

NR Band n5 – Main Ant



Plot 7-114. Lower Band Edge Plot (NR Band n5 – 20.0MHz - Full RB - Main Ant)



Plot 7-115. Upper Band Edge Plot (NR Band n5 – 20.0MHz - Full RB - Main Ant)

FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2201200003-03.PY7	Test Dates: 3/25/2022 - 5/19/2022	EUT Type: Portable Handset	Page 79 of 119



Plot 7-116. Lower Band Edge Plot (NR Band n5 – 15.0MHz - Full RB - Main Ant)



Plot 7-117. Upper Band Edge Plot (NR Band n5 – 15.0MHz - Full RB - Main Ant)

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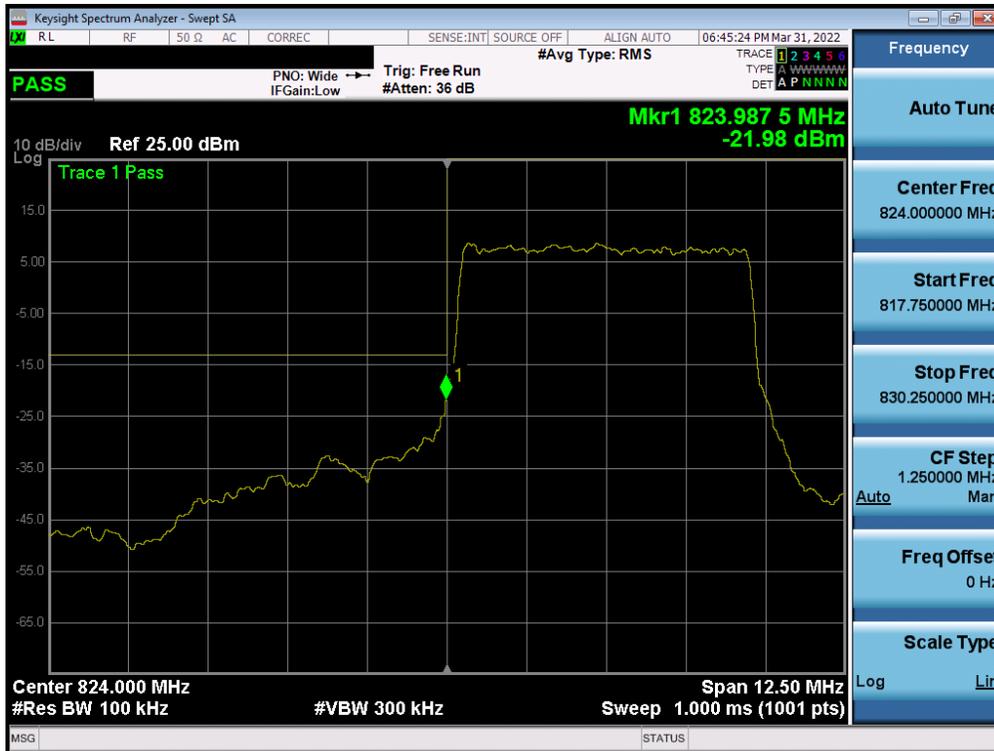


Plot 7-118. Lower Band Edge Plot (NR Band n5 – 10.0MHz - Full RB - Main Ant)



Plot 7-119. Upper Band Edge Plot (NR Band n5 – 10.0MHz - Full RB - Main Ant)

FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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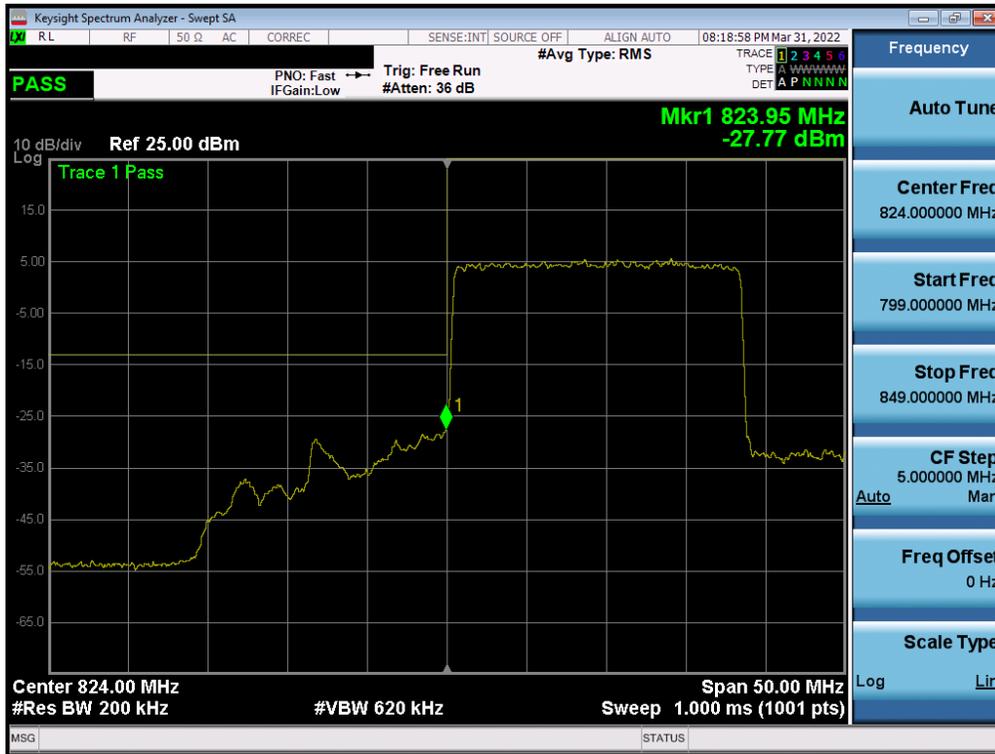
Plot 7-120. Lower Band Edge Plot (NR Band n5 – 5.0MHz - Full RB - Main Ant)



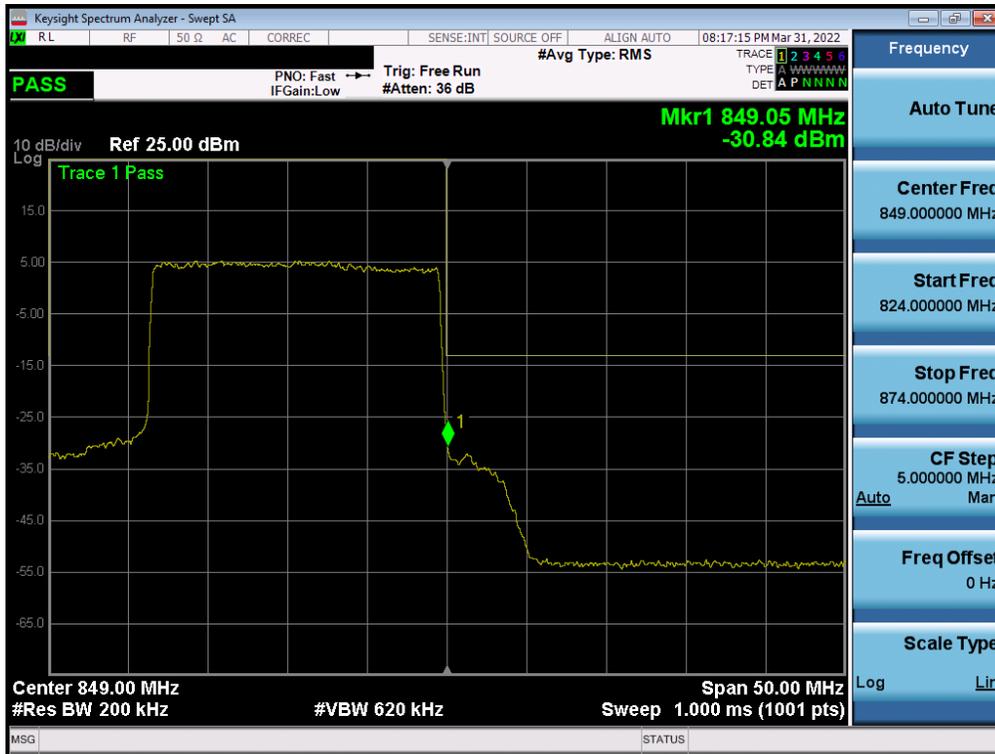
Plot 7-121. Upper Band Edge Plot (NR Band n5 – 5.0MHz - Full RB - Main Ant)

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NR Band n5 – Sub Ant

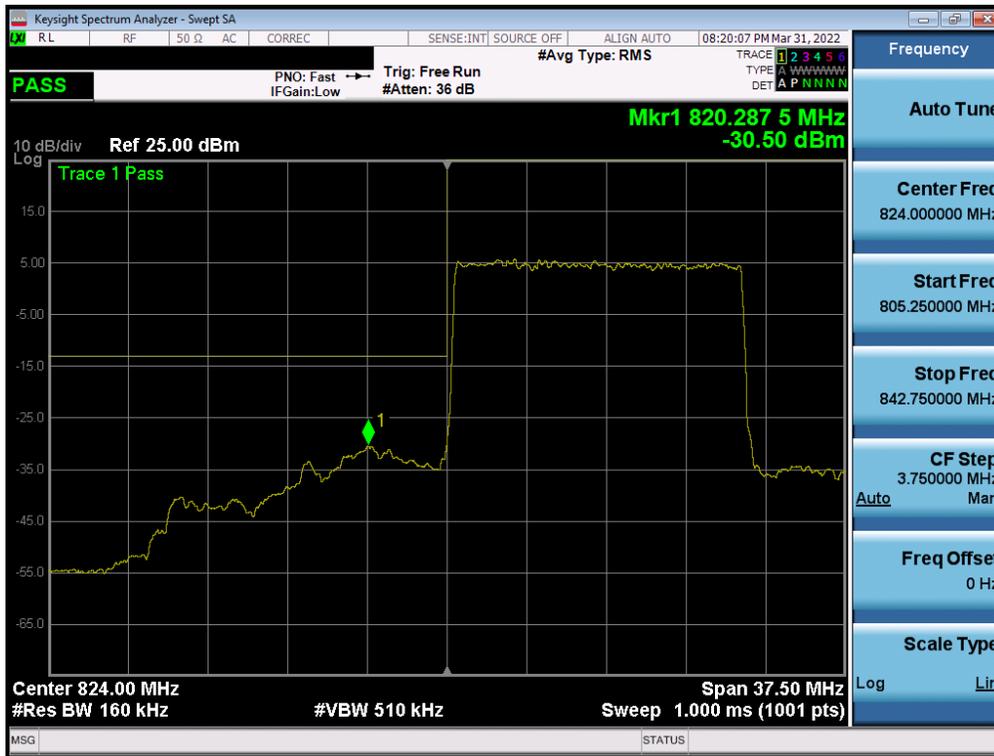


Plot 7-122. Lower Band Edge Plot (NR Band n5 – 20.0MHz - Full RB - Sub Ant)



Plot 7-123. Upper Band Edge Plot (NR Band n5 – 20.0MHz - Full RB - Sub Ant)

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Plot 7-124. Lower Band Edge Plot (NR Band n5 – 15.0MHz - Full RB - Sub Ant)



Plot 7-125. Upper Band Edge Plot (NR Band n5 – 15.0MHz - Full RB - Sub Ant)

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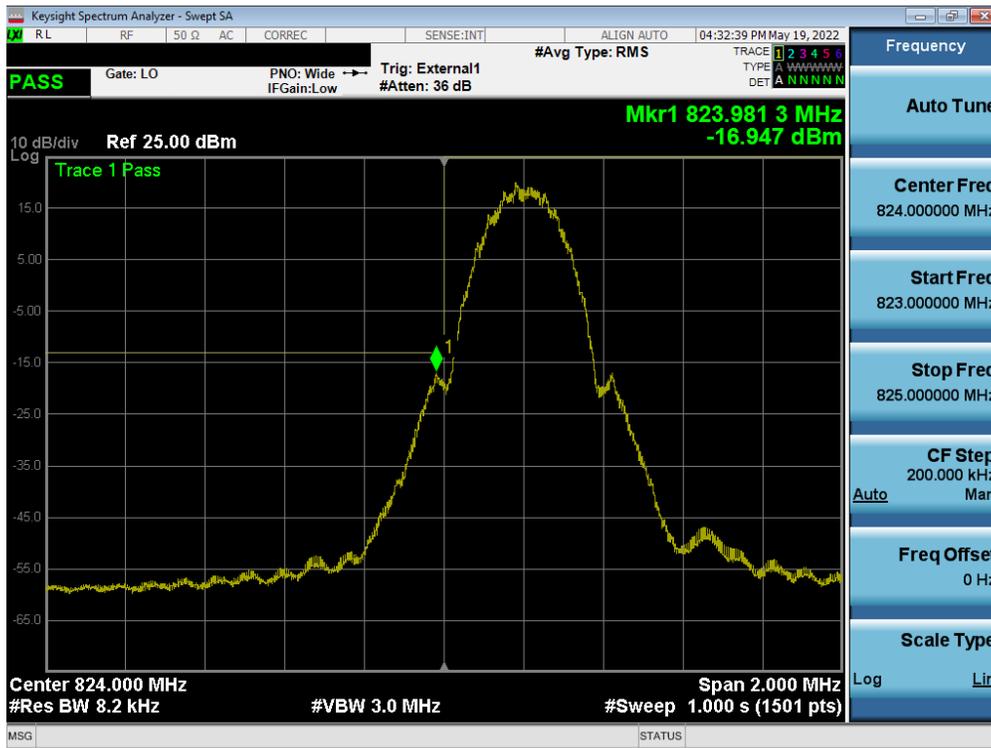
Plot 7-128. Lower Band Edge Plot (NR Band n5 – 5.0MHz - Full RB - Sub Ant)



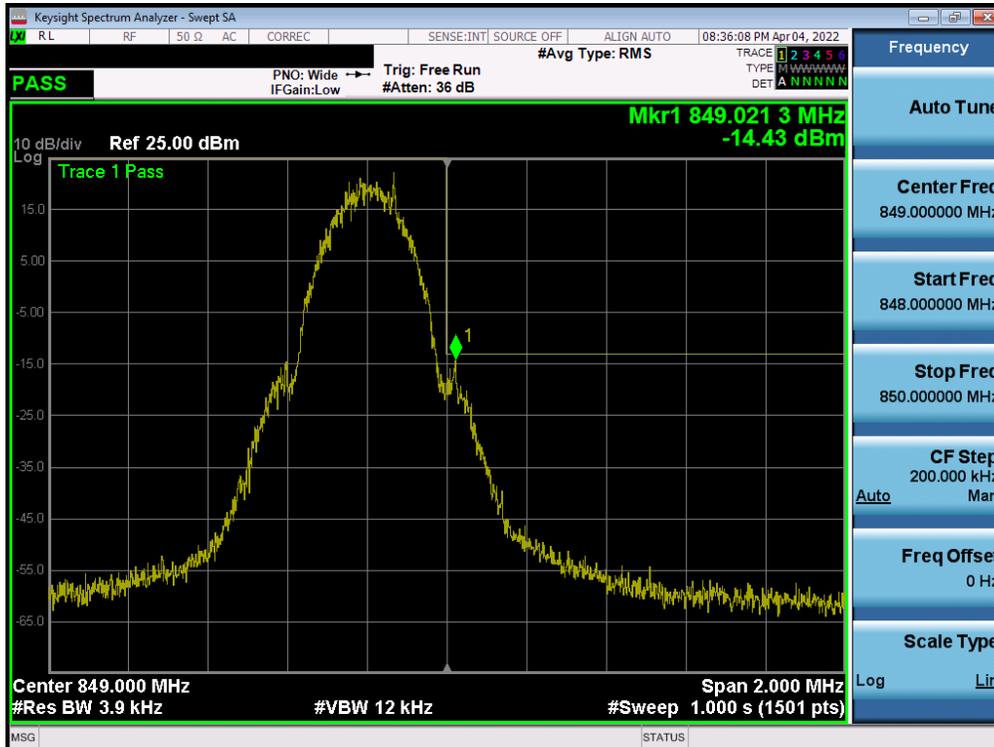
Plot 7-129. Upper Band Edge Plot (NR Band n5 – 5.0MHz - Full RB - Sub Ant)

FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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GSM/GPRS Cell – Main Ant



Plot 7-130. Lower Band Edge Plot (GPRS Cell – Ch. 128 – Main Ant)



Plot 7-131. Upper Band Edge Plot (GPRS Cell – Ch. 251 – Main Ant)

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WCDMA Cell – Main Ant



Plot 7-132. Lower Band Edge Plot (WCDMA Cell – Ch. 4132 – Main Ant)



Plot 7-133. Upper Band Edge Plot (WCDMA Cell – Ch. 4233 – Main Ant)

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7.6 Radiated Power (ERP)

Test Overview

Effective Radiated Power (ERP) 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 x RBW
4. Span = 1.5 times the OBW
5. No. of sweep points \geq 2 x span / RBW
6. Detector = RMS
7. Trigger is set to “free run” for signals with continuous operation with the sweep times set to “auto”. Trigger is set to enable triggering only on full power bursts with the sweep time set less than or equal to the transmission burst duration
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation. For signals with burst transmission, the “gating” function was enabled to ensure that measurements are performed during times in which the transmitter is operating at its maximum power
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize

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Test Setup

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

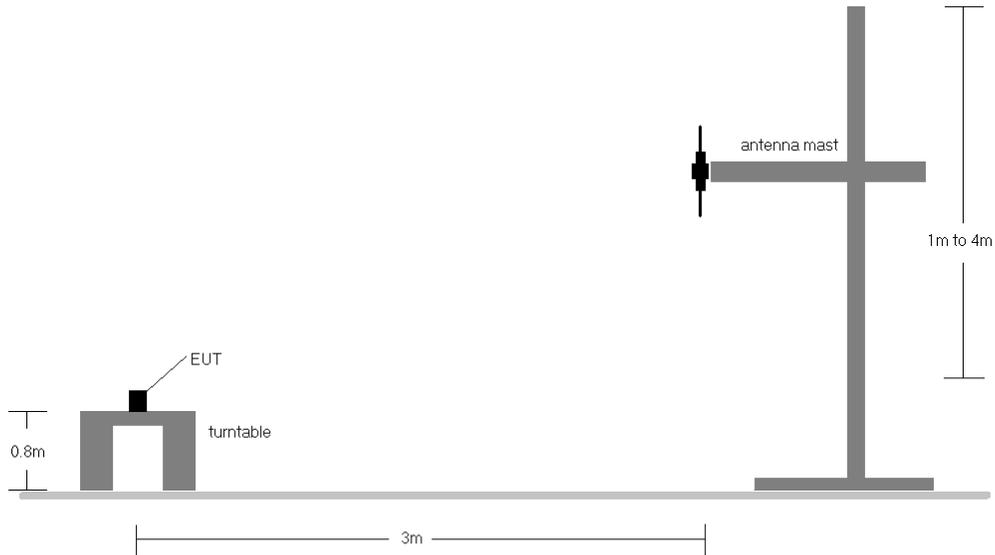


Figure 7-5. Radiated Test Setup <1GHz

Test Notes

- 1) This device employs GSM, GPRS, and EDGE capabilities. The EUT was tested under all configurations and the highest powers is reported in GPRS mode while transmitting with one slot active.
- 2) This device employs UMTS technology with WCDMA (AMR/RMC) and HSDPA capabilities. The EUT was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1".
- 3) 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.
- 4) This unit was tested with its standard battery.
- 5) 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]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
10 MHz	QPSK	829.0	V	134	272	6.10	1 / 0	15.49	19.44	0.088	38.45	-19.01	21.59	0.144	40.61	-19.02
	QPSK	836.5	V	144	272	6.18	1 / 49	15.19	19.22	0.084	38.45	-19.23	21.37	0.137	40.61	-19.24
	QPSK	844.0	V	145	276	6.36	1 / 49	15.21	19.42	0.087	38.45	-19.03	21.57	0.143	40.61	-19.04
	16-QAM	829.0	V	134	272	6.10	1 / 0	14.74	18.69	0.074	38.45	-19.76	20.84	0.121	40.61	-19.77
5 MHz	QPSK	829.0	V	134	272	6.07	1 / 24	15.61	19.54	0.090	38.45	-18.91	21.69	0.147	40.61	-18.92
	QPSK	836.5	V	144	272	6.18	1 / 0	15.14	19.17	0.083	38.45	-19.28	21.32	0.135	40.61	-19.29
	QPSK	844.0	V	145	276	6.38	1 / 0	15.09	19.32	0.085	38.45	-19.13	21.47	0.140	40.61	-19.14
	16-QAM	829.0	V	134	272	6.07	1 / 24	14.75	18.68	0.074	38.45	-19.78	20.83	0.121	40.61	-19.78
3 MHz	QPSK	829.0	V	134	272	6.06	1 / 7	15.48	19.39	0.087	38.45	-19.06	21.54	0.143	40.61	-19.07
	QPSK	836.5	V	144	272	6.18	1 / 7	15.17	19.20	0.083	38.45	-19.25	21.35	0.136	40.61	-19.26
	QPSK	844.0	V	145	276	6.39	1 / 7	15.00	19.24	0.084	38.45	-19.21	21.39	0.138	40.61	-19.22
	16-QAM	829.0	V	134	272	6.06	1 / 7	15.04	18.95	0.079	38.45	-19.50	21.10	0.129	40.61	-19.51
1.4 MHz	QPSK	829.0	V	134	272	6.09	1 / 3	15.58	19.52	0.089	38.45	-18.94	21.67	0.147	40.61	-18.94
	QPSK	836.5	V	144	272	6.18	1 / 5	15.06	19.08	0.081	38.45	-19.37	21.23	0.133	40.61	-19.37
	QPSK	844.0	V	145	276	6.40	1 / 3	15.03	19.28	0.085	38.45	-19.18	21.43	0.139	40.61	-19.18
	16-QAM	829.0	V	134	272	6.09	1 / 3	15.00	18.94	0.078	38.45	-19.52	21.09	0.128	40.61	-19.52
10 MHz	QPSK (Opposite Pol.)	829.0	H	200	217	6.70	1/0	12.15	16.70	0.047	38.45	-21.75	18.85	0.077	40.61	-21.76
	QPSK (WCP)	829.0	H	214	219	6.70	1/0	9.31	13.86	0.024	38.45	-24.59	16.01	0.040	40.61	-24.60

Table 7-5. ERP Data (LTE Band 5 – Main Ant)

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]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
10 MHz	QPSK	829.0	H	198	201	6.70	1 / 25	13.27	17.82	0.061	38.45	-20.63	19.97	0.099	40.61	-20.64
	QPSK	836.5	H	199	202	6.73	1 / 0	12.97	17.55	0.057	38.45	-20.90	19.70	0.093	40.61	-20.91
	QPSK	844.0	H	186	195	6.76	1 / 0	12.88	17.49	0.056	38.45	-20.96	19.64	0.092	40.61	-20.97
	16-QAM	829.0	H	198	201	6.70	1 / 25	12.36	16.91	0.049	38.45	-21.54	19.06	0.081	40.61	-21.55
5 MHz	QPSK	829.0	H	198	201	6.70	1 / 24	13.31	17.86	0.061	38.45	-20.59	20.01	0.100	40.61	-20.60
	QPSK	836.5	H	199	202	6.73	1 / 24	13.05	17.63	0.058	38.45	-20.82	19.78	0.095	40.61	-20.83
	QPSK	844.0	H	186	195	6.76	1 / 24	12.77	17.38	0.055	38.45	-21.07	19.53	0.090	40.61	-21.08
	16-QAM	829.0	H	198	201	6.70	1 / 24	12.38	16.93	0.049	38.45	-21.52	19.08	0.081	40.61	-21.53
3 MHz	QPSK	829.0	H	198	201	6.70	1 / 0	13.29	17.84	0.061	38.45	-20.61	19.99	0.100	40.61	-20.62
	QPSK	836.5	H	199	202	6.73	1 / 14	12.95	17.53	0.057	38.45	-20.92	19.68	0.093	40.61	-20.93
	QPSK	844.0	H	186	195	6.76	1 / 7	12.85	17.45	0.056	38.45	-21.00	19.60	0.091	40.61	-21.00
	16-QAM	829.0	H	198	201	6.70	1 / 0	12.39	16.94	0.049	38.45	-21.51	19.09	0.081	40.61	-21.52
1.4 MHz	QPSK	829.0	H	198	201	6.70	1 / 3	13.34	17.89	0.061	38.45	-20.56	20.04	0.101	40.61	-20.57
	QPSK	836.5	H	199	202	6.73	1 / 3	13.00	17.58	0.057	38.45	-20.87	19.73	0.094	40.61	-20.88
	QPSK	844.0	H	186	195	6.76	1 / 3	12.77	17.37	0.055	38.45	-21.08	19.52	0.090	40.61	-21.08
	16-QAM	829.0	H	198	201	6.70	1 / 3	12.34	16.89	0.049	38.45	-21.56	19.04	0.080	40.61	-21.56
10 MHz	QPSK (Opposite Pol.)	829.0	V	125	172	6.10	1/25	11.66	15.61	0.036	38.45	-22.84	17.76	0.060	40.61	-22.85
	QPSK (WCP)	829.0	H	209	253	6.70	1/49	11.55	16.10	0.041	38.45	-22.35	18.25	0.067	40.61	-22.36

Table 7-6. ERP Data (LTE Band 5 – Sub Ant)

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]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
20 MHz	π/2 BPSK	834.0	V	139	295	6.15	1 / 26	13.94	17.94	0.062	38.45	-20.51	20.09	0.102	40.61	-20.51
	π/2 BPSK	836.5	V	135	293	6.18	1 / 26	13.76	17.79	0.060	38.45	-20.66	19.94	0.099	40.61	-20.67
	π/2 BPSK	839.0	V	143	286	6.30	1 / 26	13.60	17.75	0.060	38.45	-20.70	19.90	0.098	40.61	-20.70
	QPSK	834.0	V	139	295	6.15	1 / 26	14.03	18.03	0.064	38.45	-20.42	20.18	0.104	40.61	-20.42
	QPSK	836.5	V	135	293	6.18	1 / 26	13.86	17.89	0.061	38.45	-20.56	20.04	0.101	40.61	-20.57
	QPSK	839.0	V	143	286	6.30	1 / 26	13.55	17.70	0.059	38.45	-20.75	19.85	0.097	40.61	-20.75
	16-QAM	834.0	V	139	295	6.15	1 / 26	13.03	17.03	0.050	38.45	-21.42	19.18	0.083	40.61	-21.42
	16-QAM	839.0	V	143	286	6.30	1 / 26	13.47	17.65	0.058	38.45	-20.85	19.80	0.096	40.61	-20.85
15 MHz	π/2 BPSK	831.5	V	139	295	6.13	1 / 58	13.93	17.91	0.062	38.45	-20.55	20.06	0.101	40.61	-20.55
	π/2 BPSK	836.5	V	135	293	6.18	1 / 39	13.66	17.69	0.059	38.45	-20.76	19.84	0.096	40.61	-20.77
	π/2 BPSK	841.5	V	143	286	6.33	1 / 20	13.57	17.75	0.060	38.45	-20.70	19.90	0.098	40.61	-20.70
	QPSK	831.5	V	139	295	6.13	1 / 58	14.11	18.09	0.064	38.45	-20.36	20.24	0.106	40.61	-20.37
	QPSK	836.5	V	135	293	6.18	1 / 39	13.88	17.90	0.062	38.45	-20.55	20.05	0.101	40.61	-20.55
	QPSK	841.5	V	143	286	6.33	1 / 20	13.47	17.65	0.058	38.45	-20.80	19.80	0.096	40.61	-20.80
	16-QAM	836.5	V	135	293	6.18	1 / 39	12.98	17.01	0.050	38.45	-21.44	19.16	0.082	40.61	-21.44
	16-QAM	841.5	V	143	286	6.33	1 / 20	13.47	17.65	0.058	38.45	-20.80	19.80	0.096	40.61	-20.80
10 MHz	π/2 BPSK	829.0	V	139	295	6.10	1 / 38	13.82	17.77	0.060	38.45	-20.68	19.92	0.098	40.61	-20.69
	π/2 BPSK	836.5	V	135	293	6.18	1 / 13	13.55	17.58	0.057	38.45	-20.87	19.73	0.094	40.61	-20.88
	π/2 BPSK	844.0	V	143	286	6.36	1 / 38	13.48	17.69	0.059	38.45	-20.77	19.84	0.096	40.61	-20.77
	QPSK	829.0	V	139	295	6.10	1 / 38	13.96	17.91	0.062	38.45	-20.54	20.06	0.101	40.61	-20.55
	QPSK	836.5	V	135	293	6.18	1 / 13	13.73	17.75	0.060	38.45	-20.70	19.90	0.098	40.61	-20.70
	QPSK	844.0	V	143	286	6.36	1 / 38	13.49	17.70	0.059	38.45	-20.76	19.85	0.097	40.61	-20.76
	16-QAM	836.5	V	135	293	6.18	1 / 13	12.84	16.87	0.049	38.45	-21.58	19.02	0.080	40.61	-21.58
	16-QAM	844.0	V	143	286	6.36	1 / 38	13.47	17.69	0.059	38.45	-20.76	19.85	0.097	40.61	-20.76
5 MHz	π/2 BPSK	829.0	V	139	295	6.07	1 / 12	13.78	17.71	0.059	38.45	-20.74	19.86	0.097	40.61	-20.75
	π/2 BPSK	836.5	V	135	293	6.18	1 / 18	13.47	17.50	0.056	38.45	-20.95	19.65	0.092	40.61	-20.96
	π/2 BPSK	844.0	V	143	286	6.38	1 / 12	13.39	17.62	0.058	38.45	-20.83	19.77	0.095	40.61	-20.83
	QPSK	829.0	V	139	295	6.07	1 / 12	13.95	17.87	0.061	38.45	-20.58	20.02	0.100	40.61	-20.59
	QPSK	836.5	V	135	293	6.18	1 / 18	13.75	17.78	0.060	38.45	-20.67	19.93	0.098	40.61	-20.68
	QPSK	844.0	V	143	286	6.38	1 / 12	13.37								

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]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
20 MHz	π/2 BPSK	834.0	H	201	244	6.65	1 / 26	12.85	17.35	0.054	38.45	-21.10	19.50	0.089	40.61	-21.10
	π/2 BPSK	836.5	H	204	243	6.73	1 / 26	12.27	16.85	0.048	38.45	-21.60	19.00	0.079	40.61	-21.61
	π/2 BPSK	839.0	H	198	246	6.80	1 / 26	12.63	17.28	0.054	38.45	-21.17	19.43	0.088	40.61	-21.17
	QPSK	834.0	H	201	244	6.65	1 / 26	12.79	17.29	0.054	38.45	-21.16	19.44	0.088	40.61	-21.16
	QPSK	836.5	H	204	243	6.73	1 / 26	12.32	16.90	0.049	38.45	-21.55	19.05	0.080	40.61	-21.56
	QPSK	839.0	H	198	246	6.80	1 / 26	12.45	17.10	0.051	38.45	-21.35	19.25	0.084	40.61	-21.35
15 MHz	16-QAM	834.0	H	201	244	6.65	1 / 26	12.07	16.57	0.045	38.45	-21.88	18.72	0.075	40.61	-21.88
	π/2 BPSK	831.5	H	201	244	6.73	1 / 39	12.85	17.43	0.055	38.45	-21.02	19.58	0.091	40.61	-21.03
	π/2 BPSK	836.5	H	204	243	6.73	1 / 39	12.14	16.72	0.047	38.45	-21.73	18.87	0.077	40.61	-21.74
	π/2 BPSK	841.5	H	198	246	6.73	1 / 20	12.67	17.25	0.053	38.45	-21.20	19.40	0.087	40.61	-21.20
	QPSK	831.5	H	201	244	6.73	1 / 39	12.71	17.29	0.054	38.45	-21.17	19.44	0.088	40.61	-21.17
	QPSK	836.5	H	204	243	6.73	1 / 39	12.31	16.89	0.049	38.45	-21.56	19.04	0.080	40.61	-21.57
10 MHz	QPSK	841.5	H	198	246	6.73	1 / 20	12.56	17.14	0.052	38.45	-21.31	19.29	0.085	40.61	-21.32
	16-QAM	831.5	H	201	244	6.73	1 / 39	11.99	16.57	0.045	38.45	-21.88	18.72	0.074	40.61	-21.89
	π/2 BPSK	829.0	H	201	244	6.70	1 / 38	12.75	17.30	0.054	38.45	-21.15	19.45	0.088	40.61	-21.16
	π/2 BPSK	836.5	H	204	243	6.73	1 / 13	12.03	16.61	0.046	38.45	-21.84	18.76	0.075	40.61	-21.84
	π/2 BPSK	844.0	H	198	246	6.76	1 / 38	12.52	17.13	0.052	38.45	-21.32	19.28	0.085	40.61	-21.33
	QPSK	829.0	H	201	244	6.70	1 / 38	12.66	17.21	0.053	38.45	-21.24	19.36	0.086	40.61	-21.24
5 MHz	QPSK	836.5	H	204	243	6.73	1 / 13	12.10	16.68	0.047	38.45	-21.77	18.83	0.076	40.61	-21.78
	16-QAM	844.0	H	198	246	6.76	1 / 38	12.40	17.01	0.050	38.45	-21.44	19.16	0.082	40.61	-21.45
	π/2 BPSK	829.0	H	201	244	6.67	1 / 12	12.83	17.35	0.054	38.45	-21.10	19.50	0.089	40.61	-21.10
	π/2 BPSK	836.5	H	204	243	6.73	1 / 12	12.07	16.65	0.046	38.45	-21.80	18.80	0.076	40.61	-21.81
	π/2 BPSK	844.0	H	198	246	6.78	1 / 6	12.48	17.12	0.051	38.45	-21.34	19.27	0.084	40.61	-21.34
	QPSK	829.0	H	201	244	6.67	1 / 12	12.63	17.16	0.052	38.45	-21.29	19.31	0.085	40.61	-21.30
20 MHz	QPSK	836.5	H	204	243	6.73	1 / 12	12.20	16.78	0.048	38.45	-21.67	18.93	0.078	40.61	-21.68
	QPSK	844.0	H	198	246	6.78	1 / 6	12.48	17.11	0.051	38.45	-21.34	19.26	0.084	40.61	-21.34
	16-QAM	844.0	H	198	246	6.78	1 / 6	11.78	16.41	0.044	38.45	-22.04	18.56	0.072	40.61	-22.05
	QPSK (CP-OFDM)	834.0	H	201	244	6.65	1/53	11.41	15.91	0.039	38.45	-22.54	18.06	0.064	40.61	-22.54
QPSK (Opposite Pol.)	834.0	V	125	179	6.15	1/26	10.39	14.39	0.027	38.45	-24.06	16.54	0.045	40.61	-24.06	
QPSK (WCP)	834.0	H	201	244	6.65	1/26	11.59	16.09	0.041	38.45	-22.36	18.24	0.067	40.61	-22.36	

Table 7-8. ERP Data (NR Band n5 – Sub Ant)

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]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
824.20	GPRS850	V	150	303	22.89	6.13	26.87	0.486	38.45	-11.58	29.02	0.798	40.61	-11.59
836.60	GPRS850	V	143	282	22.36	6.18	26.39	0.435	38.45	-12.06	28.54	0.714	40.61	-12.07
848.80	GPRS850	V	145	294	21.93	6.41	26.19	0.415	38.45	-12.27	28.34	0.682	40.61	-12.27
824.20	GPRS850	H	117	300	19.46	6.65	23.96	0.249	38.45	-14.49	26.11	0.408	40.61	-14.50
824.20	EDGE850	V	150	303	17.56	6.13	21.54	0.143	38.45	-16.91	23.69	0.234	40.61	-16.92
824.20	GPRS850 (WCP)	H	117	300	14.26	6.65	18.76	0.075	38.45	-19.69	20.91	0.123	40.61	-19.70

Table 7-9. ERP Data (GPRS Cell – Main Ant)

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]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
826.40	WCDMA850	V	137	289	14.95	6.07	18.87	0.077	38.45	-19.58	21.02	0.127	40.61	-19.58
836.60	WCDMA850	V	142	275	14.47	6.18	18.50	0.071	38.45	-19.95	20.65	0.116	40.61	-19.96
846.60	WCDMA850	V	151	283	14.36	6.38	18.59	0.072	38.45	-19.86	20.74	0.119	40.61	-19.86
826.40	WCDMA850	H	102	285	13.05	6.67	17.57	0.057	38.45	-20.88	19.72	0.094	40.61	-20.88
826.40	WCDMA850 (WCP)	H	102	285	9.88	6.67	14.40	0.028	38.45	-24.05	16.55	0.045	40.61	-24.05

Table 7-10. ERP Data (WCDMA Cell – Main Ant)

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7.7 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 RMS 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 x RBW
3. Span = 1.5 times the OBW
4. No. of sweep points \geq 2 x 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.

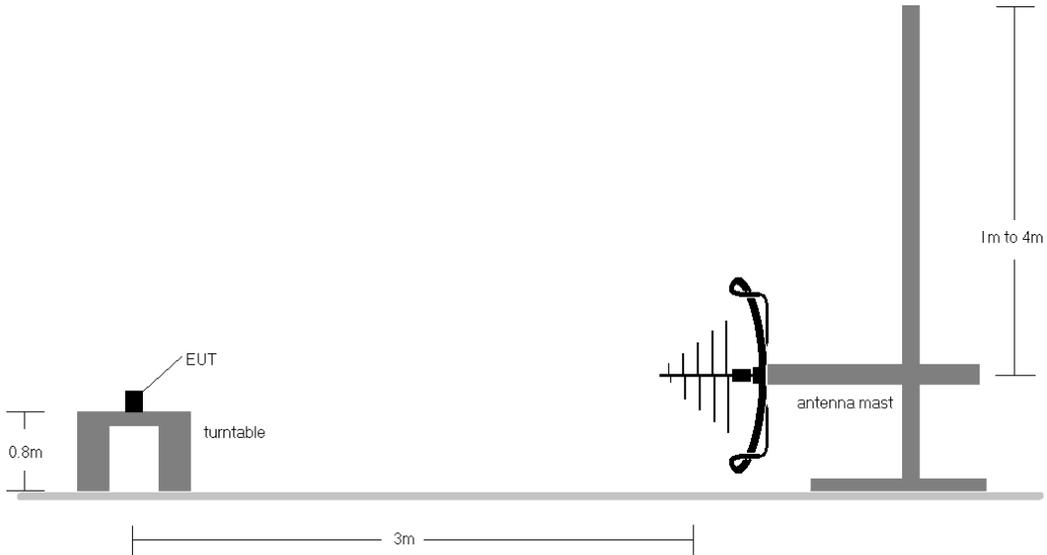


Figure 7-6. Test Instrument & Measurement Setup < 1GHz

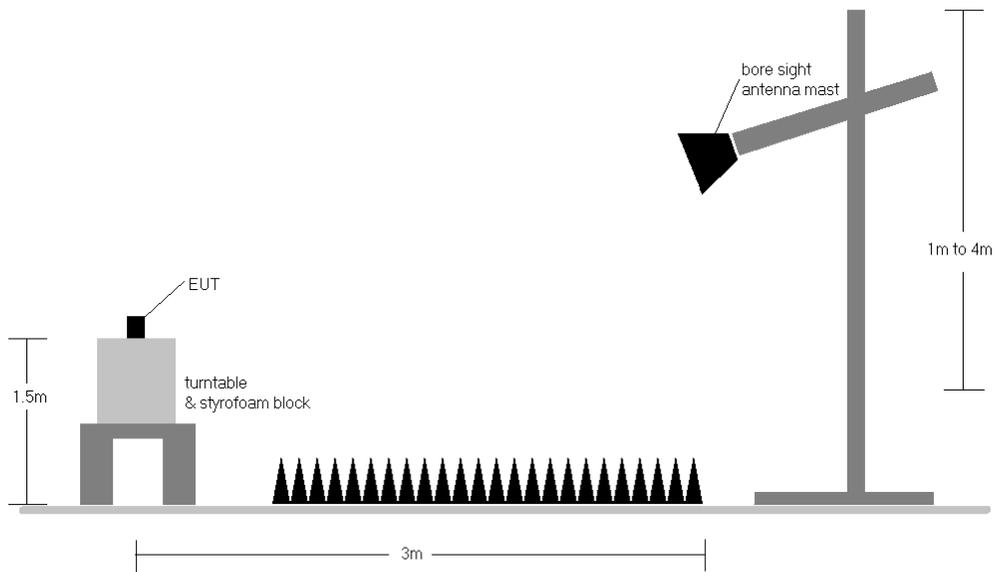


Figure 7-7. Test Instrument & Measurement Setup >1 GHz

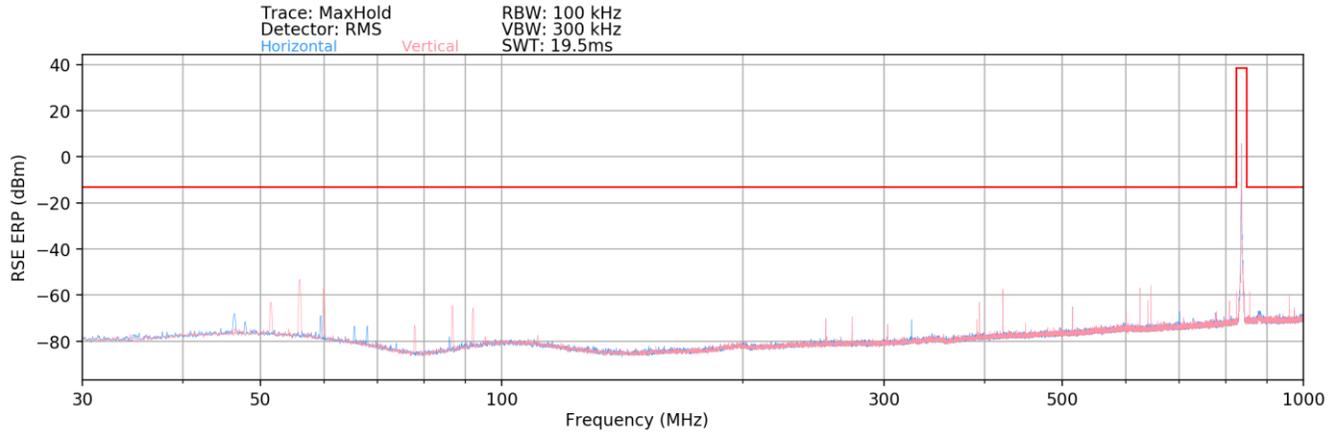
FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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Test Notes

- 1) Field strengths are calculated using the Measurement quantity conversions in KDB 971168 Section 5.8.4.
 - a) $E(\text{dB}\mu\text{V}/\text{m}) = \text{Measured amplitude level (dBm)} + 107 + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}$
 - b) $\text{EIRP (dBm)} = E(\text{dB}\mu\text{V}/\text{m}) + 20\log D - 104.8$; 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 is 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 power is 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, 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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LTE Band 5 – Main Ant



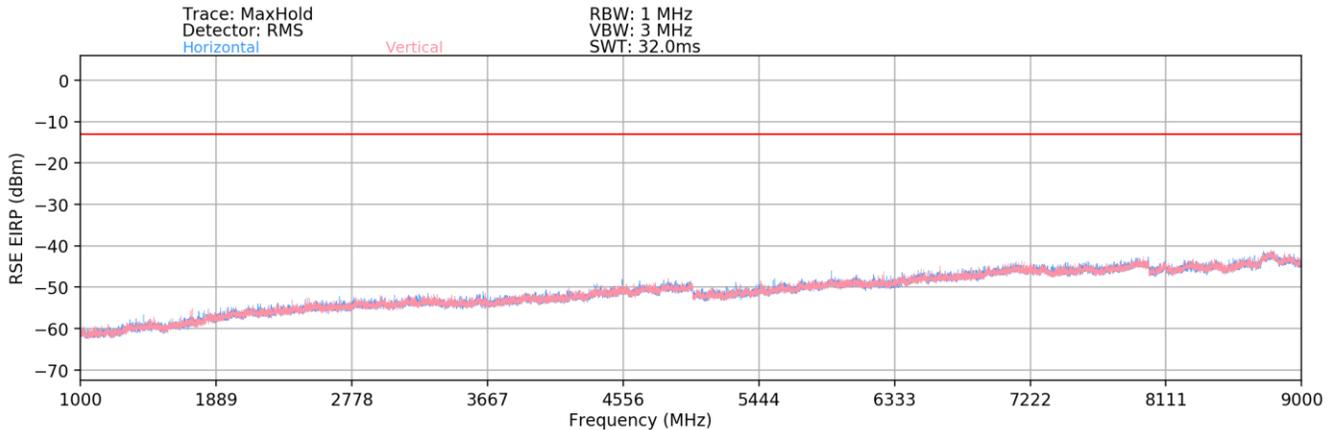
Plot 7-134. Radiated Spurious Plot 30MHz – 1GHz (LTE Band 5 – Main Ant)

Bandwidth (MHz):	10
Frequency (MHz):	829.0
RB / Offset:	1 / 25

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]
55.0	V	-	-	-84.35	-14.34	8.31	-86.94	-13.00	-73.94
650.0	V	-	-	-88.70	-7.18	11.12	-84.14	-13.00	-71.14

Table 7-11. Radiated Spurious Data 30MHz – 1 GHz (LTE Band 5– Main Ant)

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Plot 7-135. Radiated Spurious Plot 1-18GHz (LTE Band 5 – Main Ant)

Bandwidth (MHz):	10
Frequency (MHz):	829
RB / Offset:	1 / 25

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]
1658.00	V	132	28	-76.21	0.98	31.77	-63.49	-13.00	-50.49
2487.00	V	153	204	-77.21	5.33	35.12	-60.14	-13.00	-47.14
3316.00	V	-	-	-80.56	7.43	33.87	-61.38	-13.00	-48.38
4145.00	V	-	-	-81.06	8.42	34.36	-60.89	-13.00	-47.89
4974.00	V	-	-	-81.42	9.91	35.49	-59.76	-13.00	-46.76

Table 7-12. Radiated Spurious Data (LTE Band 5 – Low Channel – Main Ant)

Bandwidth (MHz):	10
Frequency (MHz):	836.5
RB / Offset:	1 / 25

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	138	275	-78.45	1.33	29.88	-65.38	-13.00	-52.38
2509.50	V	200	202	-77.34	5.25	34.91	-60.34	-13.00	-47.34
3346.00	V	-	-	-80.98	7.55	33.57	-61.69	-13.00	-48.69
4182.50	V	-	-	-81.18	8.28	34.10	-61.15	-13.00	-48.15
5019.00	V	-	-	-81.62	10.53	35.91	-59.34	-13.00	-46.34

Table 7-13. Radiated Spurious Data (LTE Band 5 – Mid Channel – Main Ant)

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Bandwidth (MHz):	10
Frequency (MHz):	844
RB / Offset:	1 / 25

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]
1688.00	V	-	-	-79.12	1.60	29.48	-65.78	-13.00	-52.78
2532.00	V	110	186	-78.81	5.71	33.90	-61.36	-13.00	-48.36
3376.00	V	-	-	-80.62	7.13	33.51	-61.75	-13.00	-48.75
4220.00	V	-	-	-81.23	9.10	34.87	-60.39	-13.00	-47.39
5064.00	V	-	-	-81.43	10.26	35.83	-59.43	-13.00	-46.43

Table 7-14. Radiated Spurious Data (LTE Band 5 – High Channel – Main Ant)

Bandwidth (MHz):	10
Frequency (MHz):	829
RB / Offset:	1 / 25

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]
1658.00	V	-	-	-79.02	0.98	28.96	-66.30	-13.00	-53.30
2487.00	V	118	168	-79.61	5.33	32.72	-62.54	-13.00	-49.54
3316.00	V	-	-	-80.54	7.43	33.89	-61.36	-13.00	-48.36
4145.00	V	-	-	-81.04	8.42	34.38	-60.87	-13.00	-47.87
4974.00	V	-	-	-81.35	9.91	35.56	-59.69	-13.00	-46.69

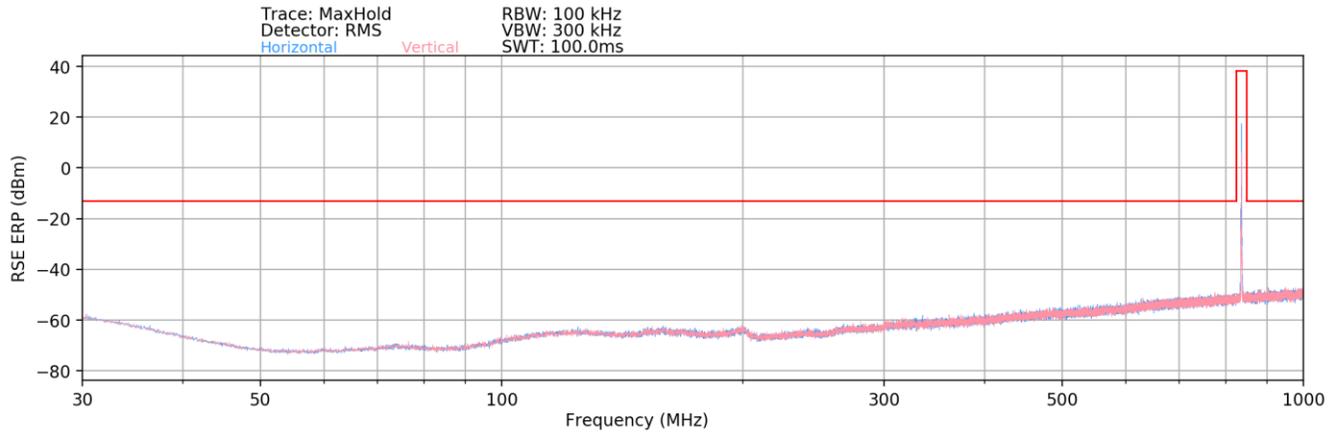
Table 7-15. Radiated Spurious Data (LTE Band 5 – Low Channel – Main Ant) With WCP

FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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LTE Band 5 – Sub Ant



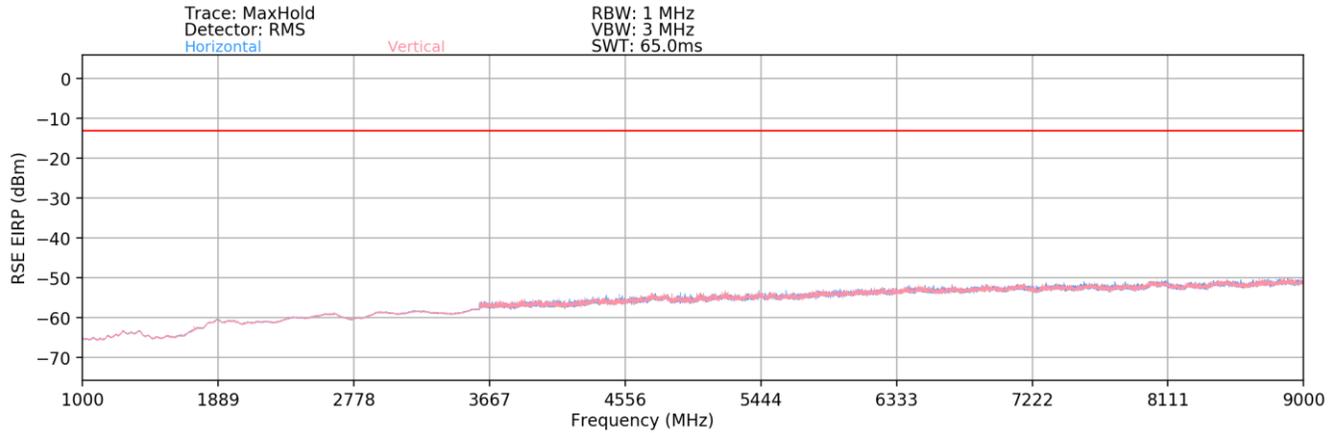
Plot 7-136. Radiated Spurious Plot 30MHz – 1GHz (LTE Band 5 – Sub Ant)

Bandwidth (MHz):	10
Frequency (MHz):	844
RB / Offset:	1 / 25

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]
910.00	H	-	-	-89.02	31.42	49.40	-45.86	-13.00	-32.86

Table 7-16. Radiated Spurious Data 30MHz – 1GHz (LTE Band 5 – Sub Ant)

FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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Plot 7-137. Radiated Spurious Plot 1-18GHz (LTE Band 5 – Sub Ant)

Bandwidth (MHz):	10
Frequency (MHz):	829
RB / Offset:	1 / 25

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]
1658.00	H	-	-	-76.59	-3.75	26.66	-68.59	-13.00	-55.59
2487.00	H	-	-	-76.89	0.56	30.67	-64.58	-13.00	-51.58
3316.00	H	-	-	-77.18	1.92	31.74	-63.52	-13.00	-50.52

Table 7-17. Radiated Spurious Data (LTE Band 5 – Low Channel – Sub Ant)

Bandwidth (MHz):	10
Frequency (MHz):	836.5
RB / Offset:	1 / 25

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	H	-	-	-76.71	-3.55	26.74	-68.51	-13.00	-55.51
2509.50	H	166	14	-76.31	0.80	31.49	-63.77	-13.00	-50.77
3346.00	H	-	-	-77.38	1.95	31.57	-63.69	-13.00	-50.69
4182.50	H	-	-	-77.79	2.95	32.16	-63.10	-13.00	-50.10
5019.00	H	-	-	-77.36	4.33	33.97	-61.28	-13.00	-48.28

Table 7-18. Radiated Spurious Data (LTE Band 5 – Mid Channel – Sub Ant)

FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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Bandwidth (MHz):	10
Frequency (MHz):	844
RB / Offset:	1 / 25

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]
1688.00	H	-	-	-76.42	-3.19	27.39	-67.87	-13.00	-54.87
2532.00	H	153	10	-76.19	1.17	31.98	-63.27	-13.00	-50.27
3376.00	H	-	-	-77.14	1.79	31.65	-63.61	-13.00	-50.61
4220.00	H	-	-	-77.15	2.94	32.79	-62.46	-13.00	-49.46
5064.00	H	-	-	-78.63	4.86	33.23	-62.02	-13.00	-49.02

Table 7-19. Radiated Spurious Data (LTE Band 5 – High Channel – Sub Ant)

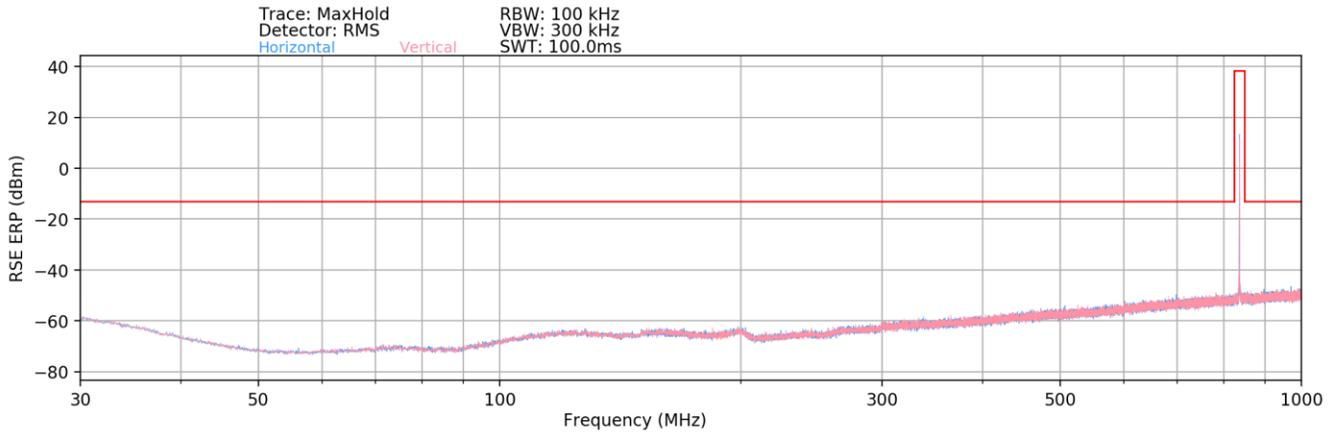
FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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NR Band n5 – Main Ant



Plot 7-138. Radiated Spurious Plot 30MHz – 1GHz (NR Band n5 – Main Ant)

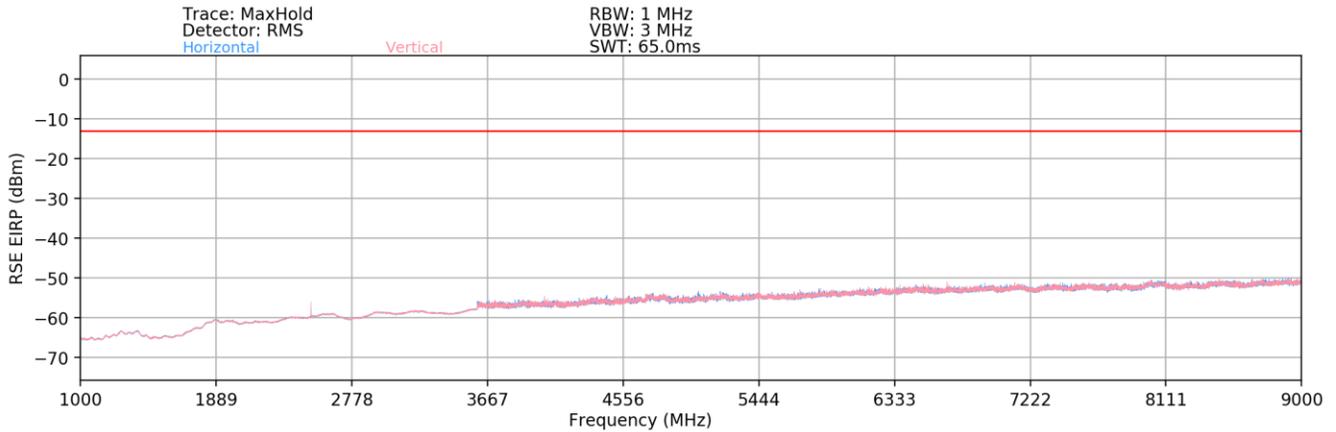
Frequency (MHz):	836.5
RB / Offset:	1 / 53
Mode:	Stand Alone

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]
790.0	V	-	-	-89.72	29.86	47.14	-48.12	-13.00	-35.12

Table 7-20. Radiated Spurious Data 30MHz – 1GHz (NR Band n5 – Main Ant)

FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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Plot 7-139. Radiated Spurious Plot (NR Band n5 – Main Ant)

Bandwidth (MHz):	20
Frequency (MHz):	834
RB / Offset:	1 / 53
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]
1668.00	V	152	8	-76.21	-3.66	27.13	-68.13	-13.00	-55.13
2502.00	V	156	196	-62.64	0.75	45.11	-50.15	-13.00	-37.15
3336.00	V	-	-	-77.42	1.93	31.51	-63.75	-13.00	-50.75
4170.00	V	-	-	-77.61	2.88	32.27	-62.99	-13.00	-49.99
5004.00	V	-	-	-78.39	4.07	32.68	-62.58	-13.00	-49.58

Table 7-21. Radiated Spurious Data (NR Band n5 – Low Channel – Main Ant)

Bandwidth (MHz):	20
Frequency (MHz):	836.5
RB / Offset:	1 / 53
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]
1673.00	V	241	348	-71.96	-3.55	31.49	-63.76	-13.00	-50.76
2509.50	V	158	208	-61.57	0.80	46.23	-49.03	-13.00	-36.03
3346.00	V	-	-	-77.38	1.95	31.57	-63.69	-13.00	-50.69
4182.50	V	-	-	-77.72	2.95	32.23	-63.03	-13.00	-50.03
5019.00	V	-	-	-78.32	4.33	33.01	-62.24	-13.00	-49.24

Table 7-22. Radiated Spurious Data (NR Band n5 – Mid Channel – Main Ant)

FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2201200003-03.PY7	Test Dates: 3/25/2022 - 5/19/2022	EUT Type: Portable Handset	Page 103 of 119



Bandwidth (MHz):	20
Frequency (MHz):	839
RB / Offset:	1 / 53
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]
1678.00	V	144	345	-73.07	-3.42	30.51	-64.74	-13.00	-51.74
2517.00	V	276	198	-64.01	1.00	43.99	-51.27	-13.00	-38.27
3356.00	V	-	-	-77.31	1.94	31.63	-63.63	-13.00	-50.63
4195.00	V	-	-	-77.64	3.02	32.38	-62.87	-13.00	-49.87
5034.00	V	-	-	-78.37	4.66	33.29	-61.96	-13.00	-48.96

Table 7-23. Radiated Spurious Data (NR Band n5 – High Channel – Main Ant)

Bandwidth (MHz):	20
Frequency (MHz):	836.5
RB / Offset:	1 / 53
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]
1673.00	V	195	148	-73.32	-3.55	30.13	-65.12	-13.00	-52.12
2509.50	V	146	307	-74.57	0.80	33.23	-62.03	-13.00	-49.03
3346.00	V	-	-	-77.46	1.95	31.49	-63.77	-13.00	-50.77
4182.50	V	-	-	-77.72	2.95	32.23	-63.03	-13.00	-50.03
5019.00	V	-	-	-78.39	4.33	32.94	-62.31	-13.00	-49.31

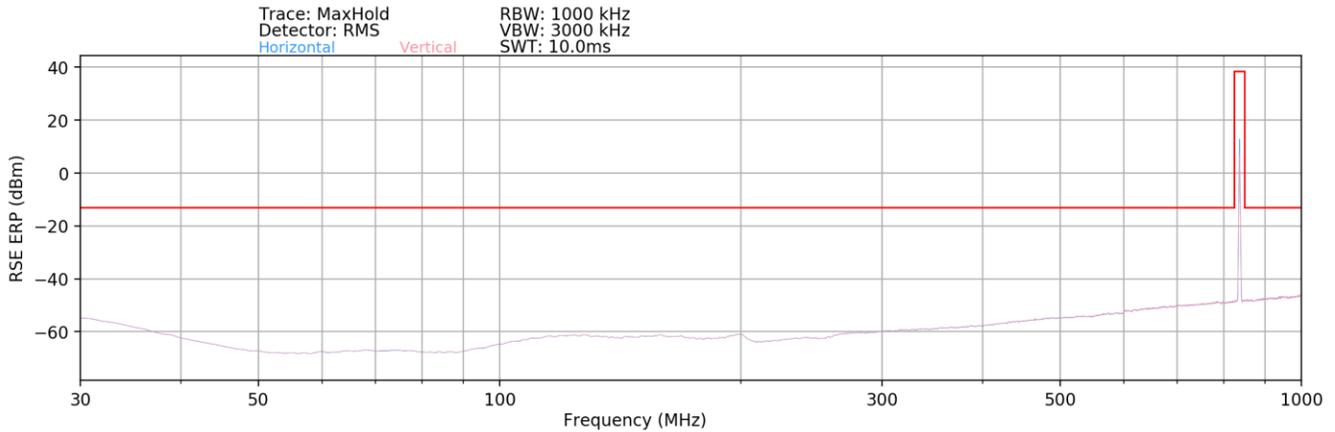
Table 7-24. Radiated Spurious Data with WCP (NR Band n5 - Mid Channel – Main Ant)

FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2201200003-03.PY7	Test Dates: 3/25/2022 - 5/19/2022	EUT Type: Portable Handset	Page 104 of 119

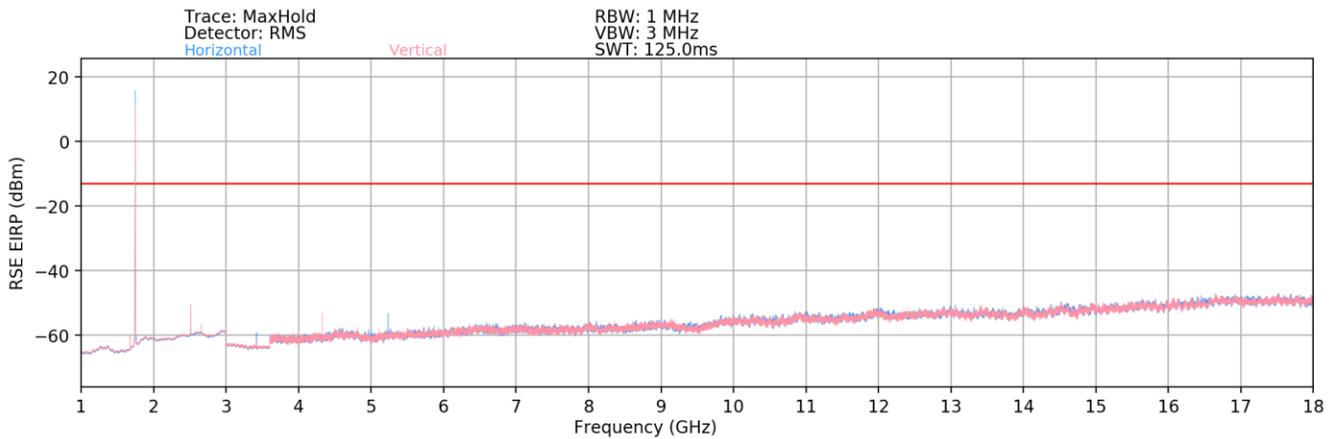
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EN-DC n5 – B66



Plot 7-140. Radiated Spurious Plot 30MHz-1GHz (EN-DC n5-B66)



Plot 7-141. Radiated Spurious Plot 1-18GHz (EN-DC n5-B66)

Bandwidth (MHz):	20 & 20
Frequency (MHz):	836.5 & 1745
RB / Offset:	1/53 & 1/50
Mode:	EN-DC
Anchor Band:	66

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]
216.0	V	-	-	-90.34	17.71	34.37	-60.89	-13.00	-47.89
1673.0	V	-	-	-76.84	-3.55	26.61	-68.64	-13.00	-55.64
2509.5	V	375	217	-64.12	0.80	43.68	-51.58	-13.00	-38.58
2653.5	V	366	188	-77.28	1.77	31.49	-63.77	-13.00	-50.77
3418.0	H	135	330	-70.32	2.84	39.52	-55.74	-13.00	-42.74
4326.5	V	353	43	-75.94	3.40	34.46	-60.79	-13.00	-47.79
5235.0	H	301	322	-69.77	5.03	42.26	-53.00	-13.00	-40.00

Table 7-25. Radiated Spurious Data (EN-DC n5-B66)

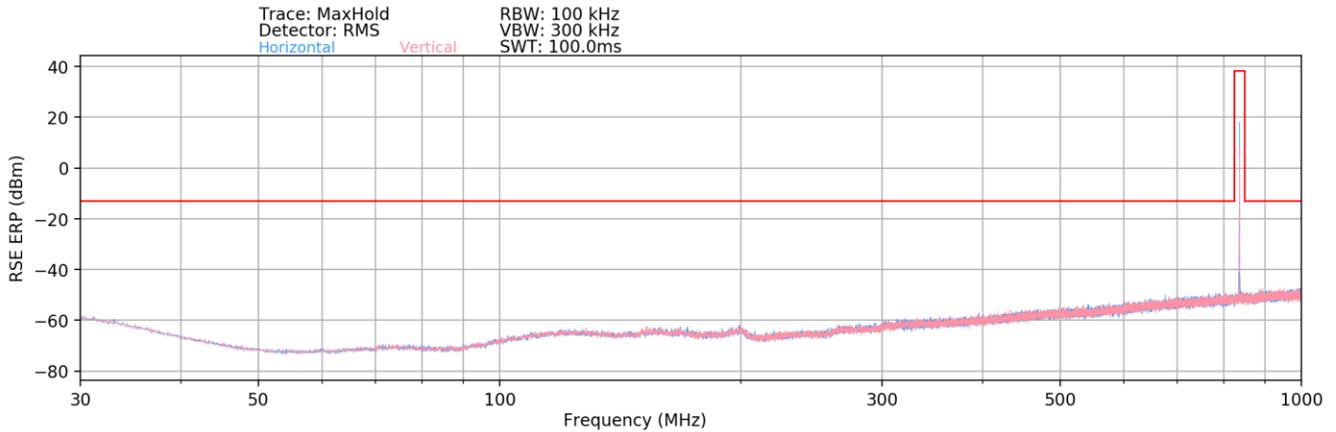
FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2201200003-03.PY7	Test Dates: 3/25/2022 - 5/19/2022	EUT Type: Portable Handset	Page 105 of 119

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NR Band n5 – Sub Ant



Plot 7-142. Radiated Spurious Plot 30MHz – 1GHz (NR Band n5 – Sub Ant)

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

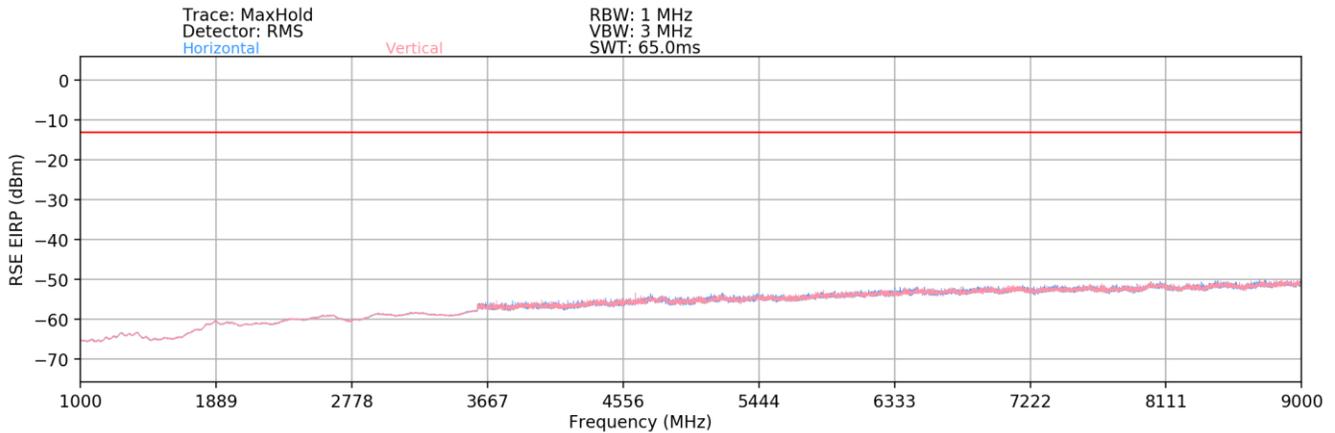
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
691.00	H	-	-	-89.81	28.71	45.90	-49.36	-13.00	-36.36

Table 7-26. Radiated Spurious Data 30MHz – 1GHz (NR Band n5 – Sub Ant)

FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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Plot 7-143. Radiated Spurious Plot (NR Band n5 – Sub Ant)

Bandwidth (MHz):	20
Frequency (MHz):	834
RB / Offset:	1 / 53
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]
1668.00	H	-	-	-76.64	-3.66	26.70	-68.56	-13.00	-55.56
2502.00	H	173	317	-75.81	0.75	31.94	-63.32	-13.00	-50.32
3336.00	H	-	-	-77.42	1.93	31.51	-63.75	-13.00	-50.75
4170.00	H	-	-	-77.71	2.88	32.17	-63.09	-13.00	-50.09
5004.00	H	-	-	-78.50	4.07	32.57	-62.69	-13.00	-49.69

Table 7-27. Radiated Spurious Data (NR Band n5 – Low Channel – Sub Ant)

Bandwidth (MHz):	20
Frequency (MHz):	836.5
RB / Offset:	1 / 53
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]
1673.00	H	-	-	-76.71	-3.55	26.74	-68.51	-13.00	-55.51
2509.50	H	188	55	-75.78	0.80	32.02	-63.24	-13.00	-50.24
3346.00	H	-	-	-77.38	1.95	31.57	-63.69	-13.00	-50.69
4182.50	H	-	-	-77.74	2.95	32.21	-63.05	-13.00	-50.05
5019.00	H	-	-	-78.30	4.33	33.03	-62.22	-13.00	-49.22

Table 7-28. Radiated Spurious Data (NR Band n5 – Mid Channel – Sub Ant)

FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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Bandwidth (MHz):	20
Frequency (MHz):	839
RB / Offset:	1 / 53
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]
1678.00	H	-	-	-76.59	-3.42	26.99	-68.26	-13.00	-55.26
2517.00	H	139	51	-75.01	1.00	32.99	-62.27	-13.00	-49.27
3356.00	H	-	-	-77.32	1.94	31.62	-63.64	-13.00	-50.64
4195.00	H	-	-	-77.63	3.02	32.39	-62.86	-13.00	-49.86
5034.00	H	-	-	-78.38	4.66	33.28	-61.97	-13.00	-48.97

Table 7-29. Radiated Spurious Data (NR Band n5 – High Channel – Sub Ant)

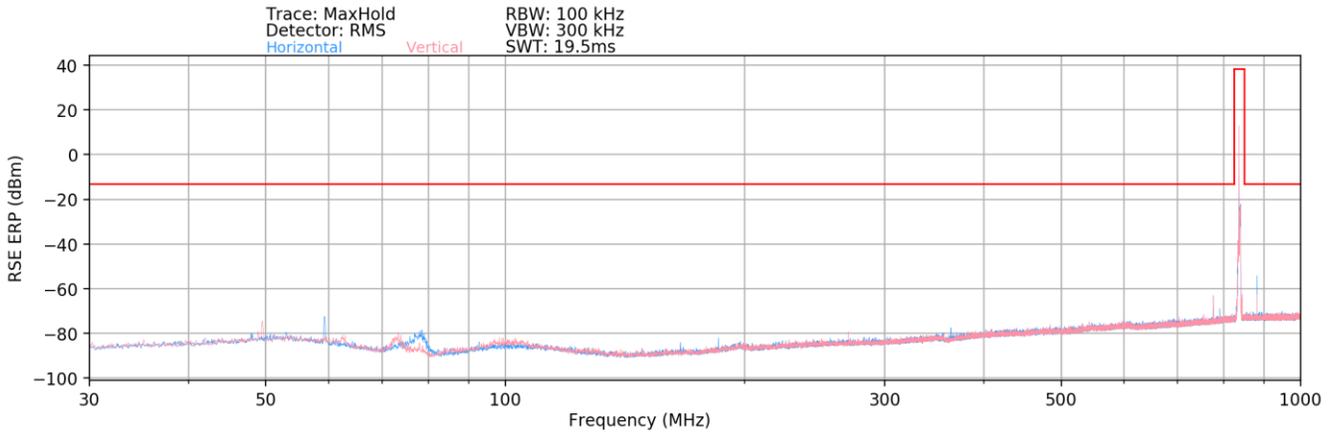
FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2201200003-03.PY7	Test Dates: 3/25/2022 - 5/19/2022	EUT Type: Portable Handset	Page 108 of 119

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GSM/GPRS Cell – Main Ant



Plot 7-144. Radiated Spurious Plot 30MHz – 1GHz (GPRS Cell)

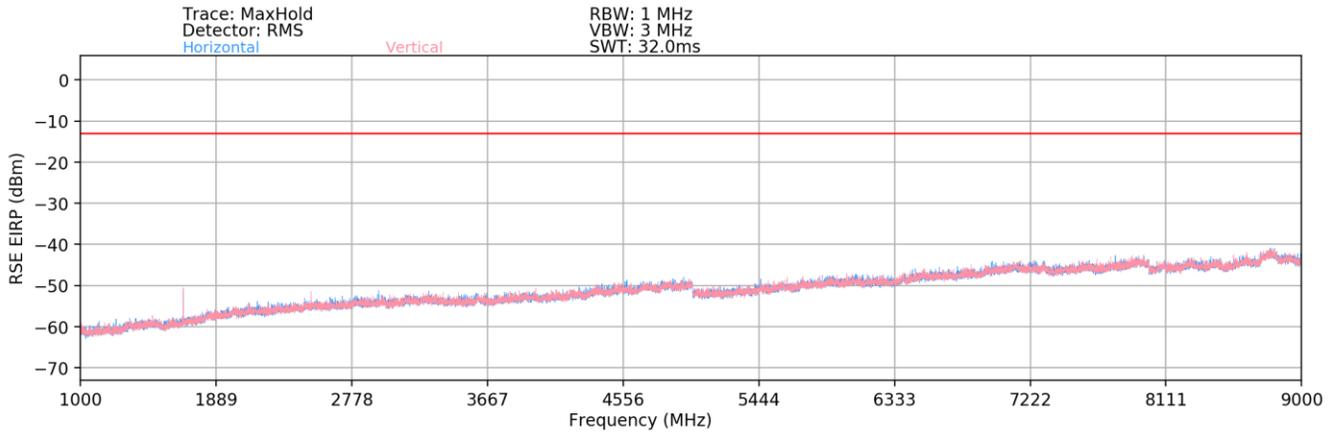
Mode:	GPRS 1 Tx Slot
Channel:	190
Frequency (MHz):	836.6

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]
70.00	V	-	-	-70.45	-18.86	17.69	-77.56	-13.00	-64.56
774.65	V	207	233	-65.48	-5.31	36.21	-59.05	-13.00	-46.05

Table 7-30. Radiated Spurious Data 30MHz – 1GHz (GPRS Cell)

FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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Plot 7-145. Radiated Spurious Plot (GPRS Cell)

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	147	223	-61.48	0.71	46.23	-49.03	-13.00	-36.03
2472.60	V	301	96	-63.73	5.32	48.59	-46.67	-13.00	-33.67
3296.80	V	116	5	-67.65	7.35	46.70	-48.56	-13.00	-35.56
4121.00	V	-	-	-69.02	8.69	46.67	-48.59	-13.00	-35.59
4945.20	V	-	-	-69.67	9.84	47.17	-48.08	-13.00	-35.08
5769.40	V	-	-	-70.04	12.38	49.34	-45.92	-13.00	-32.92

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

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	153	308	-60.98	1.34	47.36	-47.90	-13.00	-34.90
2509.80	V	246	305	-62.21	5.25	50.04	-45.21	-13.00	-32.21
3346.40	V	120	359	-67.39	7.54	47.15	-48.10	-13.00	-35.10
4183.00	V	-	-	-69.22	8.29	46.07	-49.19	-13.00	-36.19
5019.60	V	-	-	-69.83	10.54	47.71	-47.55	-13.00	-34.55
5856.20	V	-	-	-70.08	12.14	49.06	-46.19	-13.00	-33.19

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

FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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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	217	20	-61.17	1.75	47.58	-47.68	-13.00	-34.68
2546.40	V	102	350	-65.10	5.56	47.46	-47.79	-13.00	-34.79
3395.20	V	245	358	-67.56	6.99	46.43	-48.83	-13.00	-35.83
4244.00	V	-	-	-69.45	8.80	46.35	-48.91	-13.00	-35.91
5092.80	V	-	-	-69.16	10.11	47.95	-47.31	-13.00	-34.31
5941.60	V	-	-	-70.51	13.07	49.56	-45.69	-13.00	-32.69

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

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

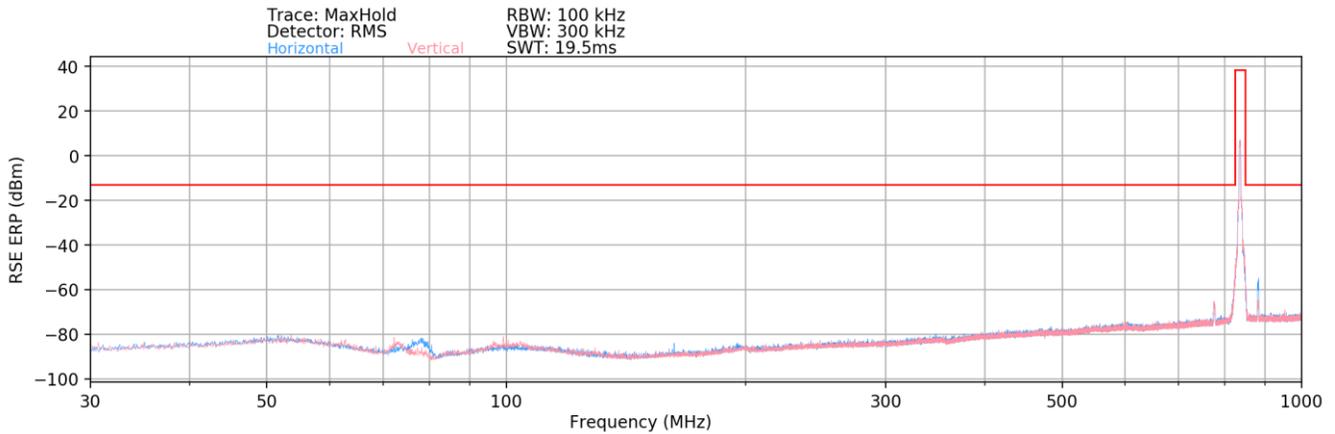
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1673.20	V	163	207	-64.50	1.34	43.84	-51.42	-13.00	-38.42
2509.80	V	119	238	-64.86	5.25	47.39	-47.86	-13.00	-34.86
3346.40	V	118	227	-67.66	7.54	46.88	-48.37	-13.00	-35.37
4183.00	V	-	-	-69.10	8.29	46.19	-49.07	-13.00	-36.07
5019.60	V	-	-	-69.86	10.54	47.68	-47.58	-13.00	-34.58
5856.20	V	-	-	-70.08	12.14	49.06	-46.19	-13.00	-33.19

Table 7-34. Radiated Spurious Data with WCP (GPRS Cell)

FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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WCDMA Cell – Main Ant



Plot 7-146. Radiated Spurious Plot 30MHz – 1GHz (WCDMA Cell)

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

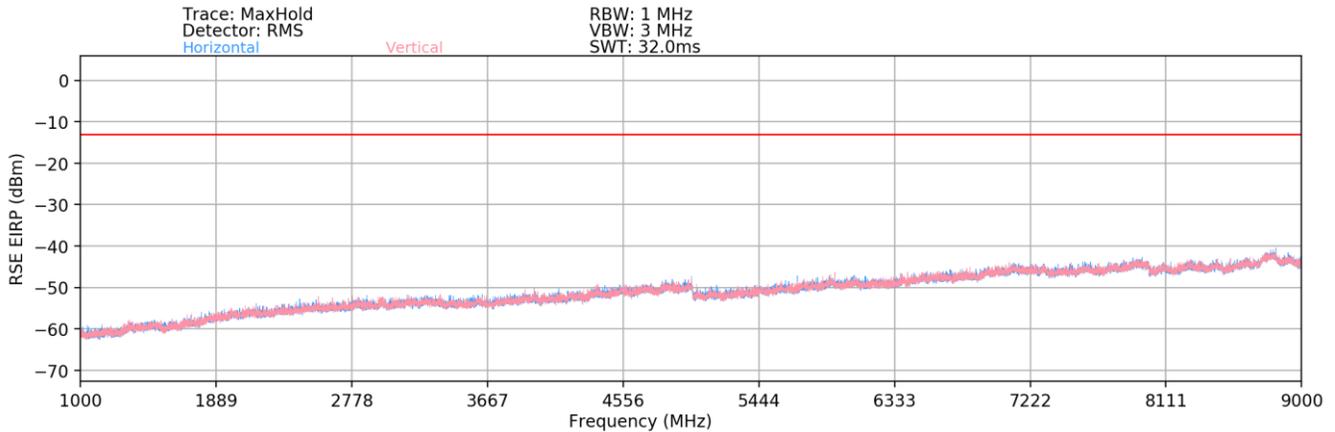
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
160.00	V	-	-	-89.16	-19.06	-1.22	-96.48	-13.00	-83.48
774.65	V	140	226	-82.54	-5.31	19.15	-76.11	-13.00	-63.11

Table 7-35. Radiated Spurious Data 30MHz – 1GHz (WCDMA Cell)

FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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Plot 7-147. Radiated Spurious Plot (WCDMA Cell)

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	-	-	-79.01	-0.89	27.10	-68.16	-13.00	-55.16
2479.20	V	-	-	-79.63	3.34	30.71	-64.55	-13.00	-51.55
3305.60	V	-	-	-80.54	4.82	31.28	-63.98	-13.00	-50.98

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

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	-	-	-79.14	-0.80	27.06	-68.20	-13.00	-55.20
2509.80	V	-	-	-79.89	3.63	30.74	-64.51	-13.00	-51.51
3346.40	V	-	-	-80.67	5.35	31.68	-63.58	-13.00	-50.58

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

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	-	-	-79.08	-0.67	27.25	-68.01	-13.00	-55.01
2539.80	V	-	-	-80.03	3.29	30.26	-65.00	-13.00	-52.00
3386.40	V	-	-	-80.63	5.13	31.50	-63.76	-13.00	-50.76

Table 7-38. Radiated Spurious Data (WCDMA Cell – High Channel)

FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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7.8 Frequency Stability / Temperature Variation

Test Overview and Limit

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

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

For Part 22 and RSS-132, the frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ (± 2.5 ppm) of the center frequency.

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

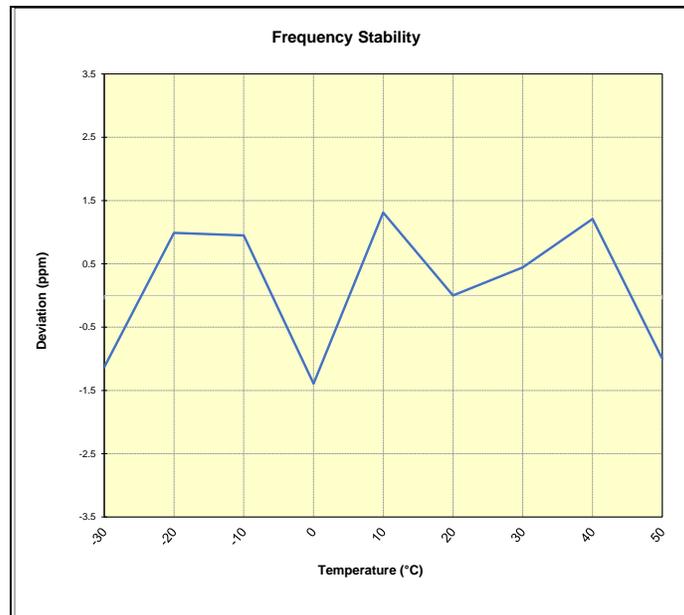
FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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LTE Band 5					
Operating Frequency (Hz):		836,500,000			
Ref. Voltage (VDC):		4.28			
Deviation Limit:		± 0.00025% or 2.5 ppm			
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.28	- 30	836,593,307	-949	-0.0001135
		- 20	836,595,084	828	0.0000989
		- 10	836,595,050	794	0.0000949
		0	836,593,093	-1,164	-0.0001391
		+ 10	836,595,354	1,097	0.0001311
		+ 20 (Ref)	836,594,256	0	0.0000000
		+ 30	836,594,627	371	0.0000443
		+ 40	836,595,268	1,012	0.0001209
		+ 50	836,593,422	-834	-0.0000997
Battery Endpoint	3.69	+ 20	836,595,309	1,052	0.0001258

Table 7-39. LTE Band 5 (Main Ant) Frequency Stability Data

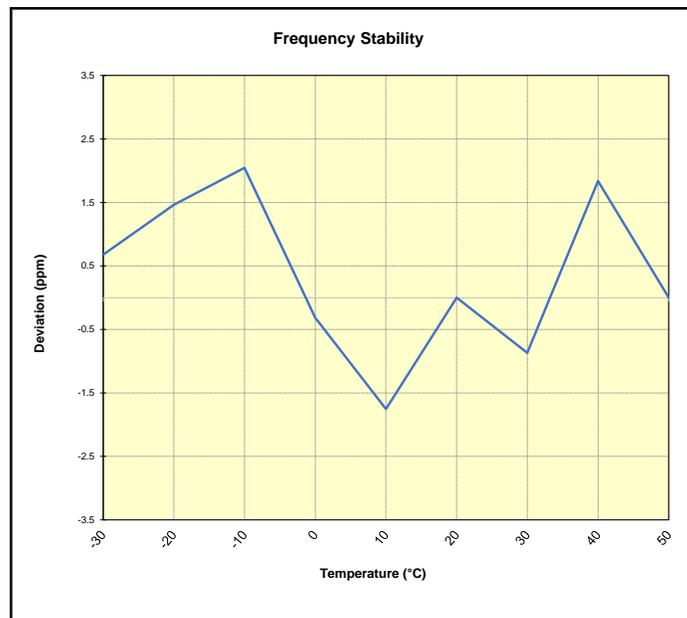


Plot 7-148. LTE Band 5 (Main Ant) Frequency Stability Chart

FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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NR Band n5					
Operating Frequency (Hz):		836,500,000			
Ref. Voltage (VDC):		4.28			
Deviation Limit:		± 0.00025% or 2.5 ppm			
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.28	- 30	836,585,723	567	0.0000677
		- 20	836,586,381	1,224	0.0001463
		- 10	836,586,867	1,710	0.0002044
		0	836,584,894	-262	-0.0000314
		+ 10	836,583,691	-1,466	-0.0001752
		+ 20 (Ref)	836,585,157	0	0.0000000
		+ 30	836,584,431	-725	-0.0000867
Battery Endpoint	3.69	+ 20	836,583,596	-1,561	-0.0001866

Table 7-40. NR Band n5 (Main Ant) Frequency Stability Data

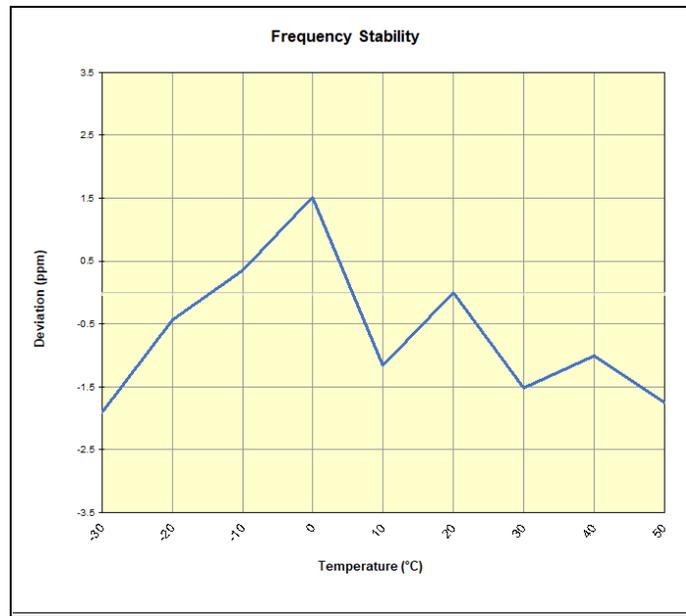


Plot 7-149. NR Band n5 (Main Ant) Frequency Stability Chart

FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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GSM/GPRS Cellular					
Operating Frequency (Hz):		836,600,000			
Ref. Voltage (VDC):		4.28			
Deviation Limit:		± 0.00025% or 2.5 ppm			
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.28	- 30	836,599,104	-1,594	-0.0001905
		- 20	836,600,328	-369	-0.0000441
		- 10	836,600,991	294	0.0000351
		0	836,601,971	1,274	0.0001523
		+ 10	836,599,723	-974	-0.0001165
		+ 20 (Ref)	836,600,697	0	0.0000000
		+ 30	836,599,432	-1,265	-0.0001513
		+ 40	836,599,861	-836	-0.0000999
Battery Endpoint	3.69	+ 20	836,600,373	-324	-0.0000388

Table 7-41. GSM/GPRS Cell Frequency Stability Data

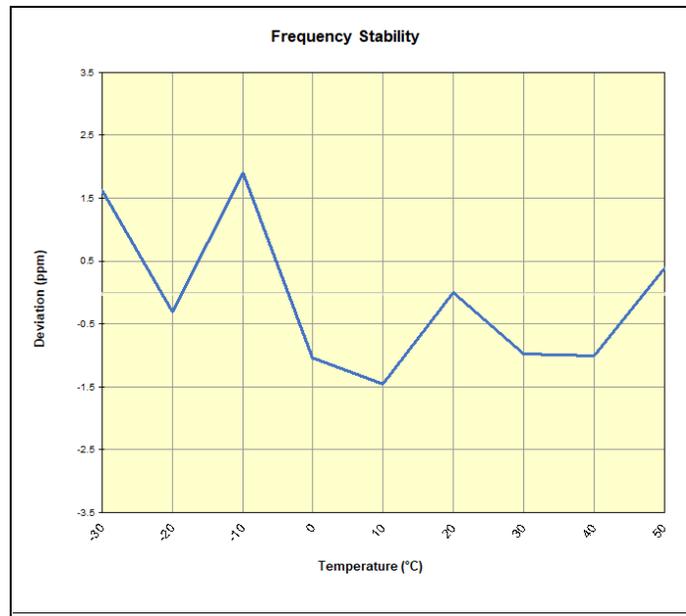


Plot 7-150. GSM/GPRS Cell Frequency Stability Chart

FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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WCDMA Cellular					
Operating Frequency (Hz):		836,600,000			
Ref. Voltage (VDC):		4.28			
Deviation Limit:		± 0.00025% or 2.5 ppm			
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.28	- 30	836,555,117	1,357	0.0001623
		- 20	836,553,507	-253	-0.0000303
		- 10	836,555,352	1,592	0.0001904
		0	836,552,896	-864	-0.0001033
		+ 10	836,552,539	-1,221	-0.0001459
		+ 20 (Ref)	836,553,760	0	0.0000000
		+ 30	836,552,944	-816	-0.0000975
		+ 40	836,552,915	-845	-0.0001010
Battery Endpoint	3.69	+ 20	836,555,018	1,258	0.0001504

Table 7-42. WCDMA Cell Frequency Stability Data



Plot 7-151. WCDMA Cell Frequency Stability Chart

FCC ID: PY7-57325M	PART 22 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 **SONY Portable Handset FCC ID: PY7-57325M** complies with all the requirements of Part 22 of the FCC rules.

FCC ID: PY7-57325M	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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