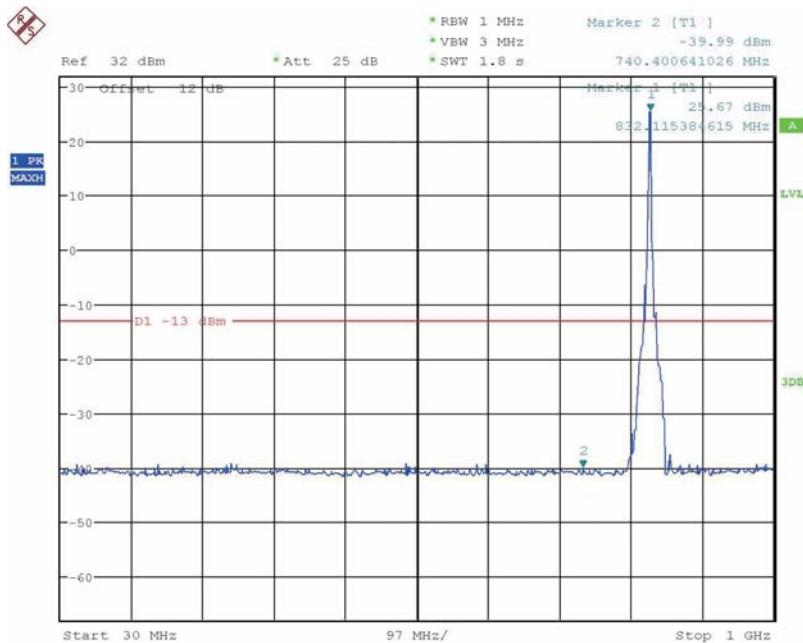


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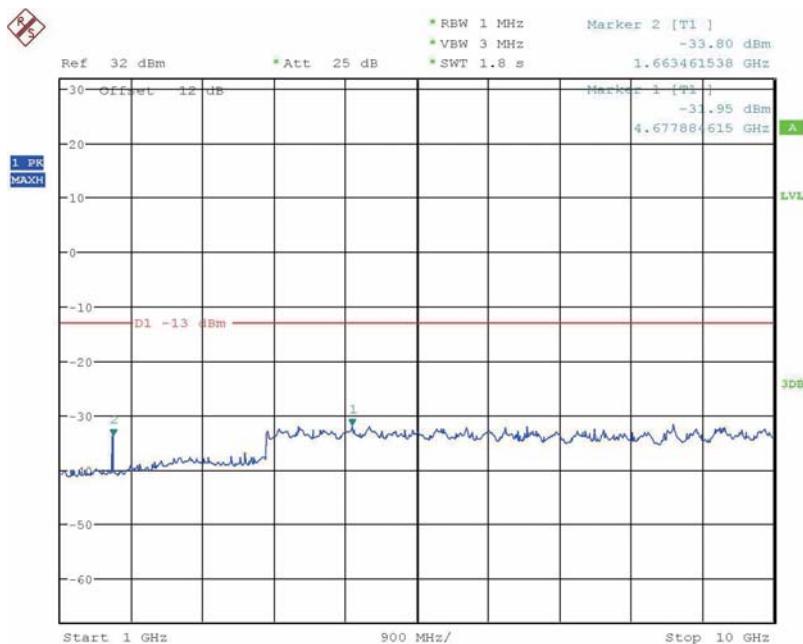
Report No.: B19W50225-WWAN\_Rev1



Date: 17.JUL.2019 21:00:50

Band26-Middle Channel-3MHz Bandwidth-30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.



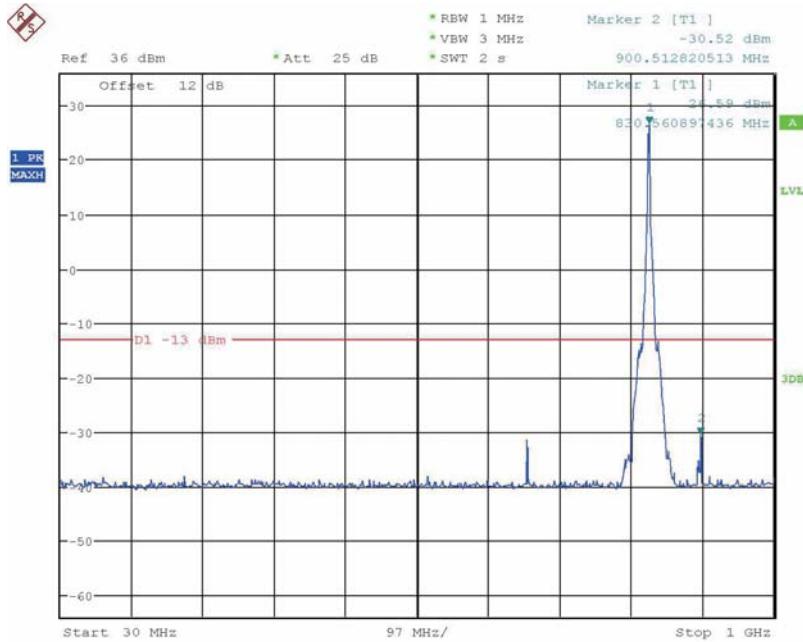
Date: 17.JUL.2019 20:59:37

Band26-Middle Channel-3MHz Bandwidth-1GHz to 10GHz

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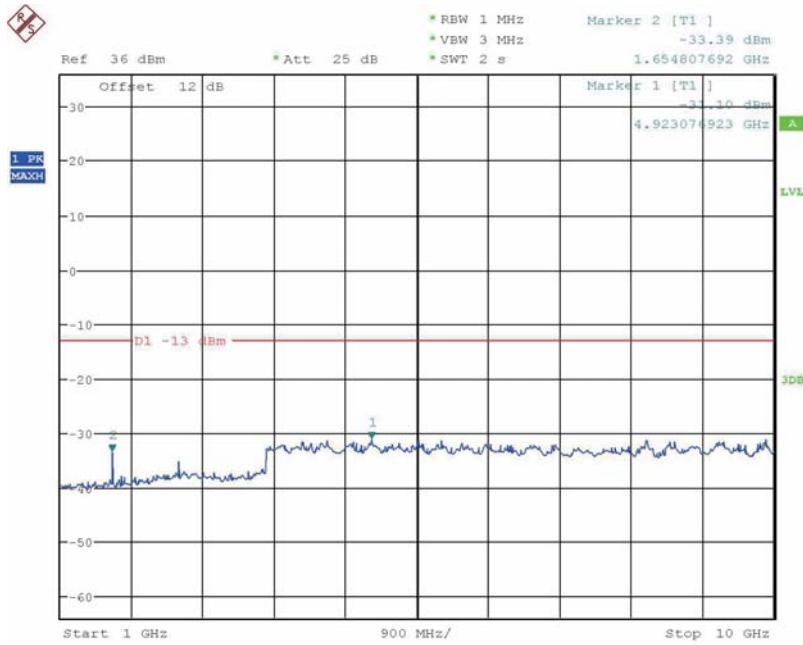
Report No.: B19W50225-WWAN\_Rev1



Date: 17.JUL.2019 21:36:04

Band26-Middle Channel-5MHz Bandwidth-30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.



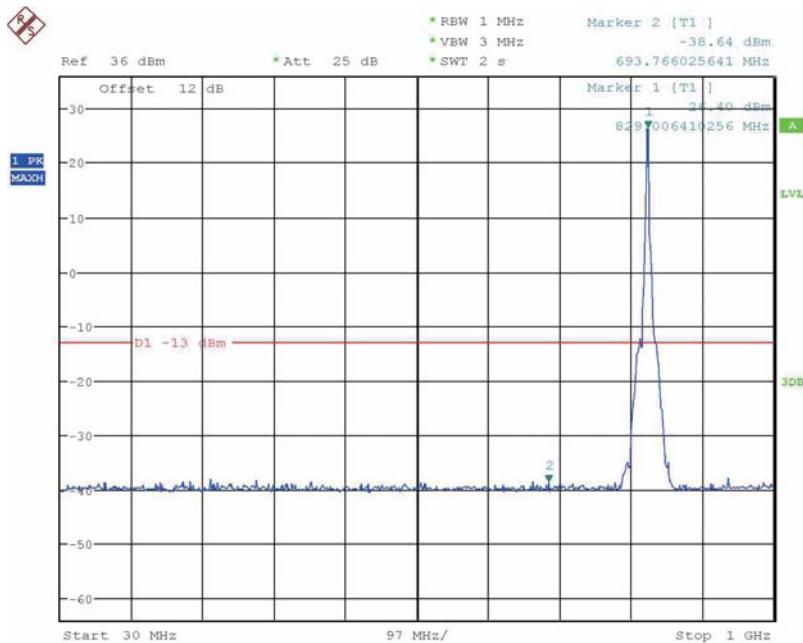
Date: 17.JUL.2019 21:36:53

Band26-Middle Channel-5MHz Bandwidth-1GHz to 10GHz

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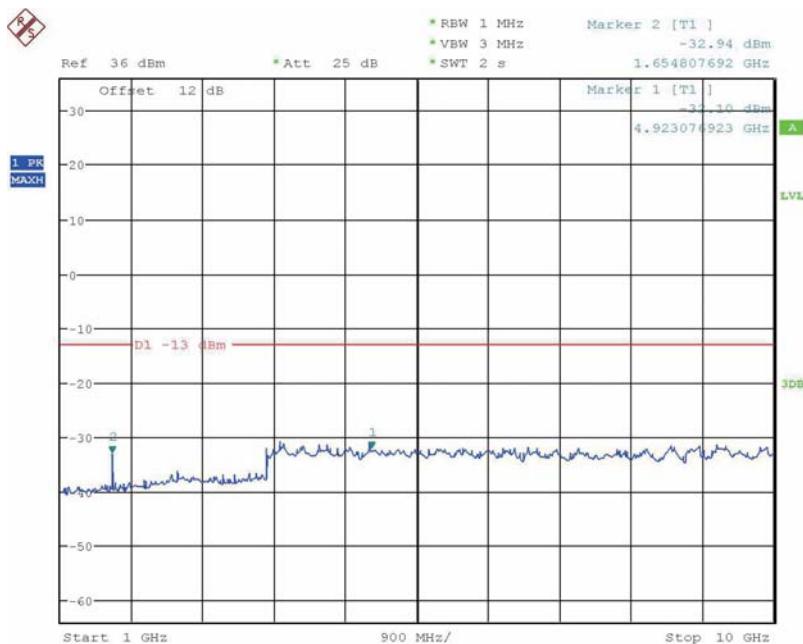
Report No.: B19W50225-WWAN\_Rev1



Date: 17.JUL.2019 21:40:31

Band26-Middle Channel-10MHz Bandwidth-30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.



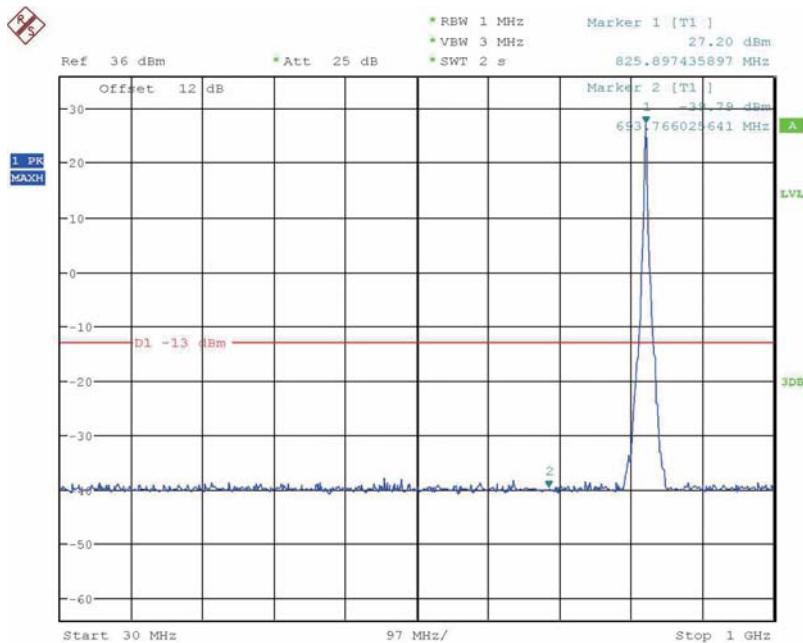
Date: 17.JUL.2019 21:38:40

Band26-Middle Channel-10MHz Bandwidth-1GHz to 10GHz

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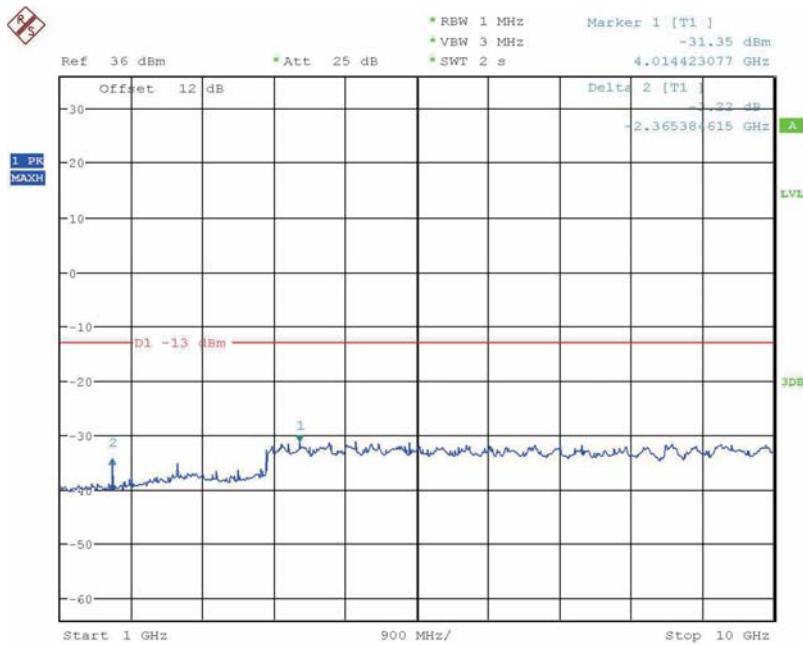
Report No.: B19W50225-WWAN\_Rev1



Date: 17.JUL.2019 21:42:31

Band26-Middle Channel-15MHz Bandwidth-30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.



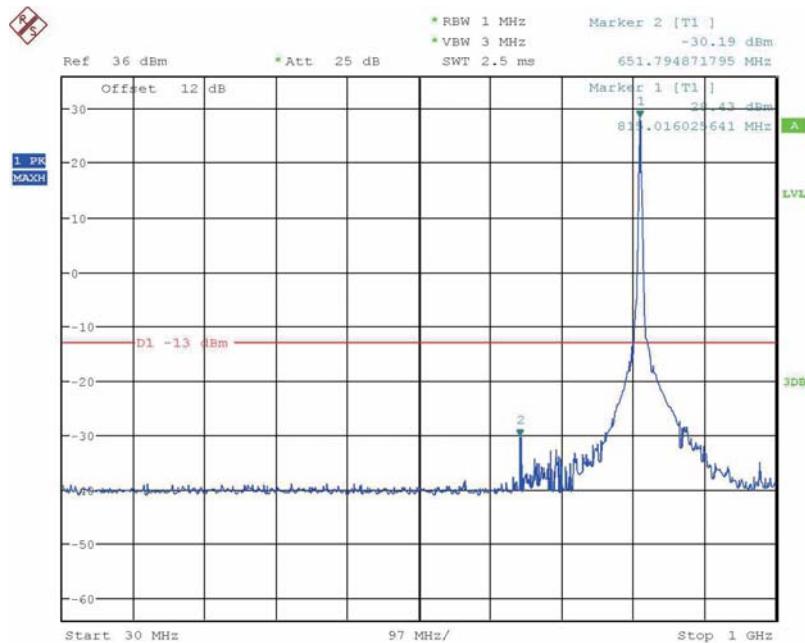
Date: 17.JUL.2019 21:44:07

Band26-Middle Channel-15MHz Bandwidth-1GHz to 10GHz

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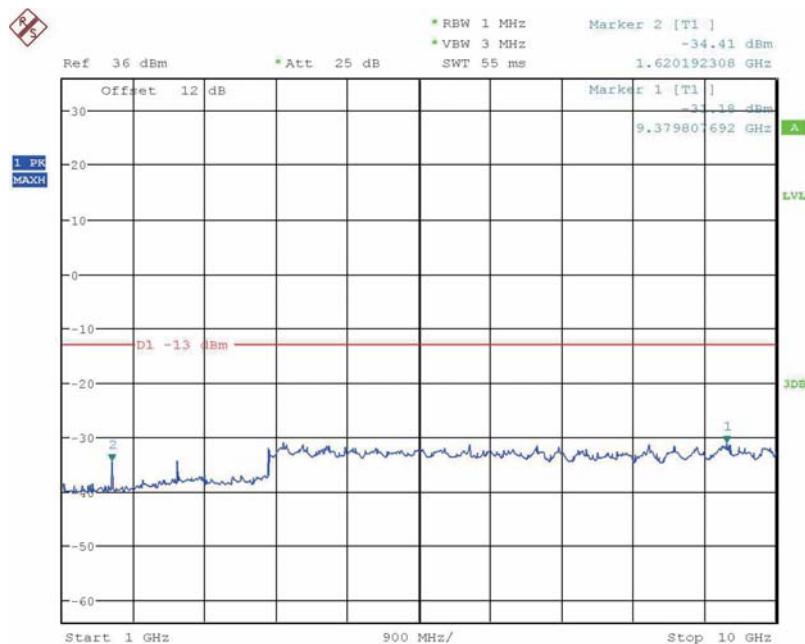
Report No.: B19W50225-WWAN\_Rev1



Date: 17.JUL.2019 20:01:55

Band26-Low Channel-1.4MHz Bandwidth-30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.



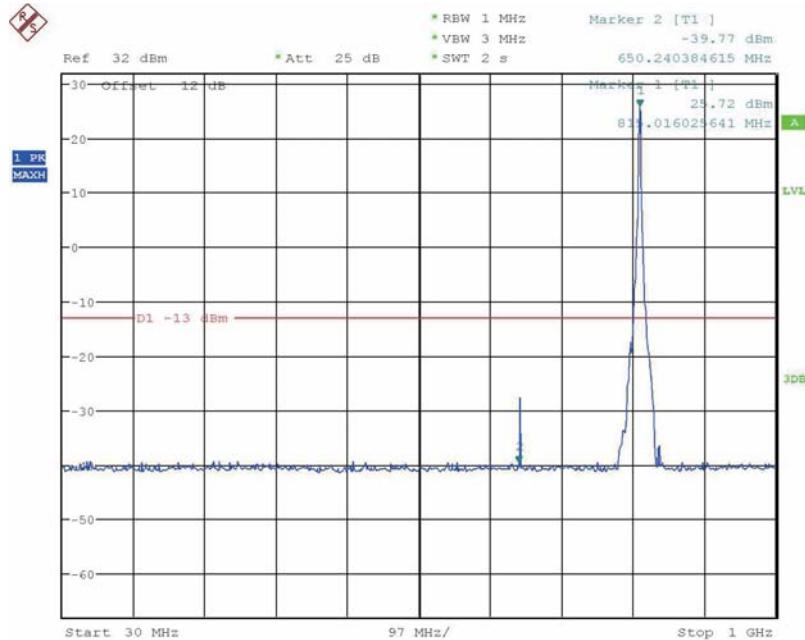
Date: 17.JUL.2019 20:04:32

Band26-Low Channel-1.4MHz Bandwidth-1GHz to 10GHz

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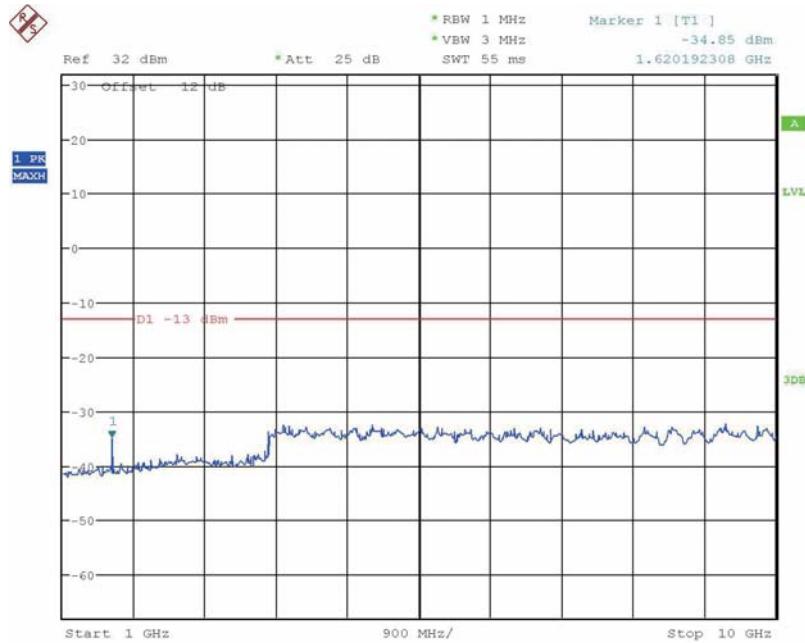
Report No.: B19W50225-WWAN\_Rev1



Date: 17.JUL.2019 20:10:24

Band26-Low Channel-3MHz Bandwidth-30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.



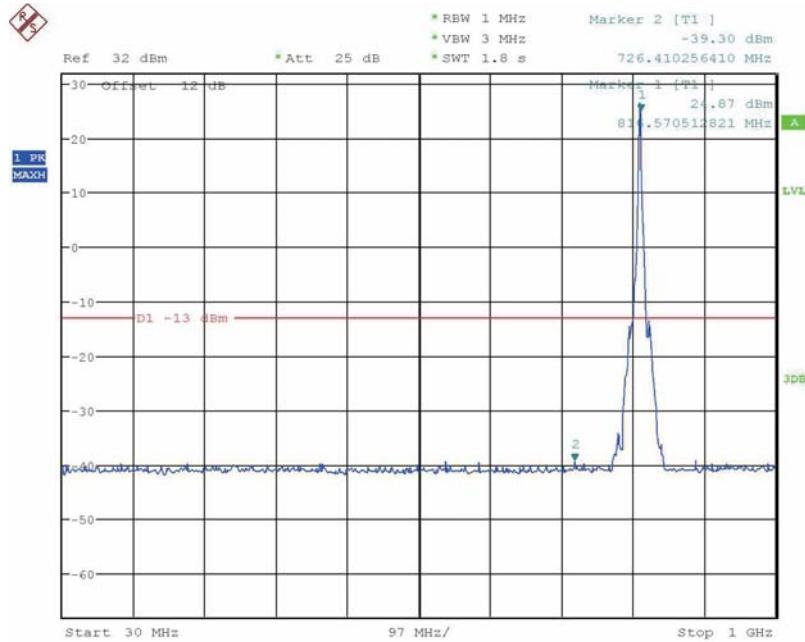
Date: 17.JUL.2019 20:11:01

Band26-Low Channel-3MHz Bandwidth-1GHz to 10GHz

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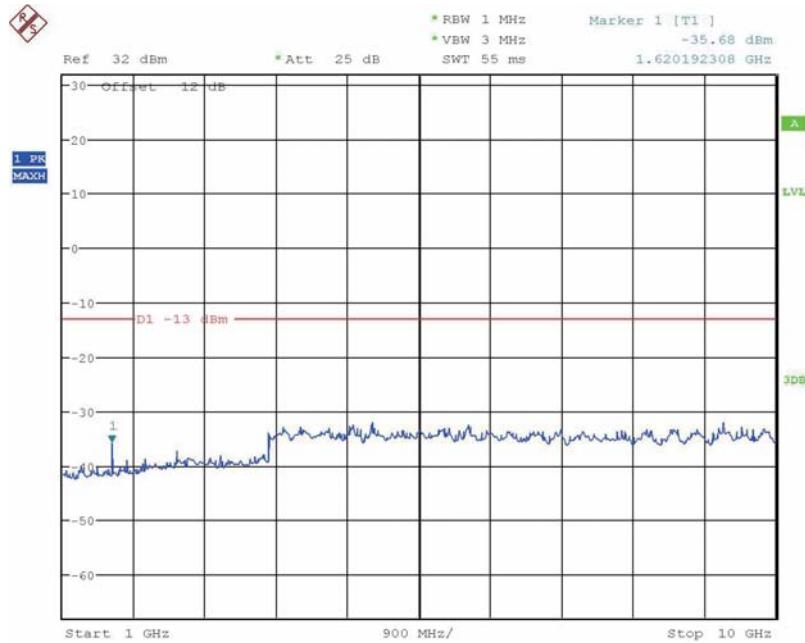
Report No.: B19W50225-WWAN\_Rev1



Date: 17.JUL.2019 20:14:37

Band26-Low Channel-5MHz Bandwidth-30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.



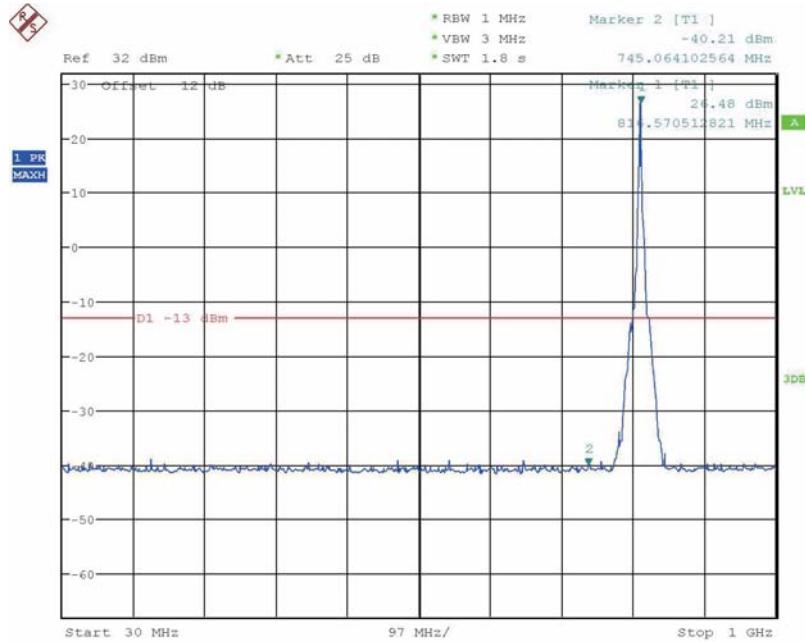
Date: 17.JUL.2019 20:12:31

Band26-Low Channel-5MHz Bandwidth-1GHz to 10GHz

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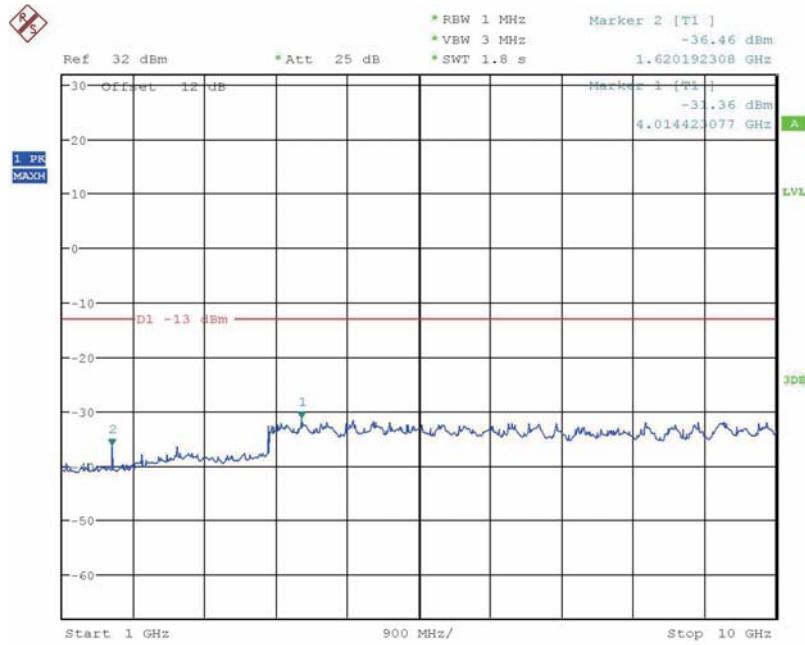
Report No.: B19W50225-WWAN\_Rev1



Date: 17.JUL.2019 20:17:06

Band26-Low Channel-10MHz Bandwidth-30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.



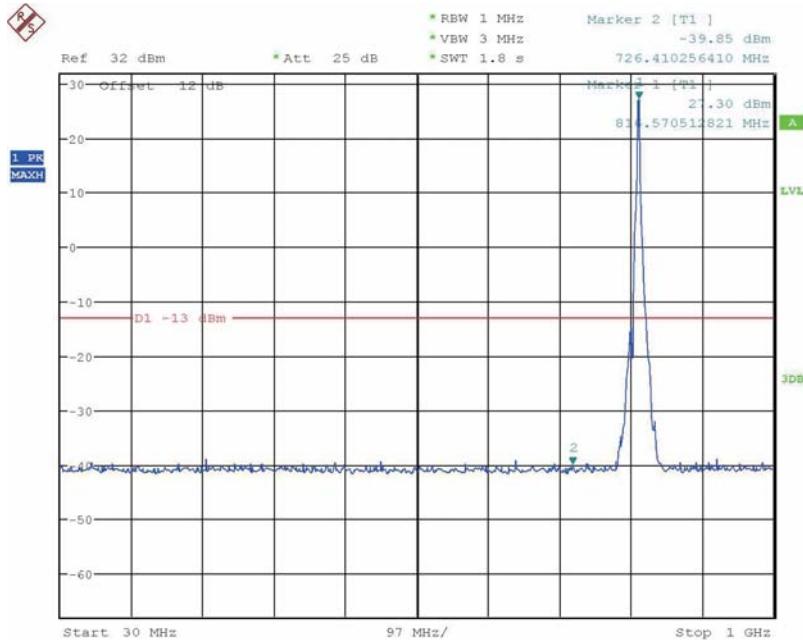
Date: 17.JUL.2019 20:17:51

Band26-Low Channel-10MHz Bandwidth-1GHz to 10GHz

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Tel: 0086-23-88069965 FAX: 0086-23-88608777

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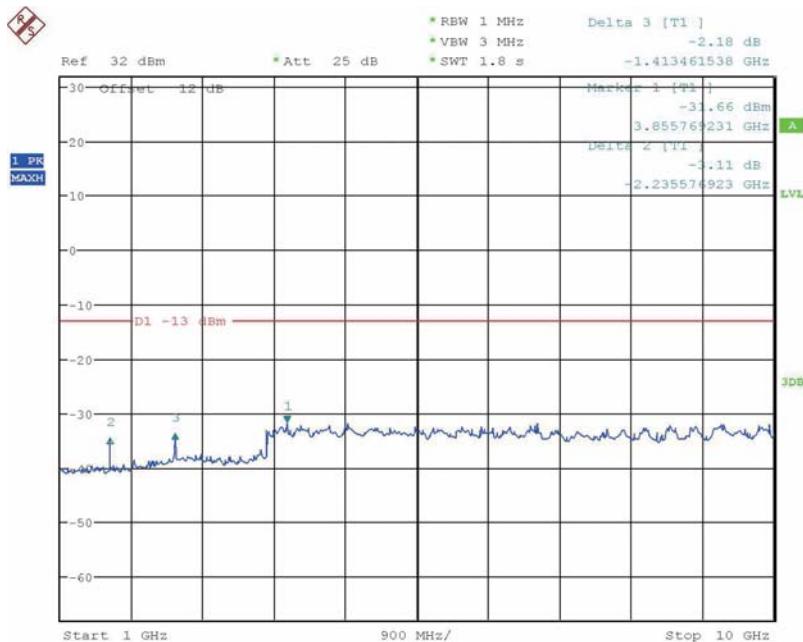
Report No.: B19W50225-WWAN\_Rev1



Date: 17.JUL.2019 20:23:50

Band26-Low Channel-15MHz Bandwidth-30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.



Date: 17.JUL.2019 20:22:35

Band26-Low Channel-15MHz Bandwidth-1GHz to 10GHz

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## 5.4 Radiated Spurious Emission

<b>Specifications:</b>	FCC Part 2.1051, 2.1053, 24.238, 22.917, 27.53, 90.691
<b>DUT Serial Number:</b>	353081090308282
<b>Test conditions:</b>	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
<b>Test Results:</b>	Pass

### Limit Level Construction:

**According to Part 22.917 (a)**, i.e., Out of Band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB.

**According to Part 24.238 (a)**, i.e., Out of Band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB, so the limit level is:  $P(\text{dBm}) - (43 + 10 \log(P)) \text{ dB} = -13 \text{ dBm}$ .

### According to Part 27.53(h):

Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 Bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least  $43 + 10 \log_{10}(P)$  dB.

### According to Part 27.53(g):

For operations in the 600 MHz Band and the 698-746 MHz Band, the power of any emission outside a licensee's frequency Band(s) of operation shall be attenuated below the transmitter power (P) within the licensed Band(s) of operation, measured in watts, by at least  $43 + 10 \log (P)$  dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution Bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz Bands immediately outside and adjacent to a licensee's frequency block, a resolution Bandwidth of at least 30 kHz may be employed.

Limits for Radiated spurious emissions(UE)	
Frequency range	Limit Level /Resolution Bandwidth
30 MHz to 20000 MHz	-13dBm/1MHz

### Measurement Uncertainty:

Item	Uncertainty
Expanded Uncertainty	5.15 dB (k=2)

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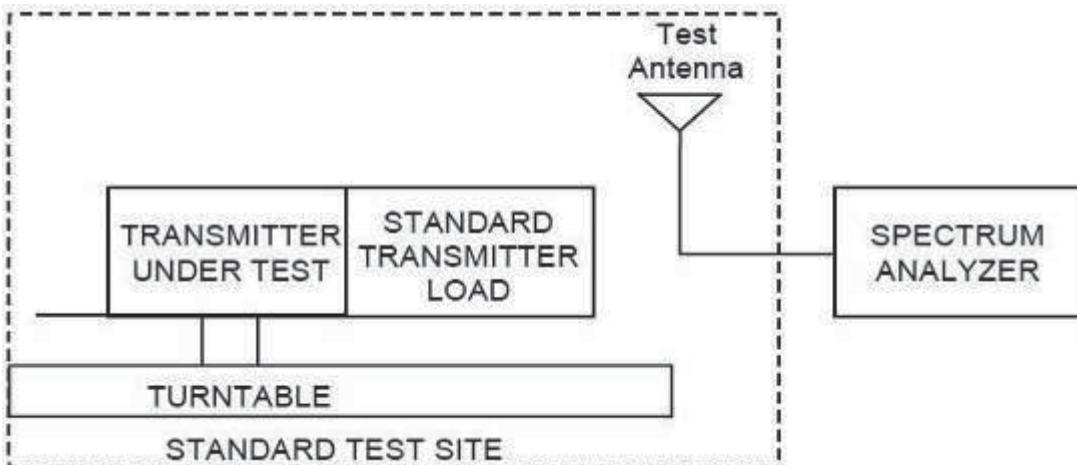
## Test Setup:

The EUT was placed in an anechoic chamber. The Wireless Communications Test Set was used to set the TX channel and power level and modulate the TX signal with different bit patterns.

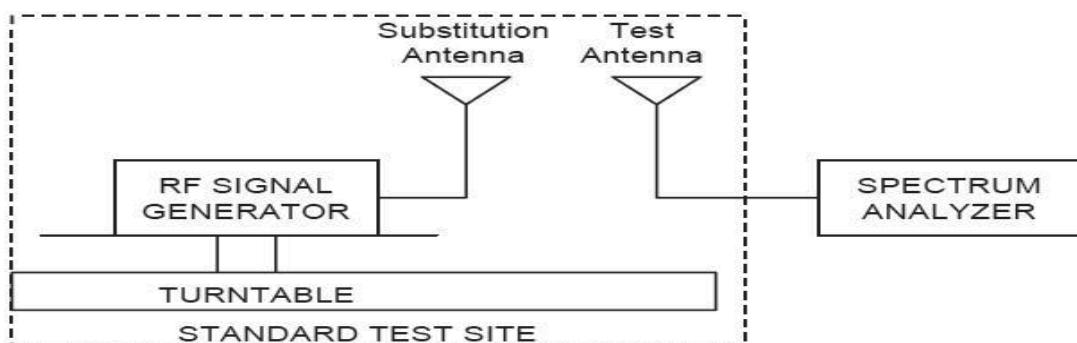
## Test Method:

The measurement method is substitution method accordance with section 2.2.12 of ANSI/TIA-603-D: Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

- (a) Connect the equipment as illustrated and measure the spurious emissions as the method as above. The distance from the device to the antenna is 3 m .



- (b) Reconnect the equipment as illustrated.



- (c) Remove the transmitter and replace it with a substitution antenna. The center of the substitution antenna should be approximately at the same location as the center of the transmitter.
- (d) Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a non-radiating cable. With the antennas at both ends horizontally polarized, and with the signal generator tuned to a particular spurious frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is

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obtained. This should be done carefully repeating the adjustment of the test antenna and generator output.

(e) Repeat step d) with both antennas vertically polarized for each spurious frequency.

(f) Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps d) and e) by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula:

$$P_d(\text{dBm}) = P_g(\text{dBm}) - \text{cable loss (dB)} + \text{antenna gain (dB)}$$

where:

Pd is the dipole equivalent power and Pg is the generator output power into the substitution antenna.

**Note:** Only worst case result is given below.

### 5.4.1 GSM 850 Radiated Spurious Emission Results

#### Test Data (GMSK Mode channel 128)

Frequency [MHz]	Generator output power(P <sub>g</sub> ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P <sub>d</sub> ) [dBm]	Antenna Polarization [H/V]
1648.46	-70.1	4.7	9.4	-65.4	H
2471.78	-65.8	5.9	10.6	-61.1	V
3296.75	-58.3	6.7	11.5	-53.5	V
4121.23	-56.9	7.6	12.6	-51.9	V
4945.23	-54.4	7.7	12.7	-49.4	V
5769.44	-61.7	1.4	13.1	-50.0	V

#### Test Data (GMSK Mode channel 190)

Frequency [MHz]	Generator output power(P <sub>g</sub> ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P <sub>d</sub> ) [dBm]	Antenna Polarization [H/V]
1673.23	-70.9	4.7	9.4	-66.2	V
2510.43	-55.0	5.9	10.6	-59.7	H
3346.19	-57.6	6.7	11.5	-52.8	V
4182.69	-56.2	7.6	12.6	-51.2	V

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5019.61	-55.0	7.7	12.7	-50.0	V
5856.32	-60.8	1.4	13.1	-49.1	V

## Test Data (GMSK Mode channel 251)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1696.42	-70.7	4.8	9.4	-66.1	V
2544.60	-53.0	5.9	10.6	-57.7	V
3392.64	-58.8	6.9	11.5	-54.2	V
4241.04	-56.1	7.8	12.6	-51.3	H
5089.23	-56.1	6.8	12.7	-50.2	H
5937.53	-61.1	1.4	13.1	-49.4	V

## Test Data (8PSK Mode channel 128)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1648.46	-71.2	4.7	9.4	-66.5	V
2471.78	-64.3	5.9	10.6	-59.6	H
3296.75	-58.5	6.7	11.5	-53.7	H
4121.23	-56.2	7.6	12.6	-51.2	V
4945.23	-54.4	7.7	12.7	-49.4	V
5769.44	-61.5	1.4	13.1	-49.8	H

## Test Data (8PSK K Mode channel 190)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1673.23	-69.9	4.7	9.4	-65.2	H
2510.43	-65.0	5.9	10.6	-60.3	V
3346.19	-58.2	6.7	11.5	-53.4	V
4182.69	-56.3	7.6	12.6	-51.3	H

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5019.61	-55.1	7.7	12.7	-50.1	V
5856.32	-61.6	1.4	13.1	-49.9	V

## Test Data (8PSK Mode channel 251)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1696.42	-70.3	4.8	9.4	-65.7	H
2544.60	-53.8	5.9	10.6	-58.5	V
3392.64	-58.4	6.9	11.5	-53.8	V
4241.04	-55.9	7.8	12.6	-51.1	V
5089.23	-56.0	6.8	12.7	-50.1	H
5937.53	-59.5	1.4	13.1	-47.8	V

## 5.4.2 GSM 1900 Radiated Spurious Emission Results

### Test Data (GMSK Mode channel 512)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3700.36	-60.3	7.2	12.6	-54.9	V
5550.57	-62.7	2.0	13.1	-51.6	V
7400.31	-59.8	0.9	11.7	-49.0	V
9251.39	-58.0	1.0	11.9	-47.1	V
11100.87	-56.0	0.4	11.5	-44.9	V
12951.65	-56.8	0.4	13.6	-43.6	V

### Test Data (GMSK Mode channel 661)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3760.61	-60.9	7.4	12.6	-55.7	H
5641.05	-62.3	1.8	13.1	-51.0	V
7518.97	-60.4	0.9	11.7	-49.6	V

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9400.84	-57.6	0.8	11.9	-46.5	H
11279.77	-56.3	0.3	11.5	-45.1	V
13160.33	-57.4	0.4	13.6	-44.2	V

## Test Data (GMSK Mode channel 810)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3818.73	-59.6	7.4	12.6	-54.4	V
5727.33	-63.1	1.8	13.1	-51.8	V
7636.48	-59.7	0.9	11.7	-48.9	V
9547.16	-58.3	0.8	11.9	-47.2	V
11455.98	-57.3	0.3	11.5	-46.1	H
13362.79	-57.2	0.4	13.6	-44.0	V

## Test Data (8PSK Mode channel 512)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3700.39	-60.7	7.2	12.6	-55.3	V
5550.43	-63.0	2.0	13.1	-51.9	H
7400.89	-60.5	0.9	11.7	-49.7	H
9251.57	-58.3	1.0	11.9	-47.4	V
11100.34	-56.8	0.4	11.5	-45.7	V
12950.98	-57.4	0.4	13.6	-44.2	V

## Test Data (8PSK K Mode channel 661)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3760.23	-61.8	7.4	12.6	-56.6	H
5641.62	-62.2	1.8	13.1	-50.9	V

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7519.61	-59.8	0.9	11.7	-49.0	V
9400.48	-57.7	0.8	11.9	-46.6	H
11280.58	-56.0	0.3	11.5	-44.8	V
13160.81	-57.0	0.4	13.6	-43.8	V

Test Data (8PSK Mode channel 810)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3818.45	-58.5	7.4	12.6	-53.3	V
5728.21	-63.1	1.8	13.1	-51.8	V
7636.67	-59.6	0.9	11.7	-48.8	V
9548.08	-57.7	0.8	11.9	-46.6	H
11455.00	-57.0	0.3	11.5	-45.8	V
13362.53	-58.2	0.4	13.6	-45.0	H

## 5.4.3 NB-IoT Band 2 Radiated Spurious Emission Results

Test Data (QPSK Mode channel 18601)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3701.12	-68.0	7.2	8.9	-66.3	V
5551.32	-71.5	2.5	10.5	-63.5	V
7401.07	-74.3	0.9	11.9	-63.3	V
9250.10	-72.0	1.0	11.5	-61.5	V
11100.53	-71.9	0.4	12.1	-60.2	V
12950.72	-72.1	0.4	12.4	-60.1	V

Test Data (QPSK Mode channel 18900)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]

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3760.0	-62.0	7.3	9.2	-60.1	V
5640.0	-63.0	1.8	10.5	-54.3	H
7520.0	-66.1	0.9	11.9	-55.1	V
9400.0	-71.3	0.8	11.8	-60.3	V
11280.0	-70.6	0.3	12.1	-58.8	V
13160.0	-71.5	0.4	12.4	-59.5	V

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## Test Data (QPSK Mode channel 19199)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3819.8	-66.3	7.4	9.2	-64.5	V
5729.7	-61.3	1.5	10.5	-52.3	V
7639.6	-74.1	1.1	11.9	-63.3	V
9549.5	-73.0	0.9	11.8	-62.1	V
11459.4	-72.7	0.3	12.1	-60.9	V
13369.3	-72.2	0.4	12.4	-60.2	V

## Test Data (BPSK Mode channel 18601)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3769.46	-69.0	7.2	8.9	-67.3	V
5550.12	-67.9	2.5	10.5	-59.9	V
7400.48	-73.9	0.9	11.9	-62.9	V
9251.07	-70.3	1.0	11.5	-59.8	V
11100.35	-71.9	0.4	12.1	-60.2	V
12950.39	-71.7	0.4	12.4	-59.7	V

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## Test Data (BPSK Mode channel 18900)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3760.0	-61.4	7.3	9.2	-59.5	V
5640.0	-53.4	1.8	10.5	-44.7	V
7520.0	-65.6	0.9	11.9	-54.6	V
9400.0	-71.3	0.8	11.8	-60.3	V
11280.0	-70.9	0.3	12.1	-59.1	V
13160.0	-71.7	0.4	12.4	-59.7	V

## Test Data (BPSK Mode channel 19199)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3819.8	-65.3	7.4	9.2	-63.5	V
5729.7	-59.3	1.5	10.5	-50.3	V
7639.6	-72.7	1.1	11.9	-61.9	V
9549.5	-72.1	0.9	11.8	-61.2	V
11459.4	-72.6	0.3	12.1	-60.8	V
13369.3	-71.5	0.4	12.4	-59.5	V

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## 5.4.4 NB-IoT Band 4 Radiated Spurious Emission Results

Test Data (QPSK Mode channel 19951)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3420.2	-68.7	6.9	8.9	-66.7	V
5130.3	-65.6	6.3	9.9	-62.0	V
6840.4	-74.4	0.8	11.9	-63.3	V
8550.5	-72.5	0.9	11.2	-62.2	V
10260.6	-72.9	0.5	12.0	-61.4	V
11970.7	-72.8	0.4	12.2	-61.0	V

Test Data (QPSK Mode channel 20175)

Frequency [MHz]	Generator output power(P <sub>g</sub> ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P <sub>d</sub> ) [dBm]	Antenna Polarization [H/V]
3465.0	-62.7	6.9	8.9	-60.7	V
5197.5	-57.1	5.8	9.9	-53.0	V
6930.0	-72.5	0.9	11.9	-61.5	V
8662.5	-70.9	0.9	11.2	-60.6	V
10395.0	-72.0	0.3	12.0	-60.3	V
12127.5	-71.8	0.4	12.2	-60.0	V

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## Test Data (QPSK Mode channel 20399)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3509.8	-69.0	7.0	8.9	-67.1	V
5264.7	-70.1	5.0	9.9	-65.2	V
7019.6	-73.4	1.2	11.9	-62.7	V
8774.5	-71.3	1.2	11.2	-61.3	V
10529.4	-72.4	0.6	12.0	-61.0	V
12284.3	-72.3	0.2	12.2	-60.3	V

## Test Data (BPSK Mode channel 19951)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3420.2	-68.4	6.9	8.9	-66.4	V
5130.3	-66.1	5.8	9.9	-62.0	V
6840.4	-75.4	0.9	11.9	-64.4	V
8550.5	-72.4	0.9	11.2	-62.1	V
10260.6	-73.4	0.3	12.0	-61.7	V
11970.7	-72.2	0.4	12.2	-60.4	V

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## Test Data (BPSK Mode channel 20175)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3465.0	-61.2	6.9	8.9	-59.2	V
5197.5	-56.6	5.8	9.9	-52.5	V
6930.0	-69.2	0.9	11.9	-58.2	V
8662.5	-71.8	0.9	11.2	-61.5	V
10395.0	-71.5	0.3	12.0	-59.8	V
12127.5	-71.9	0.4	12.2	-60.1	V

## Test Data (BPSK Mode channel 20399)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3509.8	-69.2	7.0	8.9	-67.3	V
5264.7	-67.6	5.0	9.9	-62.7	V
7019.6	-73.4	1.2	11.9	-62.7	V
8774.5	-71.5	1.2	11.2	-61.5	V
10529.4	-71.4	0.6	12.0	-60.0	V
12284.3	-71.9	0.2	12.2	-59.9	V

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## 5.4.5 NB-IoT Band 12 Radiated Spurious Emission Results

Test Data (QPSK Mode channel 23011)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1398.2	-45.8	4.2	8.0	-42.0	H
2097.3	-65.2	5.4	8.2	-62.4	H
2796.4	-68.2	6.1	7.8	-66.5	H
3495.5	-63.6	7.0	8.9	-61.7	V
4194.6	-62.9	7.8	9.2	-61.5	V
4893.7	-64.5	7.8	9.9	-62.4	V

Test Data (QPSK Mode channel 23095)

Frequency [MHz]	Generator output power(P <sub>g</sub> ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P <sub>d</sub> ) [dBm]	Antenna Polarization [H/V]
1415.0	-57.9	4.4	8.3	-54.0	H
2122.5	-66.0	5.4	8.2	-63.2	H
2830.0	-69.7	6.3	7.9	-68.1	H
3537.5	-63.2	7.0	8.9	-61.3	V
4245.0	-63.7	7.8	9.2	-62.3	H
4952.5	-66.7	7.7	9.9	-64.5	V

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## Test Data (QPSK Mode channel 23179)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1431.8	-56.7	4.4	8.2	-52.9	H
2147.7	-64.0	5.4	7.0	-62.4	H
2863.6	-69.6	6.4	8.0	-68.0	H
3579.5	-61.3	7.1	8.9	-59.5	V
4295.4	-61.8	7.8	9.2	-60.4	V
5011.3	-65.7	7.5	9.9	-63.3	V

## Test Data (BPSK Mode channel 23011)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1398.2	-63.2	4.2	8.0	-59.4	H
2097.3	-66.2	5.4	8.2	-63.4	V
2796.4	-70.0	6.1	7.8	-68.3	H
3495.5	-64.6	7.0	8.9	-62.7	V
4194.6	-61.8	7.8	9.2	-60.4	H
4893.7	-64.9	7.8	9.9	-62.8	H

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## Test Data (BPSK Mode channel 23095)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1415.0	-55.0	4.4	8.3	-51.1	H
2122.5	-65.0	5.4	8.2	-62.2	H
2830.0	-69.8	6.3	7.9	-68.2	H
3537.5	-61.0	7.0	8.9	-59.1	V
4245.0	-63.7	7.8	9.2	-62.3	V
4952.5	-65.0	7.7	9.9	-62.8	V

## Test Data (BPSK Mode channel 23179)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1431.8	-54.6	4.4	8.2	-50.8	H
2147.7	-64.1	5.4	7.0	-62.5	H
2863.6	-69.0	6.4	8.0	-67.4	H
3579.5	-63.3	7.1	8.9	-61.5	V
4295.4	-61.0	7.8	9.2	-59.6	V
5011.3	-66.2	7.5	9.9	-63.8	V

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## 5.4.6 NB-IoT Band 13 Radiated Spurious Emission Results

Test Data (QPSK Mode channel 23181)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1554.2	-59.6	4.6	8.6	-55.6	H
2331.3	-65.7	5.6	8.0	-63.3	H
3108.4	-69.8	6.6	8.9	-67.5	H
3885.5	-64.4	7.4	9.2	-62.6	V
4662.6	-63.6	8.1	9.5	-62.2	V
5439.7	-71.3	2.9	10.5	-63.7	V

Test Data (QPSK Mode channel 23230)

Frequency [MHz]	Generator output power(P <sub>g</sub> ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P <sub>d</sub> ) [dBm]	Antenna Polarization [H/V]
1564.0	-61.4	4.6	8.6	-57.4	H
2346.0	-67.3	5.6	8	-64.9	H
3128.0	-70.0	6.6	8.9	-67.7	V
3910.0	-62.3	7.4	9.2	-60.5	V
4692.0	-65.1	8.1	9.5	-63.7	H
5474.0	-71.3	2.9	10.5	-63.7	V

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## Test Data (QPSK Mode channel 23279)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1573.8	-61.7	4.6	8.6	-57.7	H
2360.7	-69.0	5.6	8.0	-66.6	H
3147.6	-65.0	6.6	8.9	-62.7	V
3934.5	-66.9	7.4	9.2	-65.1	V
4721.4	-64.2	8.1	9.5	-62.8	V
5508.3	-71.8	2.9	10.5	-64.2	V

## Test Data (BPSK Mode channel 23181)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1554.2	-56.3	4.6	8.6	-52.3	H
2331.3	-63.1	5.6	8.0	-60.7	V
3108.4	-68.3	6.6	8.9	-66.0	H
3885.5	-64.2	7.4	9.2	-62.4	V
4662.6	-65.2	8.1	9.5	-63.8	H
5439.7	-71.4	2.9	10.5	-63.8	H

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## Test Data (BPSK Mode channel 23230)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1564.0	-58.5	4.6	8.6	-54.5	H
2346.0	-63.4	5.6	8.0	-61.0	V
3128.0	-69.6	6.6	8.9	-67.3	H
3910.0	-64.6	7.4	9.2	-62.8	V
4692.0	-65.2	8.1	9.5	-63.8	V
5474.0	-71.7	2.9	10.5	-64.1	V

## Test Data (BPSK Mode channel 23279)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1573.8	-62.4	4.6	8.6	-58.4	H
2360.7	-64.7	5.6	8	-62.3	H
3147.6	-64.6	6.6	8.9	-62.3	H
3934.5	-63.7	7.4	9.2	-61.9	V
4721.4	-64.3	8.1	9.5	-62.9	V
5508.3	-72.2	2.9	10.5	-64.6	V

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## 5.4.7 NB-IoT Band 26 Radiated Spurious Emission Results

### Test Data (QPSK Mode channel 26690)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1628.0	-67.8	4.7	7.3	-65.2	V
2442.0	-61.5	5.9	6.8	-60.6	V
3256.0	-69.5	6.7	8.9	-67.3	V
4070.0	-68.8	7.5	9.2	-67.1	V
4884.0	-66.4	7.8	9.5	-64.7	V
5698.0	-73.9	1.7	10.5	-65.1	V

### Test Data (QPSK Mode channel 26865)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1663.0	-49.0	4.8	7.6	-46.2	H
2494.5	-53.7	5.9	6.8	-52.8	H
3326.0	-69.1	6.8	8.9	-67.0	V
4157.5	-65.2	7.6	9.2	-63.6	V
4989.0	-66.2	7.5	9.9	-63.8	V
5820.5	-72.9	1.4	10.9	-63.4	V

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## Test Data (QPSK Mode channel 27039)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1697.8	-57.0	4.8	8.0	-53.8	H
2546.7	-57.4	5.9	7.2	-56.1	H
3395.6	-70.0	6.9	8.9	-68.0	V
4244.5	-66.7	7.8	9.5	-65.0	V
5093.4	-69.6	6.8	9.9	-66.5	V
5942.3	-74.4	1.4	10.9	-64.9	V

## Test Data (BPSK Mode channel 26690)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1628.0	-45.7	4.7	7.3	-43.1	V
2442.0	-62.6	5.9	6.8	-61.7	V
3256.0	-69.5	6.7	8.9	-67.3	V
4070.0	-68.8	7.5	9.2	-67.1	V
4884.0	-66.4	7.8	9.5	-64.7	V
5698.0	-73.9	1.7	10.5	-65.1	V

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## Test Data (BPSK Mode channel 26865)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1663.0	-52.3	4.8	7.6	-49.5	V
2494.5	-52.1	5.9	6.8	-51.2	V
3326.0	-68.2	6.8	8.9	-66.1	V
4157.5	-67.1	7.6	9.2	-65.5	V
4989.0	-66.4	7.5	9.9	-64.0	V
5820.5	-73.1	1.4	10.9	-63.6	V

## Test Data (BPSK Mode channel 27039)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1697.8	-47.7	4.8	8.0	-44.5	H
2546.7	-60.3	5.9	7.2	-59.0	V
3395.6	-59.2	6.9	8.9	-57.2	V
4244.5	-57.5	7.8	9.5	-55.8	V
5093.4	-59.3	6.8	9.9	-56.2	V
5942.3	-65.1	1.4	10.9	-55.6	V

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## 5.4.8 Cat-M Band 2 Radiated Spurious Emission Results

Test Data (1.4MHz Bandwidth QPSK Mode channel 18607)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3702.3	-71.6	7.2	12.6	-66.2	V
5550.5	-70.9	2.0	13.1	-59.8	V
7401.2	-72.0	0.9	11.7	-61.2	V
9250.2	-70.2	1.0	11.9	-59.3	V
11100.2	-70.2	0.4	11.5	-59.1	V
12950.8	-71.9	0.4	13.6	-58.7	V

Test Data (1.4MHz Bandwidth QPSK Mode channel 18900)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3760.4	-71.0	7.4	12.6	-65.8	V
5640.7	-74.4	1.8	13.1	-63.1	V
7520.1	-72.2	0.9	11.7	-61.4	V
9400.7	-70.5	0.8	11.9	-59.4	V
11280.5	-70.3	0.3	11.5	-59.1	V
13160.2	-72.1	0.4	13.6	-58.9	H

Test Data (1.4MHz Bandwidth QPSK Mode channel 19192)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3820.2	-71.5	7.4	12.6	-66.3	V
5727.3	-74.8	1.8	13.1	-63.5	V
7636.7	-72.1	0.9	11.7	-61.3	H
9547.1	-71.2	0.8	11.9	-60.1	V

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11456.7	-70.1	0.3	11.5	-58.9	V
13361.6	-71.6	0.4	13.6	-58.4	V

### Test Data (1.4MHz Bandwidth 16QAM Mode channel 18607)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3770.2	-70.6	7.2	12.6	-65.2	V
5550.5	-74.9	2.0	13.1	-63.8	V
7400.2	-72.3	0.9	11.7	-61.5	V
9250.2	-70.5	1.0	11.9	-59.6	H
11100.8	-69.7	0.4	11.5	-58.6	V
12950.1	-71.1	0.4	13.6	-57.9	V

### Test Data (1.4MHz Bandwidth 16QAM Mode channel 18900)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3760.1	-64.6	7.4	12.6	-59.4	V
5642.6	-70.0	1.8	13.1	-58.7	V
7520.8	-69.3	0.9	11.7	-58.5	V
9400.4	-70.5	0.8	11.9	-59.4	V
11280.2	-70.7	0.3	11.5	-59.5	H
13160.2	-71.8	0.4	13.6	-58.6	V

### Test Data (1.4MHz Bandwidth 16QAM Mode channel 19192)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3818.2	-69.1	7.4	12.6	-63.9	H
5727.6	-73.5	1.8	13.1	-62.2	V
7636.2	-72.1	0.9	11.7	-61.3	V

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9548.8	-70.7	0.8	11.9	-59.6	V
11455.1	-69.8	0.3	11.5	-58.6	V
13362.7	-71.5	0.4	13.6	-58.3	V

Test Data (3MHz Bandwidth QPSK Mode channel 18615)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3702.7	-63.9	7.2	12.6	-58.5	V
5550.1	-68.5	2.0	13.1	-57.4	H
7401.8	-68.4	0.9	11.7	-57.6	V
9250.2	-69.5	1.0	11.9	-58.6	V
11101.8	-69.3	0.4	11.5	-58.2	V
12951.7	-71.3	0.4	13.6	-58.1	V

Test Data (3MHz Bandwidth QPSK Mode channel 18900)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3761.7	-70.1	7.4	12.6	-64.9	V
5640.2	-74.2	1.8	13.1	-62.9	V
7520.6	-72.4	0.9	11.7	-61.6	H
9400.3	-70.4	0.8	11.9	-59.3	V
11280.6	-69.7	0.3	11.5	-58.5	V
13160.2	-71.5	0.4	13.6	-58.3	V

Test Data (3MHz Bandwidth QPSK Mode channel 19184)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3821.3	-70.9	7.4	12.6	-65.7	V
5726.5	-74.8	1.8	13.1	-63.5	V
7636.3	-72.0	0.9	11.7	-61.2	H

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9547.1	-70.9	0.8	11.9	-59.8	V
11456.2	-70.6	0.3	11.5	-59.4	V
13360.3	-72.1	0.4	13.6	-58.9	V

### Test Data (3MHz Bandwidth 16QAM Mode channel 18615)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3770.5	-71.5	7.2	12.6	-66.1	V
5551.3	-75.2	2.0	13.1	-64.1	V
7401.5	-73.3	0.9	11.7	-62.5	V
9251.5	-70.7	1.0	11.9	-59.8	H
11101.6	-70.5	0.4	11.5	-59.4	V
12951.6	-71.7	0.4	13.6	-58.5	V

### Test Data (3MHz Bandwidth 16QAM Mode channel 18900)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3760.1	-70.9	7.4	12.6	-65.7	V
5642.6	-74.6	1.8	13.1	-63.3	V
7520.8	-71.9	0.9	11.7	-61.1	V
9400.4	-70.7	0.8	11.9	-59.6	V
11280.2	-70.6	0.3	11.5	-59.4	H
13160.2	-71.8	0.4	13.6	-58.6	V

### Test Data (3MHz Bandwidth 16QAM Mode channel 19184)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3818.3	-70.4	7.4	12.6	-65.2	V
5727.4	-75.0	1.8	13.1	-63.7	V

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7636.7	-72.3	0.9	11.7	-61.5	V
9548.4	-70.9	0.8	11.9	-59.8	V
11455.1	-70.6	0.3	11.5	-59.4	V
13362.9	-72.1	0.4	13.6	-58.9	V

Test Data (5MHz Bandwidth QPSK Mode channel 18625)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3706.2	-70.9	7.2	12.6	-65.5	V
5554.3	-74.6	2.0	13.1	-63.5	V
7403.6	-72.0	0.9	11.7	-61.2	V
9253.7	-69.7	1.0	11.9	-58.8	H
11103.6	-69.7	0.4	11.5	-58.6	V
12954.4	-71.4	0.4	13.6	-58.2	V

Test Data (5MHz Bandwidth QPSK Mode channel 18900)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3761.4	-71.0	7.4	12.6	-65.8	V
5640.7	-74.7	1.8	13.1	-63.4	V
7520.3	-72.7	0.9	11.7	-61.9	H
9400.8	-71.2	0.8	11.9	-60.1	V
11280.1	-71.0	0.3	11.5	-59.8	V
13160.5	-72.5	0.4	13.6	-59.3	V

Test Data (5MHz Bandwidth QPSK Mode channel 19175)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3818.4	-70.8	7.4	12.6	-65.6	V
5723.7	-75.0	1.8	13.1	-63.7	V

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7633.2	-72.3	0.9	11.7	-61.5	H
9544.8	-71.0	0.8	11.9	-59.9	V
11453.4	-70.9	0.3	11.5	-59.7	V
13357.6	-72.6	0.4	13.6	-59.4	V

### Test Data (5MHz Bandwidth 16QAM Mode channel 18625)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3705.1	-71.1	7.2	12.6	-65.7	V
5555.2	-74.6	2.0	13.1	-63.5	H
7405.7	-72.6	0.9	11.7	-61.8	H
9255.2	-70.3	1.0	11.9	-59.4	V
11105.2	-70.0	0.4	11.5	-58.9	V
12953.6	-71.5	0.4	13.6	-58.3	V

### Test Data (5MHz Bandwidth 16QAM Mode channel 18900)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3760.4	-71.1	7.4	12.6	-65.9	V
5642.7	-75.1	1.8	13.1	-63.8	V
7521.4	-72.7	0.9	11.7	-61.9	V
9400.3	-70.8	0.8	11.9	-59.7	H
11280.8	-70.1	0.3	11.5	-58.9	V
13160.4	-71.6	0.4	13.6	-58.4	V

### Test Data (5MHz Bandwidth 16QAM Mode channel 19175)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3817.3	-70.6	7.4	12.6	-65.4	V

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5723.6	-74.8	1.8	13.1	-63.5	V
7633.7	-72.1	0.9	11.7	-61.3	V
9544.6	-71.2	0.8	11.9	-60.1	V
11453.8	-70.6	0.3	11.5	-59.4	V
13357.3	-71.6	0.4	13.6	-58.4	H

Test Data (10MHz Bandwidth QPSK Mode channel 18650)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3708.3	-71.3	7.2	12.6	-65.9	V
5557.5	-74.6	2.0	13.1	-63.5	H
7405.9	-72.5	0.9	11.7	-61.7	V
9255.2	-70.5	1.0	11.9	-59.6	V
11105.2	-70.3	0.4	11.5	-59.2	V
12956.7	-71.8	0.4	13.6	-58.6	H

Test Data (10MHz Bandwidth QPSK Mode channel 18900)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3761.6	-70.6	7.4	12.6	-65.4	V
5641.9	-74.8	1.8	13.1	-63.5	V
7520.7	-72.6	0.9	11.7	-61.8	V
9401.4	-71.3	0.8	11.9	-60.2	H
11280.7	-70.8	0.3	11.5	-59.6	V
13160.5	-71.6	0.4	13.6	-58.4	V

Test Data (10MHz Bandwidth QPSK Mode channel 19150)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3816.5	-71.0	7.4	12.6	-65.8	V

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5721.3	-74.7	1.8	13.1	-63.4	H
7631.0	-72.0	0.9	11.7	-61.2	V
9542.5	-71.0	0.8	11.9	-59.9	H
11451.6	-69.9	0.3	11.5	-58.7	V
13355.7	-72.3	0.4	13.6	-59.1	V

Test Data (10MHz Bandwidth 16QAM Mode channel 18650)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3708.5	-71.2	7.2	12.6	-65.8	V
5557.2	-74.3	2.0	13.1	-63.2	H
7405.6	-72.6	0.9	11.7	-61.8	H
9255.5	-70.7	1.0	11.9	-59.8	V
11105.4	-70.2	0.4	11.5	-59.1	V
12956.5	-71.8	0.4	13.6	-58.6	V

Test Data (10MHz Bandwidth 16QAM Mode channel 18900)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3760.6	-70.9	7.4	12.6	-65.7	V
5642.3	-74.8	1.8	13.1	-63.5	V
7520.6	-72.6	0.9	11.7	-61.8	V
9400.7	-70.8	0.8	11.9	-59.7	V
11280.4	-70.6	0.3	11.5	-59.4	V
13160.8	-71.9	0.4	13.6	-58.7	V

Test Data (10MHz Bandwidth 16QAM Mode channel 19150)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]

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3815.7	-70.4	7.4	12.6	-65.2	V
5721.6	-74.7	1.8	13.1	-63.4	V
7631.7	-72.7	0.9	11.7	-61.9	V
9542.5	-70.6	0.8	11.9	-59.5	V
11451.3	-70.2	0.3	11.5	-59.0	V
13355.8	-72.5	0.4	13.6	-59.3	H

Test Data (15MHz Bandwidth QPSK Mode channel 18675)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3710.5	-70.8	7.2	12.6	-65.4	V
5559.3	-74.8	2.0	13.1	-63.7	V
7407.4	-72.6	0.9	11.7	-61.8	V
9257.5	-70.4	1.0	11.9	-59.5	V
11107.5	-69.7	0.4	11.5	-58.6	H
12958.1	-71.9	0.4	13.6	-58.7	V

Test Data (15MHz Bandwidth QPSK Mode channel 18900)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3760.3	-71.0	7.4	12.6	-65.8	V
5640.6	-75.0	1.8	13.1	-63.7	V
7520.8	-72.6	0.9	11.7	-61.8	V
9400.6	-70.5	0.8	11.9	-59.4	V
11280.6	-71.0	0.3	11.5	-59.8	V
13160.4	-71.3	0.4	13.6	-58.1	H

Test Data (15MHz Bandwidth QPSK Mode channel 19125)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]

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3814.7	-77.2	7.4	12.6	-65.7	V
5719.5	-74.4	1.8	13.1	-63.1	V
7629.0	-72.3	0.9	11.7	-61.5	H
9540.3	-71.5	0.8	11.9	-60.4	H
11449.2	-70.8	0.3	11.5	-59.6	V
13353.5	-71.9	0.4	13.6	-58.7	V

### Test Data (15MHz Bandwidth 16QAM Mode channel 18675)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3710.2	-71.1	7.2	12.6	-65.7	V
5559.8	-74.9	2.0	13.1	-63.8	V
7407.6	-72.0	0.9	11.7	-61.2	H
9257.8	-70.5	1.0	11.9	-59.6	V
11107.4	-70.4	0.4	11.5	-59.3	V
12958.0	-71.9	0.4	13.6	-58.7	V

### Test Data (15MHz Bandwidth 16QAM Mode channel 18900)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3761.0	-71.1	7.4	12.6	-65.9	V
5641.2	-74.8	1.8	13.1	-63.5	V
7520.7	-72.4	0.9	11.7	-61.6	V
9401.2	-70.7	0.8	11.9	-59.6	V
11280.6	-70.6	0.3	11.5	-59.4	V
13160.2	-72.3	0.4	13.6	-59.1	V

### Test Data (15MHz Bandwidth 16QAM Mode channel 19125)

Frequency [MHz]	Generator output power( $P_g$ )	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ )	Antenna Polarization [H/V]

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	[dBm]			[dBm]	
3814.4	-70.8	7.4	12.6	-65.6	V
5719.7	-74.7	1.8	13.1	-63.4	V
7629.5	-72.6	0.9	11.7	-61.8	H
9540.1	-71.3	0.8	11.9	-60.2	V
11449.8	-71.0	0.3	11.5	-59.8	V
13353.4	-72.4	0.4	13.6	-59.2	V

Test Data (20MHz Bandwidth QPSK Mode channel 18700)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3712.4	-71.0	7.2	12.6	-65.6	V
5563.8	-74.9	2.0	13.1	-63.8	V
7410.0	-72.0	0.9	11.7	-61.2	H
9259.2	-70.7	1.0	11.9	-59.8	V
11109.2	-70.3	0.4	11.5	-59.2	V
12960.8	-72.1	0.4	13.6	-58.9	V

Test Data (20MHz Bandwidth QPSK Mode channel 18900)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3760.4	-71.0	7.4	12.6	-65.8	V
5641.3	-75.2	1.8	13.1	-63.9	H
7521.3	-72.6	0.9	11.7	-61.8	V
9400.7	-70.5	0.8	11.9	-59.4	V
11280.4	-70.9	0.3	11.5	-59.7	V
13161.3	-72.2	0.4	13.6	-59.0	V

Test Data (20MHz Bandwidth QPSK Mode channel 19100)

Frequency [MHz]	Generator output power( $P_g$ )	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ )	Antenna Polarization [H/V]

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	[dBm]			[dBm]	
3812.5	-70.5	7.4	12.6	-65.3	V
5718.6	-74.7	1.8	13.1	-63.4	V
7627.8	-72.5	0.9	11.7	-61.7	V
9538.5	-71.0	0.8	11.9	-59.9	H
11447.9	-70.6	0.3	11.5	-59.4	V
13351.5	-71.9	0.4	13.6	-58.7	V

### Test Data (20MHz Bandwidth 16QAM Mode channel 18700)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3712.6	-71.1	7.2	12.6	-65.7	V
5562.3	-74.1	2.0	13.1	-63.0	V
7410.7	-72.0	0.9	11.7	-61.2	V
9260.2	-70.4	1.0	11.9	-59.5	V
11110.4	-70.2	0.4	11.5	-59.1	V
12960.4	-71.9	0.4	13.6	-58.7	V

### Test Data (20MHz Bandwidth 16QAM Mode channel 18900)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3760.8	-71.0	7.4	12.6	-65.8	V
5641.5	-74.4	1.8	13.1	-63.1	V
7520.3	-72.0	0.9	11.7	-61.2	V
9400.5	-70.8	0.8	11.9	-59.7	V
11281.4	-70.3	0.3	11.5	-59.1	H
13161.4	-71.8	0.4	13.6	-58.6	H

### Test Data (20MHz Bandwidth 16QAM Mode channel 19100)

Frequency [MHz]	Generator output	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission	Antenna Polarization

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	power( $P_g$ ) [dBm]			Power ( $P_d$ ) [dBm]	[H/V]
3812.3	-70.4	7.4	12.6	-65.2	V
5717.3	-74.4	1.8	13.1	-63.1	V
7627.4	-72.6	0.9	11.7	-61.8	V
9538.5	-71.5	0.8	11.9	-60.4	V
11446.2	-70.6	0.3	11.5	-59.4	H
13352.9	-72.5	0.4	13.6	-59.3	V

## 5.4.9 Cat-M Band 4 Radiated Spurious Emission Results

Test Data (1.4MHz Bandwidth QPSK Mode channel 19957)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3420.3	-73.1	6.9	12.6	-67.4	V
5130.7	-70.5	6.3	12.7	-64.1	V
6840.8	-73.5	0.8	11.7	-62.6	H
8550.3	-71.3	0.9	11.9	-60.3	V
10260.5	-71.3	0.5	12.1	-59.7	V
11970.6	-71.8	0.4	13.2	-59.0	V

Test Data (1.4MHz Bandwidth QPSK Mode channel 20175)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3465.4	-66.0	6.9	12.6	-60.3	V
5197.1	-59.5	5.8	12.7	-52.6	V
6930.8	-74.4	0.9	11.7	-63.6	V
8662.3	-71.9	0.9	11.9	-60.9	V
10395.1	-72.1	0.7	12.1	-60.7	H

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12127.8	-72.8	0.6	13.2	-60.2	V
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## Test Data (1.4MHz Bandwidth QPSK Mode channel 20392)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3510.2	-73.9	7.0	12.6	-68.3	V
5265.7	-73.3	5.0	12.7	-65.6	V
7020.8	-74.1	1.2	11.7	-63.6	V
8775.3	-72.4	1.1	11.9	-61.6	V
10530.8	-71.8	0.6	12.1	-60.3	V
12285.8	-73.3	0.3	13.2	-60.4	V

## Test Data (1.4MHz Bandwidth 16QAM Mode channel 19957)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3420.5	-73.5	6.9	12.6	-67.8	V
5130.3	-70.3	6.3	12.7	-63.9	V
6840.4	-73.3	0.8	11.7	-62.4	V
8550.4	-71.6	0.9	11.9	-60.6	V
10260.3	-71.3	0.5	12.1	-59.7	H
11970.9	-71.9	0.4	13.2	-59.1	H

## Test Data (1.4MHz Bandwidth 16QAM Mode channel 20175)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3465.1	-66.0	6.9	12.6	-60.3	V
5197.7	-67.5	5.8	12.7	-60.6	V
6930.6	-71.9	0.9	11.7	-61.1	V
8662.7	-72.2	0.9	11.9	-61.2	V

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10395.6	-71.8	0.7	12.1	-60.4	V
12127.6	-72.5	0.6	13.2	-59.9	V

Test Data (1.4MHz Bandwidth 16QAM Mode channel 20392)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3510.4	-73.3	7.0	12.6	-67.7	V
5265.8	-73.3	5.0	12.7	-65.6	V
7020.6	-73.2	1.2	11.7	-62.7	V
8775.2	-72.0	1.1	11.9	-61.2	V
10530.9	-71.8	0.6	12.1	-60.3	V
12285.3	-73.1	0.3	13.2	-60.2	V

Test Data (3MHz Bandwidth QPSK Mode channel 19965)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3421.5	-73.4	6.9	12.6	-67.7	H
5131.2	-70.4	6.3	12.7	-64.0	H
6841.4	-73.4	0.8	11.7	-62.5	V
8551.8	-71.6	0.9	11.9	-60.6	V
10261.4	-71.0	0.5	12.1	-59.4	V
11971.8	-72.0	0.4	13.2	-59.2	V

Test Data (3MHz Bandwidth QPSK Mode channel 20175)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3465.7	-68.8	6.9	12.6	-63.1	V
5197.4	-67.6	5.8	12.7	-60.7	H
6930.5	-76.9	0.9	11.7	-66.1	V
8662.9	-70.4	0.9	11.9	-59.4	V

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10395.1	-71.6	0.7	12.1	-60.2	V
12127.5	-76.1	0.6	13.2	-63.5	H

Test Data (3MHz Bandwidth QPSK Mode channel 20384)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3509.3	-71.4	7.0	12.6	-65.8	V
5264.3	-67.3	5.0	12.7	-59.6	V
7019.3	-73.2	1.2	11.7	-62.7	H
8774.7	-70.8	1.1	11.9	-60.0	V
10529.3	-72.9	0.6	12.1	-61.4	V
12284.7	-79.1	0.3	13.2	-66.2	V

Test Data (3MHz Bandwidth 16QAM Mode channel 19965)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3421.3	-72.9	6.9	12.6	-67.2	V
5130.9	-71.5	6.3	12.7	-65.1	V
6841.4	-73.7	0.8	11.7	-62.8	V
8551.2	-71.8	0.9	11.9	-60.8	V
10260.9	-71.2	0.5	12.1	-59.6	H
11970.9	-71.9	0.4	13.2	-59.1	H

Test Data (3MHz Bandwidth 16QAM Mode channel 20175)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3465.5	-65.4	6.9	12.6	-59.7	V
5197.8	-67.0	5.8	12.7	-60.1	V
6930.5	-72.8	0.9	11.7	-62.0	V

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8662.5	-70.6	0.9	11.9	-59.6	H
10395.8	-72.1	0.7	12.1	-60.7	H
12127.7	-73.9	0.6	13.2	-61.3	V

Test Data (3MHz Bandwidth 16QAM Mode channel 20384)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3509.6	-62.8	7.0	12.6	-57.2	V
5264.7	-66.7	5.0	12.7	-59.0	V
7019.4	-70.6	1.2	11.7	-60.1	V
8774.3	-76.0	1.1	11.9	-65.2	V
10530.2	-75.8	0.6	12.1	-64.3	V
12284.9	-75.6	0.3	13.2	-62.7	V

Test Data (5MHz Bandwidth QPSK Mode channel 19975)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3422.7	-73.2	6.9	12.6	-67.5	V
5132.6	-70.9	6.3	12.7	-64.5	V
6841.8	-73.2	0.8	11.7	-62.3	V
8552.6	-71.4	0.9	11.9	-60.4	V
10260.7	-71.3	0.5	12.1	-59.7	H
11972.5	-71.9	0.4	13.2	-59.1	V

Test Data (5MHz Bandwidth QPSK Mode channel 20175)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3465.3	-63.9	6.9	12.6	-58.2	V
5197.8	-64.8	5.8	12.7	-57.9	H
6930.4	-72.5	0.9	11.7	-61.7	V

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8662.8	-77.4	0.9	11.9	-66.4	V
10395.4	-71.7	0.7	12.1	-60.3	V
12127.8	-76.4	0.6	13.2	-63.8	V

Test Data (5MHz Bandwidth QPSK Mode channel 20375)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3508.4	-67.9	7.0	12.6	-62.3	H
5263.5	-64.7	5.0	12.7	-57.0	V
7018.7	-71.5	1.2	11.7	-61.0	H
8773.2	-70.2	1.1	11.9	-59.4	V
10527.3	-78.2	0.6	12.1	-66.7	V
12284.2	-76.8	0.3	13.2	-63.9	V

Test Data (5MHz Bandwidth 16QAM Mode channel 19975)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3422.3	-73.0	6.9	12.6	-67.3	V
5132.1	-71.4	6.3	12.7	-65.0	V
6842.8	-73.7	0.8	11.7	-62.8	V
8552.3	-71.4	0.9	11.9	-60.4	V
10262.4	-71.4	0.5	12.1	-59.8	H
11972.2	-72.1	0.4	13.2	-59.3	V

Test Data (5MHz Bandwidth 16QAM Mode channel 20175)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3465.4	-69.7	6.9	12.6	-64.0	V
5197.9	-67.5	5.8	12.7	-60.6	V

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6930.3	-71.9	0.9	11.7	-61.1	V
8662.7	-72.2	0.9	11.9	-61.2	V
10395.4	-71.8	0.7	12.1	-60.4	V
12127.5	-72.6	0.6	13.2	-60.0	V

Test Data (5MHz Bandwidth 16QAM Mode channel 20375)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3508.2	-73.6	7.0	12.6	-68.0	V
5262.6	-73.1	5.0	12.7	-65.4	V
7017.6	-73.9	1.2	11.7	-63.4	V
8773.1	-71.9	1.1	11.9	-61.1	V
10527.7	-72.1	0.6	12.1	-60.6	V
12283.6	-73.2	0.3	13.2	-60.3	V

Test Data (10MHz Bandwidth QPSK Mode channel 20000)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3424.0	-72.6	6.9	12.6	-66.9	V
5133.8	-70.9	6.3	12.7	-64.5	H
6843.4	-73.6	0.8	11.7	-62.7	V
8552.4	-71.7	0.9	11.9	-60.7	V
10262.3	-71.0	0.5	12.1	-59.4	V
11974.1	-72.0	0.4	13.2	-59.2	V

Test Data (10MHz Bandwidth QPSK Mode channel 20175)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3465.7	-69.8	6.9	12.6	-64.1	V
5198.2	-63.5	5.8	12.7	-56.6	H

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6930.7	-74.4	0.9	11.7	-63.6	V
8662.2	-71.9	0.9	11.9	-60.9	V
10395.7	-72.0	0.7	12.1	-60.6	V
12127.1	-72.0	0.6	13.2	-59.4	V

### Test Data (10MHz Bandwidth QPSK Mode channel 20350)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3506.8	-73.7	7.0	12.6	-68.1	V
5261.6	-73.8	5.0	12.7	-66.1	V
7016.9	-73.4	1.2	11.7	-62.9	V
8771.5	-71.4	1.1	11.9	-60.6	H
10525.7	-71.4	0.6	12.1	-59.9	V
12282.5	-72.8	0.3	13.2	-59.9	V

### Test Data (10MHz Bandwidth 16QAM Mode channel 20000)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3424.6	-72.8	6.9	12.6	-67.1	V
5133.3	-71.3	6.3	12.7	-64.9	V
6844.8	-73.7	0.8	11.7	-62.8	V
8553.6	-71.3	0.9	11.9	-60.3	H
10263.8	-71.3	0.5	12.1	-59.7	V
11974.5	-72.2	0.4	13.2	-59.4	V

### Test Data (10MHz Bandwidth 16QAM Mode channel 20175)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3465.6	-69.7	6.9	12.6	-64.0	V

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5197.3	-64.6	5.8	12.7	-57.7	V
6930.7	-74.5	0.9	11.7	-63.7	V
8662.7	-72.2	0.9	11.9	-61.2	V
10395.2	-72.1	0.7	12.1	-60.7	V
12127.6	-73.2	0.6	13.2	-60.6	V

Test Data (10MHz Bandwidth 16QAM Mode channel 20350)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3506.4	-73.5	7.0	12.6	-67.9	V
5261.7	-72.4	5.0	12.7	-64.7	V
7016.3	-73.3	1.2	11.7	-62.8	V
8771.8	-72.8	1.1	11.9	-62.0	V
10525.2	-72.8	0.6	12.1	-61.3	V
12282.4	-72.9	0.3	13.2	-60.0	V

Test Data (15MHz Bandwidth QPSK Mode channel 20025)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3426.2	-72.1	6.9	12.6	-66.4	V
5135.7	-70.3	6.3	12.7	-63.9	V
6845.8	-72.8	0.8	11.7	-61.9	H
8555.7	-72.0	0.9	11.9	-61.0	H
10264.7	-71.3	0.5	12.1	-59.7	V
11974.5	-71.9	0.4	13.2	-59.1	V

Test Data (15MHz Bandwidth QPSK Mode channel 20175)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]

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3465.5	-64.8	6.9	12.6	-59.1	V
5198.6	-67.9	5.8	12.7	-61.0	V
6930.3	-74.9	0.9	11.7	-64.1	V
8662.8	-72.2	0.9	11.9	-61.2	V
10396.8	-71.4	0.7	12.1	-60.0	V
12126.5	-72.9	0.6	13.2	-60.3	V

Test Data (15MHz Bandwidth QPSK Mode channel 20325)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3504.4	-73.7	7.0	12.6	-68.1	V
5259.3	-73.2	5.0	12.7	-65.5	V
7014.6	-73.6	1.2	11.7	-63.1	H
8770.3	-72.5	1.1	11.9	-61.7	V
10524.5	-72.6	0.6	12.1	-61.1	V
12280.4	-73.3	0.3	13.2	-60.4	V

Test Data (15MHz Bandwidth 16QAM Mode channel 20025)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3425.3	-72.5	6.9	12.6	-66.8	V
5135.1	-71.3	6.3	12.7	-64.9	V
6844.7	-72.7	0.8	11.7	-61.8	V
8554.2	-71.5	0.9	11.9	-60.5	V
10265.3	-71.0	0.5	12.1	-59.4	H
11975.1	-71.8	0.4	13.2	-59.0	V

Test Data (15MHz Bandwidth 16QAM Mode channel 20175)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]

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3465.1	-72.8	6.9	12.6	-67.1	V
5196.8	-72.6	5.8	12.7	-65.7	V
6931.5	-74.5	0.9	11.7	-63.7	V
8662.7	-71.7	0.9	11.9	-60.7	H
10395.4	-72.6	0.7	12.1	-61.2	V
12127.3	-72.5	0.6	13.2	-59.9	V

### Test Data (15MHz Bandwidth 16QAM Mode channel 20325)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3504.2	-73.8	7	12.6	-68.2	V
5259.6	-72.6	5	12.7	-64.9	V
7014.4	-73.2	1.2	11.7	-62.7	H
8769.7	-72.6	1.1	11.9	-61.8	V
10523.8	-72.7	0.6	12.1	-61.2	V
12279.3	-72.2	0.3	13.2	-59.3	V

### Test Data (20MHz Bandwidth QPSK Mode channel 20050)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3428.4	-73.3	6.9	12.6	-67.6	V
5137.3	-70.4	6.3	12.7	-64.0	V
6847.2	-74.0	0.8	11.7	-63.1	V
8557.8	-72.2	0.9	11.9	-61.2	H
10266.2	-70.9	0.5	12.1	-59.3	V
11976.3	-72.3	0.4	13.2	-59.5	V

### Test Data (20MHz Bandwidth QPSK Mode channel 20175)

Frequency [MHz]	Generator output power( $P_g$ )	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ )	Antenna Polarization [H/V]

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	[dBm]			[dBm]	
3465.4	-72.8	6.9	12.6	-67.1	V
5198.8	-72.3	5.8	12.7	-65.4	V
6930.4	-71.2	0.9	11.7	-60.4	V
8662.7	-72.0	0.9	11.9	-61.0	V
10396.3	-72.2	0.7	12.1	-60.8	V
12126.2	-73.3	0.6	13.2	-60.7	V

### Test Data (20MHz Bandwidth QPSK Mode channel 20300)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3504.6	-73.7	7.0	12.6	-68.1	V
5256.7	-73.1	5.0	12.7	-65.4	H
7013.7	-73.4	1.2	11.7	-62.9	V
8767.5	-72.5	1.1	11.9	-61.7	V
10521.3	-72.0	0.6	12.1	-60.5	V
12277.6	-73.1	0.3	13.2	-60.2	V

### Test Data (20MHz Bandwidth 16QAM Mode channel 20050)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3427.6	-72.5	6.9	12.6	-66.8	V
5136.8	-70.8	6.3	12.7	-64.4	V
6847.5	-73.6	0.8	11.7	-62.7	V
8556.9	-71.6	0.9	11.9	-60.6	V
10266.6	-71.2	0.5	12.1	-59.6	H
11975.9	-71.9	0.4	13.2	-59.1	V

### Test Data (20MHz Bandwidth 16QAM Mode channel 20175)

Frequency [MHz]	Generator output power( $P_g$ )	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ )	Antenna Polarization [H/V]

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	[dBm]			[dBm]	
3465.3	-63.4	6.9	12.6	-57.7	V
5196.5	-72.7	5.8	12.7	-65.8	V
6931.4	-74.5	0.9	11.7	-63.7	V
8662.6	-72.8	0.9	11.9	-61.8	H
10395.4	-71.7	0.7	12.1	-60.3	V
12127.6	-72.6	0.6	13.2	-60.0	V

Test Data (20MHz Bandwidth 16QAM Mode channel 20300)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
3505.7	-72.9	7.0	12.6	-67.3	V
5257.4	-72.8	5.0	12.7	-65.1	H
7013.7	-72.8	1.2	11.7	-62.3	V
8768.2	-72.9	1.1	11.9	-62.1	V
10521.6	-72.4	0.6	12.1	-60.9	V
12277.2	-73.4	0.3	13.2	-60.5	V

## 5.4.10 Cat-M Band 12 Radiated Spurious Emission Results

Test Data (1.4MHz Bandwidth QPSK Mode channel 23017)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1399.4	-73.8	4.4	8.4	-69.8	H
2099.1	-65.7	5.4	7.9	-63.2	H
2798.8	-71.6	6.1	9.0	-68.7	H
3498.5	-69.5	7.0	8.9	-67.6	V
4198.2	-67.4	7.8	9.2	-66.0	V

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4897.9	-65.6	7.8	9.9	-63.5	V
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## Test Data (1.4MHz Bandwidth QPSK Mode channel 23095)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1415.0	-63.4	4.4	8.4	-59.4	H
2122.5	-64.7	5.4	7.9	-62.2	H
2830.0	-71.0	6.3	9.0	-68.3	V
3537.5	-69.7	7.0	8.9	-67.8	V
4245.0	-65.7	7.8	9.2	-64.3	H
4952.5	-64.1	7.9	9.9	-62.1	V

## Test Data (1.4MHz Bandwidth QPSK Mode channel 23172)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1430.4	-73.0	4.4	8.4	-69.0	H
2145.6	-65.1	5.4	7.9	-62.6	H
2860.8	-71.0	6.4	9.0	-68.4	V
3576.0	-69.0	7.0	8.9	-67.1	V
4291.2	-66.2	7.8	9.2	-64.8	V
5006.4	-66.5	7.1	9.9	-63.7	V

## Test Data (1.4MHz Bandwidth 16QAM Mode channel 23017)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1399.4	-72.8	4.4	8.4	-68.8	H
2099.1	-65.7	5.4	7.9	-63.2	H
2798.8	-71.6	6.1	9.0	-68.7	H
3498.5	-69.5	7.0	8.9	-67.6	V
4198.2	-67.3	7.8	9.2	-65.9	H

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4897.9	-65.7	7.8	9.9	-63.6	H
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## Test Data (1.4MHz Bandwidth 16QAM Mode channel 23095)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1415.0	-70.0	4.4	8.4	-66.0	V
2122.5	-65.3	5.4	7.9	-62.8	H
2830.0	-71.2	6.3	9.0	-68.5	H
3537.5	-69.4	7.0	8.9	-67.5	V
4245.0	-66.8	7.8	9.2	-65.4	V
4952.5	-65.0	7.9	9.9	-63.0	V

## Test Data (1.4MHz Bandwidth 16QAM Mode channel 23172)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1430.4	-72.8	4.4	8.4	-68.8	V
2145.6	-65.4	5.4	7.9	-62.9	H
2860.8	-70.8	6.4	9.0	-68.2	H
3576.0	-69.4	7.0	8.9	-67.5	V
4291.2	-66.3	7.8	9.2	-64.9	V
5006.4	-65.7	7.1	9.9	-62.9	V

## Test Data (3MHz Bandwidth QPSK Mode channel 23025)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1401.0	-73.5	4.4	8.4	-69.5	H
2101.5	-65.4	5.4	7.9	-62.9	V
2802.0	-71.1	6.2	9.0	-68.3	H
3502.5	-69.7	7.0	8.9	-67.8	V

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4203.0	-66.2	7.8	9.2	-64.8	V
4903.5	-65.6	7.8	9.9	-63.5	V

### Test Data (3MHz Bandwidth QPSK Mode channel 23095)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1415.0	-73.2	4.4	8.4	-69.2	V
2122.5	-65.2	5.4	7.9	-62.7	H
2830.0	-70.9	6.3	9.0	-68.2	H
3537.5	-69.2	7.0	8.9	-67.3	V
4245.0	-66.5	7.8	9.2	-65.1	V
4952.5	-65.7	7.9	9.9	-63.7	H

### Test Data (3MHz Bandwidth QPSK Mode channel 23164)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1428.8	-73.3	4.4	8.4	-69.3	V
2143.2	-64.7	5.4	7.9	-62.2	H
2857.6	-70.8	6.4	9.0	-68.2	H
3572.0	-68.9	7.0	8.9	-67.0	V
4286.4	-65.8	7.8	9.2	-64.4	V
5000.8	-66.0	7.1	9.9	-63.2	V

### Test Data (3MHz Bandwidth 16QAM Mode channel 23025)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1401.0	-73.1	4.4	8.4	-69.1	H
2101.5	-64.9	5.4	7.9	-62.4	H
2802.0	-71.4	6.2	9.0	-68.6	V
3502.5	-69.1	7.0	8.9	-67.2	V

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4203.0	-67.5	7.8	9.2	-66.1	H
4903.5	-65.8	7.8	9.9	-63.7	H

### Test Data (3MHz Bandwidth 16QAM Mode channel 23095)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1415.0	-72.8	4.4	8.4	-68.8	V
2122.5	-65.3	5.4	7.9	-62.8	H
2830.0	-71.3	6.3	9.0	-68.6	V
3537.5	-69.3	7.0	8.9	-67.4	H
4245.0	-66.6	7.8	9.2	-65.2	H
4952.5	-65.6	7.9	9.9	-63.6	V

### Test Data (3MHz Bandwidth 16QAM Mode channel 23164)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1428.8	-72.9	4.4	8.4	-68.9	V
2143.2	-65.1	5.4	7.9	-62.6	H
2857.6	-70.7	6.4	9.0	-68.1	H
3572.0	-69.3	7.0	8.9	-67.4	V
4286.4	-65.1	7.8	9.2	-63.7	V
5000.8	-65.9	7.1	9.9	-63.1	V

### Test Data (5MHz Bandwidth QPSK Mode channel 23035)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1403.0	-72.0	4.4	8.4	-68.0	H
2104.5	-66.1	5.4	7.9	-63.6	V
2806.0	-71.0	6.2	9.0	-68.2	V

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3507.5	-68.9	7.0	8.9	-67.0	V
4209.0	-65.6	7.8	9.2	-64.2	H
4910.5	-65.3	7.7	9.9	-63.1	V

Test Data (5MHz Bandwidth QPSK Mode channel 23095)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1415.0	-73.4	4.4	8.4	-69.4	H
2122.5	-65.4	5.4	7.9	-62.9	H
2830.0	-71.8	6.3	9.0	-69.1	H
3537.5	-69.2	7.0	8.9	-67.3	V
4245.0	-66.5	7.8	9.2	-65.1	V
4952.5	-65.7	7.9	9.9	-63.7	V

Test Data (5MHz Bandwidth QPSK Mode channel 23154)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1426.8	-72.7	4.4	8.4	-68.7	H
2140.2	-65.0	5.4	7.9	-62.5	H
2853.6	-71.3	6.4	9.0	-68.7	V
3567.0	-68.7	7.0	8.9	-66.8	V
4280.4	-66.3	7.8	9.2	-64.9	V
4993.8	-66.2	7.5	9.9	-63.8	V

Test Data (5MHz Bandwidth 16QAM Mode channel 23035)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1403.0	-72.9	4.4	8.4	-68.9	H
2104.5	-65.6	5.4	7.9	-63.1	H
2806.0	-71.0	6.2	9.0	-68.2	H

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3507.5	-69.0	7.0	8.9	-67.1	V
4209.0	-66.2	7.8	9.2	-64.8	H
4910.5	-65.4	7.7	9.9	-63.2	V

Test Data (5MHz Bandwidth 16QAM Mode channel 23095)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1415.0	-72.7	4.4	8.4	-68.7	H
2122.5	-65.8	5.4	7.9	-63.3	H
2830.0	-71.1	6.3	9.0	-68.4	V
3537.5	-69.0	7.0	8.9	-67.1	V
4245.0	-66.1	7.8	9.2	-64.7	V
4952.5	-65.8	7.9	9.9	-63.8	V

Test Data (5MHz Bandwidth 16QAM Mode channel 23154)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1426.8	-72.9	4.4	8.4	-68.9	V
2140.2	-65.1	5.4	7.9	-62.6	H
2853.6	-71.0	6.4	9.0	-68.4	V
3567.0	-68.8	7.0	8.9	-66.9	V
4280.4	-66.3	7.8	9.2	-64.9	V
4993.8	-66.5	7.5	9.9	-64.1	V

Test Data (10MHz Bandwidth QPSK Mode channel 23060)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1408.0	-73.4	4.4	8.4	-69.4	H
2112.0	-65.9	5.4	7.9	-63.4	V

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2816.0	-71.4	6.2	9.0	-68.6	H
3520.0	-69.1	7.0	8.9	-67.2	V
4224.0	-66.3	7.8	9.2	-64.9	V
4928.0	-65.3	7.7	9.9	-63.1	V

Test Data (10MHz Bandwidth QPSK Mode channel 23095)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1415.0	-73.5	4.4	8.4	-69.5	H
2122.5	-65.2	5.4	7.9	-62.7	H
2830.0	-71.0	6.3	9.0	-68.3	H
3537.5	-69.1	7.0	8.9	-67.2	V
4245.0	-66.4	7.8	9.2	-65.0	V
4952.5	-65.1	7.9	9.9	-63.1	V

Test Data (10MHz Bandwidth QPSK Mode channel 23130)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1422.0	-72.8	4.4	8.4	-68.8	H
2133.0	-64.9	5.4	7.9	-62.4	H
2844.0	-71.3	6.4	9.0	-68.7	H
3555.0	-69.0	7.0	8.9	-67.1	H
4266.0	-66.2	7.8	9.2	-64.8	V
4977.0	-66.8	7.5	9.9	-64.4	V

Test Data (10MHz Bandwidth 16QAM Mode channel 23060)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1408.0	-73.3	4.4	8.4	-69.3	V
2112.0	-65.7	5.4	7.9	-63.2	H

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2816.0	-70.9	6.2	9.0	-68.1	V
3520.0	-69.1	7.0	8.9	-67.2	H
4224.0	-65.9	7.8	9.2	-64.5	V
4928.0	-65.2	7.7	9.9	-63.0	V

### Test Data (10MHz Bandwidth 16QAM Mode channel 23095)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1415.0	-73.7	4.4	8.4	-69.7	H
2122.5	-65.7	5.4	7.9	-63.2	H
2830.0	-71.3	6.3	9.0	-68.6	H
3537.5	-69.1	7.0	8.9	-67.2	V
4245.0	-66.5	7.8	9.2	-65.1	V
4952.5	-65.8	7.9	9.9	-63.8	V

### Test Data (10MHz Bandwidth 16QAM Mode channel 23130)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1422.0	-73.6	4.4	8.4	-69.6	H
2133.0	-65.6	5.4	7.9	-63.1	H
2844.0	-71.2	6.4	9.0	-68.6	H
3555.0	-69.0	7.0	8.9	-67.1	V
4266.0	-66.1	7.8	9.2	-64.7	V
4977.0	-66.2	7.5	9.9	-63.8	V

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## 5.4.11 Cat-M Band 13 Radiated Spurious Emission Results

### Test Data (5MHz Bandwidth QPSK Mode channel 23205)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1559.0	-68.3	4.6	8.4	-64.5	V
2338.5	-63.8	5.6	9.0	-60.4	V
3118.0	-69.3	6.6	8.9	-67.0	V
3897.5	-66.3	7.4	9.2	-64.5	V
4677.0	-65.4	8.1	9.5	-64.0	H
5456.5	-70.6	2.9	10.5	-63.0	V

### Test Data (5MHz Bandwidth QPSK Mode channel 23230)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1564.0	-68.2	4.6	8.4	-64.4	H
2346.0	-63.5	5.6	9.0	-60.1	H
3128.0	-70.0	6.6	8.9	-67.7	V
3910.0	-66.8	7.5	9.2	-65.1	V
4692.0	-65.4	8.1	9.5	-64.0	V
5474.0	-70.2	2.9	10.5	-62.6	V

### Test Data (5MHz Bandwidth QPSK Mode channel 23255)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1569.0	-68.4	4.6	8.4	-64.6	H
2353.5	-63.8	5.6	9.0	-60.4	H
3138.0	-70.0	6.6	8.9	-67.7	H
3922.5	-68.5	7.5	9.2	-66.8	V

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4707.0	-64.3	8.1	9.5	-62.9	V
5491.5	-71.7	2.9	10.5	-64.1	V

Test Data (5MHz Bandwidth 16QAM Mode channel 23205)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1559.0	-68.5	4.6	8.4	-64.7	H
2338.5	-63.4	5.6	9.0	-60.0	H
3118.0	-69.3	6.6	8.9	-67.0	V
3897.5	-67.9	7.5	9.2	-66.2	V
4677.0	-65.6	8.1	9.5	-64.2	H
5456.5	-70.7	2.9	10.5	-63.1	V

Test Data (5MHz Bandwidth 16QAM Mode channel 23230)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1564.0	-67.8	4.6	8.4	-64.0	V
2346.0	-63.6	5.6	9.0	-60.2	H
3128.0	-69.8	6.6	8.9	-67.5	V
3910.0	-67.6	7.5	9.2	-65.9	V
4692.0	-65.2	8.1	9.5	-63.8	V
5474.0	-71.3	2.9	10.5	-63.7	V

Test Data (5MHz Bandwidth 16QAM Mode channel 23255)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1569.0	-69.2	4.6	8.4	-65.4	H
2353.5	-63.7	5.6	9.0	-60.3	H
3138.0	-70.4	6.6	8.9	-68.1	H

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3922.5	-67.0	7.5	9.2	-65.3	V
4707.0	-65.5	8.1	9.5	-64.1	V
5491.5	-71.3	2.9	10.5	-63.7	V

Test Data (10MHz Bandwidth QPSK Mode channel 23230)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1564.0	-68.2	4.6	8.4	-64.4	V
2346.0	-63.8	5.6	9.0	-60.4	H
3128.0	-69.7	6.6	8.9	-67.4	V
3910.0	-67.5	7.5	9.2	-65.8	V
4692.0	-65.9	8.1	9.5	-64.5	V
5474.0	-70.8	2.9	10.5	-63.2	V

Test Data (10MHz Bandwidth 16QAM Mode channel 23230)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1564.0	-68.2	4.6	8.4	-64.4	H
2346.0	-73.2	5.6	9.0	-69.8	V
3128.0	-69.6	6.6	8.9	-67.3	V
3910.0	-67.4	7.5	9.2	-65.7	H
4692.0	-64.2	8.1	9.5	-62.8	V
5474.0	-71.3	2.9	10.5	-63.7	V

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## 5.4.12 Cat-M Band 26 Radiated Spurious Emission Results

Test Data (1.4MHz Bandwidth QPSK Mode channel 26697)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1628.4	-55.9	4.7	9.4	-51.2	V
2442.2	-59.8	5.9	10.6	-55.1	H
3256.8	-73.2	6.7	12.6	-67.3	V
4070.1	-71.0	7.6	12.6	-66.0	V
4884.5	-70.2	7.9	12.7	-65.4	V
5698.2	-75.8	1.7	13.1	-64.4	H

Test Data (1.4MHz Bandwidth QPSK Mode channel 26865)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1663.3	-56.6	4.7	9.4	-51.9	H
2494.4	-57.7	5.9	10.6	-53.0	H
3326.4	-69.9	6.8	12.6	-64.1	V
4157.8	-69.8	7.6	12.6	-64.8	V
4989.4	-69.9	7.5	12.7	-64.7	V
5820.2	-75.6	1.4	13.1	-63.9	V

Test Data (1.4MHz Bandwidth QPSK Mode channel 27032)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1698.2	-70.5	4.8	9.4	-65.9	V
2547.6	-64.5	5.9	10.6	-59.8	H
3396.5	-74.1	6.9	12.6	-68.4	V
4245.8	-70.5	7.8	12.6	-65.7	V

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5094.4	-71.8	6.8	12.7	-65.9	V
5943.8	-75.5	1.4	13.1	-63.8	V

Test Data (1.4MHz Bandwidth 16QAM Mode channel 26697)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1628.4	-70.2	4.7	9.4	-65.5	V
2442.4	-65.4	5.9	10.6	-60.7	H
3256.5	-73.0	6.7	12.6	-67.1	V
4071.5	-71.7	7.6	12.6	-66.7	V
4885.2	-69.7	7.9	12.7	-64.9	V
5698.3	-75.9	1.7	13.1	-64.5	V

Test Data (1.4MHz Bandwidth 16QAM Mode channel 26865)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1663.3	-65.5	4.7	9.4	-60.8	H
2495.8	-61.9	5.9	10.6	-57.2	V
3325.5	-73.2	6.8	12.6	-67.4	V
4157.3	-71.1	7.6	12.6	-66.1	V
4990.9	-69.7	7.5	12.7	-64.5	V
5820.5	-75.8	1.4	13.1	-64.1	V

Test Data (1.4MHz Bandwidth 16QAM Mode channel 27032)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1698.3	-70.5	4.8	9.4	-65.9	H
2547.4	-65.0	5.9	10.6	-60.3	H
3396.7	-74.2	6.9	12.6	-68.5	V
4245.4	-70.0	7.8	12.6	-65.2	V

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5095.7	-71.7	6.8	12.7	-65.8	V
5943.6	-76.4	1.4	13.1	-64.7	V

Test Data (3MHz Bandwidth QPSK Mode channel 26705)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1629.5	-54.6	4.7	9.4	-49.9	H
2443.7	-64.5	5.9	10.6	-59.8	H
3257.3	-73.4	6.7	12.6	-67.5	V
4071.3	-70.6	7.6	12.6	-65.6	V
4885.8	-68.9	7.9	12.7	-64.1	V
5699.6	-75.6	1.7	13.1	-64.2	V

Test Data (3MHz Bandwidth QPSK Mode channel 26865)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1663.5	-53.8	4.7	9.4	-49.1	H
2494.8	-57.4	5.9	10.6	-52.7	H
3326.6	-69.9	6.8	12.6	-64.1	V
4157.3	-71.3	7.6	12.6	-66.3	V
4989.7	-69.7	7.5	12.7	-64.5	V
5820.3	-75.5	1.4	13.1	-63.8	V

Test Data (3MHz Bandwidth QPSK Mode channel 27024)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1697.5	-70.7	4.8	9.4	-66.1	V
2546.4	-64.1	5.9	10.6	-59.4	V
3395.8	-74.4	6.9	12.6	-68.7	V
4244.2	-70.3	7.8	12.6	-65.5	H

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5093.6	-71.9	6.8	12.7	-66.0	V
5942.4	-76.2	1.4	13.1	-64.5	V

Test Data (3MHz Bandwidth 16QAM Mode channel 26705)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1627.4	-69.3	4.7	9.4	-64.6	H
2441.8	-62.1	5.9	10.6	-57.4	H
3255.6	-72.6	6.7	12.6	-66.7	V
4070.4	-72.2	7.6	12.6	-67.2	V
4884.7	-69.5	7.9	12.7	-64.7	V
5697.2	-76.1	1.7	13.1	-64.7	V

Test Data (3MHz Bandwidth 16QAM Mode channel 26865)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1663.4	-64.0	4.7	9.4	-59.3	H
2495.6	-60.7	5.9	10.6	-56.0	H
3325.5	-73.1	6.8	12.6	-67.3	V
4157.2	-71.9	7.6	12.6	-66.9	V
4990.9	-70.5	7.5	12.7	-65.3	V
5820.2	-75.8	1.4	13.1	-64.1	V

Test Data (3MHz Bandwidth 16QAM Mode channel 27024)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1698.3	-70.8	4.8	9.4	-66.2	V
2547.4	-65.1	5.9	10.6	-60.4	V
3395.6	-73.9	6.9	12.6	-68.2	V
4244.7	-70.5	7.8	12.6	-65.7	V

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5094.5	-72.1	6.8	12.7	-66.2	V
5942.6	-76.2	1.4	13.1	-64.5	V

Test Data (5MHz Bandwidth QPSK Mode channel 26715)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1630.6	-62.4	4.7	9.4	-57.7	V
2445.2	-57.9	5.9	10.6	-53.2	V
3259.6	-73.6	6.7	12.6	-67.7	V
4073.4	-72.3	7.6	12.6	-67.3	V
4887.8	-68.3	7.9	12.7	-63.5	V
5700.9	-75.7	1.7	13.1	-64.3	V

Test Data (5MHz Bandwidth QPSK Mode channel 26865)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1663.5	-71.2	4.7	9.4	-66.5	H
2494.8	-65.7	5.9	10.6	-61.0	V
3326.4	-72.9	6.8	12.6	-67.1	H
4157.9	-71.8	7.6	12.6	-66.8	V
4989.1	-70.4	7.5	12.7	-65.2	V
5820.6	-75.9	1.4	13.1	-64.2	V

Test Data (5MHz Bandwidth QPSK Mode channel 27015)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1696.3	-71.2	4.8	9.4	-66.6	V
2545.7	-64.9	5.9	10.6	-60.2	H
3394.4	-72.2	6.9	12.6	-66.5	V
4243.8	-70.2	7.8	12.6	-65.4	H

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5092.5	-72.4	6.8	12.7	-66.5	V
5941.9	-76.2	1.4	13.1	-64.5	V

Test Data (5MHz Bandwidth 16QAM Mode channel 26715)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1629.4	-69.4	4.7	9.4	-64.7	V
2443.4	-60.7	5.9	10.6	-56.0	V
3257.7	-72.7	6.7	12.6	-66.8	V
4072.6	-71.2	7.6	12.6	-66.2	V
4886.8	-68.7	7.9	12.7	-63.9	V
5699.4	-76.6	1.7	13.1	-65.2	H

Test Data (5MHz Bandwidth 16QAM Mode channel 26865)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1663.1	-71.0	4.7	9.4	-66.3	V
2495.8	-65.9	5.9	10.6	-61.2	V
3325.5	-73.2	6.8	12.6	-67.4	H
4157.8	-71.2	7.6	12.6	-66.2	H
4990.5	-69.8	7.5	12.7	-64.6	V
5820.5	-75.7	1.4	13.1	-64.0	V

Test Data (5MHz Bandwidth 16QAM Mode channel 27015)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1696.5	-70.4	4.8	9.4	-65.8	V
2545.3	-64.4	5.9	10.6	-59.7	V
3394.2	-72.6	6.9	12.6	-66.9	V
4243.4	-70.9	7.8	12.6	-66.1	V

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5092.2	-71.7	6.8	12.7	-65.8	H
5941.5	-75.9	1.4	13.1	-64.2	H

### Test Data (10MHz Bandwidth QPSK Mode channel 26740)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1632.4	-65.4	4.7	9.4	-60.7	V
2447.4	-60.8	5.9	10.6	-56.1	V
3261.3	-72.7	6.7	12.6	-66.8	V
4075.7	-71.3	7.6	12.6	-66.3	V
4889.2	-68.7	7.9	12.7	-63.9	H
5702.6	-76.0	1.7	13.1	-64.6	V

### Test Data (10MHz Bandwidth QPSK Mode channel 26865)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1663.4	-71.1	4.7	9.4	-66.4	V
2494.7	-65.0	5.9	10.6	-60.3	V
3326.5	-72.6	6.8	12.6	-66.8	H
4157.3	-68.5	7.6	12.6	-63.5	H
4989.8	-69.8	7.5	12.7	-64.6	V
5820.5	-75.2	1.4	13.1	-63.5	V

### Test Data (10MHz Bandwidth QPSK Mode channel 26990)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1694.2	-70.4	4.8	9.4	-65.8	V
2543.1	-65.6	5.9	10.6	-60.9	V
3392.8	-72.0	6.9	12.6	-66.3	V
4241.3	-70.9	7.8	12.6	-66.1	H

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5090.7	-71.4	6.8	12.7	-65.5	V
5939.4	-76.4	1.4	13.1	-64.7	V

### Test Data (10MHz Bandwidth 16QAM Mode channel 26740)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1632.5	-64.6	4.7	9.4	-59.9	V
2445.1	-65.6	5.9	10.6	-60.9	V
3259.4	-72.1	6.7	12.6	-66.2	H
4075.9	-71.5	7.6	12.6	-66.5	V
4888.6	-68.9	7.9	12.7	-64.1	H
5701.2	-75.9	1.7	13.1	-64.5	V

### Test Data (10MHz Bandwidth 16QAM Mode channel 26865)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1663.4	-71.1	4.7	9.4	-66.4	V
2495.6	-65.0	5.9	10.6	-60.3	V
3325.4	-73.3	6.8	12.6	-67.5	H
4157.7	-71.6	7.6	12.6	-66.6	H
4990.6	-70.0	7.5	12.7	-64.8	V
5820.5	-76.2	1.4	13.1	-64.5	V

### Test Data (10MHz Bandwidth 16QAM Mode channel 26990)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1694.5	-69.4	4.8	9.4	-64.8	V
2543.4	-65.3	5.9	10.6	-60.6	V
3392.6	-73.8	6.9	12.6	-68.1	V
4241.4	-71.1	7.8	12.6	-66.3	V

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5090.2	-70.7	6.8	12.7	-64.8	V
5939.4	-76.8	1.4	13.1	-65.1	V

### Test Data (15MHz Bandwidth QPSK Mode channel 26765)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1634.2	-68.7	4.7	9.4	-64.0	V
2449.5	-63.5	5.9	10.6	-58.8	V
3263.5	-73.5	6.7	12.6	-67.6	V
4077.3	-70.9	7.6	12.6	-65.9	V
4891.3	-69.3	7.9	12.7	-64.5	V
5704.8	-76.5	1.7	13.1	-65.1	V

### Test Data (15MHz Bandwidth QPSK Mode channel 26856)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1663.4	-71.2	4.7	9.4	-66.5	H
2494.7	-66.1	5.9	10.6	-61.4	V
3326.3	-73.1	6.8	12.6	-67.3	V
4157.8	-72.0	7.6	12.6	-67.0	H
4989.2	-69.7	7.5	12.7	-64.5	V
5820.5	-75.8	1.4	13.1	-64.1	V

### Test Data (15MHz Bandwidth QPSK Mode channel 26965)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1692.4	-69.5	4.8	9.4	-64.9	V
2541.7	-65.0	5.9	10.6	-60.3	V
3390.3	-73.6	6.9	12.6	-67.9	H
4239.5	-70.7	7.8	12.6	-65.9	V

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5088.3	-71.6	6.8	12.7	-65.7	V
5937.7	-76.2	1.4	13.1	-64.5	V

Test Data (15MHz Bandwidth 16QAM Mode channel 26765)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1634.4	-71.2	4.7	9.4	-66.5	H
2449.1	-64.2	5.9	10.6	-59.5	V
3263.7	-72.7	6.7	12.6	-66.8	H
4077.5	-70.3	7.6	12.6	-65.3	V
4891.4	-69.5	7.9	12.7	-64.7	H
5704.6	-76.2	1.7	13.1	-64.8	V

Test Data (15MHz Bandwidth 16QAM Mode channel 26856)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1663.2	-71.0	4.7	9.4	-66.3	H
2495.5	-65.5	5.9	10.6	-60.8	H
3325.2	-72.5	6.8	12.6	-66.7	H
4157.2	-72.0	7.6	12.6	-67.0	H
4990.6	-69.3	7.5	12.7	-64.1	V
5820.4	-75.1	1.4	13.1	-63.4	V

Test Data (15MHz Bandwidth 16QAM Mode channel 26965)

Frequency [MHz]	Generator output power( $P_g$ ) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power ( $P_d$ ) [dBm]	Antenna Polarization [H/V]
1692.4	-71.1	4.8	9.4	-66.5	V
2541.5	-65.3	5.9	10.6	-60.6	V
3390.7	-74.0	6.9	12.6	-68.3	V
4239.3	-68.3	7.8	12.6	-63.5	H

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5088.8	-70.8	6.8	12.7	-64.9	V
5937.6	-74.7	1.4	13.1	-63.0	V

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## 5.5 Band Edge

<b>Specifications:</b>	FCC Part 2.1051, 2.1053, 24.238, 22.917, 27.53, 90.691
<b>DUT Serial Number:</b>	353081090297923
<b>Test conditions:</b>	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
<b>Test Results:</b>	Pass

### Limit Level Construction:

For Cellular and PCS systems band, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB, so the limit level is:  $P(\text{dBm}) - (43 + 10 \log(P)) \text{ dB} = -13 \text{ dBm}$

For mobile and portable stations operating in the 2305-2315 MHz bands:

By a factor of not less than:  $43 + 10 \log(P)$  dB on all frequencies between 2305 and 2320 MHz that are outside the licensed band(s) of operation, not less than  $55 + 10 \log(P)$  dB on all frequencies between 2320 and 2324 MHz, not less than  $61 + 10 \log(P)$  dB on all frequencies between 2324 and 2328 MHz, and not less than  $67 + 10 \log(P)$  dB on all frequencies between 2328 and 2337 MHz; By a factor of not less than  $43 + 10 \log(P)$  dB on all frequencies between 2300 and 2305 MHz,  $55 + 10 \log(P)$  dB on all frequencies between 2296 and 2300 MHz,  $61 + 10 \log(P)$  dB on all frequencies between 2292 and 2296 MHz,  $67 + 10 \log(P)$  dB on all frequencies between 2288 and 2292 MHz, and  $70 + 10 \log(P)$  dB below 2288 MHz.

For operations in the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least  $43 + 10 \log(P)$  dB;

On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than  $65 + 10 \log(P)$  dB in a 6.25 kHz band segment, for mobile and portable stations.

For mobile digital stations, the attenuation factor shall be not less than  $40 + 10 \log(P)$  dB on all frequencies between the channel edge and 5 megahertz from the channel edge,  $43 + 10 \log(P)$  dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and  $55 + 10 \log(P)$  dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than  $43 + 10 \log(P)$  dB on all frequencies between 2490.5 MHz and 2496 MHz and  $55 + 10 \log(P)$  dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

Out-of-band emission requirement shall apply only to the "outer" channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least  $116 \log_{10}(f/f_0)$  decibels or  $50 + 10 \log_{10}(P)$  decibels or 80 decibels, whichever is the lesser

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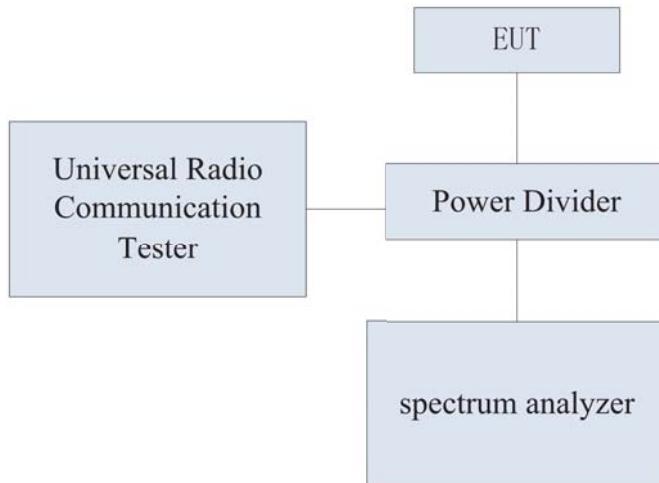
attenuation, where  $f$  is the frequency removed from the center of the outer channel in the block in kilohertz and where  $f$  is greater than 12.5 kHz.(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power ( $P$ ) in watts by at least  $43 + 10\log_{10}(P)$  decibels or 80 decibels, whichever is the lesser attenuation, where  $f$  is the frequency removed from the center of the outer channel in the block in kilohertz and where  $f$  is greater than 37.5 kHz.

### Measurement Uncertainty:

Item	Uncertainty	
Expanded Uncertainty	$9\text{kHz} < f \leq 4\text{GHz}$	0.71 dB (k=2)
	$4\text{GHz} \leq f < 12.75\text{GHz}$	0.74 dB (k=2)
	$12.75\text{GHz} \leq f < 26\text{GHz}$	2.70 dB (k=2)

### Test Setup:

During the test, the EUT was controlled via the Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by spectrum analyzer.

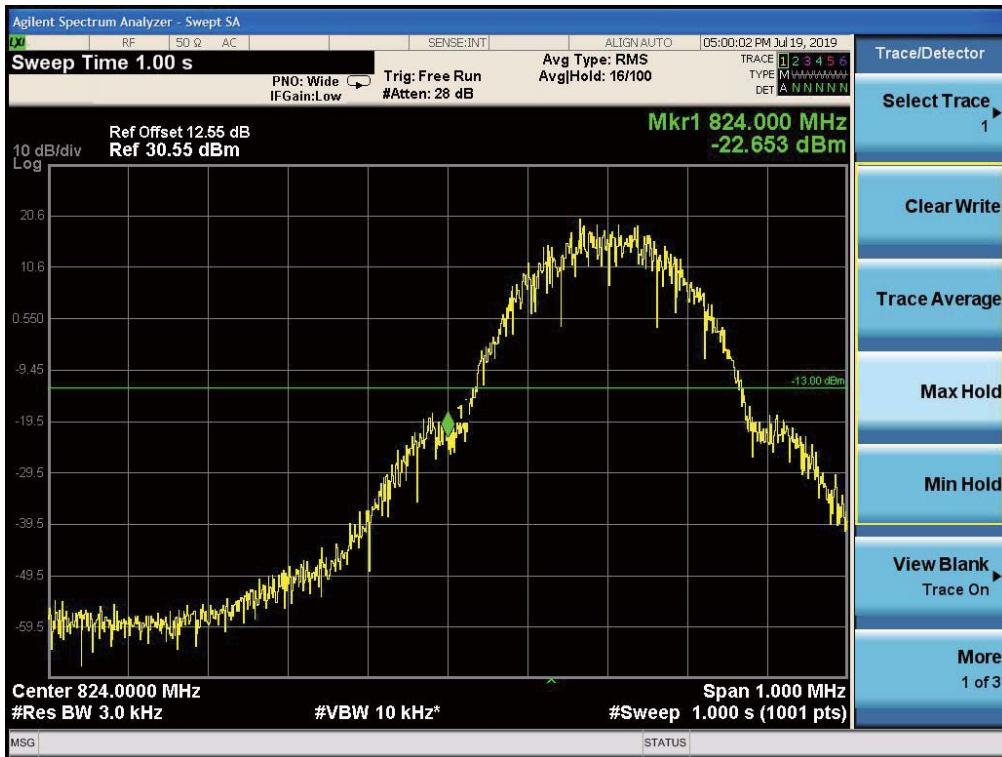


### Test Method:

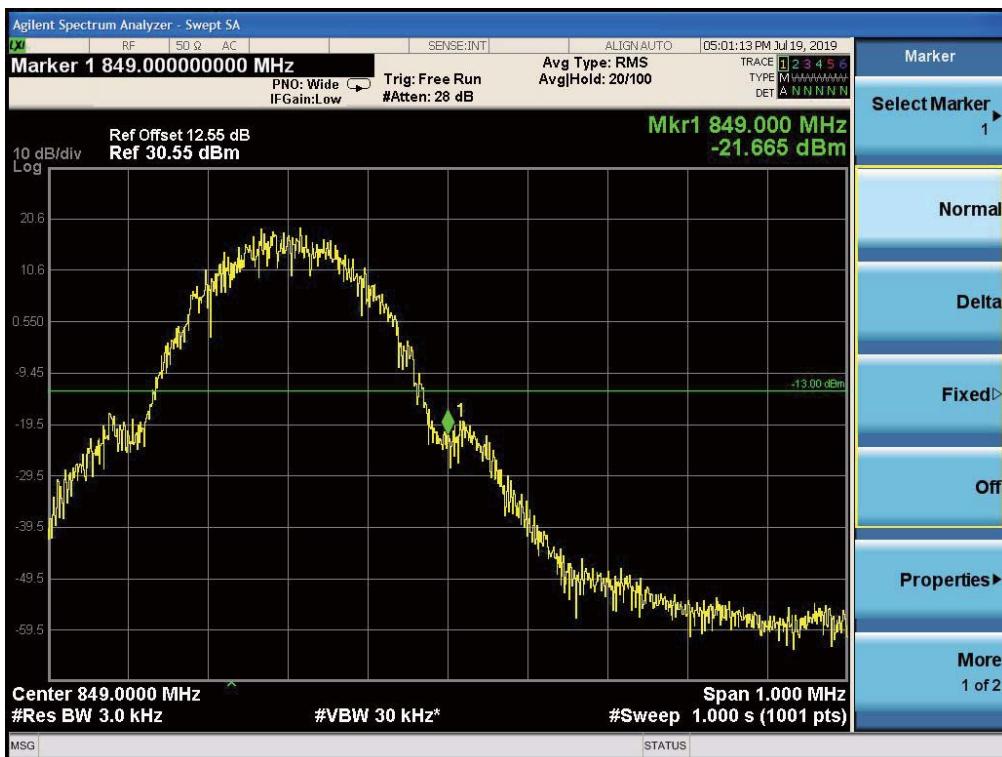
- 1) The EUT was coupled to the EMI test receiver analyzer mode and the base station simulator through a power divider. The loss of the cables the test system is calibrated to correct the readings.
- 2) The spectrum analyzer was set to Average Detector function and Maximum hold mode.
- 3) The resolution Bandwidth of the spectrum analyzer was a little greater than 1% of the 26dB emission Bandwidth.

**Note:** Only worst case result is given below.

### 5.5.1 GSM850 Band Edge Results



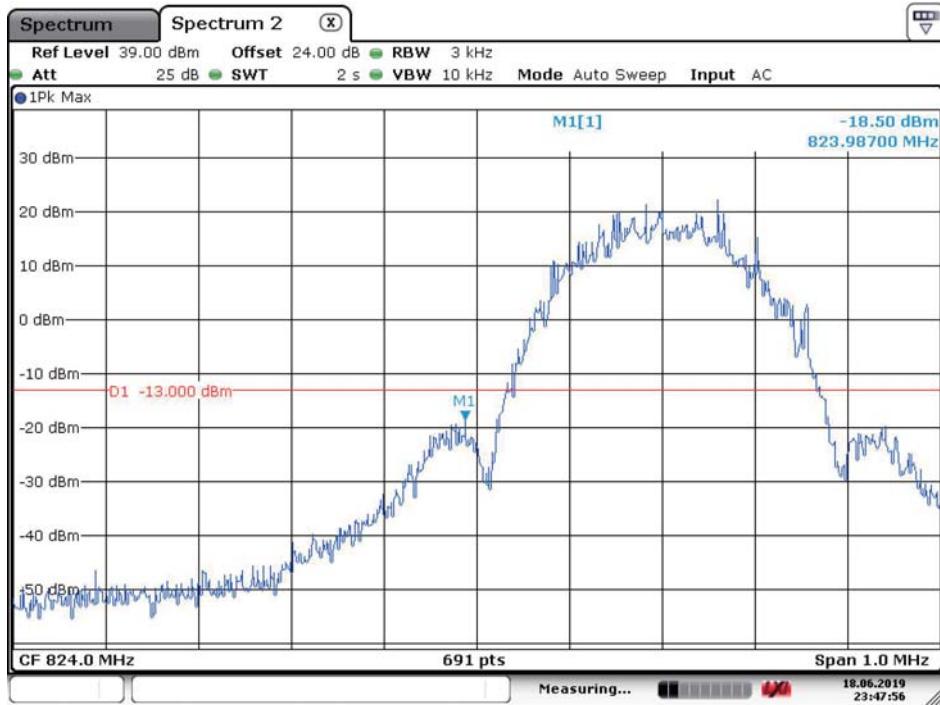
GSMK-Cellular low channel-below 824 MHz



GMSK-Cellular high channel-above 849 MHz

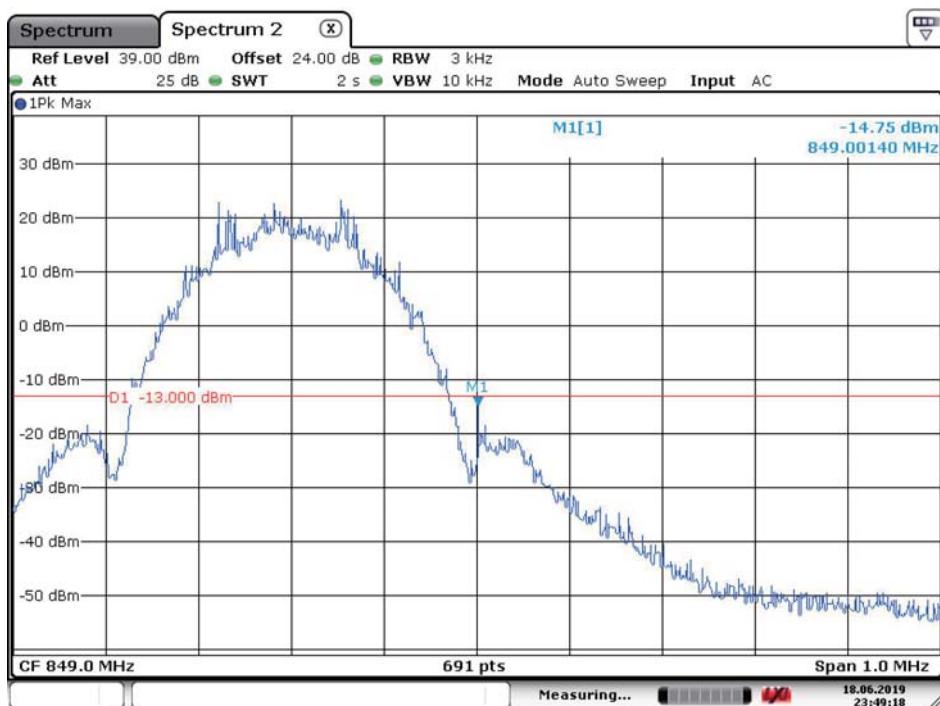
# Chongqing Academy of Information and Communications Technology

Report No.: B19W50225-WWAN\_Rev1



Date: 18.JUN.2019 23:47:56

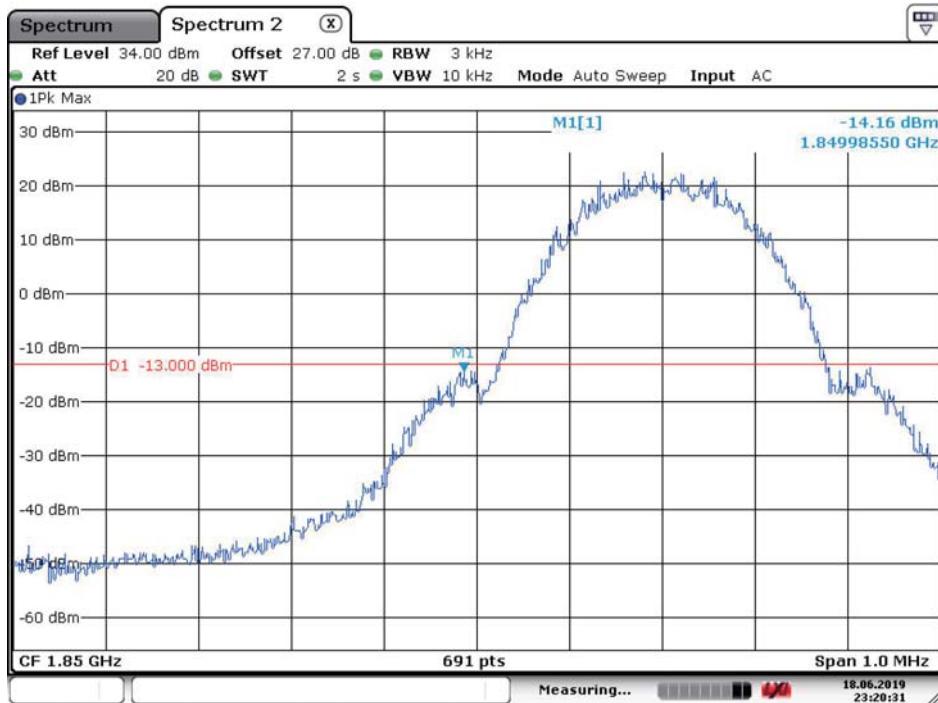
8PSK-Cellular low channel-below 824 MHz



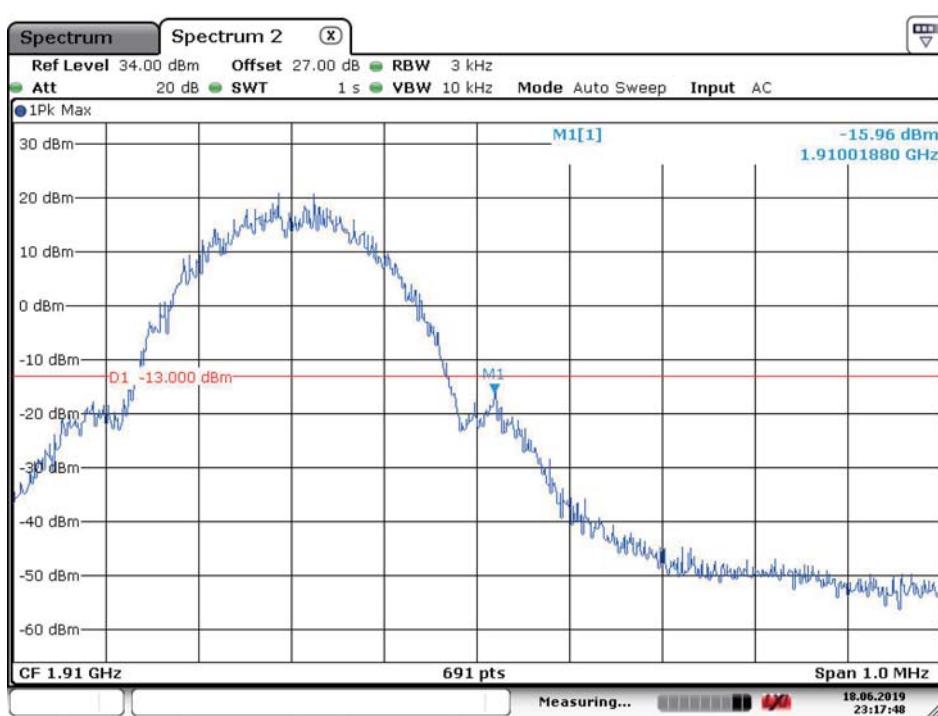
Date: 18.JUN.2019 23:49:18

8PSK-Cellular high channel-above 849 MHz

### 5.5.2 PCS1900 Band Edge Results



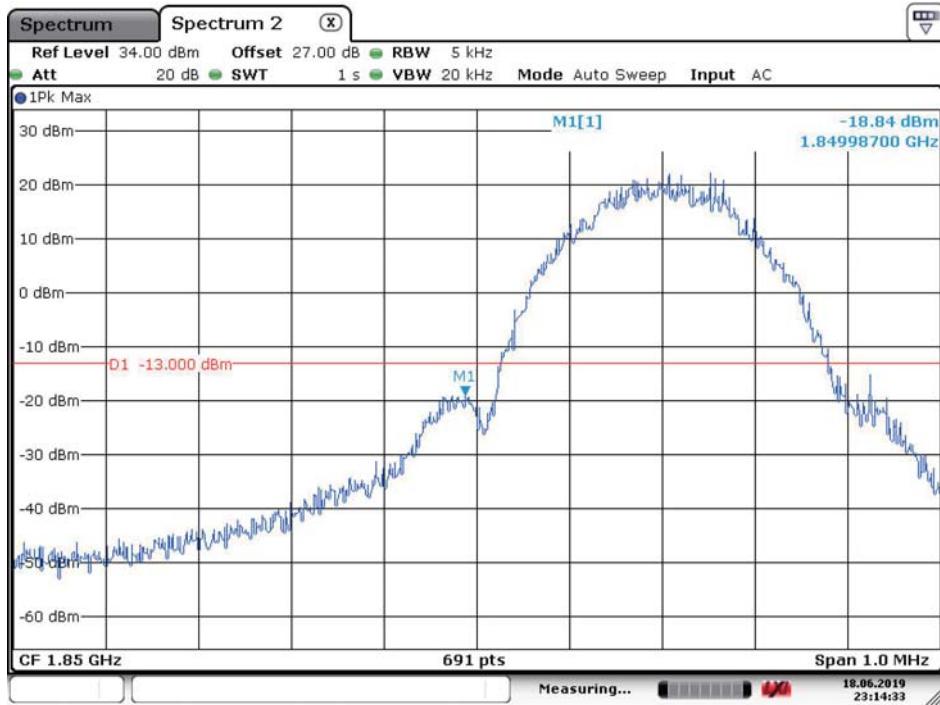
GMSK-PCS low channel-below 1850 MHz



GMSK-PCS high channel-above 1910 MHz

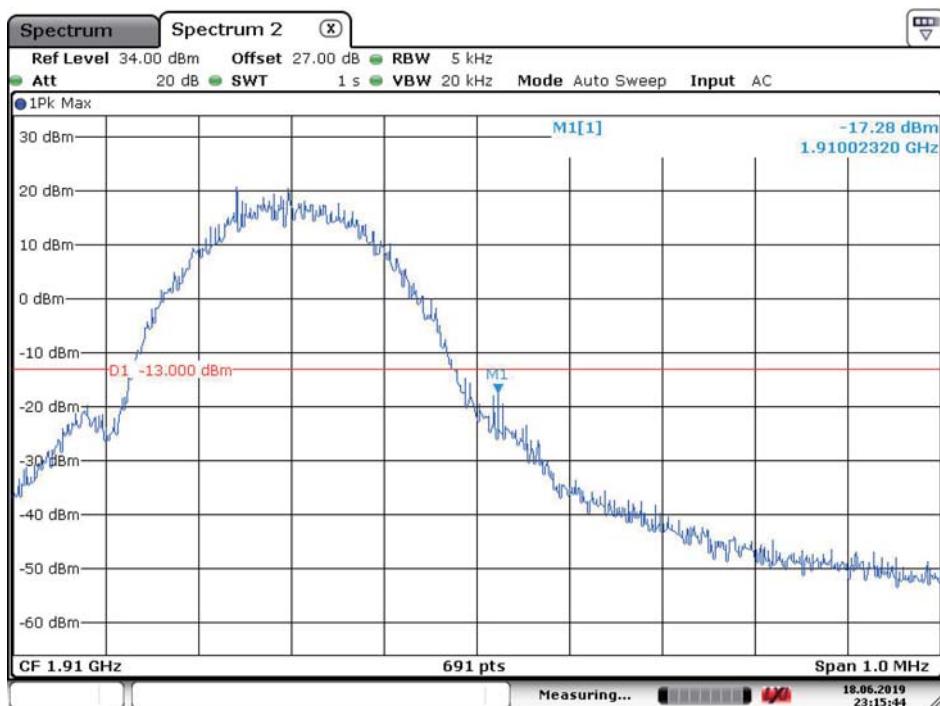
# Chongqing Academy of Information and Communications Technology

Report No.: B19W50225-WWAN\_Rev1



Date: 18.JUN.2019 23:14:33

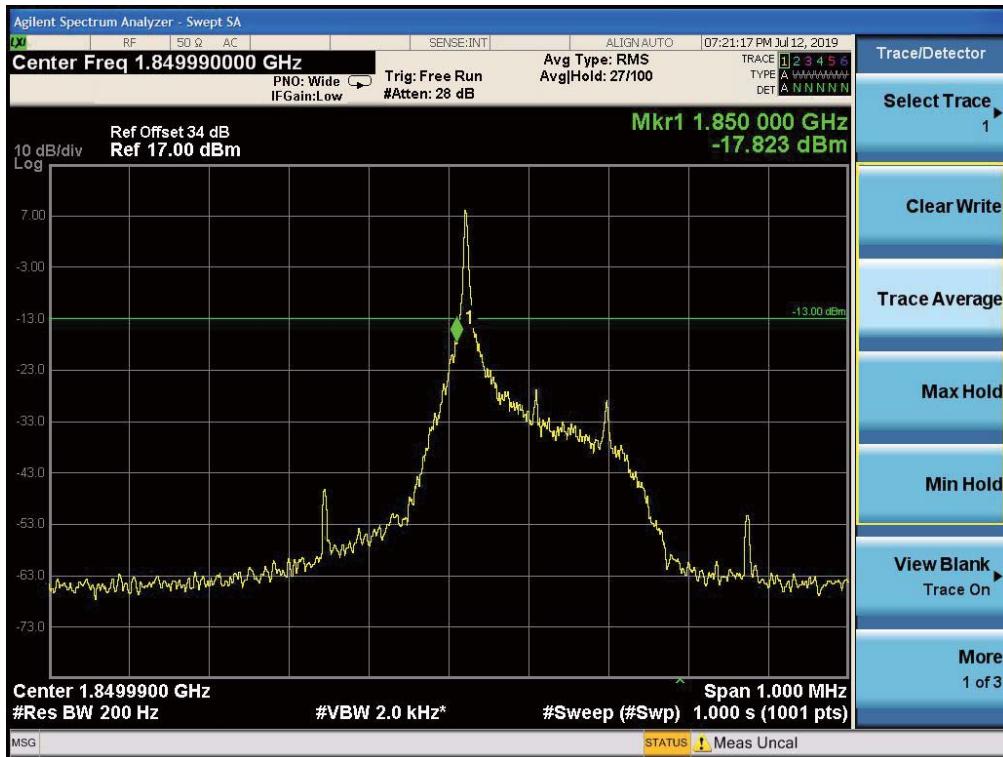
8PSK-PCS low channel-below 1850 MHz



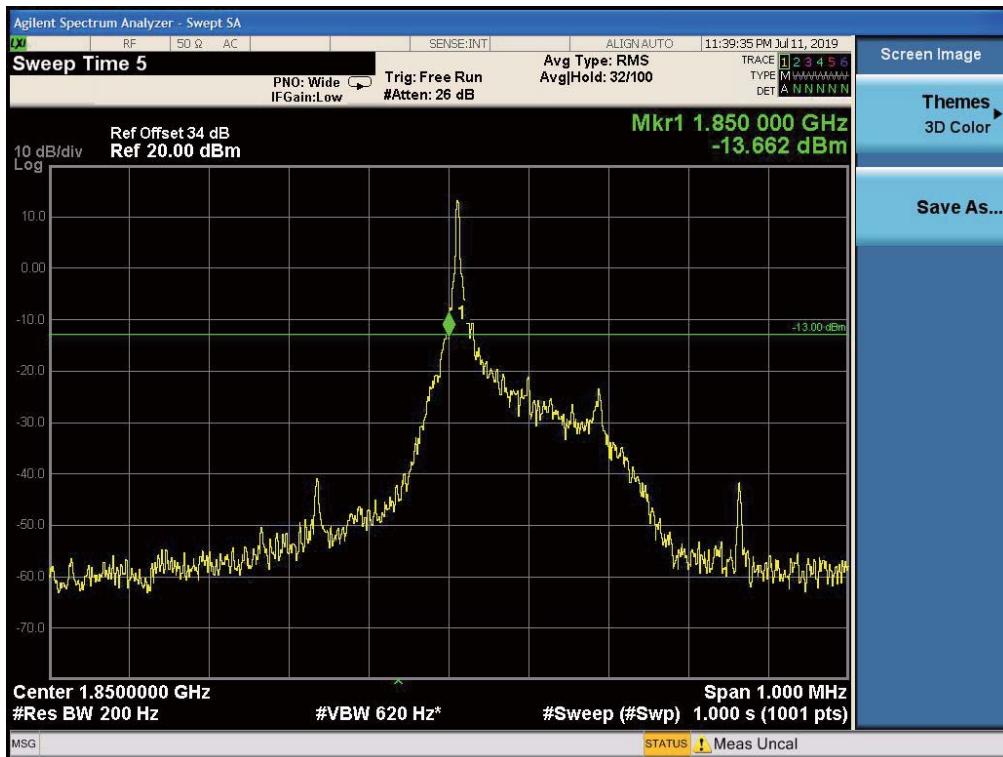
Date: 18.JUN.2019 23:15:44

8PSK-PCS high channel-above 1910 MHz

### 5.5.3 NB-IoT Band2 Edge Results



Low Channel, Subcarrier (3.75kHz), QPSK, 1@0



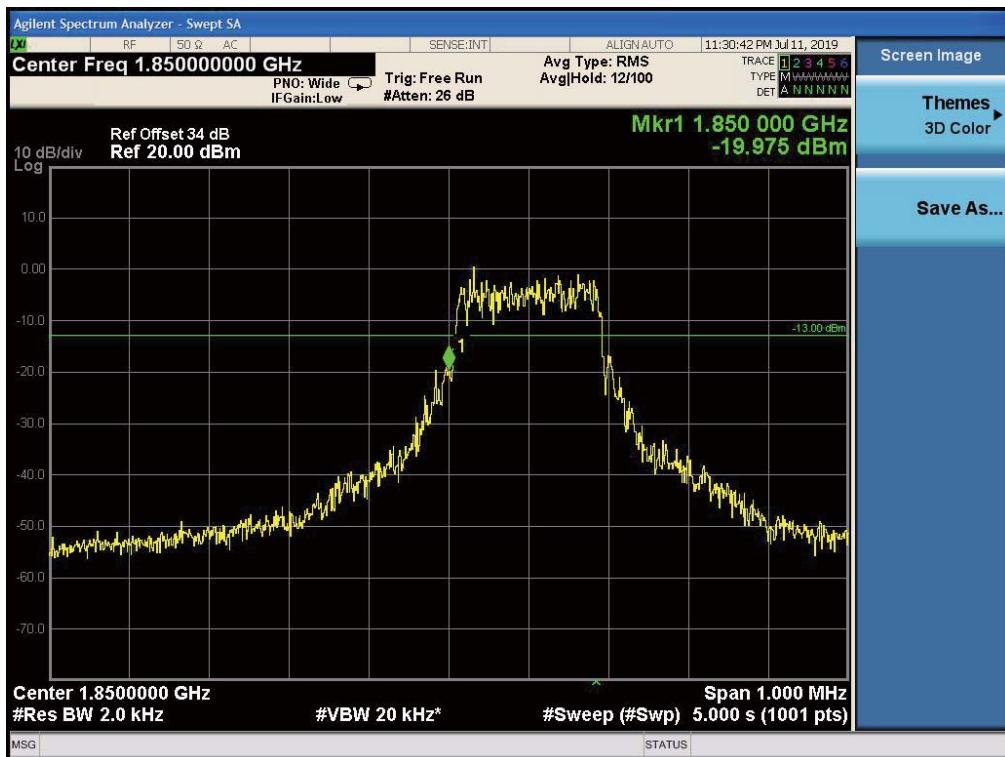
Low Channel, Subcarrier (3.75kHz), BPSK, 1@0

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Report No.: B19W50225-WWAN\_Rev1



Low Channel, Subcarrier (15kHz), QPSK, 1@0



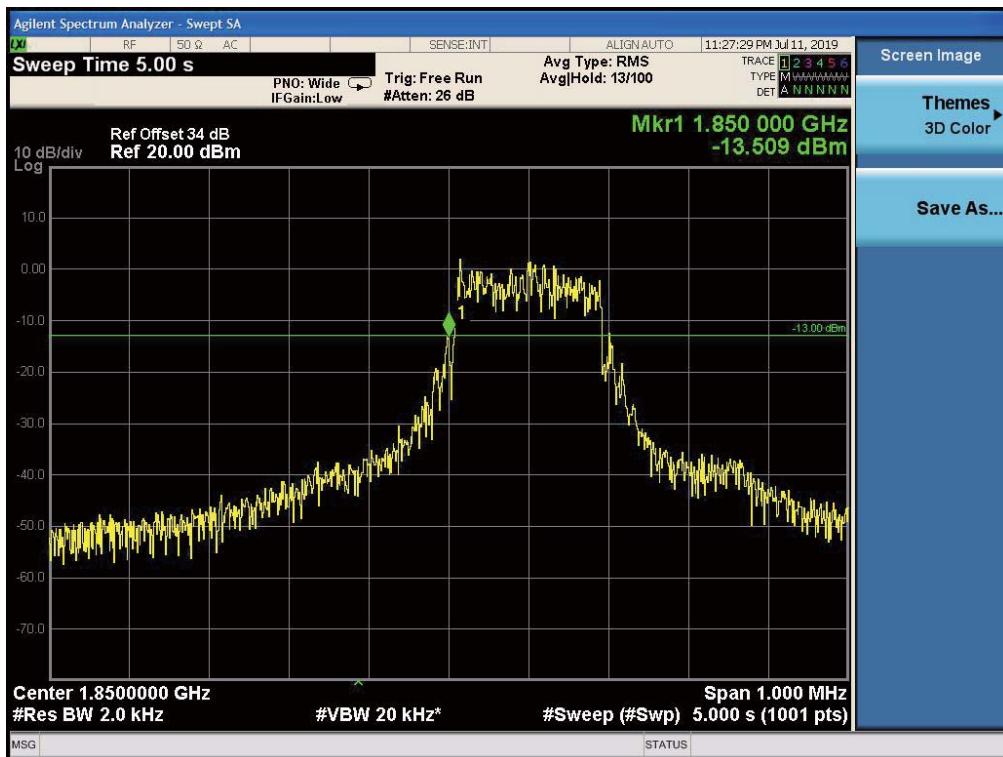
Low Channel, Subcarrier (15kHz), QPSK, 12@0

# Chongqing Academy of Information and Communications Technology

Report No.: B19W50225-WWAN\_Rev1



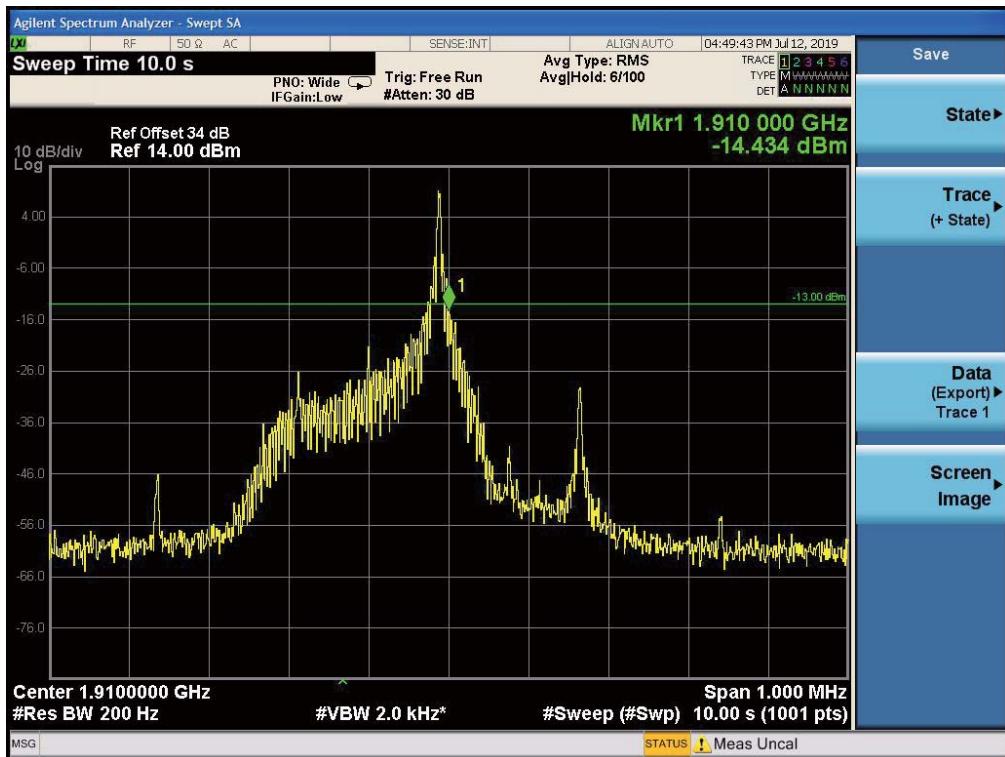
Low Channel, Subcarrier (15kHz), BPSK, 1@0



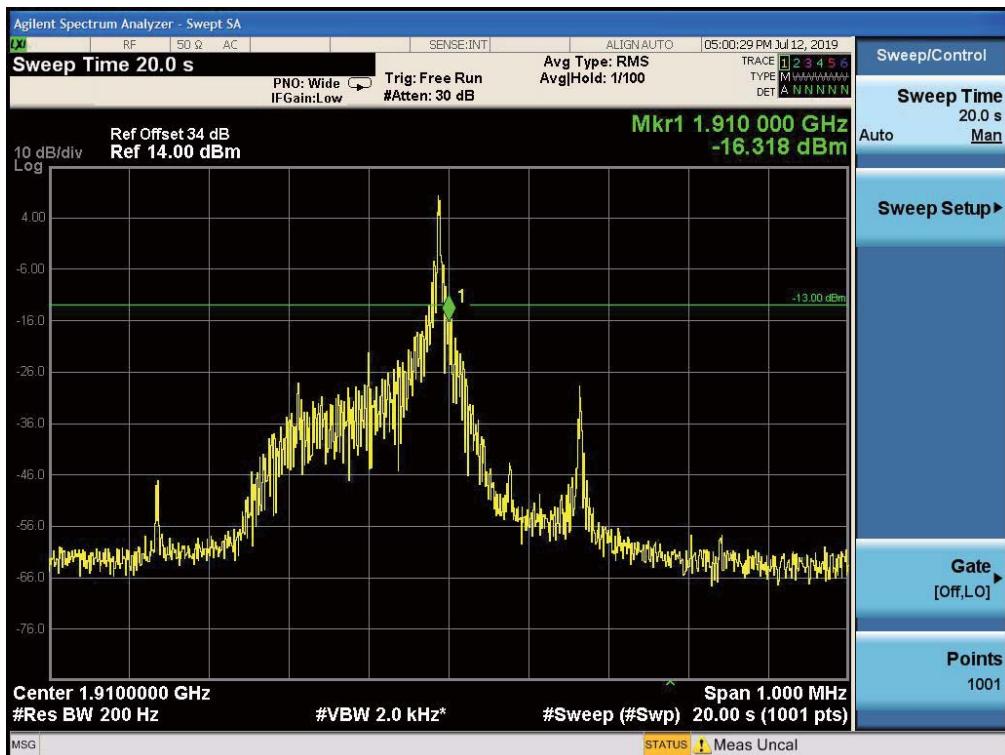
Low Channel, Subcarrier (15kHz), BPSK, 12@0

# Chongqing Academy of Information and Communications Technology

Report No.: B19W50225-WWAN\_Rev1



High Channel, Subcarrier (3.75kHz), QPSK, 1@47



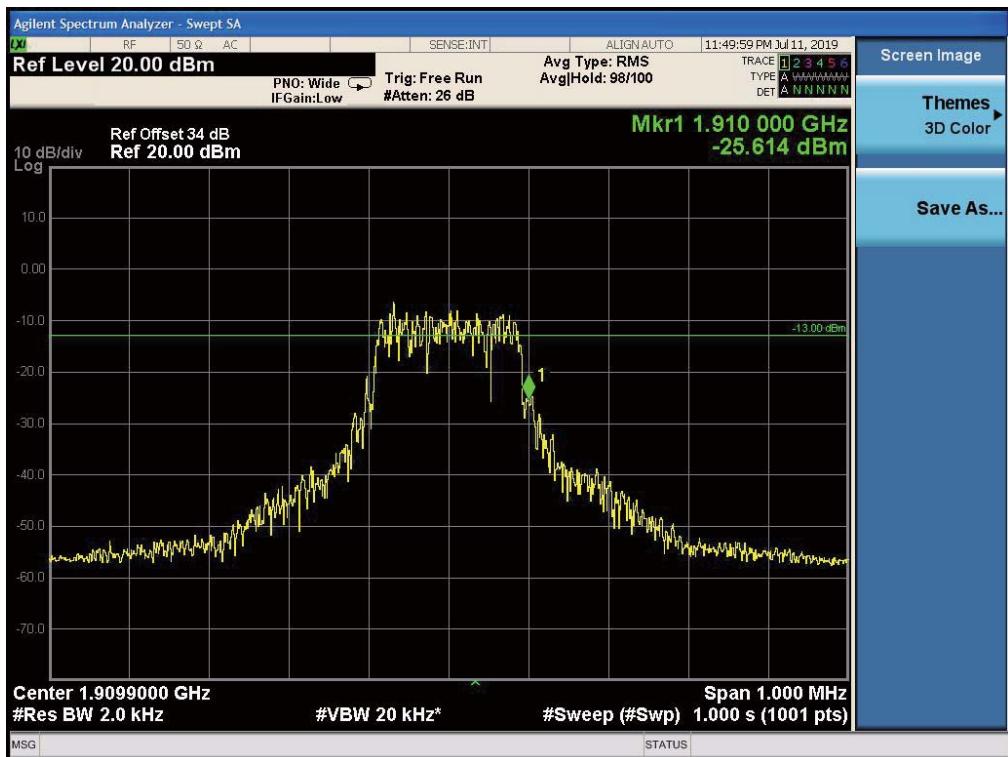
High Channel, Subcarrier (3.75kHz), BPSK, 1@47

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Report No.: B19W50225-WWAN\_Rev1



High Channel, Subcarrier (15kHz), QPSK, 1@11



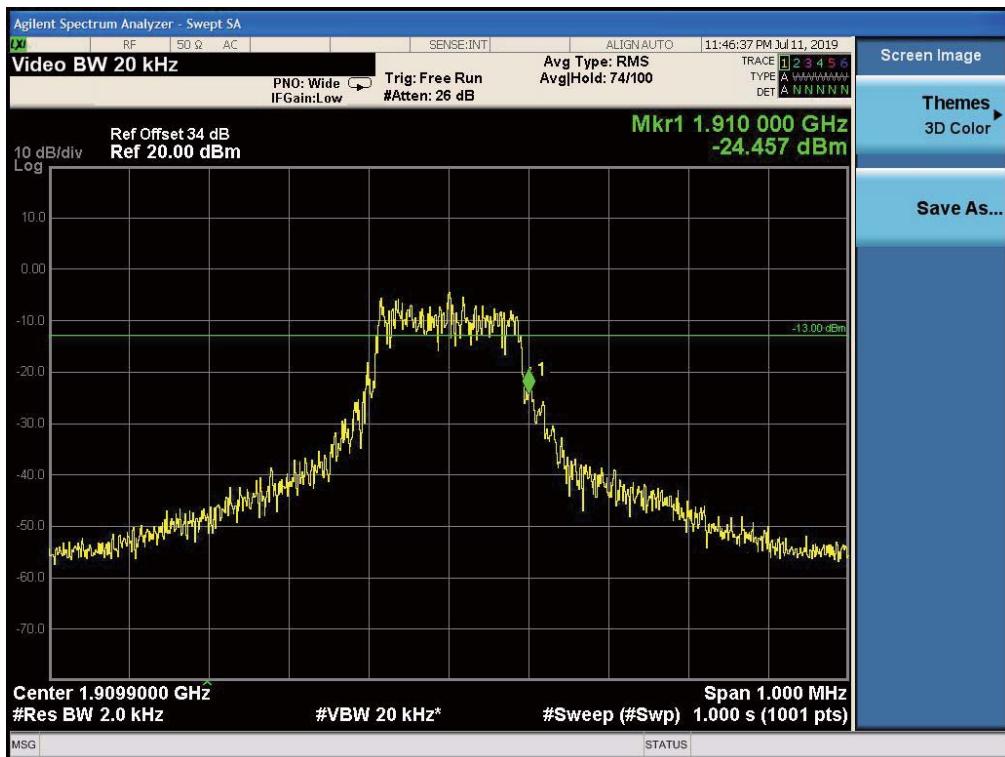
High Channel, Subcarrier (15kHz), QPSK, 12@0

# Chongqing Academy of Information and Communications Technology

Report No.: B19W50225-WWAN\_Rev1



High Channel, Subcarrier (15kHz), BPSK, 1@11

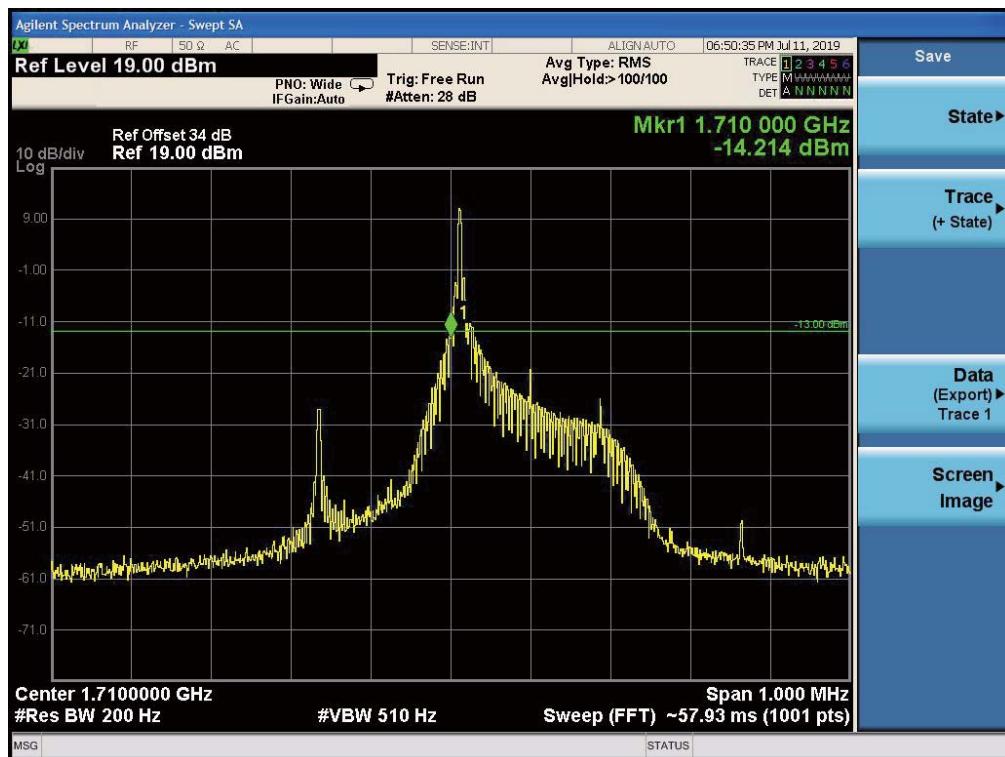


High Channel, Subcarrier (15kHz), BPSK, 12@0

### 5.5.4 NB-IoT Band4 Edge Results



Low Channel, Subcarrier (3.75kHz), QPSK, 1@0



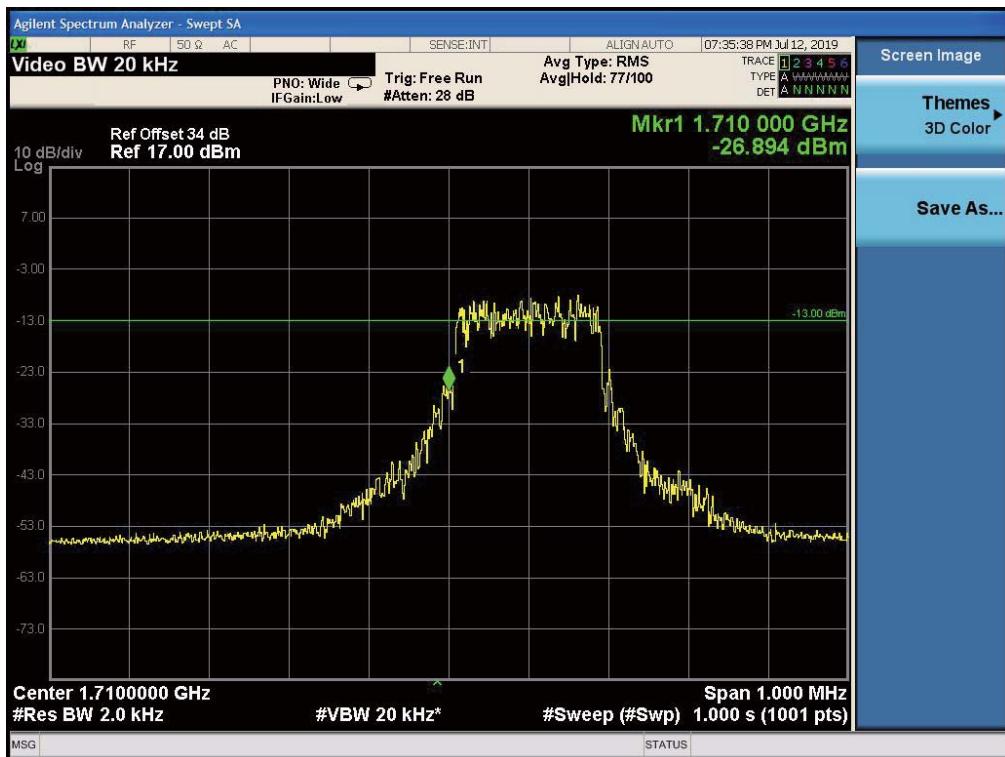
Low Channel, Subcarrier (3.75kHz), BPSK, 1@0

# Chongqing Academy of Information and Communications Technology

Report No.: B19W50225-WWAN\_Rev1



Low Channel, Subcarrier (15kHz), QPSK, 1@0



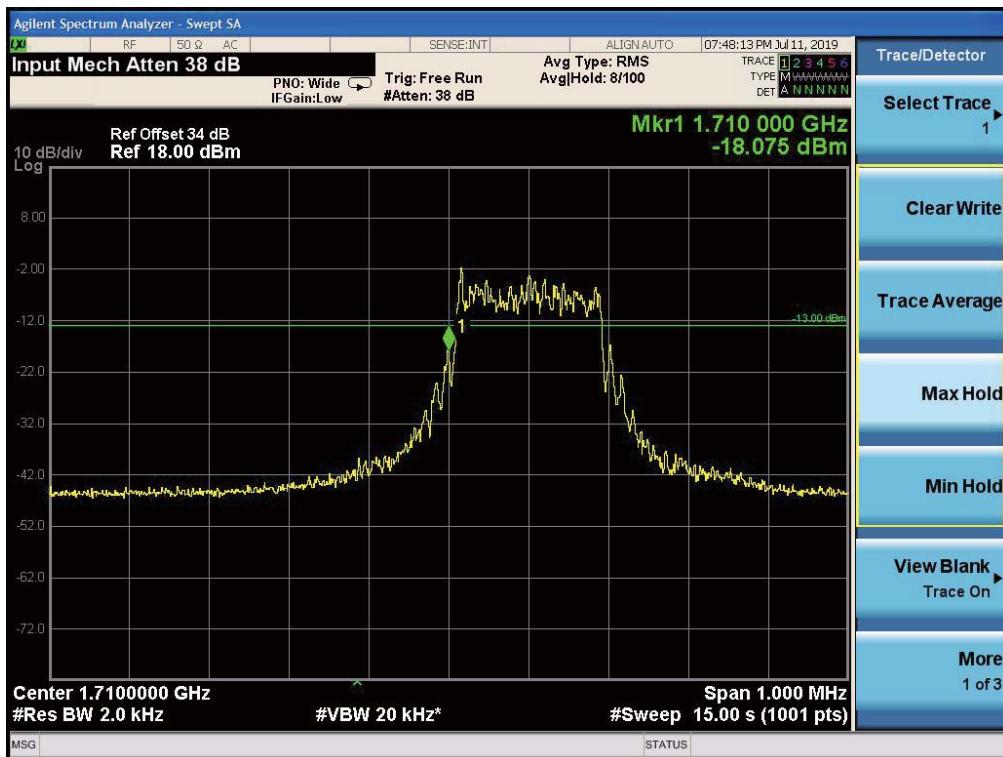
Low Channel, Subcarrier (15kHz), QPSK, 12@0

# Chongqing Academy of Information and Communications Technology

Report No.: B19W50225-WWAN\_Rev1



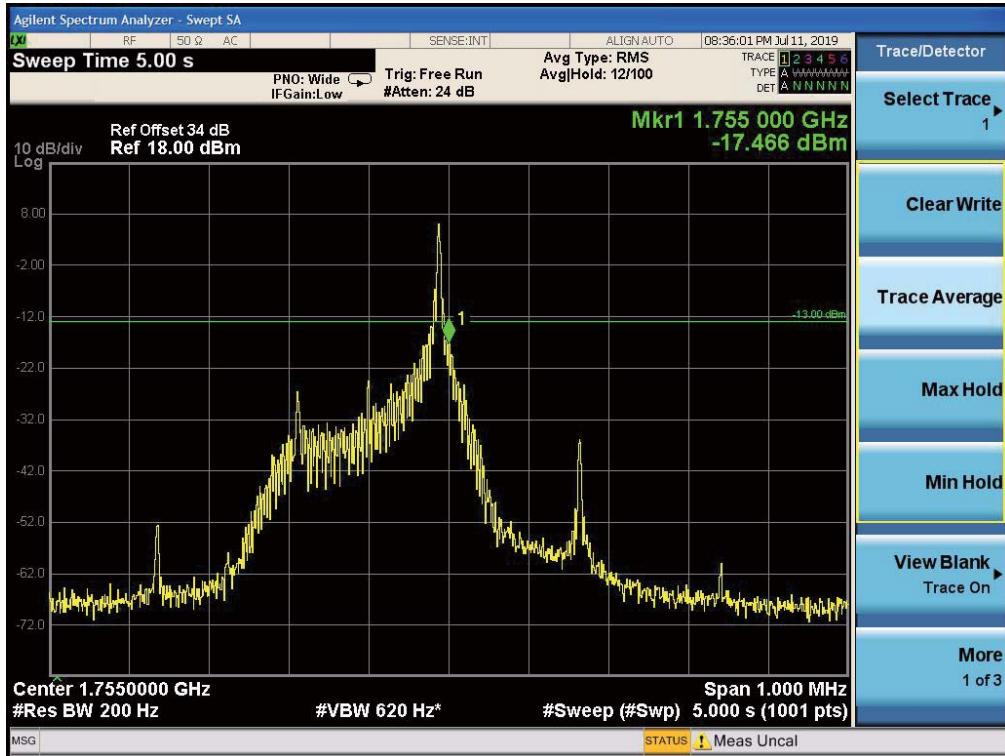
Low Channel, Subcarrier (15kHz), BPSK, 1@0



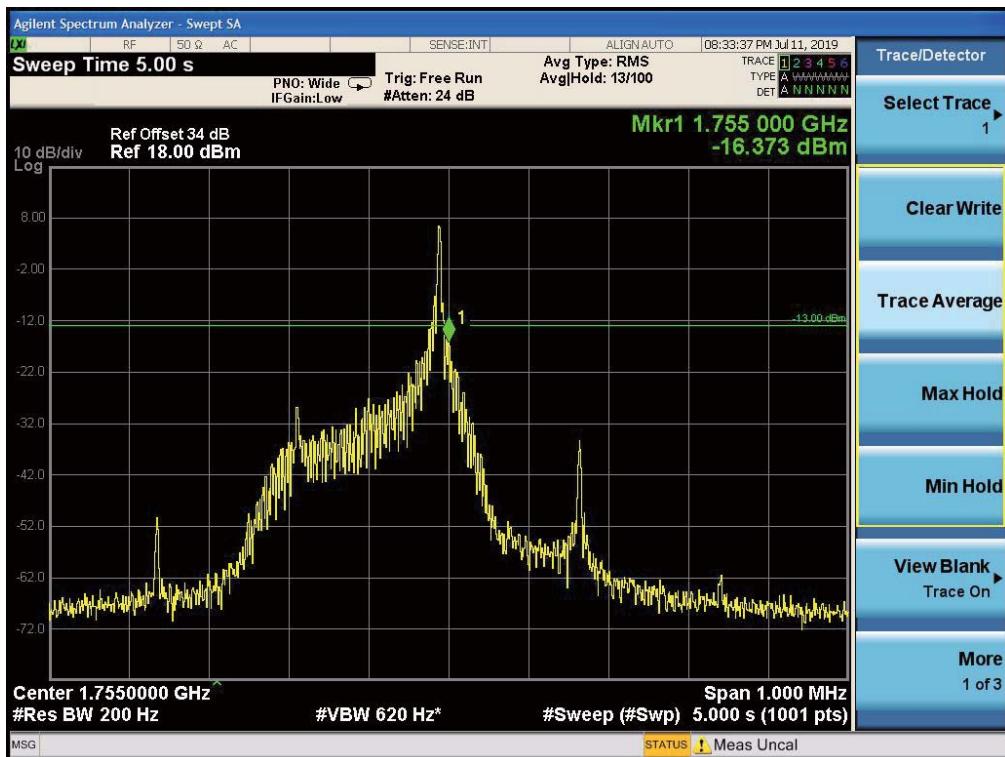
Low Channel, Subcarrier (15kHz), BPSK, 12@0

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Report No.: B19W50225-WWAN\_Rev1



High Channel, Subcarrier (3.75kHz), QPSK, 1@47



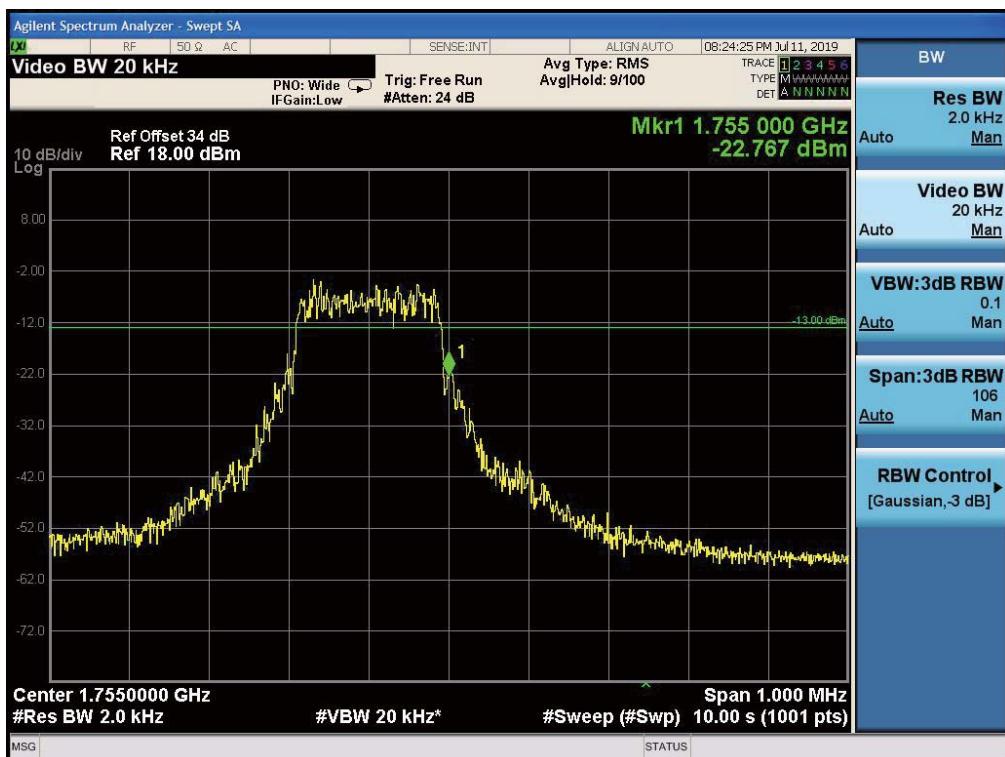
High Channel, Subcarrier (3.75kHz), BPSK, 1@47

# Chongqing Academy of Information and Communications Technology

Report No.: B19W50225-WWAN\_Rev1



High Channel, Subcarrier (15kHz), QPSK, 1@11



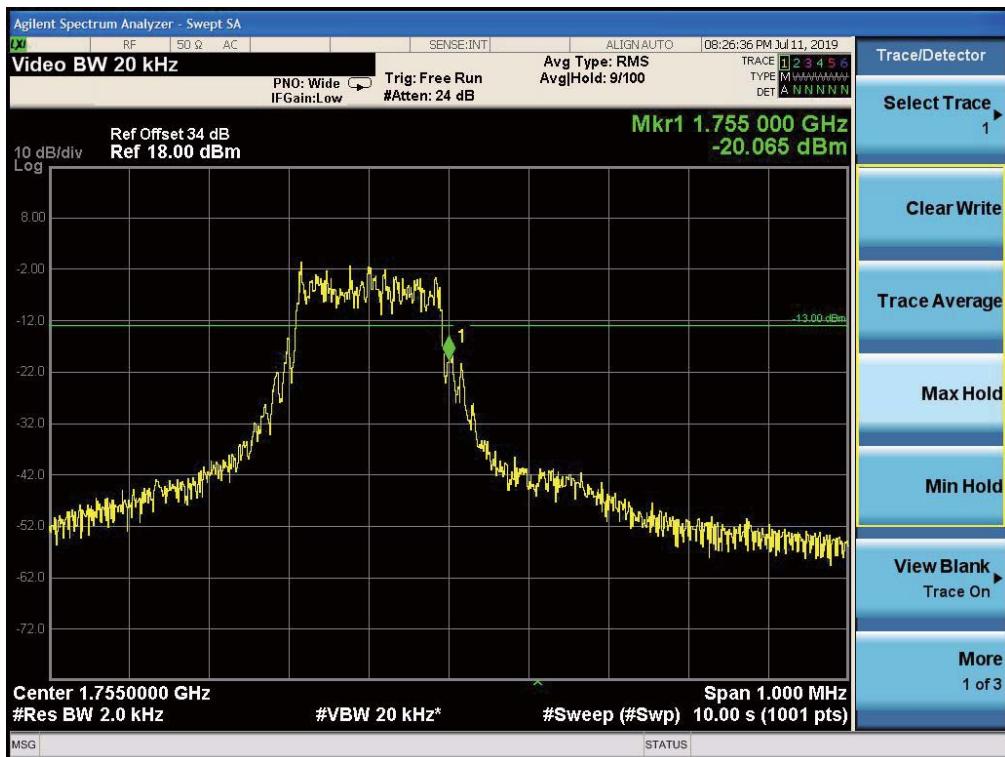
High Channel, Subcarrier (15kHz), QPSK, 12@0

# Chongqing Academy of Information and Communications Technology

Report No.: B19W50225-WWAN\_Rev1

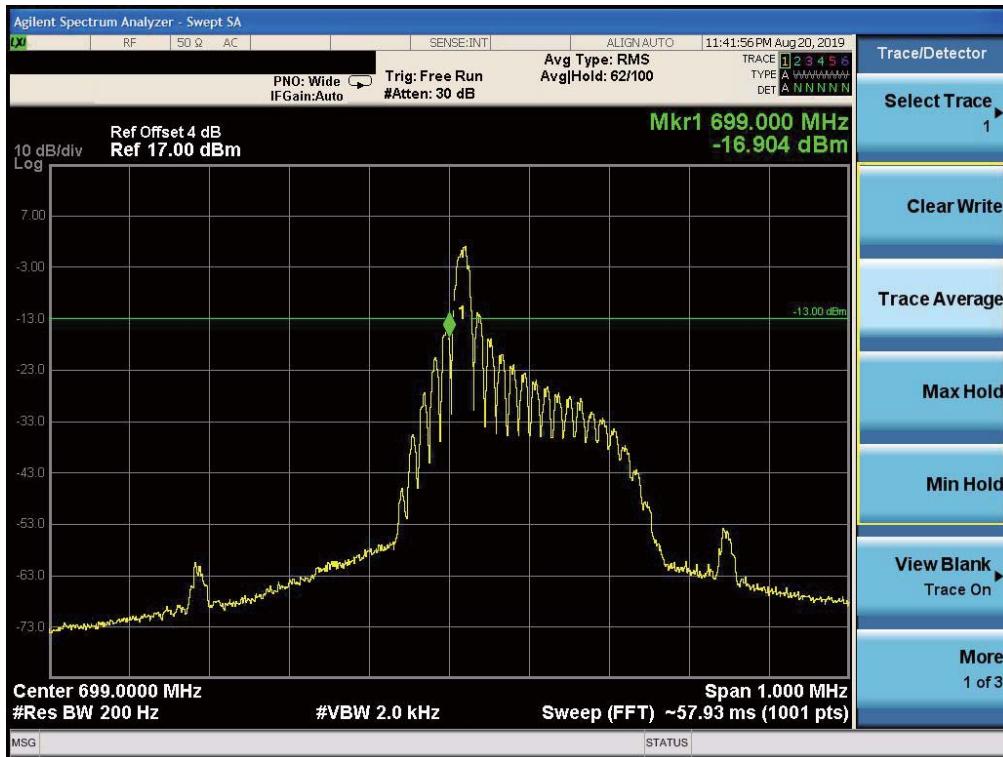


High Channel, Subcarrier (15kHz), BPSK, 1@11

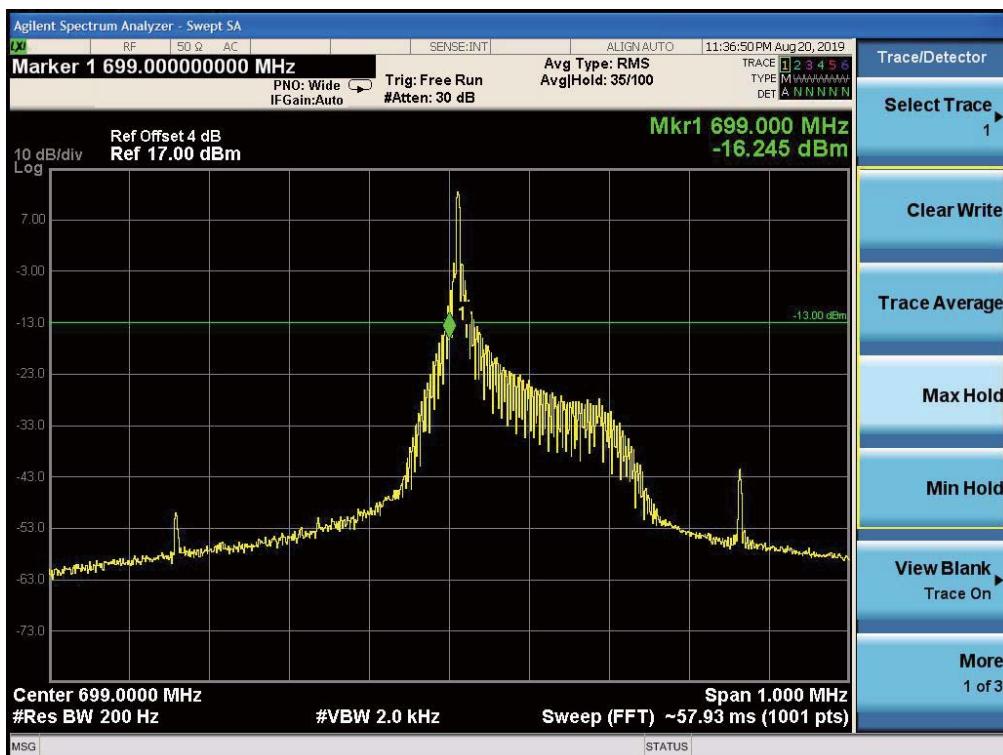


High Channel, Subcarrier (15kHz), BPSK, 12@0

### 5.5.5 NB-IoT Band12 Edge Results



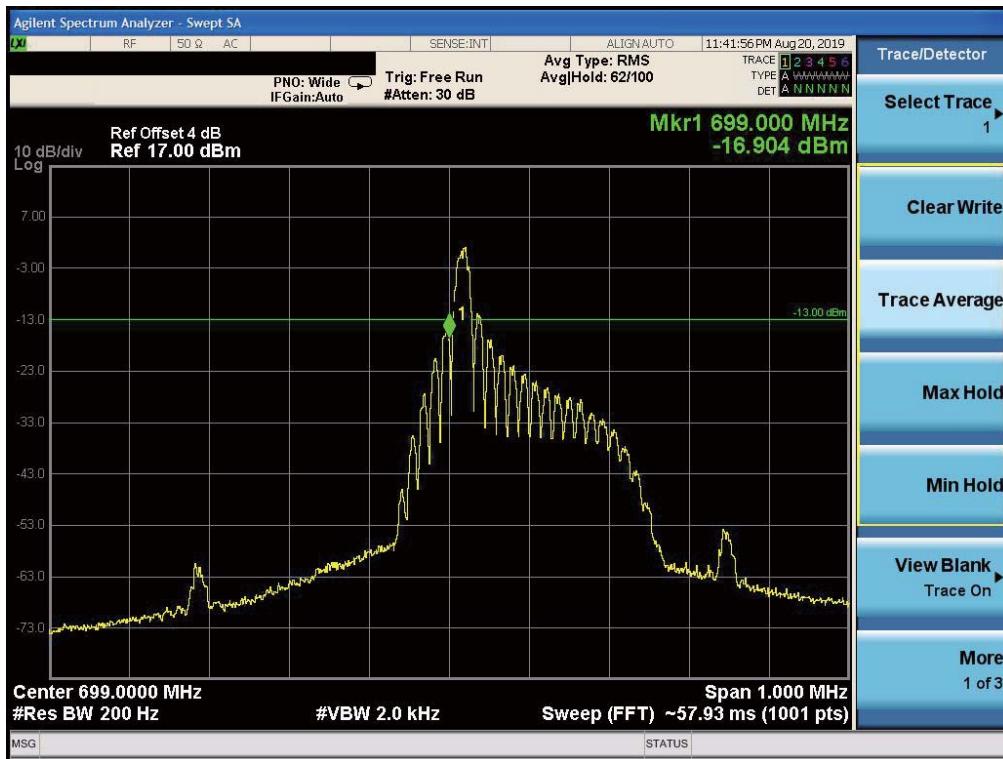
Low Channel, Subcarrier (3.75kHz), QPSK, 1@0



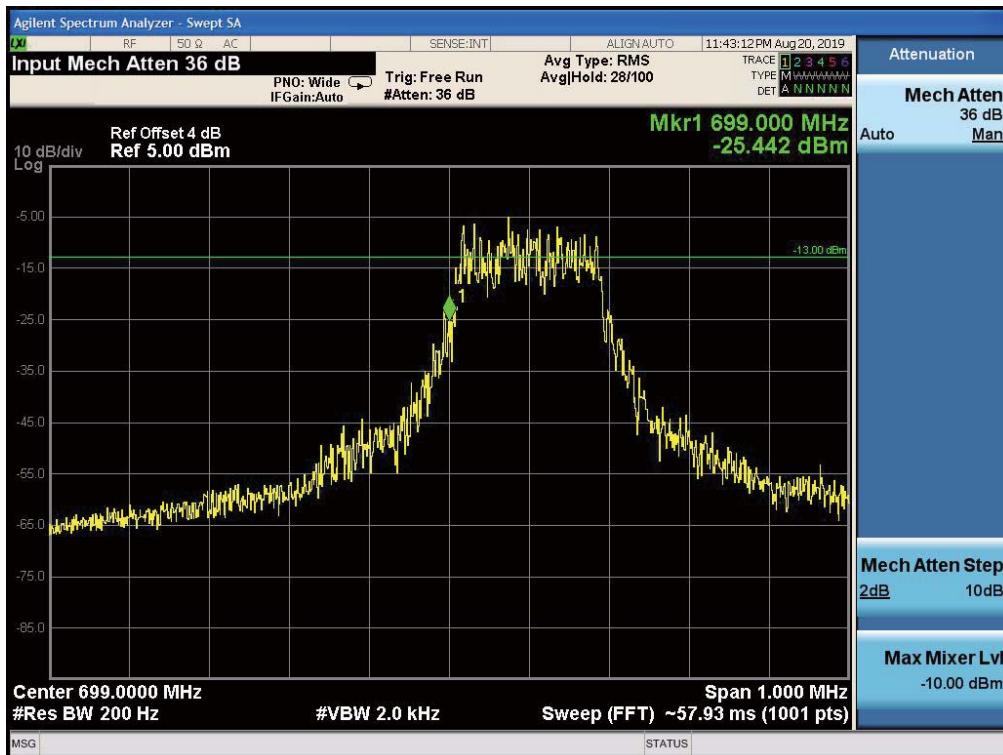
Low Channel, Subcarrier (3.75kHz), BPSK, 1@0

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Report No.: B19W50225-WWAN\_Rev1



Low Channel, Subcarrier (15kHz), QPSK, 1@0



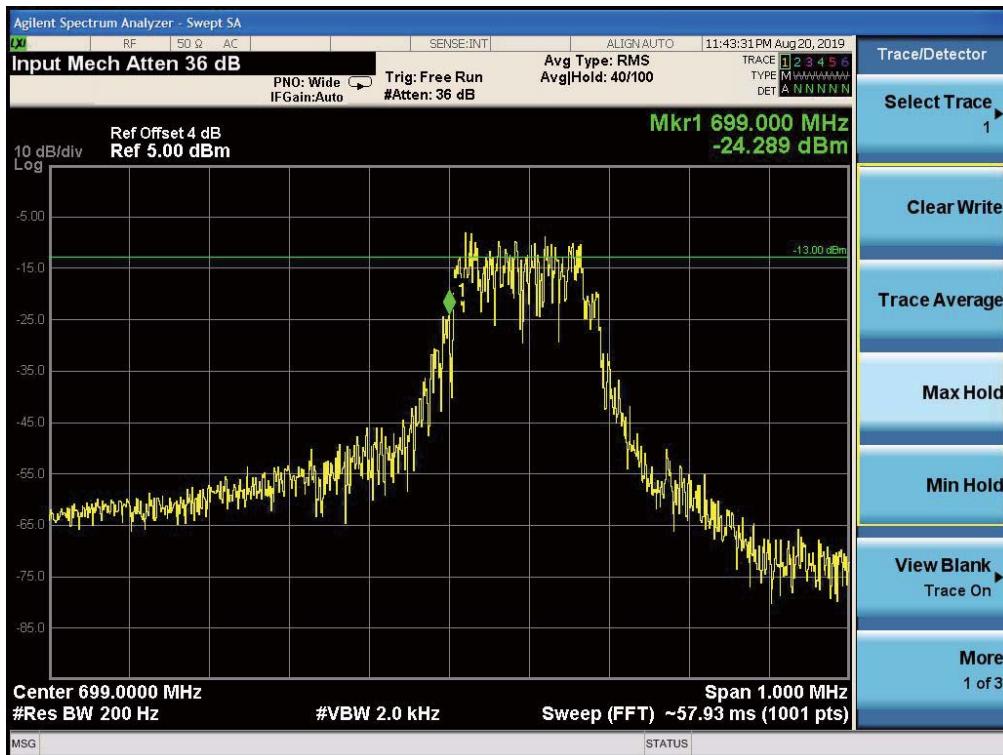
Low Channel, Subcarrier (15kHz), QPSK, 12@0

# Chongqing Academy of Information and Communications Technology

Report No.: B19W50225-WWAN\_Rev1



Low Channel, Subcarrier (15kHz), BPSK, 1@0



Low Channel, Subcarrier (15kHz), BPSK, 12@0