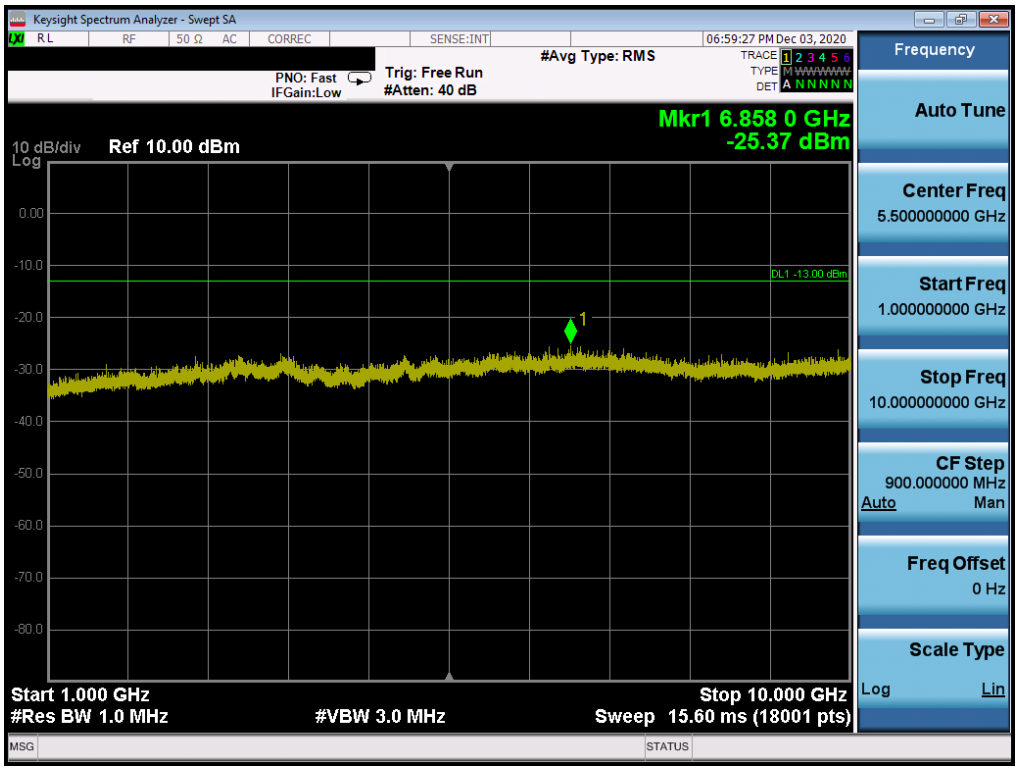

Plot 7-76. CSE (GPRS Ch. 251)

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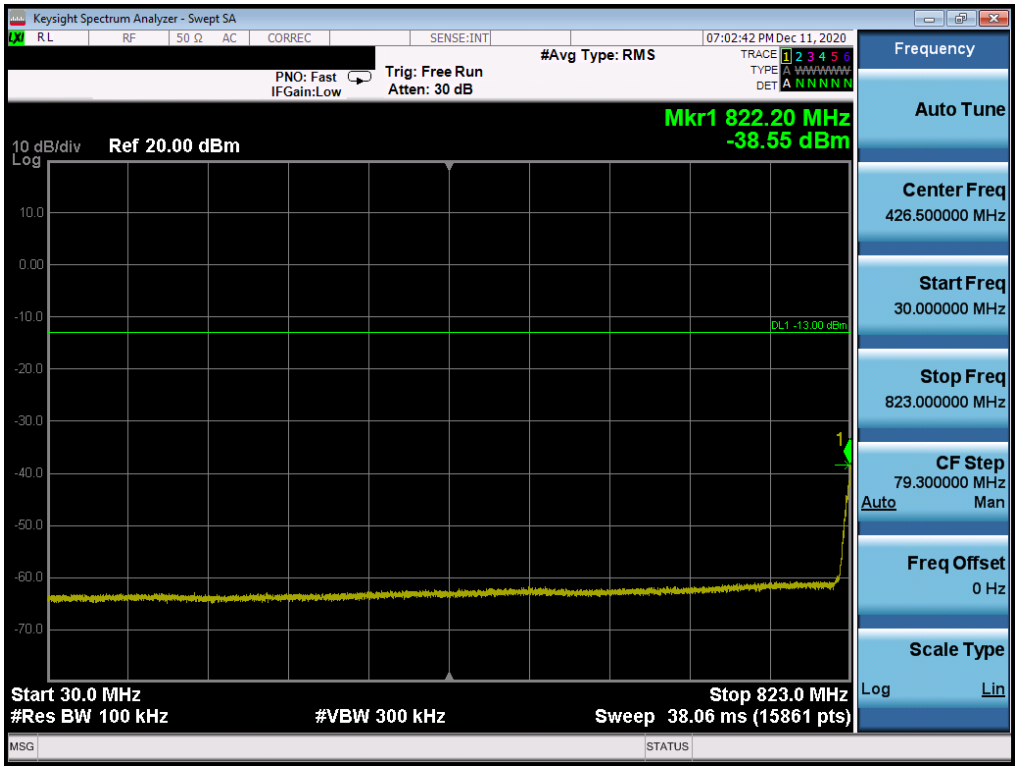
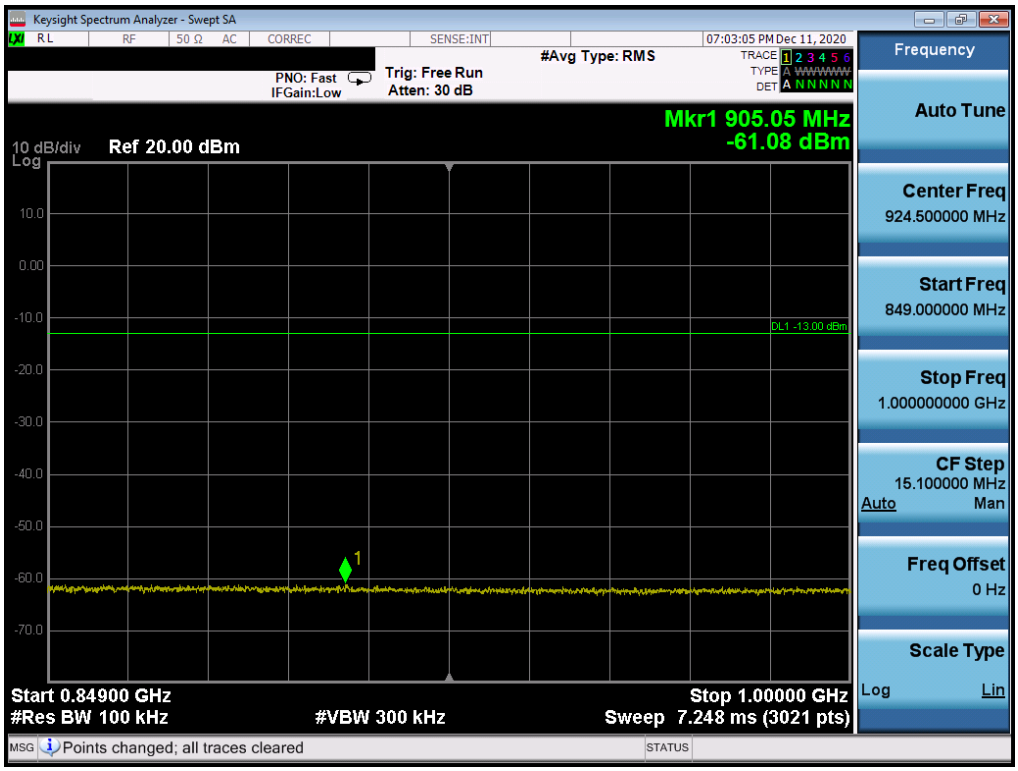
WCDMA Cell



Plot 7-77. CSE (WCDMA Ch. 4132)



Plot 7-78. CSE (WCDMA Ch. 4132)

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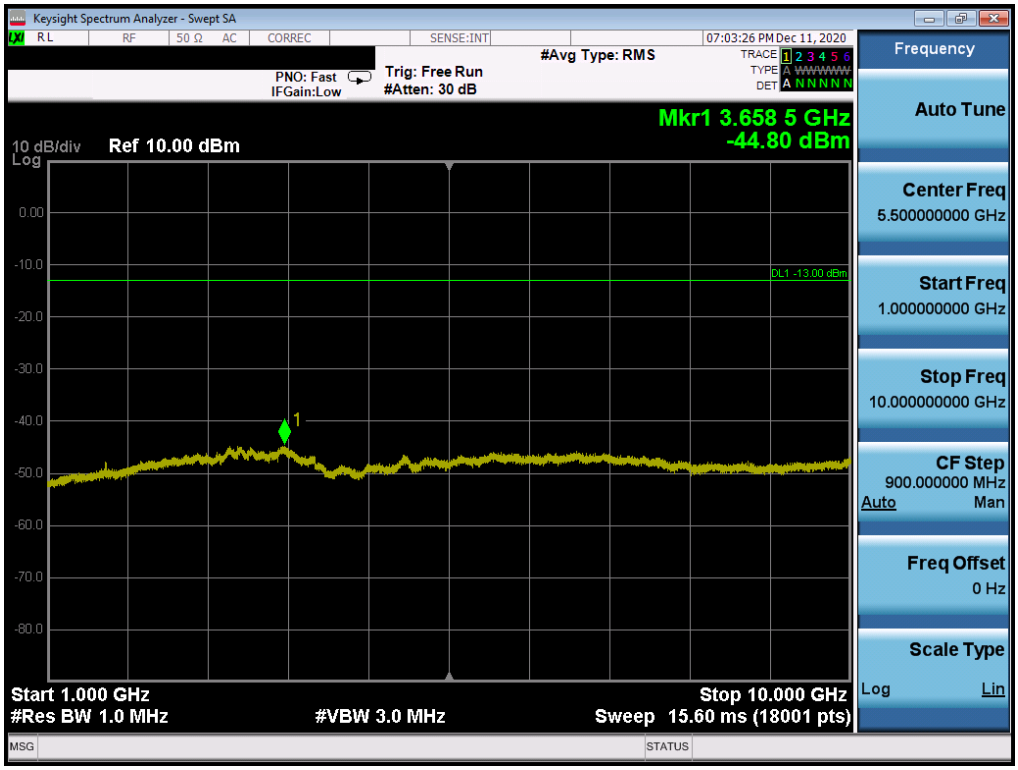
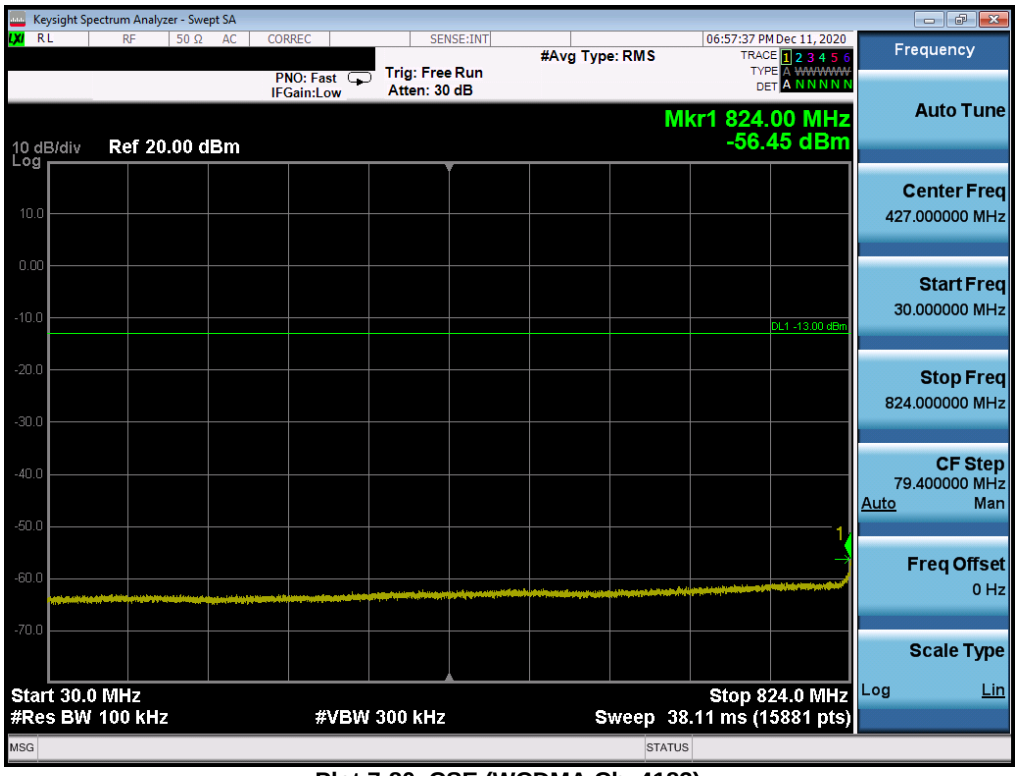


Plot 7-79. CSE (WCDMA Ch. 4132)



Plot 7-80. CSE (WCDMA Ch. 4183)

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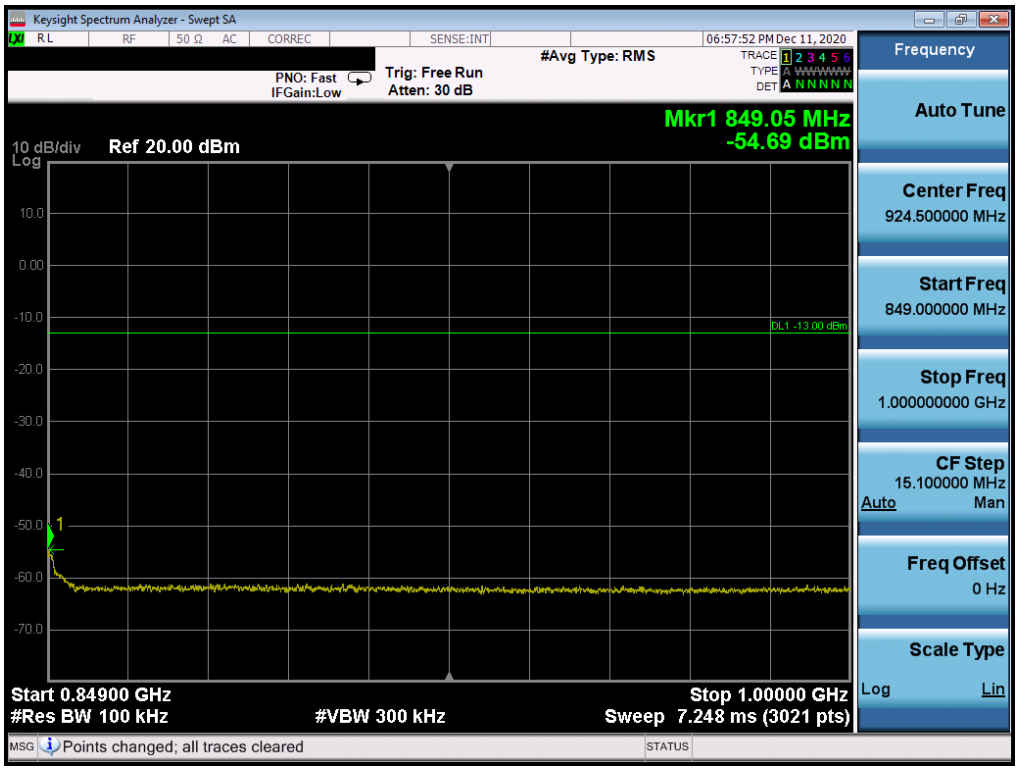
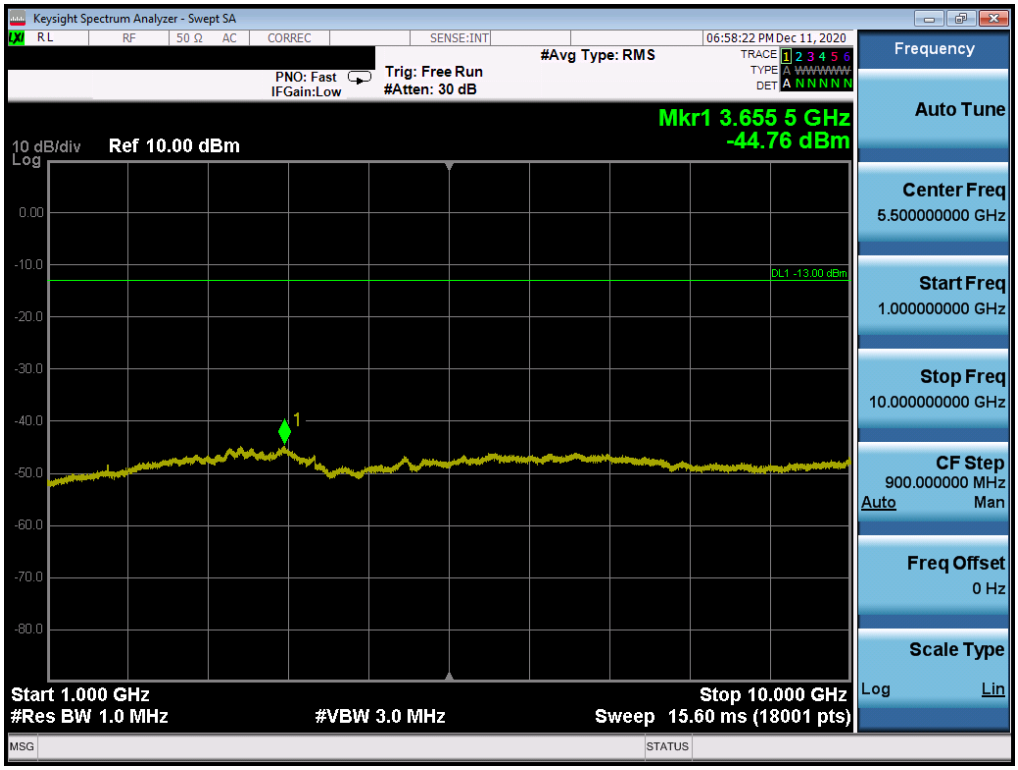


Plot 7-81. CSE (WCDMA Ch. 4183)



Plot 7-82. CSE (WCDMA Ch. 4183)

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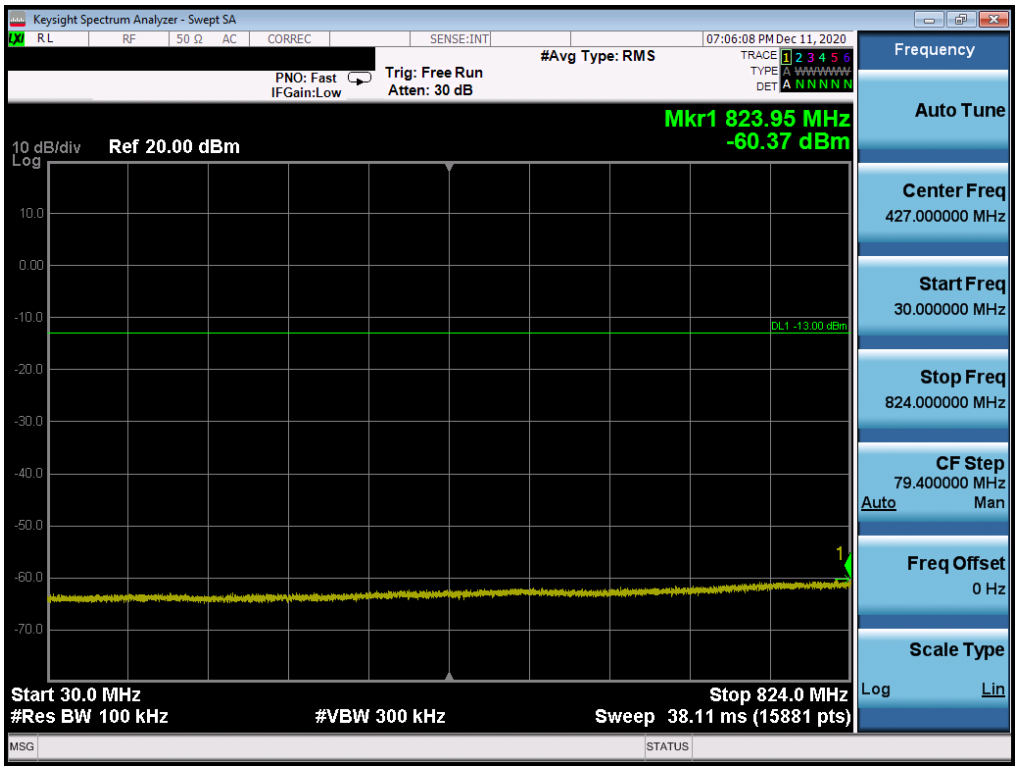
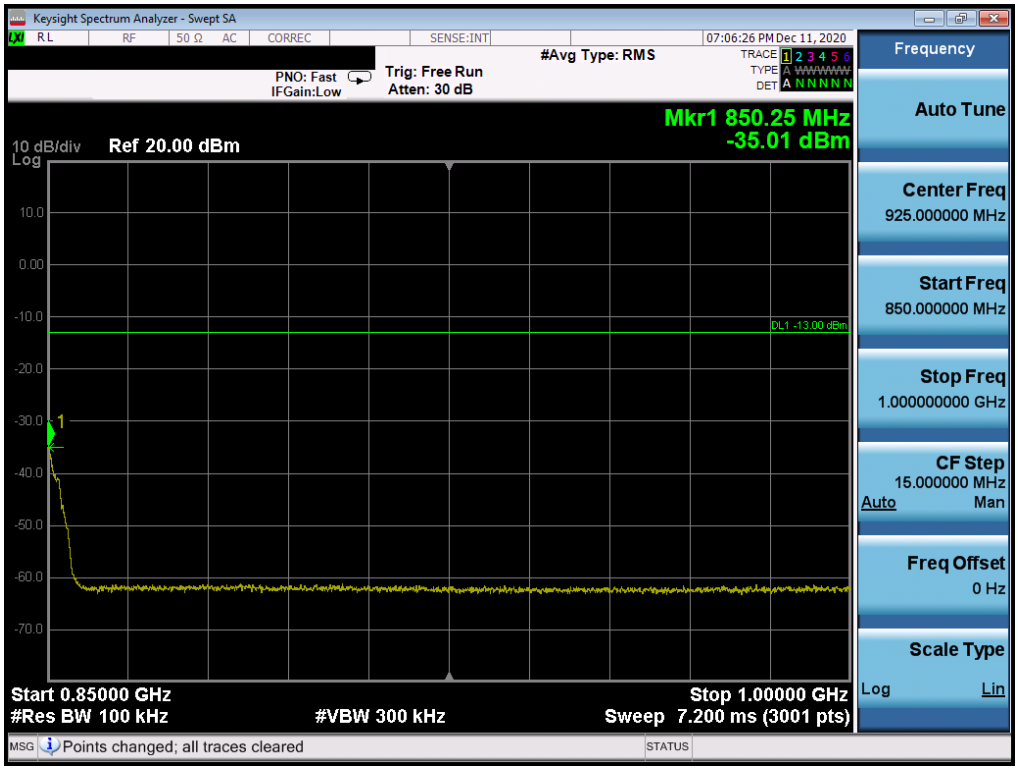


Plot 7-83. CSE (WCDMA Ch. 4233)



Plot 7-84. CSE (WCDMA Ch. 4233)

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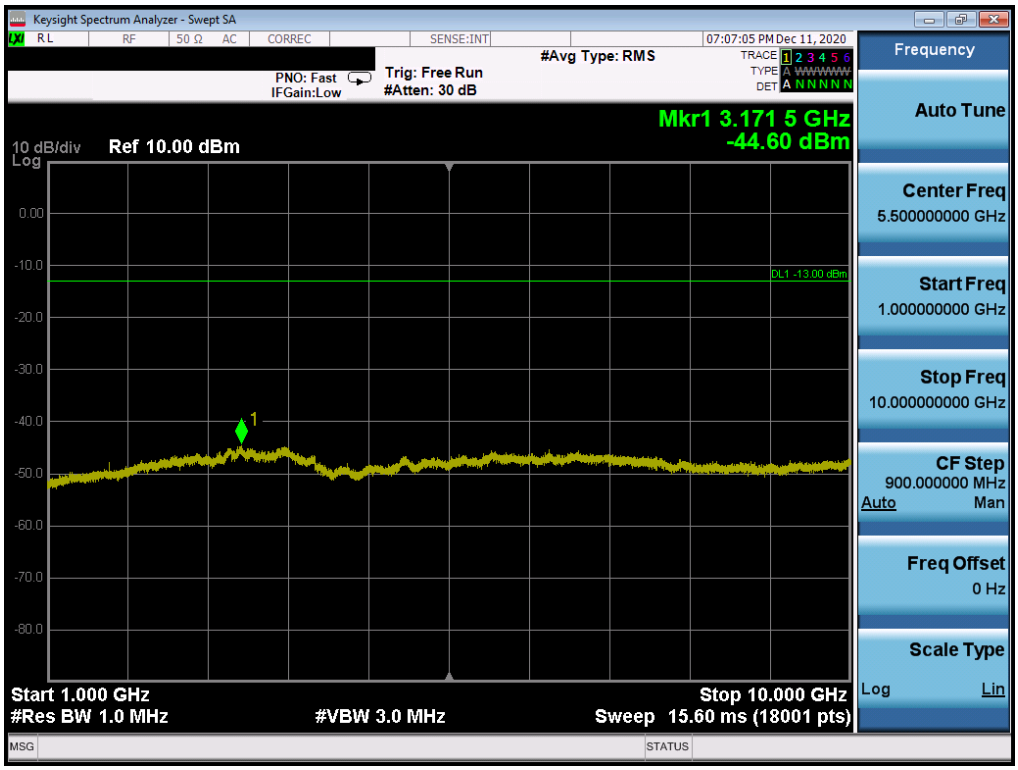

Plot 7-85. CSE (WCDMA Ch. 4233)

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7.4 Band Edge Emissions at Antenna Terminal

§2.1051, 22.917(a)

Test Overview

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at maximum power, and at the appropriate frequencies. All data rates 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.

The minimum permissible attenuation level of any spurious emission is 43 + 10 $log_{10}(P_{[Watts]})$, where P is the transmitter power in Watts.

Test Procedure Used

KDB 971168 D01 v03r01 – Section 6.0

Test Settings

1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW ≥ 1% of the emission bandwidth
4. VBW ≥ 3 x RBW
5. Detector = RMS
6. Number of sweep points ≥ 2 x Span/RBW
7. Trace mode = trace average for continuous emissions, max hold for pulse emissions
8. Sweep time = auto couple
9. The trace was allowed to stabilize

Test Setup

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

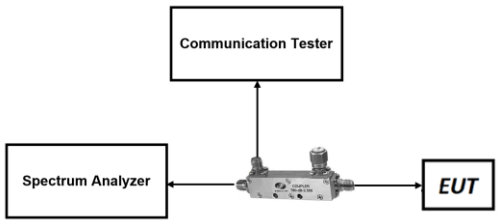

Figure 7-3. Test Instrument & Measurement Setup

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Test Notes

1. Per 22.917(b), in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to demonstrate compliance with the out-of-band emissions limit. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

2. 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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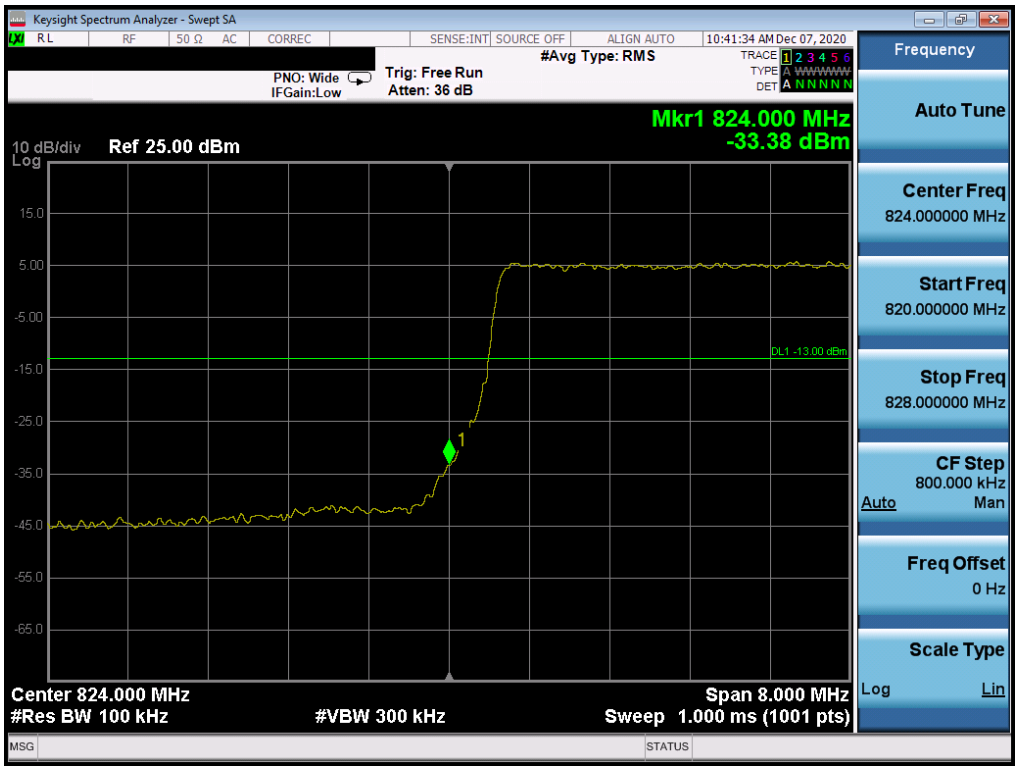
LTE Band 5



Plot 7-86. Lower Band Edge Plot (LTE Band 5 - 10MHz QPSK – Full RB Configuration)

Plot 7-87. Upper Band Edge Plot (LTE Band 5 - 10MHz QPSK – Full RB Configuration)

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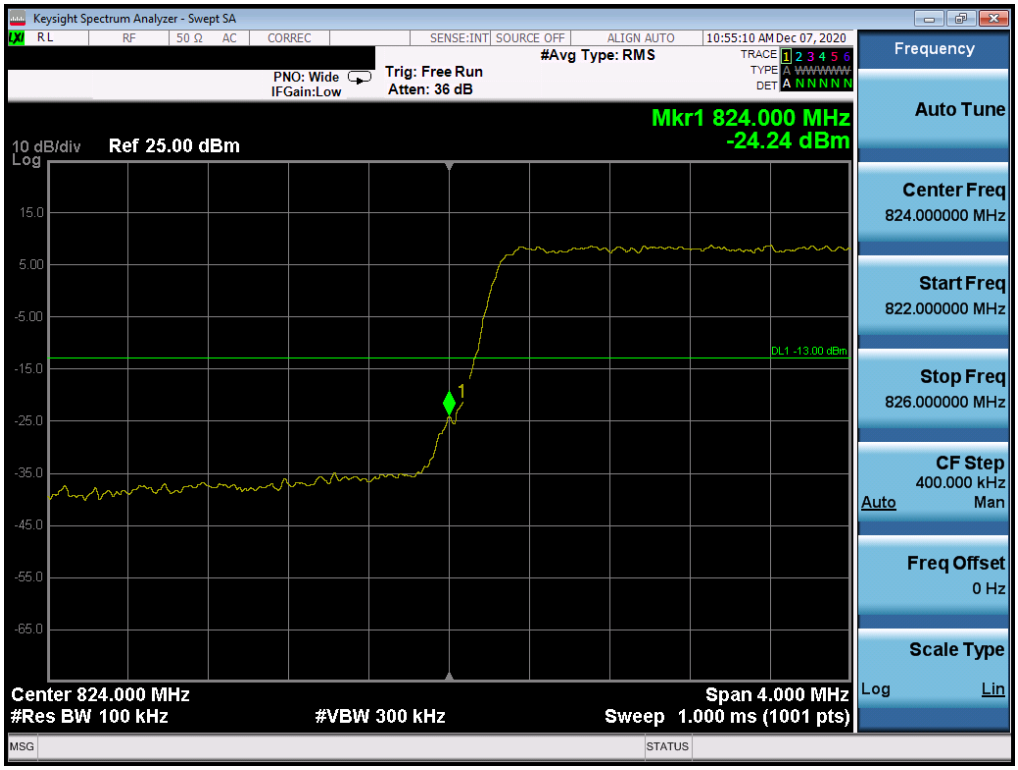
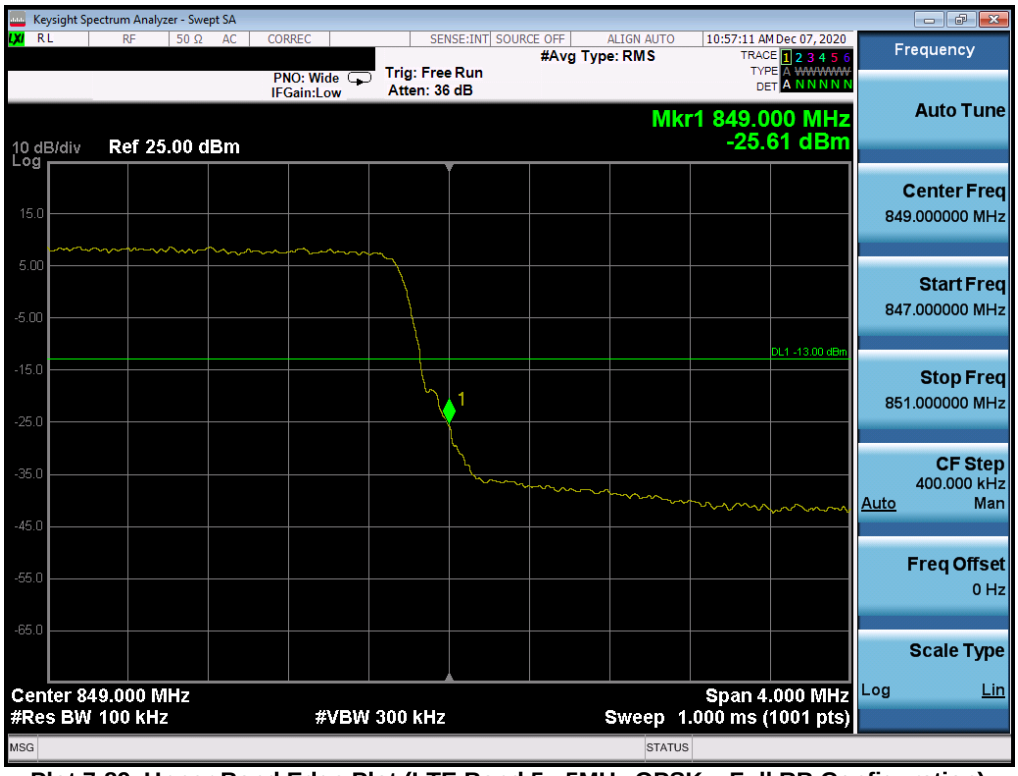


Plot 7-88. Lower Band Edge Plot (LTE Band 5 - 5MHz QPSK – Full RB Configuration)



Plot 7-89. Upper Band Edge Plot (LTE Band 5 - 5MHz QPSK – Full RB Configuration)

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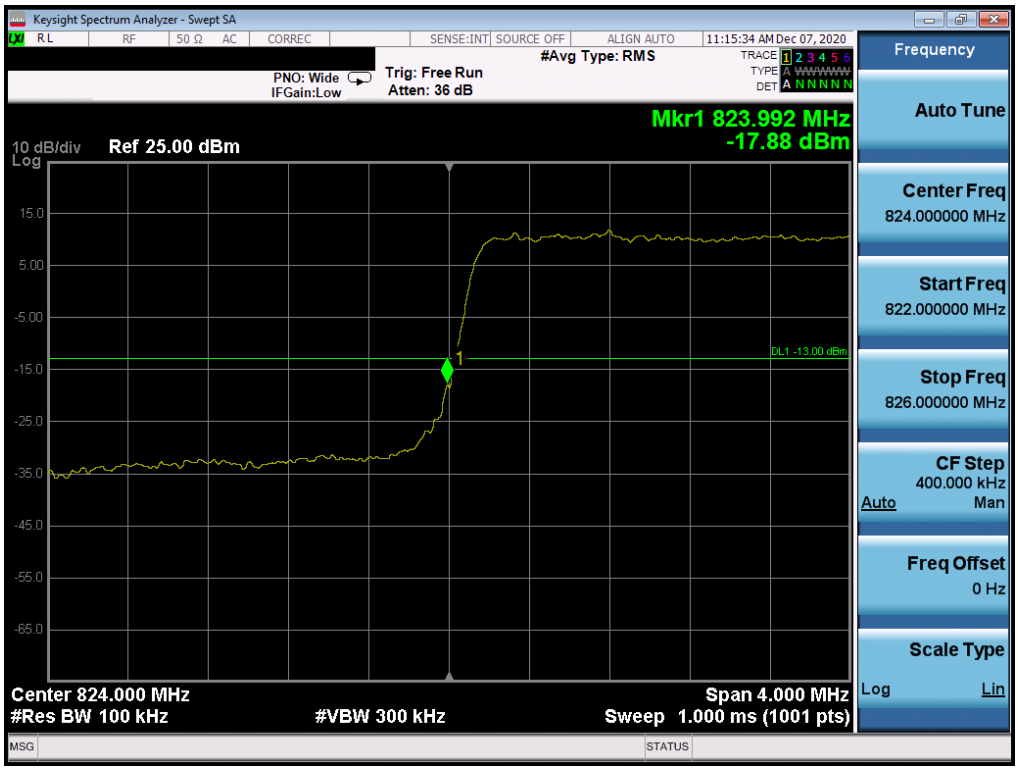

Plot 7-90. Lower Band Edge Plot (LTE Band 5 - 3MHz QPSK – Full RB Configuration)

Plot 7-91. Upper Band Edge Plot (LTE Band 5 - 3MHz QPSK – Full RB Configuration)

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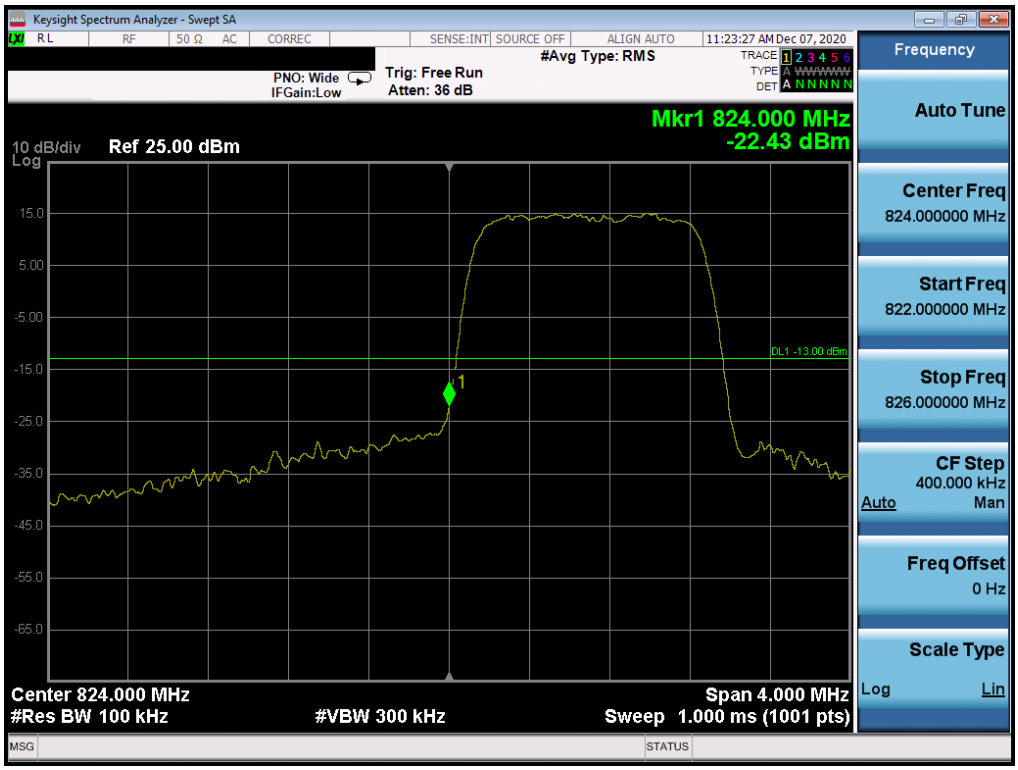

Plot 7-92. Lower Band Edge Plot (LTE Band 5 – 1.4MHz QPSK – Full RB Configuration)

Plot 7-93. Upper Band Edge Plot (LTE Band 5 – 1.4MHz QPSK – Full RB Configuration)

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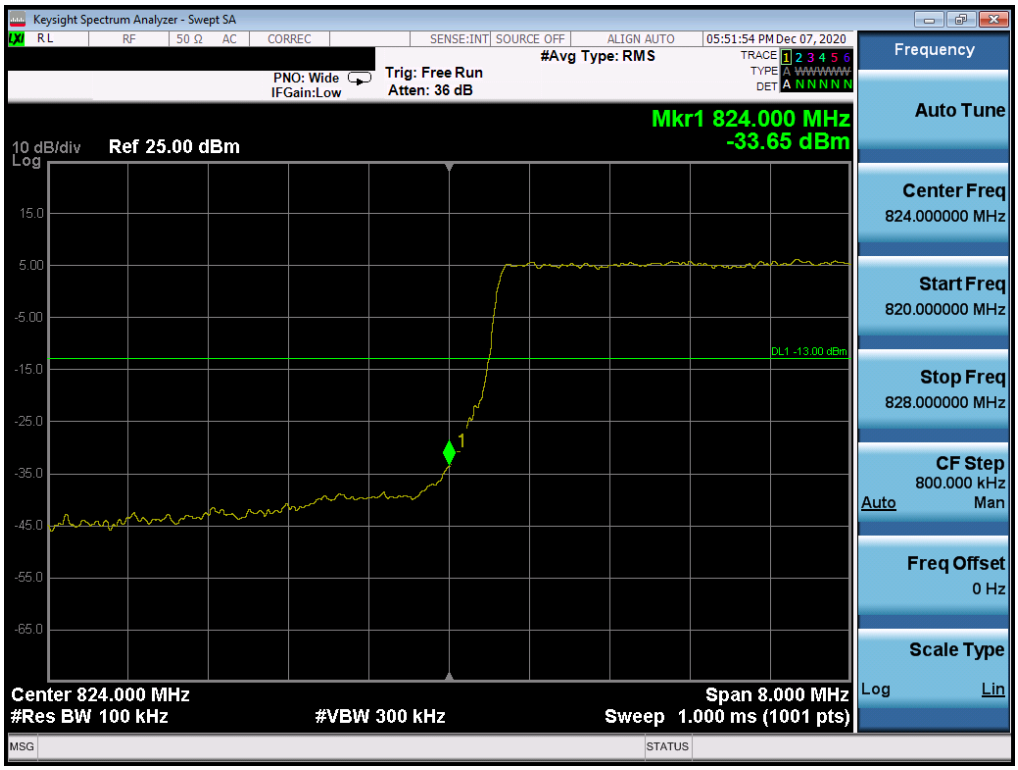
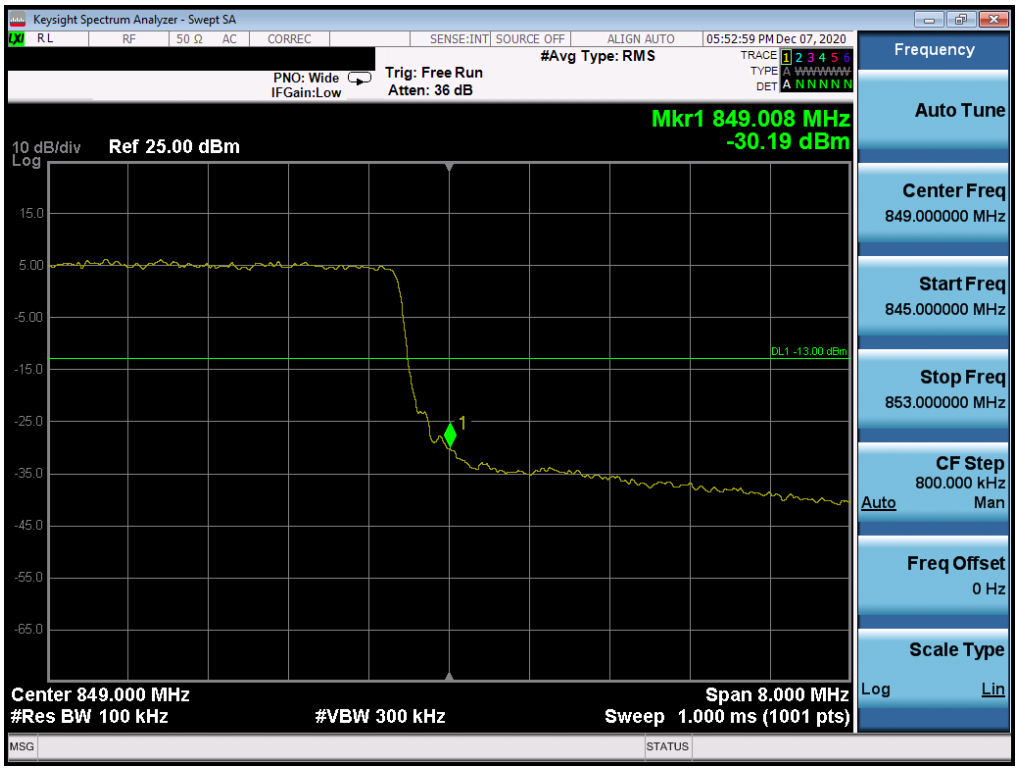
LTE Band 26



Plot 7-94. Lower Band Edge Plot (LTE Band 26 - 10MHz QPSK – Full RB Configuration)



Plot 7-95. Upper Band Edge Plot (LTE Band 26 - 10MHz QPSK – Full RB Configuration)

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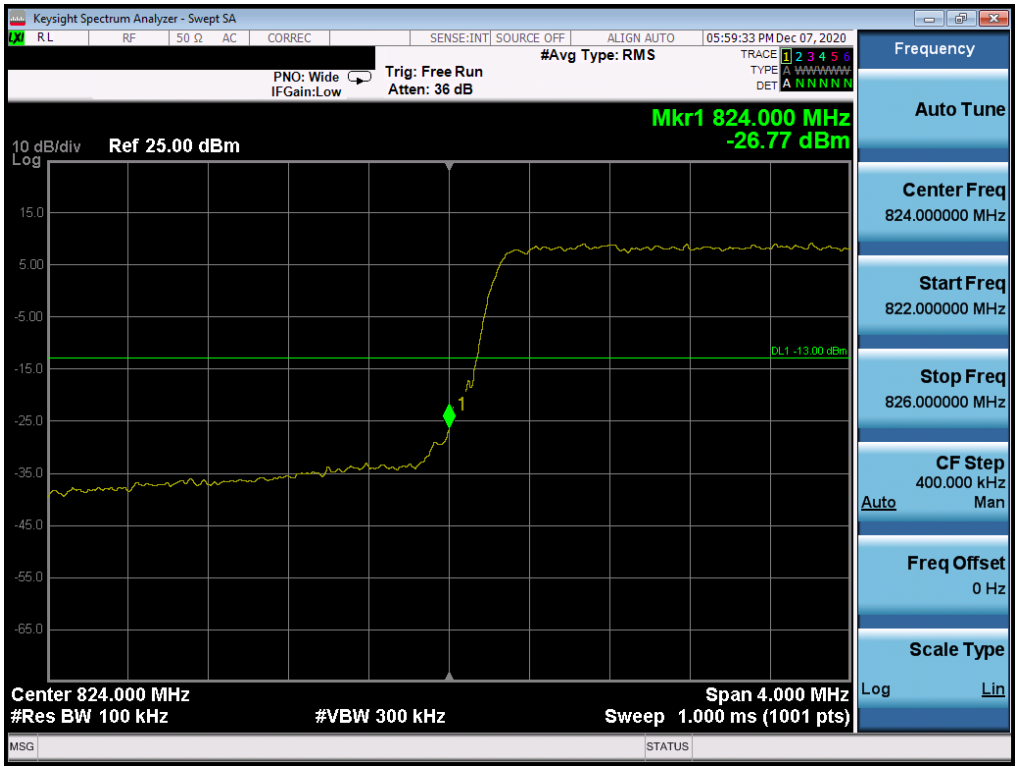

Plot 7-96. Lower Band Edge Plot (LTE Band 26 - 5MHz QPSK – Full RB Configuration)

Plot 7-97. Upper Band Edge Plot (LTE Band 26 - 5MHz QPSK – Full RB Configuration)

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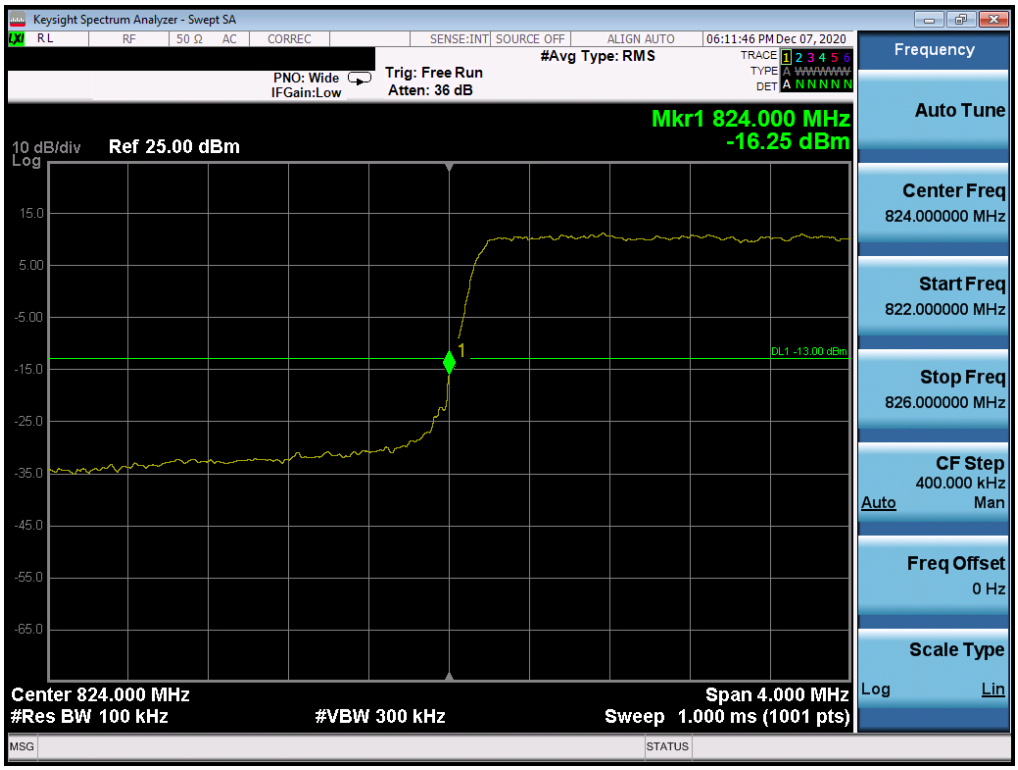

Plot 7-98. Lower Band Edge Plot (LTE Band 26 - 3MHz QPSK – Full RB Configuration)

Plot 7-99. Upper Band Edge Plot (LTE Band 26 - 3MHz QPSK – Full RB Configuration)

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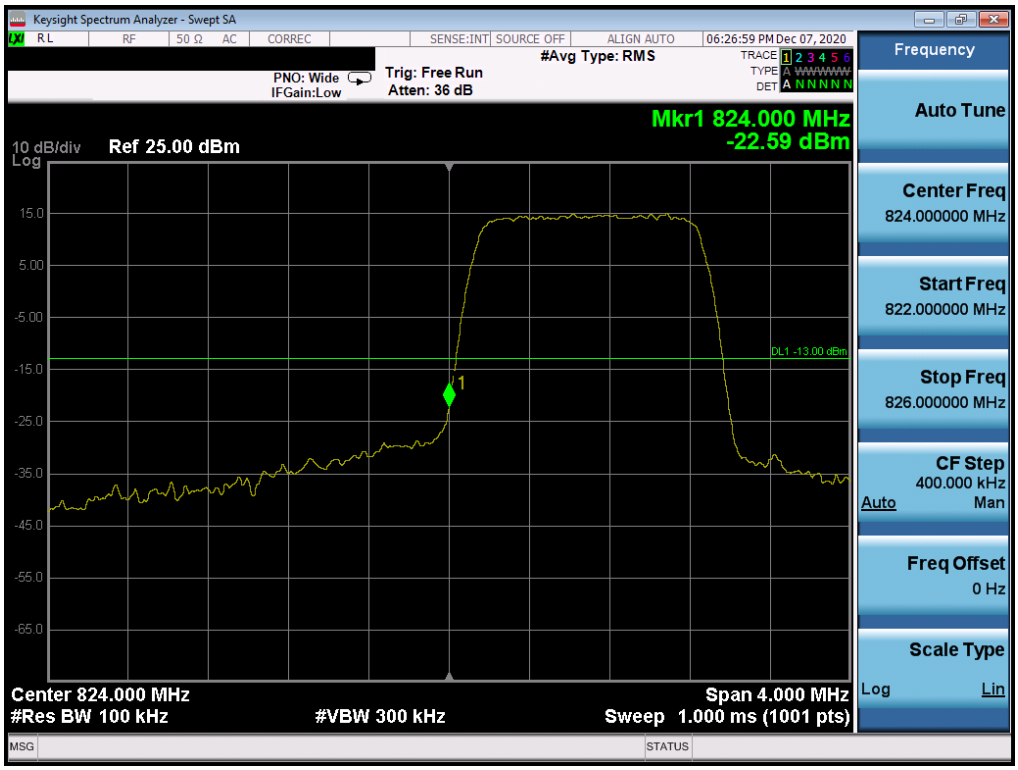

Plot 7-100. Lower Band Edge Plot (LTE Band 26 – 1.4MHz QPSK – Full RB Configuration)

Plot 7-101. Upper Band Edge Plot (LTE Band 26 – 1.4MHz QPSK – Full RB Configuration)

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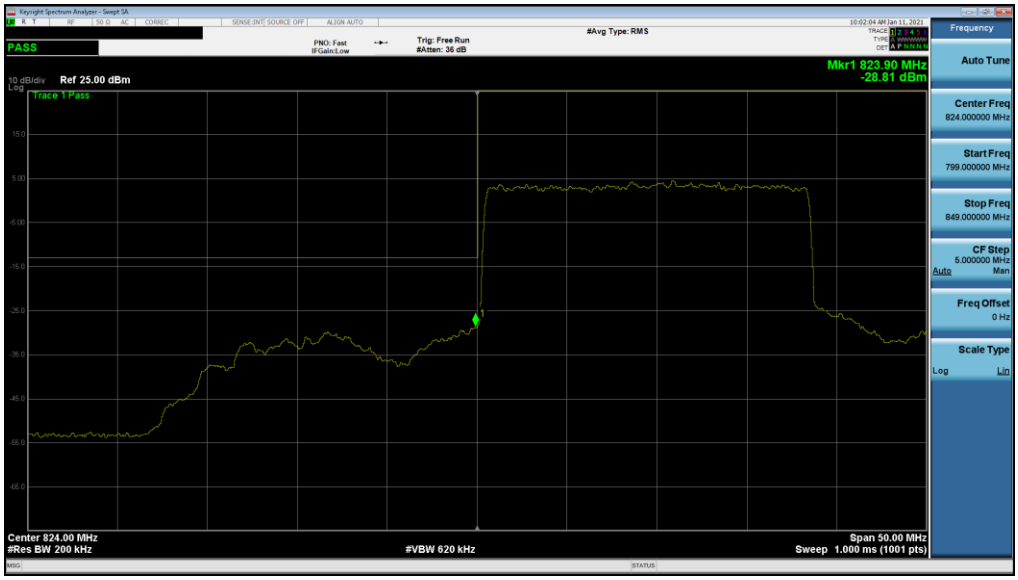
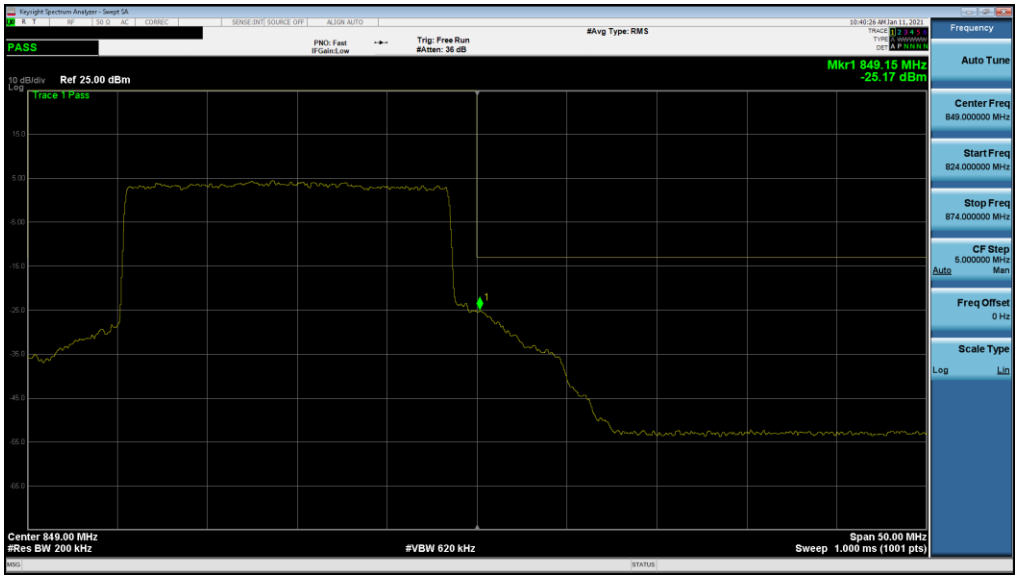


Plot 7-102. Lower Band Edge Plot (NR Band n5 DFT-s-OFDM BPSK – 20.0MHz - Full RB)



Plot 7-103. Upper Band Edge Plot (NR Band n5 DFT-s-OFDM π/2 BPSK– 20.0MHz - Full RB)

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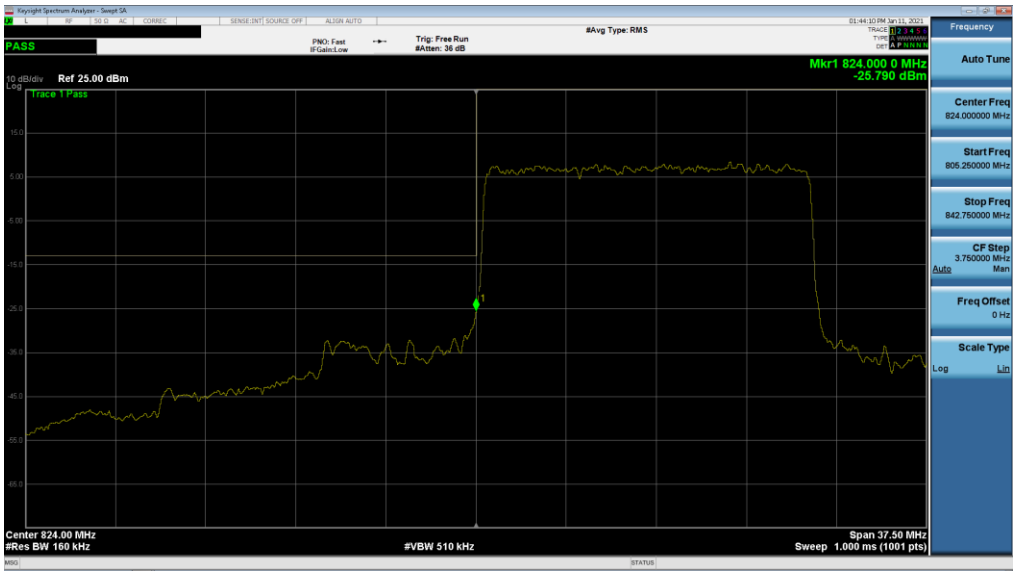
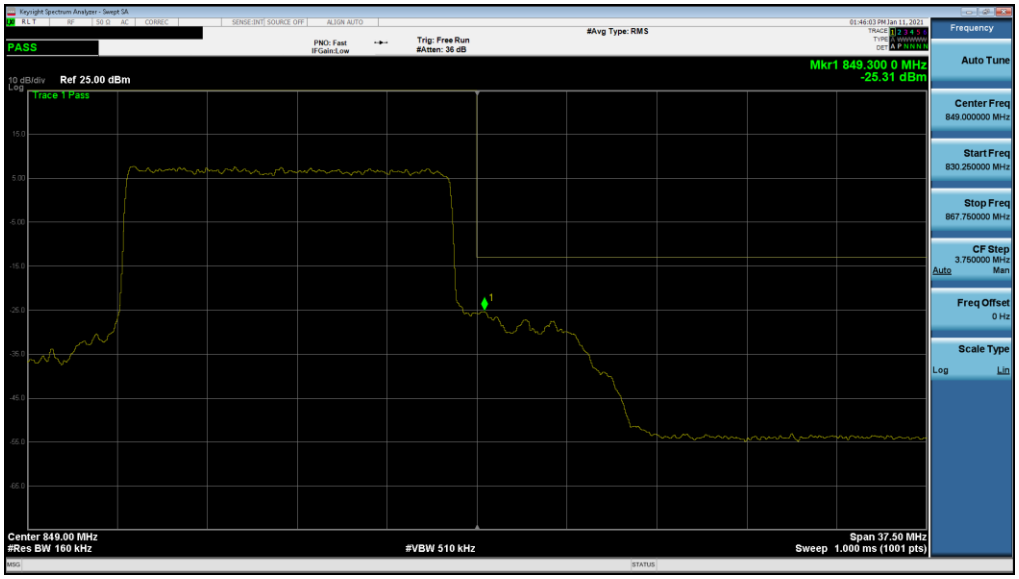


Plot 7-104. Lower Band Edge Plot (NR Band n5 DFT-s-OFDM π/2 BPSK– 15.0MHz - Full RB)



Plot 7-105. Upper Band Edge Plot (NR Band n5 DFT-s-OFDM π/2 BPSK– 15.0MHz - Full RB)

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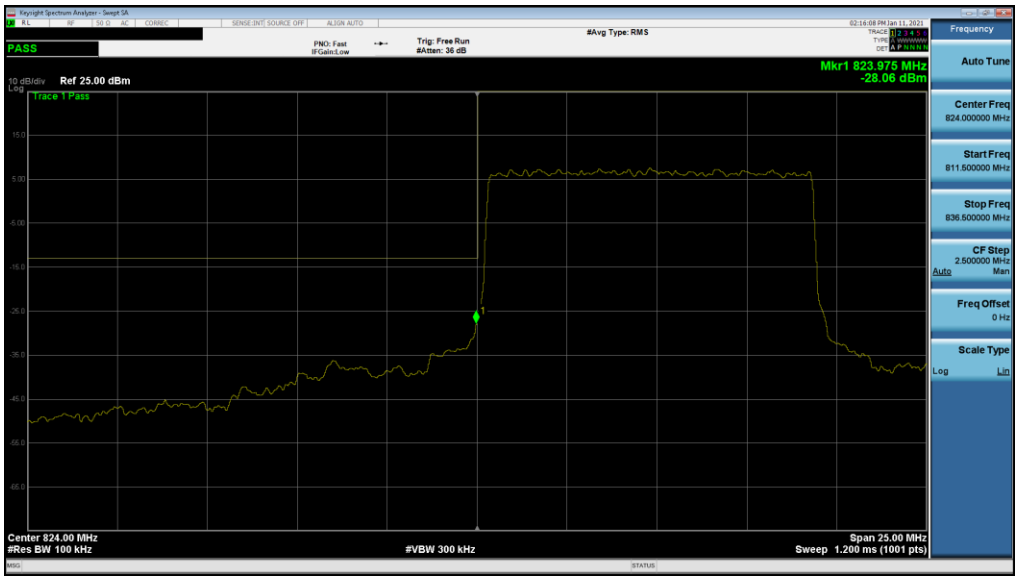
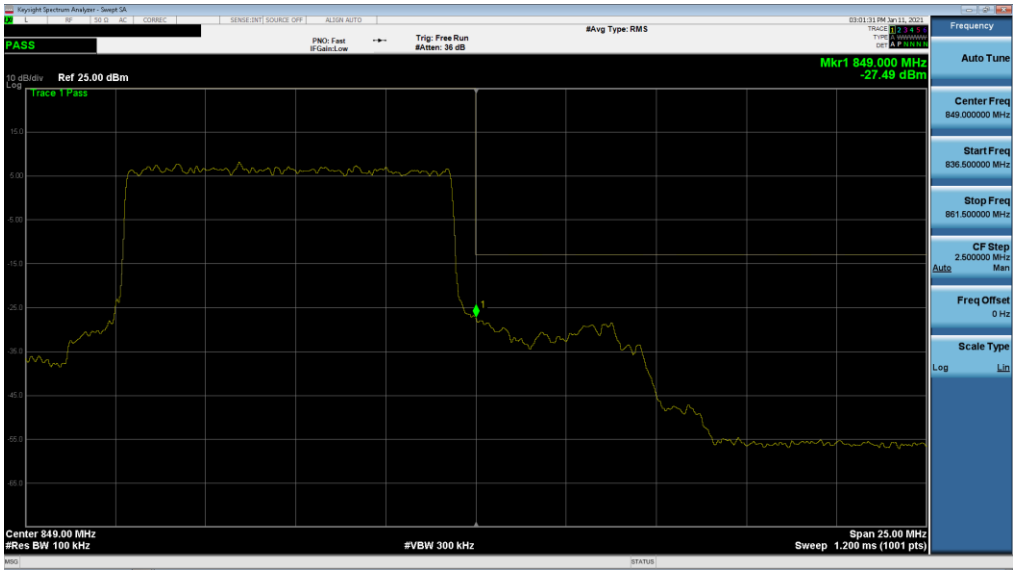


Plot 7-106. Lower Band Edge Plot (NR Band n5 DFT-s-OFDM π/2 BPSK– 10.0MHz - Full RB)



Plot 7-107. Upper Band Edge Plot (NR Band n5 DFT-s-OFDM π/2 BPSK– 10.0MHz - Full RB)

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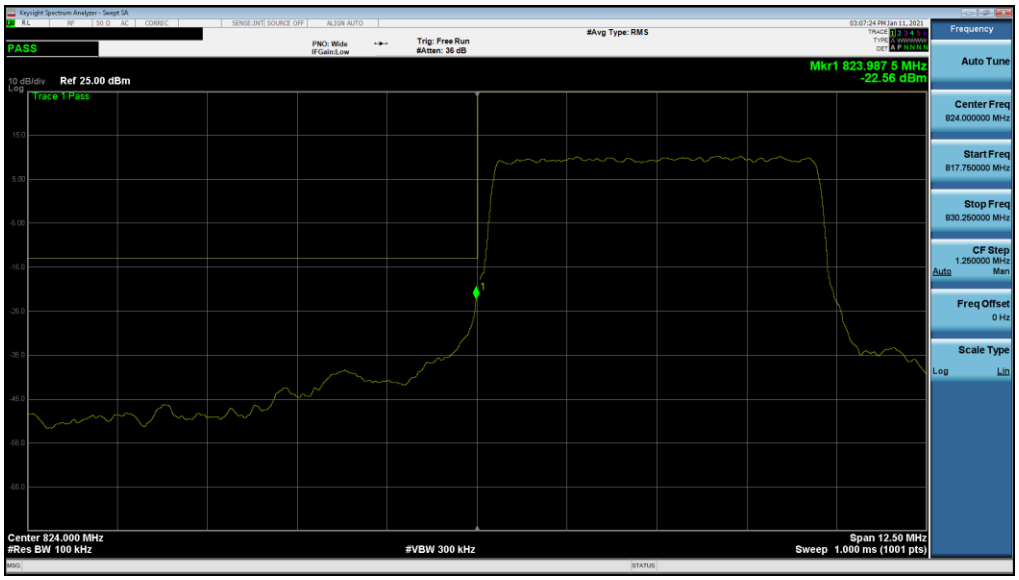
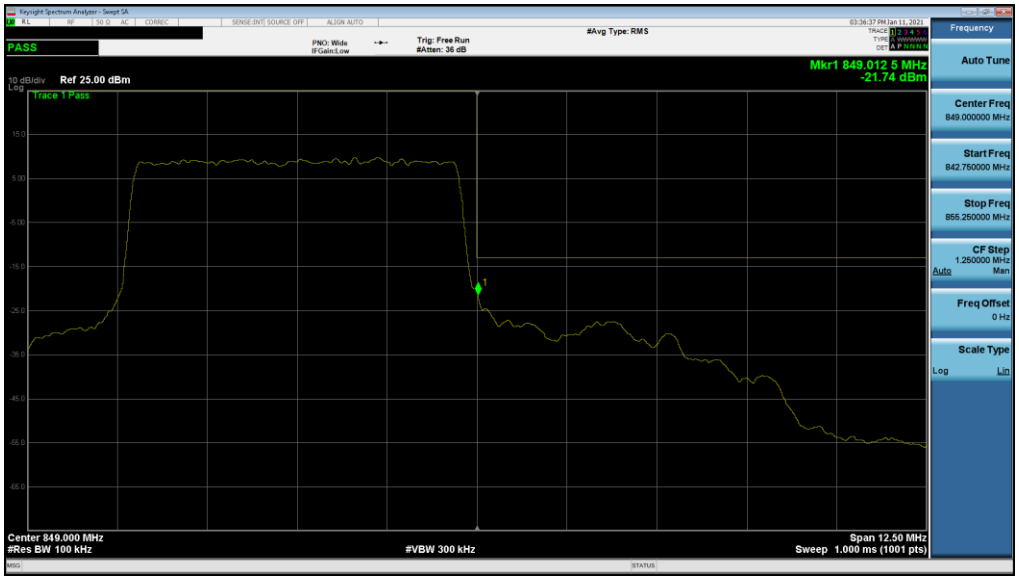


Plot 7-108. Lower Band Edge Plot (NR Band n5 DFT-s-OFDM π/2 BPSK– 5.0MHz - Full RB)



Plot 7-109. Upper Band Edge Plot (NR Band n5 DFT-s-OFDM π/2 BPSK– 5.0MHz - Full RB)

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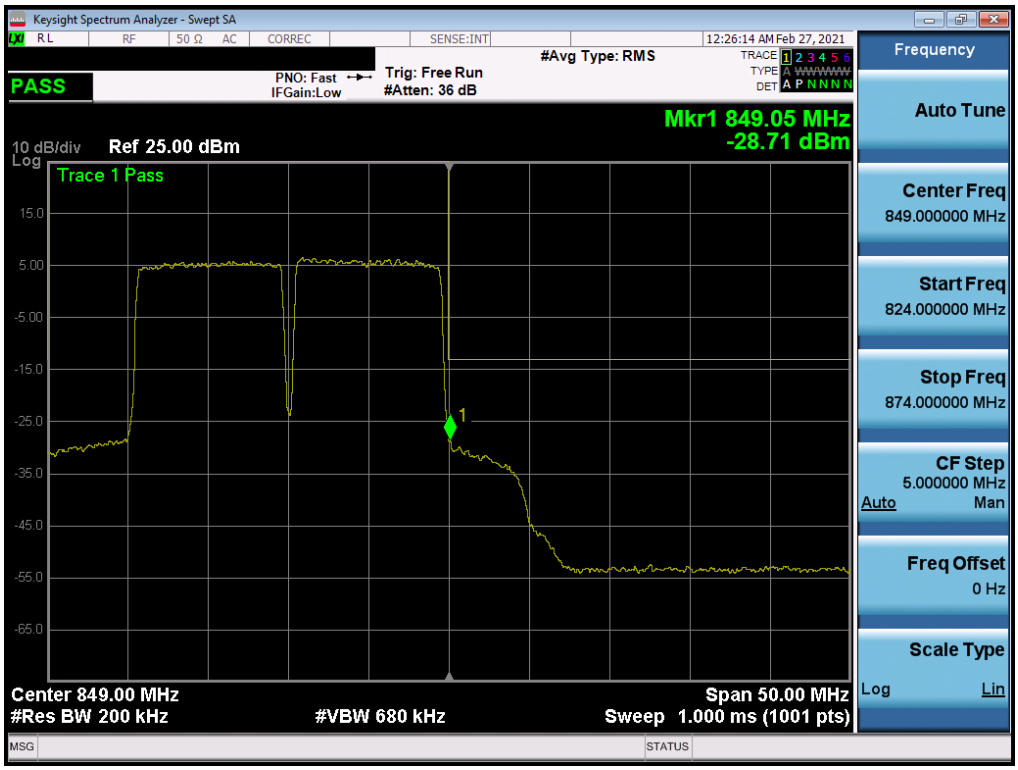
ULCA - LTE Band 5

Plot 7-110. Lower BE Plot (ULCA LTE Band 5 - (10 + 10)MHz QPSK – Full RB Configuration)



Plot 7-111. Upper BE Plot (ULCA LTE Band 5 - (10 + 10)MHz QPSK – Full RB Configuration)

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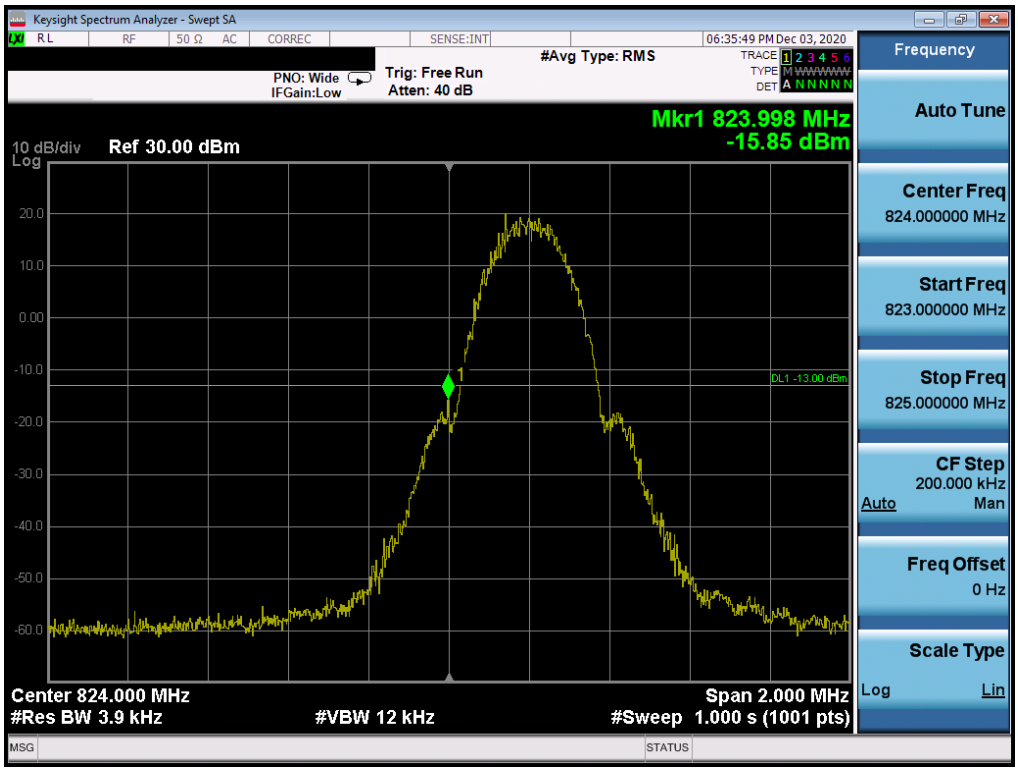
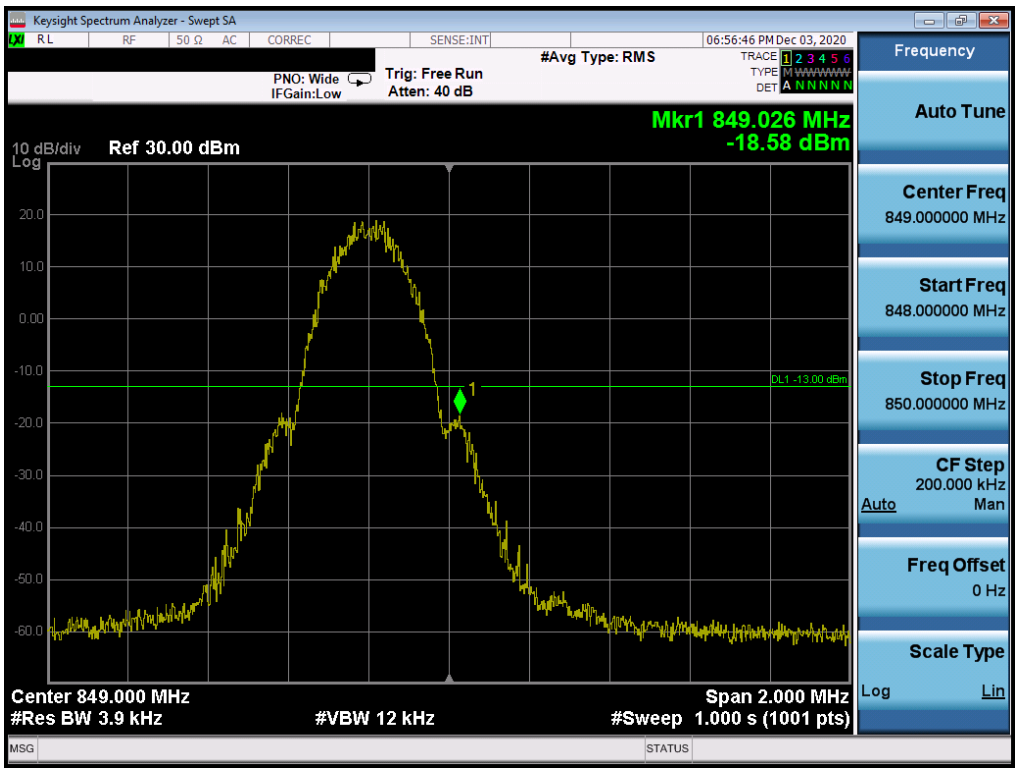


Plot 7-112. Lower Band Edge Plot (GPRS Cell – Ch. 128)



Plot 7-113. Upper Band Edge Plot (GPRS Cell – Ch. 251)

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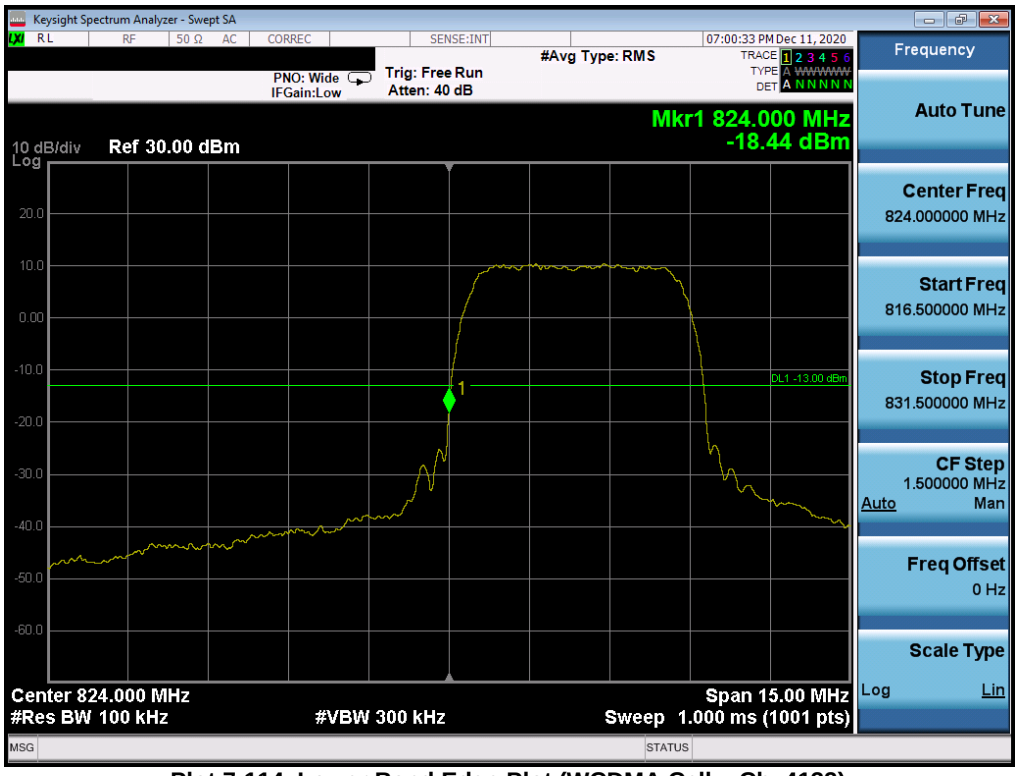
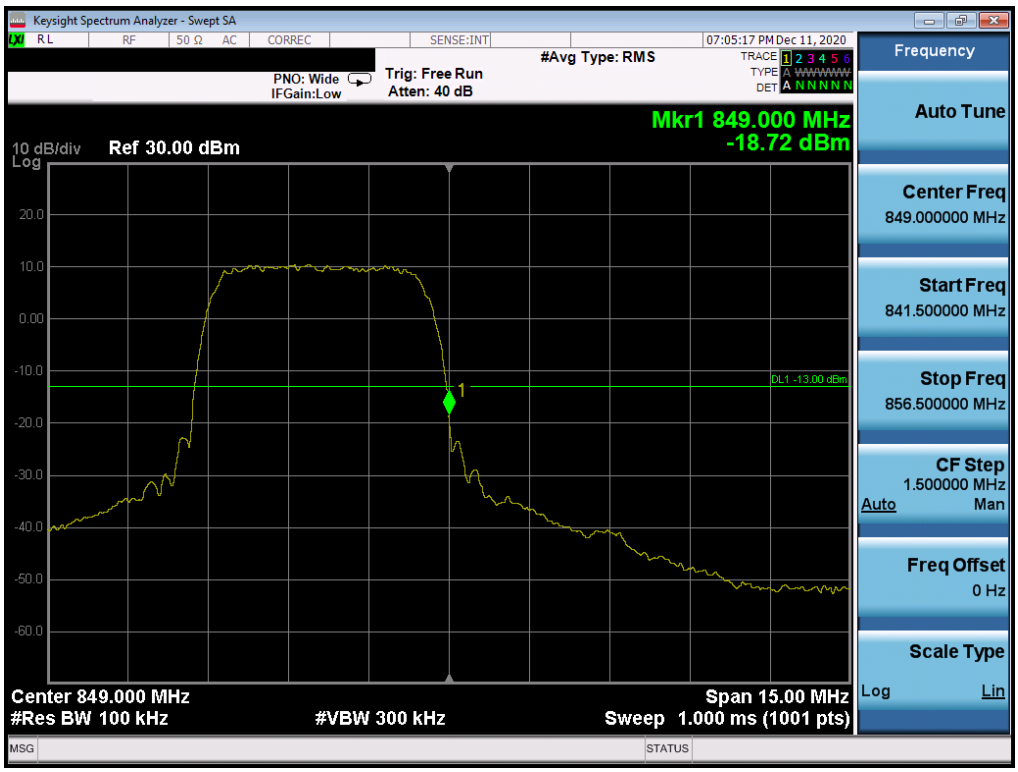
WCDMA Cell



Plot 7-114. Lower Band Edge Plot (WCDMA Cell – Ch. 4132)



Plot 7-115. Upper Band Edge Plot (WCDMA Cell – Ch. 4233)

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7.5 Radiated Power (ERP/EIRP)

§22.913(a)(5)

Test Overview

Effective Radiated Power (ERP) and Equivalent Isotropic Radiated Power (EIRP) measurements are calculated by adding highest antenna gain to maximum measured conducted output power. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

Test Procedures Used

KDB 971168 D01 v03r01 – Section 5.2.1
ANSI C63.26-2015 – Section 5.2.5.5

Test Settings

The relevant equation for determining the ERP or EIRP from the conducted RF output power measured is:

ERP/EIRP = PMeas – LC + GT

Where:

ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as PMeas, typically dBW or dBm)

PMeas = measured transmitter output power or PSD, in dBW or dBm

LC = signal attenuation in the connecting cable between the transmitter and antenna in dB

GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

Test Setup

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

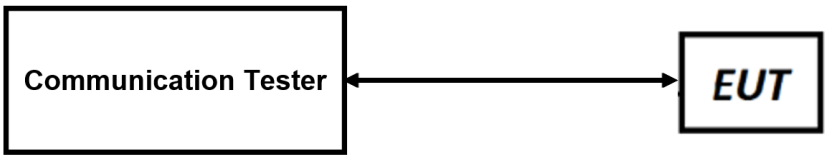

Figure 7-4. ERP/EIRP Measurement Setup

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Test Notes:

1. The EUT was tested in all possible test configurations. The worst case emissions are reported with the EUT modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
2. This unit was tested with its standard battery.
3. The Level (dBm) readings in the table were taken with a correction table loaded into the base station simulator. The correction table was used to account for the signal attenuation in the connecting cable between the transmitter and antenna.
4. Uplink carrier aggregation for LTE B5 is only supported in this EUT while operating in Power Class 3.
5. Conducted power measurements were evaluated for the two contiguous channels using various combinations of RB size, RB offset, modulation, and channel bandwidth. Channel bandwidth data is shown in the tables below based only on the channel bandwidths that were supported in this device.
6. The Ant. Gains (GT) are listed in dBi.

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7.5.1 Antenna 3 – ERP/EIRP

LTE Band 5

Bandwidth	Mod.	Frequency [MHz]	Ant. Gain [dBi]	RB Size/Offset	Conducted Power [dBm]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
10 MHz	QPSK	829.0	-1.90	1 / 0	25.70	**21.65**	0.146	38.45	-16.80	**23.80**	0.240	40.61	-16.81
		836.5	-1.90	1 / 0	25.70	**21.65**	0.146	38.45	-16.80	**23.80**	0.240	40.61	-16.81
		844.0	-1.90	1 / 0	25.70	**21.65**	0.146	38.45	-16.80	**23.80**	0.240	40.61	-16.81
	16-QAM	836.5	-1.90	1 / 0	25.18	**21.13**	0.130	38.45	-17.32	**23.28**	0.213	40.61	-17.33
	64-QAM	836.5	-1.90	1 / 0	24.25	**20.20**	0.105	38.45	-18.25	**22.35**	0.172	40.61	-18.26
	256-QAM	829.0	-1.90	50 / 0	20.97	**16.92**	0.049	38.45	-21.53	**19.07**	0.081	40.61	-21.54
5 MHz	QPSK	829.0	-1.90	1 / 12	25.70	**21.65**	0.146	38.45	-16.80	**23.80**	0.240	40.61	-16.81
		836.5	-1.90	1 / 12	25.69	21.64	0.146	38.45	-16.81	23.79	0.239	40.61	-16.82
		844.0	-1.90	1 / 12	25.70	**21.65**	0.146	38.45	-16.80	**23.80**	0.240	40.61	-16.81
	16-QAM	836.5	-1.90	1 / 12	25.19	**21.14**	0.130	38.45	-17.31	**23.29**	0.213	40.61	-17.32
	64-QAM	836.5	-1.90	1 / 12	24.25	**20.20**	0.105	38.45	-18.25	**22.35**	0.172	40.61	-18.26
	256-QAM	844.0	-1.90	1 / 12	21.44	**17.39**	0.055	38.45	-21.06	**19.54**	0.090	40.61	-21.07
3 MHz	QPSK	829.0	-1.90	1 / 7	25.70	**21.65**	0.146	38.45	-16.80	**23.80**	0.240	40.61	-16.81
		836.5	-1.90	1 / 0	25.65	21.60	0.145	38.45	-16.85	23.75	0.237	40.61	-16.86
		844.0	-1.90	1 / 7	25.70	**21.65**	0.146	38.45	-16.80	**23.80**	0.240	40.61	-16.81
	16-QAM	836.5	-1.90	1 / 14	25.25	**21.20**	0.132	38.45	-17.25	**23.35**	0.216	40.61	-17.26
	64-QAM	836.5	-1.90	1 / 14	24.30	**20.25**	0.106	38.45	-18.20	**22.40**	0.174	40.61	-18.21
	256-QAM	844.0	-1.90	1 / 7	21.05	**17.00**	0.050	38.45	-21.45	**19.15**	0.082	40.61	-21.46
1.4 MHz	QPSK	829.0	-1.90	1 / 3	25.70	**21.65**	0.146	38.45	-16.80	**23.80**	0.240	40.61	-16.81
		836.5	-1.90	1 / 5	25.69	21.64	0.146	38.45	-16.81	23.79	0.239	40.61	-16.82
		844.0	-1.90	1 / 3	25.63	21.58	0.144	38.45	-16.87	23.73	0.236	40.61	-16.88
	16-QAM	829.0	-1.90	1 / 0	25.25	**21.20**	0.132	38.45	-17.25	**23.35**	0.216	40.61	-17.26
	64-QAM	829.0	-1.90	1 / 0	24.28	**20.23**	0.105	38.45	-18.22	**22.38**	0.173	40.61	-18.23
	256-QAM	844.0	-1.90	1 / 5	21.44	**17.39**	0.055	38.45	-21.06	**19.54**	0.090	40.61	-21.07

Table 7-2. ERP/EIRP Data (LTE Band 5)

LTE Band 26

Bandwidth	Mod.	Frequency [MHz]	Ant. Gain [dBi]	RB Size/Offset	Conducted Power [dBm]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
10 MHz	QPSK	829.0	-1.90	1 / 25	25.68	21.63	0.146	38.45	-16.82	23.78	0.239	40.61	-16.83
		836.5	-1.90	1 / 25	25.70	**21.65**	0.146	38.45	-16.80	**23.80**	0.240	40.61	-16.81
		844.0	-1.90	1 / 25	25.70	**21.65**	0.146	38.45	-16.80	**23.80**	0.240	40.61	-16.81
	16-QAM	836.5	-1.90	1 / 0	25.17	**21.12**	0.129	38.45	-17.33	**23.27**	0.212	40.61	-17.34
	64-QAM	844.0	-1.90	1 / 0	24.53	**20.48**	0.112	38.45	-17.97	**22.63**	0.183	40.61	-17.98
	256-QAM	844.0	-1.90	1 / 49	21.36	**17.31**	0.054	38.45	-21.14	**19.46**	0.088	40.61	-21.15
5 MHz	QPSK	826.5	-1.90	1 / 12	25.51	**21.46**	0.140	38.45	-16.99	**23.61**	0.230	40.61	-17.00
		836.5	-1.90	1 / 24	25.42	21.37	0.137	38.45	-17.08	23.52	0.225	40.61	-17.09
		846.5	-1.90	1 / 0	25.03	20.98	0.125	38.45	-17.47	23.13	0.206	40.61	-17.48
	16-QAM	836.5	-1.90	25 / 0	24.41	**20.36**	0.109	38.45	-18.09	**22.51**	0.178	40.61	-18.10
	64-QAM	836.5	-1.90	1 / 0	24.08	**20.03**	0.101	38.45	-18.42	**22.18**	0.165	40.61	-18.43
	256-QAM	836.5	-1.90	1 / 0	20.97	**16.92**	0.049	38.45	-21.53	**19.07**	0.081	40.61	-21.54
3 MHz	QPSK	825.5	-1.90	1 / 7	25.22	21.17	0.131	38.45	-17.28	23.32	0.215	40.61	-17.29
		836.5	-1.90	1 / 0	25.70	**21.65**	0.146	38.45	-16.80	**23.80**	0.240	40.61	-16.81
		847.5	-1.90	1 / 0	25.70	**21.65**	0.146	38.45	-16.80	**23.80**	0.240	40.61	-16.81
	16-QAM	825.5	-1.90	1 / 14	24.99	**20.94**	0.124	38.45	-17.51	**23.09**	0.204	40.61	-17.52
	64-QAM	825.5	-1.90	1 / 7	24.34	**20.29**	0.107	38.45	-18.16	**22.44**	0.175	40.61	-18.17
	256-QAM	847.5	-1.90	1 / 7	21.32	**17.27**	0.053	38.45	-21.18	**19.42**	0.087	40.61	-21.19
1.4 MHz	QPSK	824.7	-1.90	1 / 5	25.22	21.17	0.131	38.45	-17.28	23.32	0.215	40.61	-17.29
		836.5	-1.90	1 / 0	25.70	**21.65**	0.146	38.45	-16.80	**23.80**	0.240	40.61	-16.81
		848.3	-1.90	1 / 5	25.51	21.46	0.140	38.45	-16.99	23.61	0.230	40.61	-17.00
	16-QAM	848.3	-1.90	1 / 0	24.04	**19.99**	0.100	38.45	-18.46	**22.14**	0.164	40.61	-18.47
	64-QAM	848.3	-1.90	1 / 3	23.43	**19.38**	0.087	38.45	-19.07	**21.53**	0.142	40.61	-19.08
	256-QAM	836.5	-1.90	1 / 0	20.82	**16.77**	0.048	38.45	-21.68	**18.92**	0.078	40.61	-21.69

Table 7-3. ERP/EIRP Data (LTE Band 26)

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NR Band n5

Bandwidth	Mod.	Frequency [MHz]	Ant. Gain [dBi]	RB Size/Offset	Conducted Power [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	-1.90	1 / 98	25.61	**21.56**	0.143	38.45	-16.89	**23.71**	0.235	40.61	-16.90
		836.5	-1.90	1 / 98	25.50	21.45	0.140	38.45	-17.00	23.60	0.229	40.61	-17.00
		839.0	-1.90	1 / 50	25.20	21.15	0.130	38.45	-17.30	23.30	0.214	40.61	-17.30
	QPSK	834.0	-1.90	1 / 1	25.70	**21.65**	0.146	38.45	-16.80	**23.80**	0.240	40.61	-16.81
		836.5	-1.90	1 / 1	25.18	21.13	0.130	38.45	-17.32	23.28	0.213	40.61	-17.33
		839.0	-1.90	1 / 1	25.42	21.37	0.137	38.45	-17.08	23.52	0.225	40.61	-17.09
	16-QAM	839.0	-1.90	1 / 1	24.50	**20.45**	0.111	38.45	-18.00	**22.60**	0.182	40.61	-18.01
	64-QAM	834.0	-1.90	100 / 0	23.44	**19.39**	0.087	38.45	-19.06	**21.54**	0.143	40.61	-19.07
	256-QAM	836.5	-1.90	100 / 0	21.43	**17.38**	0.055	38.45	-21.07	**19.53**	0.090	40.61	-21.08
15 MHz	π/2 BPSK	831.5	-1.90	1 / 1	25.51	21.46	0.140	38.45	-16.99	23.61	0.230	40.61	-16.99
		836.5	-1.90	75 / 0	25.38	21.33	0.136	38.45	-17.12	23.48	0.223	40.61	-17.13
		841.5	-1.90	1 / 1	25.55	**21.50**	0.141	38.45	-16.95	**23.65**	0.232	40.61	-16.95
	QPSK	831.5	-1.90	1 / 1	25.70	**21.65**	0.146	38.45	-16.80	**23.80**	0.240	40.61	-16.81
		836.5	-1.90	1 / 75	25.57	21.52	0.142	38.45	-16.93	23.67	0.233	40.61	-16.94
		841.5	-1.90	1 / 73	25.65	21.60	0.144	38.45	-16.85	23.75	0.237	40.61	-16.86
	16-QAM	841.5	-1.90	1 / 73	24.84	**20.79**	0.120	38.45	-17.66	**22.94**	0.197	40.61	-17.67
	64-QAM	831.5	-1.90	75 / 0	23.49	**19.44**	0.088	38.45	-19.01	**21.59**	0.144	40.61	-19.02
	256-QAM	831.5	-1.90	75 / 0	21.41	**17.36**	0.054	38.45	-21.09	**19.51**	0.089	40.61	-21.10
10 MHz	π/2 BPSK	829.0	-1.90	50 / 0	25.44	21.39	0.138	38.45	-17.06	23.54	0.226	40.61	-17.07
		836.5	-1.90	1 / 48	25.57	**21.52**	0.142	38.45	-16.93	**23.67**	0.233	40.61	-16.94
		844.0	-1.90	50 / 0	25.31	21.26	0.134	38.45	-17.19	23.41	0.220	40.61	-17.19
	QPSK	829.0	-1.90	1 / 1	25.70	**21.65**	0.146	38.45	-16.80	**23.80**	0.240	40.61	-16.81
		836.5	-1.90	1 / 25	25.35	21.30	0.135	38.45	-17.15	23.45	0.221	40.61	-17.15
		844.0	-1.90	1 / 25	25.41	21.36	0.137	38.45	-17.09	23.51	0.224	40.61	-17.10
	16-QAM	829.0	-1.90	1 / 48	24.65	**20.60**	0.115	38.45	-17.85	**22.75**	0.189	40.61	-17.85
	64-QAM	829.0	-1.90	50 / 0	23.49	**19.44**	0.088	38.45	-19.01	**21.59**	0.144	40.61	-19.01
	256-QAM	829.0	-1.90	50 / 0	21.45	**17.40**	0.055	38.45	-21.06	**19.55**	0.090	40.61	-21.06
5 MHz	π/2 BPSK	829.0	-1.90	1 / 23	25.63	21.58	0.144	38.45	-16.87	23.73	0.236	40.61	-16.88
		836.5	-1.90	1 / 23	25.67	**21.62**	0.145	38.45	-16.83	**23.77**	0.238	40.61	-16.84
		844.0	-1.90	1 / 1	25.58	21.53	0.142	38.45	-16.92	23.68	0.233	40.61	-16.93
	QPSK	829.0	-1.90	1 / 12	25.70	**21.65**	0.146	38.45	-16.80	**23.80**	0.240	40.61	-16.81
		836.5	-1.90	1 / 12	25.45	21.40	0.138	38.45	-17.05	23.55	0.226	40.61	-17.06
		844.0	-1.90	1 / 23	25.39	21.34	0.136	38.45	-17.11	23.49	0.223	40.61	-17.12
	16-QAM	844.0	-1.90	1 / 1	24.77	**20.72**	0.118	38.45	-17.73	**22.87**	0.194	40.61	-17.74
	64-QAM	844.0	-1.90	25 / 0	23.44	**19.39**	0.087	38.45	-19.06	**21.54**	0.142	40.61	-19.07
	256-QAM	829.0	-1.90	25 / 0	21.50	**17.45**	0.056	38.45	-21.00	**19.60**	0.091	40.61	-21.00

Table 7-4. ERP/EIRP Data (NR Band n5 – DFT-s-OFDM)

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ULCA Band 5

Power State	Band	Bandwidth (PCC + SCC)	PCC					SCC					ULCA Tx. Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
			Modulation	UL Channel	UL Frequency	UL # RB	UL RB Offset	Modulation	UL Channel	UL Frequency	UL # RB	UL RB Offset										
Max	LTE B5	10MHz + 10MHz	QPSK	20450	829.0	1	49	QPSK	20549	838.9	1	0	25.60	-1.90	21.55	0.143	38.45	-16.90	23.70	0.234	40.61	-16.91
				20475	831.5	1	49		20574	841.4	1	0	25.70	-1.90	**21.65**	**0.146**	38.45	-16.80	**23.80**	**0.240**	40.61	-16.81
				20600	844.0	1	0		20501	834.1	1	49	25.64	-1.90	21.59	0.144	38.45	-16.86	23.74	0.237	40.61	-16.87
			QPSK	20475	831.5	50	0	QPSK	20574	841.4	50	0	23.63	-1.90	19.58	0.091	38.45	-18.87	21.73	0.149	40.61	-18.88
			16-QAM	20475	831.5	50	0	16-QAM	20574	841.4	50	0	22.70	-1.90	18.65	0.073	38.45	-19.80	20.80	0.120	40.61	-19.81
			64-QAM	20475	831.5	50	0	64-QAM	20574	841.4	50	0	23.20	-1.90	19.15	0.082	38.45	-19.30	21.30	0.135	40.61	-19.31
			256-QAM	20475	831.5	50	0	256-QAM	20574	841.4	50	0	20.70	-1.90	16.65	0.046	38.45	-21.80	18.80	0.076	40.61	-21.81

Table 7-5. ERP/EIRP Data (ULCA Band 5)

GPRS Cell

Frequency [MHz]	Mode	Conducted Power [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	32.79	-1.90	28.74	0.748	38.45	-9.71	30.89	1.227	40.61	-9.72
836.60	GPRS850	32.93	-1.90	**28.88**	**0.773**	38.45	-9.57	**31.03**	**1.268**	40.61	-9.58
848.80	GPRS850	32.76	-1.90	28.71	0.743	38.45	-9.74	30.86	1.219	40.61	-9.75
836.60	EDGE850	27.11	-1.90	**23.06**	0.202	38.45	-15.39	**25.21**	**0.332**	40.61	-15.40

Table 7-6. ERP/EIRP Data (GPRS Cell)

WCDMA Cell

Frequency [MHz]	Mode	Conducted Power [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	25.63	-1.90	21.58	0.144	38.45	-16.87	23.73	0.236	40.61	-16.88
836.60	WCDMA850	25.70	-1.90	**21.65**	**0.146**	38.45	-16.80	**23.80**	**0.240**	40.61	-16.81
846.60	WCDMA850	25.60	-1.90	21.55	0.143	38.45	-16.90	23.70	0.234	40.61	-16.91

Table 7-7. ERP/EIRP Data (WCDMA Cell)

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7.5.2 Antenna 1 – ERP/EIRP

LTE Band 5

Bandwidth	Mod.	Frequency [MHz]	Ant. Gain [dBi]	RB Size/Offset	Conducted Power [dBm]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
10 MHz	QPSK	829.0	-3.20	1 / 49	23.90	**18.55**	0.072	38.45	-19.90	**20.70**	0.117	40.61	-19.91
		836.5	-3.20	1 / 49	23.89	18.54	0.071	38.45	-19.91	20.69	0.117	40.61	-19.92
		844.0	-3.20	1 / 0	23.90	**18.55**	0.072	38.45	-19.90	**20.70**	0.117	40.61	-19.91
	16-QAM	844.0	-3.20	1 / 0	23.52	**18.17**	0.066	38.45	-20.28	**20.32**	0.108	40.61	-20.29
	64-QAM	844.0	-3.20	1 / 0	21.61	**16.26**	0.042	38.45	-22.19	**18.41**	0.069	40.61	-22.20
	256-QAM	844.0	-3.20	1 / 0	19.51	**14.16**	0.026	38.45	-24.29	**16.31**	0.043	40.61	-24.30
5 MHz	QPSK	829.0	-3.20	1 / 12	23.90	**18.55**	0.072	38.45	-19.90	**20.70**	0.117	40.61	-19.91
		836.5	-3.20	1 / 0	23.87	18.52	0.071	38.45	-19.93	20.67	0.117	40.61	-19.94
		844.0	-3.20	1 / 0	23.89	18.54	0.071	38.45	-19.91	20.69	0.117	40.61	-19.92
	16-QAM	836.5	-3.20	1 / 0	23.46	**18.11**	0.065	38.45	-20.34	**20.26**	0.106	40.61	-20.35
	64-QAM	836.5	-3.20	1 / 0	22.49	**17.14**	0.052	38.45	-21.31	**19.29**	0.085	40.61	-21.32
	256-QAM	836.5	-3.20	1 / 24	19.44	**14.09**	0.026	38.45	-24.36	**16.24**	0.042	40.61	-24.37
3 MHz	QPSK	829.0	-3.20	1 / 0	23.90	**18.55**	0.072	38.45	-19.90	**20.70**	0.117	40.61	-19.91
		836.5	-3.20	1 / 7	23.84	18.49	0.071	38.45	-19.96	20.64	0.116	40.61	-19.97
		844.0	-3.20	1 / 7	23.84	18.49	0.071	38.45	-19.96	20.64	0.116	40.61	-19.97
	16-QAM	836.5	-3.20	1 / 0	23.32	**17.97**	0.063	38.45	-20.48	**20.12**	0.103	40.61	-20.49
	64-QAM	836.5	-3.20	1 / 0	22.37	**17.02**	0.050	38.45	-21.43	**19.17**	0.083	40.61	-21.44
	256-QAM	836.5	-3.20	1 / 14	19.32	**13.97**	0.025	38.45	-24.48	**16.12**	0.041	40.61	-24.49
1.4 MHz	QPSK	829.0	-3.20	1 / 5	23.86	18.51	0.071	38.45	-19.94	20.66	0.116	40.61	-19.95
		836.5	-3.20	1 / 5	23.90	**18.55**	0.072	38.45	-19.90	**20.70**	0.117	40.61	-19.91
		844.0	-3.20	1 / 0	23.90	**18.55**	0.072	38.45	-19.90	**20.70**	0.117	40.61	-19.91
	16-QAM	836.5	-3.20	1 / 5	23.39	**18.04**	0.064	38.45	-20.41	**20.19**	0.104	40.61	-20.42
	64-QAM	836.5	-3.20	1 / 3	22.42	**17.07**	0.051	38.45	-21.38	**19.22**	0.084	40.61	-21.39
	256-QAM	836.5	-3.20	1 / 3	19.38	**14.03**	0.025	38.45	-24.42	**16.18**	0.041	40.61	-24.43

Table 7-8. ERP/EIRP Data (LTE Band 5)

LTE Band 26

Bandwidth	Mod.	Frequency [MHz]	Ant. Gain [dBi]	RB Size/Offset	Conducted Power [dBm]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
10 MHz	QPSK	829.0	-3.20	1 / 25	23.90	**18.55**	0.072	38.45	-19.90	**20.70**	0.117	40.61	-19.91
		836.5	-3.20	1 / 49	23.90	**18.55**	0.072	38.45	-19.90	**20.70**	0.117	40.61	-19.91
		844.0	-3.20	1 / 0	23.87	18.52	0.071	38.45	-19.93	20.67	0.117	40.61	-19.94
	16-QAM	836.5	-3.20	1 / 0	23.28	**17.93**	0.062	38.45	-20.52	**20.08**	0.102	40.61	-20.53
	64-QAM	836.5	-3.20	1 / 49	22.79	**17.44**	0.055	38.45	-21.01	**19.59**	0.091	40.61	-21.02
	256-QAM	829.0	-3.20	1 / 0	19.31	**13.96**	0.025	38.45	-24.49	**16.11**	0.041	40.61	-24.50
5 MHz	QPSK	826.5	-3.20	1 / 0	23.42	18.07	0.064	38.45	-20.38	20.22	0.105	40.61	-20.39
		836.5	-3.20	1 / 12	23.55	**18.20**	0.066	38.45	-20.25	**20.35**	0.108	40.61	-20.26
		846.5	-3.20	1 / 12	23.11	17.76	0.060	38.45	-20.69	19.91	0.098	40.61	-20.70
	16-QAM	836.5	-3.20	25 / 0	22.56	**17.21**	0.053	38.45	-21.24	**19.36**	0.086	40.61	-21.25
	64-QAM	836.5	-3.20	25 / 0	21.95	**16.60**	0.046	38.45	-21.85	**18.75**	0.075	40.61	-21.86
	256-QAM	846.5	-3.20	1 / 12	19.80	**14.45**	0.028	38.45	-24.00	**16.60**	0.046	40.61	-24.01
3 MHz	QPSK	825.5	-3.20	1 / 14	23.70	**18.35**	0.068	38.45	-20.10	**20.50**	0.112	40.61	-20.11
		836.5	-3.20	1 / 0	23.61	18.26	0.067	38.45	-20.19	20.41	0.110	40.61	-20.20
		847.5	-3.20	1 / 14	23.18	17.83	0.061	38.45	-20.62	19.98	0.100	40.61	-20.63
	16-QAM	825.5	-3.20	15 / 0	22.70	**17.35**	0.054	38.45	-21.10	**19.50**	0.089	40.61	-21.11
	64-QAM	825.5	-3.20	1 / 0	22.10	**16.75**	0.047	38.45	-21.70	**18.90**	0.078	40.61	-21.71
	256-QAM	825.5	-3.20	1 / 0	19.66	**14.31**	0.027	38.45	-24.14	**16.46**	0.044	40.61	-24.15
1.4 MHz	QPSK	824.7	-3.20	1 / 0	23.51	18.16	0.065	38.45	-20.29	20.31	0.107	40.61	-20.30
		836.5	-3.20	1 / 5	23.54	**18.19**	0.066	38.45	-20.26	**20.34**	0.108	40.61	-20.27
		848.3	-3.20	1 / 0	23.41	18.06	0.064	38.45	-20.39	20.21	0.105	40.61	-20.40
	16-QAM	836.5	-3.20	1 / 3	22.57	**17.22**	0.053	38.45	-21.23	**19.37**	0.086	40.61	-21.24
	64-QAM	836.5	-3.20	6 / 0	21.96	**16.61**	0.046	38.45	-21.84	**18.76**	0.075	40.61	-21.85
	256-QAM	824.7	-3.20	1 / 0	19.54	**14.19**	0.026	38.45	-24.26	**16.34**	0.043	40.61	-24.27

Table 7-9. ERP/EIRP Data (LTE Band 26)

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NR Band n5

Bandwidth	Mod.	Frequency [MHz]	Ant. Gain [dBi]	RB Size/Offset	Conducted Power [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	-3.20	1 / 50	23.86	18.51	0.071	38.45	-19.94	20.66	0.116	40.61	-19.95
		836.5	-3.20	1 / 1	23.90	**18.55**	0.072	38.45	-19.90	**20.70**	0.117	40.61	-19.91
		839.0	-3.20	1 / 50	23.63	18.28	0.067	38.45	-20.17	20.43	0.110	40.61	-20.18
	QPSK	834.0	-3.20	1 / 98	23.53	18.18	0.066	38.45	-20.27	20.33	0.108	40.61	-20.28
		836.5	-3.20	1 / 98	23.60	18.25	0.067	38.45	-20.20	20.40	0.110	40.61	-20.20
		839.0	-3.20	1 / 50	23.73	**18.38**	0.069	38.45	-20.07	**20.53**	0.113	40.61	-20.08
	16-QAM	834.0	-3.20	1 / 50	23.17	**17.82**	0.061	38.45	-20.63	**19.97**	0.099	40.61	-20.63
	64-QAM	834.0	-3.20	100 / 0	21.41	**16.06**	0.040	38.45	-22.39	**18.21**	0.066	40.61	-22.39
	256-QAM	834.0	-3.20	1 / 50	19.41	**14.06**	0.025	38.45	-24.39	**16.21**	0.042	40.61	-24.39
15 MHz	π/2 BPSK	834.0	-3.20	1 / 1	23.79	18.44	0.070	38.45	-20.01	20.59	0.115	40.61	-20.01
		836.5	-3.20	1 / 1	23.82	**18.47**	0.070	38.45	-19.98	**20.62**	0.115	40.61	-19.99
		839.0	-3.20	1 / 73	23.75	18.40	0.069	38.45	-20.05	20.55	0.114	40.61	-20.06
	QPSK	834.0	-3.20	1 / 1	23.90	**18.55**	0.072	38.45	-19.90	**20.70**	0.117	40.61	-19.91
		836.5	-3.20	1 / 73	23.81	18.46	0.070	38.45	-19.99	20.61	0.115	40.61	-19.99
		839.0	-3.20	1 / 73	23.88	18.53	0.071	38.45	-19.92	20.68	0.117	40.61	-19.93
	16-QAM	834.0	-3.20	1 / 1	23.25	**17.90**	0.062	38.45	-20.55	**20.05**	0.101	40.61	-20.56
	64-QAM	834.0	-3.20	75 / 0	21.44	**16.09**	0.041	38.45	-22.36	**18.24**	0.067	40.61	-22.36
	256-QAM	841.5	-3.20	1 / 73	19.66	**14.31**	0.027	38.45	-24.14	**16.46**	0.044	40.61	-24.14
10 MHz	π/2 BPSK	834.0	-3.20	1 / 25	23.86	**18.51**	0.071	38.45	-19.94	**20.66**	0.116	40.61	-19.94
		836.5	-3.20	1 / 1	23.84	18.49	0.071	38.45	-19.96	20.64	0.116	40.61	-19.97
		839.0	-3.20	1 / 25	23.89	**18.54**	0.071	38.45	-19.91	**20.69**	0.117	40.61	-19.92
	QPSK	834.0	-3.20	1 / 25	23.90	**18.55**	0.072	38.45	-19.90	**20.70**	0.117	40.61	-19.91
		836.5	-3.20	1 / 1	23.77	18.42	0.069	38.45	-20.03	20.57	0.114	40.61	-20.04
		839.0	-3.20	1 / 48	23.84	18.49	0.071	38.45	-19.96	20.64	0.116	40.61	-19.96
	16-QAM	834.0	-3.20	1 / 48	23.61	**18.26**	0.067	38.45	-20.19	**20.41**	0.110	40.61	-20.20
	64-QAM	834.0	-3.20	50 / 0	21.46	**16.11**	0.041	38.45	-22.34	**18.26**	0.067	40.61	-22.34
	256-QAM	836.5	-3.20	1 / 25	19.74	**14.39**	0.027	38.45	-24.07	**16.54**	0.045	40.61	-24.07
5 MHz	π/2 BPSK	834.0	-3.20	1 / 12	23.90	18.55	0.072	38.45	-19.90	20.70	0.117	40.61	-19.91
		836.5	-3.20	1 / 1	23.90	**18.55**	0.072	38.45	-19.90	**20.70**	0.117	40.61	-19.91
		839.0	-3.20	1 / 12	23.81	18.46	0.070	38.45	-19.99	20.61	0.115	40.61	-20.00
	QPSK	834.0	-3.20	1 / 23	23.69	18.34	0.068	38.45	-20.11	20.49	0.112	40.61	-20.11
		836.5	-3.20	1 / 1	23.81	**18.46**	0.070	38.45	-20.00	**20.61**	0.115	40.61	-20.00
		839.0	-3.20	1 / 23	23.80	18.45	0.070	38.45	-20.00	20.60	0.115	40.61	-20.00
	16-QAM	839.0	-3.20	1 / 1	23.23	**17.88**	0.061	38.45	-20.57	**20.03**	0.101	40.61	-20.57
	64-QAM	836.5	-3.20	25 / 0	21.59	**16.24**	0.042	38.45	-22.21	**18.39**	0.069	40.61	-22.22
	256-QAM	834.0	-3.20	25 / 0	19.49	**14.14**	0.026	38.45	-24.31	**16.29**	0.043	40.61	-24.32

Table 7-10. ERP/EIRP Data (NR Band n5 – DFTs-OFDM)

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ULCA Band 5

Power State	Band	Bandwidth (PCC + SCC)	PCC					SCC					ULCA Tx. Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
			Modulation	UL Channel	UL Frequency	UL # RB	UL RB Offset	Modulation	UL Channel	UL Frequency	UL # RB	UL RB Offset										
Max	LTE B5	10MHz + 10MHz	QPSK	20450	829.0	1	49	QPSK	20549	838.9	1	0	23.90	-3.20	**18.55**	**0.072**	38.45	-19.90	**20.70**	**0.117**	40.61	-19.91
				20475	831.5	1	49		20574	841.4	1	0	23.90	-3.20	**18.55**	**0.072**	38.45	-19.90	**20.70**	**0.117**	40.61	-19.91
				20600	844.0	1	0		20501	834.1	1	49	23.87	-3.20	18.52	0.071	38.45	-19.93	20.67	0.117	40.61	-19.94
			QPSK	20450	829	50	0	QPSK	20549	838.9	50	0	22.20	-3.20	16.85	0.048	38.45	-21.60	19.00	0.079	40.61	-21.61
			16-QAM	20450	829	50	0	16-QAM	20549	838.9	50	0	21.20	-3.20	15.85	0.038	38.45	-22.60	18.00	0.063	40.61	-22.61
			64-QAM	20450	829	50	0	64-QAM	20549	838.9	50	0	21.19	-3.20	15.84	0.038	38.45	-22.61	17.99	0.063	40.61	-22.62
			256-QAM	20450	829	50	0	256-QAM	20549	838.9	50	0	19.47	-3.20	14.12	0.026	38.45	-24.33	16.27	0.042	40.61	-24.34

Table 7-11. ERP/EIRP Data (ULCA Band 5)

GPRS Cell

Frequency [MHz]	Mode	Conducted Power [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	31.34	-3.20	25.99	0.397	38.45	-12.46	28.14	0.652	40.61	-12.47
836.60	GPRS850	31.48	-3.20	**26.13**	**0.410**	38.45	-12.32	**28.28**	**0.673**	40.61	-12.33
848.80	GPRS850	31.13	-3.20	25.78	0.378	38.45	-12.67	27.93	0.621	40.61	-12.68
836.60	EDGE850	25.64	-3.20	**20.29**	0.107	38.45	-18.16	**22.44**	**0.175**	40.61	-18.17

Table 7-12. ERP/EIRP Data (GPRS Cell)

WCDMA Cell

Frequency [MHz]	Mode	Conducted Power [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	23.82	-3.20	18.47	0.070	38.45	-19.98	20.62	0.115	40.61	-19.99
836.60	WCDMA850	23.84	-3.20	**18.49**	**0.071**	38.45	-19.96	**20.64**	**0.116**	40.61	-19.97
846.60	WCDMA850	23.78	-3.20	18.43	0.070	38.45	-20.02	20.58	0.114	40.61	-20.03

Table 7-13. ERP/EIRP Data (WCDMA Cell)

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7.6 Radiated Spurious Emissions

§2.1053, 22.917(a)

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 broadband hybrid antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed 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 ≥ 3 x RBW
3. Span = 1.5 times the OBW
4. No. of sweep points ≥ 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.

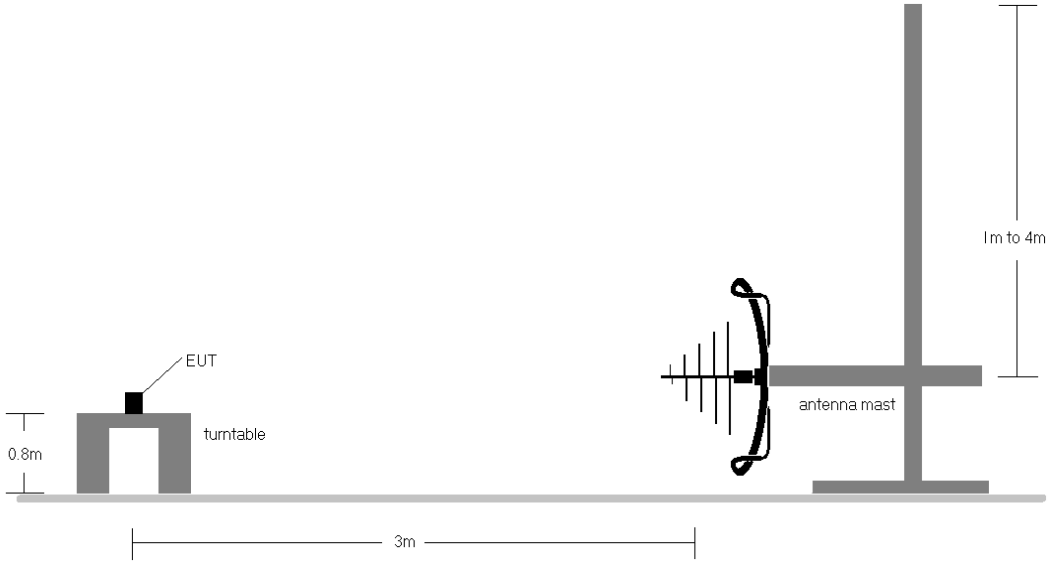

Figure 7-5. Test Instrument & Measurement Setup < 1GHz

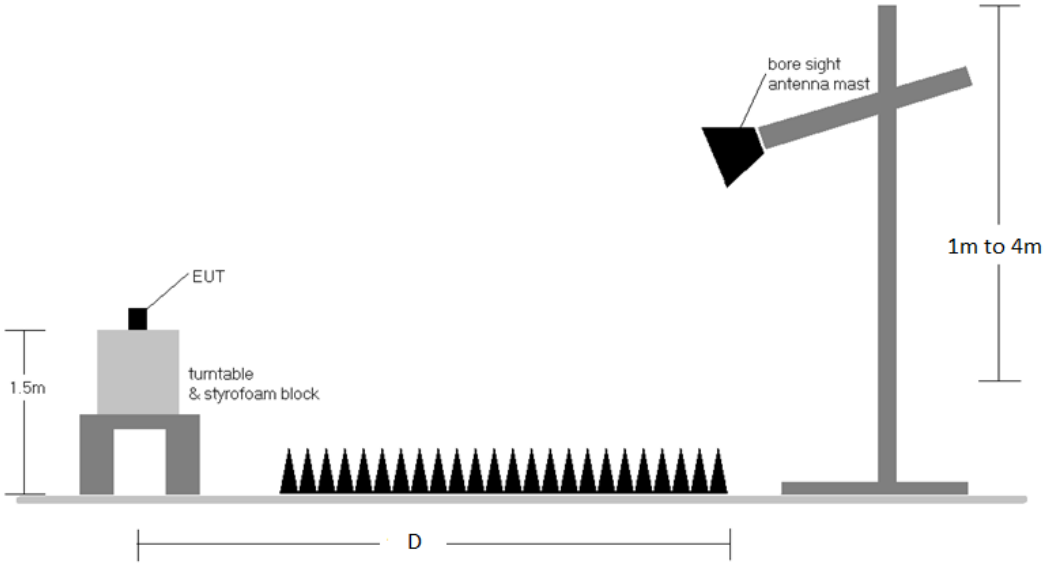

Figure 7-6. Test Instrument & Measurement Setup >1 GHz

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Test Notes

1) Field strengths are calculated using the Measurement quantity conversions in KDB 971168 Section 5.8.4.
   b) E(dBµV/m) = Measured amplitude level (dBm) + 107 + Cable Loss (dB) + Antenna Factor (dB/m)
   d) EIRP (dBm) = E(dBµV/m) + 20logD – 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) D is the measurement test distance and emissions 1-18GHz were measured at a 3 meters 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) ULCA spurious emissions measurements were evaluated for the two contiguous channels using various combinations of RB size, RB offset, modulation, and channel bandwidth. Channel bandwidth data is shown in the tables below based only on the channel bandwidths that were supported in this device.

10) 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.

11) Spurious emission in EN-DC Operating mode with Sub 6GHz NR carrier as well as an LTE carrier (anchor) has been included in this section. Spurious emissions from the NR and LTE carriers are subject to their own respective limits.

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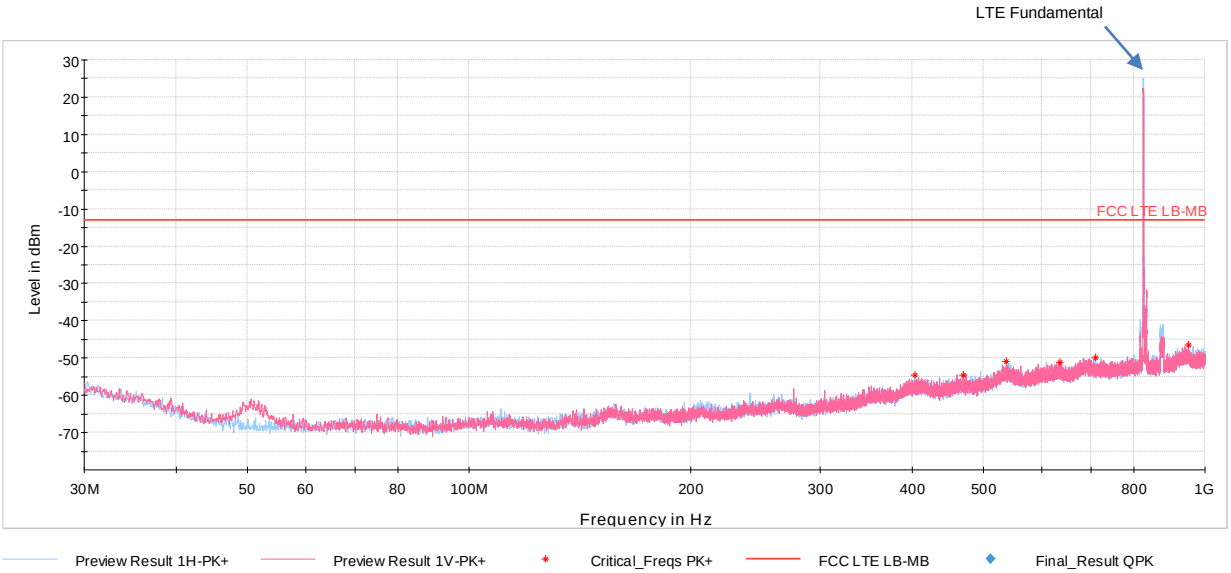
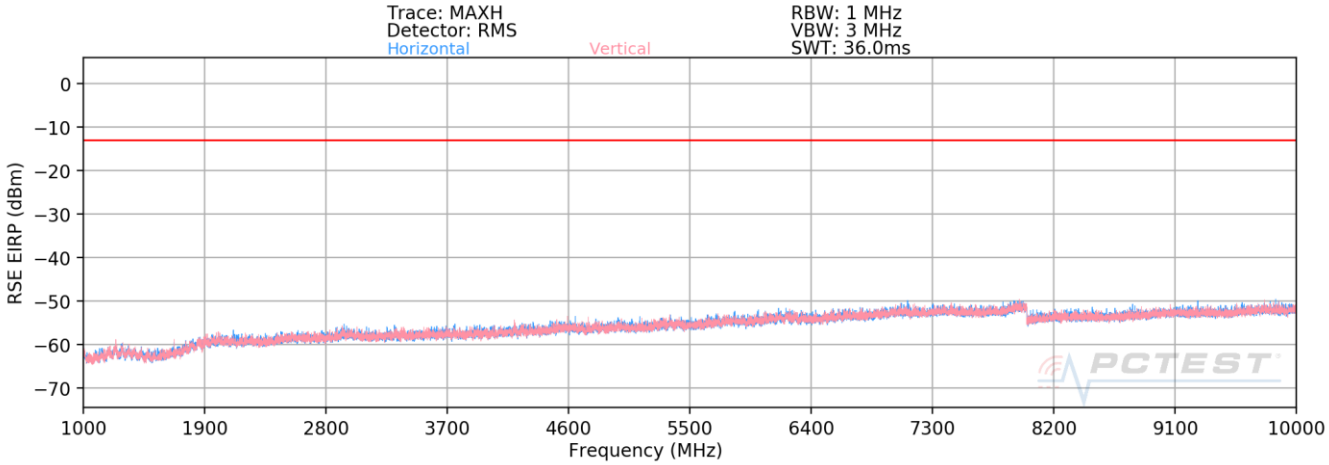
7.6.1 Antenna 3 – Radiated Spurious Emission Measurements

LTE Band 26/5



Plot 7-116. Radiated Spurious Emission below 1Ghz (LTE Band 26/5)



Plot 7-117. Radiated Spurious Emission above 1GHz (LTE Band 26/5)

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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]
1658.0	H	120	193	-72.22	-3.87	30.91	-64.35	-13.00	-51.35
2487.0	H	357	129	-75.55	0.18	31.63	-63.63	-13.00	-50.63
3316.0	V	-	-	-76.96	2.13	32.17	-63.09	-13.00	-50.09
4145.0	V	-	-	-77.54	3.08	32.54	-62.72	-13.00	-49.72
4974.0	V	-	-	-78.03	4.90	33.87	-61.38	-13.00	-48.38

Table 7-14. Radiated Spurious Data (LTE Band 26/5 – Low Channel)

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]
1673.0	V	280	89	-70.15	-3.76	33.09	-62.17	-13.00	-49.17
2509.5	H	197	182	-74.46	0.56	33.10	-62.16	-13.00	-49.16
3346.0	V	-	-	-77.20	2.05	31.85	-63.41	-13.00	-50.41
4182.5	V	-	-	-77.23	3.26	33.03	-62.23	-13.00	-49.23
5019.0	V	-	-	-78.21	4.76	33.55	-61.70	-13.00	-48.70

Table 7-15. Radiated Spurious Data (LTE Band 26/5 – Mid Channel)

Bandwidth (MHz):	10
Frequency (MHz):	844.0
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]
1688.00	V	250	53	-69.73	-3.67	33.60	-61.66	-13.00	-48.66
2532.00	V	366	60	-75.58	0.68	32.10	-63.16	-13.00	-50.16
3376.00	V	-	-	-77.13	1.87	31.74	-63.51	-13.00	-50.51
4220.00	V	-	-	-77.49	3.09	32.60	-62.66	-13.00	-49.66
5064.00	V	-	-	-78.07	4.63	33.56	-61.69	-13.00	-48.69

Table 7-16. Radiated Spurious Data (LTE Band 26/5 – High Channel)

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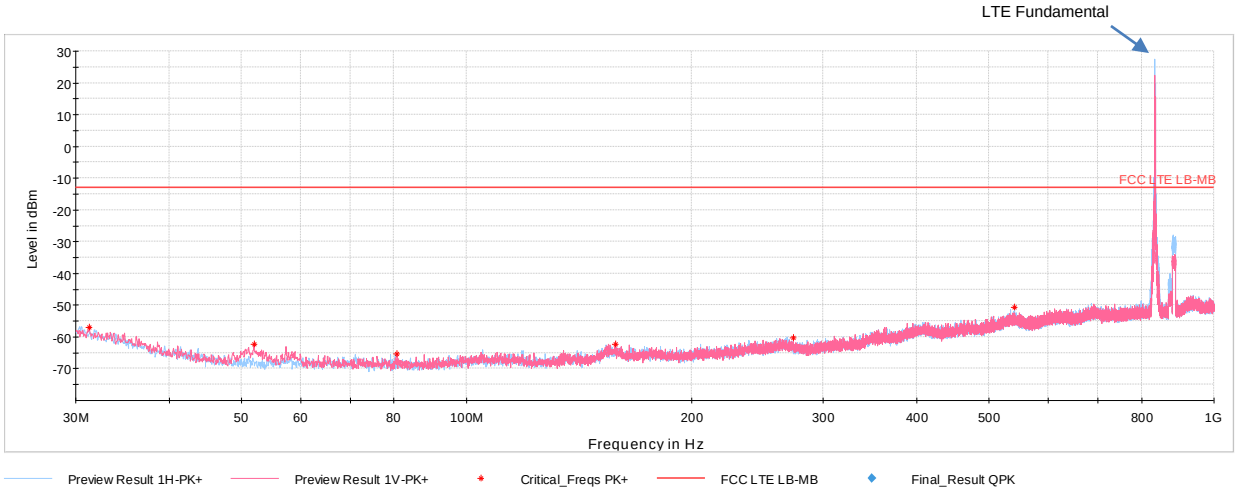
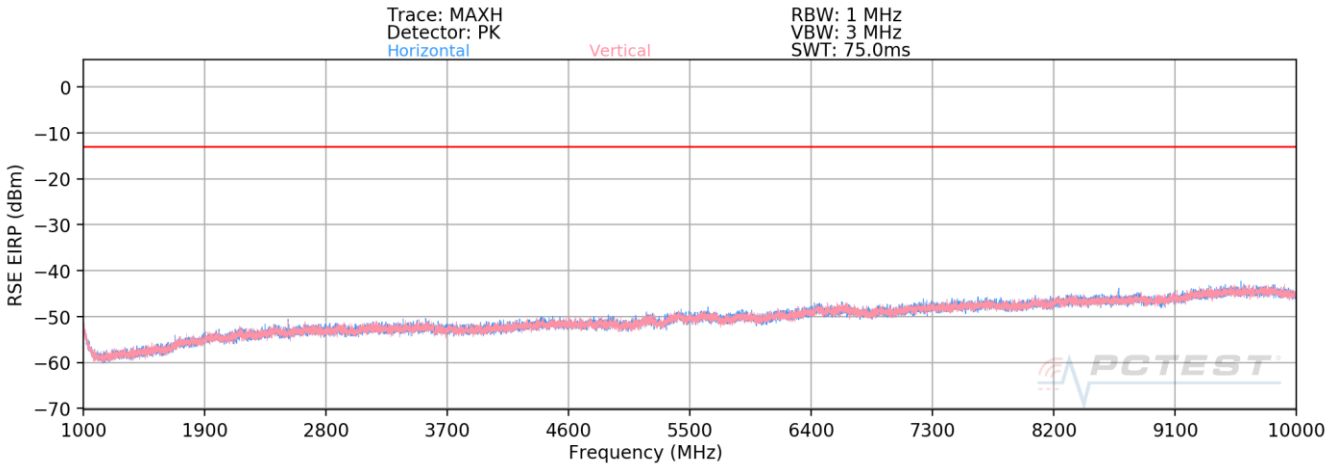
ULCA LTE Band 5



Plot 7-118. Radiated Spurious Emission below 1GHz (ULCA LTE Band 5)



Plot 7-119. Radiated Spurious Emission above 1GHz (ULCA LTE Band 5)

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PCC Bandwidth (MHz):	10
PCC Frequency (MHz):	829.0
PCC RB / Offset:	1 / 49
SCC Bandwidth (MHz):	10
SCC Frequency (MHz):	838.9
SCC RB / Offset:	1 / 0

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1668.0	H	102	149	-65.34	-0.54	41.12	-54.14	-13.00	-41.14
2502.0	V	151	302	-74.11	2.91	35.80	-59.45	-13.00	-46.45
3336.0	H	-	-	-77.66	4.07	33.41	-61.84	-13.00	-48.84
4170.0	H	-	-	-78.93	5.07	33.14	-62.12	-13.00	-49.12
5004.0	H	-	-	-80.01	6.36	33.35	-61.91	-13.00	-48.91

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

PCC Bandwidth (MHz):	10
PCC Frequency (MHz):	844.0
PCC RB / Offset:	1 / 0
SCC Bandwidth (MHz):	10
SCC Frequency (MHz):	834.1
SCC RB / Offset:	1 / 49

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]
1678.0	V	-	-	-76.86	-0.07	30.07	-65.19	-13.00	-52.19
2517.0	V	-	-	-77.26	2.79	32.53	-62.73	-13.00	-49.73
3356.0	V	-	-	-77.97	4.39	33.42	-61.84	-13.00	-48.84

Table 7-18. Radiated Spurious Data (ULCA LTE Band 5 – High Channel)

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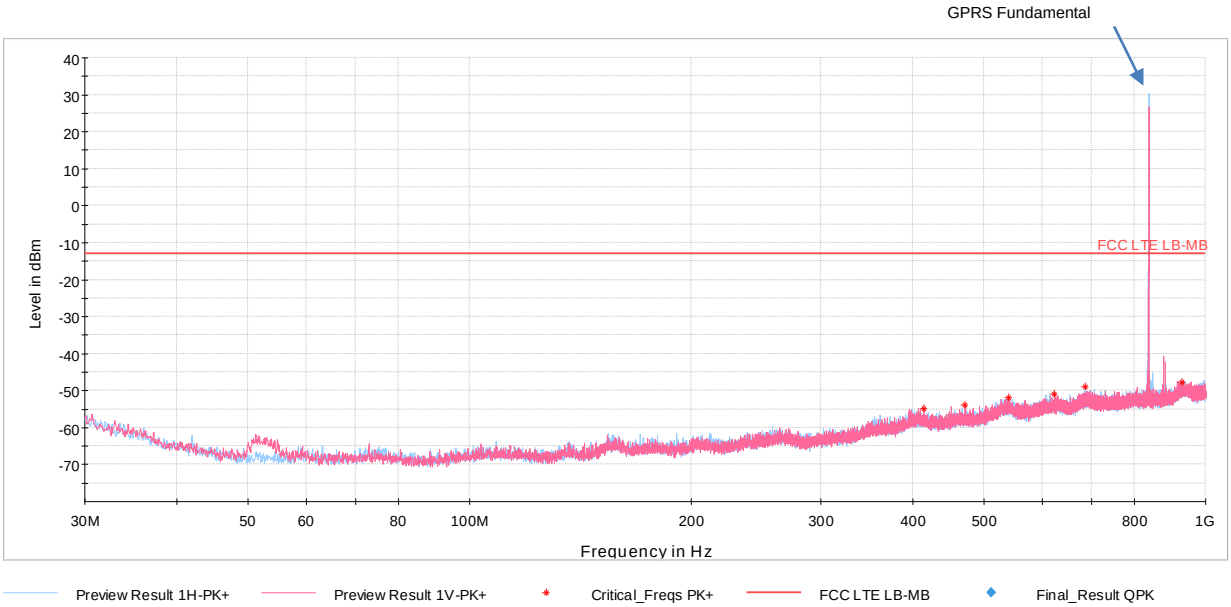
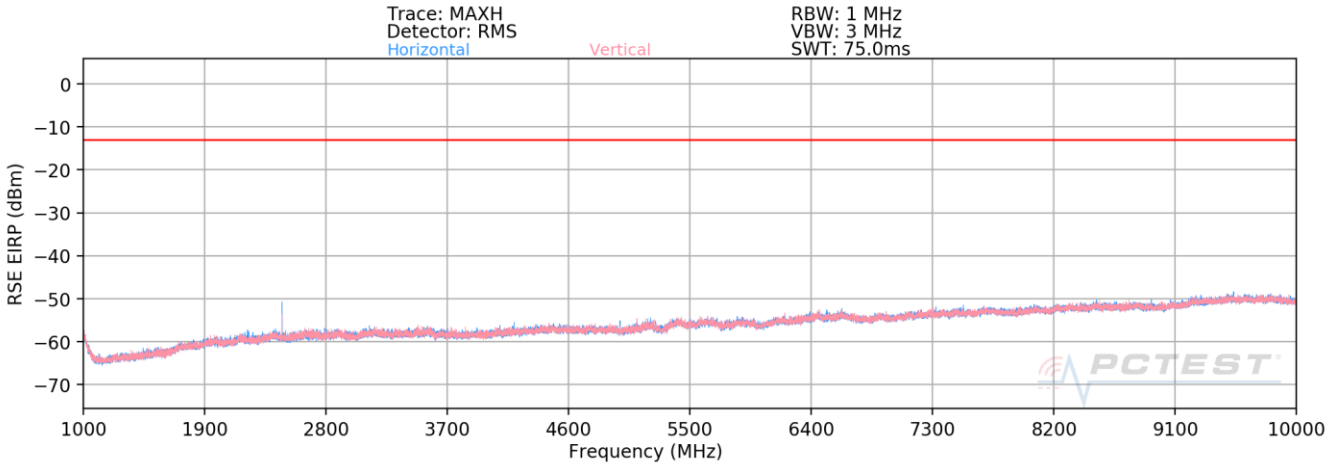
GSM/GPRS Cell



Plot 7-120. Radiated Spurious Emission below 1GHz (GPRS Cell)



Plot 7-121. Radiated Spurious Emission above 1GHz (GPRS Cell)

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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]
1648.4	V	110	204	-68.04	-0.69	38.27	-56.99	-13.00	-43.99
2472.6	H	248	146	-59.07	3.15	51.08	-44.17	-13.00	-31.17
3296.8	V	-	-	-72.41	4.01	38.60	-56.66	-13.00	-43.66
4121.0	V	-	-	-75.98	5.01	36.03	-59.23	-13.00	-46.23
4945.2	V	-	-	-78.14	6.52	35.38	-59.87	-13.00	-46.87

Table 7-19. 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]
1673.2	H	281	207	-65.42	-0.47	41.11	-54.15	-13.00	-41.15
2509.8	V	155	244	-59.75	2.85	50.10	-45.16	-13.00	-32.16
3346.4	V	-	-	-72.28	4.16	38.88	-56.38	-13.00	-43.38
4183.0	V	-	-	-75.71	5.31	36.60	-58.66	-13.00	-45.66
5019.6	V	-	-	-77.57	6.40	35.83	-59.42	-13.00	-46.42

Table 7-20. Radiated Spurious Data (GPRS Cell – Mid Channel)

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]
1697.6	H	272	213	-64.14	0.36	43.22	-52.04	-13.00	-39.04
2546.4	H	183	228	-61.57	2.81	48.24	-47.01	-13.00	-34.01
3395.2	V	-	-	-71.55	4.48	39.93	-55.32	-13.00	-42.32
4244.0	V	-	-	-76.37	5.43	36.06	-59.20	-13.00	-46.20
5092.8	V	-	-	-77.70	6.68	35.98	-59.27	-13.00	-46.27

Table 7-21. Radiated Spurious Data (GPRS Cell – High Channel)

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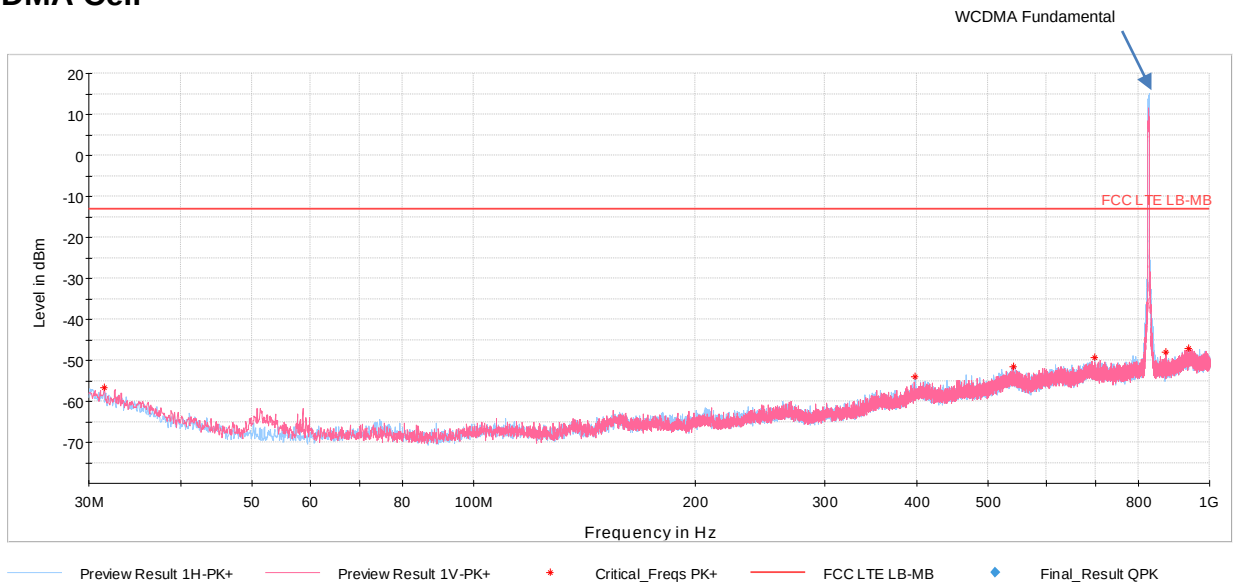
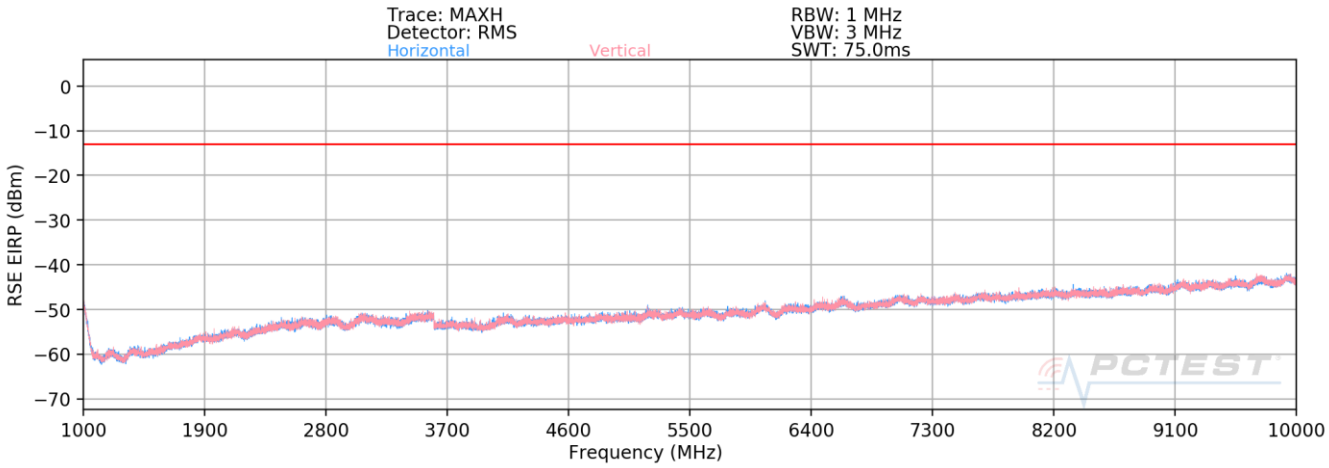
WCDMA Cell



Plot 7-122. Radiated Spurious Emission (WCDMA Cell)



Plot 7-123. Radiated Spurious Emission above 1GHz (WCDMA Cell)

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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]
1652.8	V	-	-	-76.67	-0.59	29.74	-65.52	-13.00	-52.52
2479.2	V	-	-	-77.26	3.21	32.95	-62.31	-13.00	-49.31
3305.6	V	-	-	-77.53	4.04	33.51	-61.74	-13.00	-48.74

Table 7-22. 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]
1673.2	V	-	-	-76.66	-0.47	29.87	-65.39	-13.00	-52.39
2509.8	V	-	-	-77.23	2.85	32.62	-62.64	-13.00	-49.64
3346.4	V	-	-	-77.75	4.16	33.41	-61.85	-13.00	-48.85

Table 7-23. 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]
1693.2	V	-	-	-76.80	0.16	30.36	-64.90	-13.00	-51.90
2539.8	V	-	-	-77.15	2.87	32.72	-62.54	-13.00	-49.54
3386.4	V	-	-	-77.79	4.41	33.62	-61.64	-13.00	-48.64

Table 7-24. Radiated Spurious Data (WCDMA Cell – High Channel)

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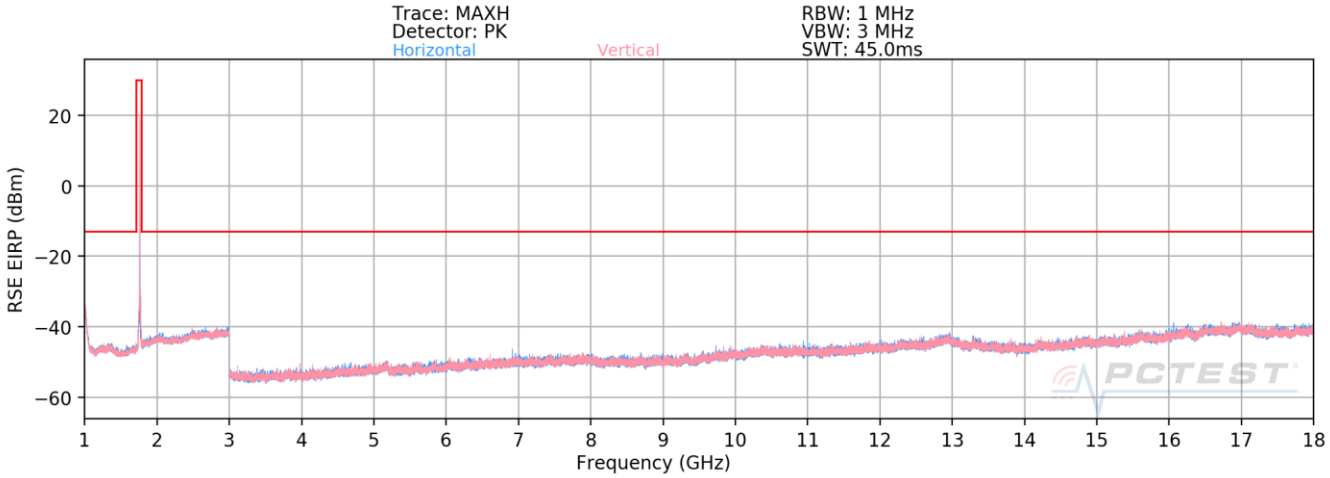
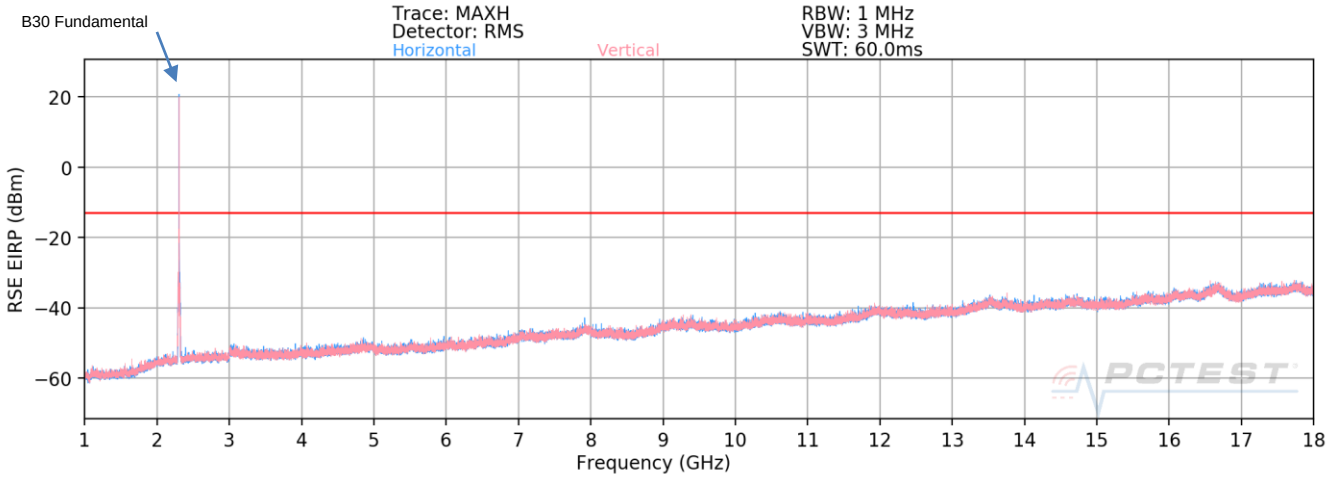
EN-DC – n5 + LTE Band 66



Plot 7-124. Radiated Spurious Emission 1GHz – 18GHz (NR Band n5 + Anchor LTE Band 66 – EN-DC)

EN-DC – n5 + LTE Band 30



Plot 7-125. Radiated Spurious Emission 1GHz – 18GHz (NR Band n5 + Anchor LTE Band 30 – EN-DC)

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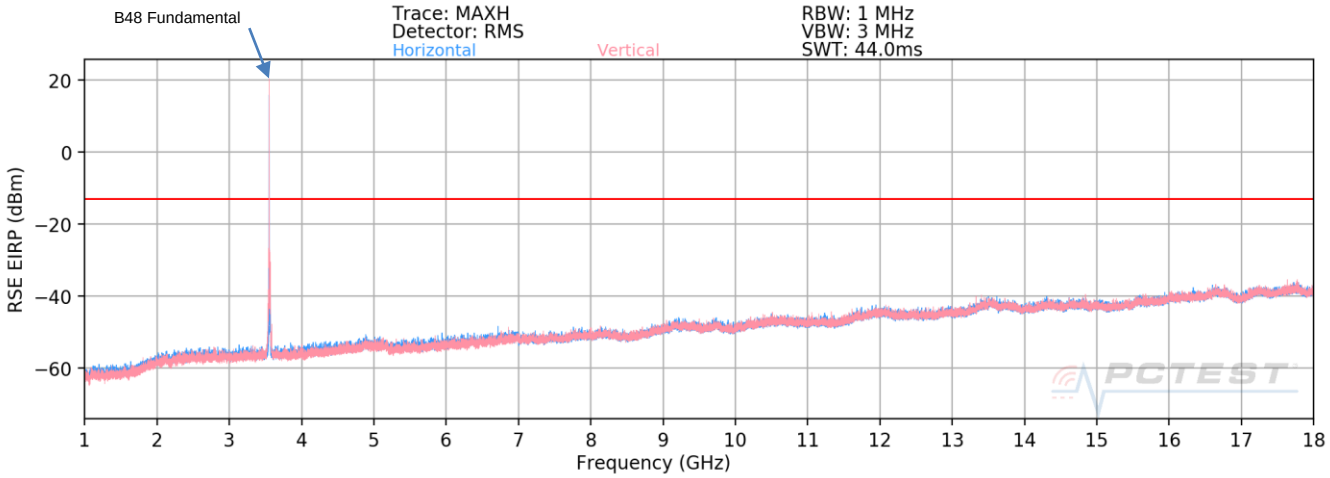
EN-DC – n5 + LTE Band 48



Plot 7-126. Radiated Spurious Emission 1GHz – 18GHz (NR Band n5 + Anchor LTE Band 48 – EN-DC)

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7.6.2 Antenna 1 – Radiated Spurious Emission Measurements

LTE Band 26/5

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]
1658.0	H	248	370	-76.28	-2.75	27.97	-67.28	-13.00	-54.28
2487.0	V	240	108	-67.80	2.17	41.37	-53.89	-13.00	-40.89
3316.0	V	-	-	-79.46	3.50	31.04	-64.22	-13.00	-51.22
4145.0	V	-	-	-80.47	5.67	32.20	-63.06	-13.00	-50.06
4974.0	V	-	-	-80.77	6.65	32.88	-62.37	-13.00	-49.37

Table 7-25. Radiated Spurious Data (LTE Band 26/5 – Low Channel)

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]
1673.0	V	-	-	-77.51	-2.59	26.90	-68.36	-13.00	-55.36
2509.5	H	268	111	-67.89	2.33	41.44	-53.82	-13.00	-40.82
3346.0	V	-	-	-78.97	3.77	31.80	-63.46	-13.00	-50.46
4182.5	V	-	-	-80.18	5.92	32.74	-62.51	-13.00	-49.51
5019.0	V	-	-	-80.82	6.47	32.65	-62.61	-13.00	-49.61

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

Bandwidth (MHz):	10
Frequency (MHz):	844.0
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]
1688.00	V	-	-	-77.68	-2.56	26.76	-68.49	-13.00	-55.49
2532.00	V	264	105	-63.22	2.33	46.11	-49.14	-13.00	-36.14
3376.00	V	-	-	-79.66	3.65	30.99	-64.27	-13.00	-51.27
4220.00	V	-	-	-80.44	5.65	32.21	-63.05	-13.00	-50.05
5064.00	V	-	-	-81.08	6.49	32.41	-62.84	-13.00	-49.84

Table 7-27. Radiated Spurious Data (LTE Band 26/5 – High Channel)

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ULCA LTE Band 5

PCC Bandwidth (MHz):	10
PCC Frequency (MHz):	829.0
PCC RB / Offset:	1 / 49
SCC Bandwidth (MHz):	10
SCC Frequency (MHz):	838.9
SCC RB / Offset:	1 / 0

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1668.0	V	-	-	-76.88	-0.54	29.58	-65.68	-13.00	-52.68
2502.0	V	244	195	-76.93	2.91	32.98	-62.28	-13.00	-49.28
3336.0	V	-	-	-77.53	4.07	33.54	-61.72	-13.00	-48.72
4170.0	V	-	-	-78.64	5.07	33.43	-61.83	-13.00	-48.83
5004.0	V	-	-	-79.66	6.36	33.70	-61.56	-13.00	-48.56

Table 7-28. Radiated Spurious Data (ULCA LTE Band 5 – Low Channel)

PCC Bandwidth (MHz):	10
PCC Frequency (MHz):	844.0
PCC RB / Offset:	1 / 0
SCC Bandwidth (MHz):	10
SCC Frequency (MHz):	834.1
SCC RB / Offset:	1 / 49

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]
1678.0	V	-	-	-76.79	-0.07	30.14	-65.12	-13.00	-52.12
2517.0	V	-	-	-77.40	2.79	32.39	-62.87	-13.00	-49.87
3356.0	V	-	-	-78.01	4.39	33.38	-61.88	-13.00	-48.88

Table 7-29. Radiated Spurious Data (ULCA LTE Band 5 – High Channel)

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GSM/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]
1648.4	H	207	151	-64.34	-0.69	41.97	-53.29	-13.00	-40.29
2472.6	H	179	143	-63.51	3.15	46.64	-48.61	-13.00	-35.61
3296.8	V	-	-	-72.44	4.01	38.57	-56.69	-13.00	-43.69
4121.0	V	-	-	-76.21	5.01	35.80	-59.46	-13.00	-46.46
4945.2	V	-	-	-77.18	6.52	36.34	-58.91	-13.00	-45.91

Table 7-30. 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]
1673.2	H	228	152	-66.60	-0.47	39.93	-55.33	-13.00	-42.33
2509.8	V	395	122	-62.74	2.85	47.11	-48.15	-13.00	-35.15
3346.4	V	-	-	-72.69	4.16	38.47	-56.79	-13.00	-43.79
4183.0	V	-	-	-76.40	5.31	35.91	-59.35	-13.00	-46.35
5019.6	V	-	-	-77.31	6.40	36.09	-59.16	-13.00	-46.16

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

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]
1697.6	H	264	222	-64.96	0.36	42.40	-52.86	-13.00	-39.86
2546.4	H	261	140	-64.64	2.81	45.17	-50.08	-13.00	-37.08
3395.2	V	-	-	-72.82	4.48	38.66	-56.59	-13.00	-43.59
4244.0	V	-	-	-76.19	5.43	36.24	-59.02	-13.00	-46.02
5092.8	V	-	-	-78.07	6.68	35.61	-59.64	-13.00	-46.64

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

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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]
1652.8	H	244	137	-76.61	-0.59	29.80	-65.46	-13.00	-52.46
2479.2	H	244	137	-76.80	3.21	33.41	-61.85	-13.00	-48.85
3305.6	V	-	-	-77.64	4.04	33.40	-61.85	-13.00	-48.85
4132.0	V	-	-	-78.58	4.81	33.23	-62.02	-13.00	-49.02
4958.4	V	-	-	-79.70	6.42	33.72	-61.53	-13.00	-48.53

Table 7-33. 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]
1673.2	V	-	-	-77.73	-0.47	28.80	-66.46	-13.00	-53.46
2509.8	H	224	146	-73.44	2.85	36.41	-58.85	-13.00	-45.85
3346.4	V	-	-	-77.76	4.16	33.40	-61.86	-13.00	-48.86
4183.0	V	-	-	-78.71	5.31	33.60	-61.66	-13.00	-48.66
5019.6	V	-	-	-79.71	6.40	33.69	-61.56	-13.00	-48.56

Table 7-34. 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]
1693.2	V	-	-	-76.88	0.16	30.28	-64.98	-13.00	-51.98
2539.8	H	224	140	-76.60	2.87	33.27	-61.99	-13.00	-48.99
3386.4	H	-	-	-77.85	4.41	33.56	-61.70	-13.00	-48.70
4233.0	H	-	-	-78.66	5.43	33.77	-61.49	-13.00	-48.49
5079.6	H	-	-	-80.07	6.60	33.53	-61.72	-13.00	-48.72

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

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7.7 Frequency Tolerance / Temperature Variation

§2.1055, 22.355

Test Overview and Limit

Frequency Tolerance testing is performed in accordance with the guidelines of ANSI C63.26-2015 and TIA-603-E-2016. All port were tested and only the worst case data were reported. The Frequency Tolerance of the transmitter is measured by:

a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.

b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

For Part 22, the Frequency Tolerance of the transmitter shall be maintained within ±0.00025% (±2.5 ppm) of the center frequency.

Test Procedure Used

ANSI C63.26 2015

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

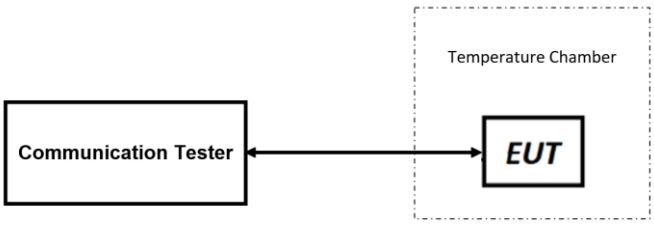

Figure 7-7. Test Instrument & Measurement Setup

Test Notes

1. All port were tested and only the worst case data were reported.
2. Only the worst-case NR bands with a wider bandwidth compared to LTE have been tested and reported. NR bands that have similar bandwidths as LTE is covered by the LTE bands.

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Frequency Tolerance / Temperature Variation

LTE Band 26/5

Operating Frequency (Hz):	836,500,000
Ref. Voltage (VDC):	3.80
Deviation Limit:	± 0.00025% or 2.5 ppm

Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	- 30	836,500,000	2	0.0000002
		- 20	836,500,000	2	0.0000002
		- 10	836,500,000	2	0.0000002
		0	836,500,000	2	0.0000002
		+ 10	836,499,999	1	0.0000001
		+ 20 (Ref)	836,499,998	0	0.0000000
		+ 30	836,499,999	1	0.0000001
		+ 40	836,499,996	-2	-0.0000003
		+ 50	836,499,996	-2	-0.0000003
Battery Endpoint	3.23	+ 20	836,500,000	2	0.0000002

Table 7-36. LTE Band 26/5 Frequency Tolerance Data

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Frequency Tolerance / Temperature Variation

NR Band n5

Operating Frequency (Hz):	836,500,000
Ref. Voltage (VDC):	3.80
Deviation Limit:	± 0.00025% or 2.5 ppm

Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	- 30	836,500,058	-82	-0.0000098
		- 20	836,500,135	-5	-0.0000006
		- 10	836,500,188	48	0.0000057
		0	836,499,955	-185	-0.0000221
		+ 10	836,500,112	-28	-0.0000033
		+ 20 (Ref)	836,500,140	0	0.0000000
		+ 30	836,500,158	18	0.0000022
		+ 40	836,500,157	17	0.0000020
		+ 50	836,500,248	108	0.0000129
Battery Endpoint	3.23	+ 20	836,500,153	13	0.0000016

Table 7-37. NR Band n5 Frequency Tolerance Data

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Frequency Tolerance / Temperature Variation

GSM/GPRS Cellular

Operating Frequency (Hz):	836,600,000
Ref. Voltage (VDC):	3.80
Deviation Limit:	± 0.00025% or 2.5 ppm

Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	- 30	836,600,000	2	0.0000002
		- 20	836,600,000	2	0.0000002
		- 10	836,600,000	2	0.0000002
		0	836,600,000	2	0.0000002
		+ 10	836,599,999	1	0.0000001
		+ 20 (Ref)	836,599,998	0	0.0000000
		+ 30	836,599,999	1	0.0000001
		+ 40	836,599,996	-2	-0.0000003
		+ 50	836,599,996	-2	-0.0000003
Battery Endpoint	3.23	+ 20	836,600,000	2	0.0000002

Table 7-38. GSM/GPRS Cell Frequency Tolerance Data

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Frequency Tolerance / Temperature Variation

WCDMA Cellular

Operating Frequency (Hz):	836,600,000
Ref. Voltage (VDC):	3.80
Deviation Limit:	± 0.00025% or 2.5 ppm

Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	- 30	836,600,000	2	0.0000002
		- 20	836,600,000	2	0.0000002
		- 10	836,600,000	2	0.0000002
		0	836,600,000	2	0.0000002
		+ 10	836,599,999	1	0.0000001
		+ 20 (Ref)	836,599,998	0	0.0000000
		+ 30	836,599,999	1	0.0000001
		+ 40	836,599,996	-2	-0.0000003
		+ 50	836,599,996	-2	-0.0000003
Battery Endpoint	3.23	+ 20	836,600,000	2	0.0000002

Table 7-39. WCDMA Cell Frequency Tolerance Data

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8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the Apple **Tablet Device FCC ID: BCGA2301** complies with all the requirements of Part 22 of the FCC rules.

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