	1907.50	V	168	307	8.32	1 / 1	14.35	22.67	0.185	33.01	-10.34
	16-QAM	1882.50	V	173	302	8.29	1 / 1	14.62	22.91	0.196	33.01	-10.10
	$\pi/2$ BPSK	1855.00	V	173	311	8.28	1 / 26	15.22	23.50	0.224	33.01	-9.51
	$\pi/2$ BPSK	1882.50	V	173	302	8.29	1 / 50	15.30	23.60	0.229	33.01	-9.42
	$\pi/2$ BPSK	1910.00	V	168	307	8.33	1 / 1	14.85	23.18	0.208	33.01	-9.84
	QPSK	1855.00	V	173	311	8.28	1 / 50	14.64	22.91	0.196	33.01	-10.10
5 MHz	QPSK	1882.50	V	173	302	8.29	1 / 26	15.15	23.44	0.221	33.01	-9.57
	QPSK	1910.00	V	168	307	8.33	1 / 1	14.21	22.54	0.180	33.01	-10.47
	16-QAM	1882.50	V	173	302	8.29	1 / 50	14.68	22.97	0.198	33.01	-10.04
	$\pi/2$ BPSK	1852.50	V	173	311	8.27	1 / 1	15.10	23.38	0.218	33.01	-9.64
	$\pi/2$ BPSK	1882.50	V	173	302	8.29	1 / 23	15.12	23.42	0.220	33.01	-9.59
	$\pi/2$ BPSK	1912.50	V	168	307	8.34	1 / 1	14.82	23.16	0.207	33.01	-9.85
20 MHz	QPSK	1852.50	V	173	311	8.27	1 / 1	14.70	22.97	0.198	33.01	-10.04
	QPSK	1882.50	V	173	302	8.29	1 / 1	15.17	23.46	0.222	33.01	-9.55
	QPSK	1912.50	V	168	307	8.34	1 / 1	14.45	22.79	0.190	33.01	-10.22
	16-QAM	1882.50	V	173	302	8.29	1 / 1	14.58	22.87	0.194	33.01	-10.14
	QPSK (CP-OFDM)	1860.00	V	173	311	8.28	1 / 104	13.06	21.34	0.136	33.01	-11.67
	QPSK (Opposite Pol.)	1882.50	H	114	166	8.27	1 / 53	14.68	22.95	0.197	33.01	-10.06
	QPSK (WCP)	1860.00	V	170	302	8.27	1 / 104	11.06	19.33	0.086	33.01	-13.68

Table 7-19. EIRP Data (NR Band n25/2 – Ant 7)

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Frequency [MHz]	Mode	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1850.20	GSM1900	V	148	279	21.27	8.27	29.54	0.900	33.01	-3.47
1880.00	GSM1900	V	128	286	21.62	8.29	29.91	0.980	33.01	-3.10
1909.80	GSM1900	V	115	275	22.34	8.33	30.67	1.167	33.01	-2.34
1909.80	GSM1900	H	151	167	20.12	8.33	28.45	0.700	33.01	-4.56
1909.80	EDGE1900	V	115	275	18.39	8.33	26.72	0.470	33.01	-6.29
1909.80	GSM1900 (WCP)	V	137	215	20.05	8.33	28.38	0.689	33.01	-4.63

Table 7-20. EIRP Data (GPRS PCS – Ant 0)

Frequency [MHz]	Mode	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1852.40	WCDMA 1900	V	146	276	15.01	8.27	23.28	0.213	33.01	-9.73
1880.00	WCDMA 1900	V	161	279	15.16	8.29	23.45	0.221	33.01	-9.56
1907.60	WCDMA 1900	V	162	279	14.26	8.32	22.58	0.181	33.01	-10.43
1880.00	WCDMA 1900	H	189	179	13.57	8.29	21.86	0.154	33.01	-11.15
1880.00	WCDMA 1900 (WCP)	V	161	279	14.10	8.29	22.39	0.173	33.01	-10.62

Table 7-21. EIRP Data (WCDMA PCS – Ant 0)

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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 ANSI C63.26-2015 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using hybrid (biconical/log) antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as RMS measurements while the EUT is operating at maximum power, and at the appropriate frequencies.

Test Procedures Used

ANSI C63.26-2015 – Section 5.5.4

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.

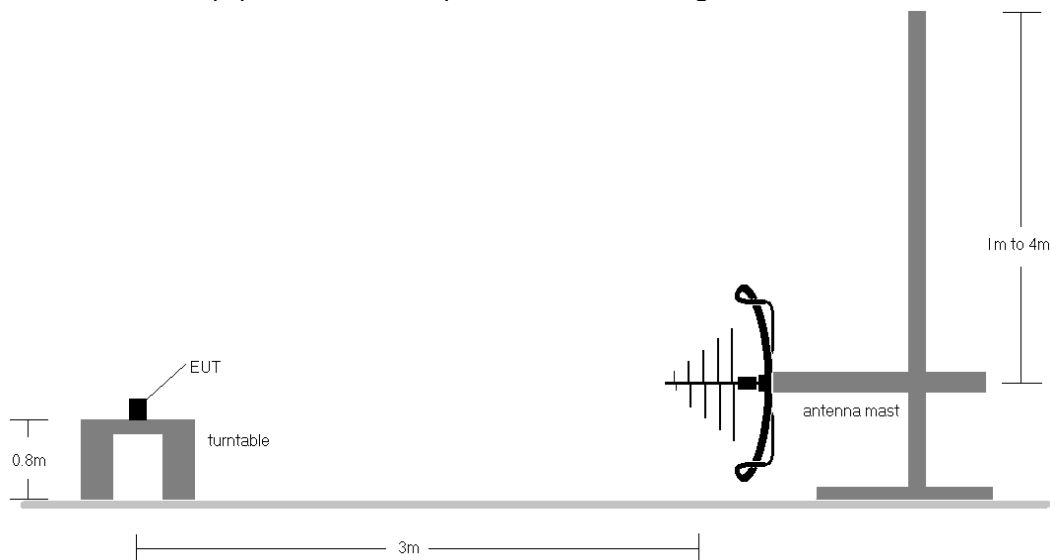


Figure 7-7. Test Instrument & Measurement Setup < 1GHz

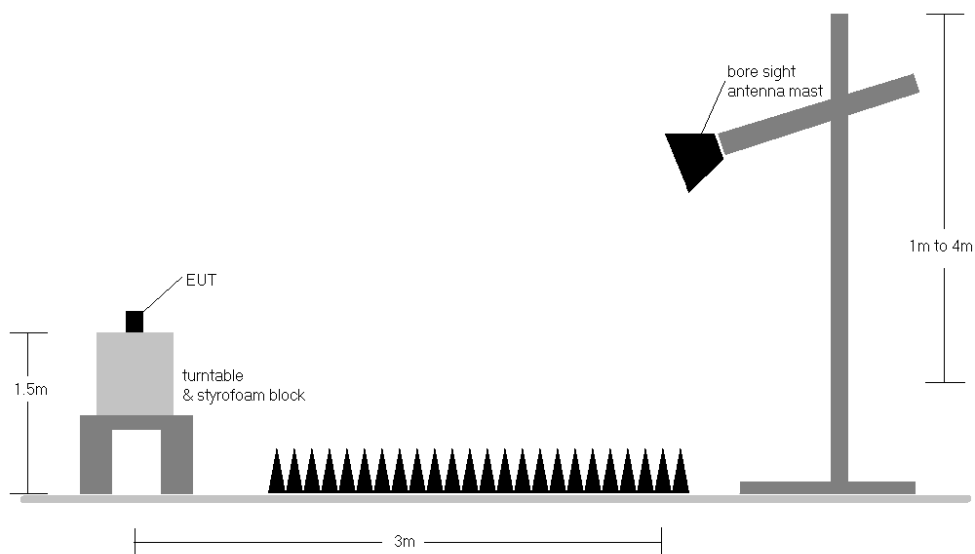


Figure 7-8. Test Instrument & Measurement Setup >1 GHz

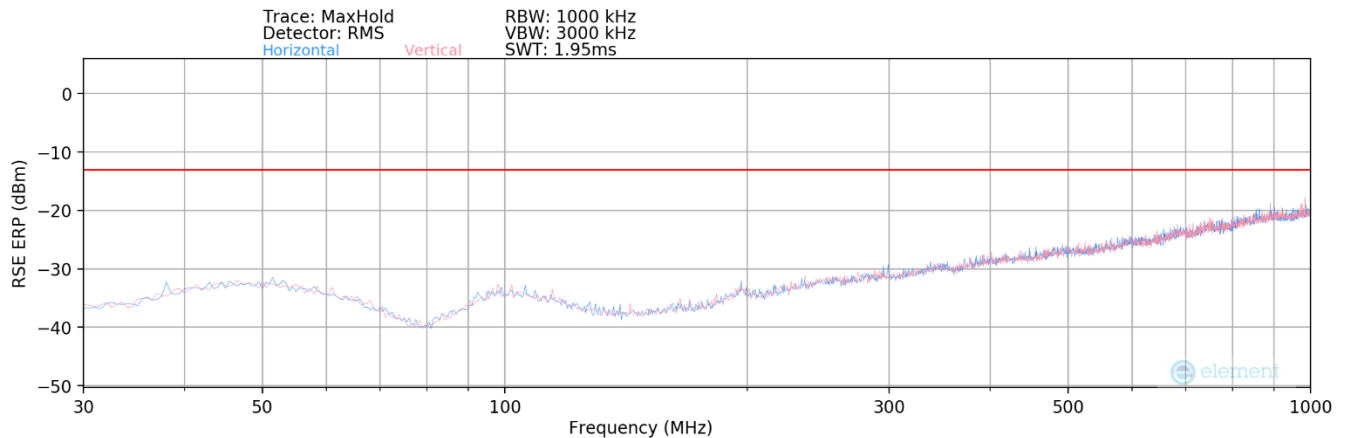
FCC ID: A3LSMS928B	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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Test Notes

- 1) Field strengths are calculated using the Measurement quantity conversions in ANSI C63.26-2015 Section 5.2.7:
 - a) $E(\text{dB}\mu\text{V/m}) = \text{Measured amplitude level (dBm)} + 107 + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}$
 - b) $\text{EIRP (dBm)} = E(\text{dB}\mu\text{V/m}) + 20\log D - 104.8$; where D is the measurement distance in meters.
- 2) This device employs GSM, GPRS, and EDGE capabilities. The EUT was tested under all configurations and the highest powers are reported in GPRS mode while transmitting with one slot active.
- 3) This device employs UMTS technology with WCDMA (AMR/RMC) and HSDPA capabilities. The EUT was tested under all configurations and the highest powers are reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1".
- 4) 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.
- 5) This unit was tested with its standard battery.
- 6) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.
- 7) 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.
- 8) The "-" shown in the following RSE tables are used to denote a noise floor measurement.
- 9) 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.
- 10) 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 are subject to the rules under which the NR carrier operates. Spurious emissions caused by the LTE carrier must meet the requirements of the rules under which the LTE carrier operates.

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LTE Band 25/2 – Ant 0

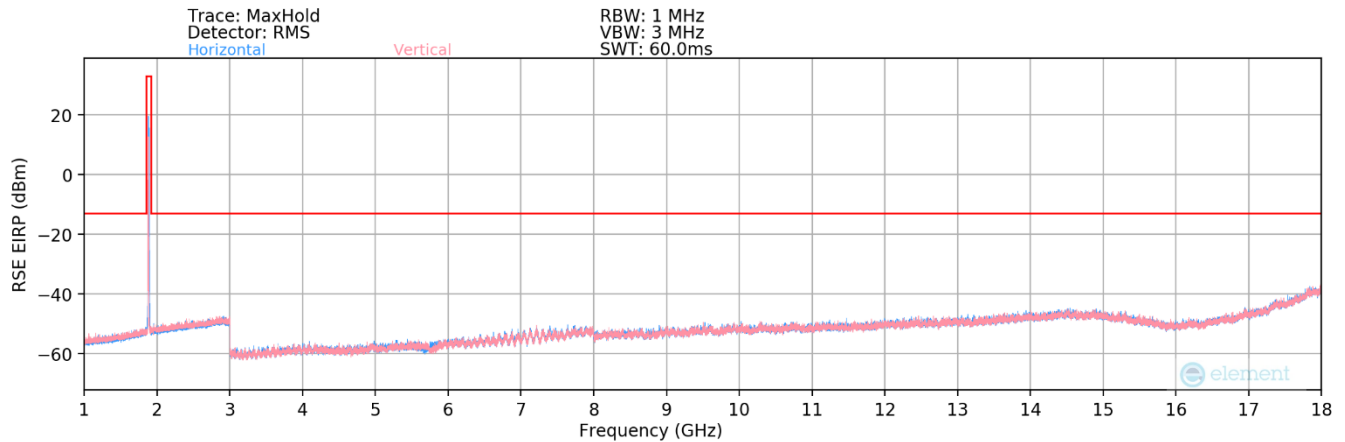


Plot 7-115. Radiated Spurious Plot Below 1GHz (LTE Band 25/2 – Ant 0)

Bandwidth (MHz):	20
Frequency (MHz):	1882.5
RB / Offset:	1/50

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]
859.93	H	-	-	-71.20	30.15	65.95	-31.46	-13.00	-18.46

Table 7-22. Radiated Spurious Data Below 1GHz (LTE Band 25/2 – Ant 0)



Plot 7-116. Radiated Spurious Plot Above 1GHz (LTE Band 25/2 – Ant 0)

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Bandwidth (MHz):	20
Frequency (MHz):	1860
RB / Offset:	1 / 50

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]
3720.00	H	-	-	-74.95	-0.93	31.12	-64.13	-13.00	-51.13
5580.00	H	-	-	-76.44	2.02	32.58	-62.68	-13.00	-49.68
7440.00	H	-	-	-77.36	6.20	35.84	-59.42	-13.00	-46.42

Table 7-23. Radiated Spurious Data Above 1GHz (LTE Band 25/2 – Low Channel – Ant 0)

Bandwidth (MHz):	20
Frequency (MHz):	1882.5
RB / Offset:	1 / 50

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]
3765.00	H	-	-	-75.41	-0.30	31.29	-63.97	-13.00	-50.97
5647.50	H	-	-	-75.64	2.40	33.76	-61.50	-13.00	-48.50
7530.00	H	-	-	-77.19	6.16	35.97	-59.28	-13.00	-46.28

Table 7-24. Radiated Spurious Data Above 1GHz (LTE Band 25/2 – Mid Channel – Ant 0)

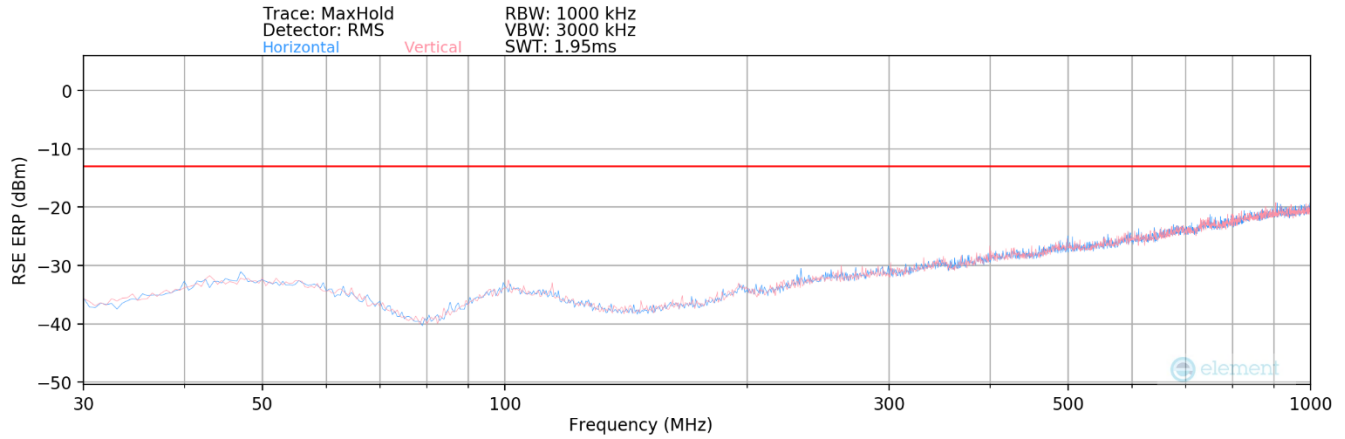
Bandwidth (MHz):	20
Frequency (MHz):	1905
RB / Offset:	1 / 50

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]
3810.00	H	-	-	-74.92	-0.42	31.66	-63.60	-13.00	-50.60
5715.00	H	-	-	-77.69	2.73	32.04	-63.22	-13.00	-50.22
7620.00	H	-	-	-76.86	6.47	36.61	-58.65	-13.00	-45.65

Table 7-25. Radiated Spurious Data Above 1GHz (LTE Band 25/2 – High Channel – Ant 0)

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NR Band n25/2 – Ant 0

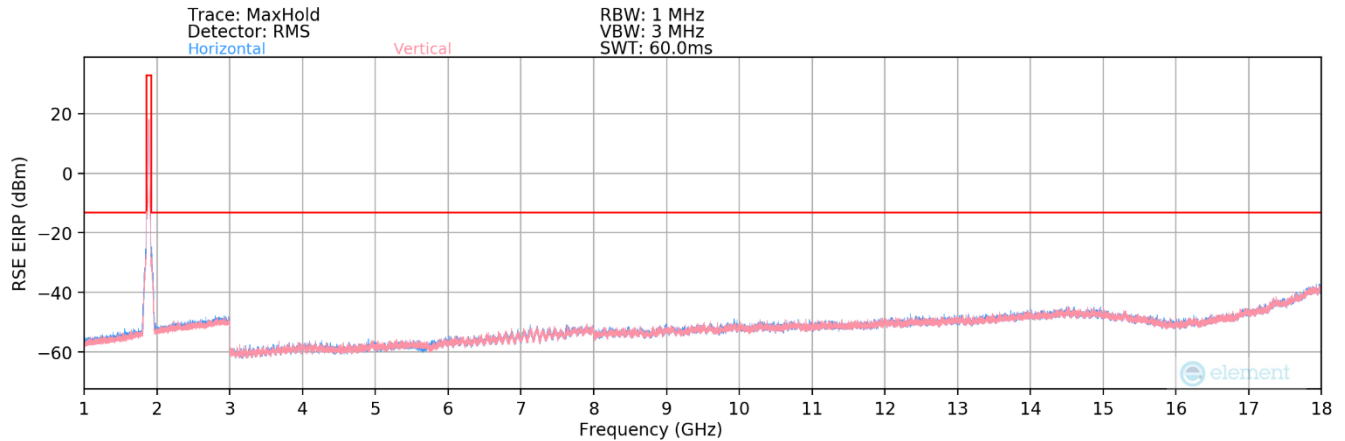


Plot 7-117. Radiated Spurious Plot Below 1GHz (NR Band n25/2 – Ant 0)

Bandwidth (MHz):	20
Frequency (MHz):	1882.5
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]
953.17	H	-	-	-73.49	30.63	64.14	-33.27	-13.00	-20.27

Table 7-26. Radiated Spurious Data Below 1GHz (NR Band n25/2 – Ant 0)



Plot 7-118. Radiated Spurious Plot Above 1GHz (NR Band n25/2 – Ant 0)

FCC ID: A3LSMS928B	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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Bandwidth (MHz):	20
Frequency (MHz):	1860
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]
3720.00	H	-	-	-76.07	-0.68	30.25	-65.01	-13.00	-52.01
5580.00	H	-	-	-76.48	2.04	32.56	-62.70	-13.00	-49.70
7440.00	H	-	-	-76.98	6.59	36.61	-58.64	-13.00	-45.64

Table 7-27. Radiated Spurious Data Above 1GHz (NR Band n25/2 – Low Channel – Ant 0)

Bandwidth (MHz):	20
Frequency (MHz):	1882.5
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]
3765.00	H	-	-	-75.57	-0.30	31.13	-64.13	-13.00	-51.13
5647.50	H	-	-	-76.65	2.40	32.75	-62.51	-13.00	-49.51
7530.00	H	-	-	-77.17	6.16	35.99	-59.26	-13.00	-46.26

Table 7-28. Radiated Spurious Data Above 1GHz (NR Band n25/2 – Mid Channel – Ant 0)

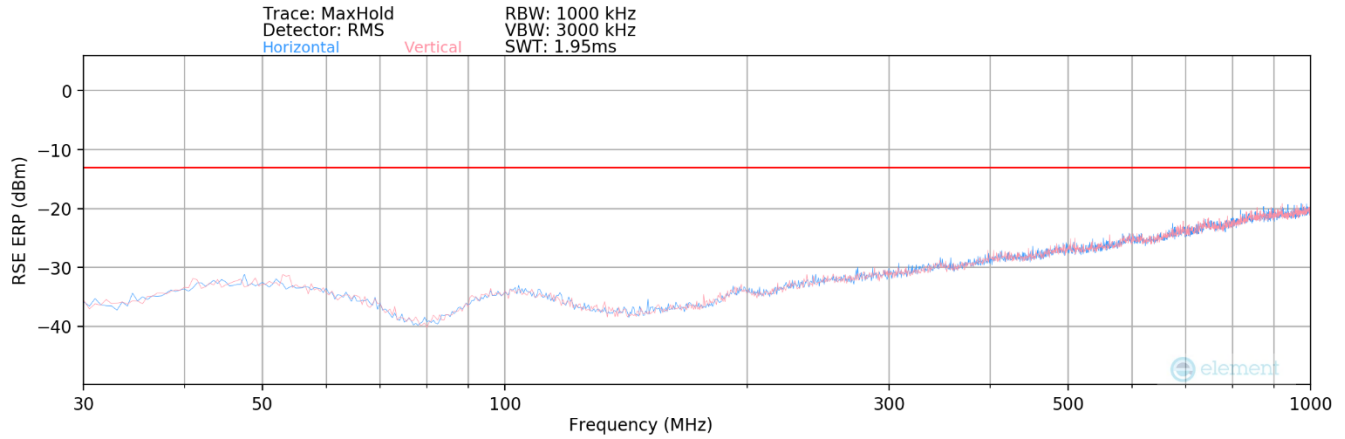
Bandwidth (MHz):	20
Frequency (MHz):	1905
RB / Offset:	1 / 53

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]
3810.00	H	-	-	-75.39	-0.50	31.11	-64.14	-13.00	-51.14
5715.00	H	-	-	-76.22	2.03	32.81	-62.45	-13.00	-49.45
7620.00	H	-	-	-76.74	6.52	36.78	-58.48	-13.00	-45.48

Table 7-29. Radiated Spurious Data Above 1GHz (NR Band n25/2 – High Channel – Ant 0)

FCC ID: A3LSMS928B	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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GSM/GPRS PCS – Ant 0

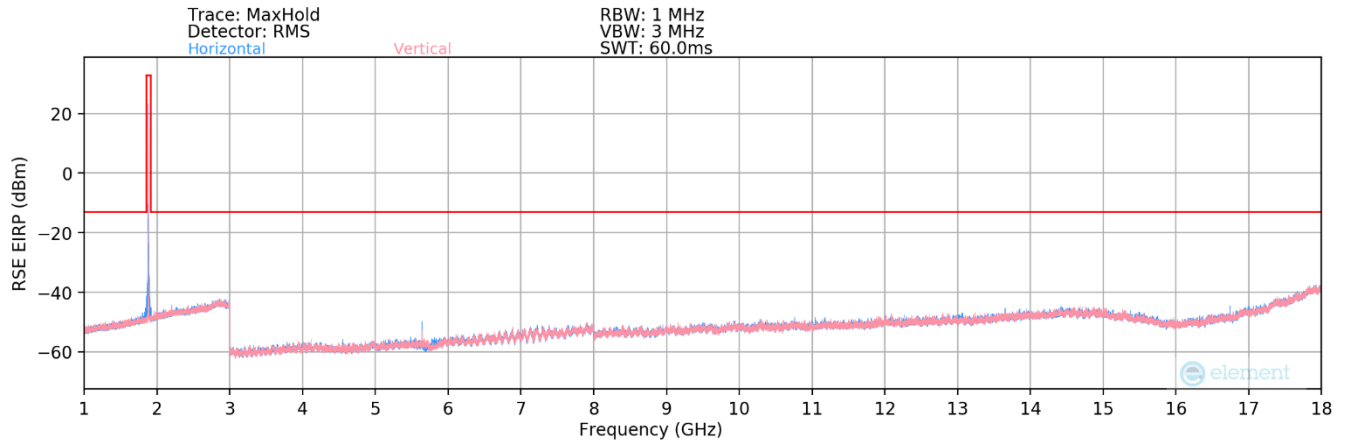


Plot 7-119. Radiated Spurious Plot Below 1GHz (GSM/GPRS PCS – Ant 0)

Mode:	GPRS 1 Tx Slot
Channel:	661
Frequency (MHz):	1880

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]
962.24	H	-	-	-82.67	30.72	55.05	-42.36	-13.00	-29.36

Table 7-30. Radiated Spurious Data Below 1GHz (GSM/GPRS PCS – Ant 0)



Plot 7-120. Radiated Spurious Plot Above 1GHz (GSM/GPRS PCS – Ant 0)

FCC ID: A3LSMS928B	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2308210093-02.A3L	Test Dates: 8/23/2023 - 10/18/2023	EUT Type: Portable Handset	Page 104 of 117

Mode:	GPRS 1 Tx Slot
Channel:	512
Frequency (MHz):	1850.2

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]
3700.40	H	-	-	-75.33	-1.02	30.65	-64.61	-13.00	-51.61
5550.60	H	257	350	-73.45	2.08	35.63	-59.63	-13.00	-46.63
7400.80	H	-	-	-77.18	6.99	36.81	-58.45	-13.00	-45.45
9251.00	H	-	-	-78.88	9.40	37.52	-57.73	-13.00	-44.73
11101.20	H	-	-	-79.27	11.35	39.08	-56.18	-13.00	-43.18

Table 7-31. Radiated Spurious Data Above 1GHz (GSM/GPRS PCS – Low Channel – Ant 0)

Mode:	GPRS 1 Tx Slot
Channel:	661
Frequency (MHz):	1880

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]
3760.00	H	-	-	-75.72	-0.34	30.94	-64.31	-13.00	-51.31
5640.00	H	243	338	-71.50	2.45	37.95	-57.31	-13.00	-44.31
7520.00	H	-	-	-77.55	6.05	35.50	-59.76	-13.00	-46.76
9400.00	H	-	-	-79.21	9.22	37.01	-58.25	-13.00	-45.25
11280.00	H	-	-	-79.64	11.31	38.67	-56.59	-13.00	-43.59

Table 7-32. Radiated Spurious Data Above 1GHz (GSM/GPRS PCS – Mid Channel – Ant 0)

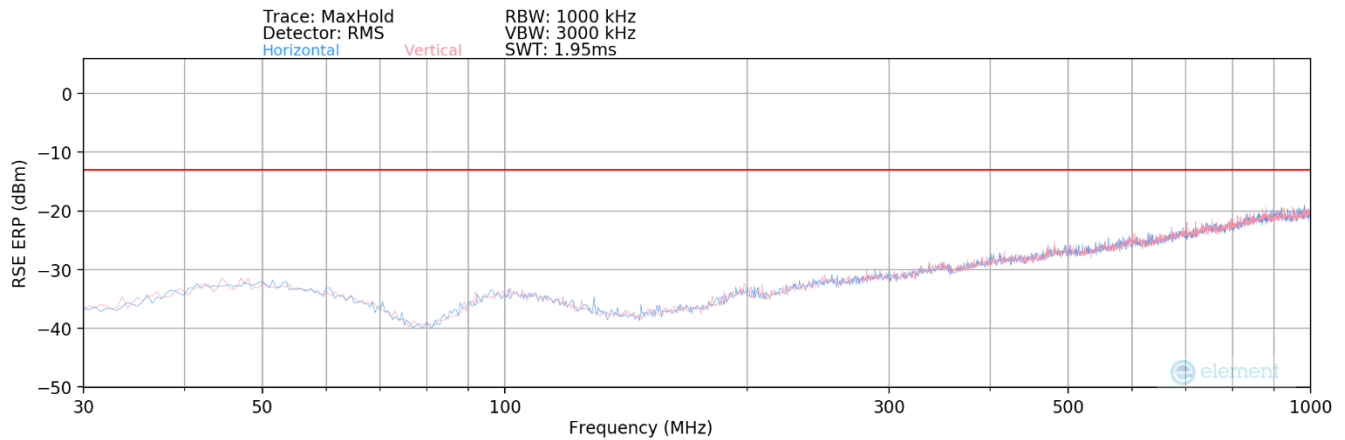
Mode:	GPRS 1 Tx Slot
Channel:	810
Frequency (MHz):	1909.8

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]
3819.60	H	-	-	-75.63	-0.31	31.06	-64.20	-13.00	-51.20
5729.40	H	272	359	-73.61	2.64	36.03	-59.23	-13.00	-46.23
7639.20	H	-	-	-77.27	6.92	36.65	-58.61	-13.00	-45.61
9549.00	H	-	-	-78.92	9.48	37.56	-57.70	-13.00	-44.70
11458.80	H	-	-	-79.24	11.68	39.44	-55.81	-13.00	-42.81

Table 7-33. Radiated Spurious Data Above 1GHz (GSM/GPRS PCS – High Channel – Ant 0)

FCC ID: A3LSMS928B	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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WCDMA PCS – Ant 0

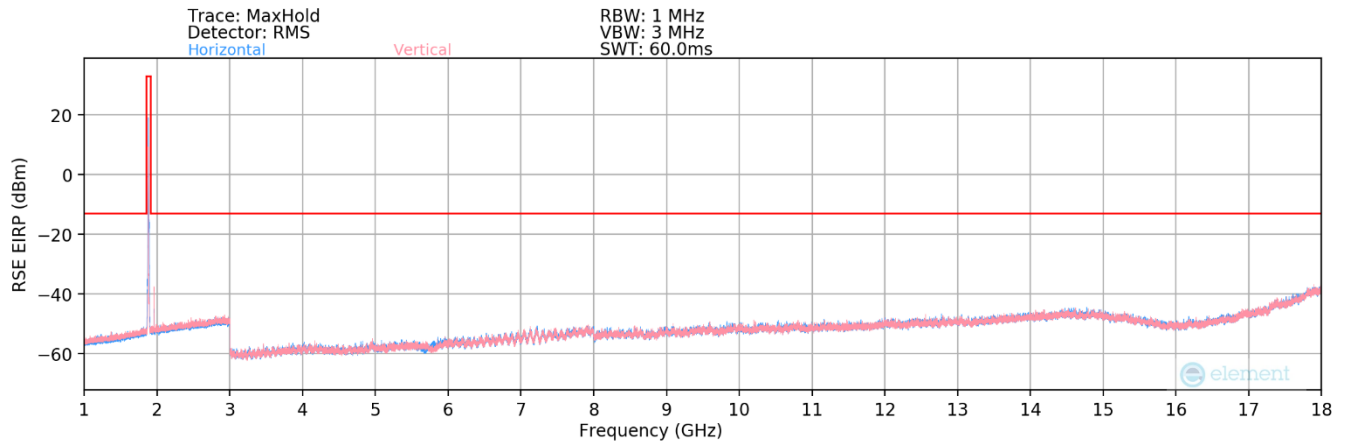


Plot 7-121. Radiated Spurious Plot Below 1GHz (WCDMA PCS – Ant 0)

Mode:	WCDMA RMC
Channel:	9400
Frequency (MHz):	1800

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]
898.87	H	-	-	-82.24	30.41	55.17	-42.24	-13.00	-29.24

Table 7-34. Radiated Spurious Data Below 1GHz (WCDMA PCS – Ant 0)



Plot 7-122. Radiated Spurious Plot Above 1GHz (WCDMA PCS – Ant 0)

FCC ID: A3LSMS928B	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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Mode:	WCDMA RMC
Channel:	9262
Frequency (MHz):	1852.4

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]
3704.80	H	-	-	-75.55	-1.04	30.41	-64.85	-13.00	-51.85
5557.20	H	-	-	-75.81	2.13	33.32	-61.93	-13.00	-48.93
7409.60	H	-	-	-76.25	6.61	37.36	-57.90	-13.00	-44.90

Table 7-35. Radiated Spurious Data Above 1GHz (WCDMA PCS – Low Channel – Ant 0)

Mode:	WCDMA RMC
Channel:	9400
Frequency (MHz):	1880

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]
3760.00	H	-	-	-75.78	-0.34	30.88	-64.37	-13.00	-51.37
5640.00	H	-	-	-76.21	2.45	33.24	-62.02	-13.00	-49.02
7520.00	H	-	-	-76.38	6.05	36.67	-58.59	-13.00	-45.59

Table 7-36. Radiated Spurious Data Above 1GHz (WCDMA PCS – Mid Channel – Ant 0)

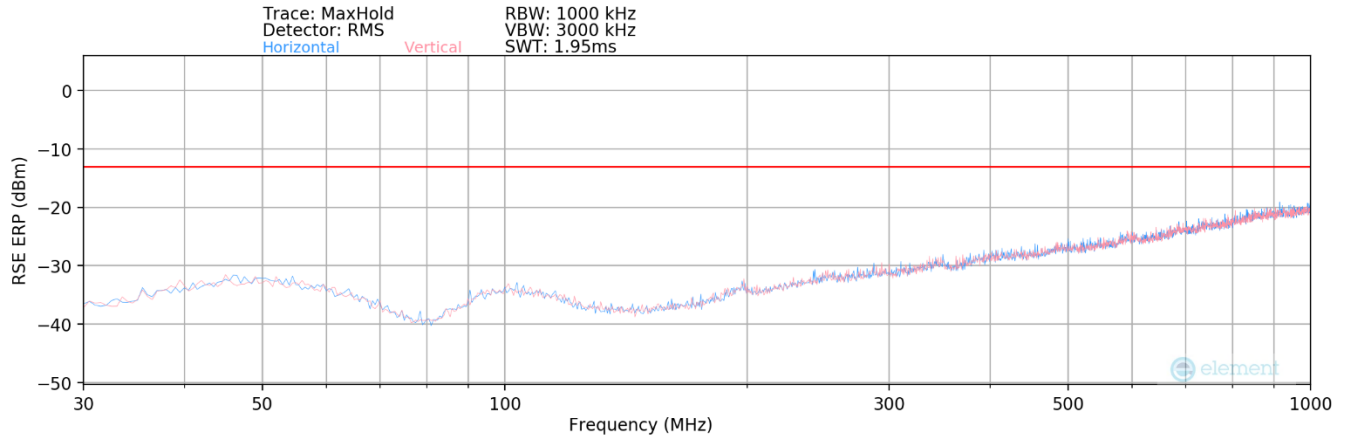
Mode:	WCDMA RMC
Channel:	9538
Frequency (MHz):	1907.6

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]
3815.20	H	-	-	-75.58	-0.36	31.06	-64.19	-13.00	-51.19
5722.80	H	-	-	-76.12	2.67	33.55	-61.70	-13.00	-48.70
7630.40	H	-	-	-76.42	6.87	37.45	-57.81	-13.00	-44.81

Table 7-37. Radiated Spurious Data Above 1GHz (WCDMA PCS – High Channel – Ant 0)

FCC ID: A3LSMS928B	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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LTE Band 25/2 – Ant 7

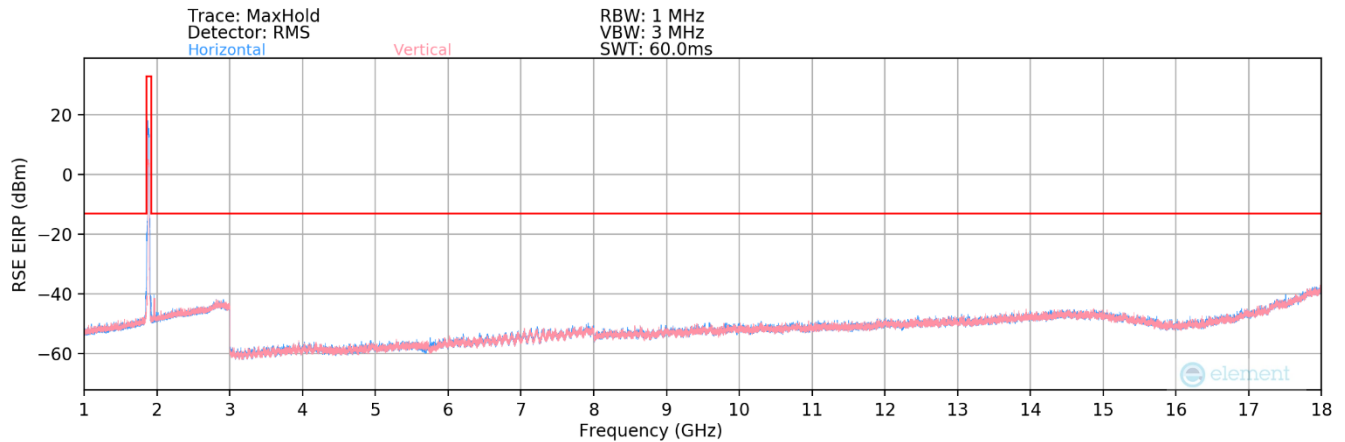


Plot 7-123. Radiated Spurious Plot Below 1GHz (LTE Band 25/2 – Ant 7)

Bandwidth (MHz):	20
Frequency (MHz):	1882.5
RB / Offset:	1/50

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]
823.24	H	-	-	-70.56	29.57	66.01	-35.40	-13.00	-22.40

Table 7-38. Radiated Spurious Data Below 1GHz (LTE Band 25/2 – Ant 7)



Plot 7-124. Radiated Spurious Plot Above 1GHz (LTE Band 25/2 –Ant 7)

FCC ID: A3LSMS928B	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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Bandwidth (MHz):	20
Frequency (MHz):	1860
RB / Offset:	1 / 50

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]
3720.00	H	-	-	-74.60	-0.93	31.47	-63.78	-13.00	-50.78
5580.00	H	-	-	-75.81	2.02	33.21	-62.05	-13.00	-49.05
7440.00	H	-	-	-77.22	6.20	35.98	-59.28	-13.00	-46.28

Table 7-39. Radiated Spurious Data Above 1GHz (LTE Band 25/2 – Low Channel – Ant 7)

Bandwidth (MHz):	20
Frequency (MHz):	1882.5
RB / Offset:	1 / 50

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]
3765.00	H	-	-	-74.91	-0.30	31.79	-63.47	-13.00	-50.47
5647.50	H	-	-	-77.32	2.40	32.08	-63.18	-13.00	-50.18
7530.00	H	-	-	-77.85	6.16	35.31	-59.94	-13.00	-46.94

Table 7-40. Radiated Spurious Data Above 1GHz (LTE Band 25/2 – Mid Channel – Ant 7)

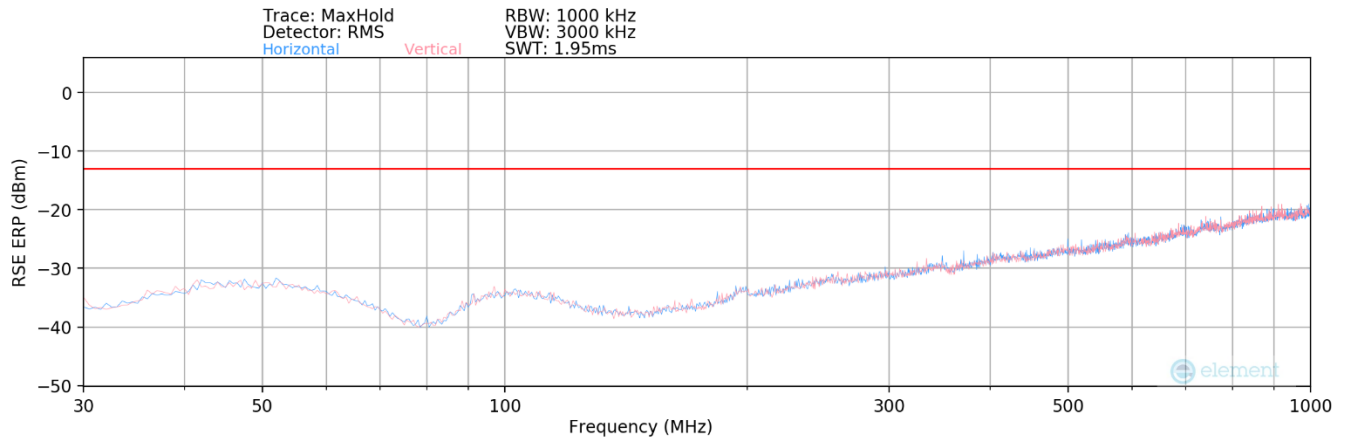
Bandwidth (MHz):	20
Frequency (MHz):	1905
RB / Offset:	1 / 50

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]
3810.00	H	-	-	-75.08	-0.42	31.50	-63.76	-13.00	-50.76
5715.00	H	-	-	-77.36	2.73	32.37	-62.89	-13.00	-49.89
7620.00	H	-	-	-77.04	6.47	36.43	-58.83	-13.00	-45.83

Table 7-41. Radiated Spurious Data Above 1GHz (LTE Band 25/2 – High Channel – Ant 7)

FCC ID: A3LSMS928B	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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NR Band n25/2 – Ant 7

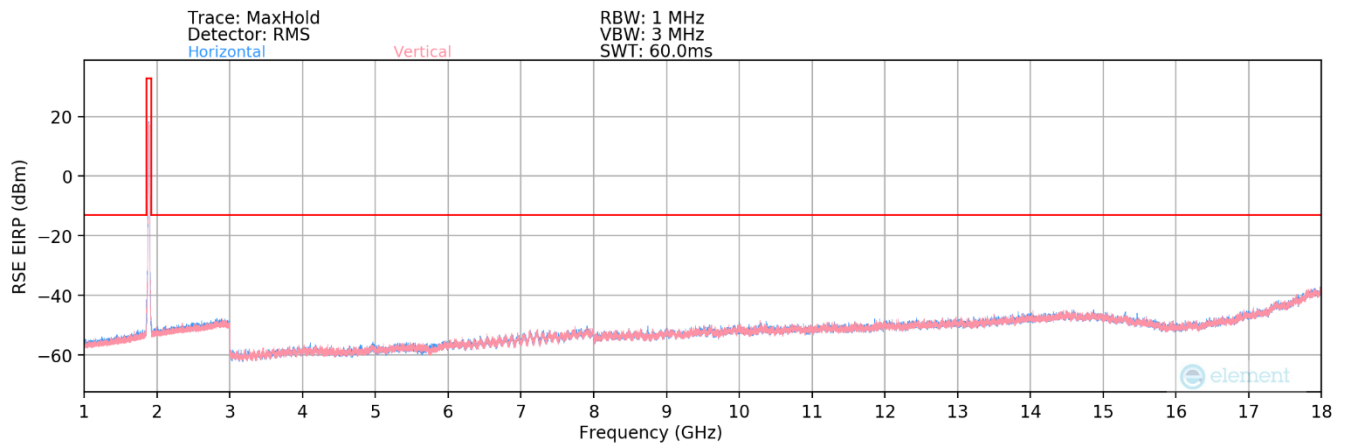


Plot 7-125. Radiated Spurious Plot Below 1GHz (NR Band n25/2 – Ant 7)

Bandwidth (MHz):	20
Frequency (MHz):	1882.5
RB / Offset:	1/50

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]
823.24	H	-	-	-70.56	29.57	66.01	-39.40	-13.00	-26.40

Table 7-42. Radiated Spurious Data Below 1GHz (NR Band n25/2 – Ant 7)



Plot 7-126. Radiated Spurious Plot Above 1GHz (NR Band n25/2 – Ant 7)

FCC ID: A3LSMS928B	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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Bandwidth (MHz):	20
Frequency (MHz):	1860
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]
3720.00	H	-	-	-76.13	-0.93	29.94	-65.31	-13.00	-52.31
5580.00	H	-	-	-76.37	2.02	32.65	-62.61	-13.00	-49.61
7440.00	H	-	-	-76.81	6.20	36.39	-58.87	-13.00	-45.87

Table 7-43. Radiated Spurious Data Above 1GHz (NR Band n25/2 – Low Channel – Ant 7)

Bandwidth (MHz):	20
Frequency (MHz):	1882.5
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]
3765.00	H	-	-	-75.89	-0.30	30.81	-64.45	-13.00	-51.45
5647.50	H	-	-	-76.22	2.40	33.18	-62.08	-13.00	-49.08
7530.00	H	-	-	-76.53	6.16	36.63	-58.62	-13.00	-45.62

Table 7-44. Radiated Spurious Data Above 1GHz (NR Band n25/2 – Mid Channel – Ant 7)

Bandwidth (MHz):	20
Frequency (MHz):	1905
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]
3810.00	H	-	-	-75.92	-0.42	30.66	-64.60	-13.00	-51.60
5715.00	H	-	-	-76.37	2.73	33.36	-61.90	-13.00	-48.90
7620.00	H	-	-	-76.85	6.47	36.62	-58.64	-13.00	-45.64

Table 7-45. Radiated Spurious Data Above 1GHz (NR Band n25/2 – High Channel – Ant 7)

FCC ID: A3LSMS928B	PART 24 MEASUREMENT REPORT		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 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 24, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

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

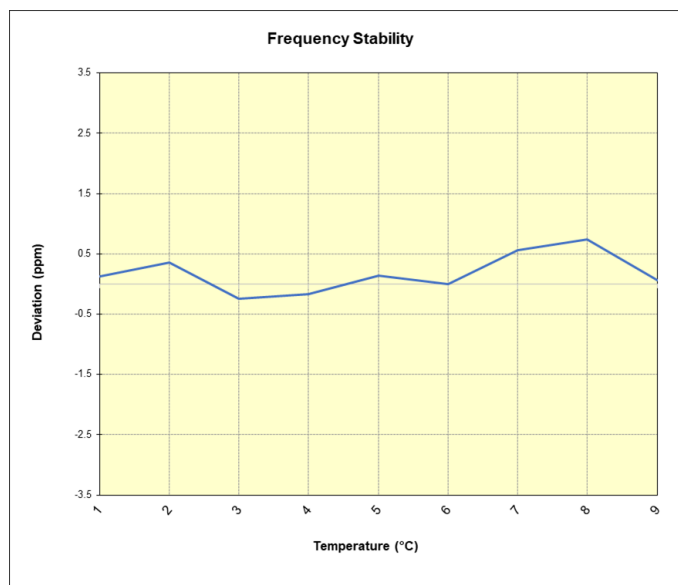
None

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LTE Band 25/2

LTE Band 25/2					
		Operating Frequency (Hz):		1,882,500,000	
		Ref. Voltage (VDC):		4.431	
		Deviation Limit:		± 0.00025% or 2.5 ppm	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.431	- 30	1,882,499,727	239	0.0000127
		- 20	1,882,500,154	666	0.0000354
		- 10	1,882,499,033	-455	-0.0000242
		0	1,882,499,182	-306	-0.0000163
		+ 10	1,882,499,751	263	0.0000140
		+ 20 (Ref)	1,882,499,488	0	0.0000000
		+ 30	1,882,500,534	1,046	0.0000555
		+ 40	1,882,500,888	1,400	0.0000744
		+ 50	1,882,499,614	126	0.0000067
Battery Endpoint	3.278	+ 20	1,882,499,586	98	0.0000052

Table 7-46. LTE Band 25/2 Frequency Stability Data



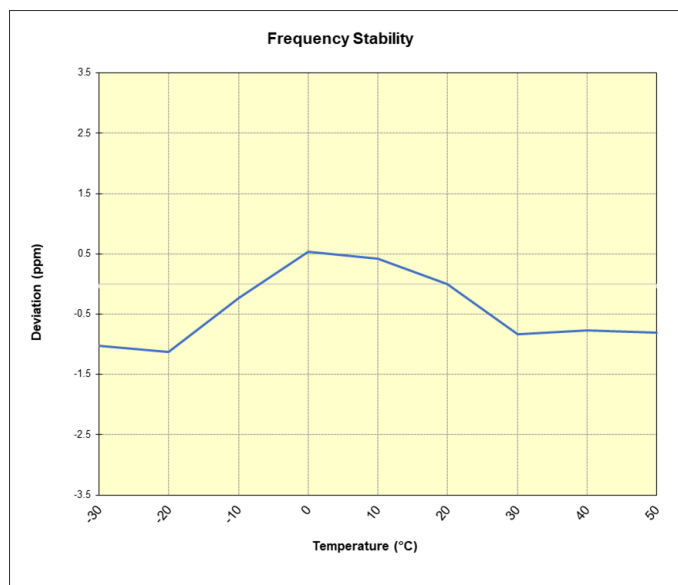
Plot 7-127. LTE Band 25/2 Frequency Stability Chart

FCC ID: A3LSMS928B	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
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NR Band n25/2

NR Band n25/2					
		Operating Frequency (Hz):		1,882,500,000	
		Ref. Voltage (VDC):		4.431	
		Deviation Limit:		± 0.00025% or 2.5 ppm	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.431	- 30	1,882,492,649	-1,932	-0.0001026
		- 20	1,882,492,458	-2,123	-0.0001128
		- 10	1,882,494,157	-424	-0.0000225
		0	1,882,495,601	1,020	0.0000542
		+ 10	1,882,495,378	797	0.0000424
		+ 20 (Ref)	1,882,494,581	0	0.0000000
		+ 30	1,882,493,017	-1,564	-0.0000831
		+ 40	1,882,493,142	-1,439	-0.0000764
		+ 50	1,882,493,055	-1,526	-0.0000811
Battery Endpoint	3.278	+ 20	1,882,494,673	92	0.0000049

Table 7-47. NR Band n25/2 Frequency Stability Data



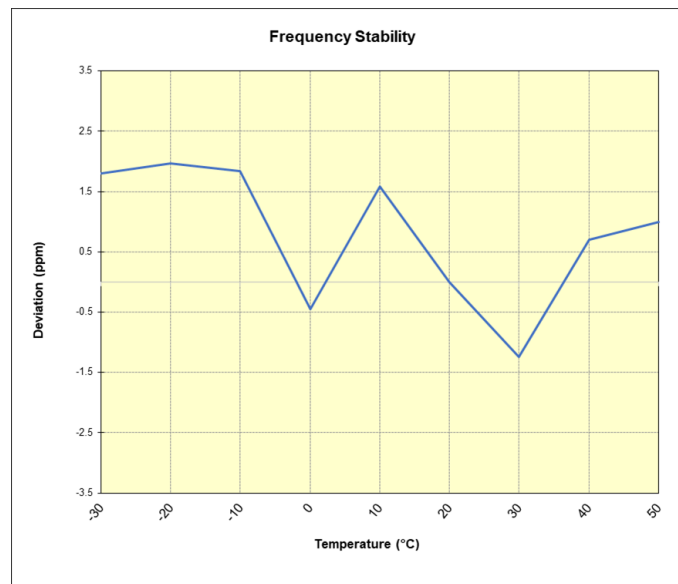
Plot 7-128. NR Band n25/2 Frequency Stability Chart

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GSM/GPRS PCS

GSM/GPRS PCS					
		Operating Frequency (Hz):		1,880,000,000	
		Ref. Voltage (VDC):		4.431	
		Deviation Limit:		± 0.00025% or 2.5 ppm	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.431	- 30	1,880,004,303	3,383	0.0001799
		- 20	1,880,004,617	3,696	0.0001966
		- 10	1,880,004,388	3,467	0.0001844
		0	1,880,000,080	-840	-0.0000447
		+ 10	1,880,003,900	2,979	0.0001585
		+ 20 (Ref)	1,880,000,921	0	0.0000000
		+ 30	1,879,998,581	-2,340	-0.0001245
		+ 40	1,880,002,235	1,314	0.0000699
		+ 50	1,880,002,791	1,871	0.0000995
Battery Endpoint	3.278	+ 20	1,879,998,503	-2,417	-0.0001286

Table 7-48. GSM/GPRS PCS Frequency Stability Data



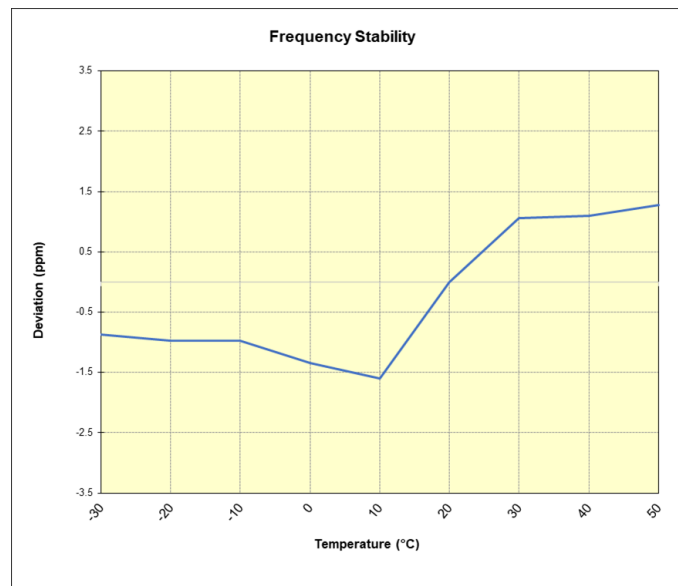
Plot 7-129. GSM/GPRS PCS Frequency Stability Chart

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WCDMA PCS

WCDMA PCS					
		Operating Frequency (Hz):		1,880,000,000	
		Ref. Voltage (VDC):		4.431	
		Deviation Limit:		± 0.00025% or 2.5 ppm	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.431	- 30	1,880,005,690	-1,633	-0.0000869
		- 20	1,880,005,491	-1,832	-0.0000975
		- 10	1,880,005,491	-1,832	-0.0000974
		0	1,880,004,793	-2,529	-0.0001345
		+ 10	1,880,004,319	-3,004	-0.0001598
		+ 20 (Ref)	1,880,007,323	0	0.0000000
		+ 30	1,880,009,309	1,987	0.0001057
		+ 40	1,880,009,382	2,059	0.0001095
		+ 50	1,880,009,715	2,392	0.0001272
Battery Endpoint	3.278	+ 20	1,880,006,679	-643	-0.0000342

Table 7-49. WCDMA PCS Frequency Stability Data



Plot 7-130. WCDMA PCS Frequency Stability Chart

FCC ID: A3LSMS928B	PART 24 MEASUREMENT REPORT		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: A3LSMS928B** complies with all the requirements of Part 24 of the FCC rules.

FCC ID: A3LSMS928B	PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2308210093-02.A3L	Test Dates: 8/23/2023 - 10/18/2023	EUT Type: Portable Handset	Page 117 of 117