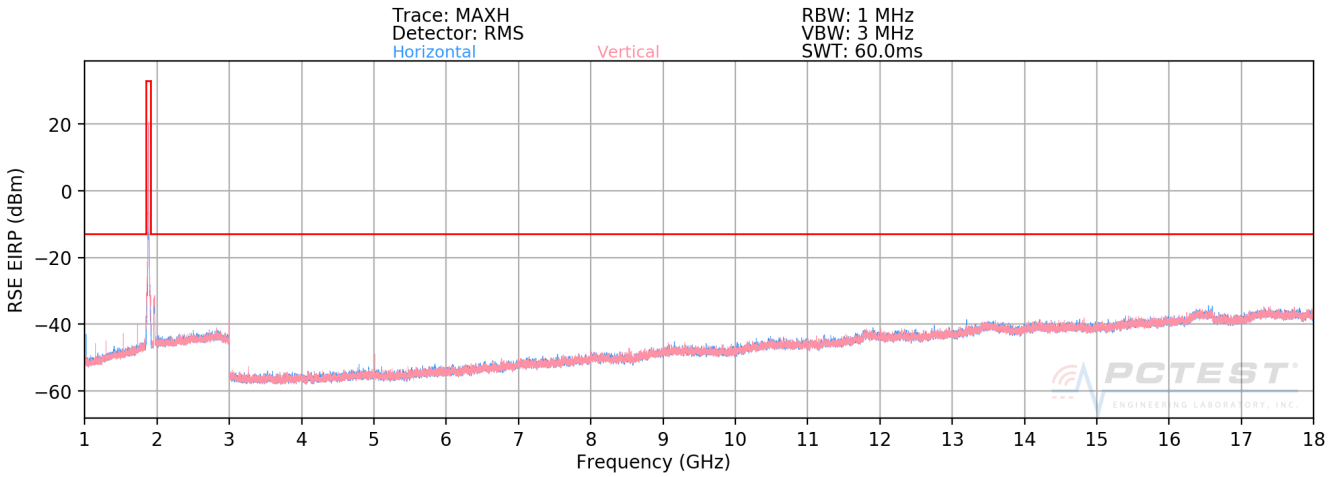
Band 25/2



Plot 7-432. Radiated Spurious Plot above 1GHz (Band 25/2)

OPERATING FREQUENCY:	1857.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	15.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3715.00	H	-	-	-67.93	9.53	-58.41	-45.4
5572.50	H	-	-	-71.82	10.97	-60.85	-47.8

Table 7-34. Radiated Spurious Data (Band 25/2 – Low Channel)

OPERATING FREQUENCY:	1882.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	15.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3765.00	H	-	-	-68.70	9.36	-59.34	-46.3
5647.50	H	-	-	-67.91	11.19	-56.71	-43.7

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Table 7-35. Radiated Spurious Data (Band 25/2 – Mid Channel)

OPERATING FREQUENCY:	1907.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	15.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3815.00	H	-	-	-67.36	9.30	-58.06	-45.1
5722.50	H	-	-	-70.97	11.37	-59.60	-46.6

Table 7-36. Radiated Spurious Data (Band 25/2 – High Channel)

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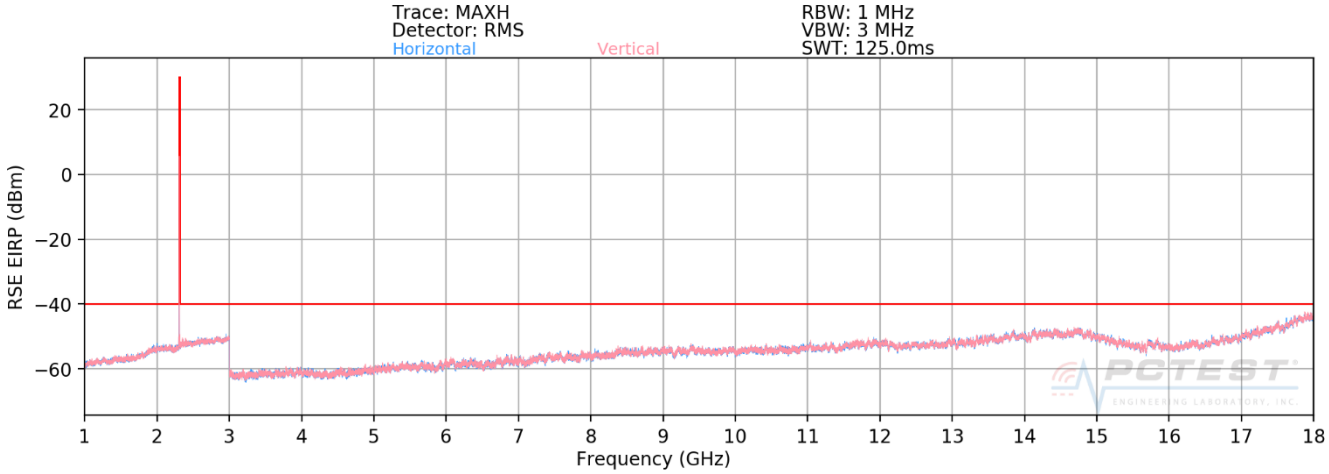
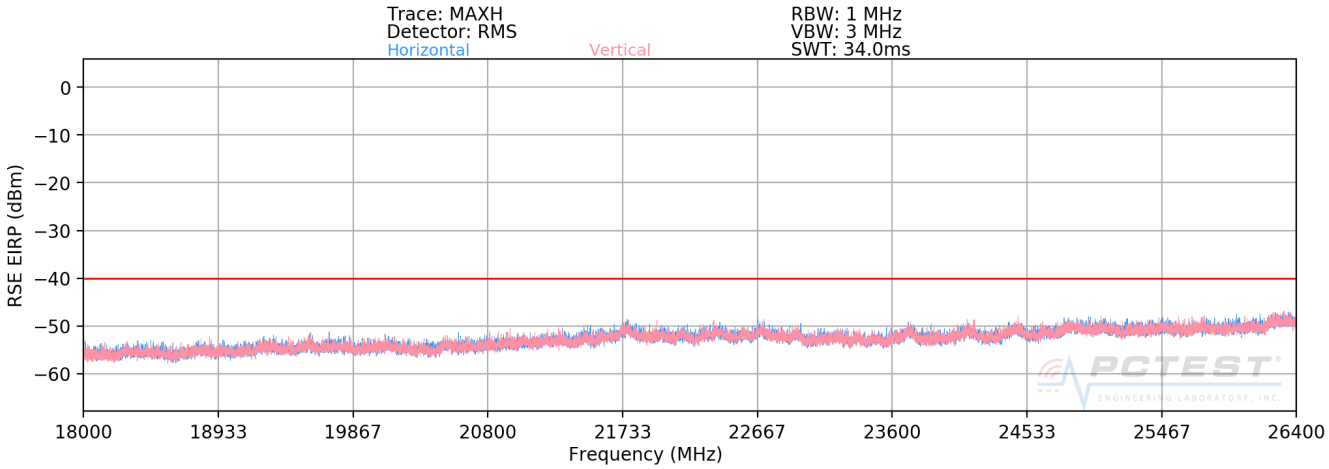
Band 30



Plot 7-433. Radiated Spurious Plot 1GHz - 18GHz (Band 30)



Plot 7-434. Radiated Spurious Plot 18GHz – 26.5GHz (Band 30)

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OPERATING FREQUENCY:	2310.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-40	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
4620.00	H	-	-	-69.08	10.92	-58.17	-18.2
6930.00	H	-	-	-66.54	11.74	-54.79	-14.8
9240.00	H	-	-	-63.08	11.62	-51.46	-11.5
11550.00	H	-	-	-65.27	12.72	-52.55	-12.5
13860.00	H	-	-	-62.49	11.99	-50.50	-10.5
16170.00	H	-	-	-68.84	16.59	-52.25	-12.2

Table 7-37. Radiated Spurious Data (Band 30 – Mid Channel)

OPERATING FREQUENCY:	2310.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-40	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
4620.00	H	-	-	-74.19	10.92	-63.28	-23.3
6930.00	H	-	-	-71.76	11.74	-60.01	-20.0
9240.00	H	-	-	-68.20	11.62	-56.58	-16.6
13860.00	H	-	-	-62.60	11.99	-50.61	-10.6
16170.00	H	-	-	-70.04	16.59	-53.45	-13.4

Table 7-38. Radiated Spurious Data with WCP (Band 30 – Mid Channel)

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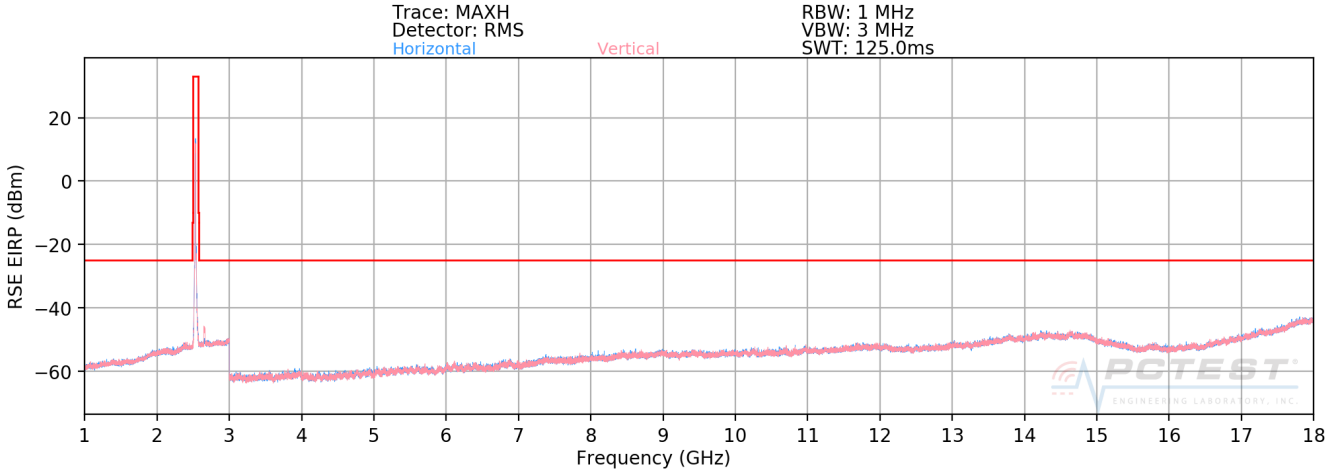
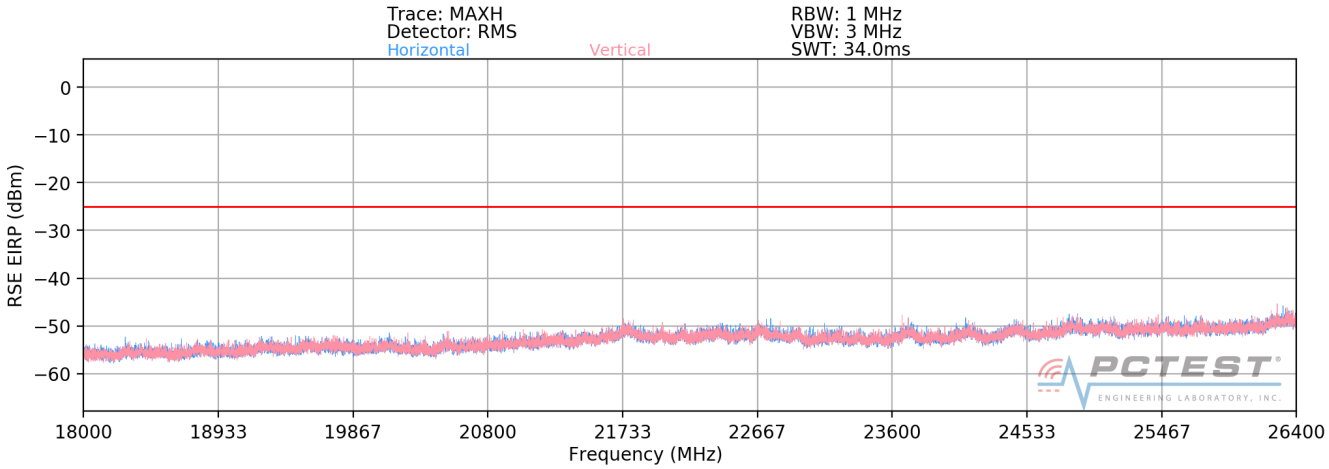
Band 7



Plot 7-435. Radiated Spurious Plot 1GHz - 18GHz (Band 7)



Plot 7-436. Radiated Spurious Plot 18GHz – 26.5GHz (Band 7)

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OPERATING FREQUENCY:	2507.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	15.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5015.00	H	-	-	-62.71	10.90	-51.81	-26.8
7522.50	H	-	-	-59.66	11.12	-48.54	-23.5
10030.00	H	-	-	-58.71	11.99	-46.72	-21.7

Table 7-39. Radiated Spurious Data (Band 7 – Low Channel)

OPERATING FREQUENCY:	2535.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	15.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5070.00	H	-	-	-63.11	10.75	-52.37	-27.4
7605.00	H	-	-	-60.09	11.25	-48.84	-23.8
10140.00	H	-	-	-57.18	12.07	-45.11	-20.1

Table 7-40. Radiated Spurious Data (Band 7 – Mid Channel)

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OPERATING FREQUENCY:	2562.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	15.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5125.00	H	-	-	-63.30	10.68	-52.61	-27.6
7687.50	H	-	-	-60.95	11.40	-49.55	-24.6
10250.00	H	-	-	-57.49	12.19	-45.30	-20.3

Table 7-41. Radiated Spurious Data (Band 7 – High Channel)

OPERATING FREQUENCY:	2507.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	15.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5015.00	H	-	-	-64.95	10.88	-54.06	-29.1
7522.50	H	-	-	-60.41	11.13	-49.28	-24.3
10030.00	H	-	-	-60.92	11.99	-48.94	-23.9

Table 7-42. Radiated Spurious Data with WCP (Band 7 – Low Channel)

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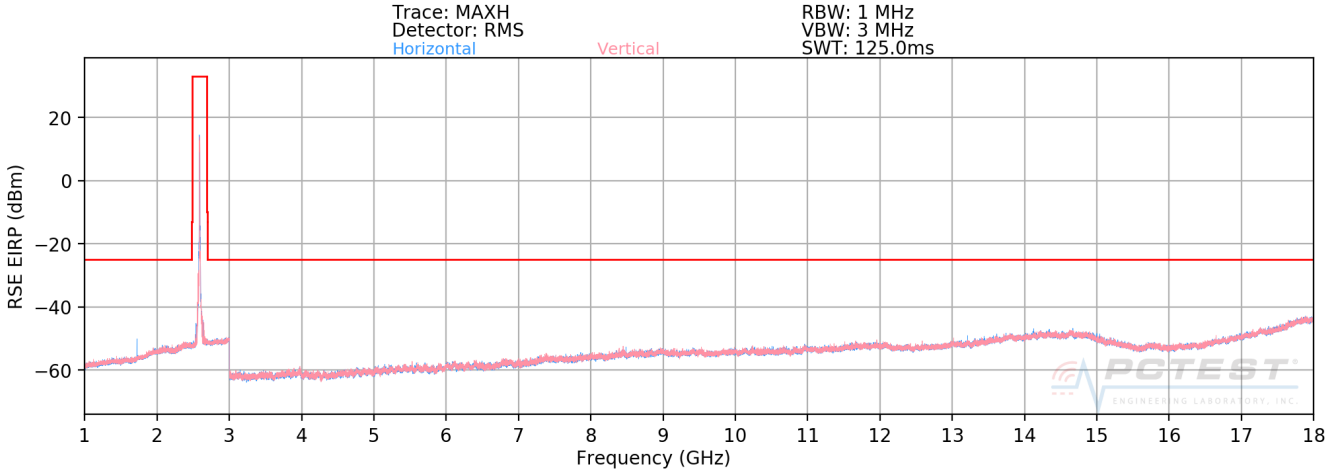
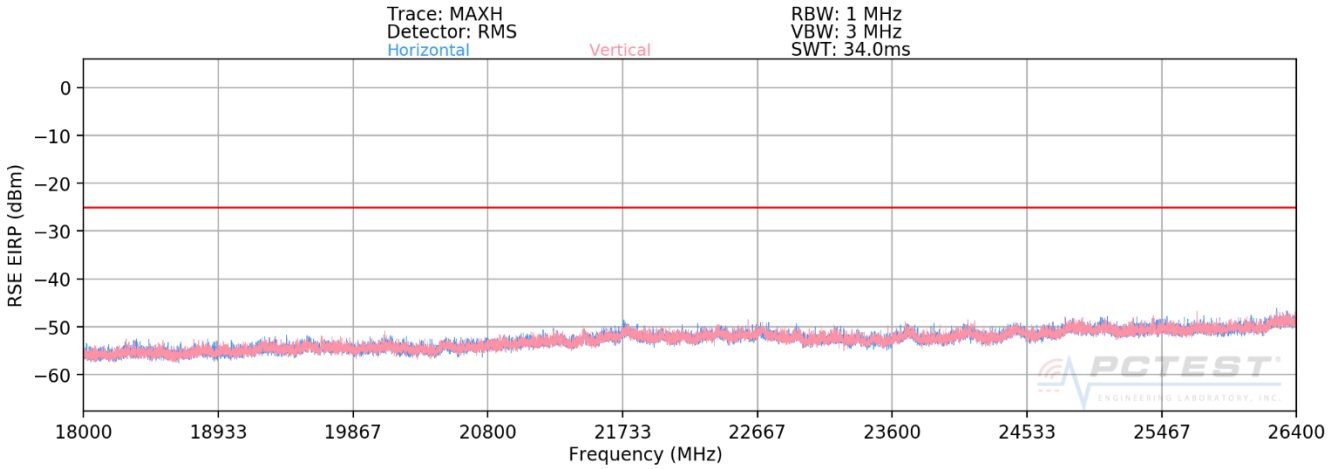
Band 41



Plot 7-437. Radiated Spurious Plot 1GHz - 18GHz (Band 41)



Plot 7-438. Radiated Spurious Plot 18GHz – 26.5GHz (Band 41)

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OPERATING FREQUENCY:	1860.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3720.00	H	-	-	-70.75	9.51	-61.25	-36.2
5580.00	H	-	-	-70.34	10.99	-59.36	-34.4
7440.00	H	-	-	-67.53	10.99	-56.54	-31.5

Table 7-43. Radiated Spurious Data (Band 41 – Low Channel)

OPERATING FREQUENCY:	1882.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3765.00	H	-	-	-70.92	9.36	-61.56	-36.6
5647.50	H	-	-	-70.04	11.19	-58.84	-33.8
7530.00	H	-	-	-67.61	11.13	-56.48	-31.5

Table 7-44. Radiated Spurious Data (Band 41 – Mid Channel)

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OPERATING FREQUENCY:	1905.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3810.00	H	-	-	-70.45	9.29	-61.15	-36.2
5715.00	H	-	-	-69.52	11.35	-58.17	-33.2
7620.00	H	-	-	-68.22	11.29	-56.93	-31.9

Table 7-45. Radiated Spurious Data (Band 41 – High Channel)

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7.9 Frequency Stability / Temperature Variation

Test Overview and Limit

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

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

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

For Part 22, the frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5 ppm) of the center frequency. For Part 24, Part 27, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Procedure Used

ANSI/TIA-603-E-2016

Test Settings

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a "standby" condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

Test Setup

The EUT was connected via an RF cable to a spectrum analyzer with the EUT placed inside an environmental chamber.

Test Notes

None

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Band 71 Frequency Stability Measurements

OPERATING FREQUENCY: 680,500,000 Hz

CHANNEL: 133297

REFERENCE VOLTAGE: 4.10 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.10	- 30	680,500,392	392	0.0000576
100 %		- 20	680,500,213	213	0.0000313
100 %		- 10	680,499,785	-215	-0.0000316
100 %		0	680,500,006	6	0.0000009
100 %		+ 10	680,500,092	92	0.0000135
100 %		+ 20	680,500,144	144	0.0000212
100 %		+ 30	680,500,067	67	0.0000098
100 %		+ 40	680,500,310	310	0.0000456
100 %		+ 50	680,499,843	-157	-0.0000231
BATT. ENDPOINT	3.42	+ 20	680,500,247	247	0.0000363

Table 7-46. Frequency Stability Data (Band 71)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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Band 71 Frequency Stability Measurements

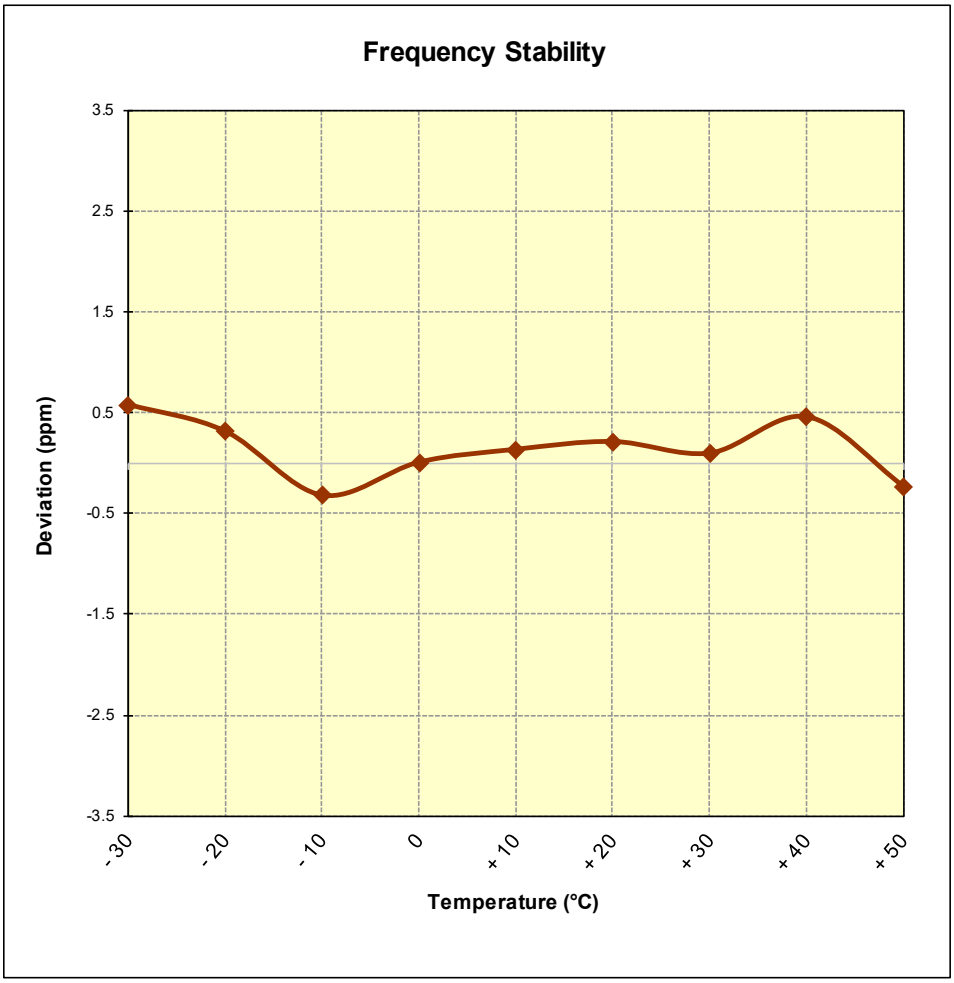

Figure 7-9. Frequency Stability Graph (Band 71)

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Band 12 Frequency Stability Measurements

OPERATING FREQUENCY: 707,500,000 Hz

CHANNEL: 23790

REFERENCE VOLTAGE: 4.10 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.10	- 30	707,499,795	-205	-0.0000290
100 %		- 20	707,499,652	-348	-0.0000492
100 %		- 10	707,499,560	-440	-0.0000622
100 %		0	707,500,150	150	0.0000212
100 %		+ 10	707,500,495	495	0.0000700
100 %		+ 20	707,499,721	-279	-0.0000394
100 %		+ 30	707,499,942	-58	-0.0000082
100 %		+ 40	707,500,184	184	0.0000260
100 %		+ 50	707,500,140	140	0.0000198
BATT. ENDPOINT	3.42	+ 20	707,500,004	4	0.0000006

Table 7-47. Frequency Stability Data (Band 12)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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Band 12 Frequency Stability Measurements

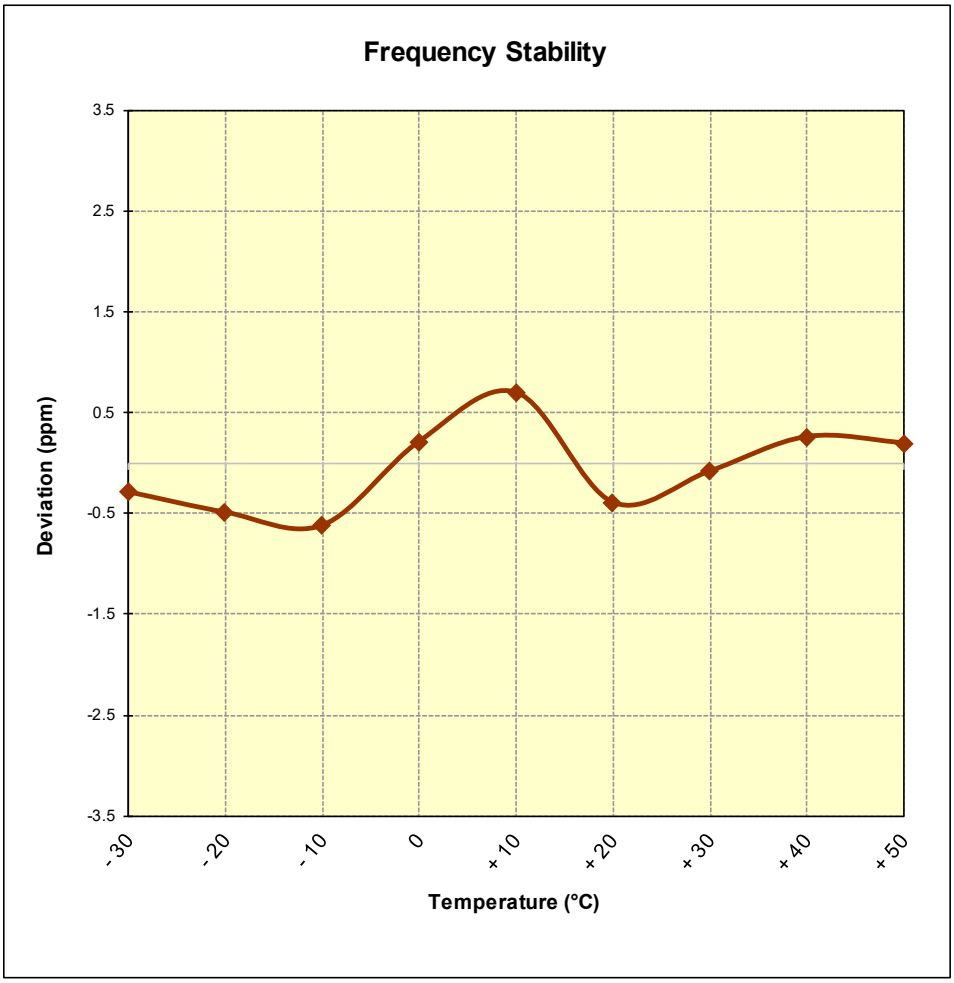

Figure 7-10. Frequency Stability Graph (Band 12)

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Band 13 Frequency Stability Measurements

OPERATING FREQUENCY: 782,000,000 Hz

CHANNEL: 23230

REFERENCE VOLTAGE: 4.10 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.10	- 30	782,000,141	141	0.0000180
100 %		- 20	781,999,597	-403	-0.0000515
100 %		- 10	782,000,145	145	0.0000185
100 %		0	781,999,847	-153	-0.0000196
100 %		+ 10	781,999,945	-55	-0.0000070
100 %		+ 20	781,999,991	-9	-0.0000012
100 %		+ 30	782,000,174	174	0.0000223
100 %		+ 40	782,000,393	393	0.0000503
100 %		+ 50	782,000,094	94	0.0000120
BATT. ENDPOINT	3.42	+ 20	782,000,047	47	0.0000060

Table 7-48. Frequency Stability Data (Band 13)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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Band 13 Frequency Stability Measurements

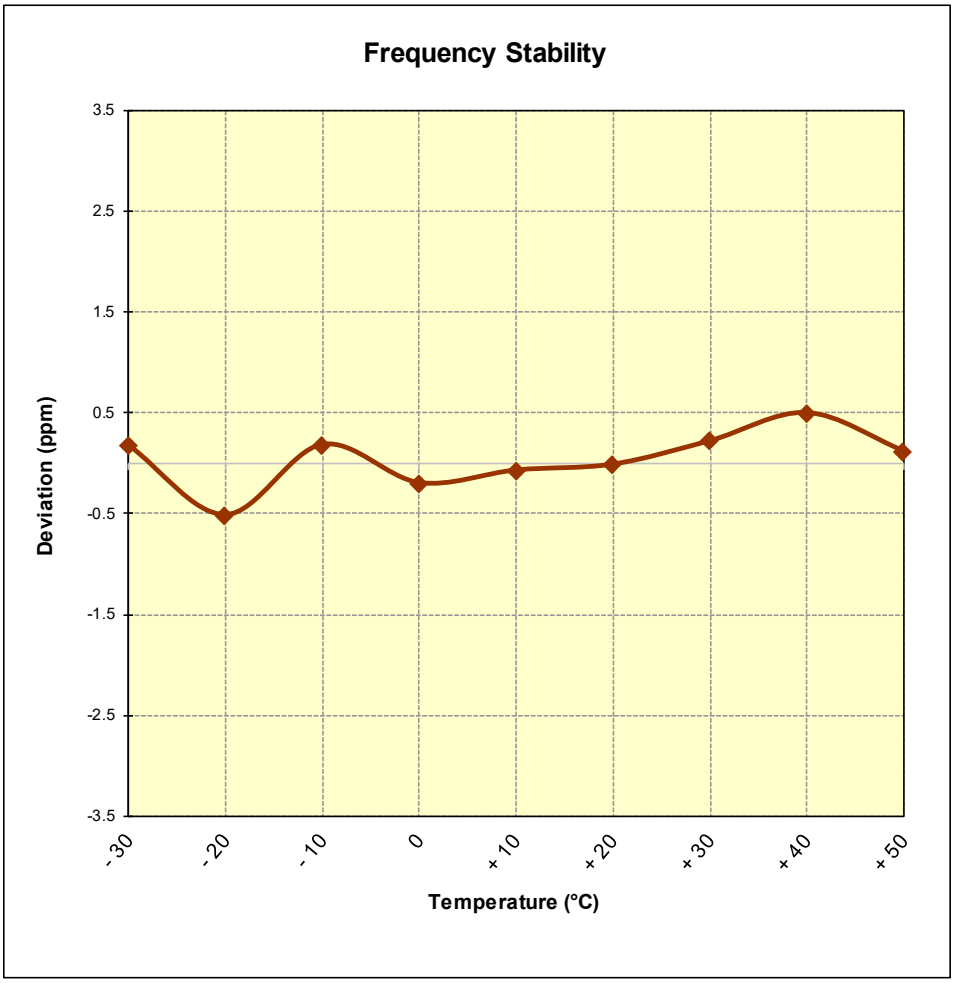

Figure 7-11. Frequency Stability Graph (Band 13)

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Band 26 Frequency Stability Measurements

OPERATING FREQUENCY:	831,500,000	Hz
CHANNEL:	26865	
REFERENCE VOLTAGE:	4.10	VDC
DEVIATION LIMIT:	± 0.00025 % or 2.5 ppm	

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.10	- 30	831,499,968	-32	-0.0000038
100 %		- 20	831,499,811	-189	-0.0000227
100 %		- 10	831,500,085	85	0.0000102
100 %		0	831,499,990	-10	-0.0000012
100 %		+ 10	831,499,981	-19	-0.0000023
100 %		+ 20	831,500,371	371	0.0000446
100 %		+ 30	831,500,152	152	0.0000183
100 %		+ 40	831,499,996	-4	-0.0000005
100 %		+ 50	831,499,992	-8	-0.0000010
BATT. ENDPOINT	3.42	+ 20	831,499,758	-242	-0.0000291

Table 7-49. Frequency Stability Data (Band 26)

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Band 26 Frequency Stability Measurements

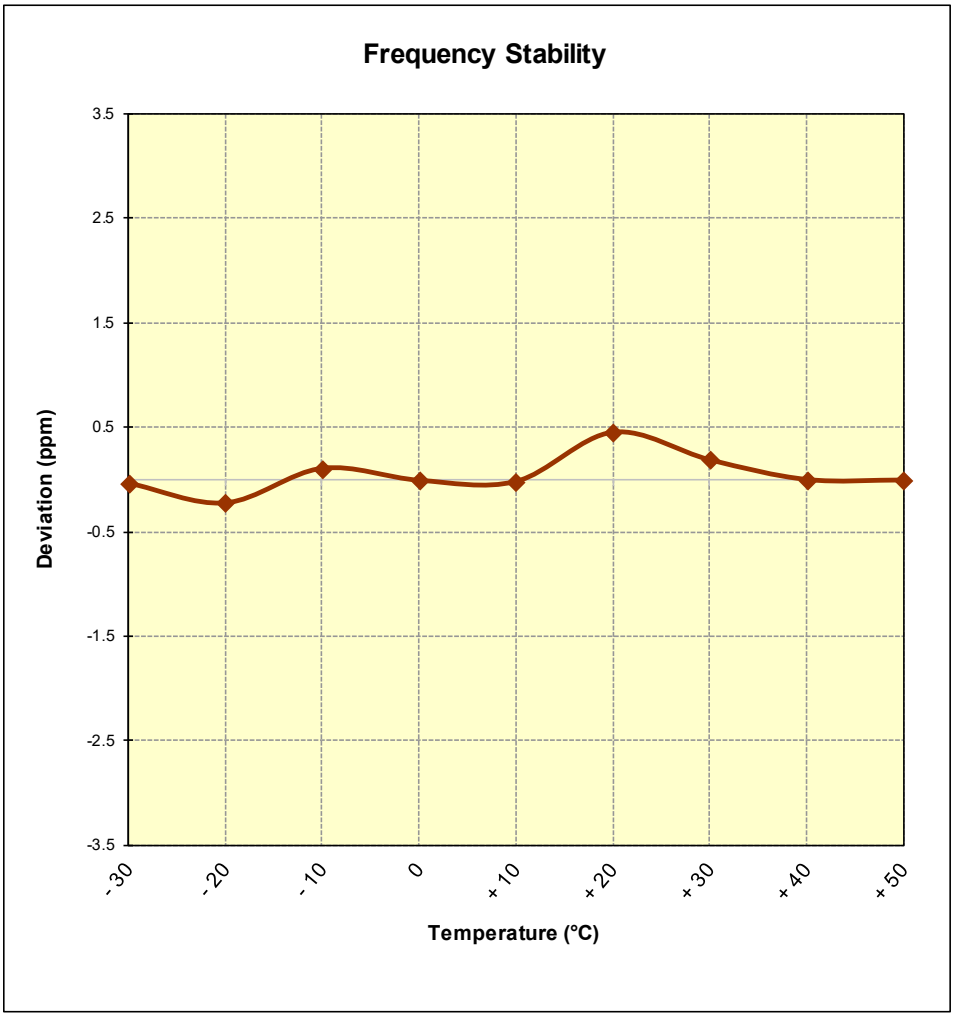

Figure 7-12. Frequency Stability Graph (Band 26)

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Band 66/4 Frequency Stability Measurements

OPERATING FREQUENCY: 1,745,000,000 Hz

CHANNEL: 132322

REFERENCE VOLTAGE: 4.10 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.10	- 30	1,745,000,251	251	0.0000144
100 %		- 20	1,744,999,900	-100	-0.0000057
100 %		- 10	1,745,000,012	12	0.0000007
100 %		0	1,745,000,062	62	0.0000036
100 %		+ 10	1,745,000,145	145	0.0000083
100 %		+ 20	1,744,999,853	-147	-0.0000084
100 %		+ 30	1,744,999,890	-110	-0.0000063
100 %		+ 40	1,745,000,452	452	0.0000259
100 %		+ 50	1,744,999,681	-319	-0.0000183
BATT. ENDPOINT	3.42	+ 20	1,744,999,998	-2	-0.0000001

Table 7-50. Frequency Stability Data (Band 66/4)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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Band 66/4 Frequency Stability Measurements

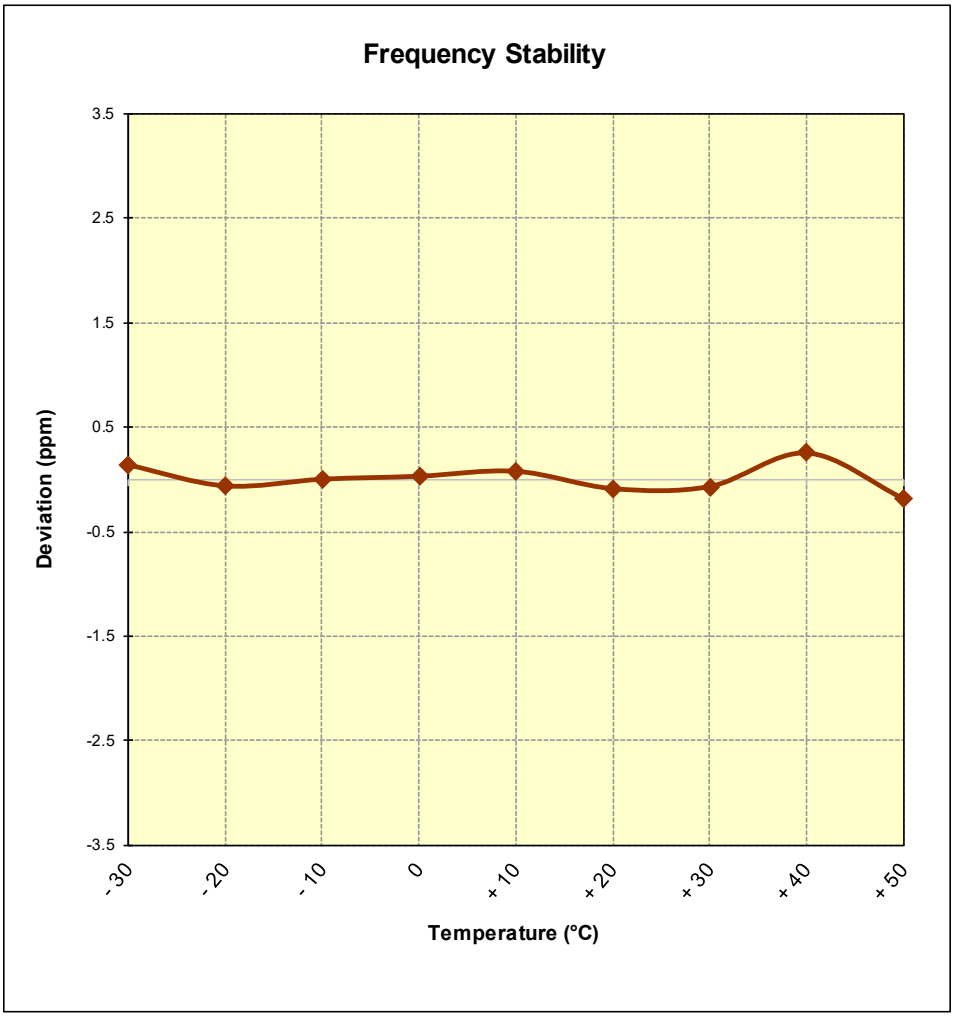

Figure 7-13. Frequency Stability Graph (Band 66/4)

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Band 25/2 Frequency Stability Measurements

OPERATING FREQUENCY: 1,882,500,000 Hz

CHANNEL: 26365

REFERENCE VOLTAGE: 4.10 VDC

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.10	- 30	1,882,499,882	-118	-0.0000063
100 %		- 20	1,882,500,246	246	0.0000131
100 %		- 10	1,882,500,351	351	0.0000186
100 %		0	1,882,499,757	-243	-0.0000129
100 %		+ 10	1,882,500,008	8	0.0000004
100 %		+ 20	1,882,499,855	-145	-0.0000077
100 %		+ 30	1,882,499,855	-145	-0.0000077
100 %		+ 40	1,882,500,294	294	0.0000156
100 %		+ 50	1,882,499,904	-96	-0.0000051
BATT. ENDPOINT	3.42	+ 20	1,882,499,889	-111	-0.0000059

Table 7-51. Frequency Stability Data (Band 25/2)

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Band 25/2 Frequency Stability Measurements

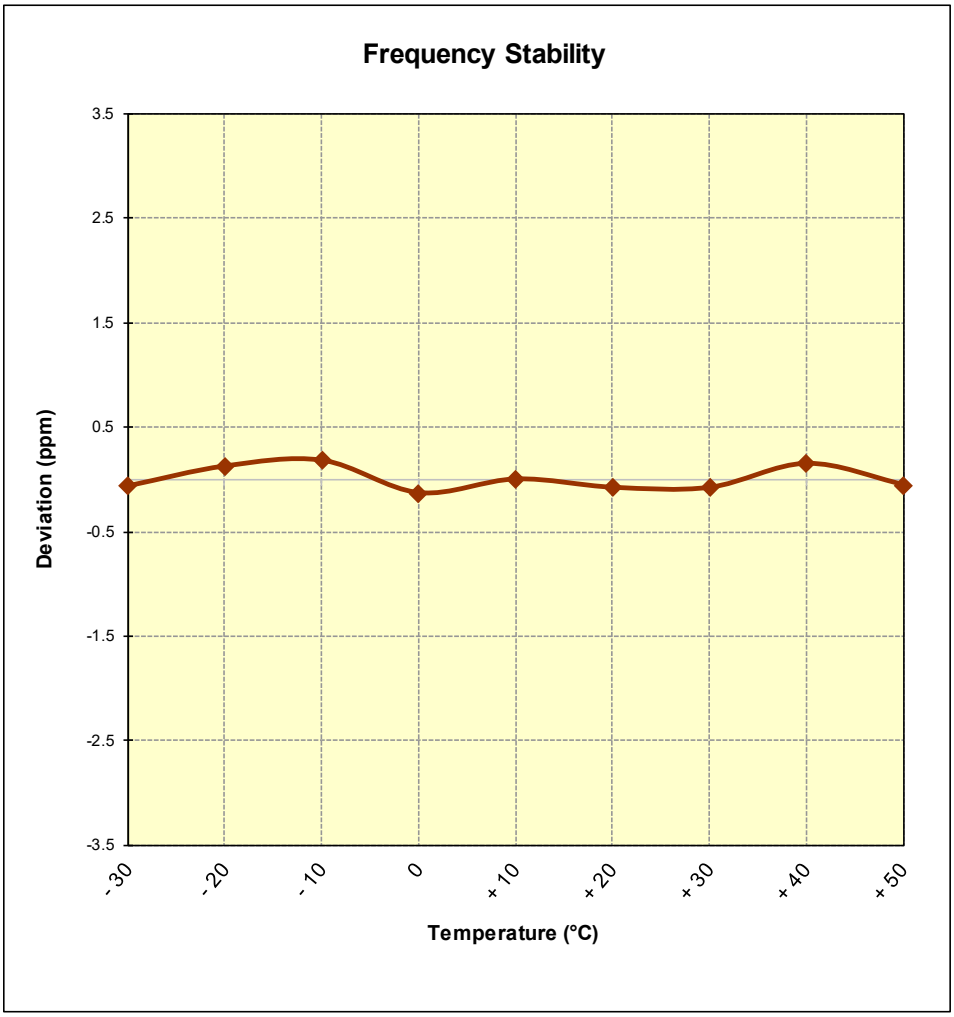

Figure 7-14. Frequency Stability Graph (Band 25/2)

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Band 30 Frequency Stability Measurements

OPERATING FREQUENCY: 2,310,000,000 Hz

CHANNEL: 27710

REFERENCE VOLTAGE: 4.10 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.10	- 30	2,309,999,789	-211	-0.0000091
100 %		- 20	2,310,000,155	155	0.0000067
100 %		- 10	2,310,000,281	281	0.0000122
100 %		0	2,309,999,961	-39	-0.0000017
100 %		+ 10	2,310,000,042	42	0.0000018
100 %		+ 20	2,309,999,940	-60	-0.0000026
100 %		+ 30	2,309,999,960	-40	-0.0000017
100 %		+ 40	2,309,999,662	-338	-0.0000146
100 %		+ 50	2,310,000,346	346	0.0000150
BATT. ENDPOINT	3.42	+ 20	2,309,999,759	-241	-0.0000104

Table 7-52. Frequency Stability Data (Band 30)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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Band 30 Frequency Stability Measurements

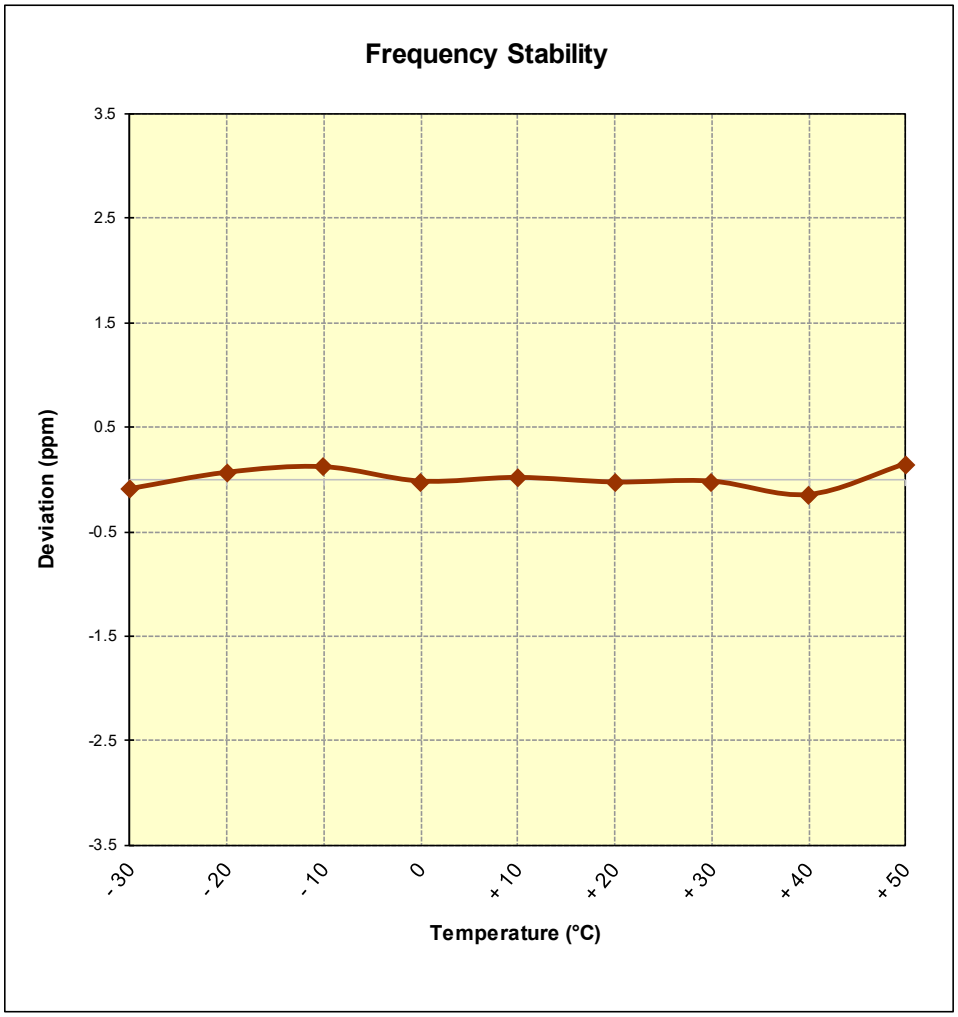

Figure 7-15. Frequency Stability Graph (Band 30)

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Band 7 Frequency Stability Measurements

OPERATING FREQUENCY: 2,535,000,000 Hz

CHANNEL: 21100

REFERENCE VOLTAGE: 4.10 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.10	- 30	2,534,999,921	-79	-0.0000031
100 %		- 20	2,535,000,021	21	0.0000008
100 %		- 10	2,535,000,138	138	0.0000054
100 %		0	2,535,000,064	64	0.0000025
100 %		+ 10	2,535,000,059	59	0.0000023
100 %		+ 20	2,535,000,200	200	0.0000079
100 %		+ 30	2,535,000,222	222	0.0000088
100 %		+ 40	2,535,000,052	52	0.0000021
100 %		+ 50	2,534,999,990	-10	-0.0000004
BATT. ENDPOINT	3.42	+ 20	2,534,999,843	-157	-0.0000062

Table 7-53. Frequency Stability Data (Band 7)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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Band 7 Frequency Stability Measurements

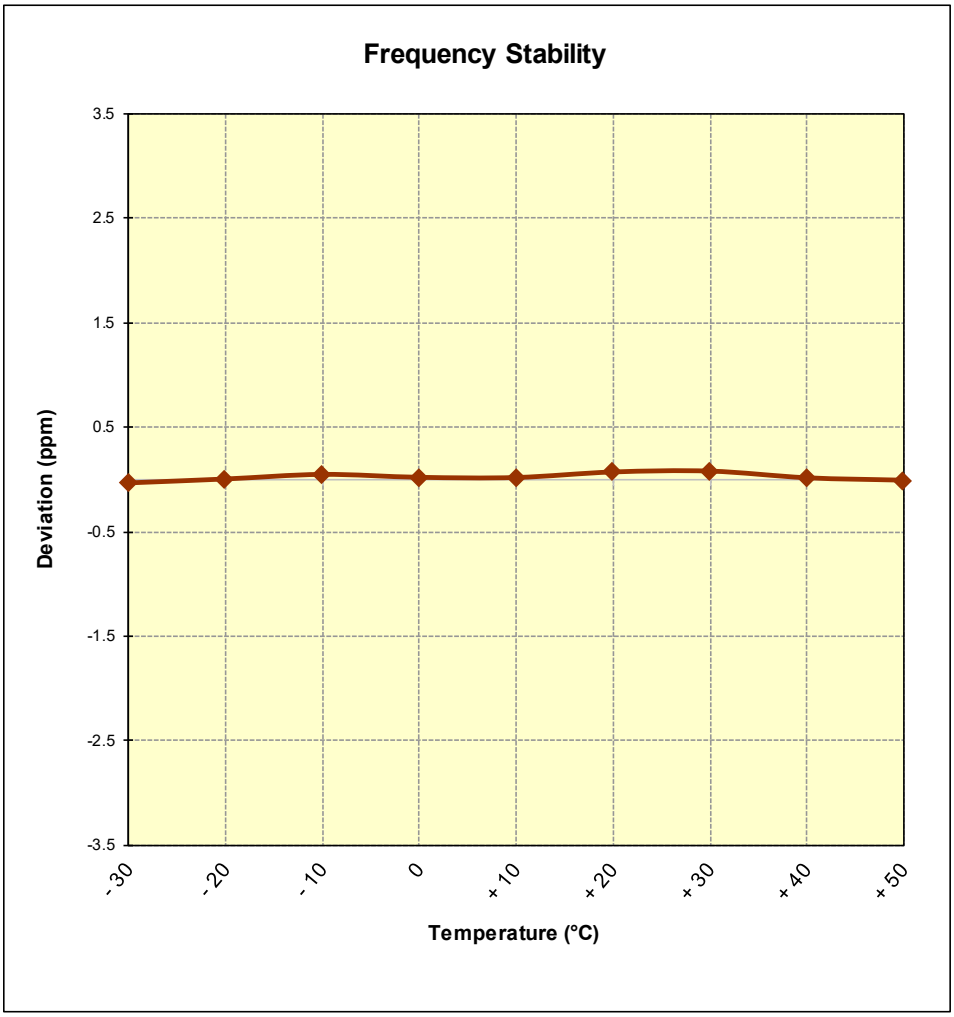

Figure 7-16. Frequency Stability Graph (Band 7)

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Band 41 Frequency Stability Measurements

OPERATING FREQUENCY: 2,593,000,000 Hz

CHANNEL: 40620

REFERENCE VOLTAGE: 4.10 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.10	- 30	2,592,999,825	-175	-0.0000067
100 %		- 20	2,593,000,005	5	0.0000002
100 %		- 10	2,593,000,126	126	0.0000049
100 %		0	2,592,999,825	-175	-0.0000067
100 %		+ 10	2,593,000,158	158	0.0000061
100 %		+ 20	2,592,999,906	-94	-0.0000036
100 %		+ 30	2,593,000,276	276	0.0000106
100 %		+ 40	2,592,999,889	-111	-0.0000043
100 %		+ 50	2,593,000,141	141	0.0000054
BATT. ENDPOINT	3.42	+ 20	2,592,999,920	-80	-0.0000031

Table 7-54. Frequency Stability Data (Band 41)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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Band 41 Frequency Stability Measurements

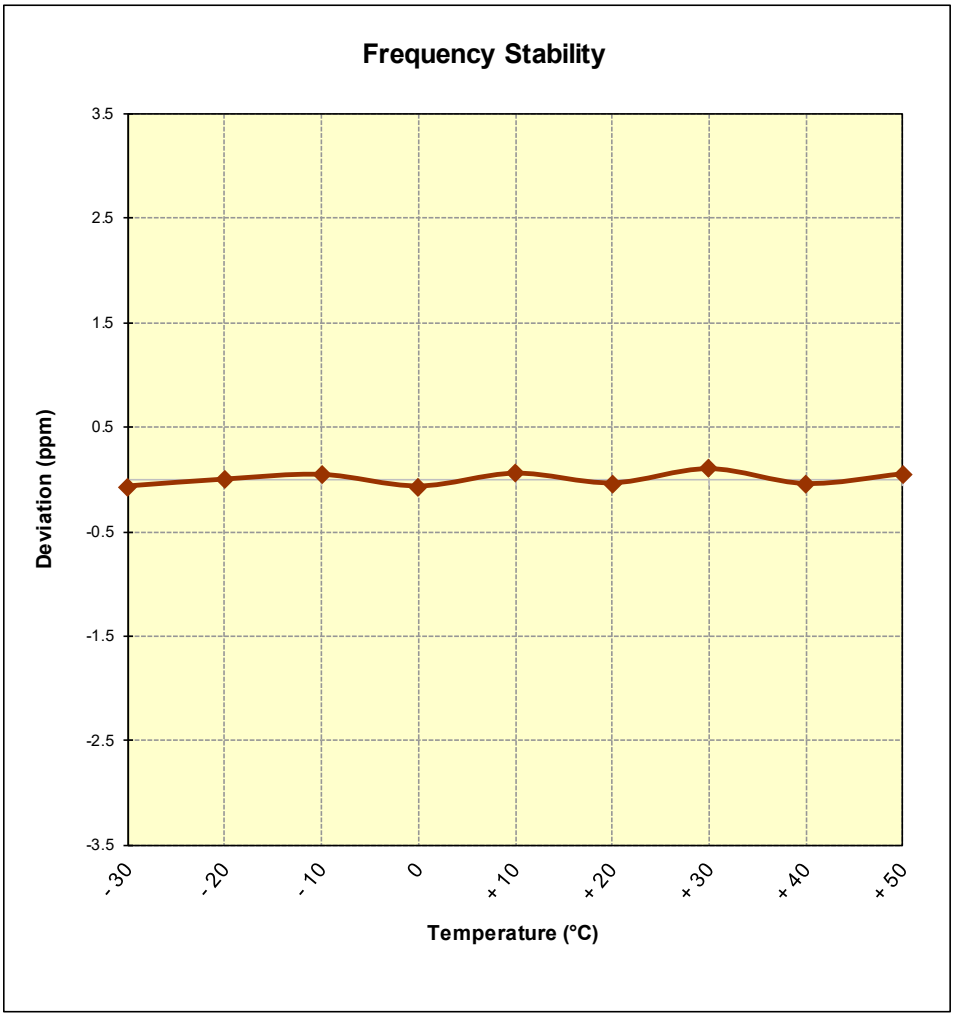

Figure 7-17. Frequency Stability Graph (Band 41)

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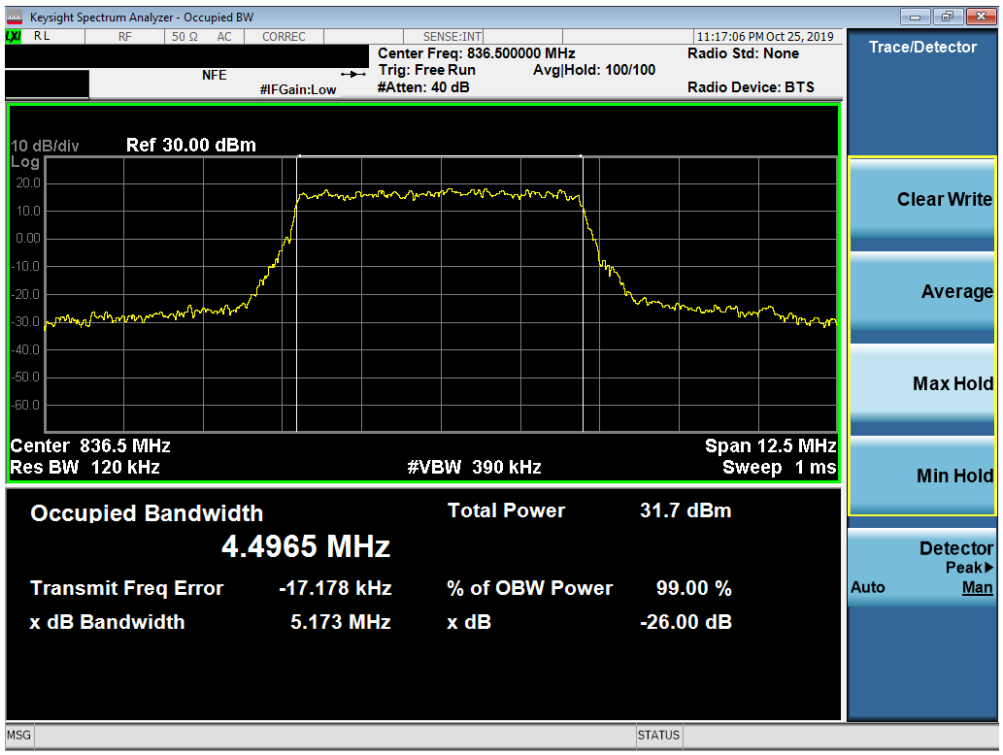
7.10 EN-DC Test Results

Occupied Bandwidth



Plot 7-439. Occupied Bandwidth Plot (n5 5MHz QPSK - Full RB Configuration)

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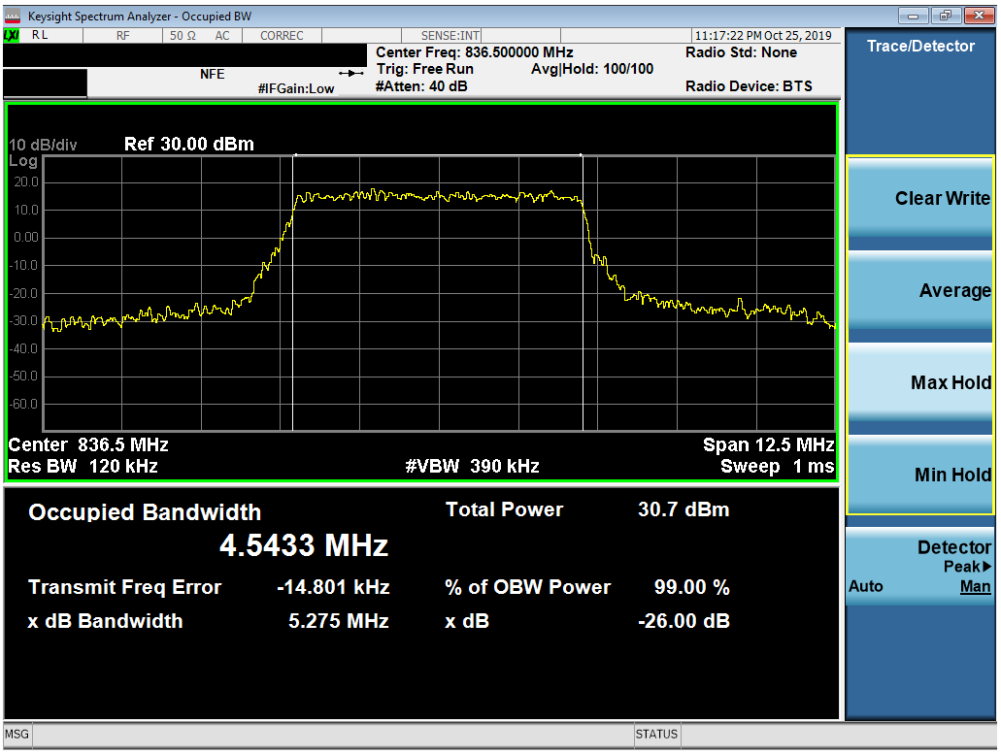

Plot 7-440. Occupied Bandwidth Plot (n5 5MHz 16QAM - Full RB Configuration)

Plot 7-441. Occupied Bandwidth Plot (n5 5MHz 64QAM- Full RB Configuration)

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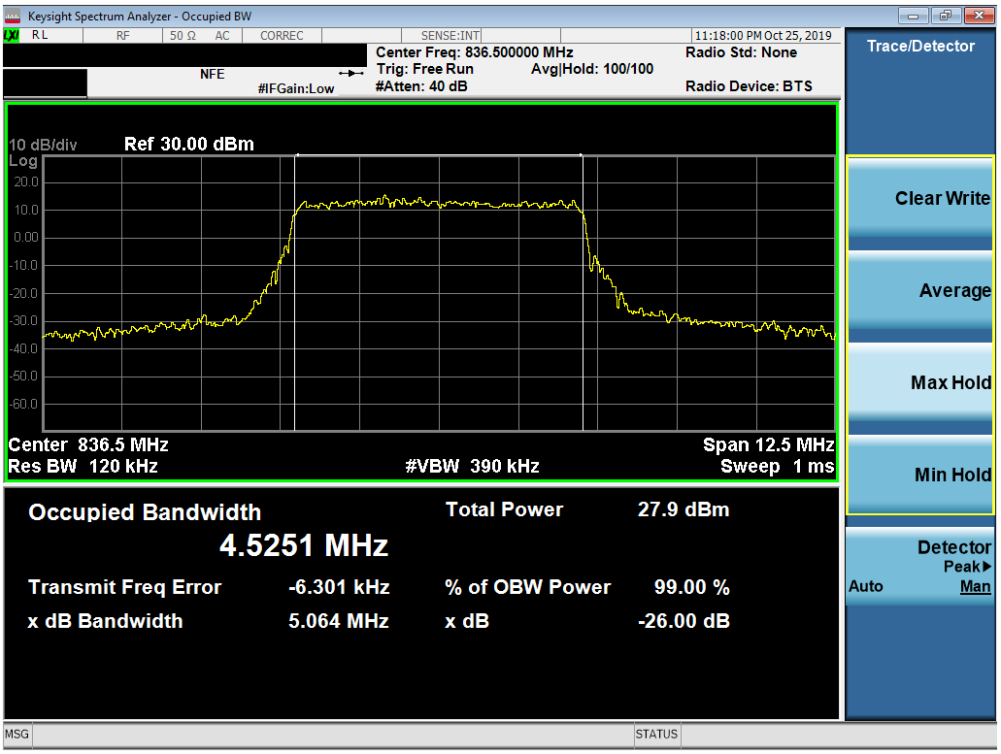
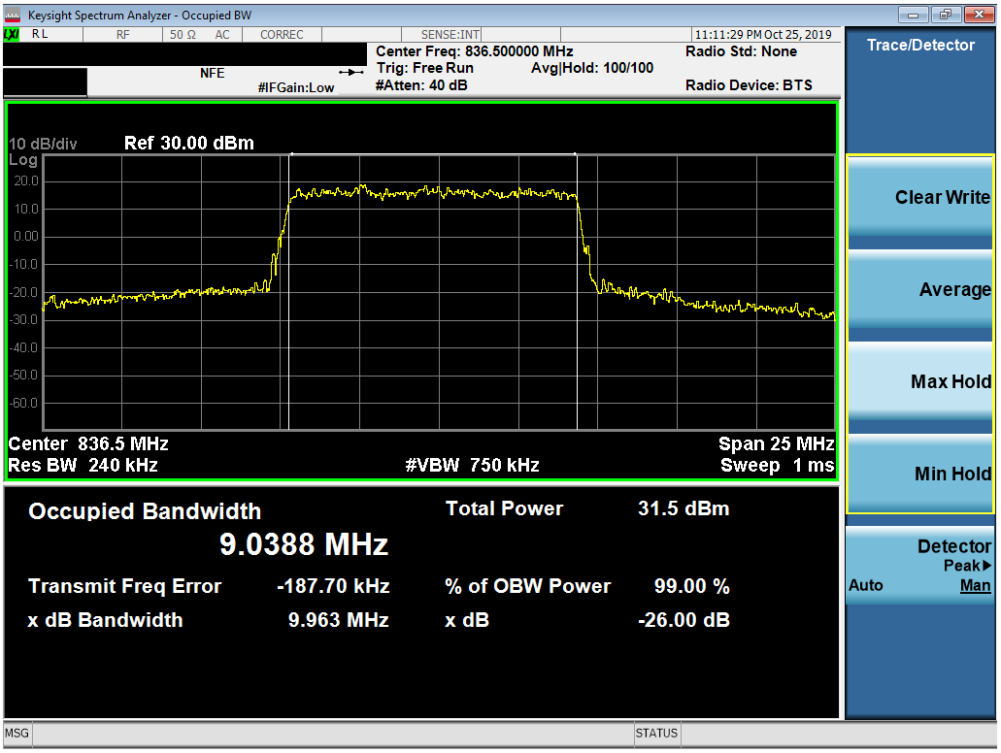


Plot 7-442. Occupied Bandwidth Plot (n5 5MHz 256QAM - Full RB Configuration)



Plot 7-443. Occupied Bandwidth Plot (n5 10MHz QPSK - Full RB Configuration)

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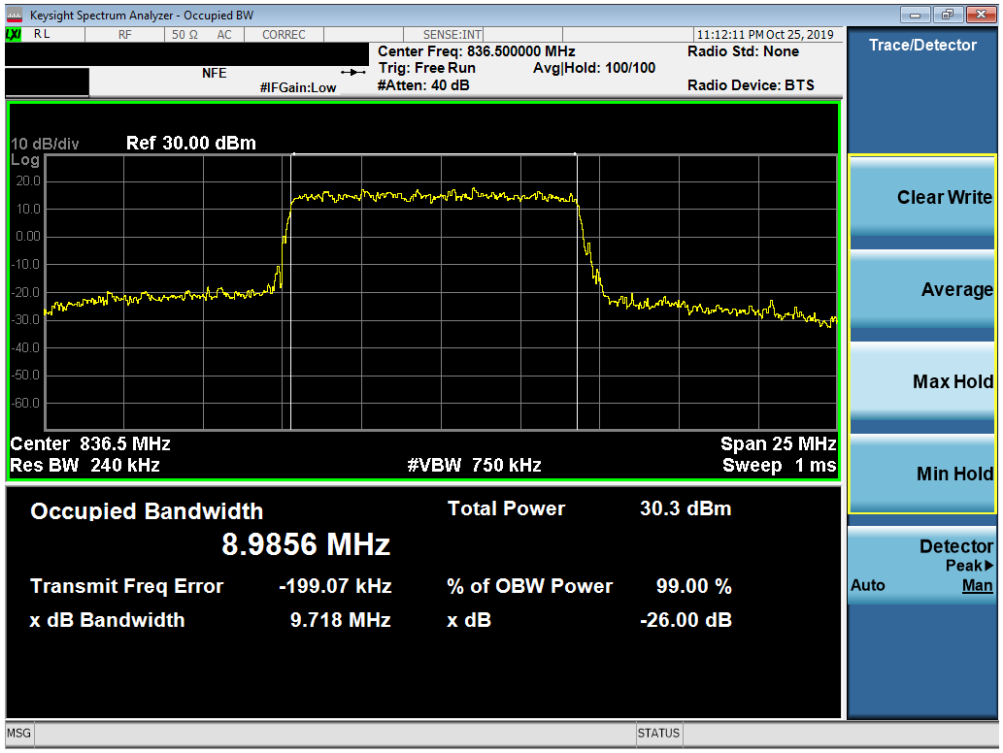
Plot 7-444. Occupied Bandwidth Plot (n5 10MHz 16QAM - Full RB Configuration)



Plot 7-445. Occupied Bandwidth Plot (n5 10MHz 64QAM- Full RB Configuration)

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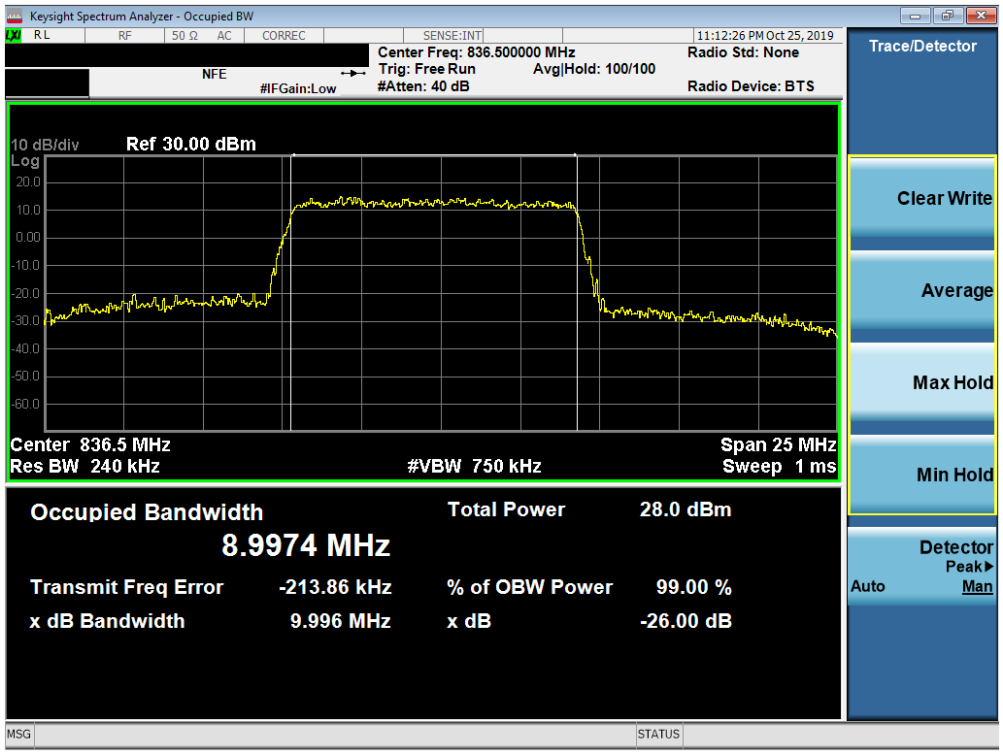
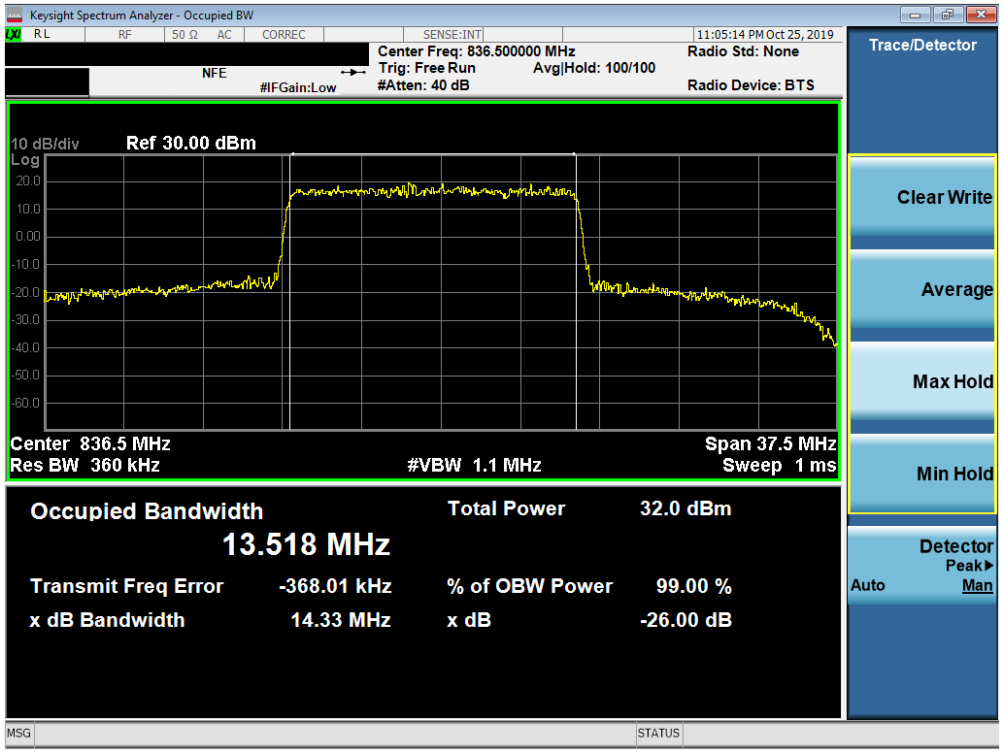


Plot 7-446. Occupied Bandwidth Plot (n5 10MHz 256QAM - Full RB Configuration)



Plot 7-447. Occupied Bandwidth Plot (n5 15MHz QPSK - Full RB Configuration)

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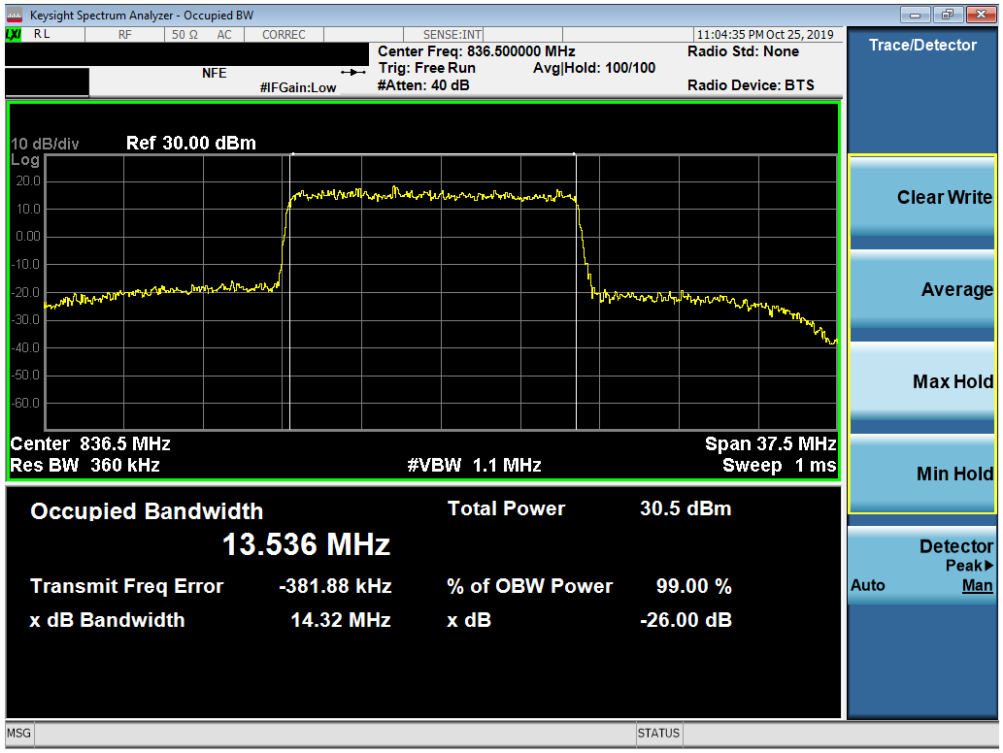
Plot 7-448. Occupied Bandwidth Plot (n5 15MHz 16QAM - Full RB Configuration)



Plot 7-449. Occupied Bandwidth Plot (n5 15MHz 64QAM- Full RB Configuration)

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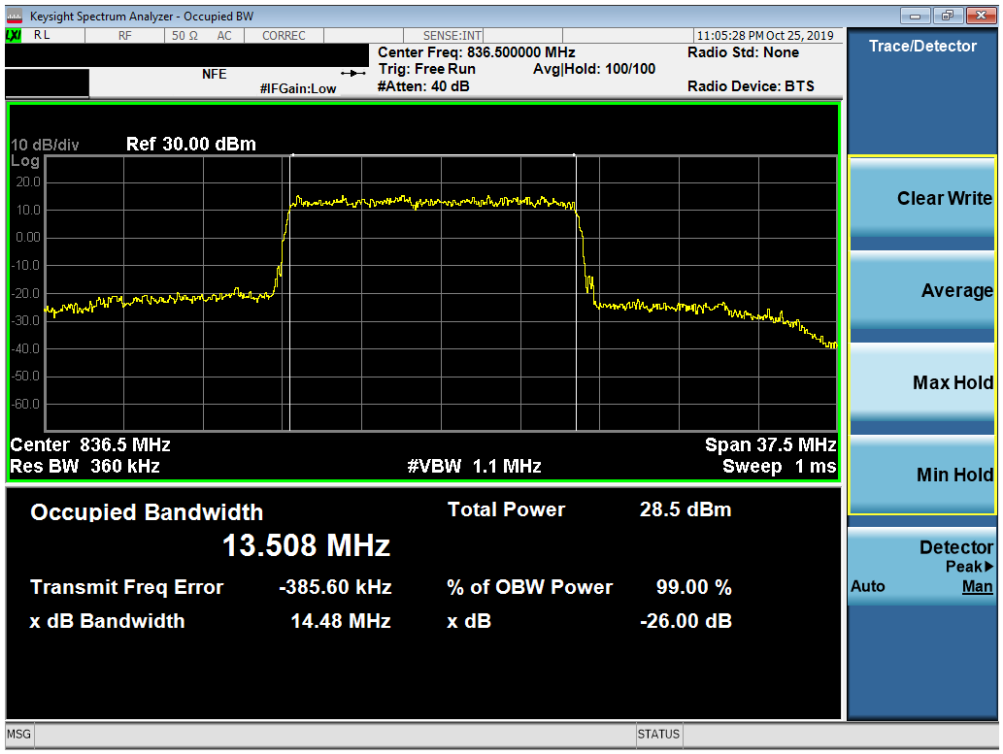
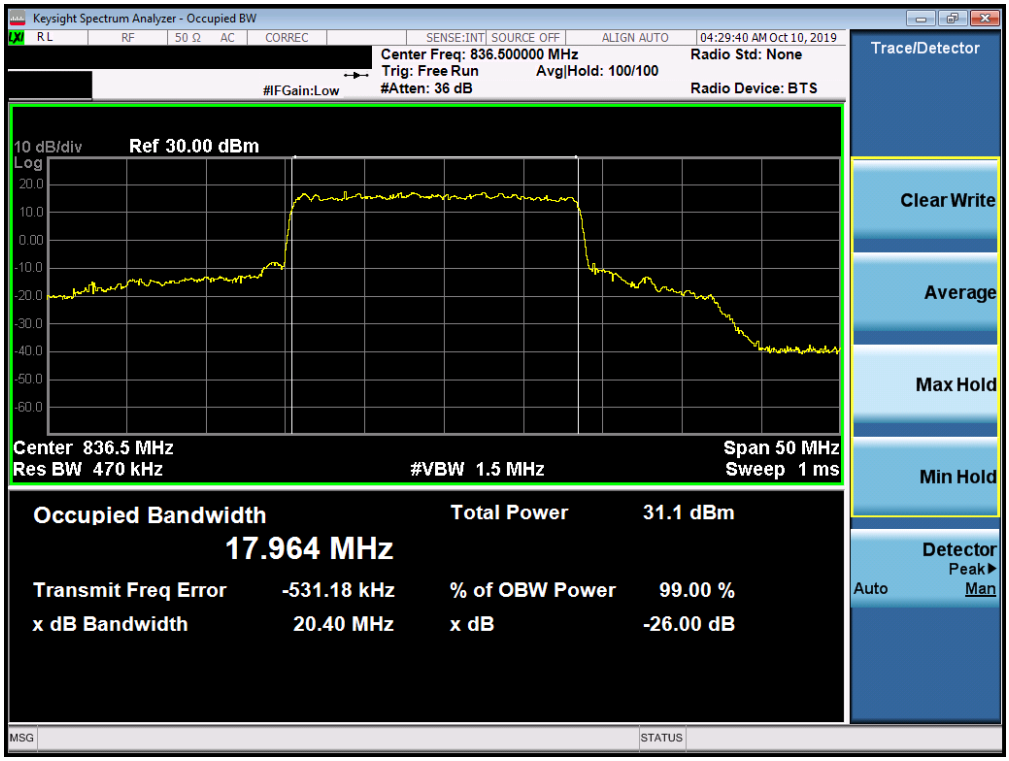


Plot 7-450. Occupied Bandwidth Plot (n5 15MHz 256QAM - Full RB Configuration)



Plot 7-451. Occupied Bandwidth Plot (n5 20MHz QPSK - Full RB Configuration)

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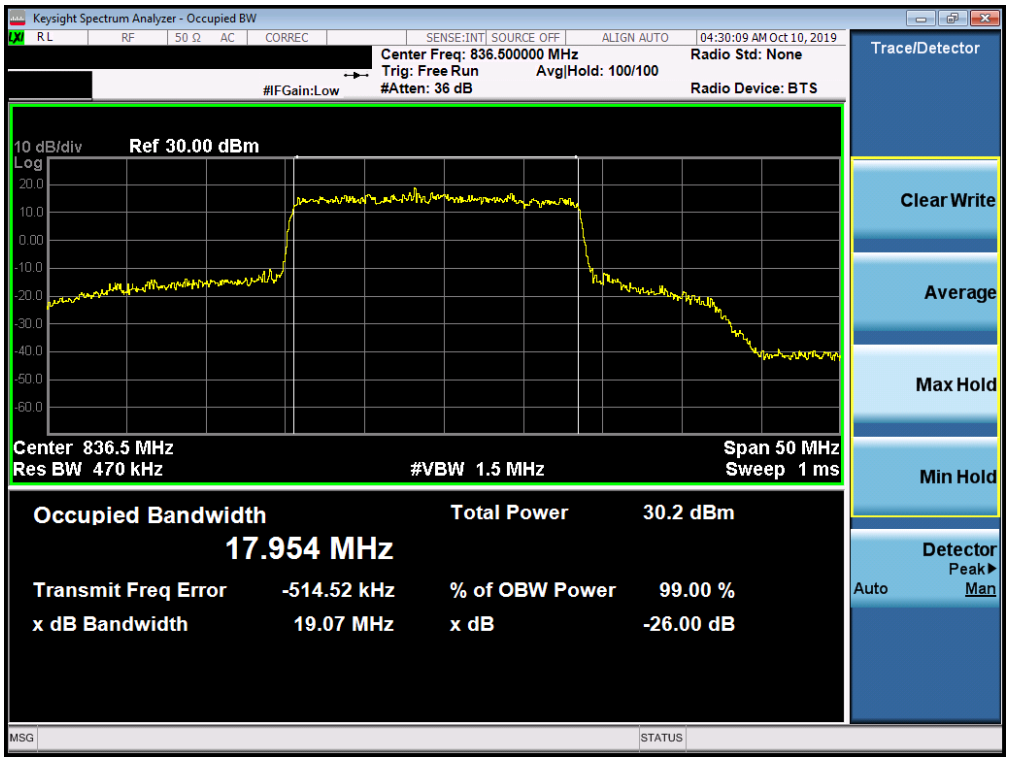
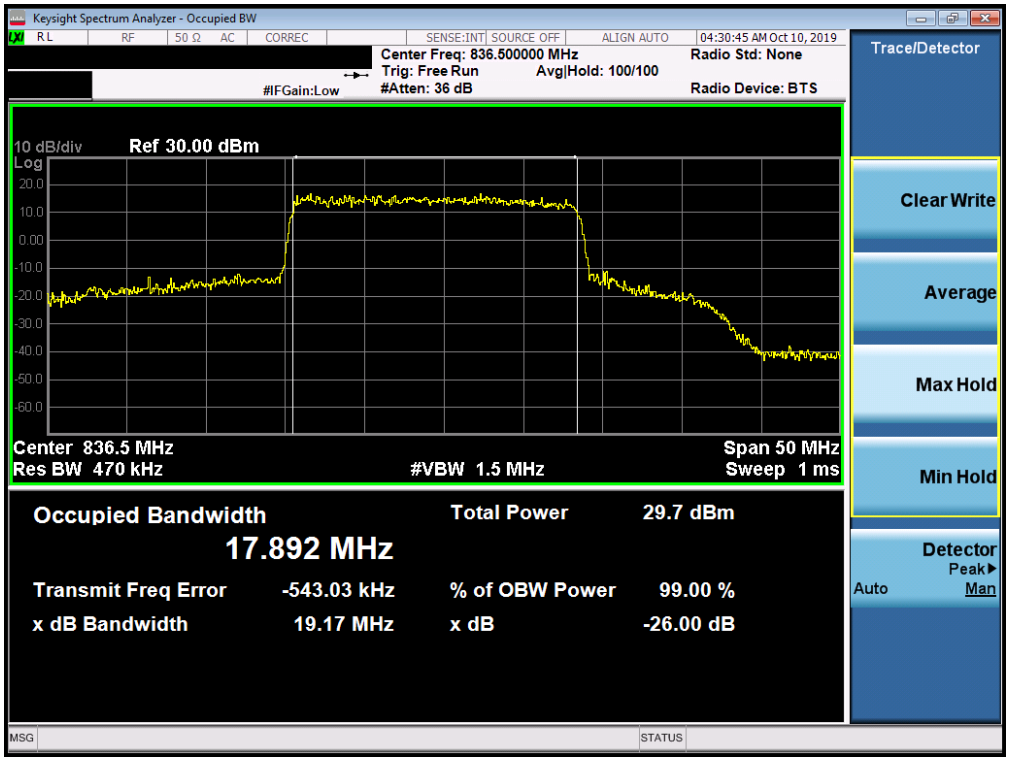


Plot 7-452. Occupied Bandwidth Plot (n5 20MHz 16QAM - Full RB Configuration)



Plot 7-453. Occupied Bandwidth Plot (n5 20MHz 64QAM- Full RB Configuration)

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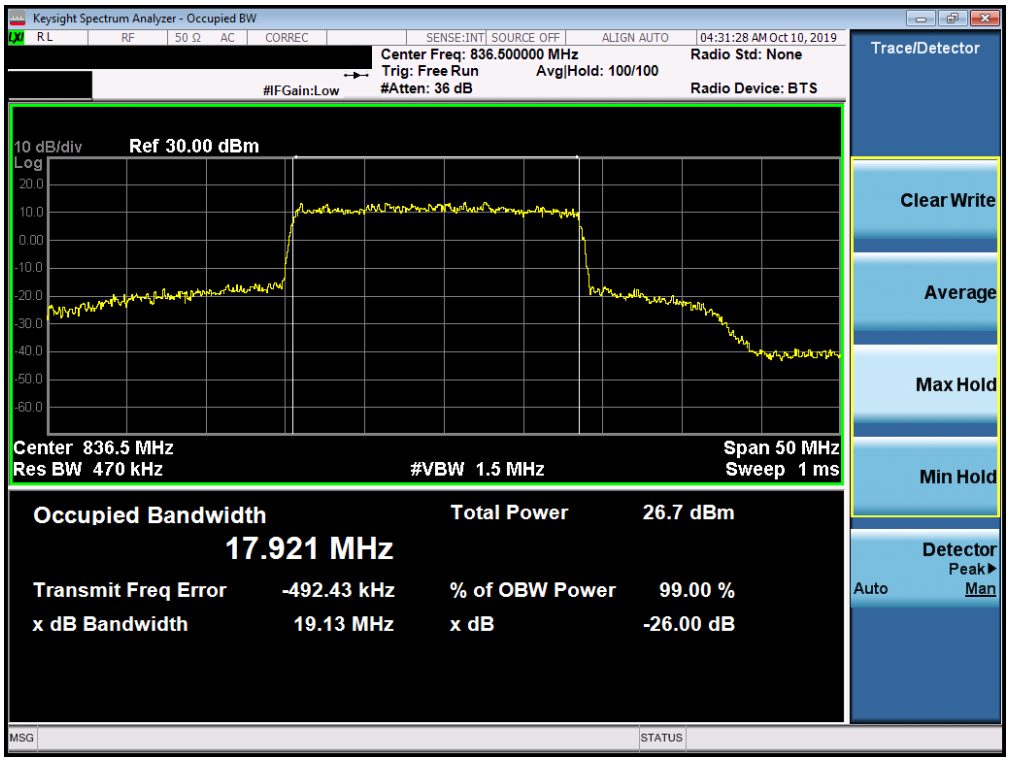
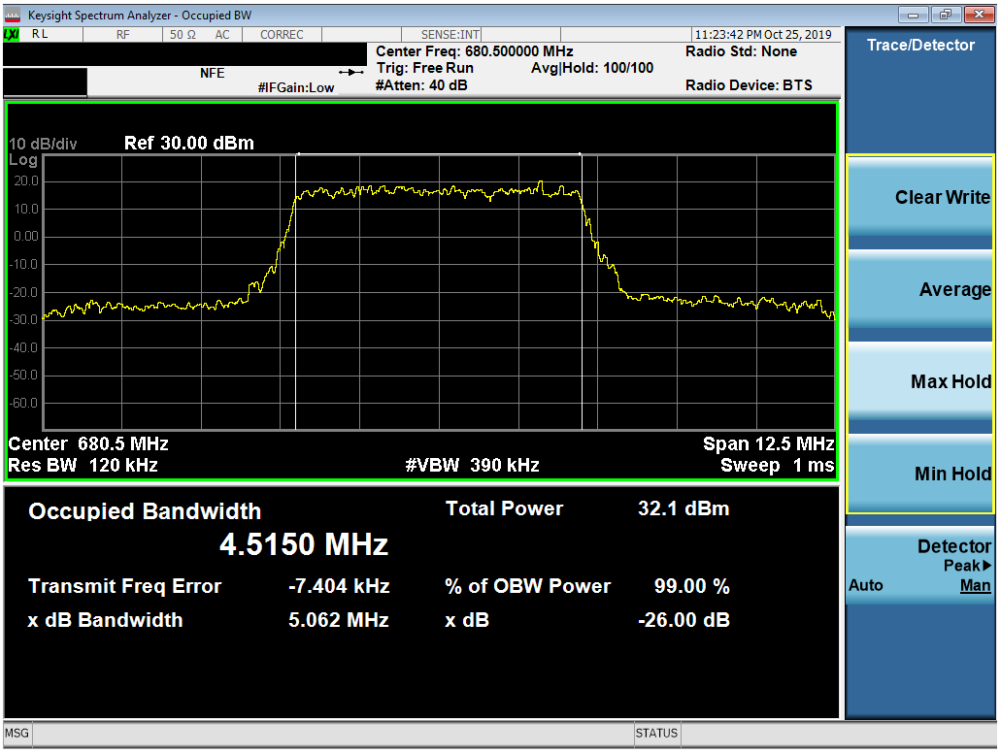


Plot 7-454. Occupied Bandwidth Plot (n5 20MHz 256QAM - Full RB Configuration)



Plot 7-455. Occupied Bandwidth Plot (n71 5MHz QPSK - Full RB Configuration)

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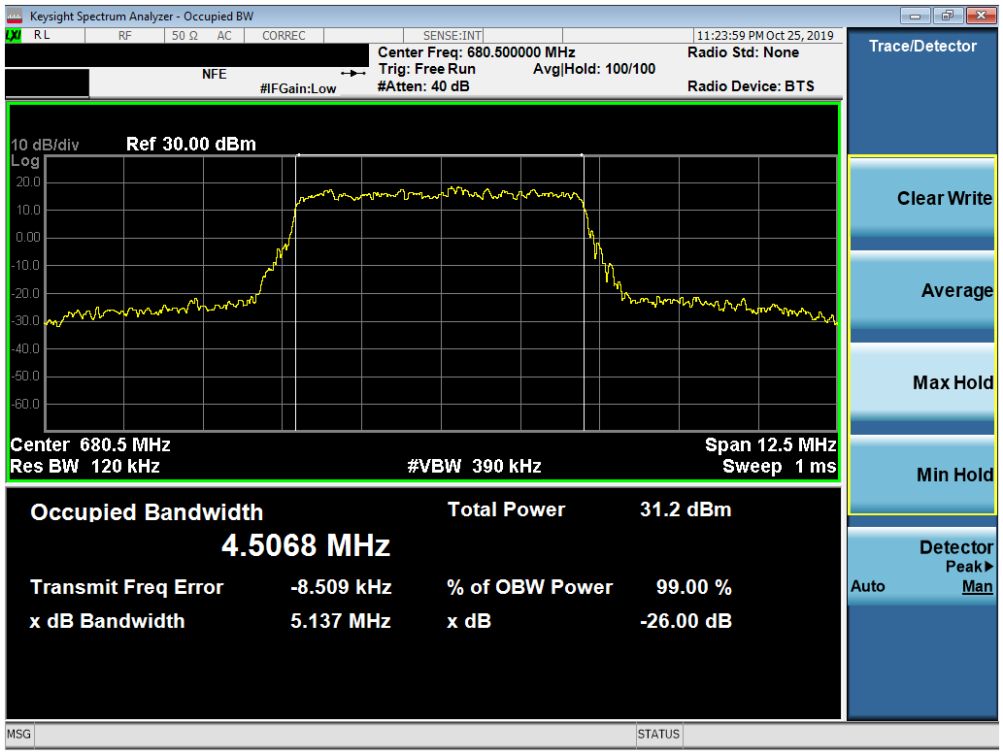
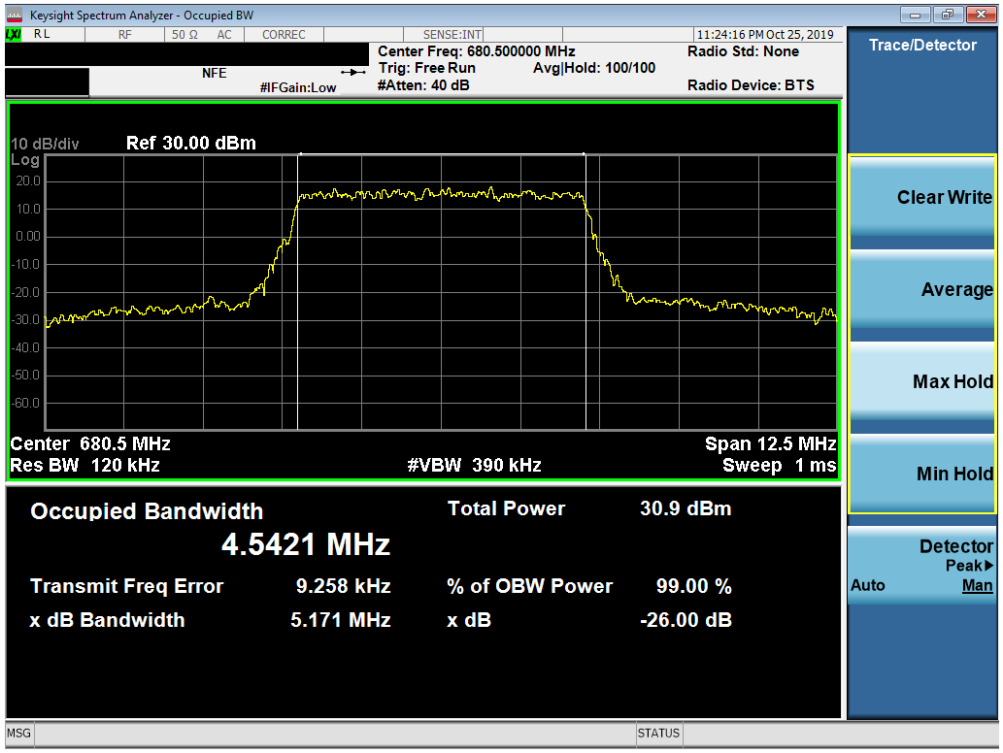


Plot 7-456. Occupied Bandwidth Plot (n71 5MHz 16QAM - Full RB Configuration)



Plot 7-457. Occupied Bandwidth Plot (n71 5MHz 64QAM- Full RB Configuration)

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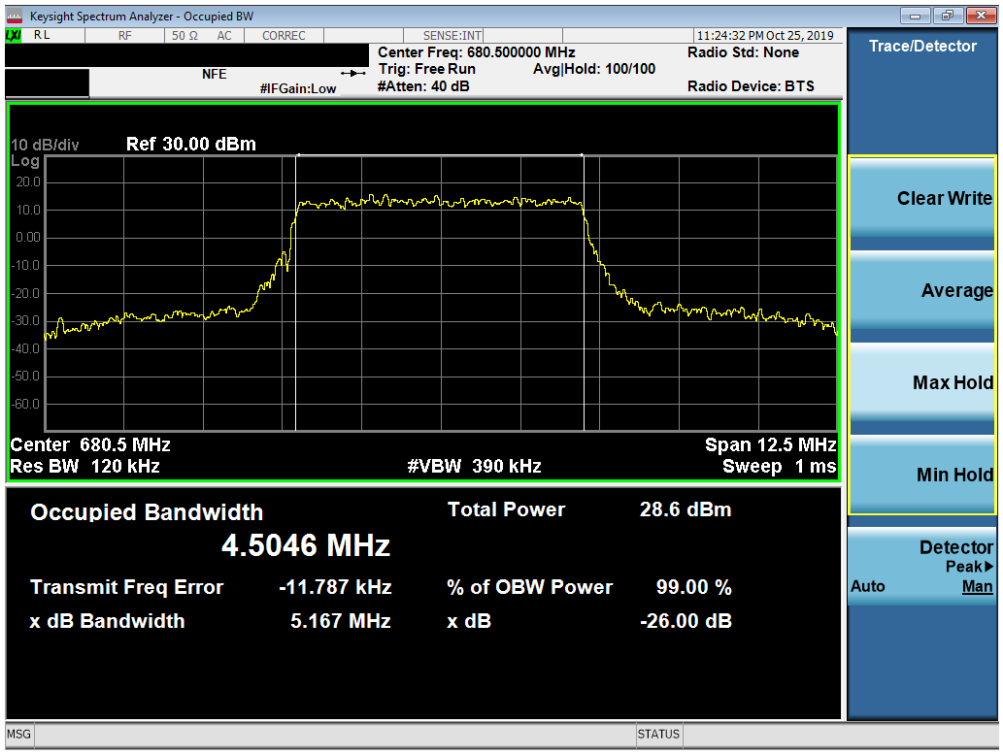
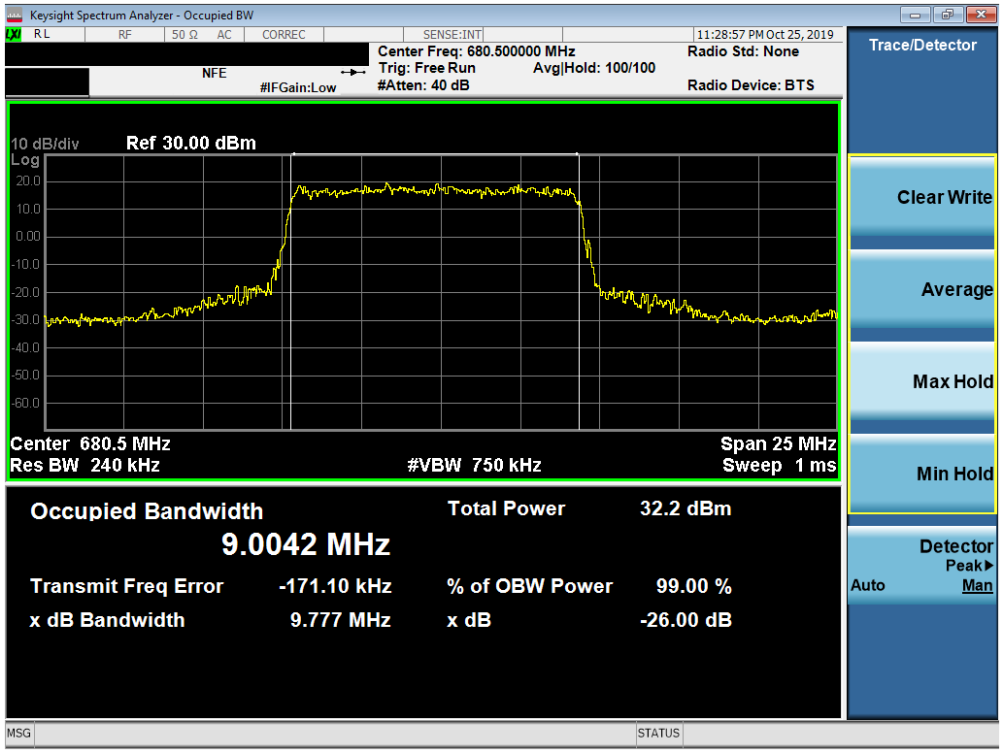


Plot 7-458. Occupied Bandwidth Plot (n71 5MHz 256QAM - Full RB Configuration)



Plot 7-459. Occupied Bandwidth Plot (n71 10MHz QPSK - Full RB Configuration)

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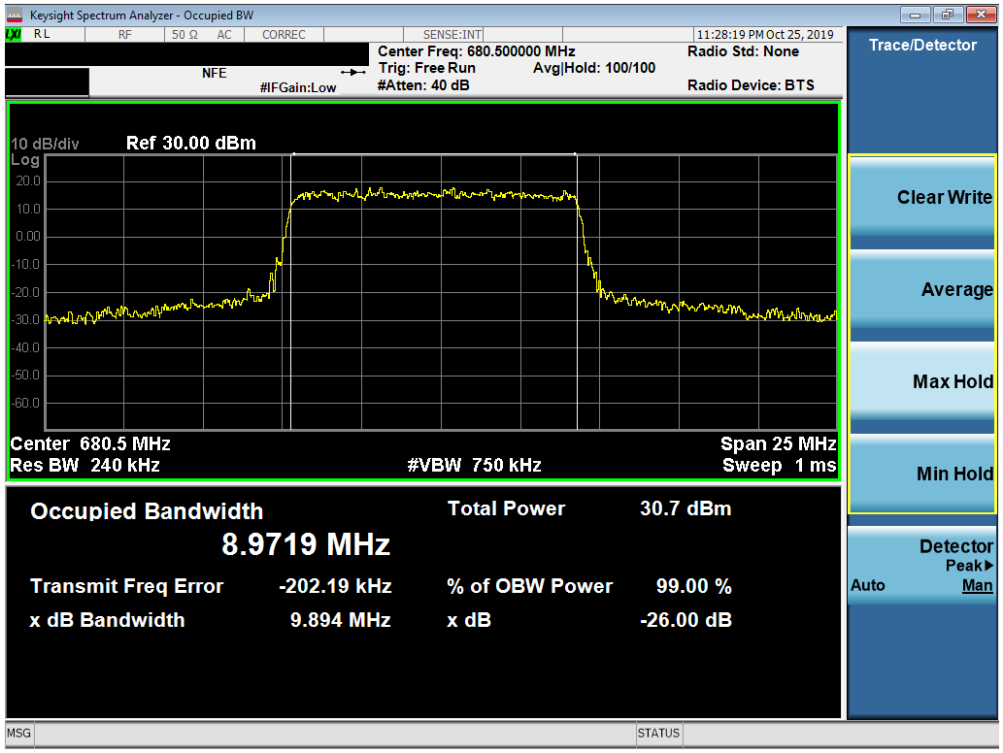
Plot 7-460. Occupied Bandwidth Plot (n71 10MHz 16QAM - Full RB Configuration)



Plot 7-461. Occupied Bandwidth Plot (n71 10MHz 64QAM- Full RB Configuration)

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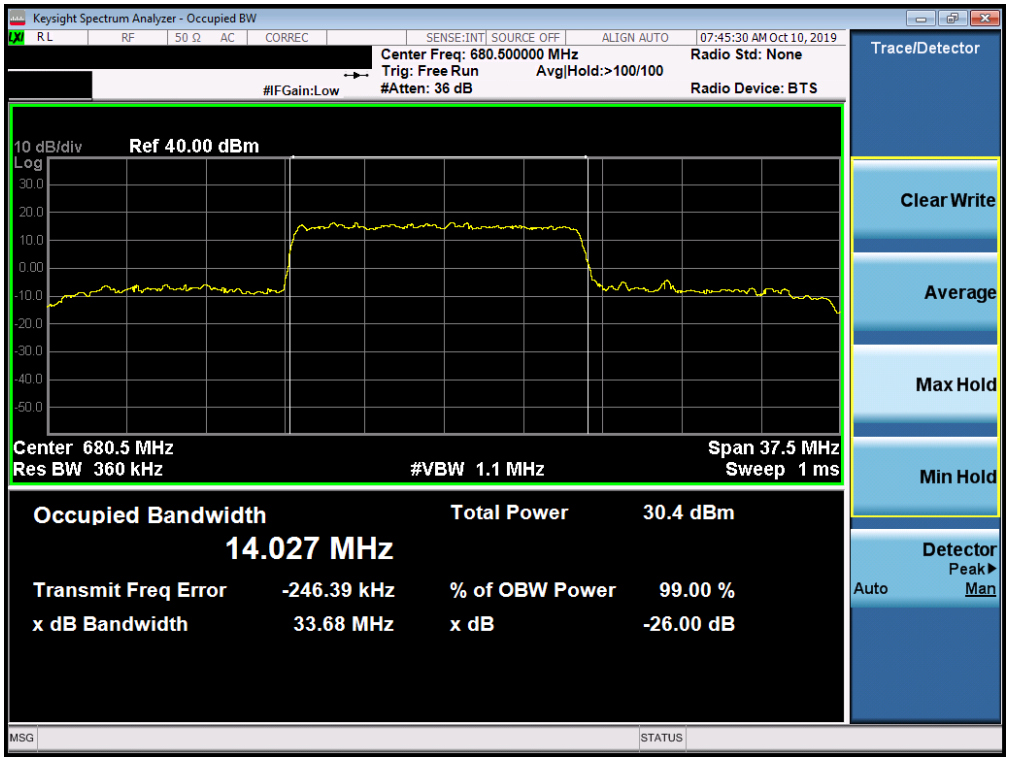
Plot 7-462. Occupied Bandwidth Plot (n71 10MHz 256QAM - Full RB Configuration)



Plot 7-463. Occupied Bandwidth Plot (n71 15MHz QPSK - Full RB Configuration)

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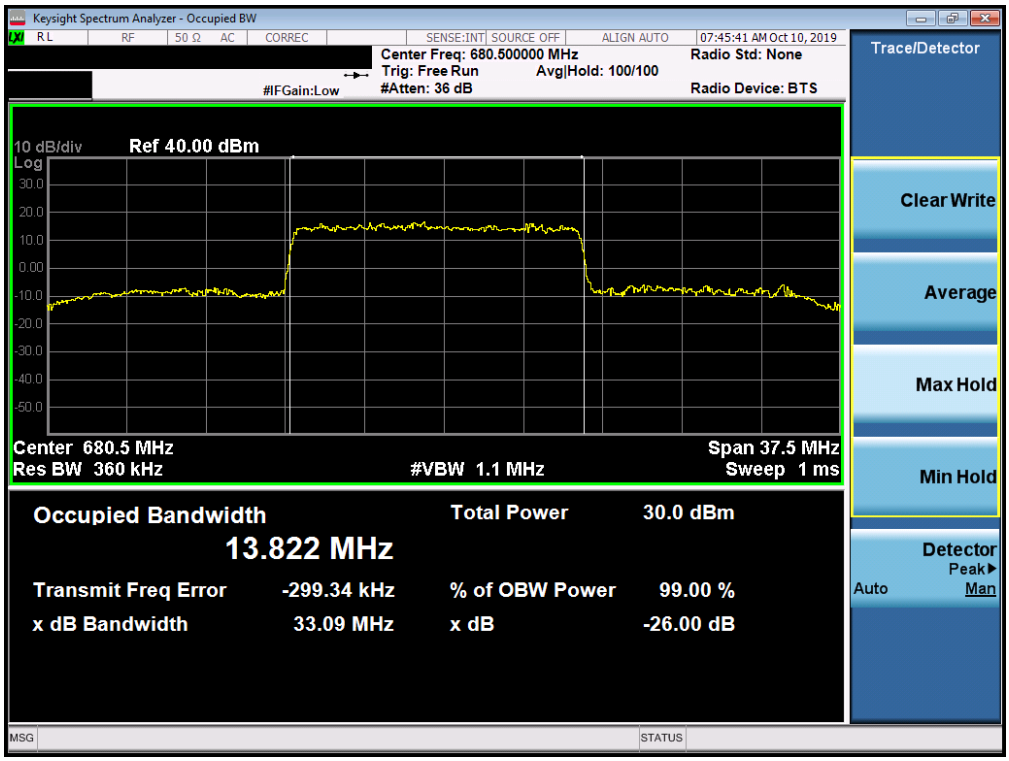
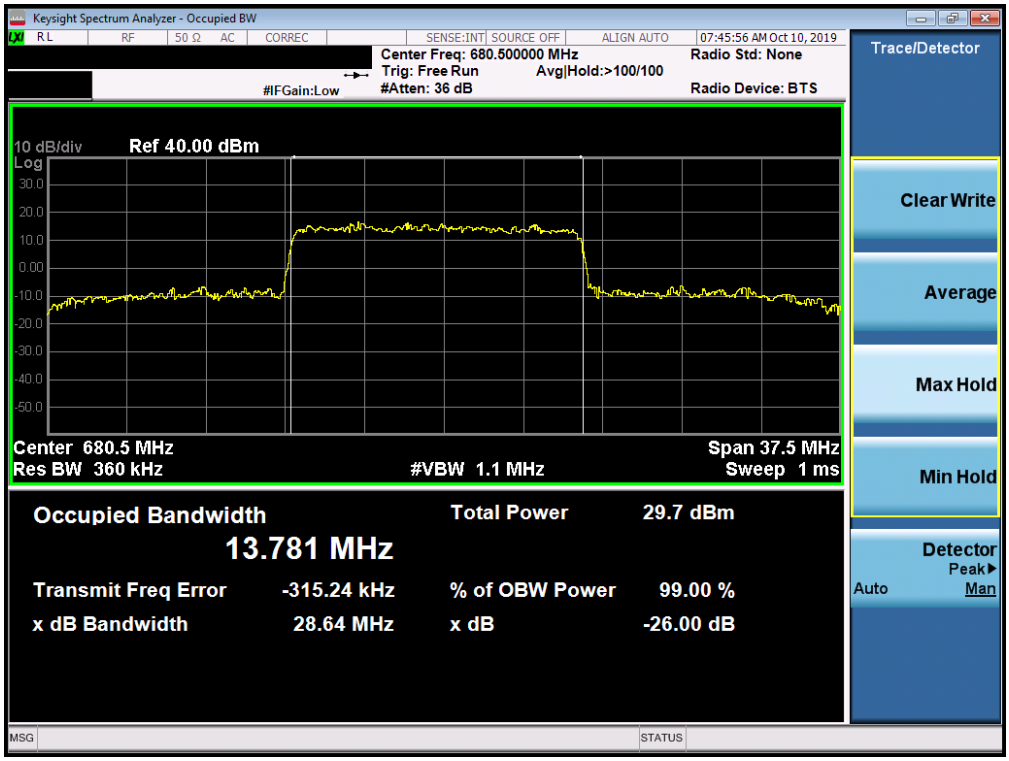


Plot 7-464. Occupied Bandwidth Plot (n71 15MHz 16QAM - Full RB Configuration)



Plot 7-465. Occupied Bandwidth Plot (n71 15MHz 64QAM- Full RB Configuration)

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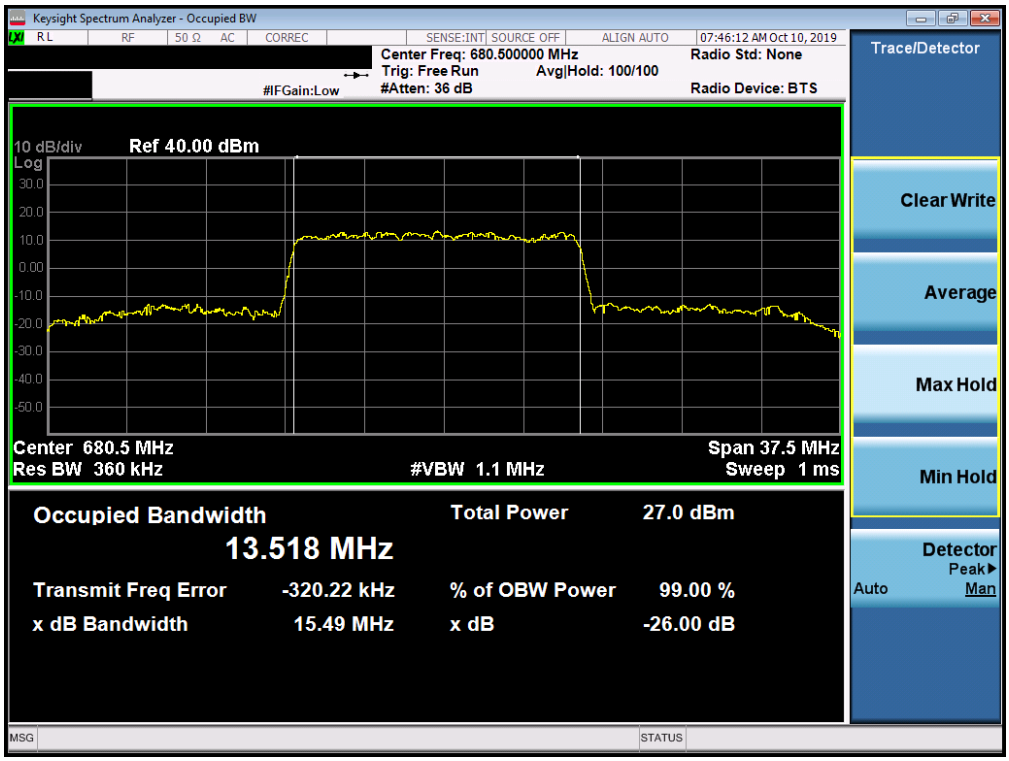
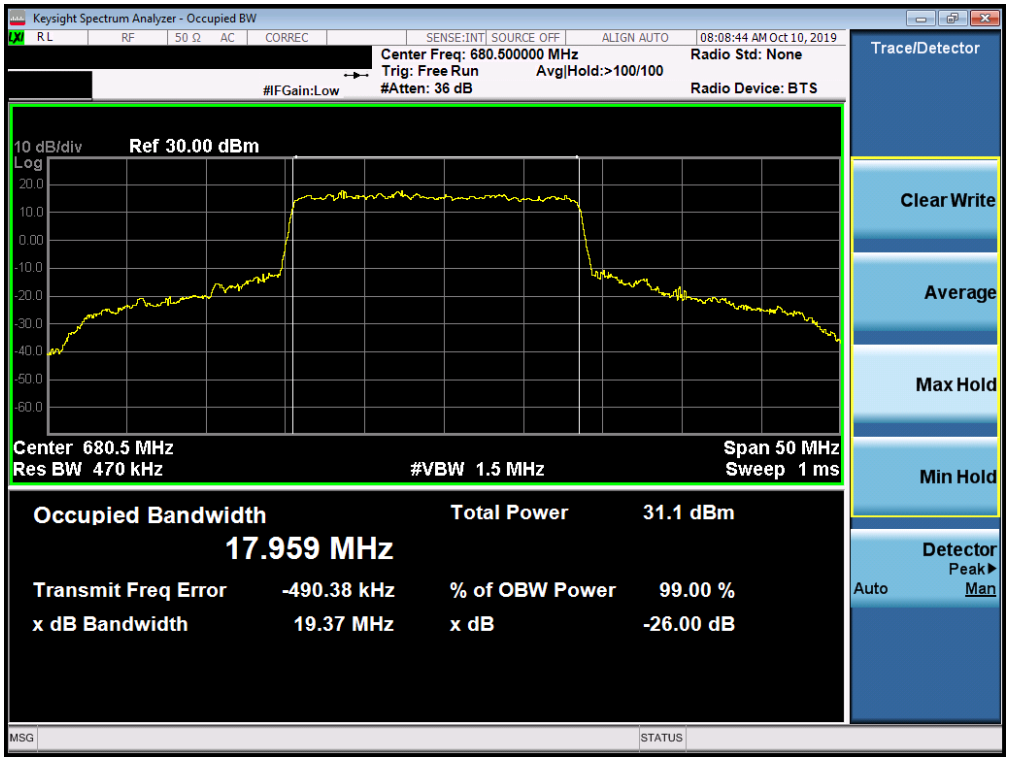


Plot 7-466. Occupied Bandwidth Plot (n71 15MHz 256QAM - Full RB Configuration)



Plot 7-467. Occupied Bandwidth Plot (n71 20MHz QPSK - Full RB Configuration)

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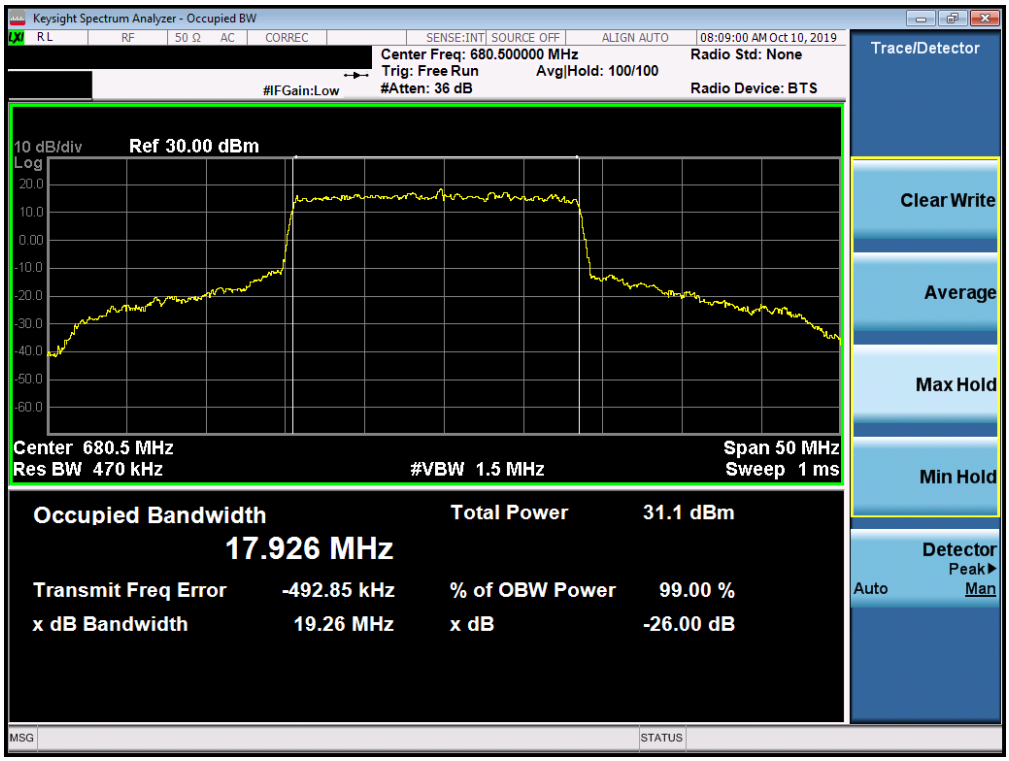
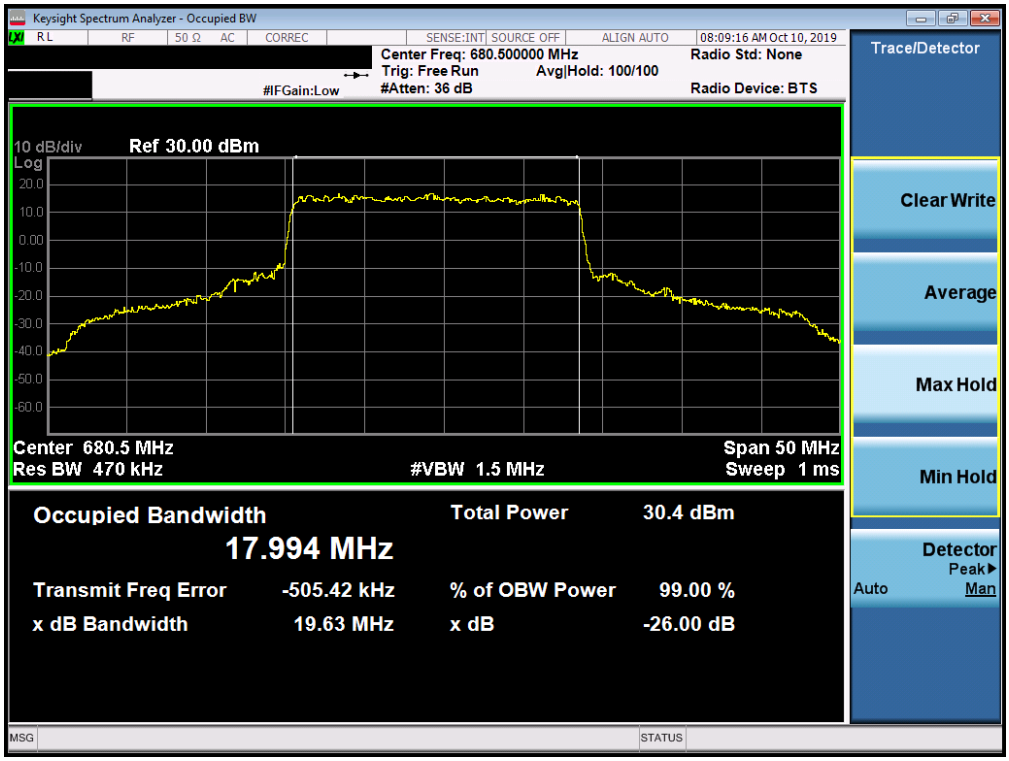


Plot 7-468. Occupied Bandwidth Plot (n71 20MHz 16QAM - Full RB Configuration)



Plot 7-469. Occupied Bandwidth Plot (n71 20MHz 64QAM- Full RB Configuration)

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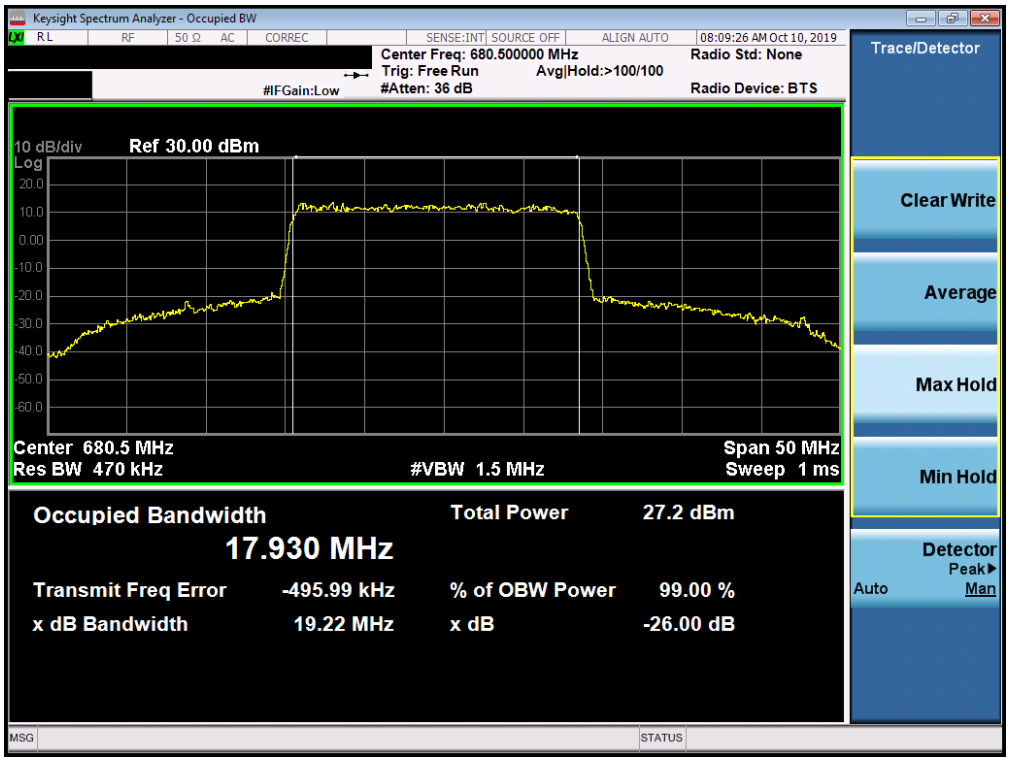

Plot 7-470. Occupied Bandwidth Plot (n71 20MHz 256QAM - Full RB Configuration)

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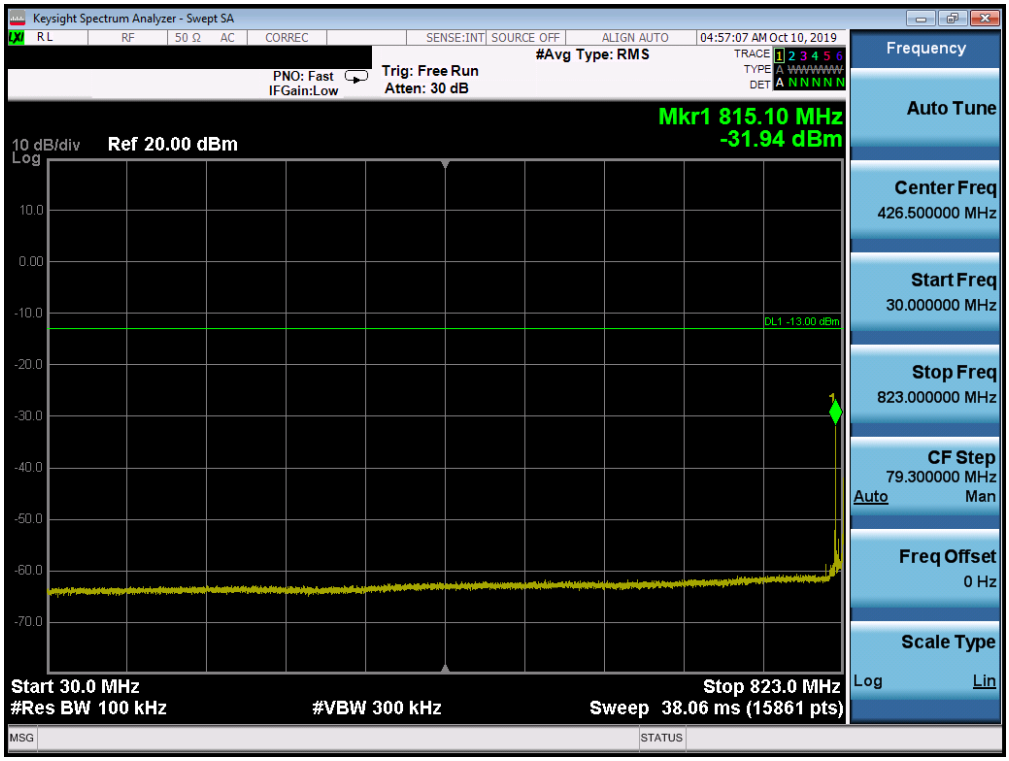
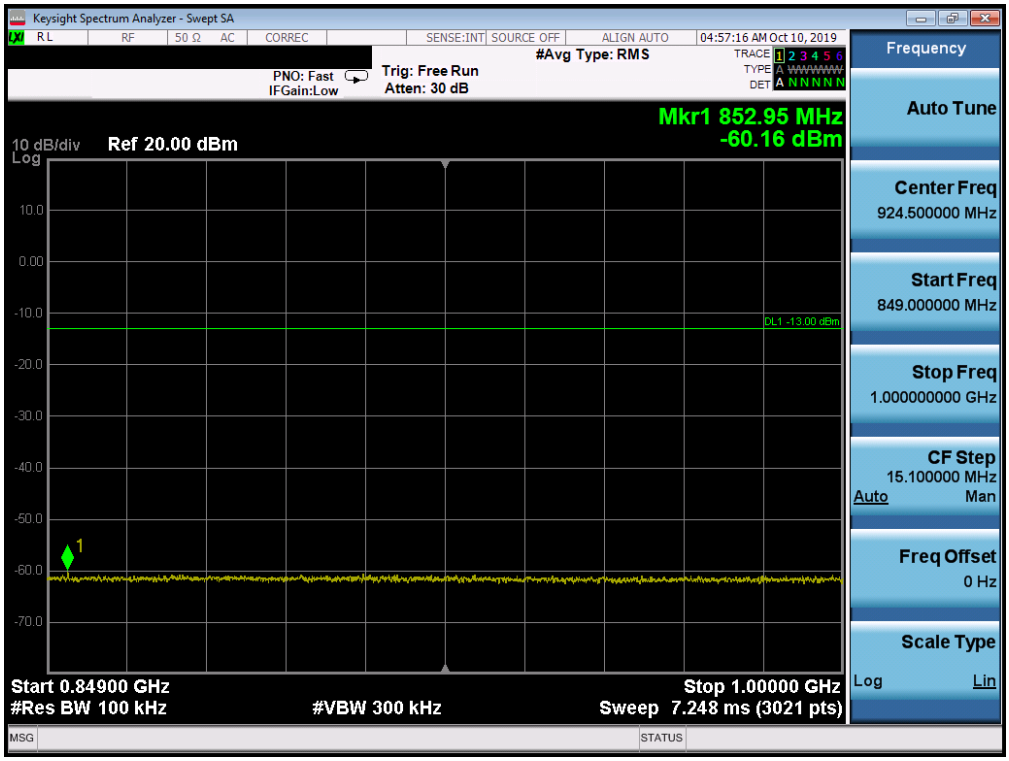
Spurious and Harmonic Emissions at the Antenna Terminal



Plot 7-471. Conducted Spurious Plot (n5 - 20MHz DFT-QPSK - RB Size 1, RB Offset 0 - Low Channel)



Plot 7-472. Conducted Spurious Plot (n5 - 20MHz DFT-QPSK - RB Size 1, RB Offset 0 - Low Channel)

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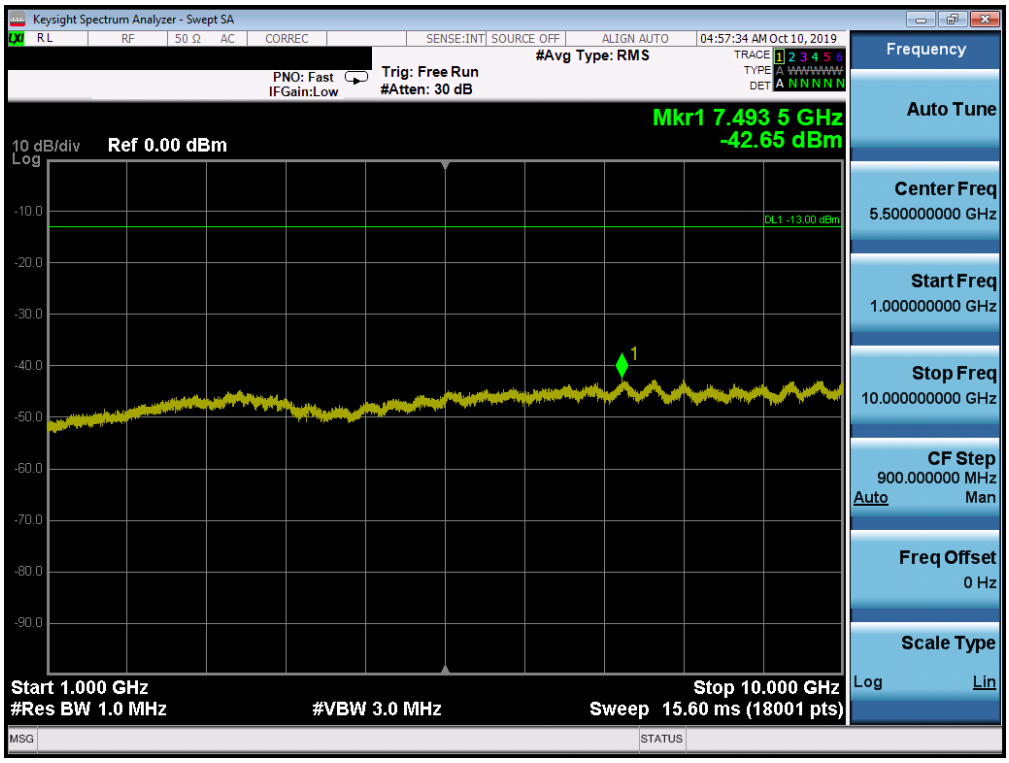
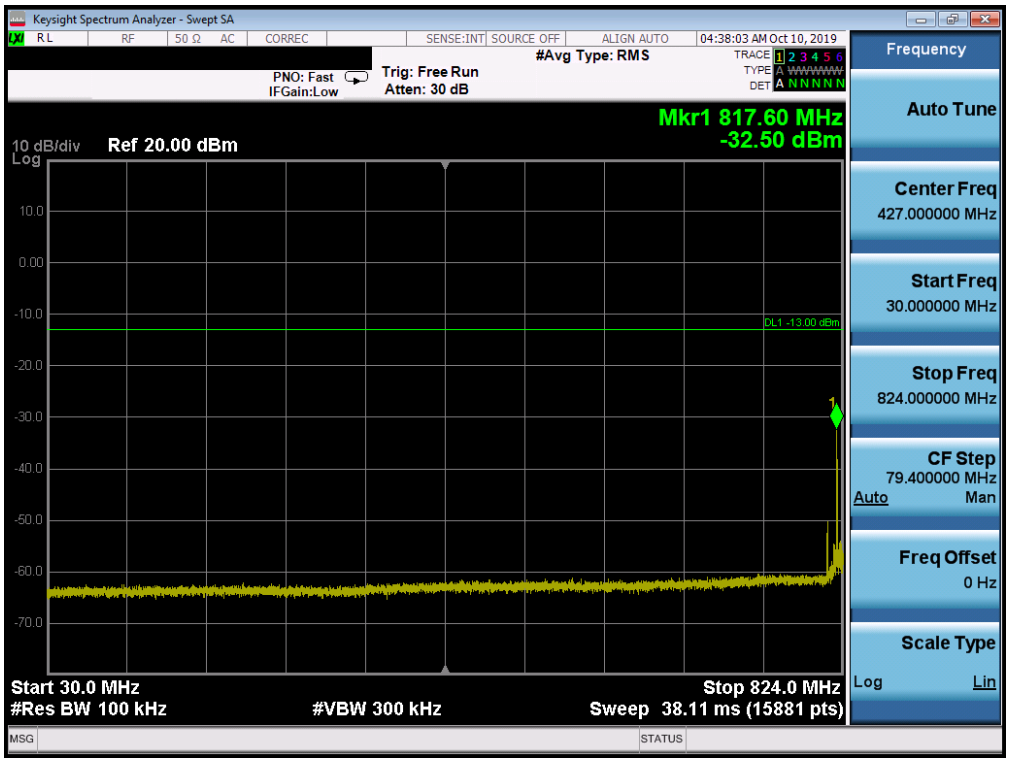


Plot 7-473. Conducted Spurious Plot (n5 - 20MHz DFT-QPSK - RB Size 1, RB Offset 0 - Low Channel)



Plot 7-474. Conducted Spurious Plot (n5 - 20MHz DFT-QPSK - RB Size 1, RB Offset 0 - Mid Channel)

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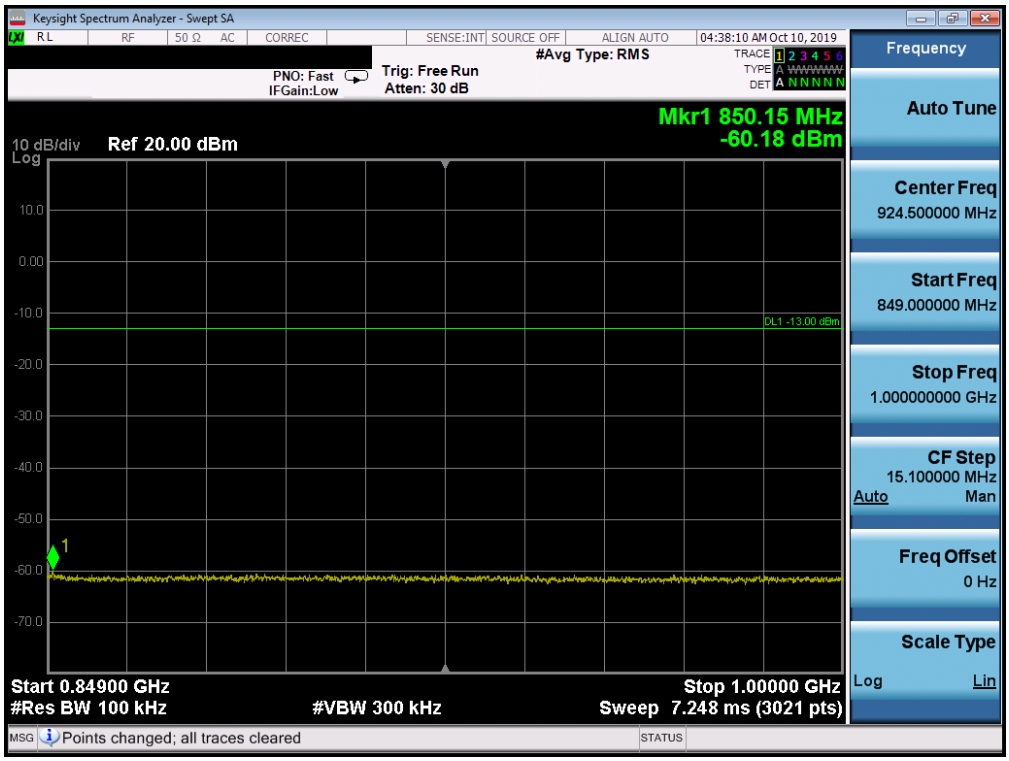
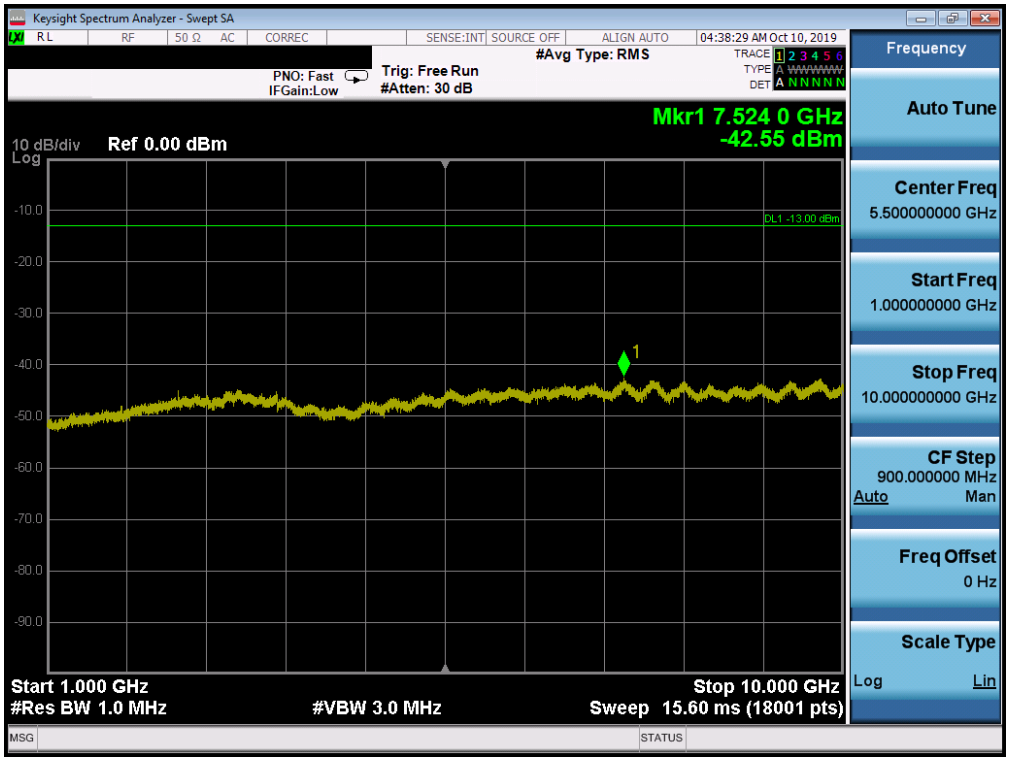


Plot 7-475. Conducted Spurious Plot (n5 - 20MHz DFT-QPSK - RB Size 1, RB Offset 0 - Mid Channel)



Plot 7-476. Conducted Spurious Plot (n5 - 20MHz DFT-QPSK - RB Size 1, RB Offset 0 - Mid Channel)

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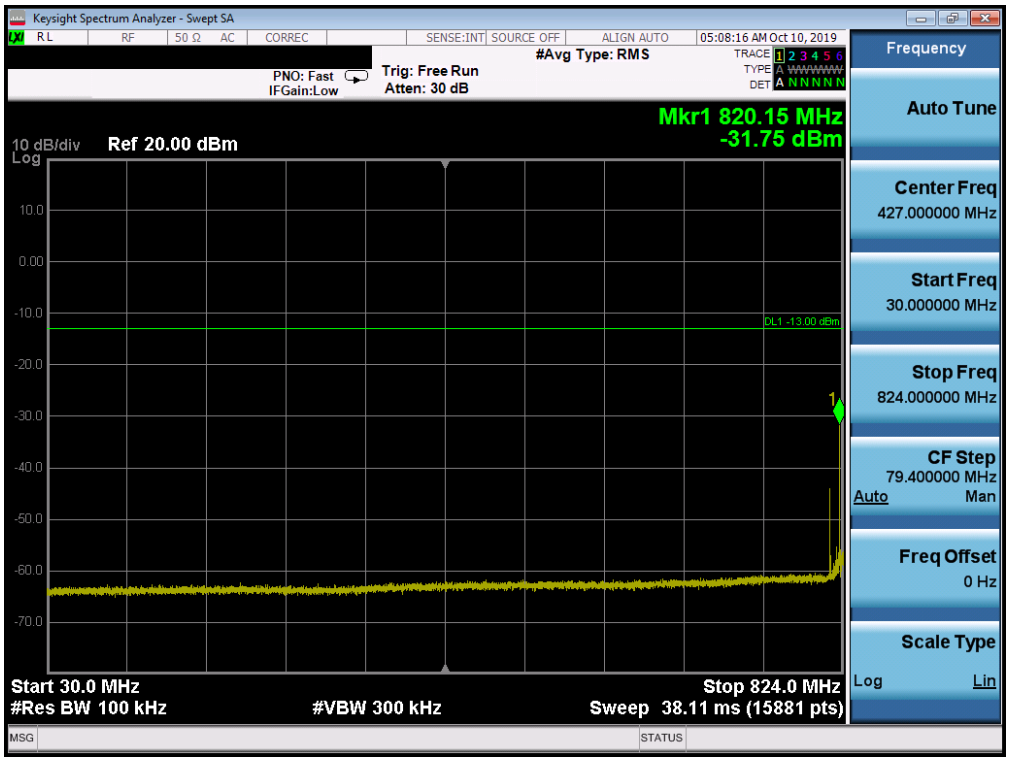
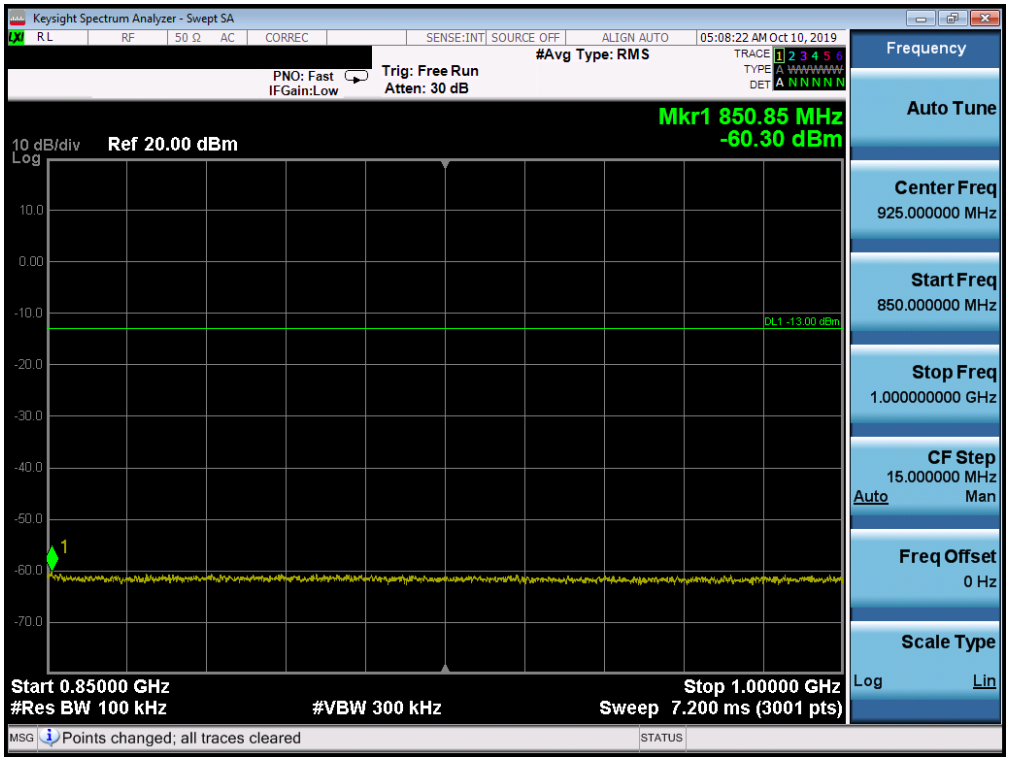


Plot 7-477. Conducted Spurious Plot (n5 - 20MHz DFT-QPSK - RB Size 1, RB Offset 0 - High Channel)



Plot 7-478. Conducted Spurious Plot (n5 - 20MHz DFT-QPSK - RB Size 1, RB Offset 0 - High Channel)

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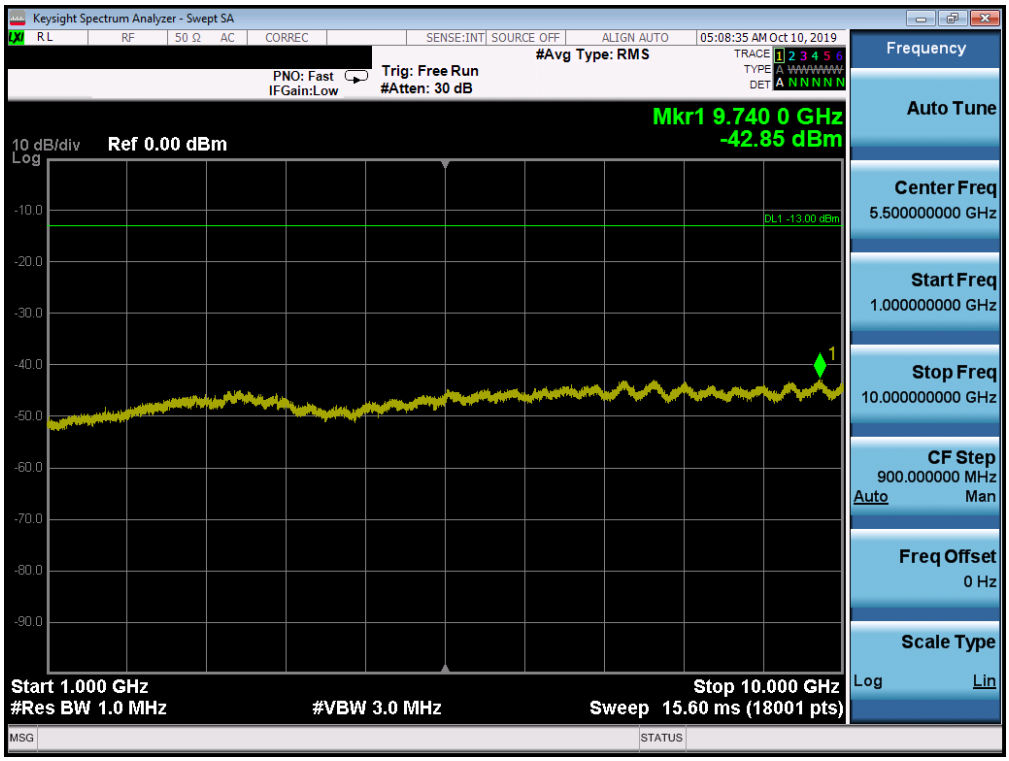
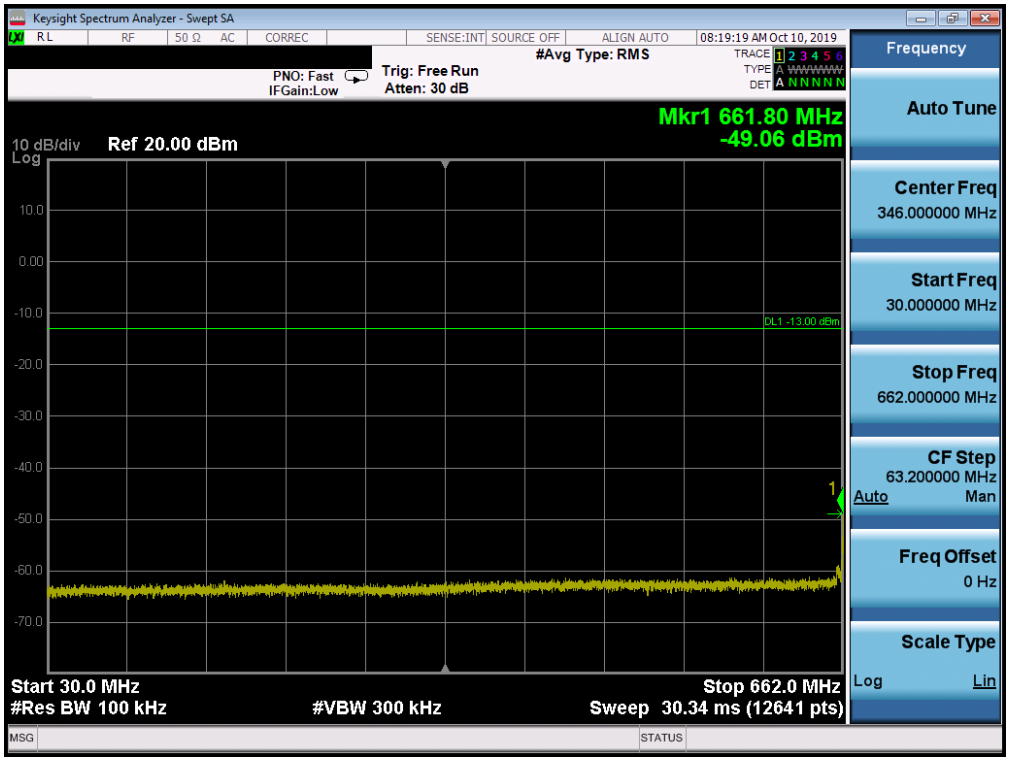


Plot 7-479. Conducted Spurious Plot (n5 - 20MHz DFT-QPSK - RB Size 1, RB Offset 0 - High Channel)



Plot 7-480. Conducted Spurious Plot (n71 - 20MHz DFT-QPSK - RB Size 1, RB Offset 0 - Low Channel)

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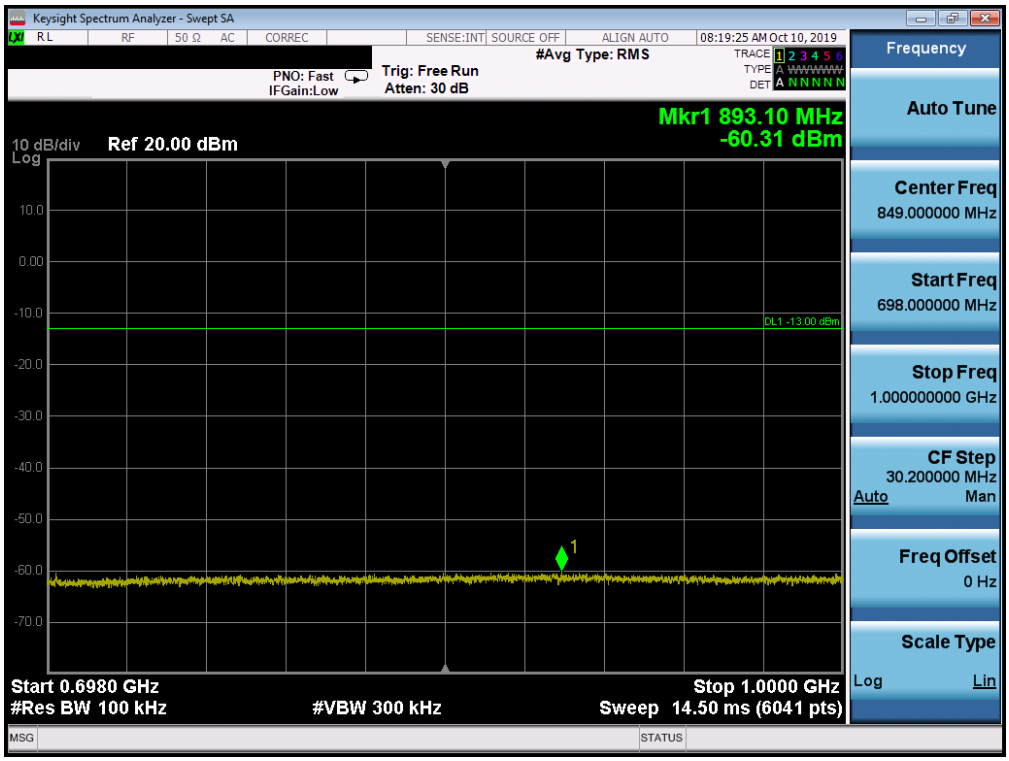
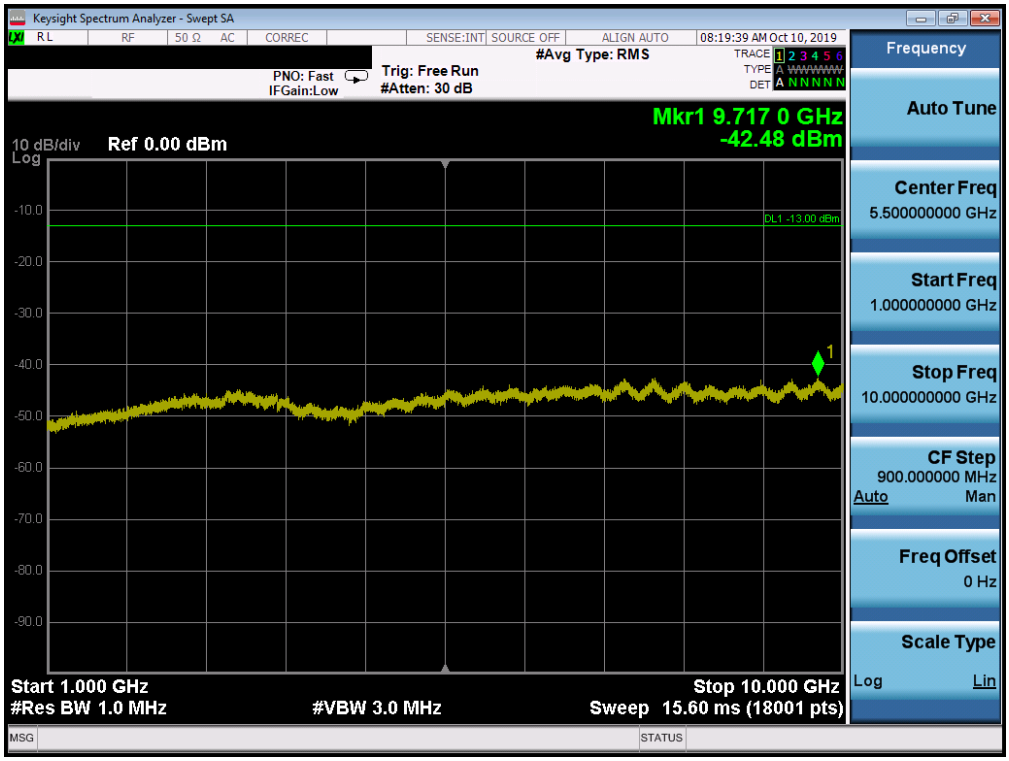


Plot 7-481. Conducted Spurious Plot (n71 - 20MHz DFT-QPSK - RB Size 1, RB Offset 0 - Low Channel)



Plot 7-482. Conducted Spurious Plot (n71 - 20MHz DFT-QPSK - RB Size 1, RB Offset 0 - Low Channel)

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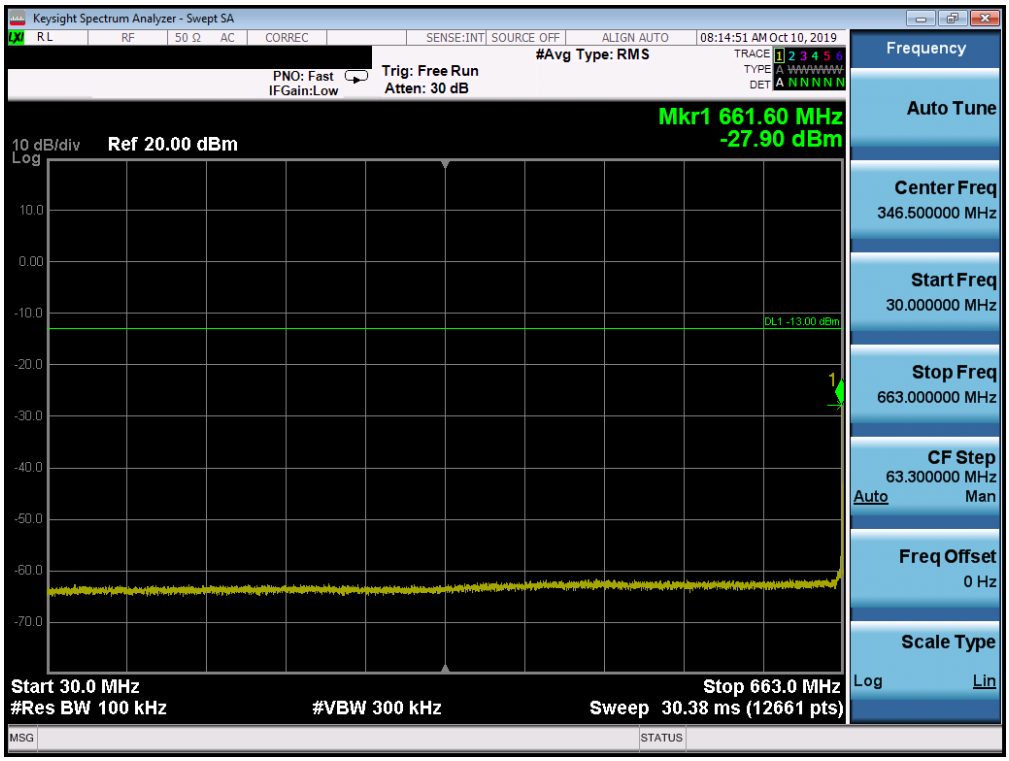
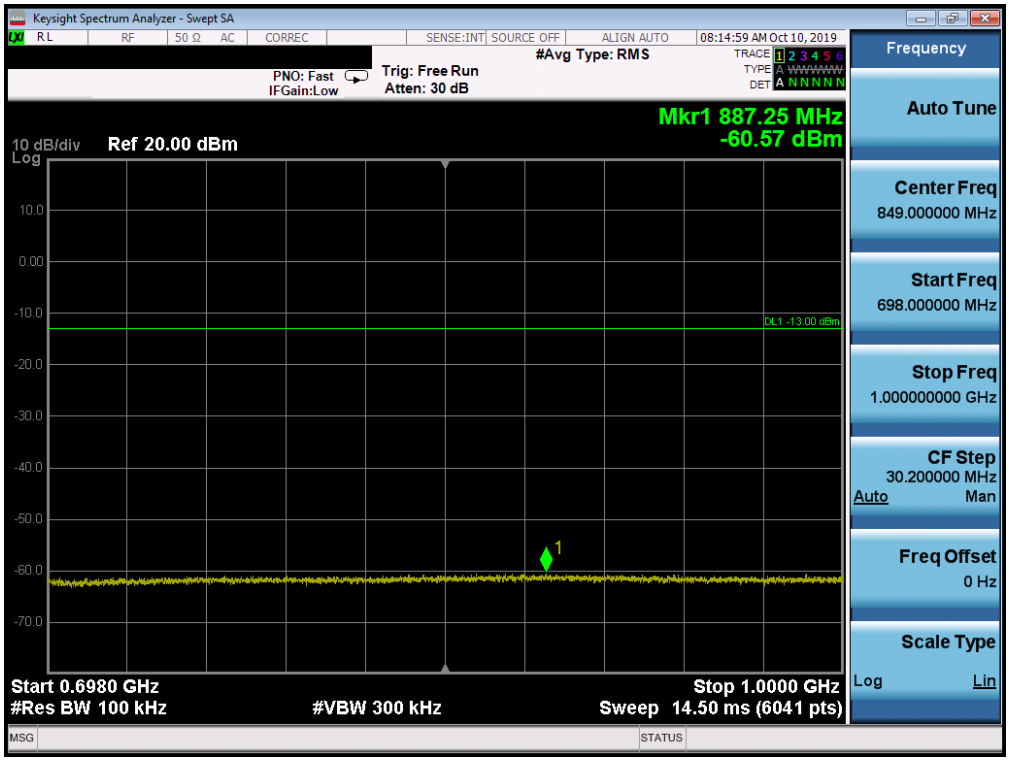


Plot 7-483. Conducted Spurious Plot (n71 - 20MHz DFT-QPSK - RB Size 1, RB Offset 0 - Mid Channel)



Plot 7-484. Conducted Spurious Plot (n71 - 20MHz DFT-QPSK - RB Size 1, RB Offset 0 - Mid Channel)

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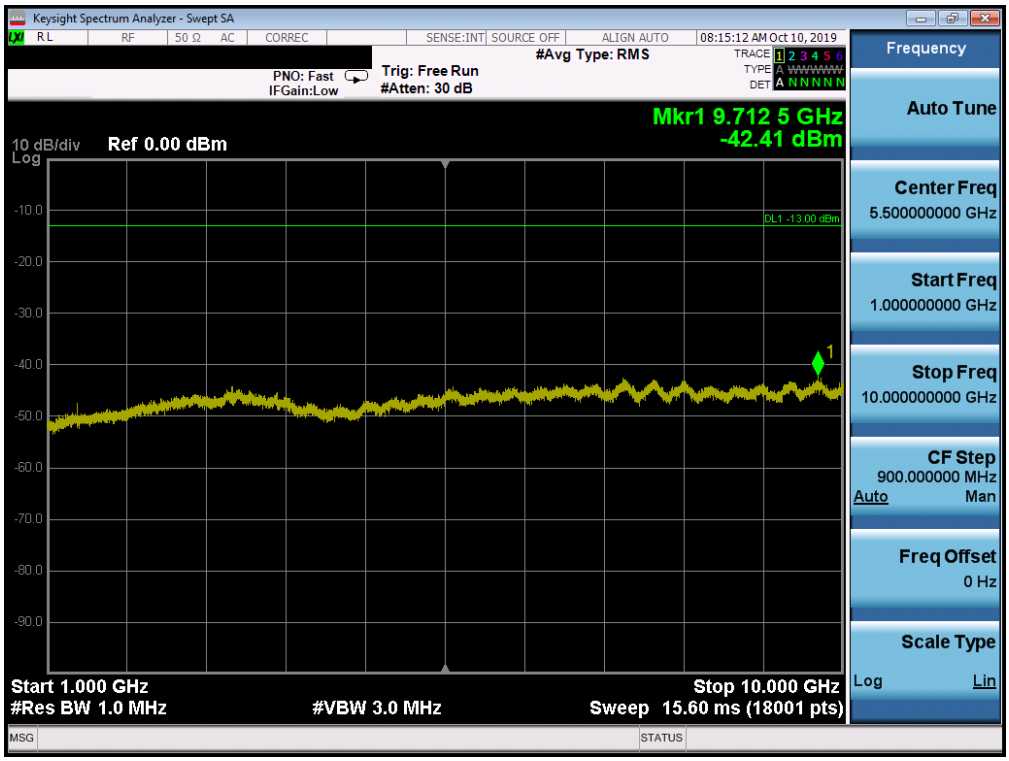
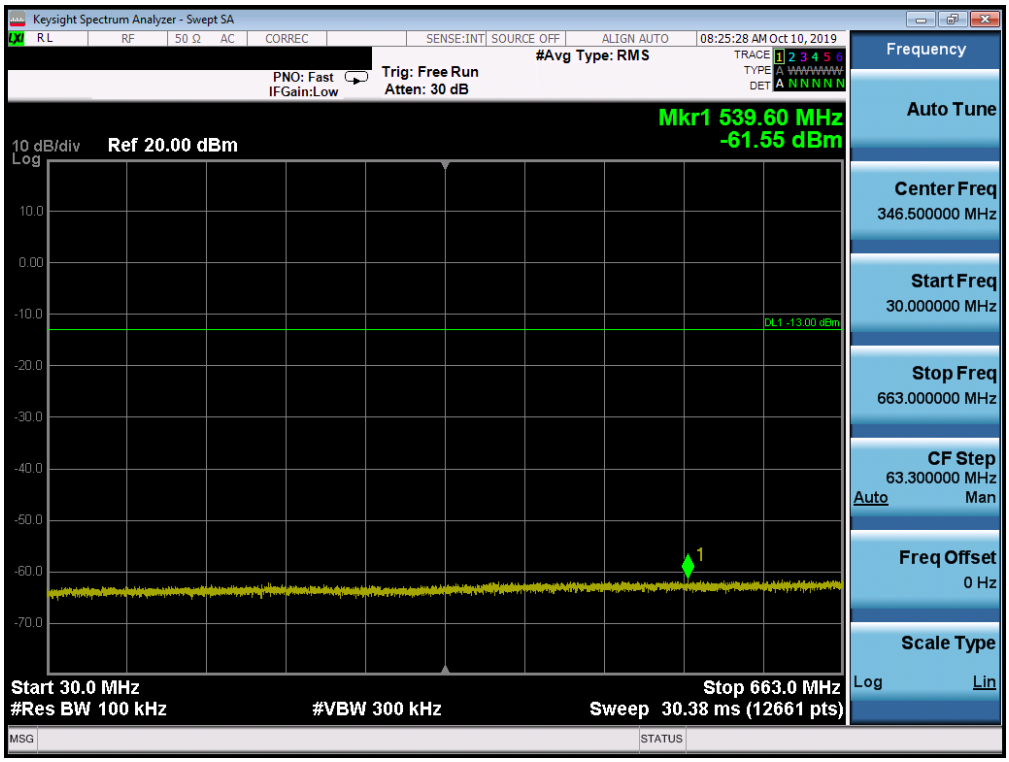


Plot 7-485. Conducted Spurious Plot (n71 - 20MHz DFT-QPSK - RB Size 1, RB Offset 0 - Mid Channel)



Plot 7-486. Conducted Spurious Plot (n71 - 20MHz DFT-QPSK - RB Size 1, RB Offset 0 - High Channel)

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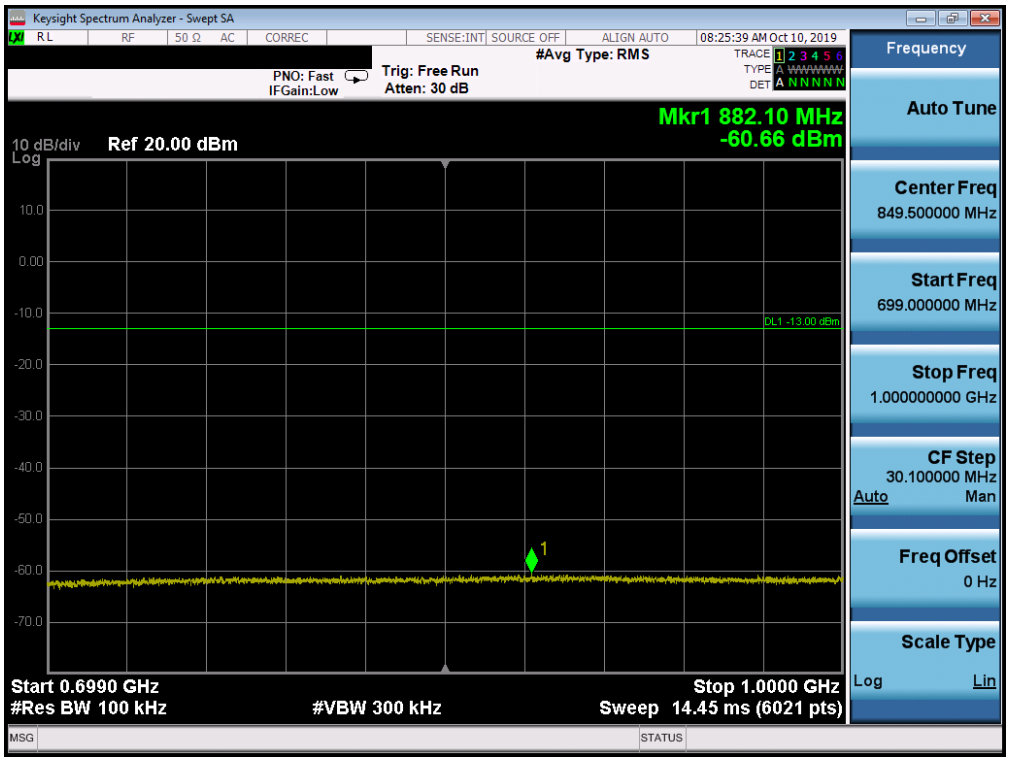

Plot 7-487. Conducted Spurious Plot (n71 - 20MHz DFT-QPSK - RB Size 1, RB Offset 0 - High Channel)

Plot 7-488. Conducted Spurious Plot (n71 - 20MHz DFT-QPSK - RB Size 1, RB Offset 0 - High Channel)

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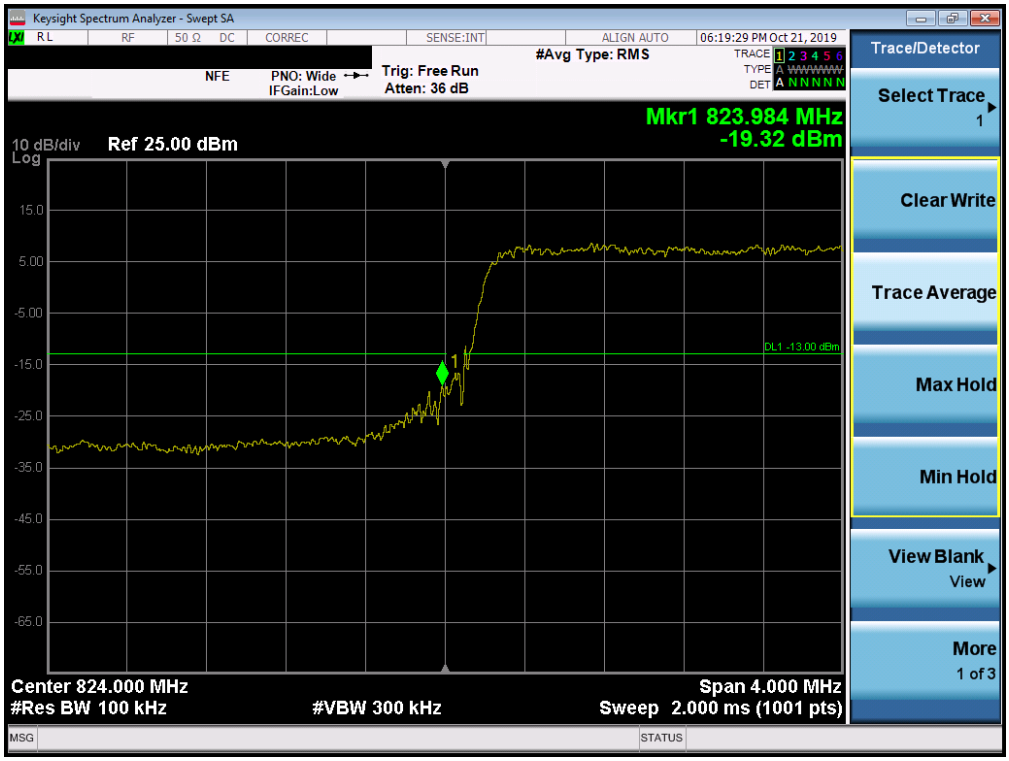
Band Edge Emissions at the Antenna Terminal



Plot 7-489. Lower Band Edge Plot (n5 - 5MHz DFT-QPSK - Full RB Configuration)

Plot 7-490. Upper Band Edge Plot (n5 - 5MHz DFT-QPSK - Full RB Configuration)

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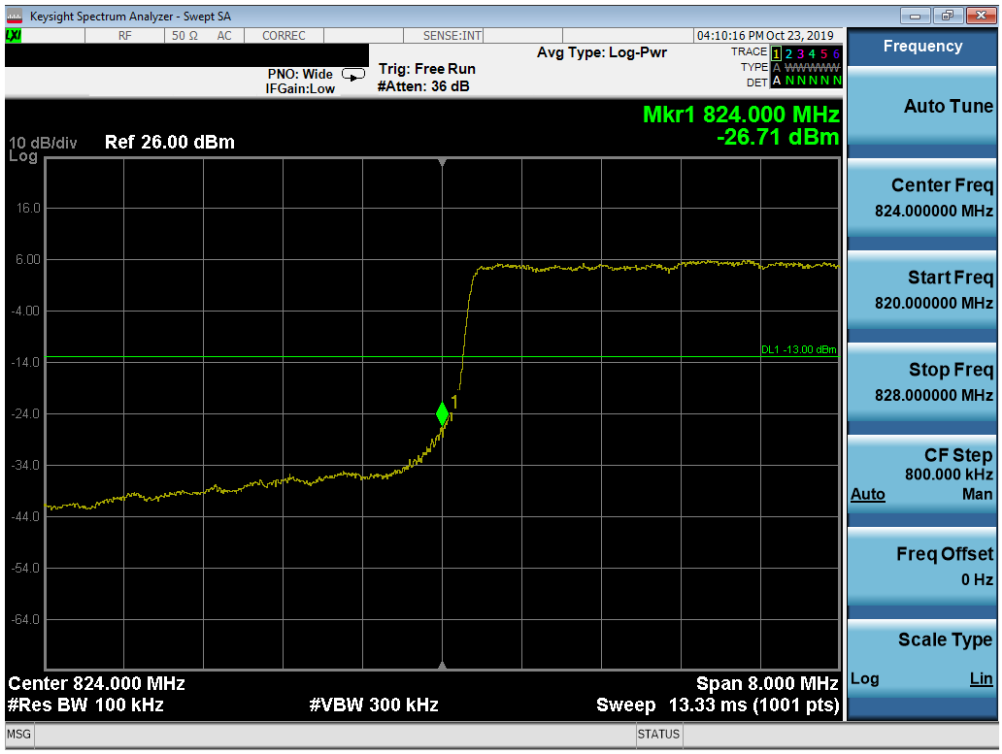
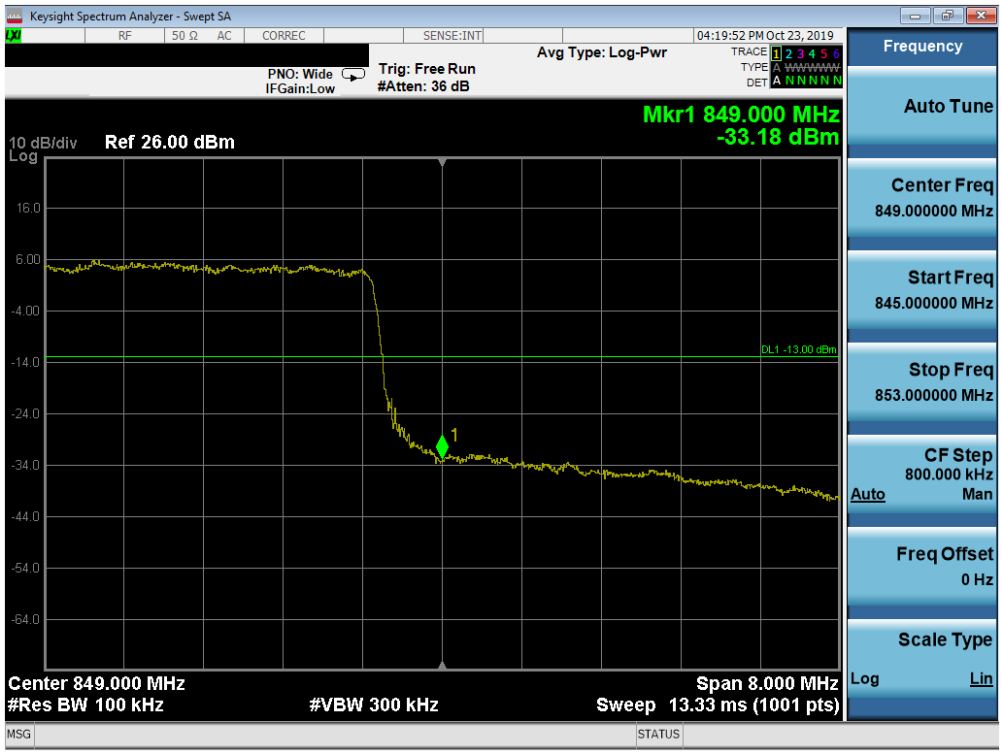


Plot 7-491. Lower Band Edge Plot (n5 - 10MHz DFT-QPSK - Full RB Configuration)



Plot 7-492. Upper Band Edge Plot (n5 - 10MHz DFT-QPSK - Full RB Configuration)

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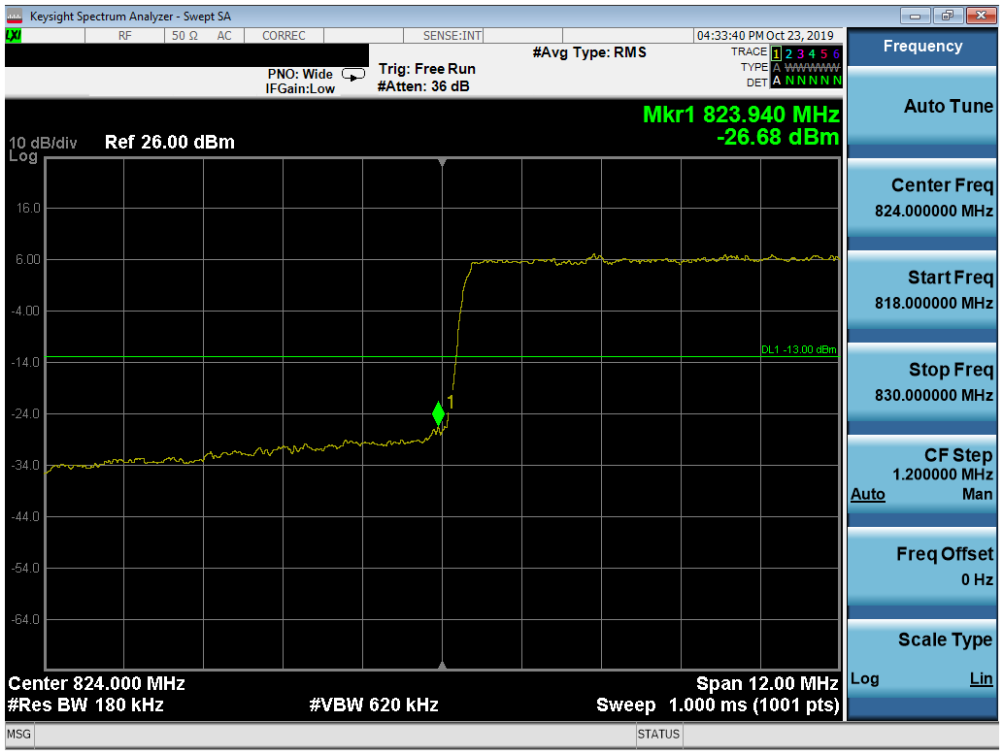
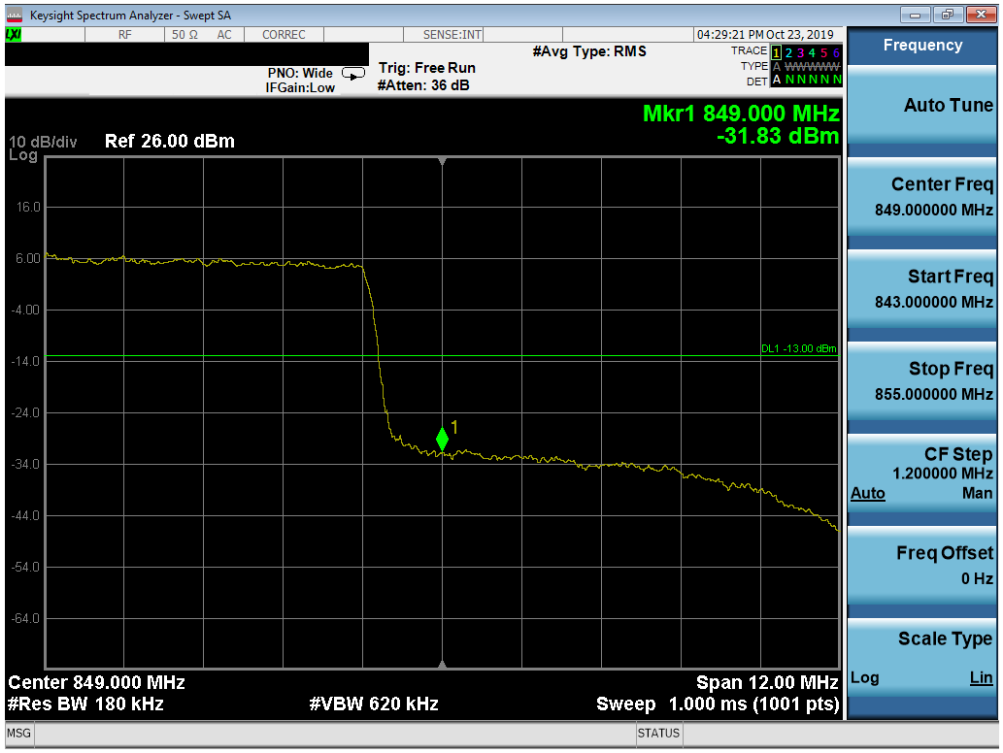


Plot 7-493. Lower Band Edge Plot (n5 - 15MHz DFT-QPSK - Full RB Configuration)



Plot 7-494. Upper Band Edge Plot (n5 - 15MHz DFT-QPSK - Full RB Configuration)

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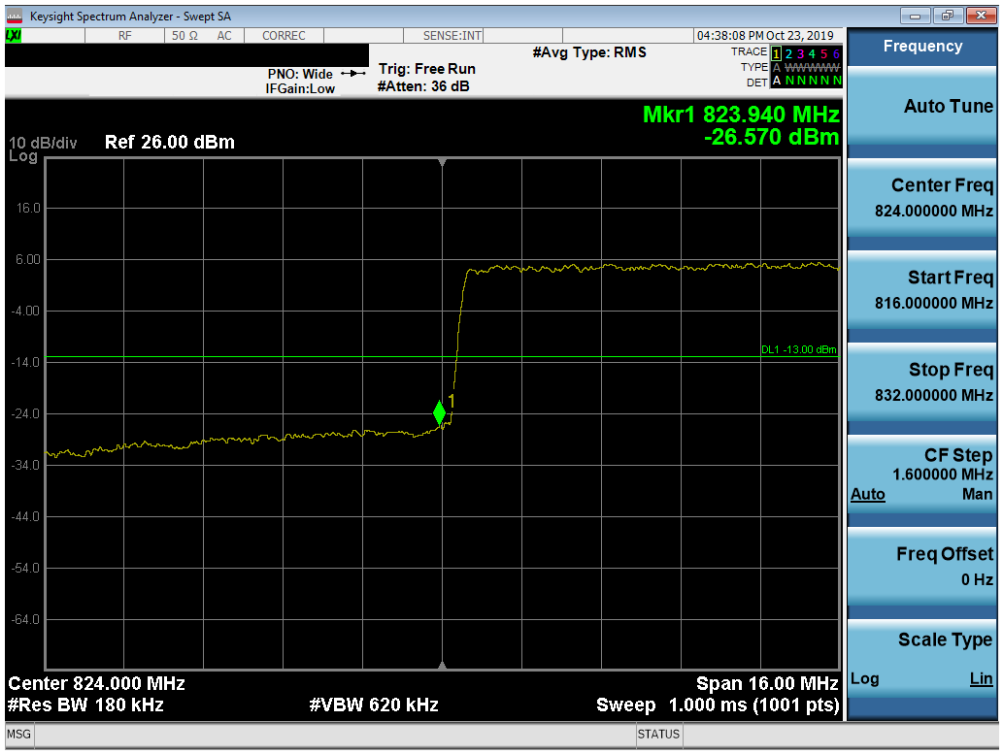
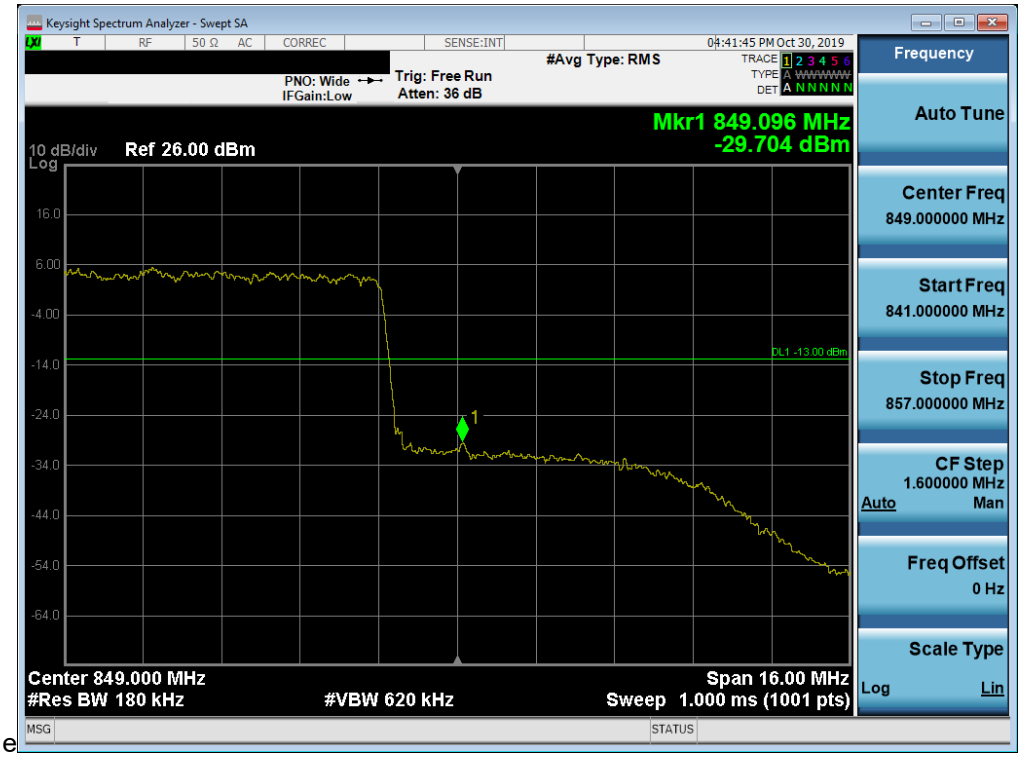


Plot 7-495. Lower Band Edge Plot (n5 - 20MHz DFT-QPSK - Full RB Configuration)



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Plot 7-496. Upper Band Edge Plot (n5 - 20MHz DFT-QPSK - Full RB Configuration)

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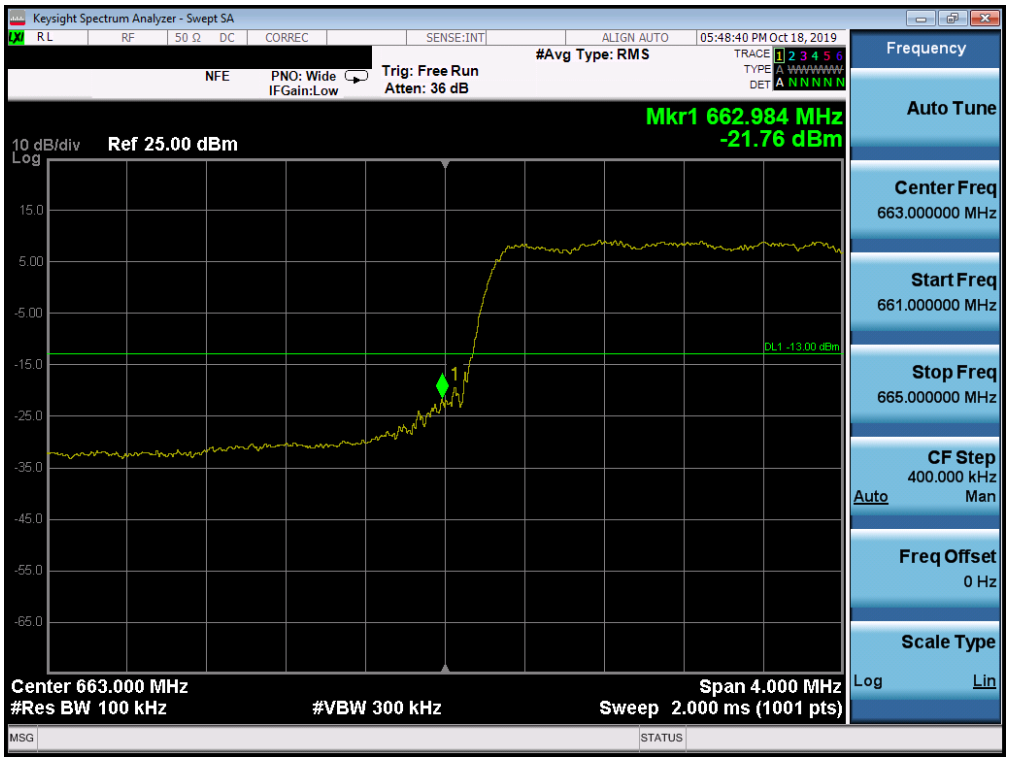

Plot 7-497. Lower Band Edge Plot (n71 - 5MHz DFT-QPSK - Full RB Configuration)

Plot 7-498. Upper Band Edge Plot (n71 - 5MHz DFT-QPSK - Full RB Configuration)

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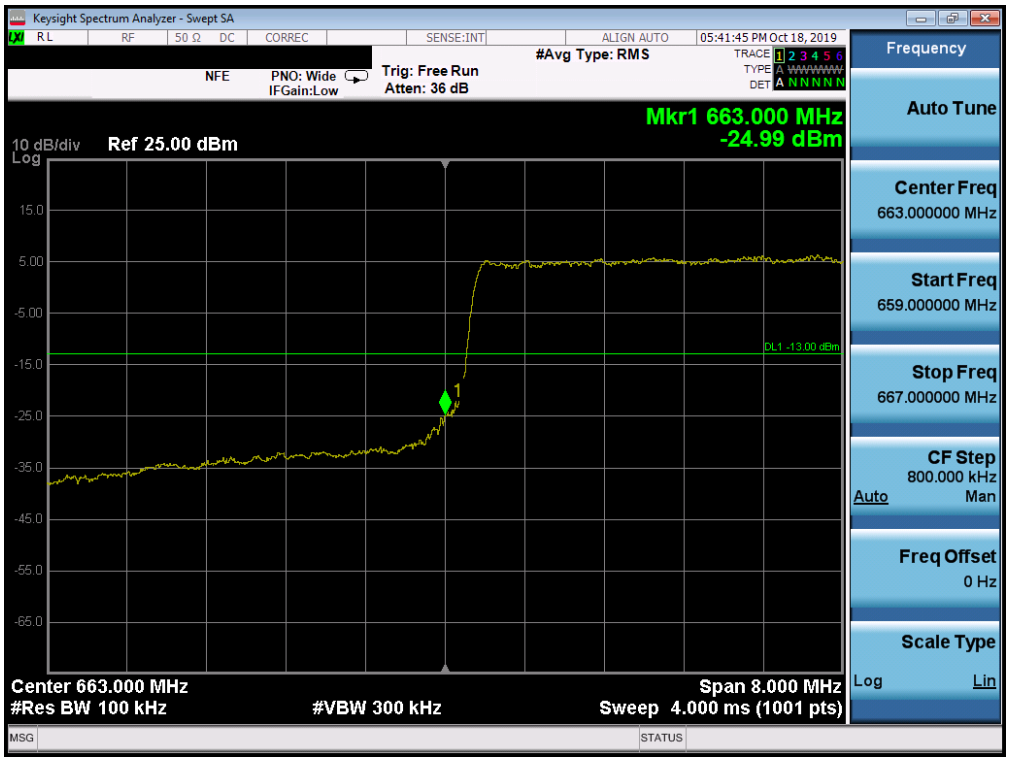
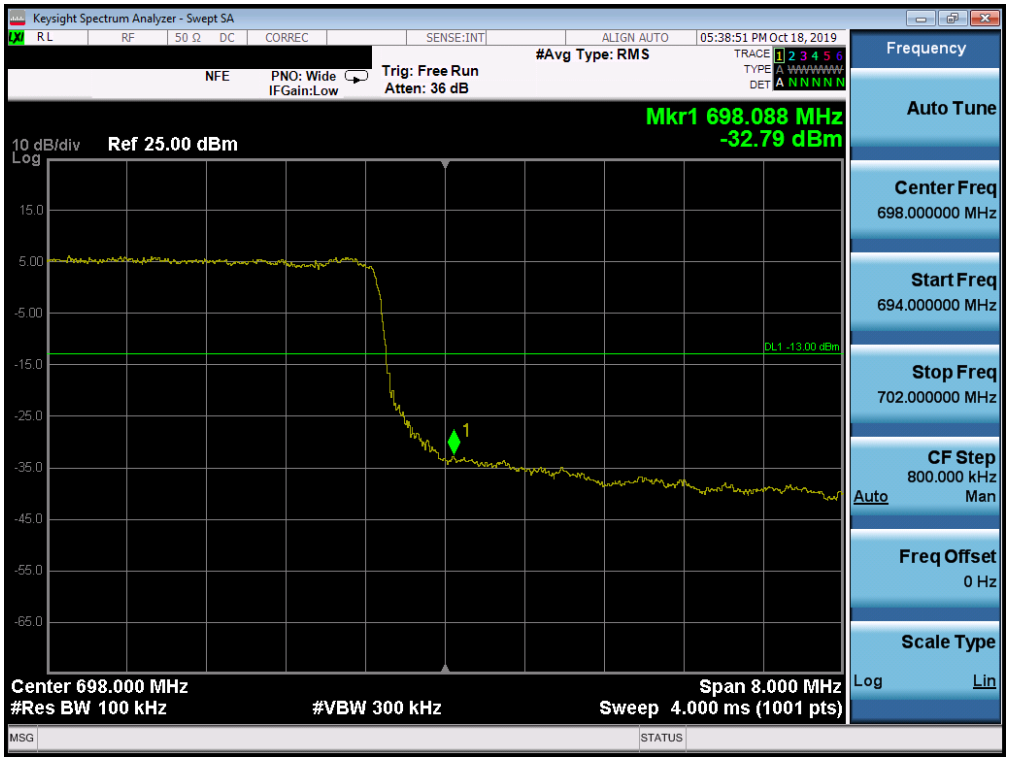


Plot 7-499. Lower Band Edge Plot (n71 - 10MHz DFT-QPSK - Full RB Configuration)



Plot 7-500. Upper Band Edge Plot (n71 - 10MHz DFT-QPSK - Full RB Configuration)

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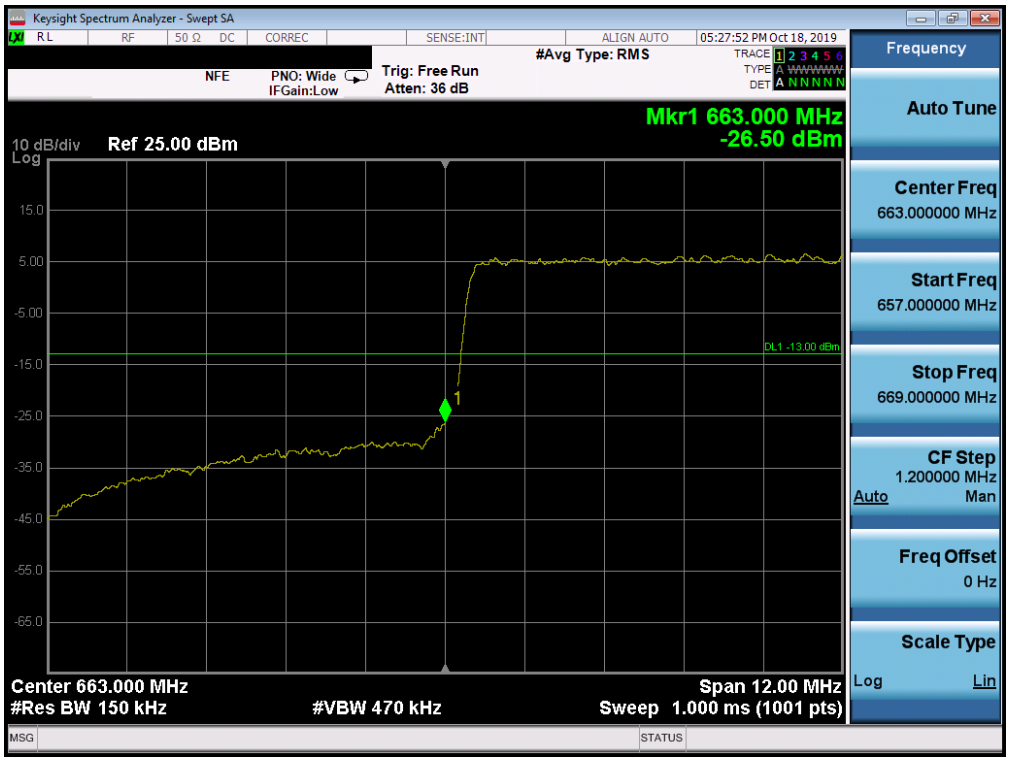

Plot 7-501. Lower Band Edge Plot (n71 - 15MHz DFT-QPSK - Full RB Configuration)

Plot 7-502. Upper Band Edge Plot (n71 - 15MHz DFT-QPSK - Full RB Configuration)

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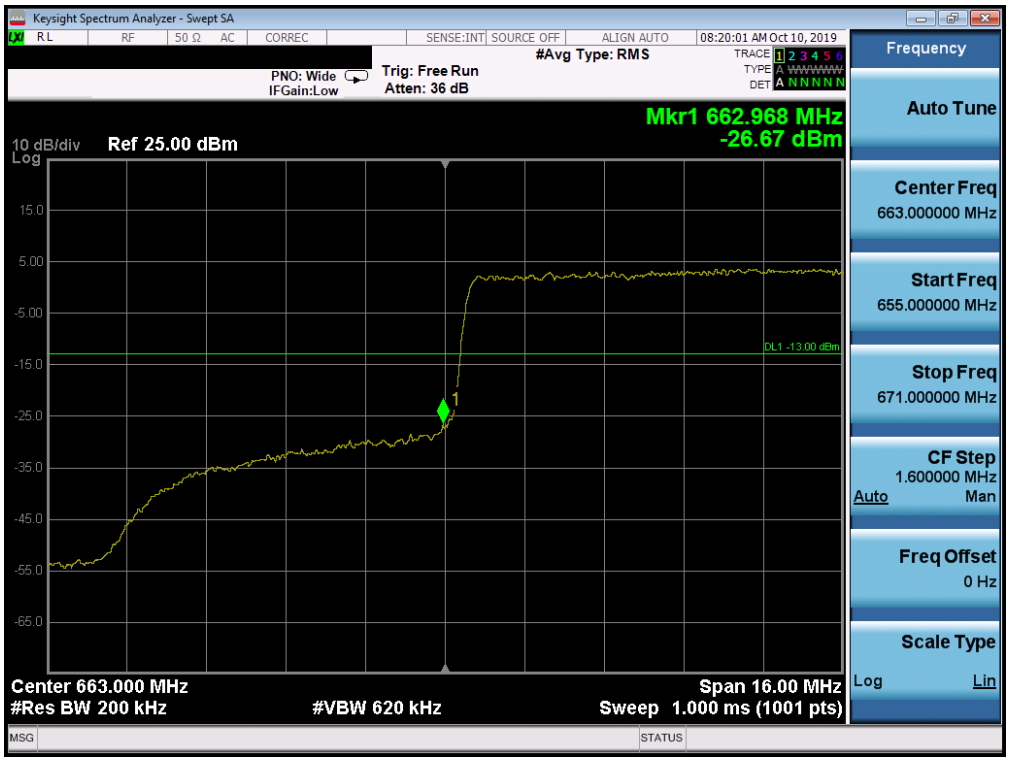

Plot 7-503. Lower Band Edge Plot (n71 - 20MHz DFT-QPSK - Full RB Configuration)

Plot 7-504. Upper Band Edge Plot (n71- 20MHz DFT-QPSK - Full RB Configuration)

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. Radiated Power (EIRP)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
826.50	5	QPSK	H	217	293	1 / 12	6.50	6.70	11.05	0.013	38.45	-27.40	13.20	0.021	40.61	-27.41
836.50	5	QPSK	H	220	297	1 / 12	6.40	6.70	10.95	0.012	38.45	-27.50	13.10	0.020	40.61	-27.51
846.50	5	QPSK	H	209	299	1 / 12	10.00	6.60	**14.45**	0.028	38.45	-24.00	**16.60**	0.046	40.61	-24.01
846.50	5	16-QAM	H	209	299	1 / 12	8.23	6.60	**12.68**	0.019	38.45	-25.77	**14.83**	0.030	40.61	-25.78
846.50	5	64-QAM	H	209	299	1 / 12	6.32	6.60	**10.77**	0.012	38.45	-27.68	**12.92**	0.020	40.61	-27.69
846.50	5	256-QAM	H	209	299	1 / 12	4.70	6.60	**9.15**	**0.008**	38.45	-29.30	**11.30**	**0.013**	40.61	-29.31
829.00	10	QPSK	H	220	293	1 / 49	7.44	6.70	11.99	0.016	38.45	-26.46	14.14	0.026	40.61	-26.47
836.50	10	QPSK	H	226	295	1 / 49	9.00	6.70	13.55	0.023	38.45	-24.90	15.70	0.037	40.61	-24.91
844.00	10	QPSK	H	206	297	1 / 49	9.61	6.60	**14.06**	0.025	38.45	-24.39	**16.21**	0.042	40.61	-24.40
844.00	10	16-QAM	H	206	297	1 / 49	8.87	6.60	**13.32**	0.021	38.45	-25.13	**15.47**	0.035	40.61	-25.14
844.00	10	64-QAM	H	206	297	1 / 49	7.30	6.60	**11.75**	0.015	38.45	-26.70	**13.90**	0.025	40.61	-26.71
844.00	10	256-QAM	H	206	297	1 / 49	4.87	6.60	**9.32**	**0.009**	38.45	-29.13	**11.47**	**0.014**	40.61	-29.14
831.50	15	QPSK	H	221	296	1 / 36	13.42	6.70	**17.97**	**0.063**	38.45	-20.48	**20.12**	**0.103**	40.61	-20.49
836.50	15	QPSK	H	220	297	1 / 36	12.83	6.70	17.38	0.055	38.45	-21.07	19.53	0.090	40.61	-21.08
841.50	15	QPSK	H	221	294	1 / 74	9.45	6.60	13.90	0.025	38.45	-24.55	16.05	0.040	40.61	-24.56
831.50	15	16-QAM	H	221	296	1 / 36	12.20	6.70	**16.75**	0.047	38.45	-21.70	**18.90**	0.078	40.61	-21.71
831.50	15	64-QAM	H	221	296	1 / 36	10.95	6.70	**15.50**	0.035	38.45	-22.95	**17.65**	0.058	40.61	-22.96
831.50	15	256-QAM	H	221	296	1 / 36	9.22	6.70	**13.77**	**0.024**	38.45	-24.68	**15.92**	**0.039**	40.61	-24.69
834.00	20	QPSK	H	223	292	1 / 0	12.32	6.70	**16.87**	**0.049**	38.45	-21.58	**19.02**	**0.080**	40.61	-21.59
836.50	20	QPSK	H	209	291	1 / 0	11.17	6.70	15.72	0.037	38.45	-22.73	17.87	0.061	40.61	-22.74
839.00	20	QPSK	H	210	294	1 / 0	11.82	6.70	16.37	0.043	38.45	-22.08	18.52	0.071	40.61	-22.09
834.00	20	16-QAM	H	223	292	1 / 0	11.22	6.70	**15.77**	0.038	38.45	-22.68	**17.92**	0.062	40.61	-22.69
834.00	20	64-QAM	H	223	292	1 / 0	9.93	6.70	**14.48**	0.028	38.45	-23.97	**16.63**	0.046	40.61	-23.98
834.00	20	256-QAM	H	209	291	1 / 0	8.22	6.70	**12.77**	**0.019**	38.45	-25.68	**14.92**	**0.031**	40.61	-25.69
831.50	15	QPSK	V	133	235	1 / 36	8.19	6.70	12.74	0.019	38.45	-25.71	14.89	0.031	40.61	-25.72
831.50	15 (WCP)	QPSK	V	133	143	1 / 36	8.76	6.70	13.31	0.021	38.45	-25.14	15.46	0.035	40.61	-25.15

Table 55. EIRP Data (n5)

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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
665.50	5	QPSK	V	174	269	1 / 24	14.65	3.75	16.25	0.042	34.77	-18.52
680.50	5	QPSK	V	182	54	1 / 24	15.72	4.20	**17.77**	0.060	34.77	-17.00
695.50	5	QPSK	V	185	71	1 / 24	12.07	4.50	14.42	0.028	34.77	-20.35
680.50	5	16-QAM	V	182	54	12 / 6	15.02	4.20	**17.07**	0.051	34.77	-17.70
680.50	5	64-QAM	V	182	54	12 / 6	13.82	4.20	**15.87**	0.039	34.77	-18.90
680.50	5	256-QAM	V	182	54	12 / 6	11.53	4.20	13.58	0.023	34.77	-21.19
668.00	10	QPSK	V	176	231	1 / 49	14.54	3.80	**16.19**	0.042	34.77	-18.58
680.50	10	QPSK	V	182	56	1 / 0	14.05	4.20	16.10	0.041	34.77	-18.67
693.00	10	QPSK	V	171	53	1 / 25	12.96	4.40	15.21	0.033	34.77	-19.56
668.00	10	16-QAM	V	176	231	1 / 49	12.97	3.80	**14.62**	0.029	34.77	-20.15
668.00	10	64-QAM	V	176	231	1 / 49	11.96	3.80	**13.61**	0.023	34.77	-21.16
668.00	10	256-QAM	V	176	231	1 / 49	9.10	3.80	**10.75**	**0.012**	34.77	-24.02
670.50	15	QPSK	V	177	320	1 / 36	16.81	3.90	**18.56**	**0.072**	34.77	-16.21
680.50	15	QPSK	V	191	45	1 / 36	14.37	4.20	16.42	0.044	34.77	-18.35
690.50	15	QPSK	V	163	234	1 / 36	12.74	4.40	14.99	0.032	34.77	-19.78
670.50	15	16-QAM	V	177	320	1 / 36	15.49	3.90	**17.24**	0.053	34.77	-17.53
670.50	15	64-QAM	V	177	320	1 / 36	14.45	3.90	**16.20**	0.042	34.77	-18.57
670.50	15	256-QAM	V	177	320	1 / 36	12.74	3.90	**14.49**	**0.028**	34.77	-20.28
673.00	20	QPSK	V	176	233	1 / 50	15.35	4.00	**17.20**	0.052	34.77	-17.57
680.50	20	QPSK	V	180	282	1 / 0	15.04	4.20	17.09	0.051	34.77	-17.68
688.00	20	QPSK	V	187	50	1 / 0	14.07	4.40	16.32	0.043	34.77	-18.45
673.00	20	16-QAM	V	176	233	1 / 50	13.42	4.00	**15.27**	0.034	34.77	-19.50
673.00	20	64-QAM	V	176	233	1 / 50	12.72	4.00	**14.57**	0.029	34.77	-20.20
673.00	20	256-QAM	V	176	233	1 / 50	10.64	4.00	**12.49**	**0.018**	34.77	-22.28
670.50	15	QPSK	H	182	66	1 / 36	13.23	3.90	14.98	0.031	34.77	-19.79
670.50	15 (WCP)	QPSK	V	190	36	1 / 36	13.65	3.90	15.40	0.035	34.77	-19.37

Table 56. EIRP Data (n71)

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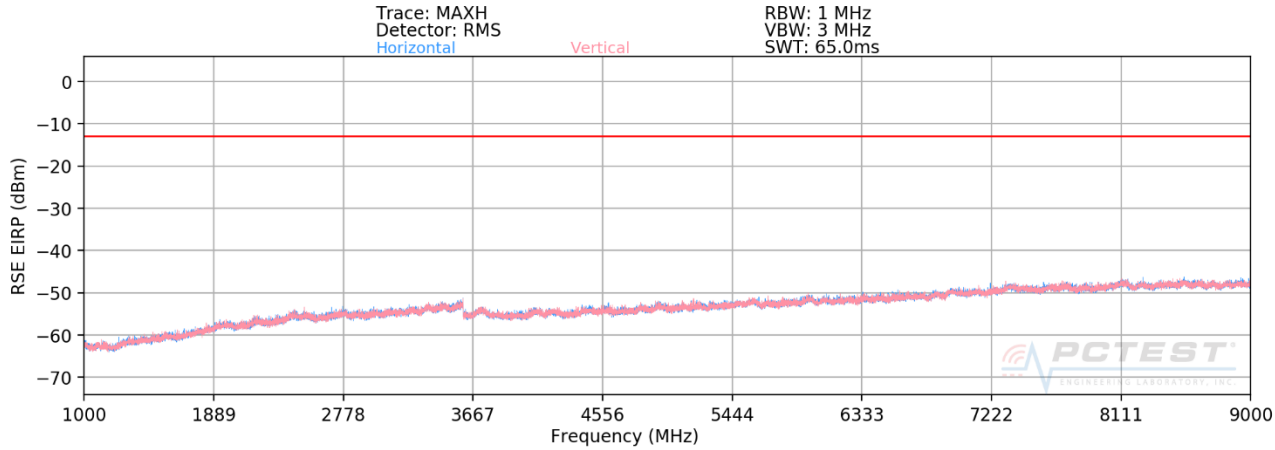
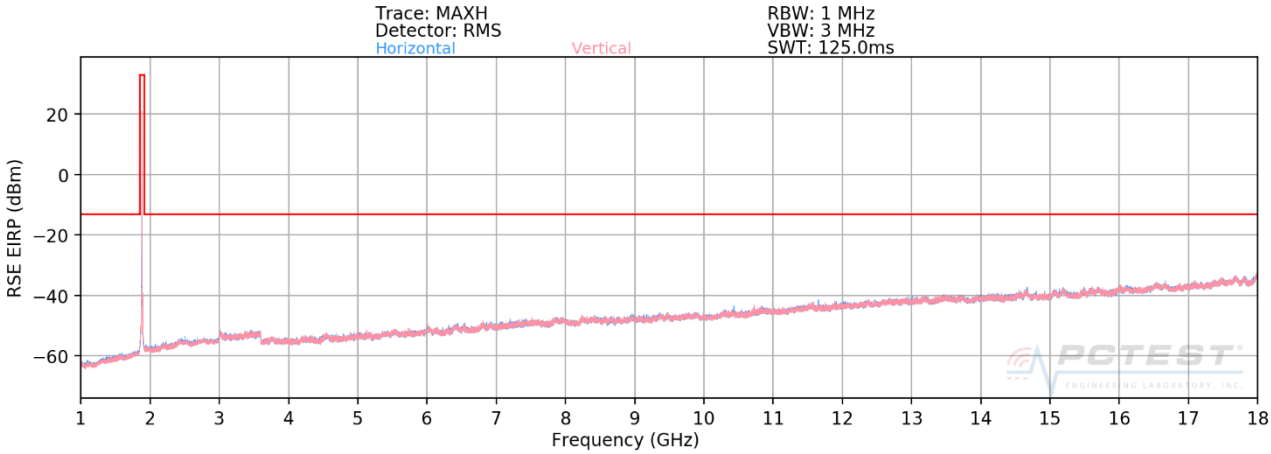
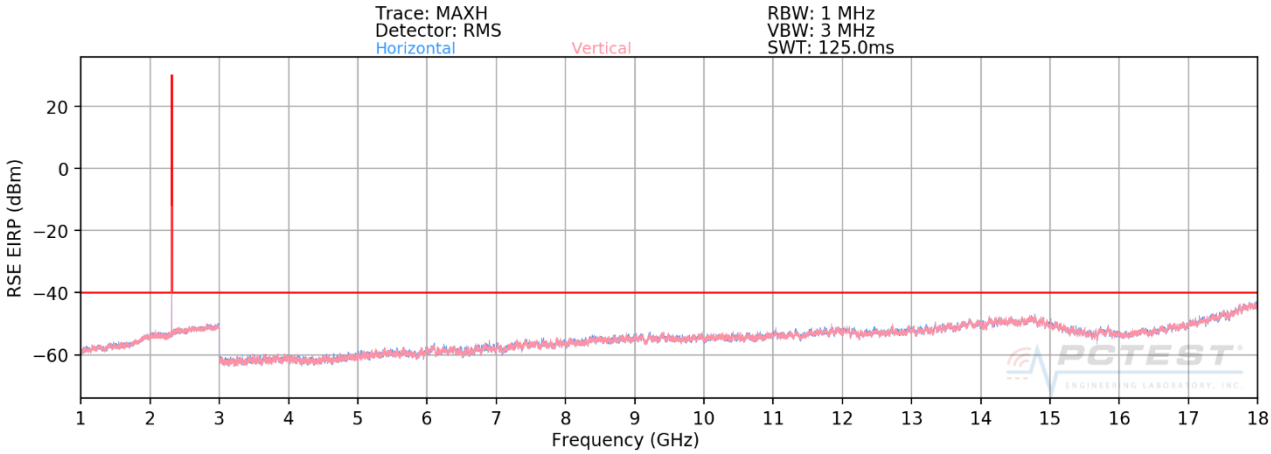
Radiated Spurious Emissions



Plot 7-505. Radiated Spurious Plot above 1GHz (n5 EN-DC)



Plot 7-506. Radiated Spurious Plot above 1GHz (n5 EN-DC – ANCHOR B2)



Plot 7-507. Radiated Spurious Plot above 1GHz (n5 EN-DC – ANCHOR B30)

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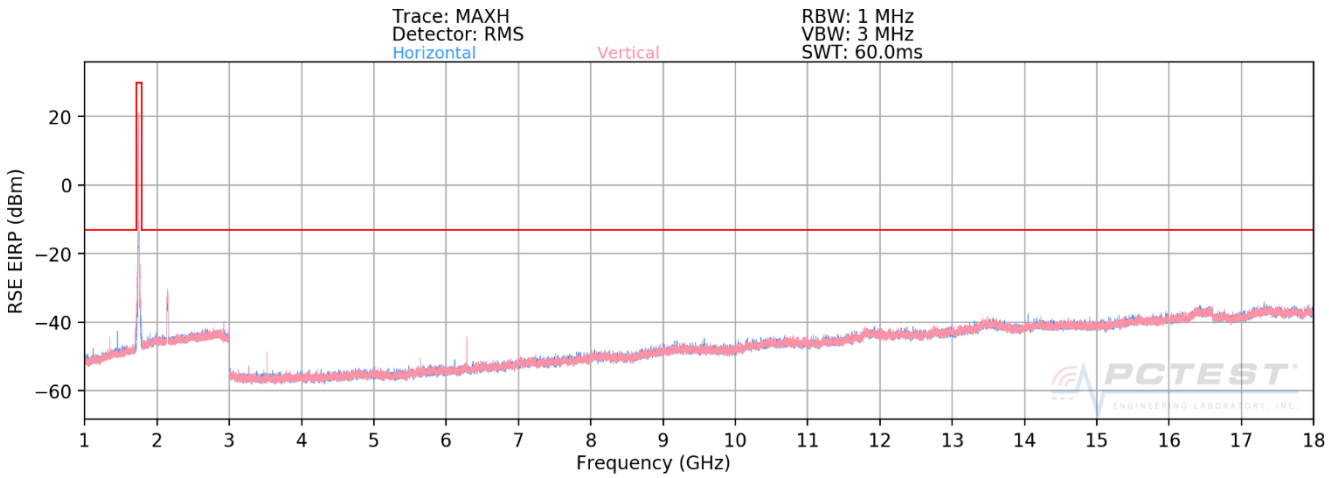

Plot 7-508. Radiated Spurious Plot above 1GHz (n5 EN-DC – ANCHOR B66)

OPERATING FREQUENCY:	834.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1668.00	V	-	-	-69.50	8.95	-60.55	-47.6
2502.00	V	264	180	-59.57	9.73	-49.84	-36.8
3336.00	V	-	-	-64.65	9.59	-55.06	-42.1

Table 57. Radiated Spurious Data (n5 – Low Channel)

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OPERATING FREQUENCY: 836.50 MHz
MODULATION SIGNAL: QPSK
BANDWIDTH: 20.0 MHz
DISTANCE: 3 meters
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1673.00	V	-	-	-69.60	8.95	-60.65	-47.7
2509.50	V	-	-	-65.74	9.75	-55.99	-43.0
3346.00	V	-	-	-61.21	9.60	-51.61	-38.6

Table 58. Radiated Spurious Data (n5 – Mid Channel)

OPERATING FREQUENCY: 838.50 MHz
MODULATION SIGNAL: QPSK
BANDWIDTH: 20.0 MHz
DISTANCE: 3 meters
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1677.00	V	262	282	-69.46	8.95	-60.51	-47.5
2515.50	V	149	152	-65.59	9.75	-55.84	-42.8
3354.00	V	-	-	-64.73	9.67	-55.06	-42.1
4192.50	V	-	-	-68.75	10.44	-58.31	-45.3

Table 59. Radiated Spurious Data (n5 – High Channel)

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OPERATING FREQUENCY:	834.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1668.00	V	-	-	-64.73	8.95	-55.78	-42.8
2502.00	V	333	346	-60.88	9.73	-51.15	-38.2
3336.00	V	-	-	-66.82	9.59	-57.23	-44.2

Table 60. Radiated Spurious Data with WCP (n5 – High Channel)

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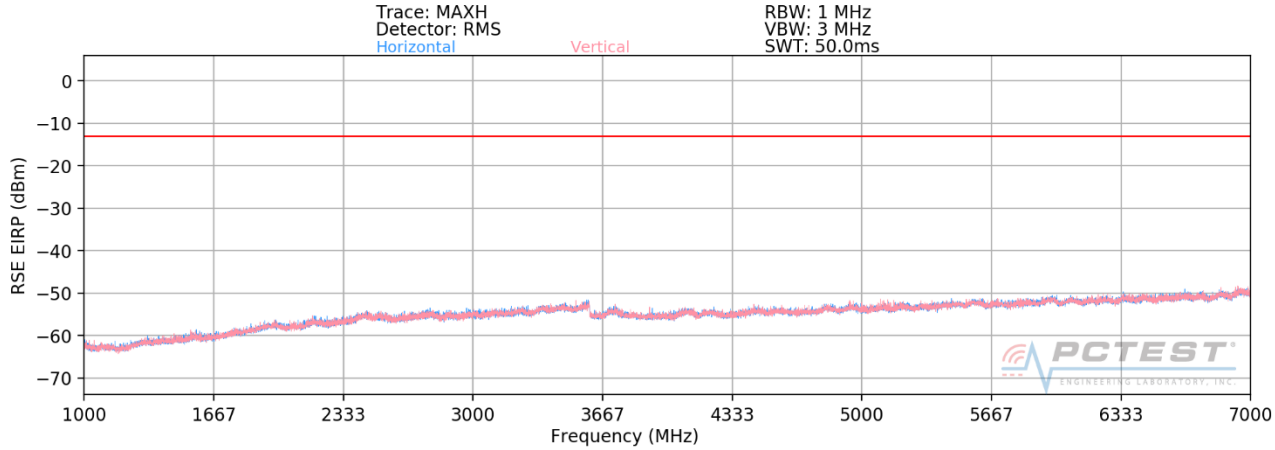
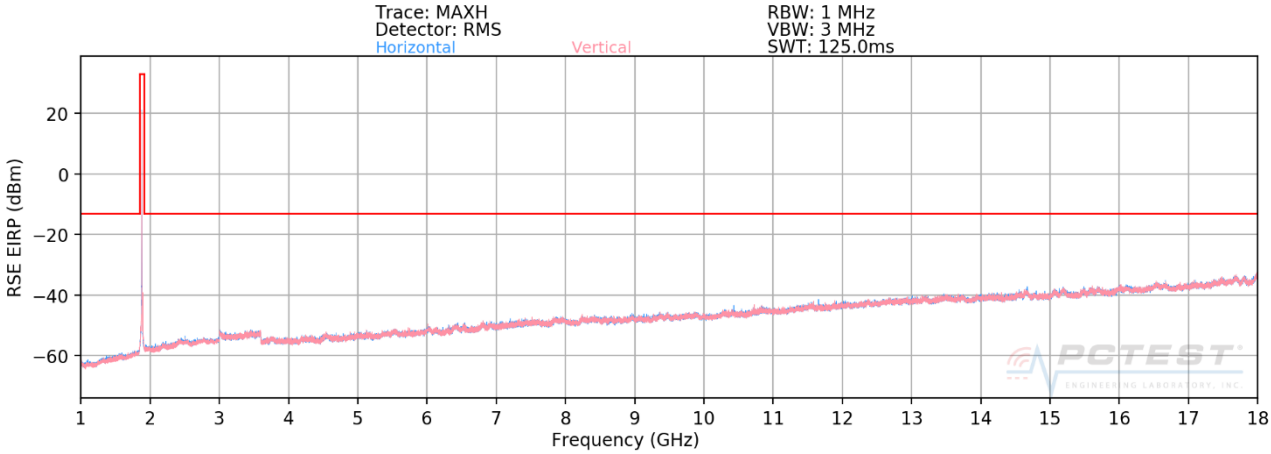
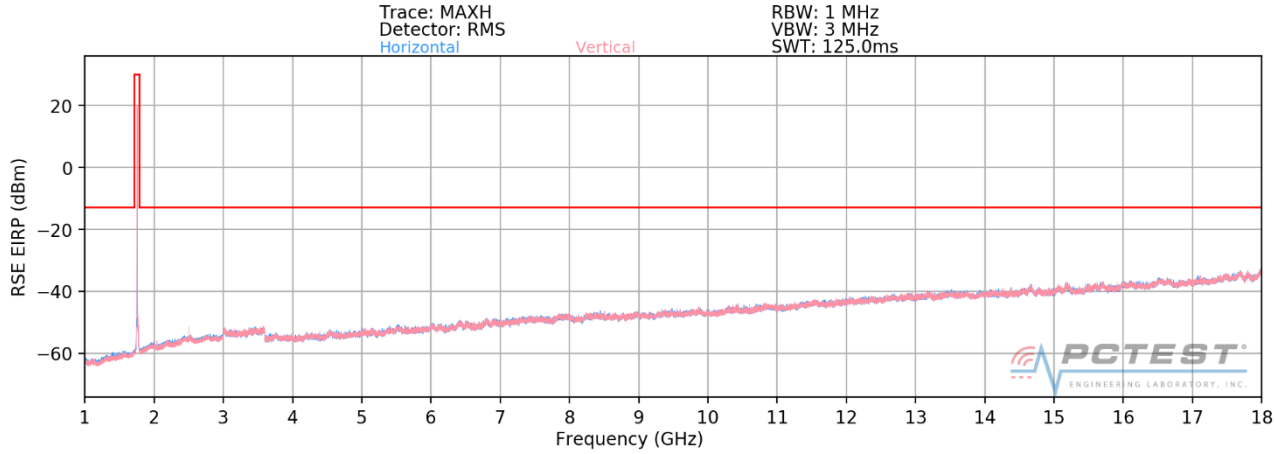


Plot 7-509. Radiated Spurious Plot above 1GHz (n71 EN-DC)



Plot 7-510. Radiated Spurious Plot above 1GHz (n71 EN-DC – ANCHOR B2)



Plot 7-511. Radiated Spurious Plot above 1GHz (n71 EN-DC – ANCHOR B66)

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OPERATING FREQUENCY: 834.00 MHz
MODULATION SIGNAL: QPSK
BANDWIDTH: 20.0 MHz
DISTANCE: 3 meters
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1668.00	V	-	-	-69.50	8.95	-60.55	-47.6
2502.00	V	264	180	-59.57	9.73	-49.84	-36.8
3336.00	V	-	-	-64.65	9.59	-55.06	-42.1

Table 61. Radiated Spurious Data (n71 – Low Channel)

OPERATING FREQUENCY: 680.50 MHz
MODULATION SIGNAL: QPSK
BANDWIDTH: 20.0 MHz
DISTANCE: 3 meters
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1361.00	V	105	114	-63.69	2.88	-60.81	-47.8
2041.50	V	-	-	-59.53	2.73	-56.80	-43.8
2722.00	V	-	-	-59.70	4.63	-55.07	-42.1

Table 62. Radiated Spurious Data (n71 – Mid Channel)

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OPERATING FREQUENCY: 688.00 MHz
MODULATION SIGNAL: QPSK
BANDWIDTH: 20.0 MHz
DISTANCE: 3 meters
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1376.00	V	310	138	-61.49	2.64	-58.85	-45.9
2064.00	V	-	-	-57.56	2.82	-54.74	-41.7
2752.00	V	-	-	-57.23	4.60	-52.63	-39.6

Table 63. Radiated Spurious Data (n71 – High Channel)

OPERATING FREQUENCY: 670.50 MHz
MODULATION SIGNAL: QPSK
BANDWIDTH: 15.0 MHz
DISTANCE: 3 meters
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1341.00	V	115	27	-62.67	2.91	-59.76	-46.8
2011.50	V	-	-	-57.89	2.82	-55.07	-42.1
2682.00	V	-	-	-58.58	4.53	-54.05	-41.1

Table 64. Radiated Spurious Data with WCP (n71 – High Channel)

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n5 (EN-DC) Frequency Stability Measurements

OPERATING FREQUENCY: 836,500,000 Hz

REFERENCE VOLTAGE: 4.31 VDC

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.31	- 30	836,499,480	-520	-0.0000622
100 %		- 20	836,500,051	51	0.0000061
100 %		- 10	836,500,704	704	0.0000842
100 %		0	836,500,538	538	0.0000643
100 %		+ 10	836,500,182	182	0.0000218
100 %		+ 20	836,500,104	104	0.0000124
100 %		+ 30	836,500,338	338	0.0000404
100 %		+ 40	836,501,201	1,201	0.0001436
100 %		+ 50	836,501,547	1,547	0.0001849
BATT. ENDPOINT	3.44	+ 20	836,500,059	59	0.0000071

Table 7-65. Frequency Stability Data (Band n5)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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n5 (EN-DC) Frequency Stability Measurements

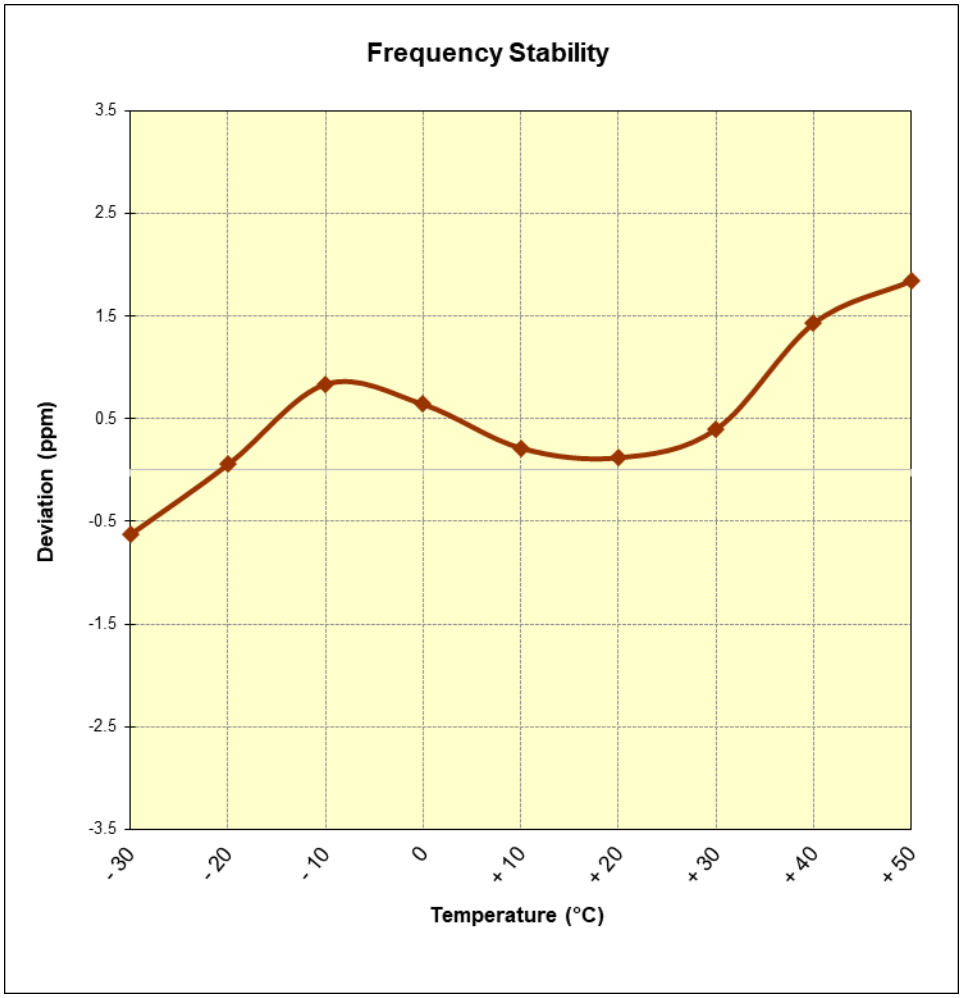

Figure 7-18. Frequency Stability Graph (Band n5)

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n71 (EN-DC) Frequency Stability Measurements

OPERATING FREQUENCY: 680,500,000 Hz

REFERENCE VOLTAGE: 4.31 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.31	- 30	680,499,258	-742	-0.0001090
100 %		- 20	680,499,484	-516	-0.0000759
100 %		- 10	680,499,606	-394	-0.0000579
100 %		0	680,499,666	-334	-0.0000491
100 %		+ 10	680,499,987	-13	-0.0000019
100 %		+ 20	680,500,051	51	0.0000075
100 %		+ 30	680,500,107	107	0.0000157
100 %		+ 40	680,500,429	429	0.0000630
100 %		+ 50	680,500,501	501	0.0000736
BATT. ENDPOINT	3.44	+ 20	680,500,069	69	0.0000101

Table 7-66. Frequency Stability Data (Band n71)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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n71 (EN-DC) Frequency Stability Measurements

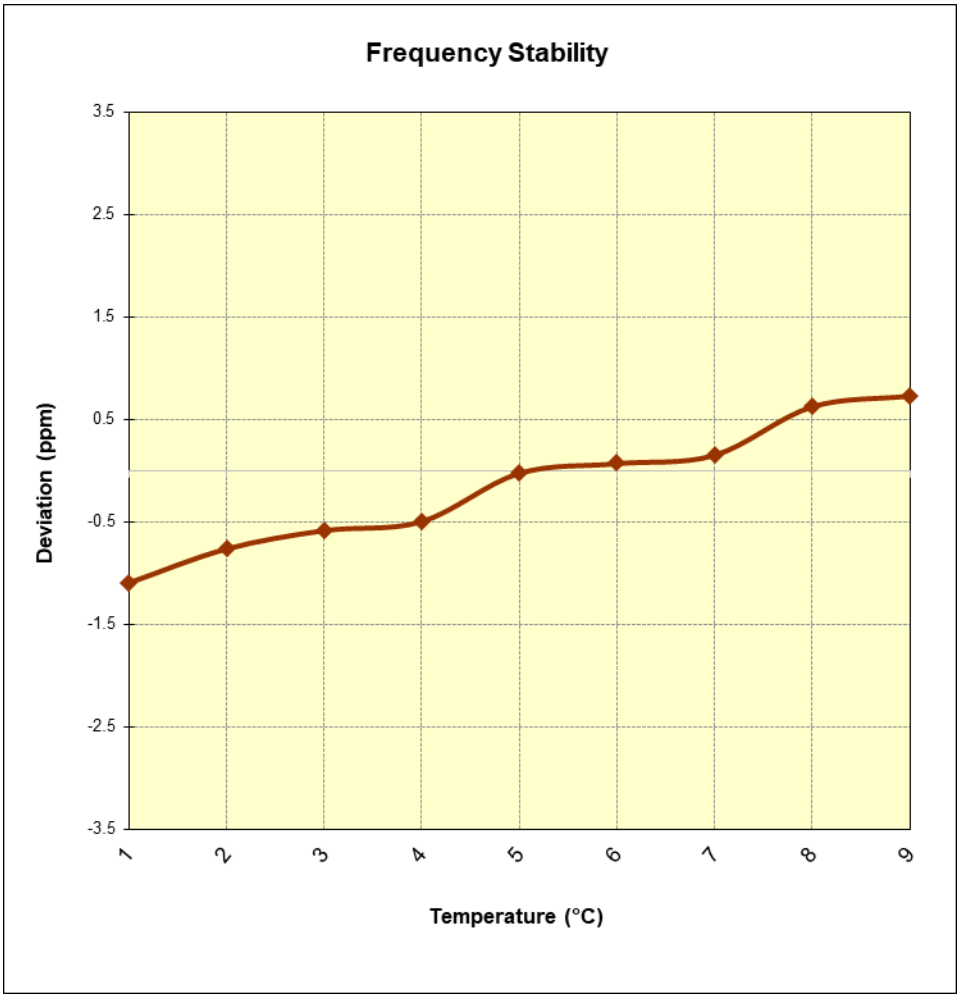

Figure 7-19. Frequency Stability Graph (Band n71)

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8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung Portable Handset** **FCC ID: A3LSMN976U** complies with all the requirements of Part 22, 24, & 27 of the FCC Rules for LTE operation only.

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