Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 ºC	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

7.4 Radiated spurious emission measurements

7.4.1 General

This test was performed to measure radiated spurious emissions from the EUT. Specification test limits are given in Table 7.4.1.

Table 7.4.1 Radiated spurious emission test limits

Frequency, MHz	Attenuation below carrier, dBc	ERP of spurious, dBm	Equivalent field strength limit @ 3m, dB(µV/m)***
0.009 – 10th harmonic*	43+10logP**	-13	84.4

* - Excluding the in band emission within ± 250 % of the authorized bandwidth from the carrier
** - P is transmitter output power in Watts
*** - Equivalent field strength limit was calculated from maximum allowed ERP of spurious as follows: E=sqrt(30×P×1.64)/r, where P is ERP in Watts, 1.64 is numeric gain of ideal dipole and r is antenna to EUT distance in meters

7.4.2 Test procedure for spurious emission field strength measurements in 9 kHz to 30 MHz band

7.4.2.1 The EUT was set up as shown in Figure 7.4.1, energized and the performance check was conducted.

7.4.2.2 The specified frequency range was investigated with antenna connected to spectrum analyzer. To find maximum radiation the turntable was rotated 360^0 and the measuring antenna was rotated around its vertical axis.

7.4.2.3 The worst test results (the lowest margins) were recorded in Table 7.4.2 and shown in the associated plots.

7.4.3 Test procedure for spurious emission field strength measurements above 30 MHz

7.4.3.1 The EUT was set up as shown in Figure 7.4.2, energized and the performance check was conducted.

7.4.3.2 The specified frequency range was investigated with antenna connected to spectrum analyzer. To find maximum radiation the turntable was rotated 360^0 and the measuring antenna height was swept from 1 to 4 m in both, vertical and horizontal, polarizations.

7.4.3.3 The worst test results (the lowest margins) were recorded in Table 7.4.2 and shown in the associated plots.

Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 ºC	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Figure 7.4.1 Setup for spurious emission field strength measurements in 9 kHz to 30 MHz band

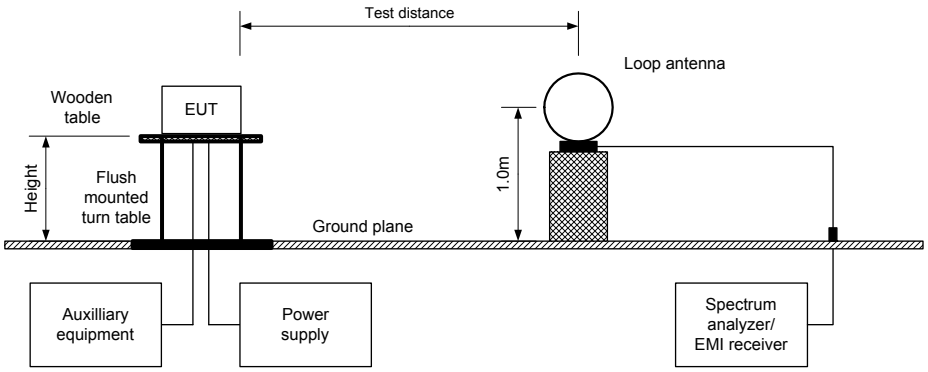
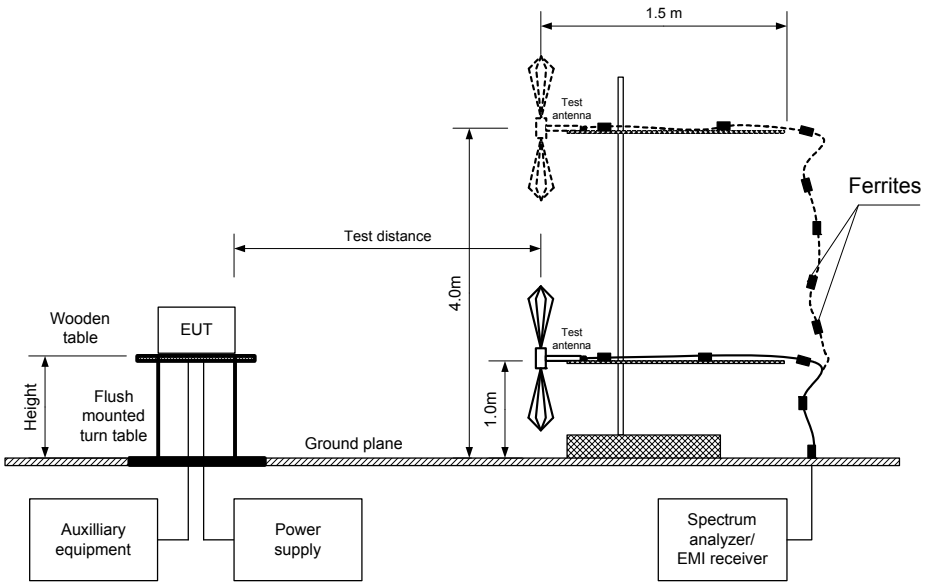


Figure 7.4.2 Setup for spurious emission field strength measurements above 30 MHz



Test specification:	**Section 90.219(e)(3), Radiated spurious emissions**		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v03		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 48 %	**Power Supply:** 120 VAC
Remarks:			

Table 7.4.2 Spurious emission field strength test results

TEST DISTANCE: 3 m
TEST SITE: Semi anechoic chamber
EUT HEIGHT: 0.8 m
INVESTIGATED FREQUENCY RANGE: 0.009 – 8700 MHz
DETECTOR USED: Peak
VIDEO BANDWIDTH: > Resolution bandwidth
TEST ANTENNA TYPE: Active loop (9 kHz – 30 MHz)
Biconilog (30 MHz – 1000 MHz)
Double ridged guide (above 1000 MHz)
MODULATION: Unmodulated

ASSIGNED FREQUENCY RANGE: 758 - 775 MHz Downlink
788 – 805 MHz Uplink
CONFIGURATION: Single Band Dual Channels
BOOSTER OUTPUT POWER SETTINGS: 34 dBm

Frequency, MHz	Field strength, dB(µV/m)	RBW, kHz	Antenna polarization	Antenna height, m	Turn-table position**, degrees	Limit, dB(µV/m)	Margin, dB*	Verdict
Low carrier frequency 758 MHz								
All emissions were found more than 20 dB below the limit								Pass
Mid carrier frequency 766 MHz								
All emissions were found more than 20 dB below the limit								Pass
High carrier frequency 775 MHz								
All emissions were found more than 20 dB below the limit								Pass

ASSIGNED FREQUENCY RANGE: 851 – 861 MHz Downlink
806 – 816 MHz Uplink
CONFIGURATION: Single Band Dual Channels
BOOSTER OUTPUT POWER SETTINGS: 34 dBm

Frequency, MHz	Field strength, dB(µV/m)	RBW, kHz	Antenna polarization	Antenna height, m	Turn-table position**, degrees	Limit, dB(µV/m)	Margin, dB*	Verdict
Low carrier frequency 851 MHz								
All emissions were found more than 20 dB below the limit								Pass
Mid carrier frequency 856 MHz								
All emissions were found more than 20 dB below the limit								Pass
High carrier frequency 861 MHz								
All emissions were found more than 20 dB below the limit								Pass

*****- Margin = Field strength of spurious – calculated field strength limit.
******- EUT front panel refers to 0 degrees position of turntable.

Test specification:	**Section 90.219(e)(3), Radiated spurious emissions**		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v03		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 48 %	**Power Supply:** 120 VAC
Remarks:			

Table 7.4.3 Spurious emission field strength test results

ASSIGNED FREQUENCY RANGE:	758 - 775 MHz Downlink 788 – 805 MHz Uplink 851 – 861 MHz Downlink 806 – 816 MHz Uplink
TEST DISTANCE:	3 m
TEST SITE:	Semi anechoic chamber
EUT HEIGHT:	0.8 m
INVESTIGATED FREQUENCY RANGE:	0.009 – 8700 MHz
DETECTOR USED:	Peak
VIDEO BANDWIDTH:	> Resolution bandwidth
TEST ANTENNA TYPE:	Active loop (9 kHz – 30 MHz) Biconilog (30 MHz – 1000 MHz) Double ridged guide (above 1000 MHz)
MODULATION:	Unmodulated
CONFIGURATION:	Dual Band Single Channel
BOOSTER OUTPUT POWER SETTINGS:	37 dBm

Frequency, MHz	Field strength, dB(μV/m)	RBW, kHz	Antenna polarization	Antenna height, m	Turn-table position**, degrees	Limit, dB(μV/m)	Margin, dB*	Verdict
Low carrier frequency 758/851 MHz								
All emissions were found more than 20 dB below the limit								Pass
Mid carrier frequency 766/856 MHz								
All emissions were found more than 20 dB below the limit								Pass
High carrier frequency 775/861MHz								
All emissions were found more than 20 dB below the limit								Pass

*****- Margin = Field strength of spurious – calculated field strength limit.
******- EUT front panel refers to 0 degrees position of turntable.

Reference numbers of test equipment used

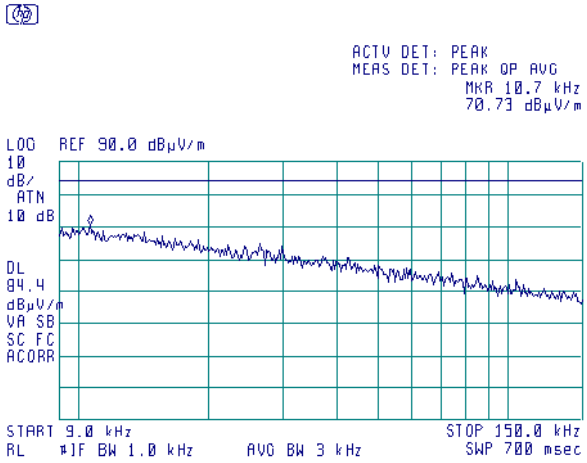
HL 0446	HL 0521	HL 0604	HL 0557	HL 0661	HL 1984	HL 2780	HL 3234
HL 3622	HL 3623	HL 4276	HL 4278	HL 4353	HL 4722	HL 4932	

Full description is given in Appendix A.

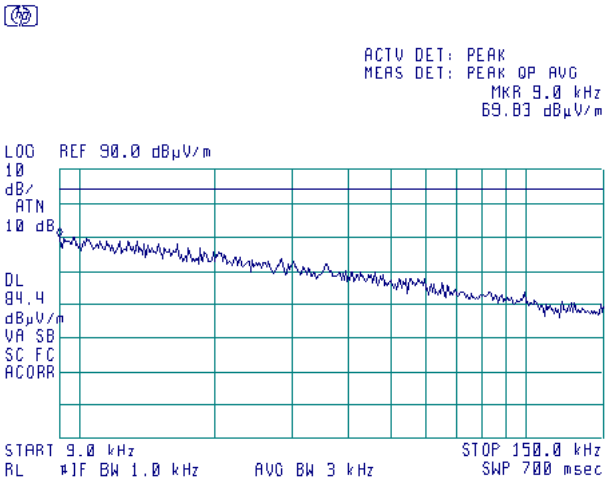
Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 ºC	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.4.1 Radiated emission measurements in 9 - 150 kHz range

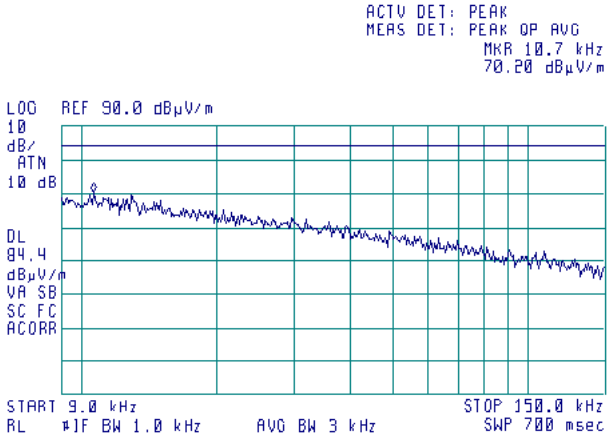
TEST SITE: Semi anechoic chamber
ASSIGNED FREQUENCY RANGES: 758 - 775 MHz Downlink
788 – 805 MHz Uplink
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Single Band Dual Channels
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

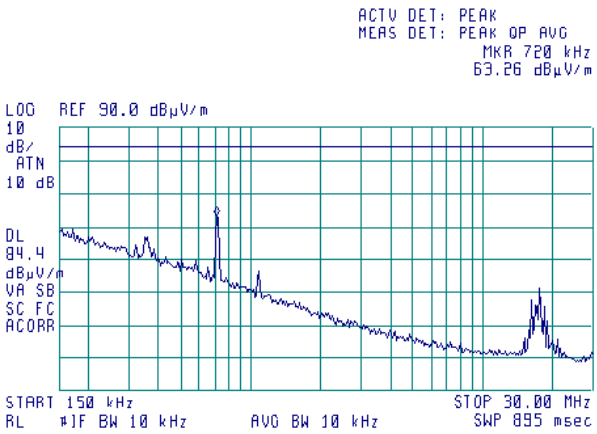


Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 °C	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

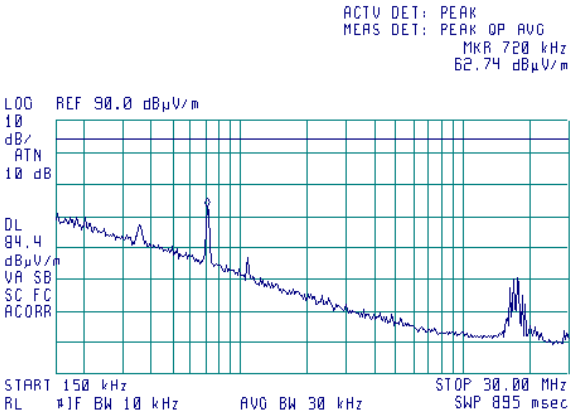
Plot 7.4.2 Radiated emission measurements in 0.15 - 30 MHz range

TEST SITE: Semi anechoic chamber
ASSIGNED FREQUENCY RANGES: 758 - 775 MHz Downlink
788 – 805 MHz Uplink

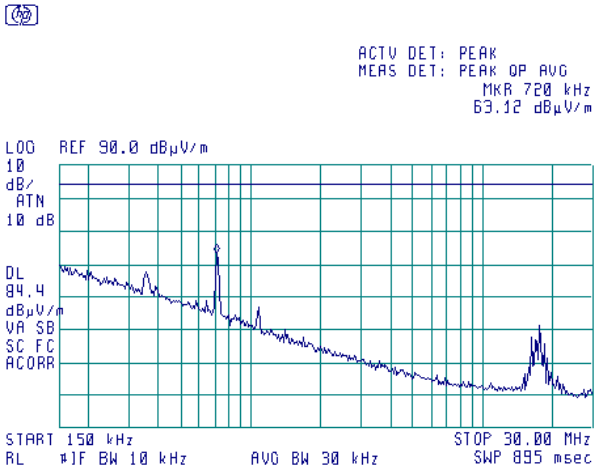
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Single Band Dual Channels
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

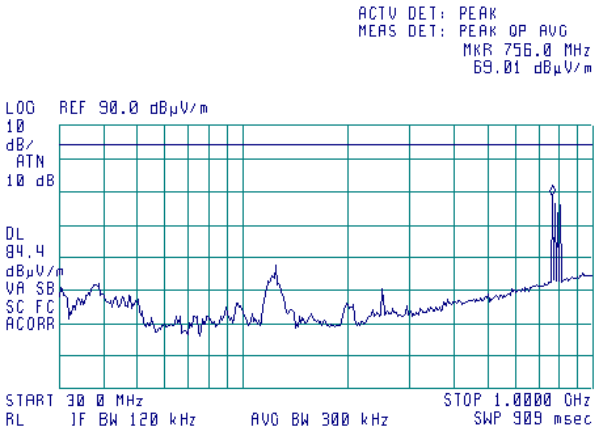


Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 ºC	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

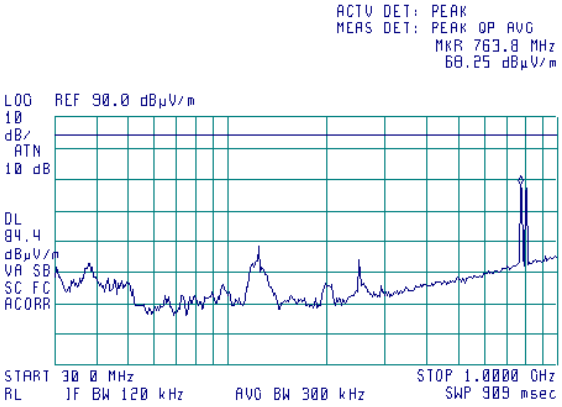
Plot 7.4.3 Radiated emission measurements in 30 - 1000 MHz range

ASSIGNED FREQUENCY RANGES: 758 - 775 MHz Downlink
788 – 805 MHz Uplink

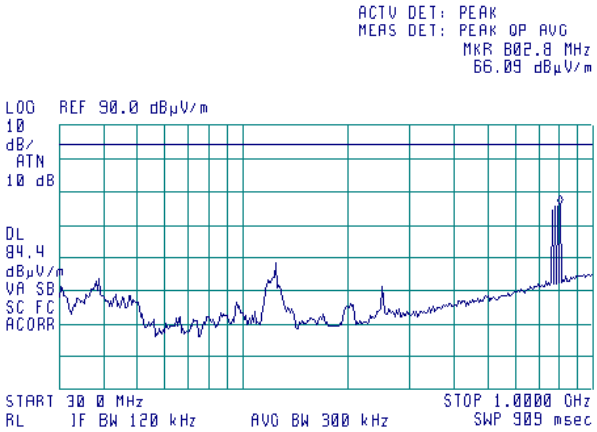
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Single Band Dual Channels
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High



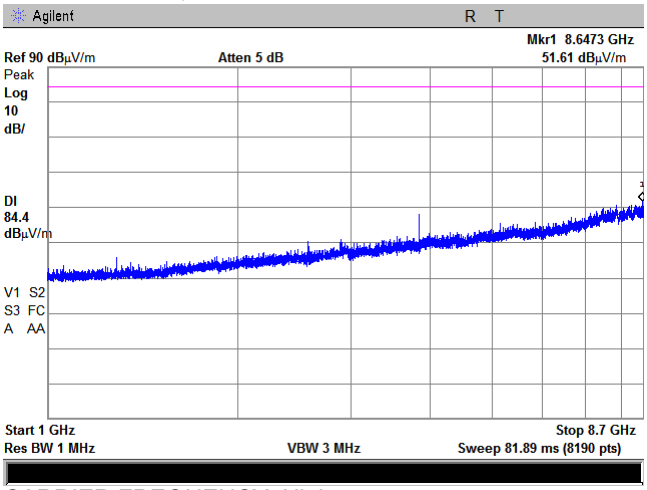
758/766/775 MHz – Downlink frequencies; 788/796/805 MHz – Uplink frequencies

Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 °C	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

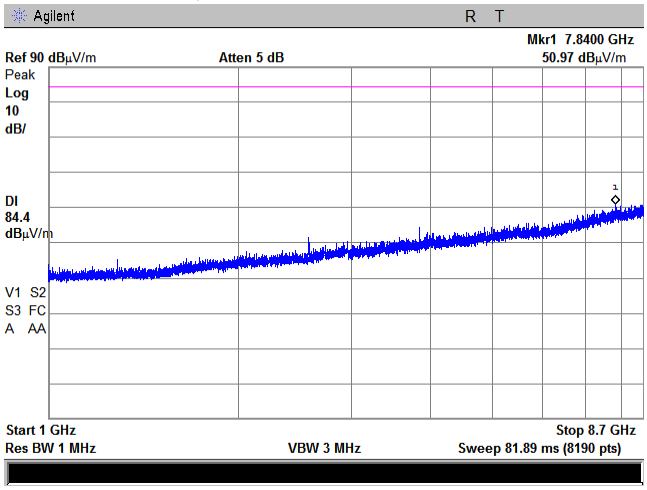
Plot 7.4.4 Radiated emission measurements in 1000 – 9000 MHz range

TEST SITE: Semi anechoic chamber
ASSIGNED FREQUENCY RANGES: 758 - 775 MHz Downlink
788 – 805 MHz Uplink
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Single Band Dual Channels

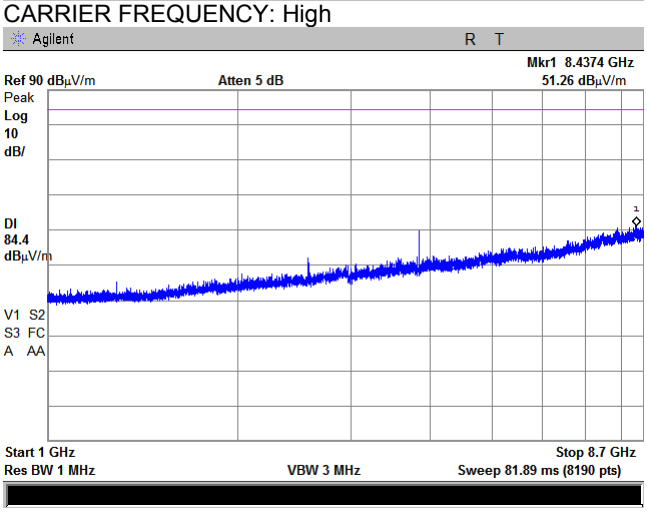
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

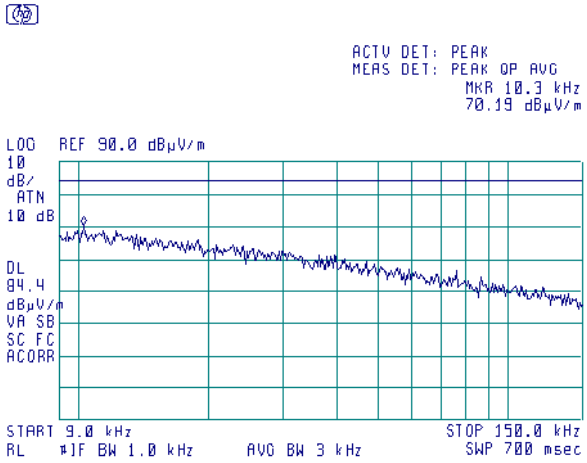


Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 °C	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

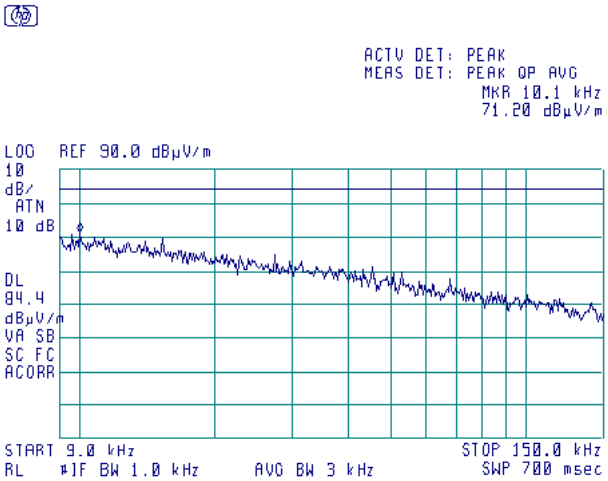
Plot 7.4.5 Radiated emission measurements in 9 - 150 kHz range

TEST SITE: Semi anechoic chamber
ASSIGNED FREQUENCY RANGES: 851 – 861 MHz Downlink
806 – 816 MHz Uplink

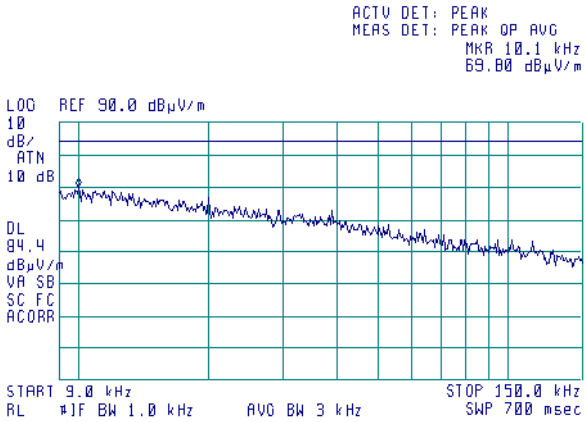
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Single Band Dual Channels
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



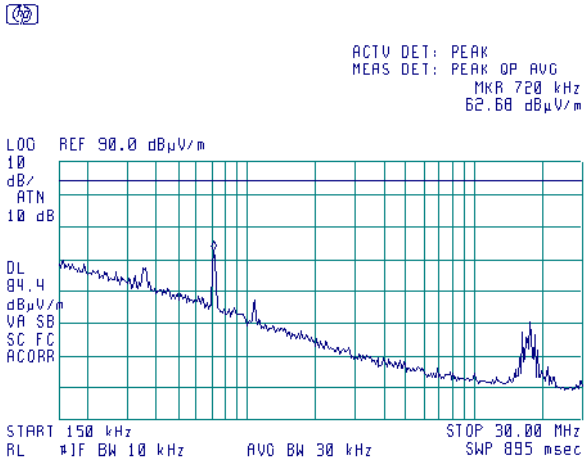
CARRIER FREQUENCY: High



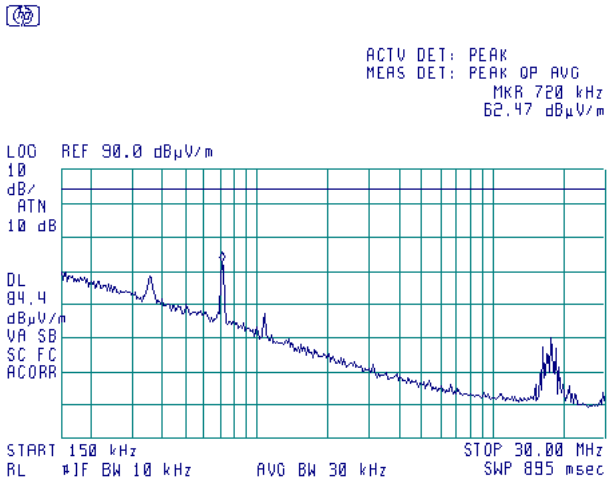
Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 °C	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.4.6 Radiated emission measurements in 0.15 - 30 MHz range

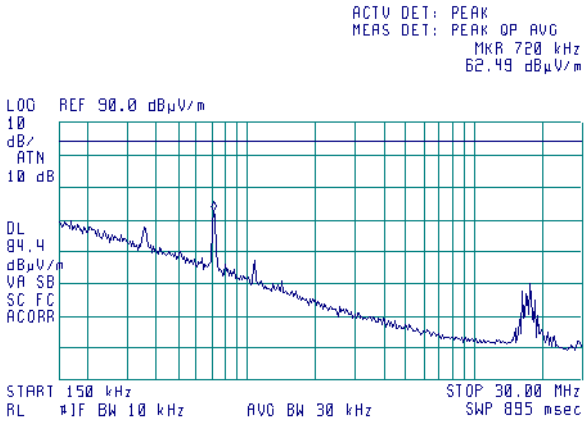
TEST SITE: Semi anechoic chamber
ASSIGNED FREQUENCY RANGES: 851 – 861 MHz Downlink
806 – 816 MHz Uplink
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Single Band Dual Channels
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

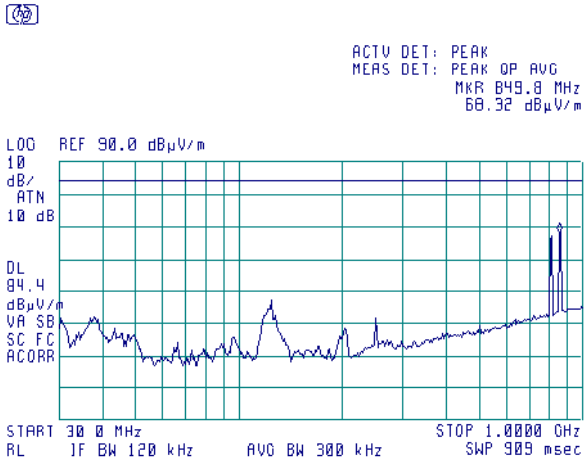


Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 °C	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

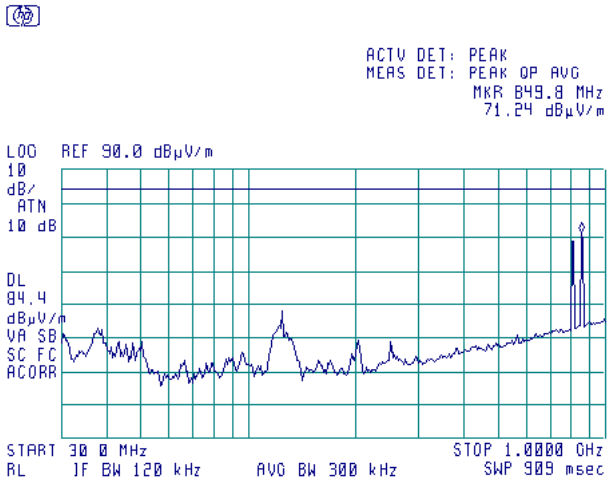
Plot 7.4.7 Radiated emission measurements in 30 - 1000 MHz range

TEST SITE: Semi anechoic chamber
ASSIGNED FREQUENCY RANGES: 851 – 861 MHz Downlink
806 – 816 MHz Uplink

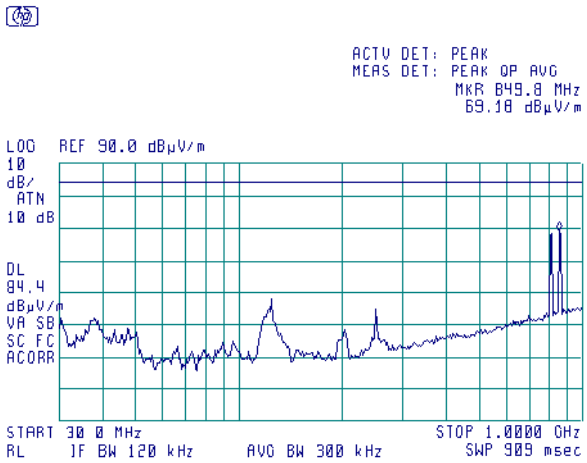
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Single Band Dual Channels
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High



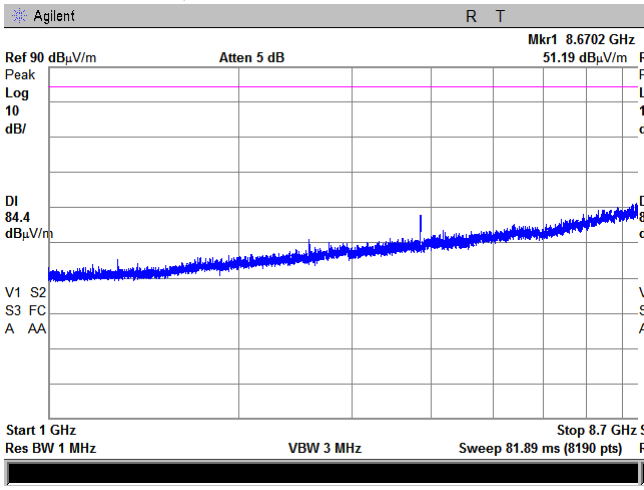
851/856/861 MHz – Downlink frequencies; 806/811/816 MHz – Uplink frequencies

Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 °C	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

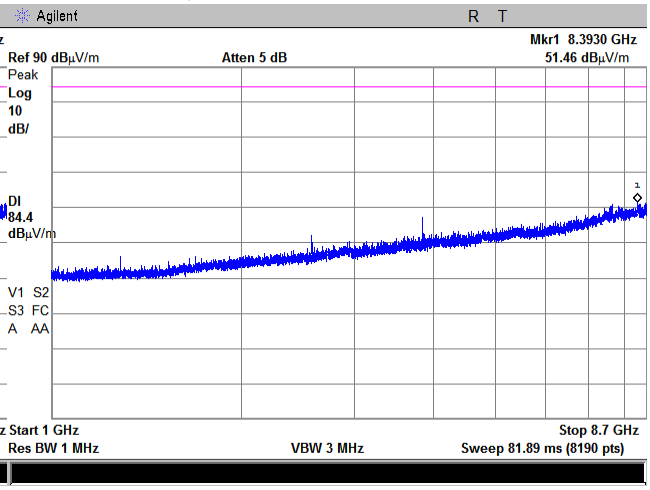
Plot 7.4.8 Radiated emission measurements in 1000 – 6000 MHz range

TEST SITE: Semi anechoic chamber
ASSIGNED FREQUENCY RANGES: 851 – 861 MHz Downlink
806 – 816 MHz Uplink
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Single Band Dual Channels

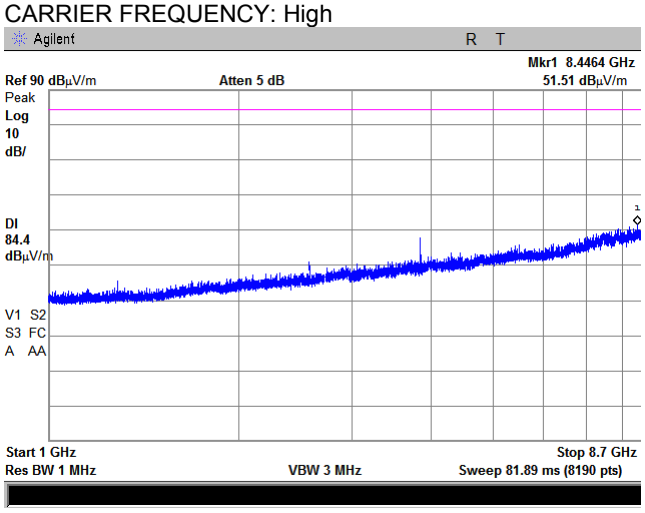
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



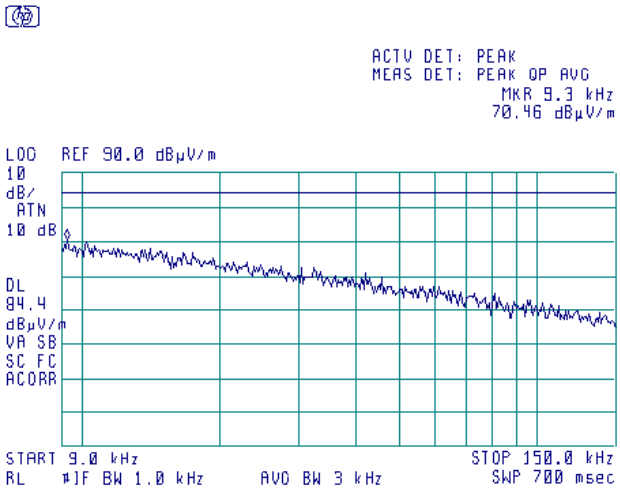
CARRIER FREQUENCY: High



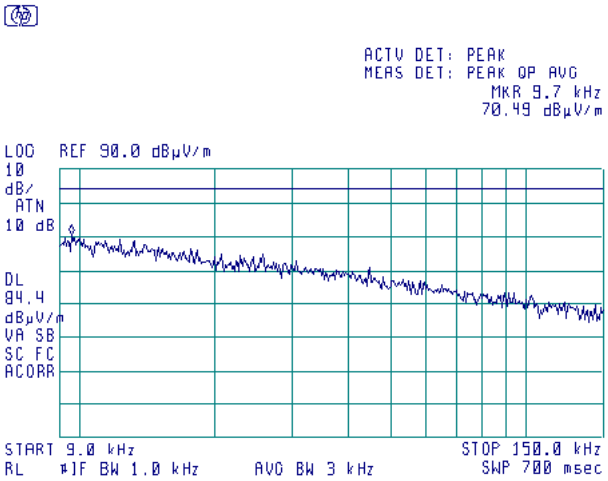
Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 °C	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.4.9 Radiated emission measurements in 9 - 150 kHz range

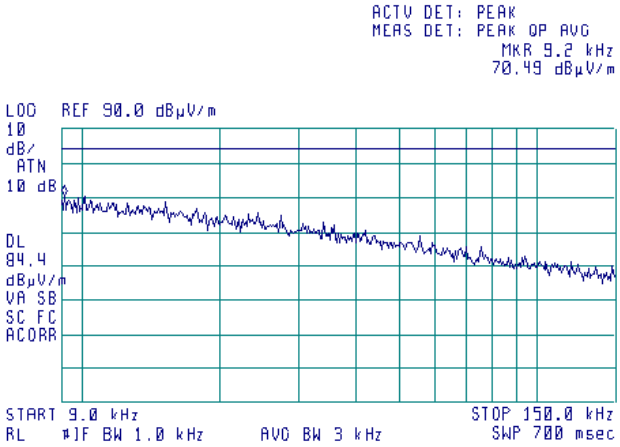
TEST SITE: Semi anechoic chamber
ASSIGNED FREQUENCY RANGES: 758 - 775 MHz Downlink
788 – 805 MHz Uplink
851 – 861 MHz Downlink
806 – 816 MHz Uplink
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Dual Band Single Channel
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



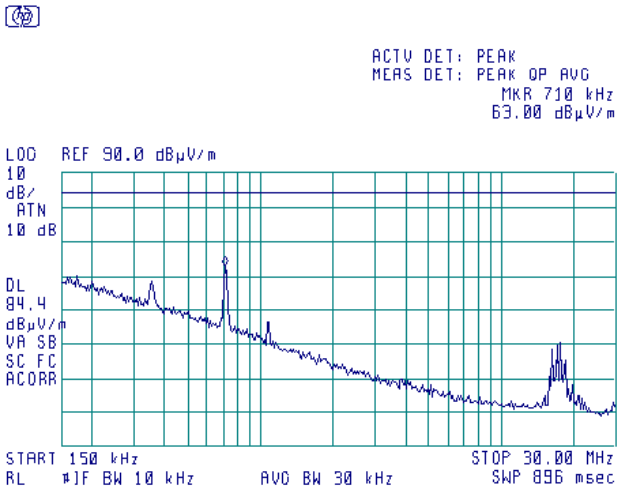
CARRIER FREQUENCY: High



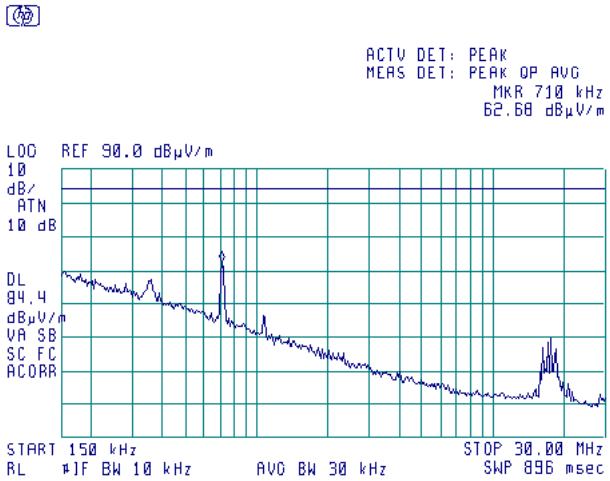
Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 °C	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.4.10 Radiated emission measurements in 0.15 - 30 MHz range

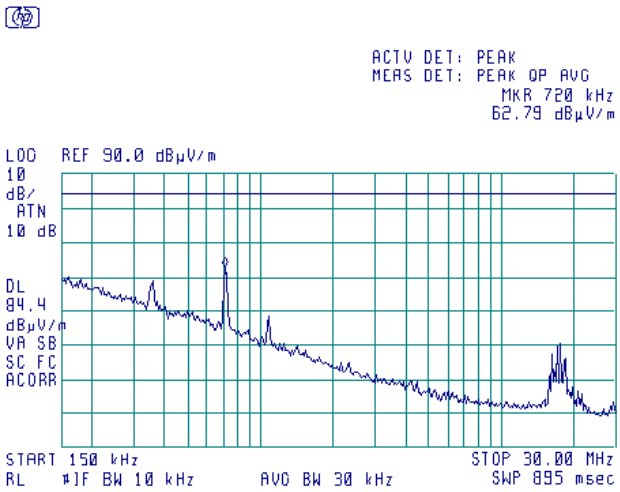
TEST SITE: Semi anechoic chamber
ASSIGNED FREQUENCY RANGES: 758 - 775 MHz Downlink
788 – 805 MHz Uplink
851 – 861 MHz Downlink
806 – 816 MHz Uplink
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Dual Band Single Channel
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



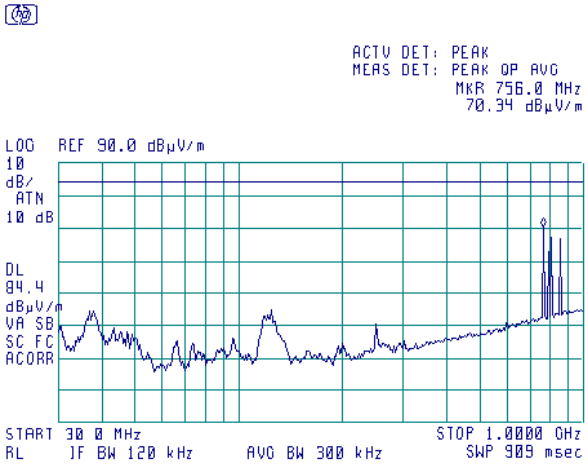
CARRIER FREQUENCY: High



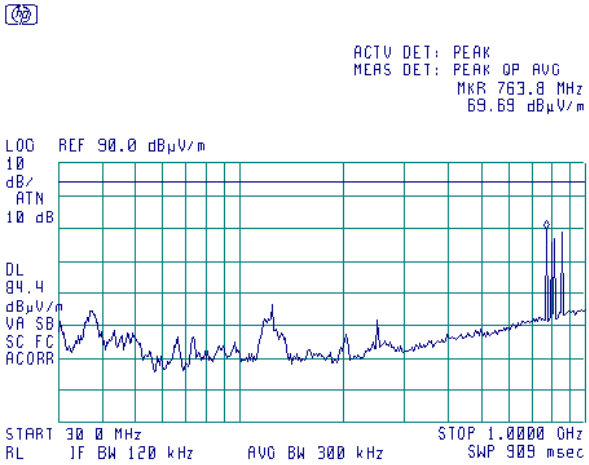
Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 ºC	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.4.11 Radiated emission measurements in 30 - 1000 MHz range

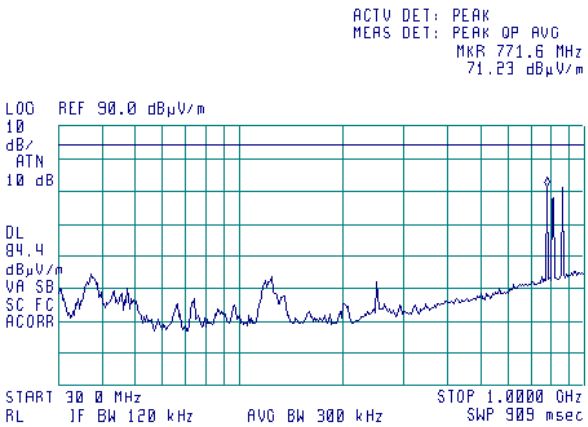
TEST SITE: Semi anechoic chamber
ASSIGNED FREQUENCY RANGES: 758 - 775 MHz Downlink
788 – 805 MHz Uplink
851 – 861 MHz Downlink
806 – 816 MHz Uplink
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Dual Band Single Channel
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

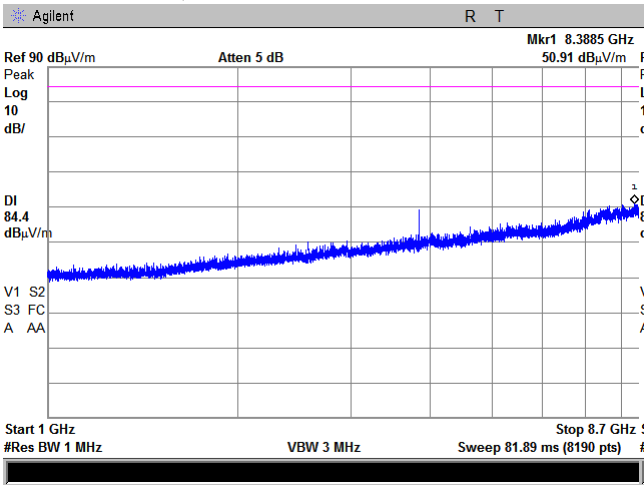


758/766/775 and 851/856/861 MHz – Downlink frequencies; 788/796/805 and 806/811/816 MHz – Uplink frequencies

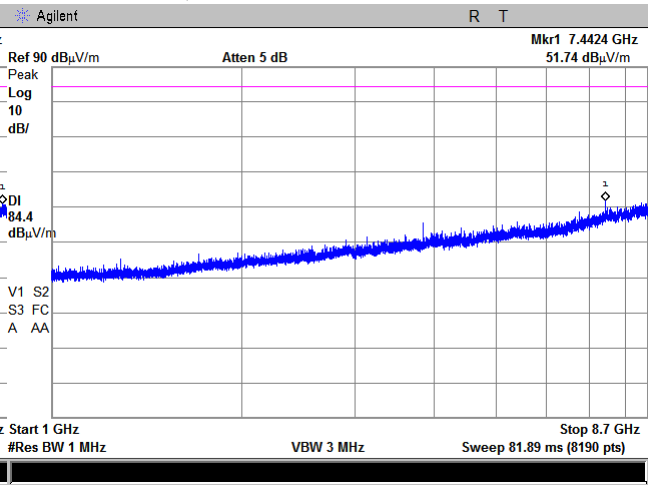
Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 °C	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.4.12 Radiated emission measurements in 1000 – 9000 MHz range

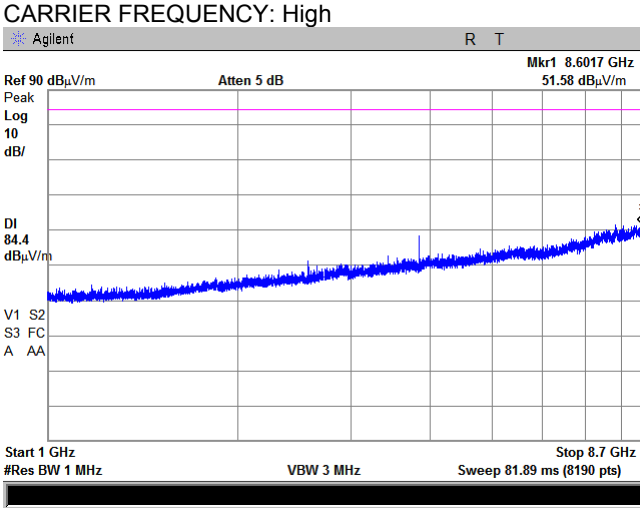
TEST SITE: Semi anechoic chamber
ASSIGNED FREQUENCY RANGES: 758 - 775 MHz Downlink
788 – 805 MHz Uplink
851 – 861 MHz Downlink
806 – 816 MHz Uplink
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Dual Band Single Channel
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

7.5 Spurious emissions at RF antenna connector test

7.5.1 General

This test was performed to measure spurious emissions at RF antenna connector. Specification test limits are given in Table 7.5.1.

Table 7.5.1 Spurious emission limits

Frequency, MHz	Attenuation below carrier, dBc	ERP of spurious, dBm
0.009 – 10th harmonic*	43+10logP** (mask B)	-13.0

* - spurious emission limits do not apply to the in band emission within ± 250 % of the authorized bandwidth from the carrier; investigated in course of emission mask testing
** - P is transmitter output power in Watts

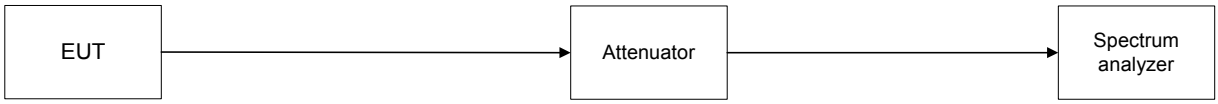
7.5.2 Test procedure

7.5.2.1 The EUT was set up as shown in Figure 7.5.1, energized and its proper operation was checked.

7.5.2.2 The EUT was adjusted to produce maximum available for end user RF output power.

7.5.2.3 The spurious emission was measured with spectrum analyzer as provided in Table 7.5.2 and associated plots.

Figure 7.5.1 Spurious emission test setup



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Table 7.5.2 Spurious emission test results, dual band (Single Channel)

INVESTIGATED FREQUENCY RANGE: 0.009 – 9000 MHz
DETECTOR USED: Peak
VIDEO BANDWIDTH: ≥ Resolution bandwidth
MODULATION: C4FM/iDEN/Analog FM
CONFIGURATION: Dual Band Single Channel
BOOSTER OUTPUT POWER SETTINGS: 37 dBm
ASSIGNED FREQUENCY RANGES: 758 - 775 MHz Downlink
851 – 861 MHz Downlink

Frequency, MHz	SA reading, dBm	Attenuator, dB	Cable loss, dB	RBW, kHz	Spurious emission, dBm	Attenuation below carrier, dBc	Limit, dBc	Margin, dB*	Verdict
Low carrier frequency									
All emissions were found more than 20 dB below the limit									Pass
Mid carrier frequency									
All emissions were found more than 20 dB below the limit									Pass
High carrier frequency									
All emissions were found more than 20 dB below the limit									Pass

*****- Margin = Spurious emission – specification limit.

BOOSTER OUTPUT POWER SETTINGS: 28 dBm
ASSIGNED FREQUENCY RANGES: 778 – 805 MHz Uplink
806 – 816 MHz Uplink

Frequency, MHz	SA reading, dBm	Attenuator, dB	Cable loss, dB	RBW, kHz	Spurious emission, dBm	Attenuation below carrier, dBc	Limit, dBc	Margin, dB*	Verdict
Low carrier frequency									
All emissions were found more than 20 dB below the limit									Pass
Mid carrier frequency									
All emissions were found more than 20 dB below the limit									Pass
High carrier frequency									
All emissions were found more than 20 dB below the limit									Pass

*****- Margin = Spurious emission – specification limit.

Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Table 7.5.3 Spurious emission test results, dual band (Dual channels)

INVESTIGATED FREQUENCY RANGE: 0.009 – 8000 MHz
DETECTOR USED: Peak
VIDEO BANDWIDTH: ≥ Resolution bandwidth
MODULATION: C4FM/iDEN/Analog FM
CONFIGURATION: Duale Band Dual Channel
BOOSTER OUTPUT POWER SETTINGS: 37 dBm
ASSIGNED FREQUENCY RANGES: 758 - 775 MHz Downlink
851 – 861 MHz Downlink

Frequency, MHz	SA reading, dBm	Attenuator, dB	Cable loss, dB	RBW, kHz	Spurious emission, dBm	Attenuation below carrier, dBc	Limit, dBc	Margin, dB*	Verdict
Low carrier frequency									
All emissions were found more than 20 dB below the limit									Pass
Mid carrier frequency									
All emissions were found more than 20 dB below the limit									Pass
High carrier frequency									
All emissions were found more than 20 dB below the limit									Pass

*****- Margin = Spurious emission – specification limit.

INVESTIGATED FREQUENCY RANGE: 0.009 – 9000 MHz
DETECTOR USED: Peak
VIDEO BANDWIDTH: ≥ Resolution bandwidth
MODULATION: C4FM/iDEN/Analog FM
CONFIGURATION: Duale Band Dual Channel
BOOSTER OUTPUT POWER SETTINGS: 28 dBm
ASSIGNED FREQUENCY RANGES: 778 – 805 MHz Uplink
806 – 816 MHz Uplink

Frequency, MHz	SA reading, dBm	Attenuator, dB	Cable loss, dB	RBW, kHz	Spurious emission, dBm	Attenuation below carrier, dBc	Limit, dBc	Margin, dB*	Verdict
Low carrier frequency									
All emissions were found more than 20 dB below the limit									Pass
Mid carrier frequency									
All emissions were found more than 20 dB below the limit									Pass
High carrier frequency									
All emissions were found more than 20 dB below the limit									Pass

*****- Margin = Spurious emission – specification limit.

Reference numbers of test equipment used

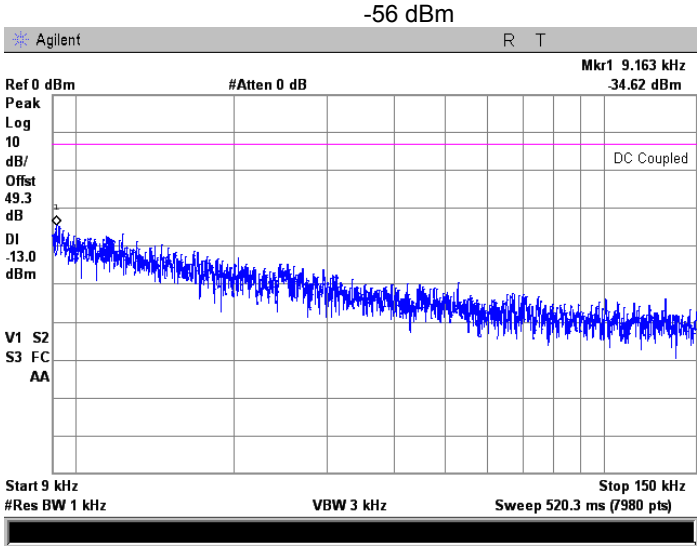
HL 0539	HL 1908	HL 2909	HL 3174	HL 3301	HL 3302	HL 3768	HL 3770
HL 3776	HL 4068	HL 4273	HL 4275	HL 4354			

Full description is given in Appendix A.

Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

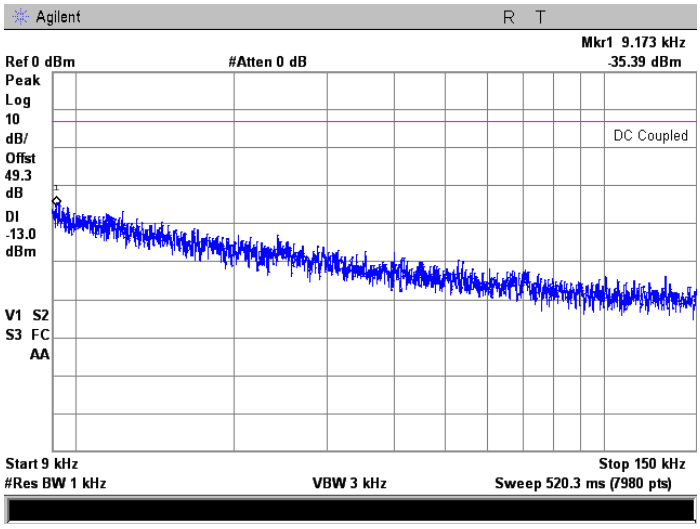
Plot 7.5.1 Spurious emission measurements in 9 - 150 kHz range at low carrier frequency

FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.2 Spurious emission measurements in 9 - 150 kHz range at mid carrier frequency

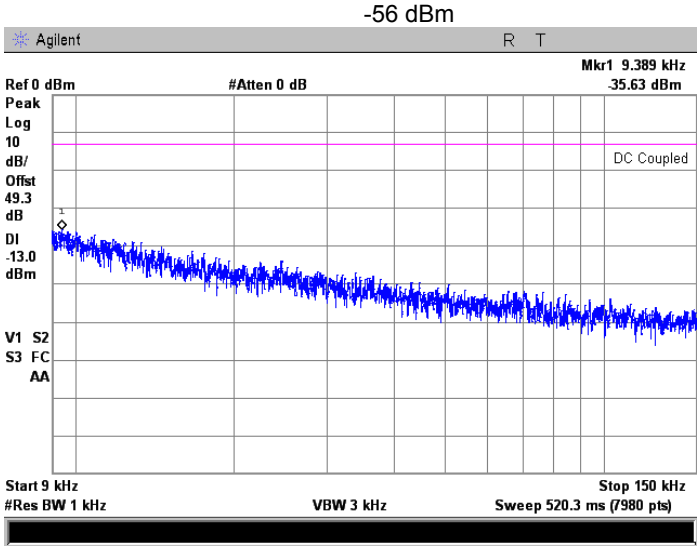
FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

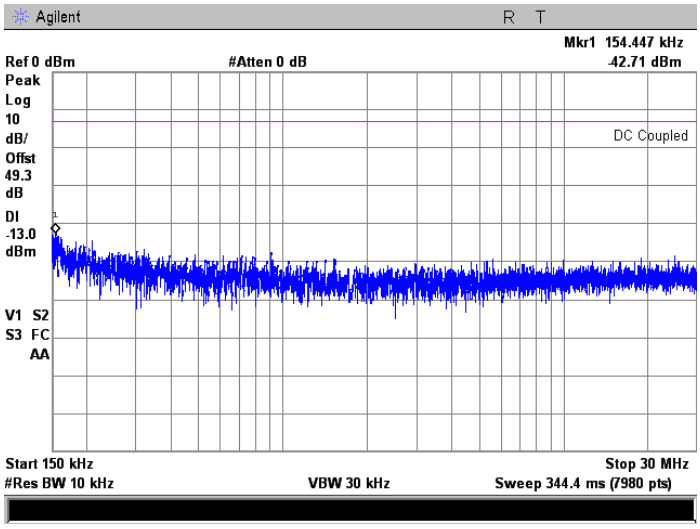
Plot 7.5.3 Spurious emission measurements in 9 - 150 kHz range at high carrier frequency

FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.4 Spurious emission measurements in 0.15 - 30.0 MHz range at low carrier frequency

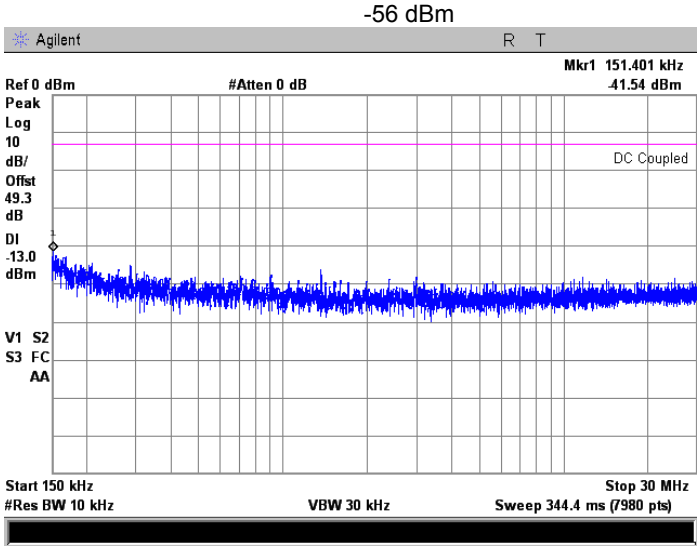
FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

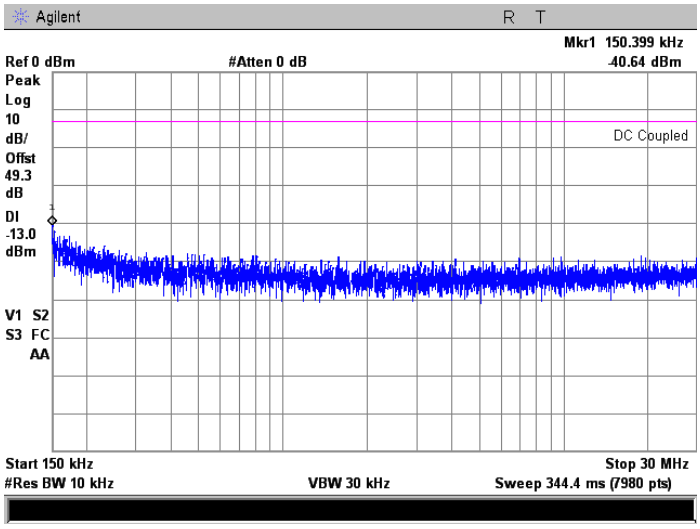
Plot 7.5.5 Spurious emission measurements in 0.15 - 30.0 MHz range at mid carrier frequency

FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.6 Spurious emission measurements in 0.15 – 30.0 MHz range at high carrier frequency

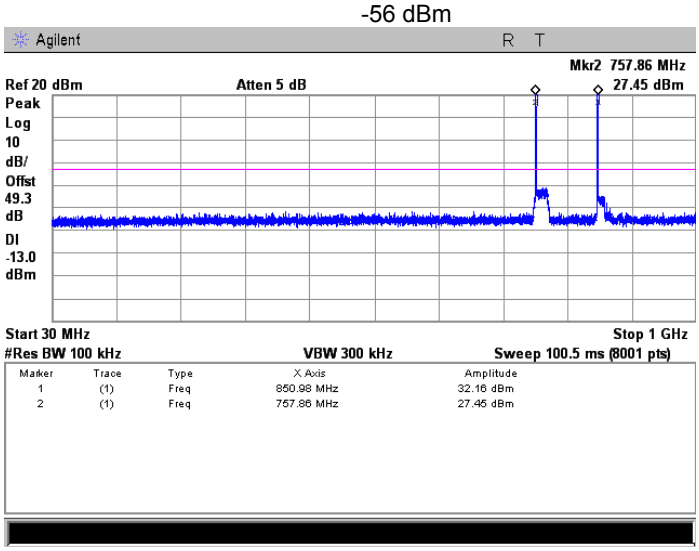
FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

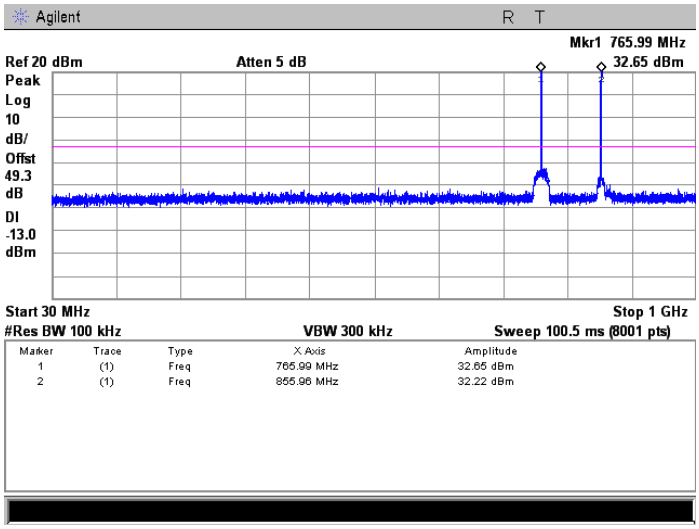
Plot 7.5.7 Spurious emission measurements in 30.0 - 1000 MHz range at low carrier frequency

FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.8 Spurious emission measurements in 30.0 - 1000 MHz range at mid carrier frequency

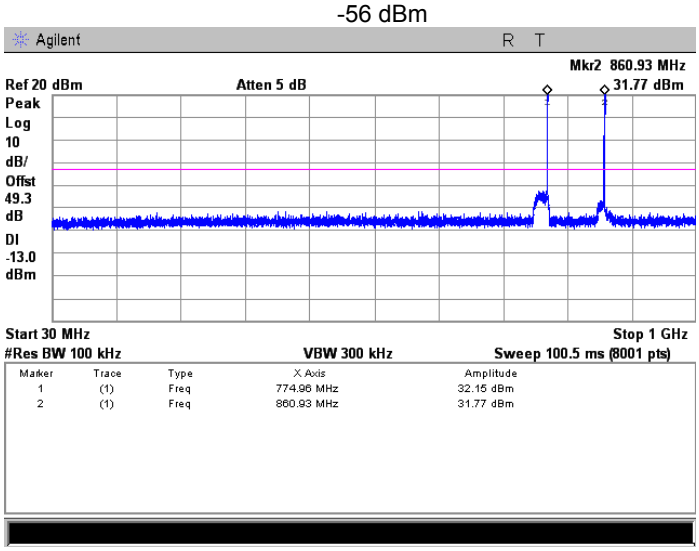
FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

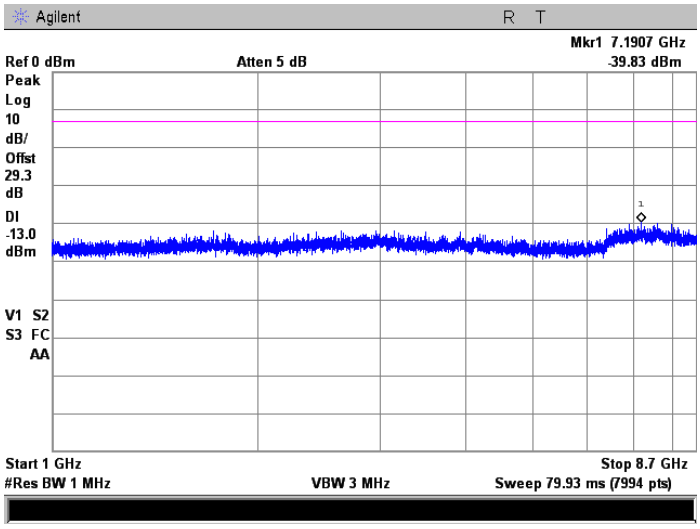
Plot 7.5.9 Spurious emission measurements in 30.0 - 1000 MHz range at high carrier frequency

FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.10 Spurious emission measurements in 1000 - 8700 MHz range at low carrier frequency

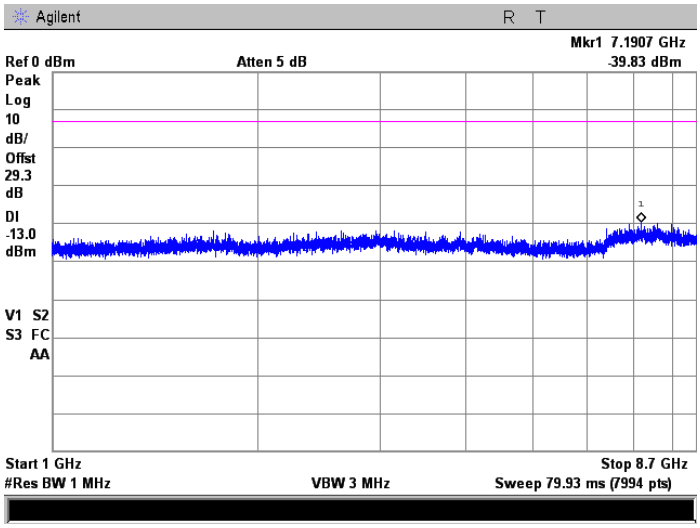
FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

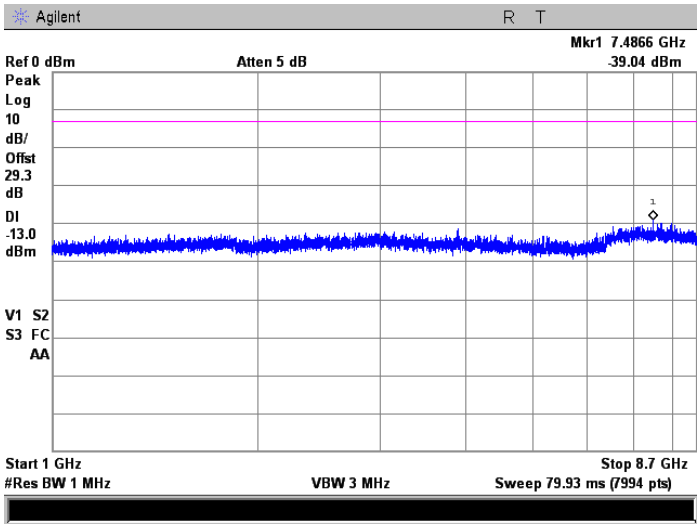
Plot 7.5.11 Spurious emission measurements in 1000 - 8700 MHz at mid carrier frequency

FREQUENCY RANGE: 758 - 775 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.12 Spurious emission measurements in 1000 - 8700 MHz at high carrier frequency

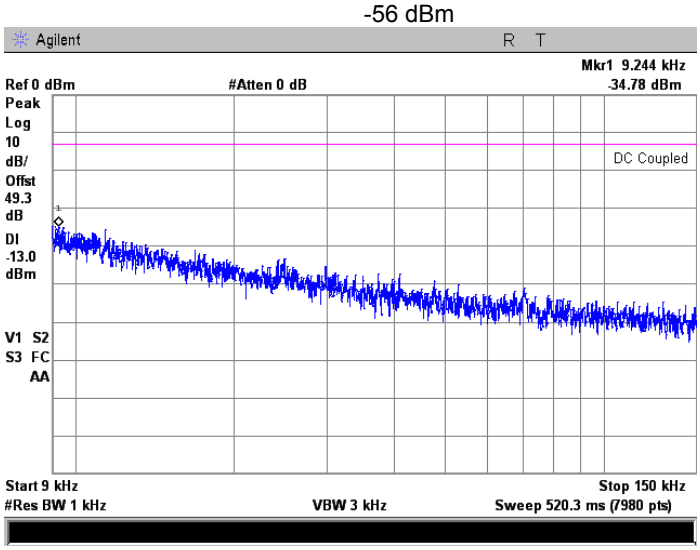
FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

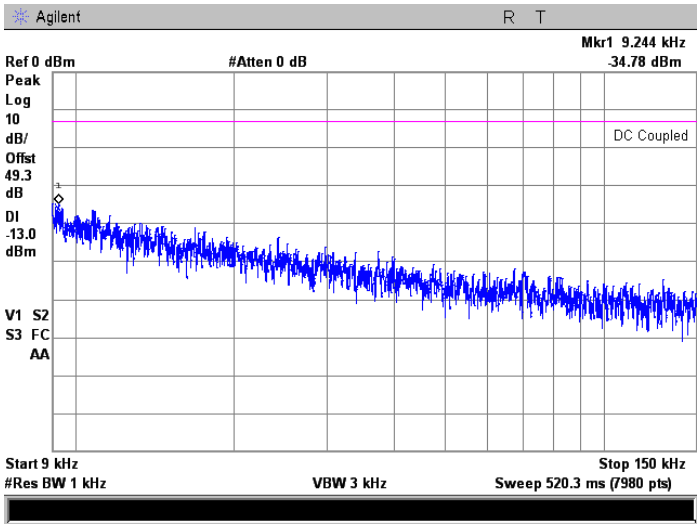
Plot 7.5.13 Spurious emission measurements in 9 - 150 kHz range at low carrier frequency

FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.14 Spurious emission measurements in 9 - 150 kHz range at mid carrier frequency

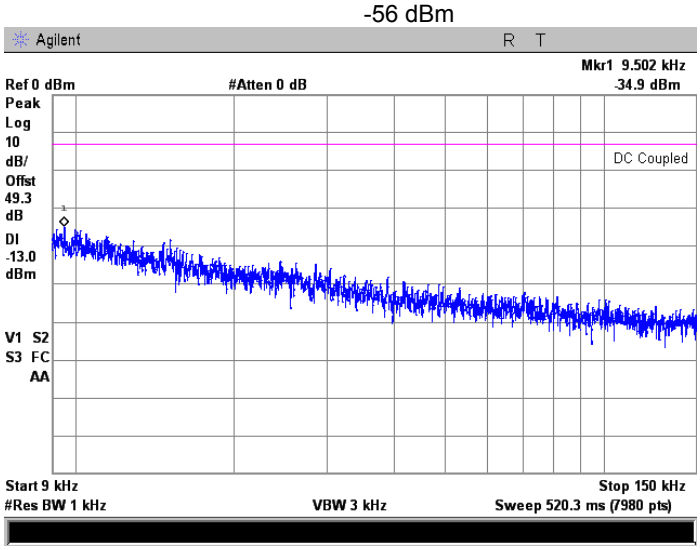
FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

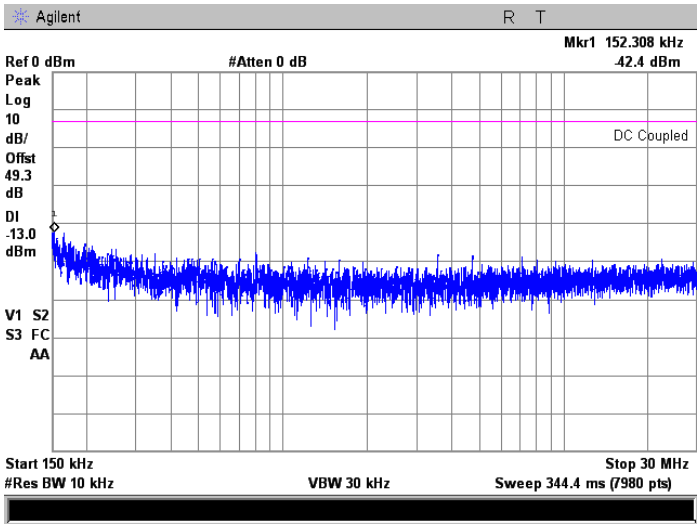
Plot 7.5.15 Spurious emission measurements in 9 - 150 kHz range at high carrier frequency

FREQUENCY RANGE:	758 - 775 MHz 851 – 861 MHz
OPERATIONAL MODE:	iDEN QAM downlink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Single Channel
INPUT POWER:	-56 dBm



Plot 7.5.16 Spurious emission measurements in 0.15 - 30.0 MHz range at low carrier frequency

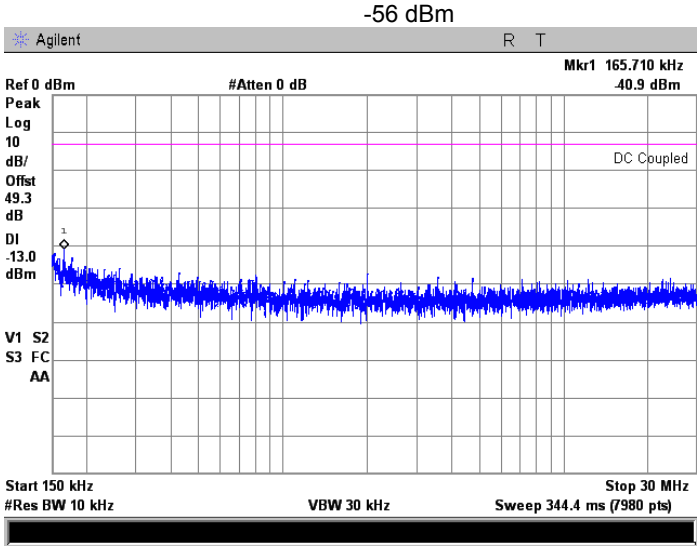
FREQUENCY RANGE:	758 - 775 MHz 851 – 861 MHz
OPERATIONAL MODE:	iDEN QAM downlink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Single Channel
INPUT POWER:	-56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

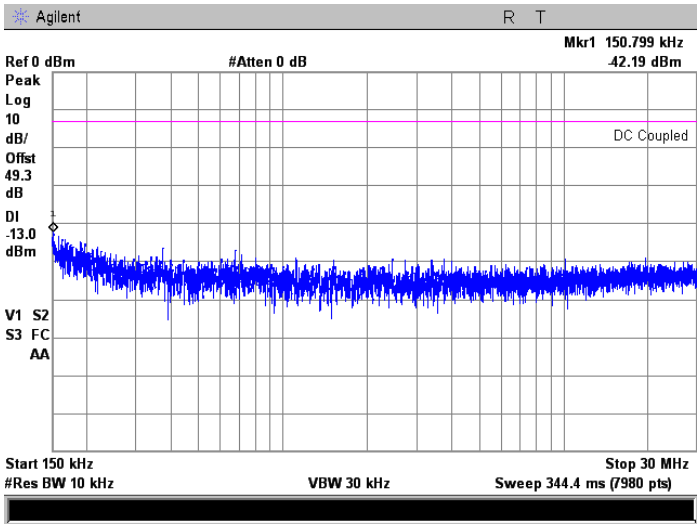
Plot 7.5.17 Spurious emission measurements in 0.15 - 30.0 MHz range at mid carrier frequency

FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.18 Spurious emission measurements in 0.15 - 30.0 MHz range at high carrier frequency

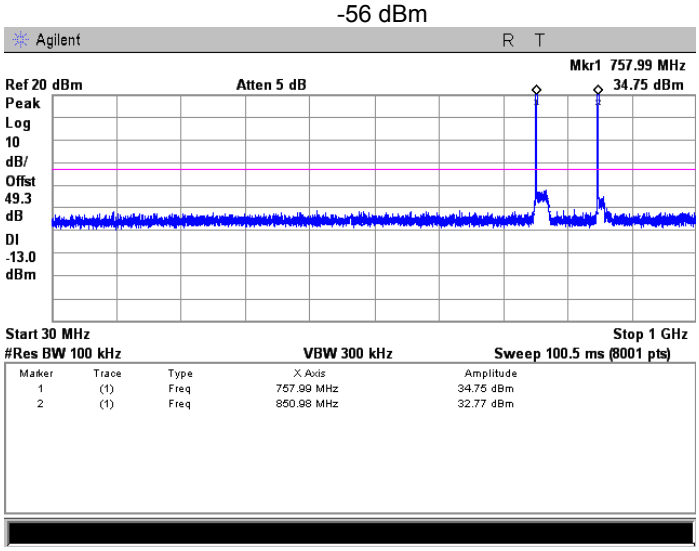
FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

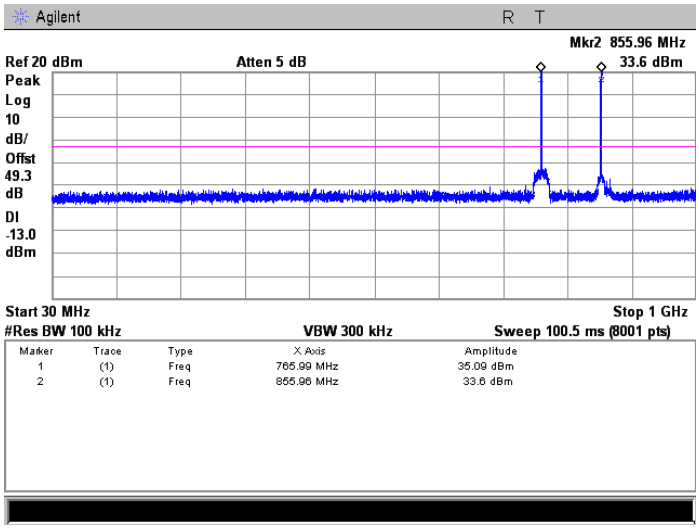
Plot 7.5.19 Spurious emission measurements in 30.0 - 1000 MHz range at low carrier frequency

FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.20 Spurious emission measurements in 30.0 - 1000 MHz range at mid carrier frequency

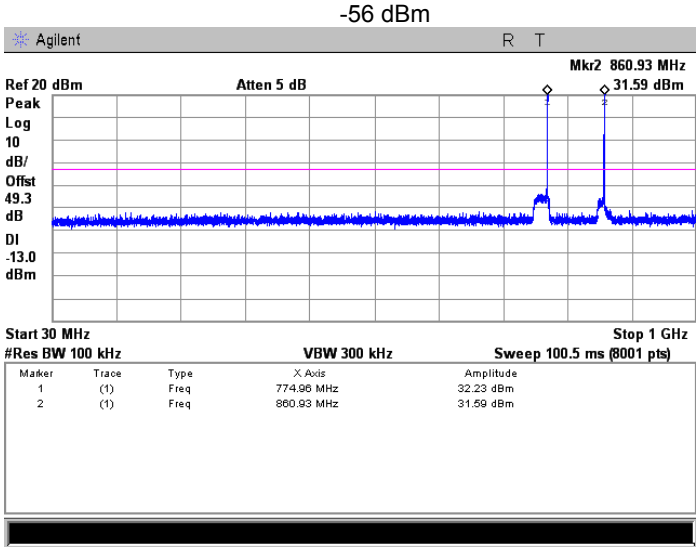
FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

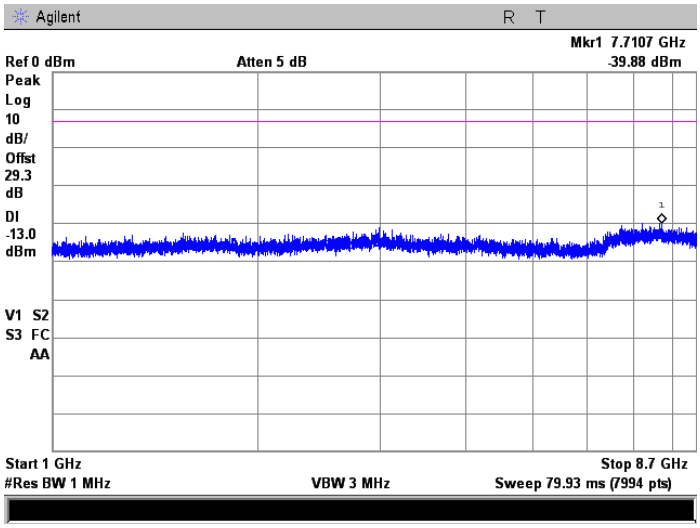
Plot 7.5.21 Spurious emission measurements in 30.0 - 1000 MHz range at high carrier frequency

FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.22 Spurious emission measurements in 1000 - 8000 MHz range at low carrier frequency

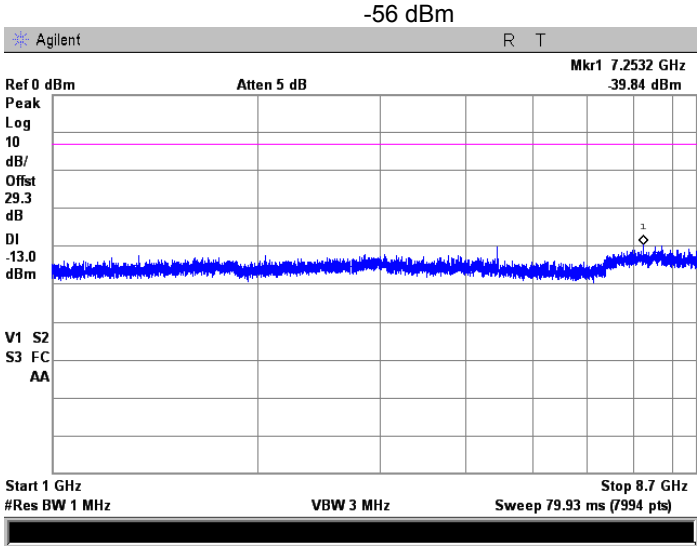
FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

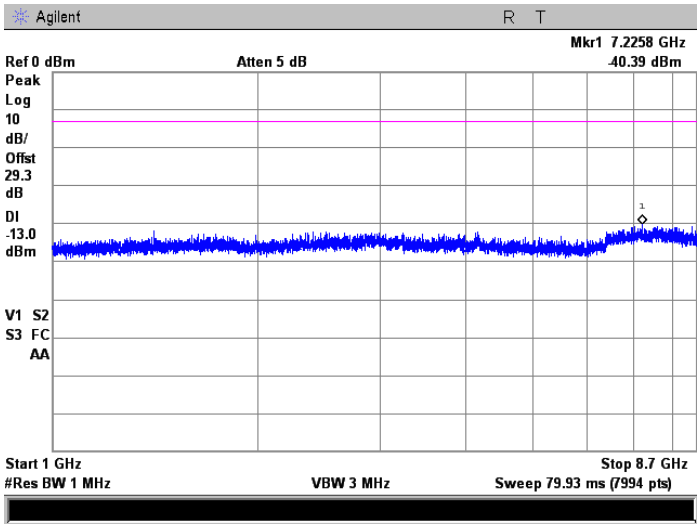
Plot 7.5.23 Spurious emission measurements in 1000 - 8000 MHz at mid carrier frequency

FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.24 Spurious emission measurements in 1000 - 8000 MHz at high carrier frequency

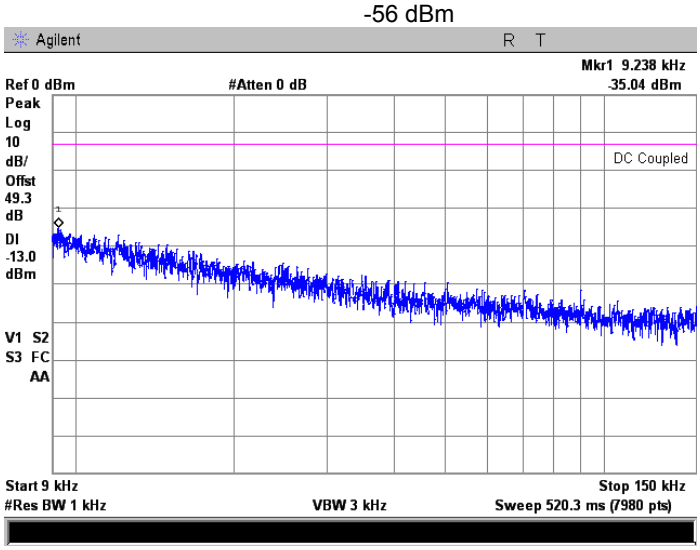
FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

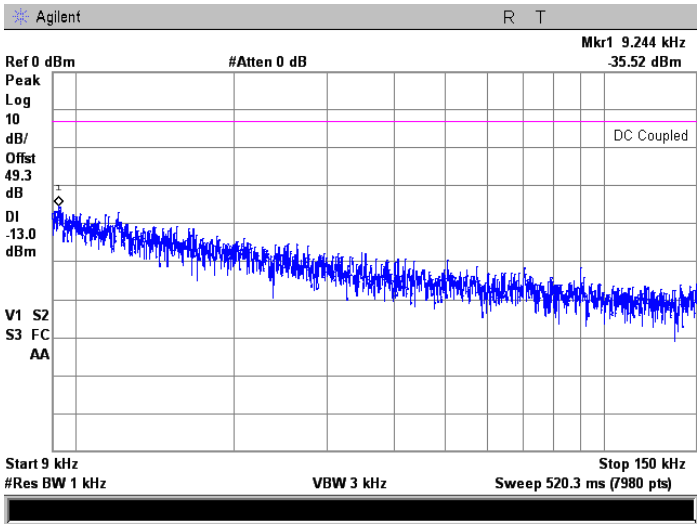
Plot 7.5.25 Spurious emission measurements in 9 - 150 kHz range at low carrier frequency

FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.26 Spurious emission measurements in 9 - 150 kHz range at mid carrier frequency

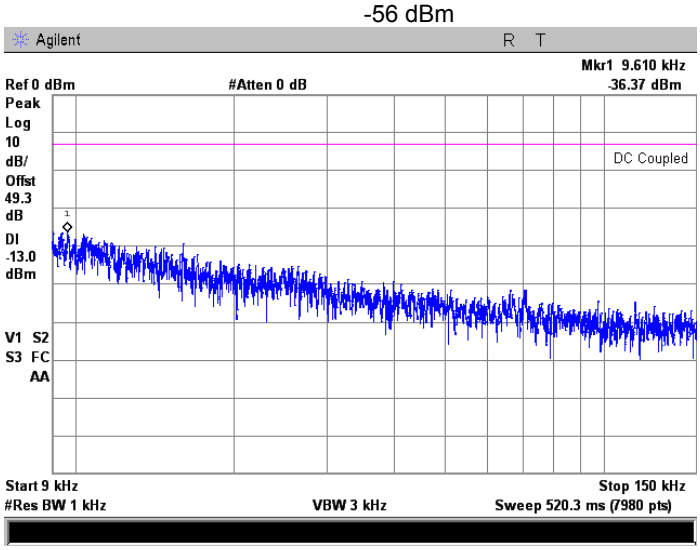
FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

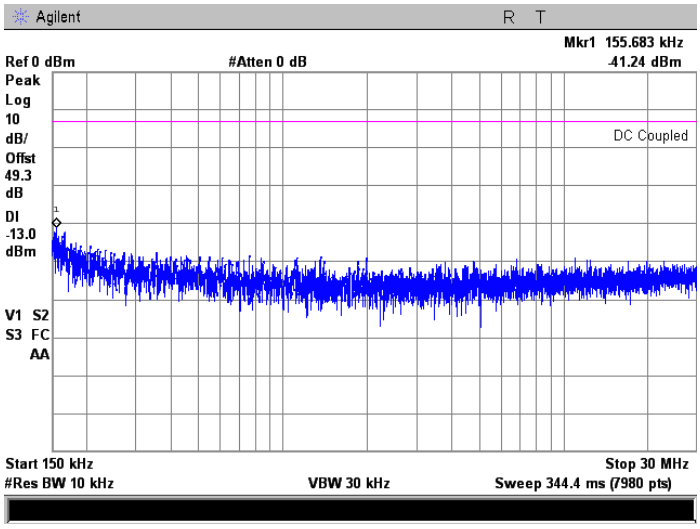
Plot 7.5.27 Spurious emission measurements in 9 - 150 kHz range at high carrier frequency

FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.28 Spurious emission measurements in 0.15 - 30.0 MHz range at low carrier frequency

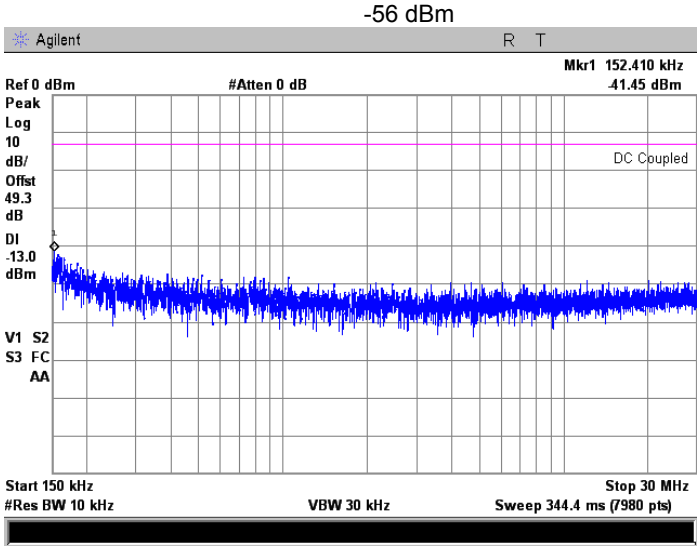
FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

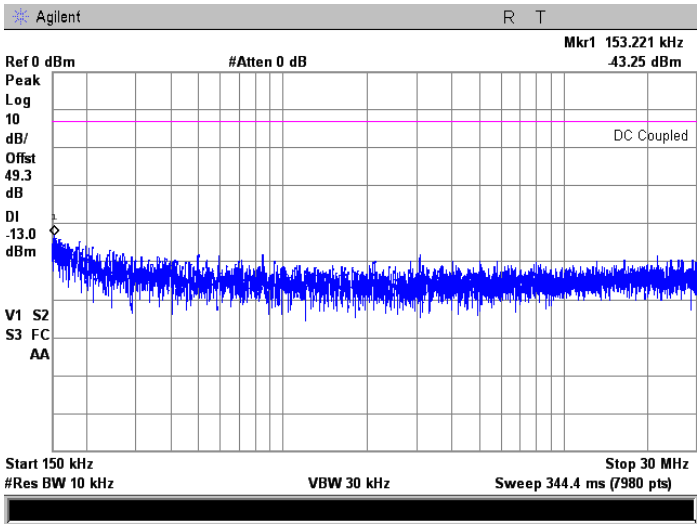
Plot 7.5.29 Spurious emission measurements in 0.15 - 30.0 MHz range at mid carrier frequency

FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.30 Spurious emission measurements in 0.15 - 30.0 MHz range at high carrier frequency

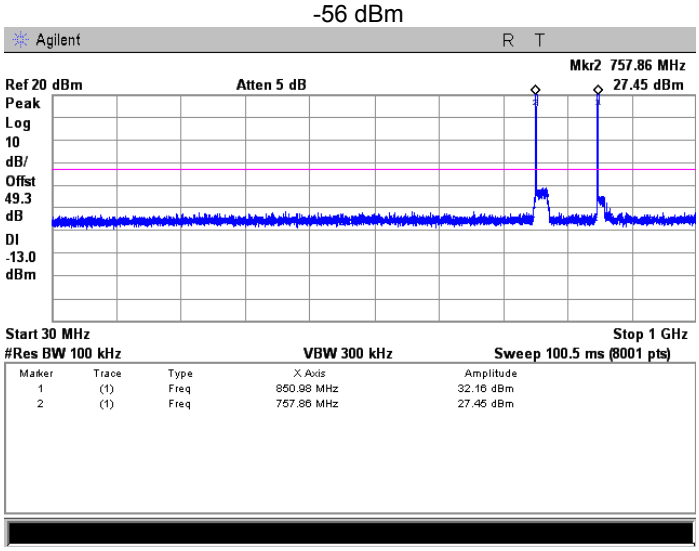
FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

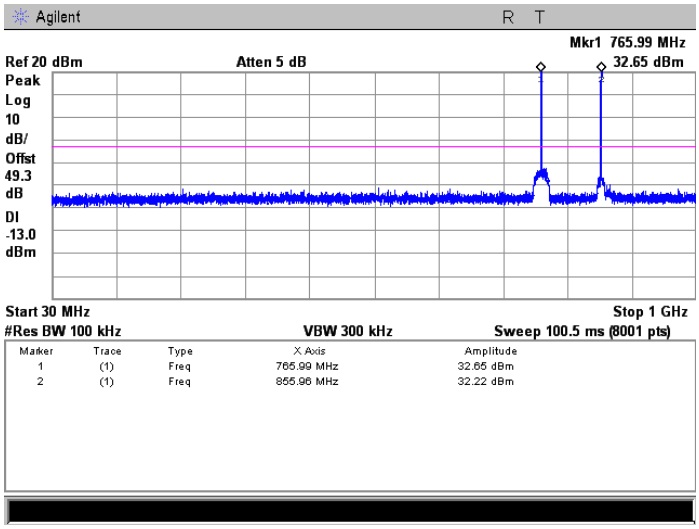
Plot 7.5.31 Spurious emission measurements in 30.0 - 1000 MHz range at low carrier frequency

FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.32 Spurious emission measurements in 30.0 - 1000 MHz range at mid carrier frequency

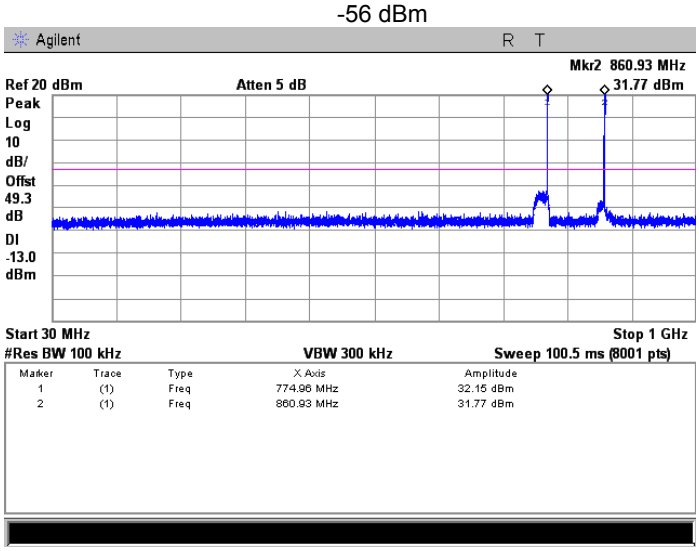
FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

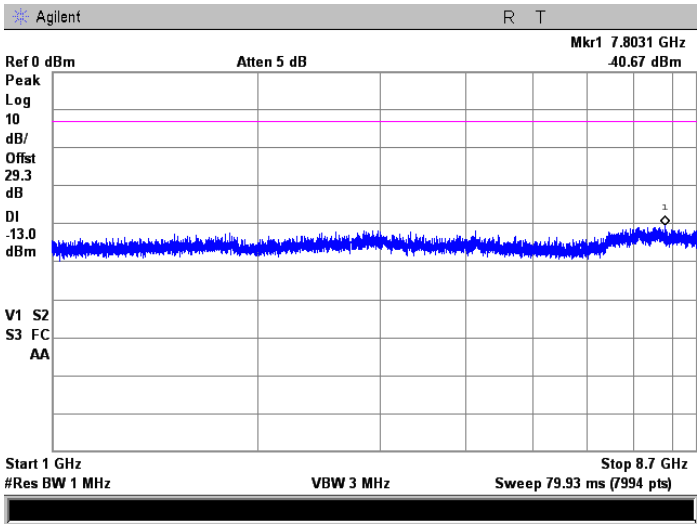
Plot 7.5.33 Spurious emission measurements in 30.0 - 1000 MHz range at high carrier frequency

FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.34 Spurious emission measurements in 1000 - 8700 MHz range at low carrier frequency

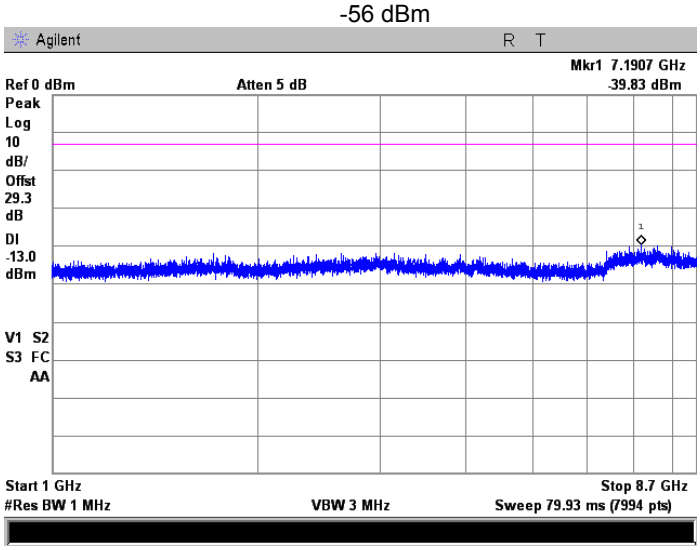
FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

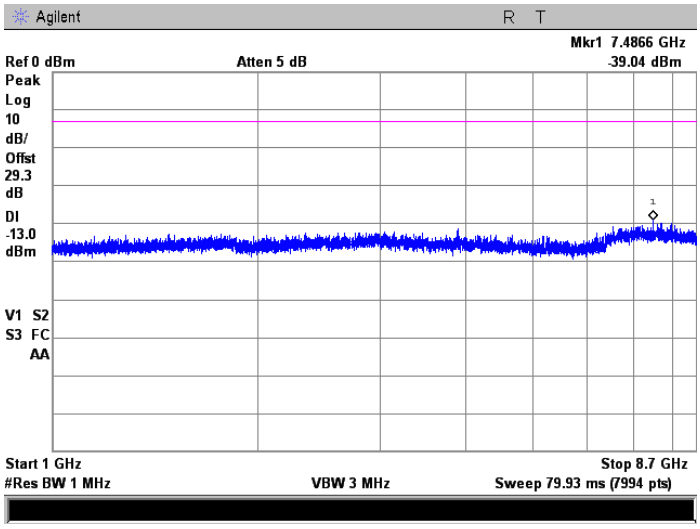
Plot 7.5.35 Spurious emission measurements in 1000 – 8700 MHz at mid carrier frequency

FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.36 Spurious emission measurements in 1000 – 8700 MHz at high carrier frequency

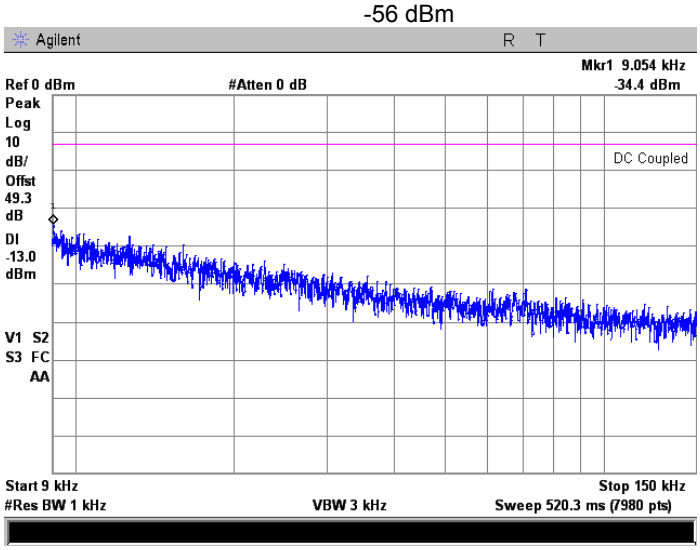
FREQUENCY RANGE: 758 - 775 MHz
851 – 861 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

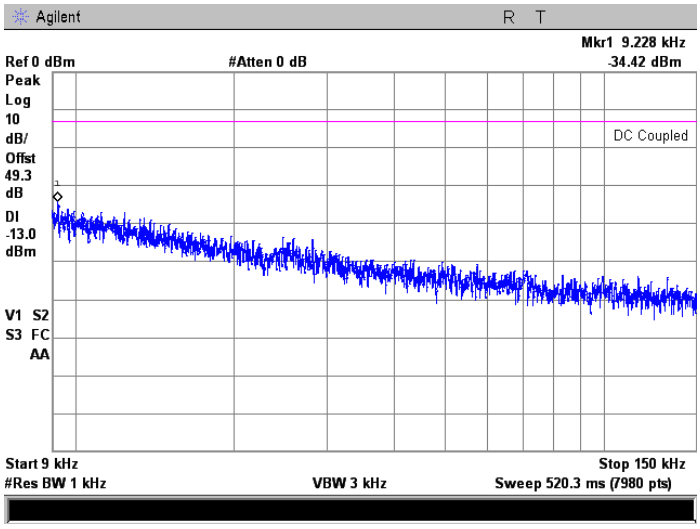
Plot 7.5.37 Spurious emission measurements in 9 - 150 kHz range at low carrier frequency

FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.38 Spurious emission measurements in 9 - 150 kHz range at mid carrier frequency

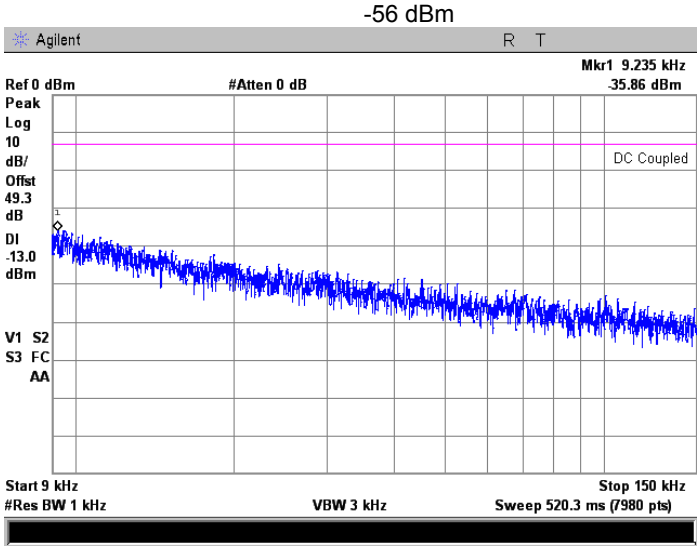
FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

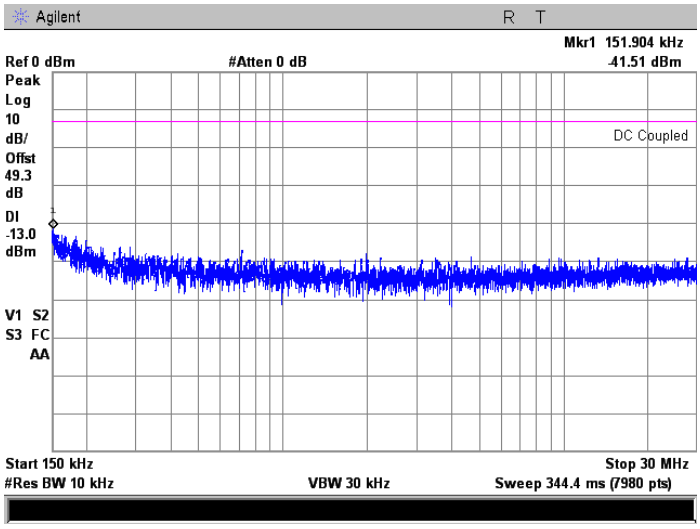
Plot 7.5.39 Spurious emission measurements in 9 - 150 kHz range at high carrier frequency

FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.40 Spurious emission measurements in 0.15 - 30.0 MHz range at low carrier frequency

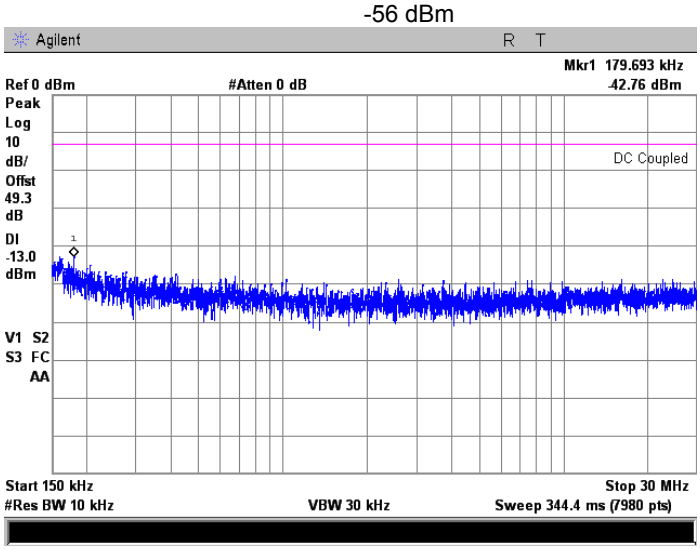
FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

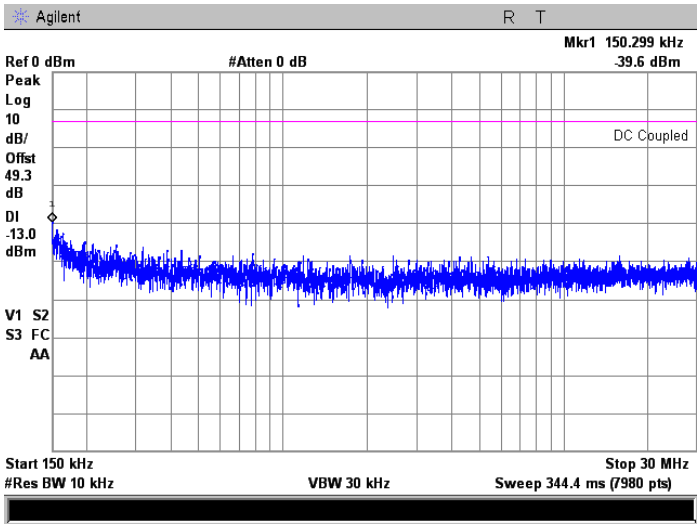
Plot 7.5.41 Spurious emission measurements in 0.15 - 30.0 MHz range at mid carrier frequency

FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.42 Spurious emission measurements in 0.15 - 30.0 MHz range at high carrier frequency

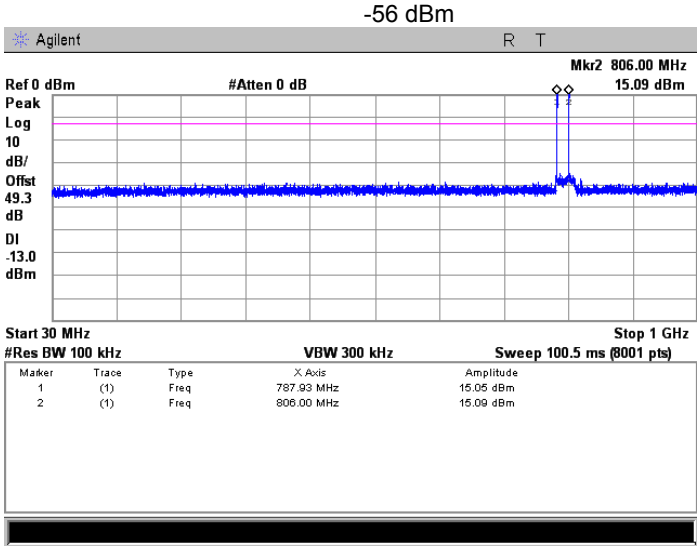
FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

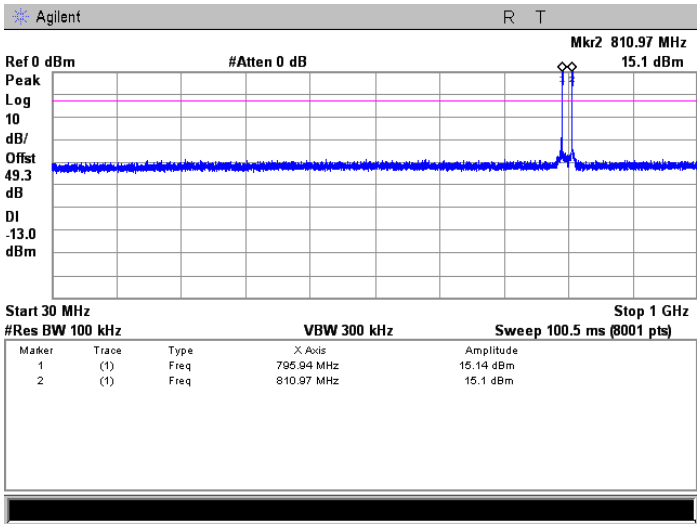
Plot 7.5.43 Spurious emission measurements in 30.0 - 1000 MHz range at low carrier frequency

FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.44 Spurious emission measurements in 30.0 - 1000 MHz range at mid carrier frequency

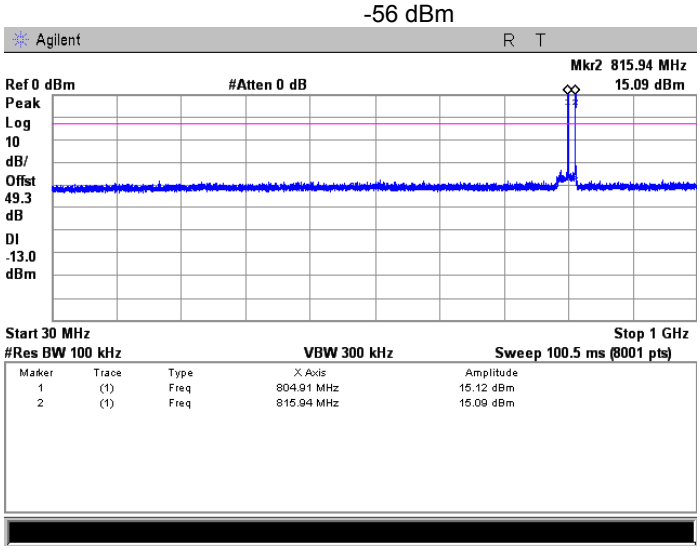
FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

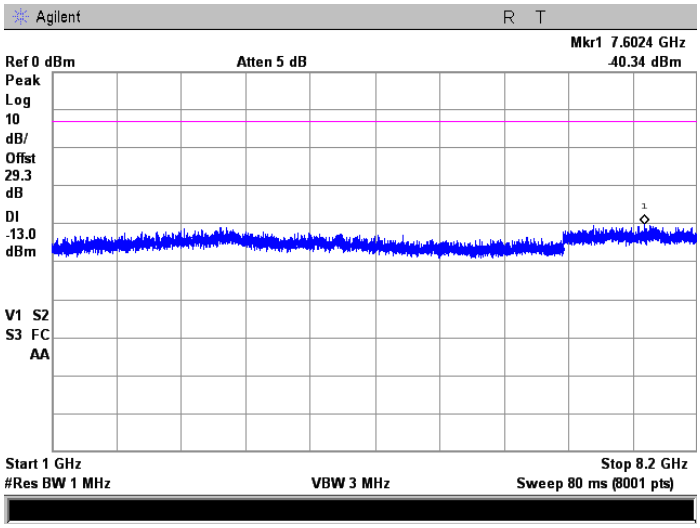
Plot 7.5.45 Spurious emission measurements in 30.0 - 1000 MHz range at high carrier frequency

FREQUENCY RANGE:	788 - 805 MHz 806 -816 MHz
OPERATIONAL MODE:	C4FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Single Channel
INPUT POWER:	-56 dBm



Plot 7.5.46 Spurious emission measurements in 1000 - 8200 MHz range at low carrier frequency

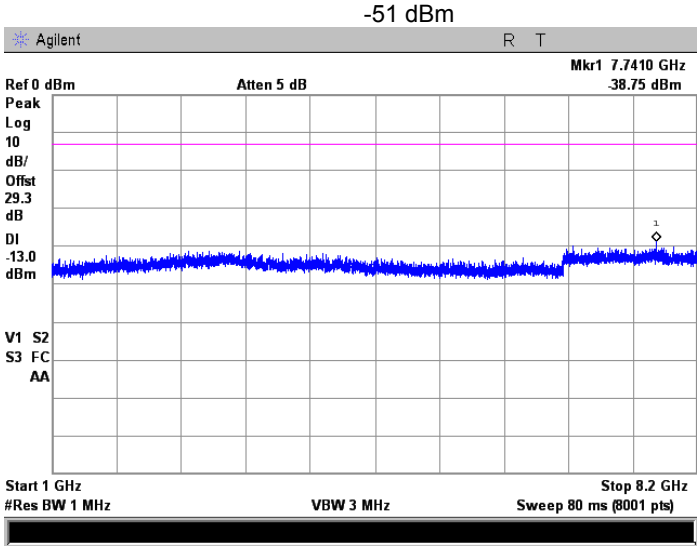
FREQUENCY RANGE:	788 - 805 MHz 806 -816 MHz
OPERATIONAL MODE:	C4FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Single Channel
INPUT POWER:	-56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

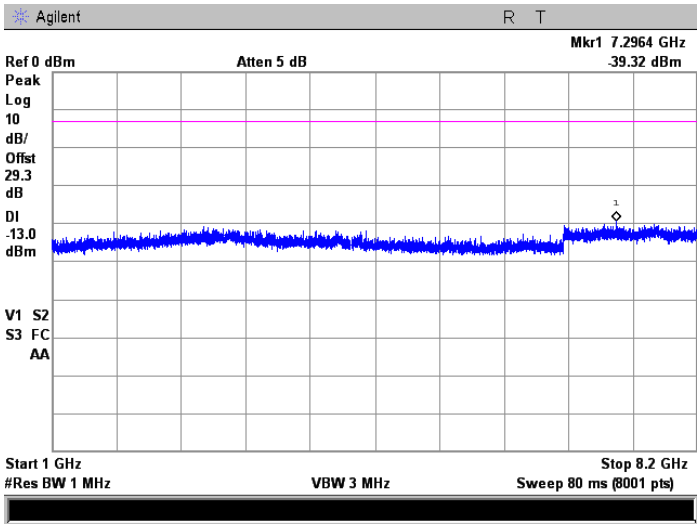
Plot 7.5.47 Spurious emission measurements in 1000 - 8200 MHz at mid carrier frequency

FREQUENCY RANGE:	788 - 805 MHz 806 -816 MHz
OPERATIONAL MODE:	C4FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Single Channel
INPUT POWER:	-51 dBm



Plot 7.5.48 Spurious emission measurements in 1000 - 8200 MHz at high carrier frequency

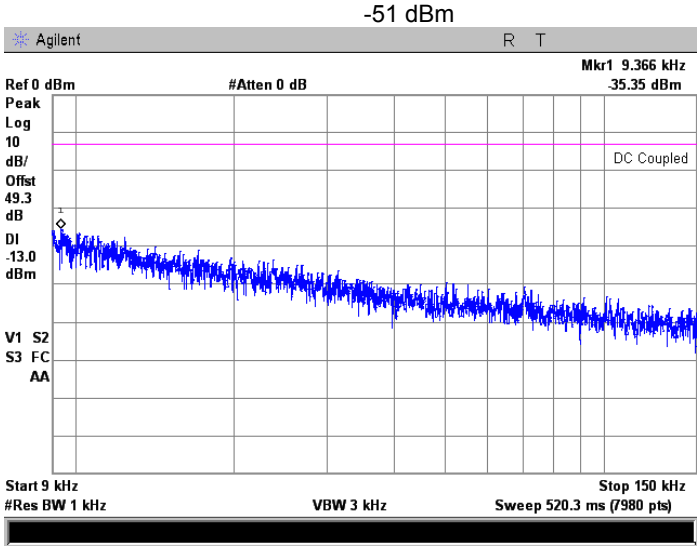
FREQUENCY RANGE:	788 - 805 MHz 806 -816 MHz
OPERATIONAL MODE:	C4FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Single Channel
INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

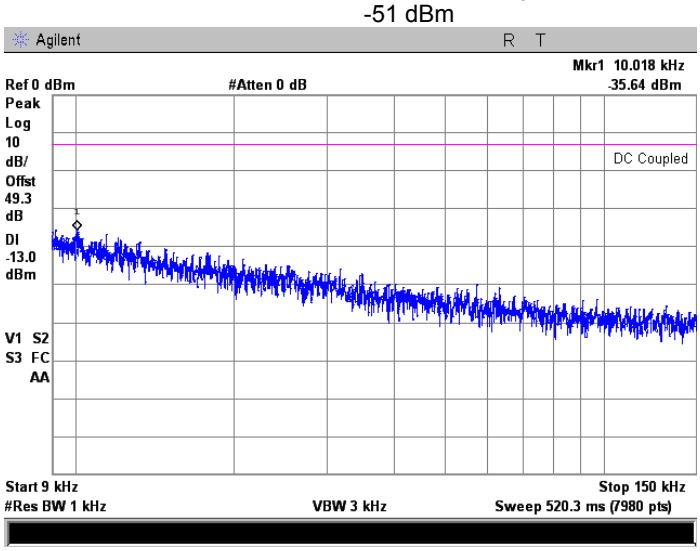
Plot 7.5.49 Spurious emission measurements in 9 - 150 kHz range at low carrier frequency

FREQUENCY RANGE:	788 - 805 MHz 806 -816 MHz
OPERATIONAL MODE:	iDEN QAM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Single Channel
INPUT POWER:	-51 dBm



Plot 7.5.50 Spurious emission measurements in 9 - 150 kHz range at mid carrier frequency

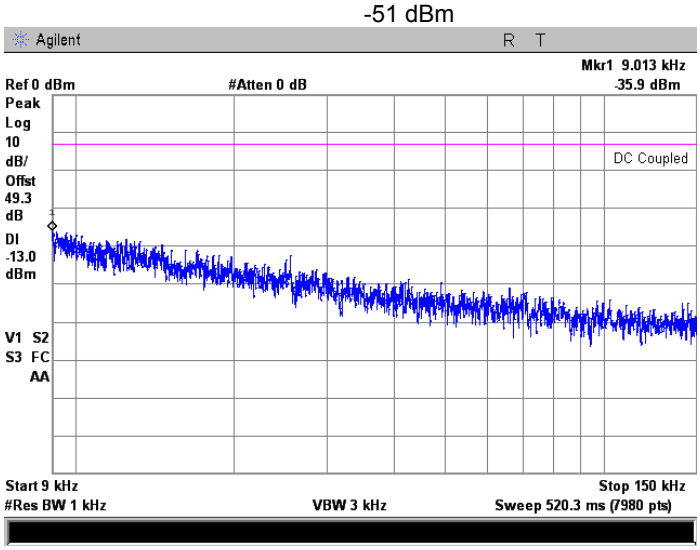
FREQUENCY RANGE:	788 - 805 MHz 806 -816 MHz
OPERATIONAL MODE:	iDEN QAM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Single Channel
INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

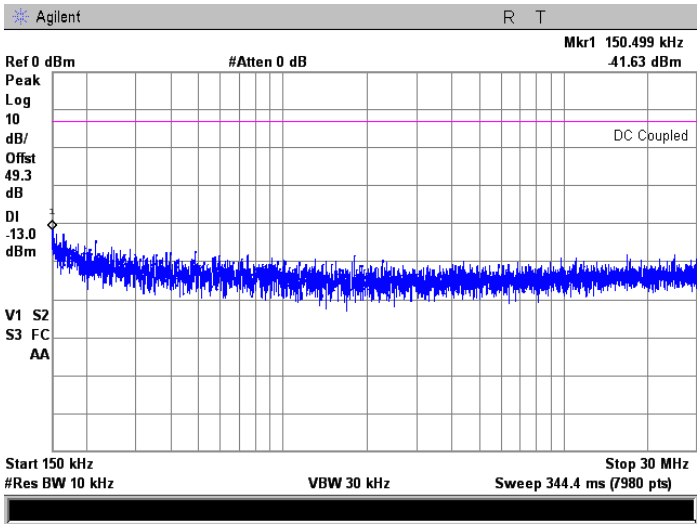
Plot 7.5.51 Spurious emission measurements in 9 - 150 kHz range at high carrier frequency

FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -51 dBm



Plot 7.5.52 Spurious emission measurements in 0.15 - 30.0 MHz range at low carrier frequency

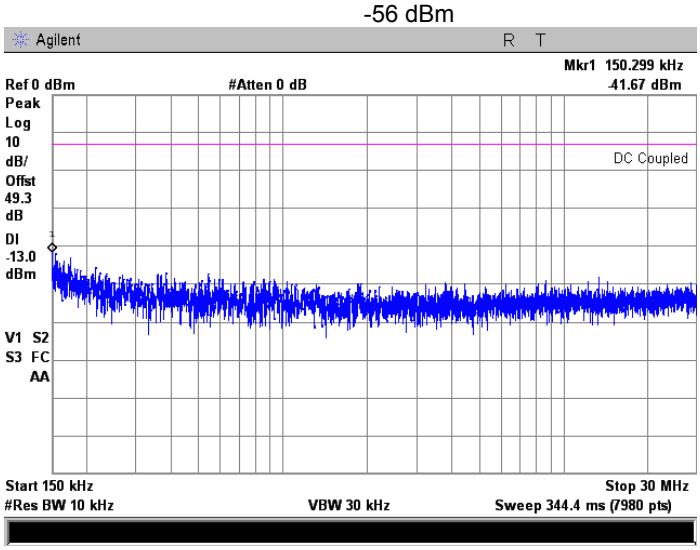
FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

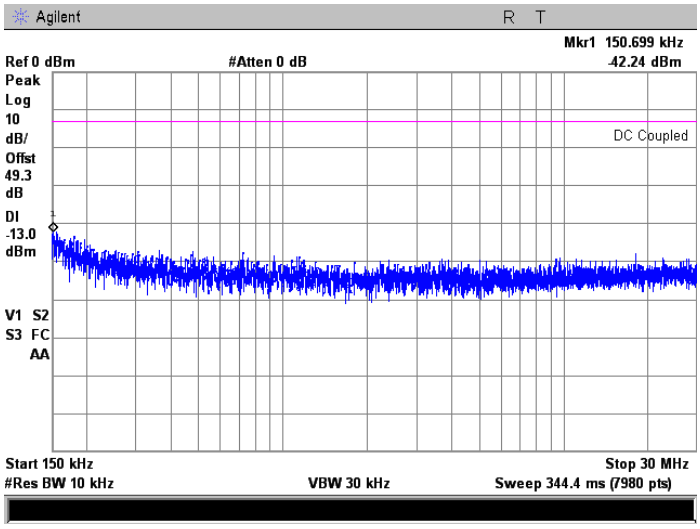
Plot 7.5.53 Spurious emission measurements in 0.15 - 30.0 MHz range at mid carrier frequency

FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.54 Spurious emission measurements in 0.15 - 30.0 MHz range at high carrier frequency

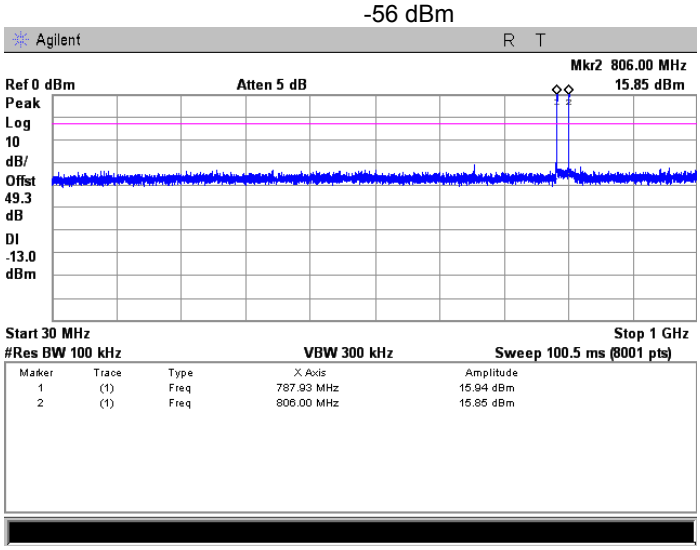
FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

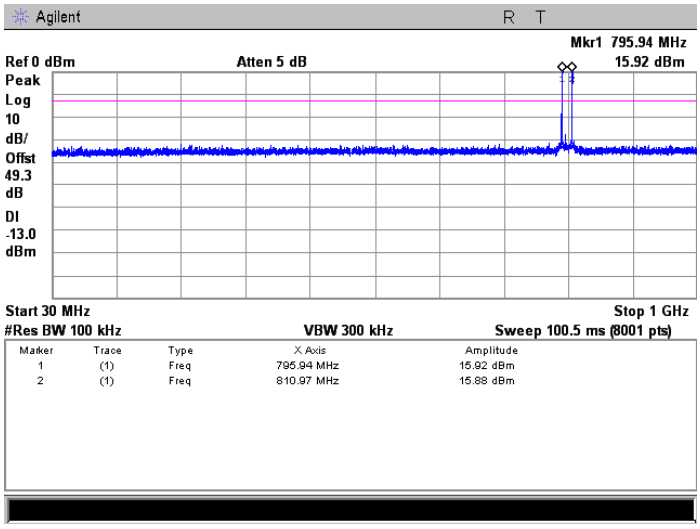
Plot 7.5.55 Spurious emission measurements in 30.0 - 1000 MHz range at low carrier frequency

FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.56 Spurious emission measurements in 30.0 - 1000 MHz range at mid carrier frequency

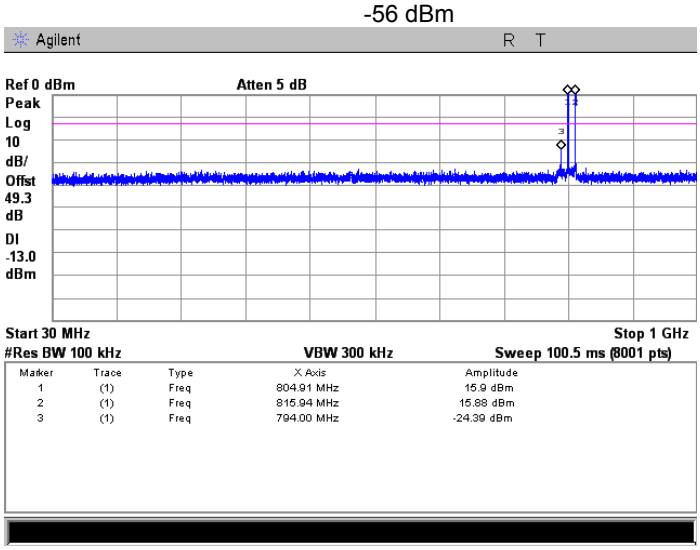
FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

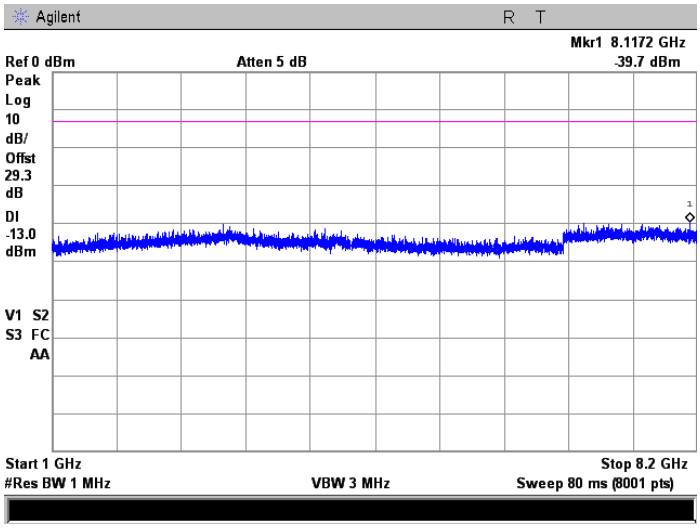
Plot 7.5.57 Spurious emission measurements in 30.0 - 1000 MHz range at high carrier frequency

FREQUENCY RANGE:	788 - 805 MHz 806 -816 MHz
OPERATIONAL MODE:	iDEN QAM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Single Channel
INPUT POWER:	-56 dBm



Plot 7.5.58 Spurious emission measurements in 1000 - 8200 MHz range at low carrier frequency

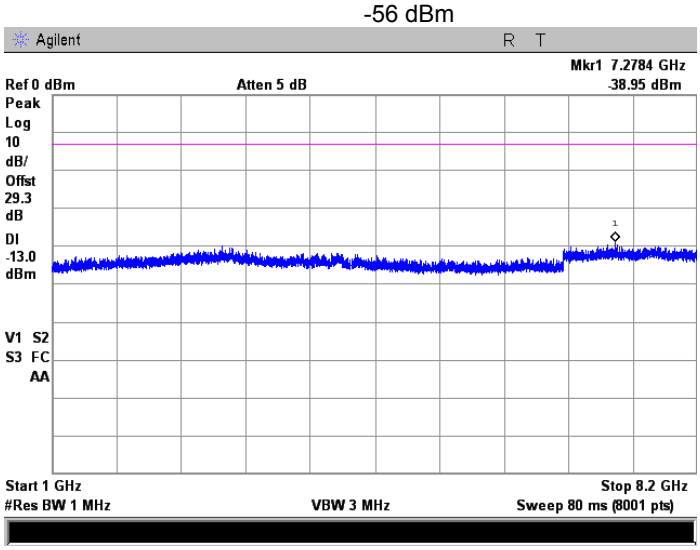
FREQUENCY RANGE:	788 - 805 MHz 806 -816 MHz
OPERATIONAL MODE:	iDEN QAM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Single Channel
INPUT POWER:	-56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

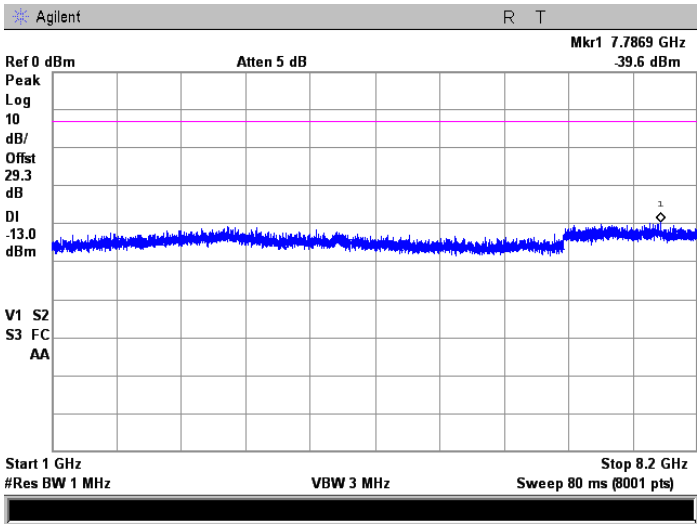
Plot 7.5.59 Spurious emission measurements in 1000 - 8200 MHz at mid carrier frequency

FREQUENCY RANGE:	788 - 805 MHz 806 -816 MHz
OPERATIONAL MODE:	iDEN QAM uplink k transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Single Channel
INPUT POWER:	-56 dBm



Plot 7.5.60 Spurious emission measurements in 1000 - 8200 MHz at high carrier frequency

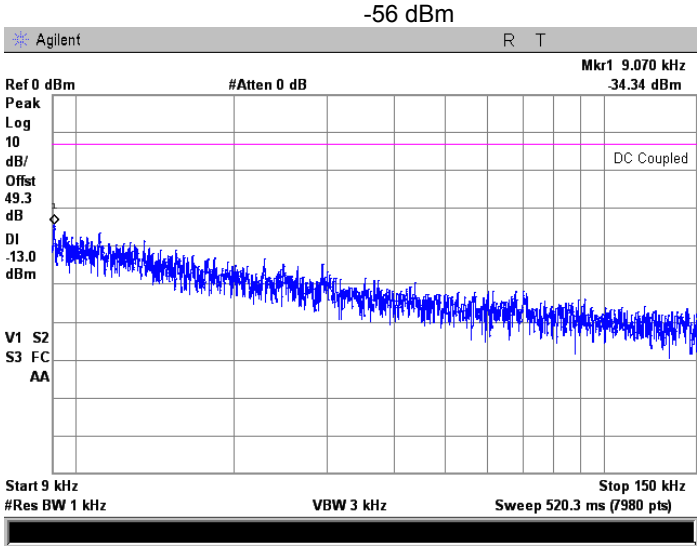
FREQUENCY RANGE:	788 - 805 MHz 806 -816 MHz
OPERATIONAL MODE:	iDEN QAM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Single Channel
INPUT POWER:	-56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

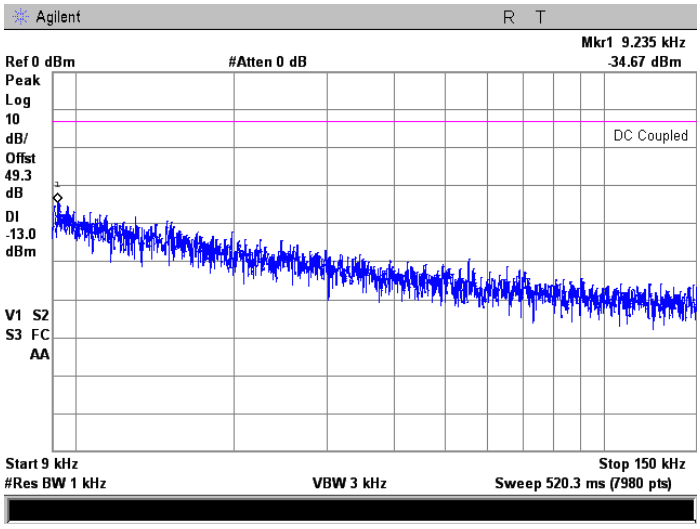
Plot 7.5.61 Spurious emission measurements in 9 - 150 kHz range at low carrier frequency

FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.62 Spurious emission measurements in 9 - 150 kHz range at mid carrier frequency

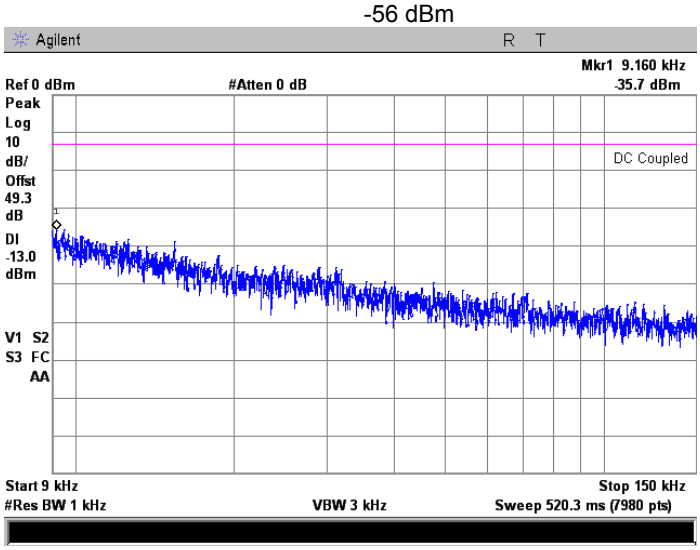
FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

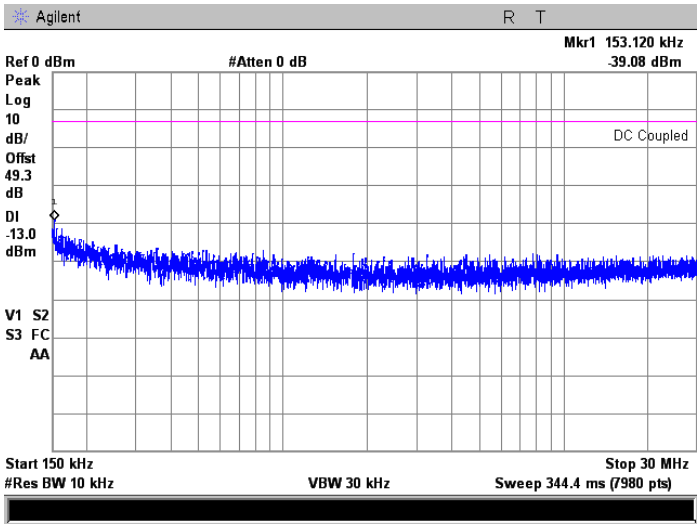
Plot 7.5.63 Spurious emission measurements in 9 - 150 kHz range at high carrier frequency

FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.64 Spurious emission measurements in 0.15 - 30.0 MHz range at low carrier frequency

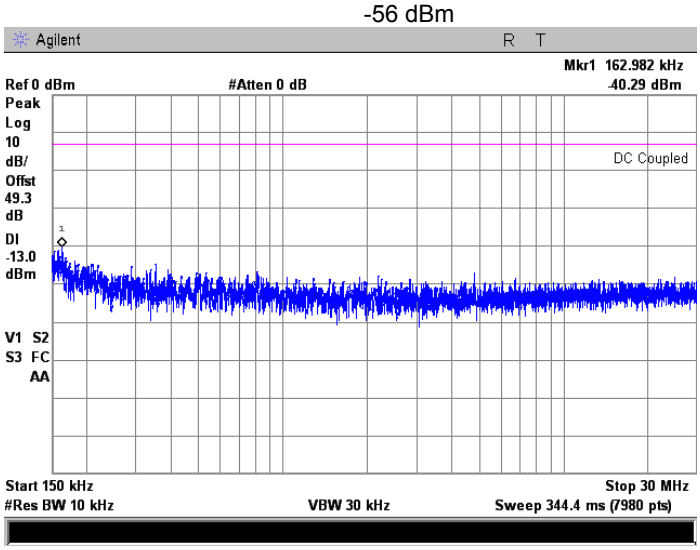
FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

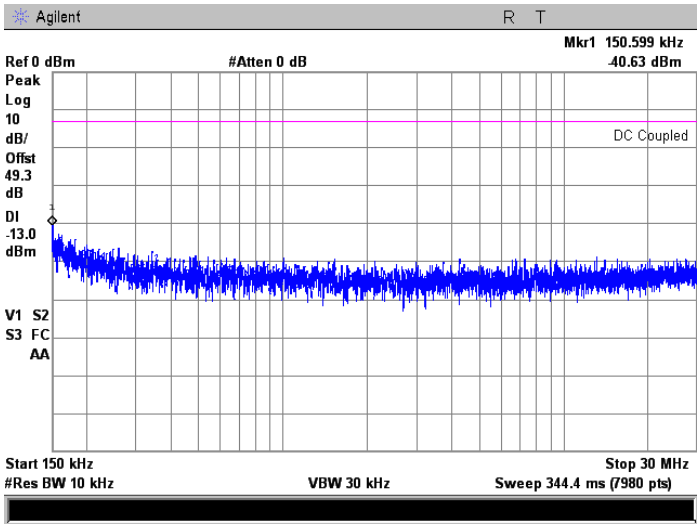
Plot 7.5.65 Spurious emission measurements in 0.15 - 30.0 MHz range at mid carrier frequency

FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.66 Spurious emission measurements in 0.15 - 30.0 MHz range at high carrier frequency

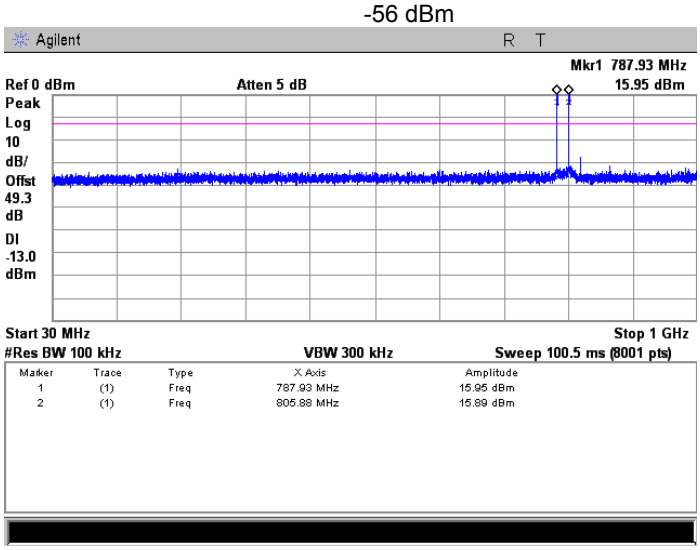
FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

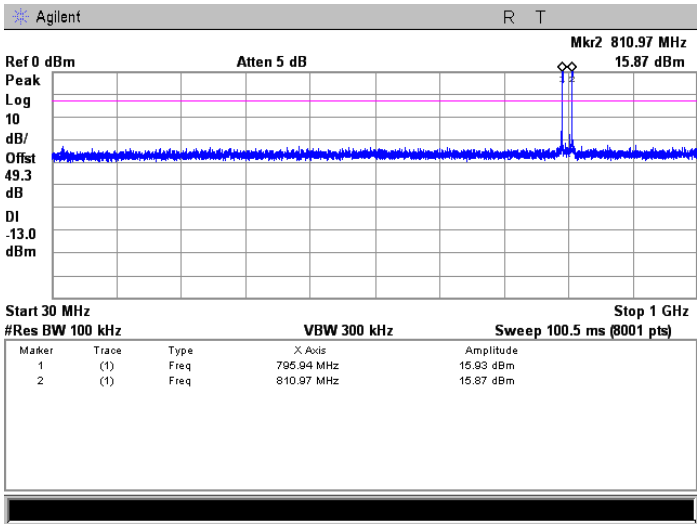
Plot 7.5.67 Spurious emission measurements in 30.0 - 1000 MHz range at low carrier frequency

FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.68 Spurious emission measurements in 30.0 - 1000 MHz range at mid carrier frequency

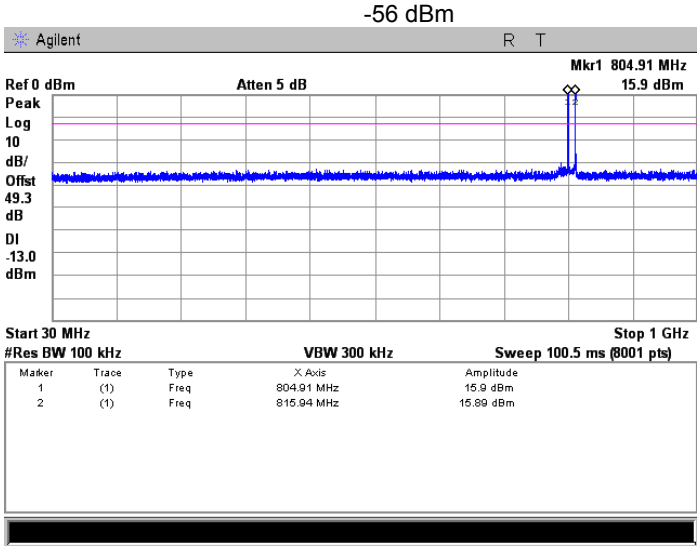
FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

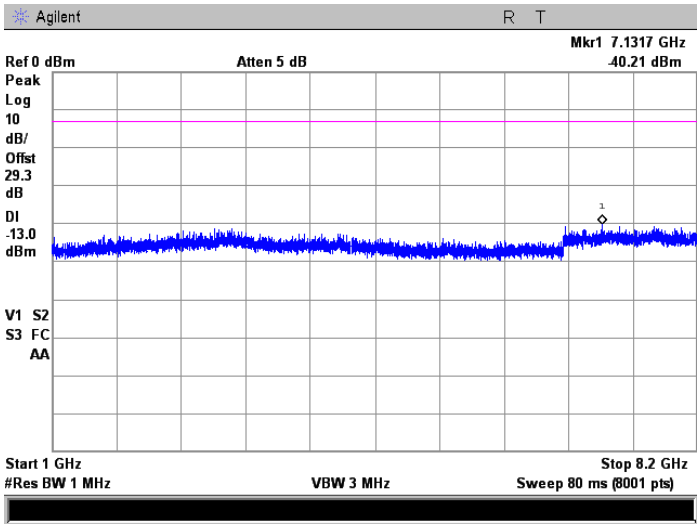
Plot 7.5.69 Spurious emission measurements in 30.0 - 1000 MHz range at high carrier frequency

FREQUENCY RANGE:	788 - 805 MHz 806 -816 MHz
OPERATIONAL MODE:	Analog FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Single Channel
INPUT POWER:	-56 dBm



Plot 7.5.70 Spurious emission measurements in 1000 - 8100 MHz range at low carrier frequency

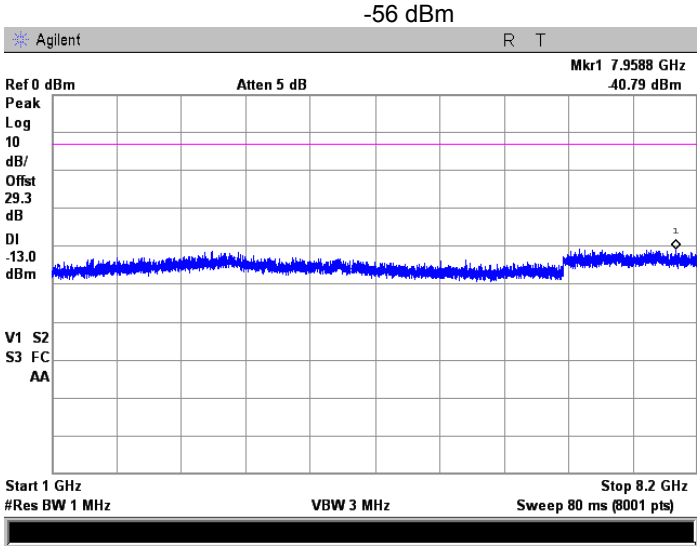
FREQUENCY RANGE:	788 - 805 MHz 806 -816 MHz
OPERATIONAL MODE:	Analog FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Single Channel
INPUT POWER:	-56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

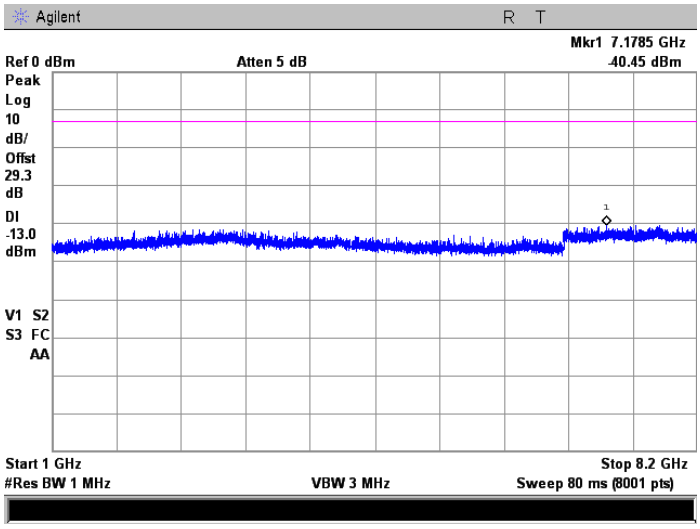
Plot 7.5.71 Spurious emission measurements in 1000 - 8200 MHz at mid carrier frequency

FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Plot 7.5.72 Spurious emission measurements in 1000 - 8200 MHz at high carrier frequency

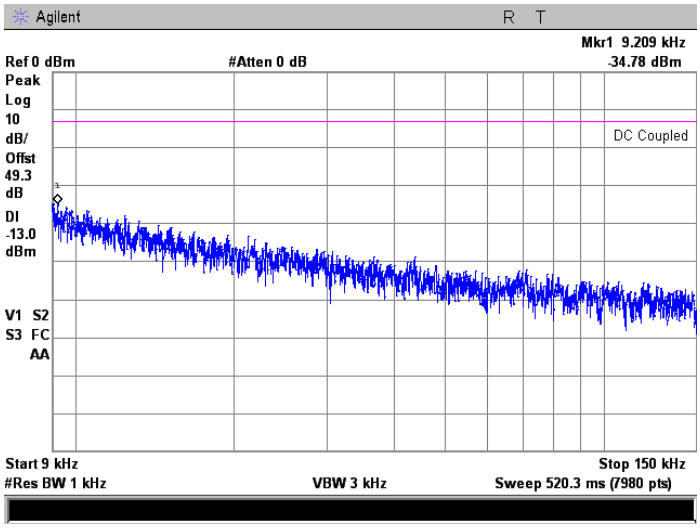
FREQUENCY RANGE: 788 - 805 MHz
806 -816 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

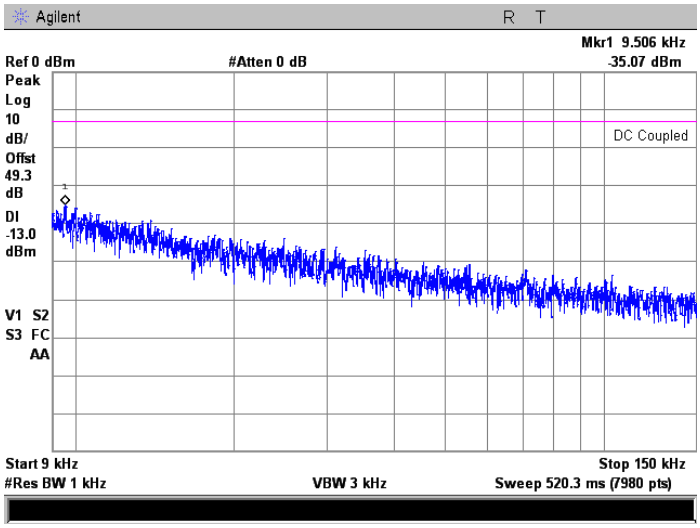
Plot 7.5.73 Spurious emission measurements in 9 - 150 kHz range at low carrier frequency

FRQUENCY RANGE: 758 - 768 MHz
OPERATIONAL MODE: LTE downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single channel
INPUT POWER: -56 dBm



Plot 7.5.74 Spurious emission measurements in 9 - 150 kHz range at high carrier frequency

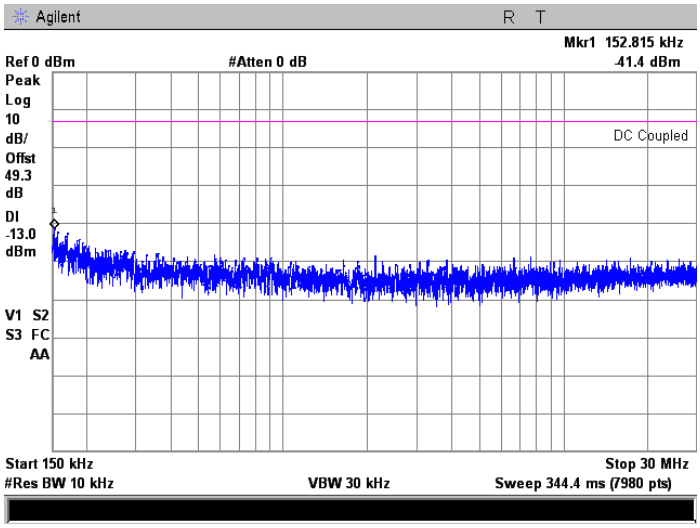
FRQUENCY RANGE: 758 - 768 MHz
OPERATIONAL MODE: LTE downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

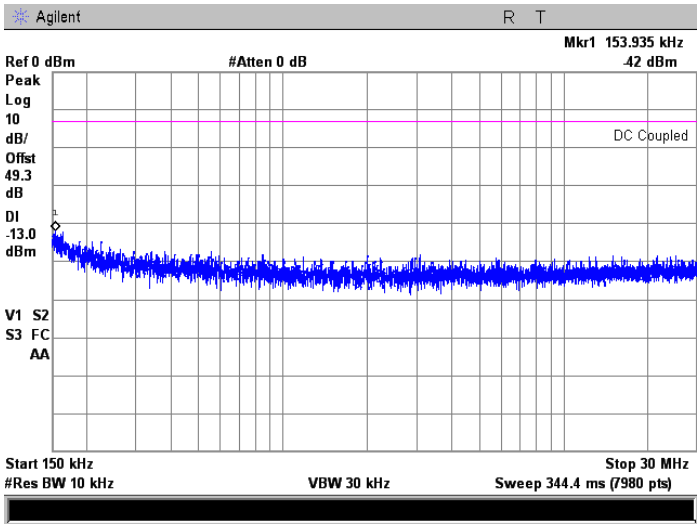
Plot 7.5.75 Spurious emission measurements in 0.15 - 30.0 MHz range at low carrier frequency

FRQUENCY RANGE: 758 - 768 MHz
OPERATIONAL MODE: LTE downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single channel
INPUT POWER: -56 dBm



Plot 7.5.76 Spurious emission measurements in 0.15 – 30.0 MHz range at high carrier frequency

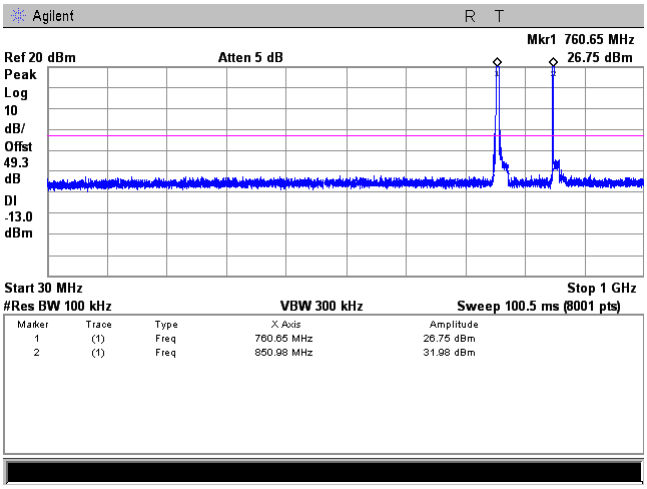
FRQUENCY RANGE: 758 - 768 MHz
OPERATIONAL MODE: LTE downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single channel
INPUT POWER: -56 dBm

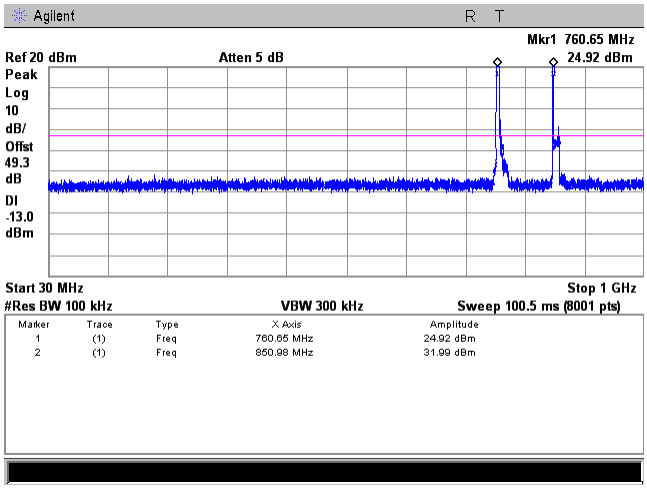


Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.77 Spurious emission measurements in 30.0 - 1000 MHz range at low carrier frequency

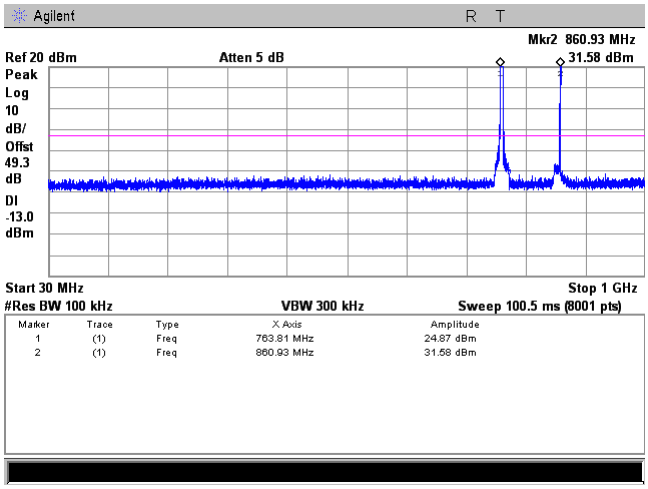
FRQUENCY RANGE: 758 - 768 MHz
OPERATIONAL MODE: LTE downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single channel
INPUT POWER: -56 dBm

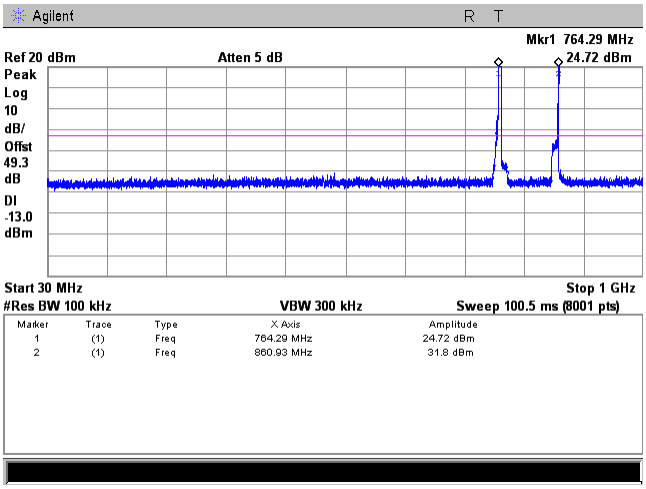




Plot 7.5.78 Spurious emission measurements in 30.0 - 1000 MHz range at high carrier frequency

FRQUENCY RANGE: 758 - 768 MHz
OPERATIONAL MODE: LTE downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single channel
INPUT POWER: -56 dBm

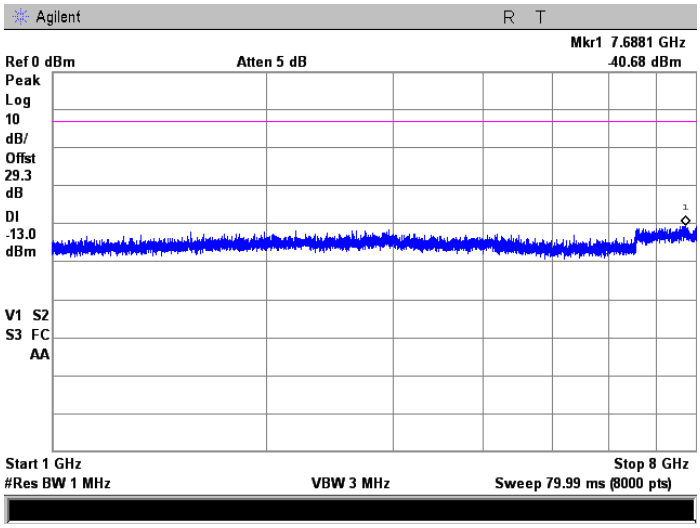




Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

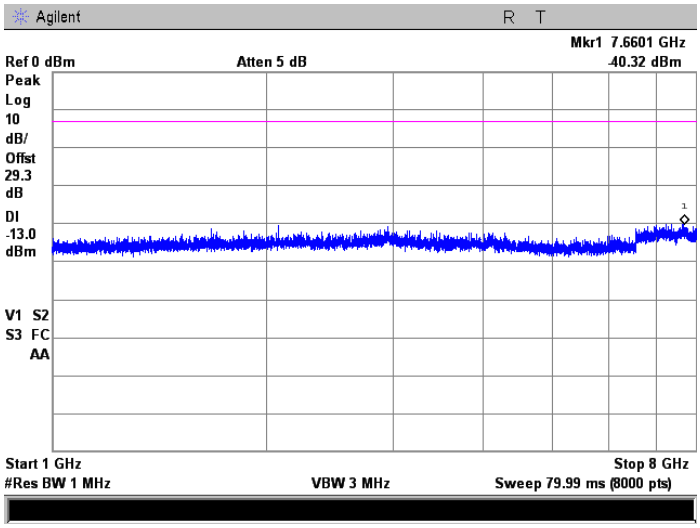
Plot 7.5.79 Spurious emission measurements in 1000 - 8000 MHz range at low carrier frequency

FRQUENCY RANGE:	758 - 768 MHz
OPERATIONAL MODE:	LTE downlink transmit
INPUT PORT:	Base
CONFIGURATION:	Dual Band Single channel
INPUT POWER:	-56 dBm



Plot 7.5.80 Spurious emission measurements in 1000 - 8000 MHz at high carrier frequency

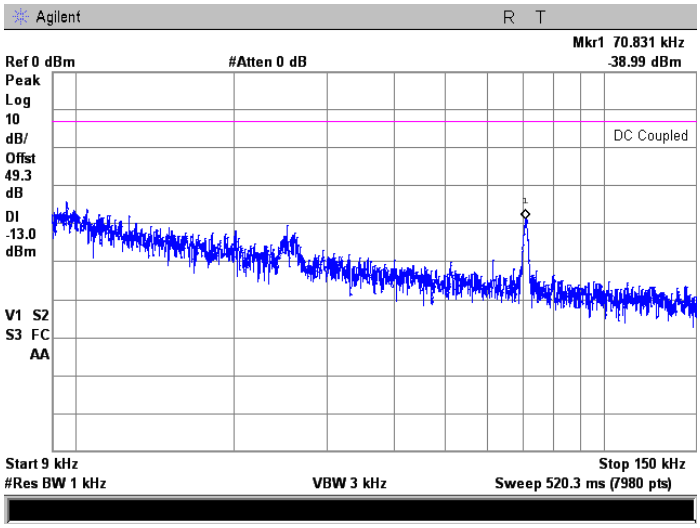
FRQUENCY RANGE:	758 - 768 MHz
OPERATIONAL MODE:	LTE downlink transmit
INPUT PORT:	Base
CONFIGURATION:	Dual Band Single channel
INPUT POWER:	-56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

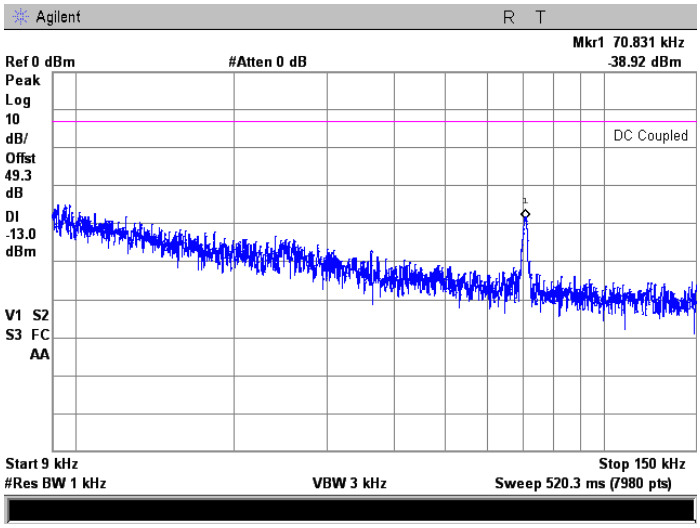
Plot 7.5.81 Spurious emission measurements in 9 - 150 kHz range at low carrier frequency

FRQUENCY RANGE:	788 - 798 MHz
OPERATIONAL MODE:	LTE uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Single channel
INPUT POWER:	-56 dBm



Plot 7.5.82 Spurious emission measurements in 9 - 150 kHz range at high carrier frequency

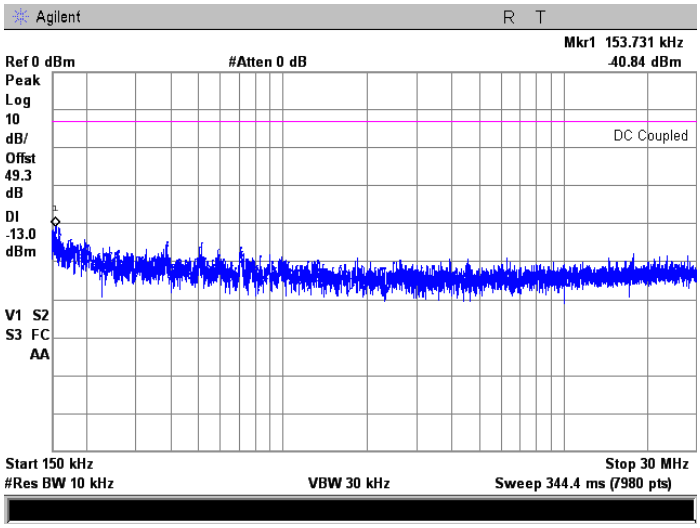
FRQUENCY RANGE:	788 - 798 MHz
OPERATIONAL MODE:	LTE uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Single channel
INPUT POWER:	-56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

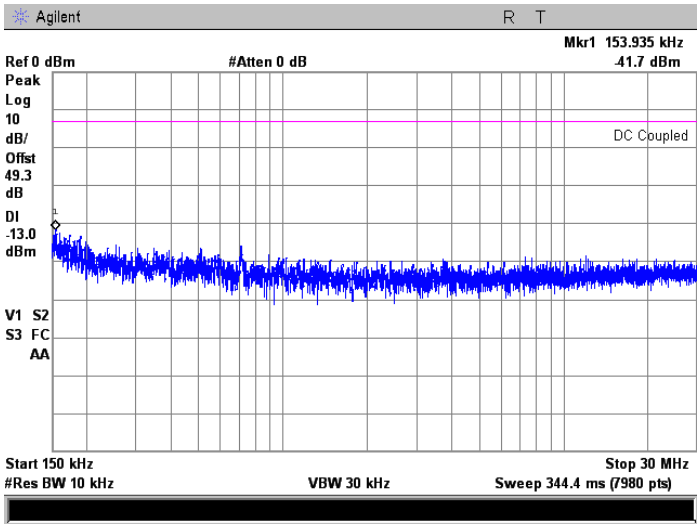
Plot 7.5.83 Spurious emission measurements in 0.15 - 30.0 MHz range at low carrier frequency

FRQUENCY RANGE: 788 - 798 MHz
OPERATIONAL MODE: LTE uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single channel
INPUT POWER: -56 dBm



Plot 7.5.84 Spurious emission measurements in 0.15 – 30.0 MHz range at high carrier frequency

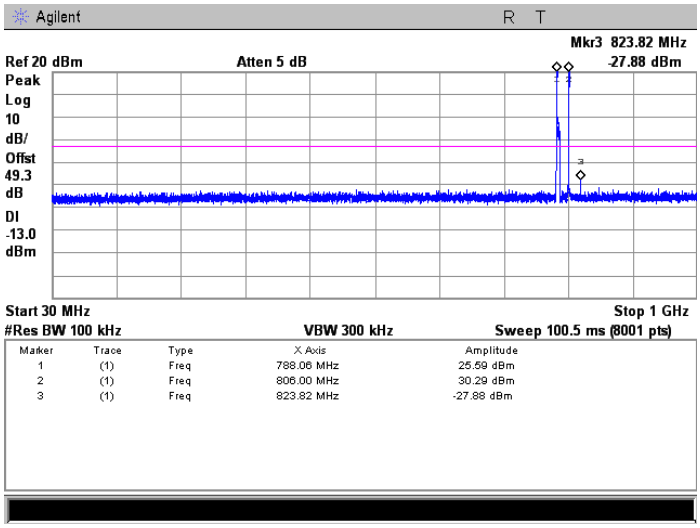
FRQUENCY RANGE: 788 - 798 MHz
OPERATIONAL MODE: LTE uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

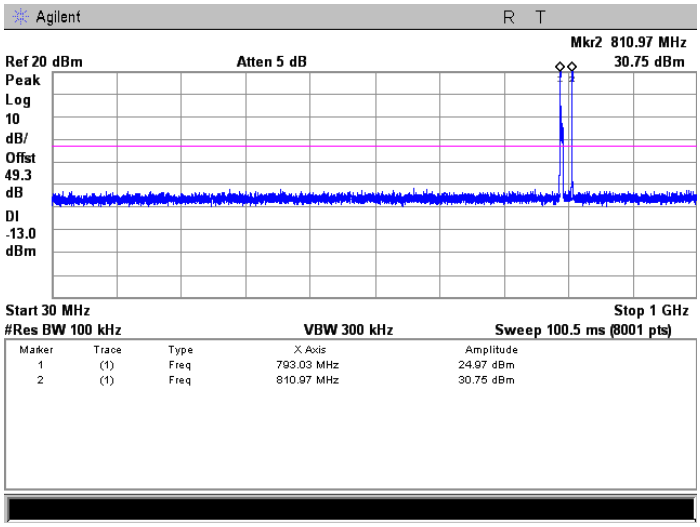
Plot 7.5.85 Spurious emission measurements in 30.0 - 1000 MHz range at low carrier frequency

FRQUENCY RANGE: 788 - 798 MHz
OPERATIONAL MODE: LTE uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single channel
INPUT POWER: -56 dBm



Plot 7.5.86 Spurious emission measurements in 30.0 - 1000 MHz range at high carrier frequency

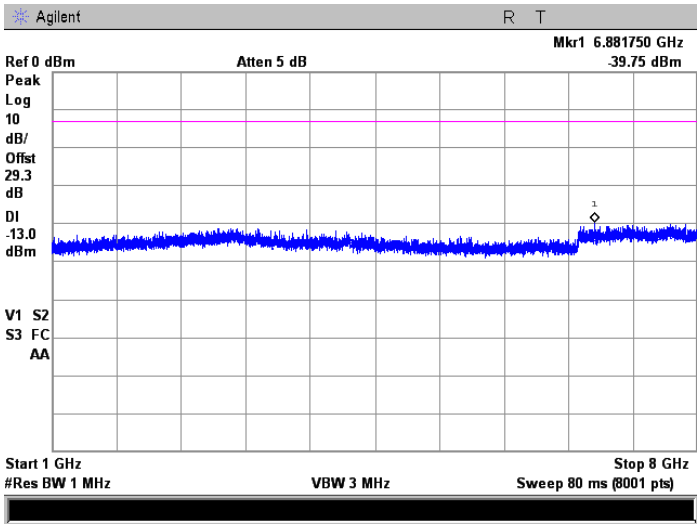
FRQUENCY RANGE: 788 - 798 MHz
OPERATIONAL MODE: LTE uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

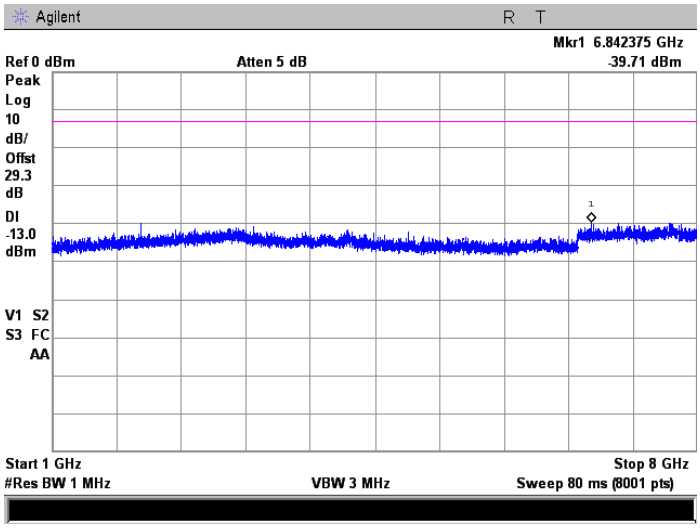
Plot 7.5.87 Spurious emission measurements in 1000 - 8000 MHz range at low carrier frequency

FRQUENCY RANGE:	788 - 798 MHz
OPERATIONAL MODE:	LTE uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Single channel
INPUT POWER:	-56 dBm



Plot 7.5.88 Spurious emission measurements in 1000 - 8000 MHz at high carrier frequency

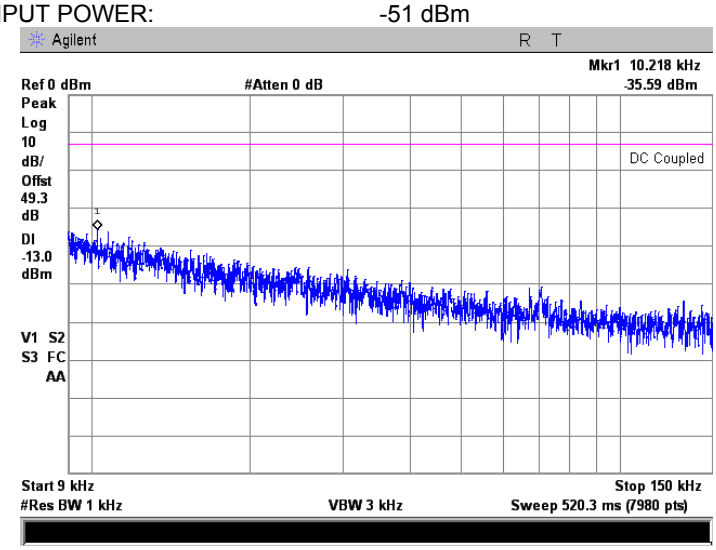
FRQUENCY RANGE:	788 - 798 MHz
OPERATIONAL MODE:	LTE uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Single channel
INPUT POWER:	-56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

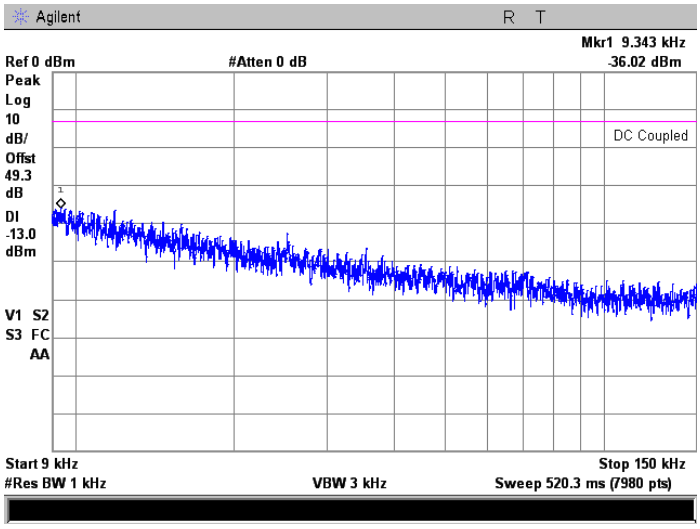
Plot 7.5.89 Spurious emission measurements in 9 - 150 kHz range at low carrier frequency

FREQUENCY RANGE: 758 -775 MHz
851 - 861 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm



Plot 7.5.90 Spurious emission measurements in 9 - 150 kHz range at mid carrier frequency

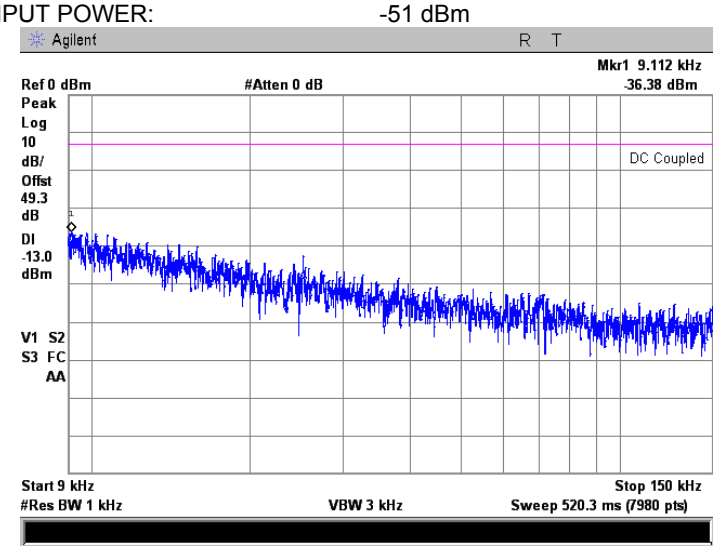
FREQUENCY RANGE: 758 -775 MHz
851 - 861 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

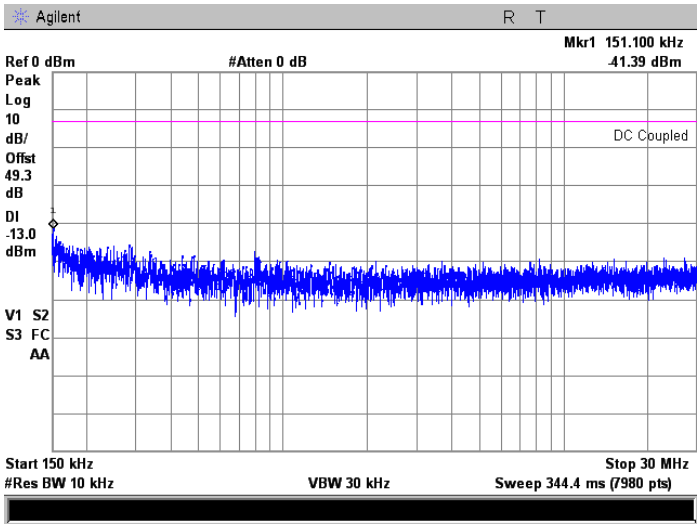
Plot 7.5.91 Spurious emission measurements in 9 - 150 kHz range at high carrier frequency

FREQUENCY RANGE: 758 -775 MHz
851 - 861 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm



Plot 7.5.92 Spurious emission measurements in 0.15 – 30.0 MHz range at low carrier frequency

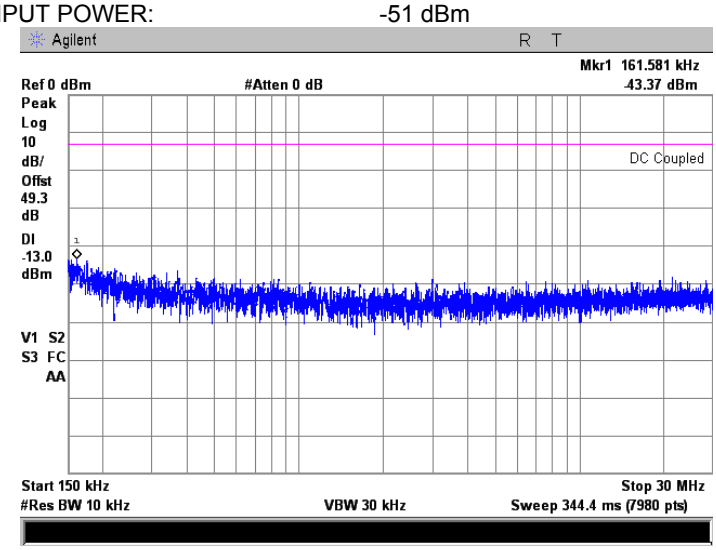
FREQUENCY RANGE: 758 -775 MHz
851 - 861 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

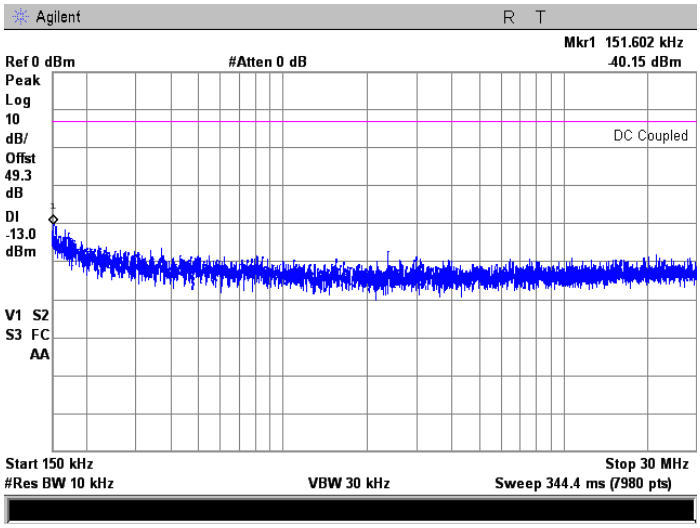
Plot 7.5.93 Spurious emission measurements in 0.15 – 30.0 MHz range at mid carrier frequency

FREQUENCY RANGE: 758 -775 MHz
851 - 861 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm



Plot 7.5.94 Spurious emission measurements in 0.15 – 30.0 MHz range at high carrier frequency

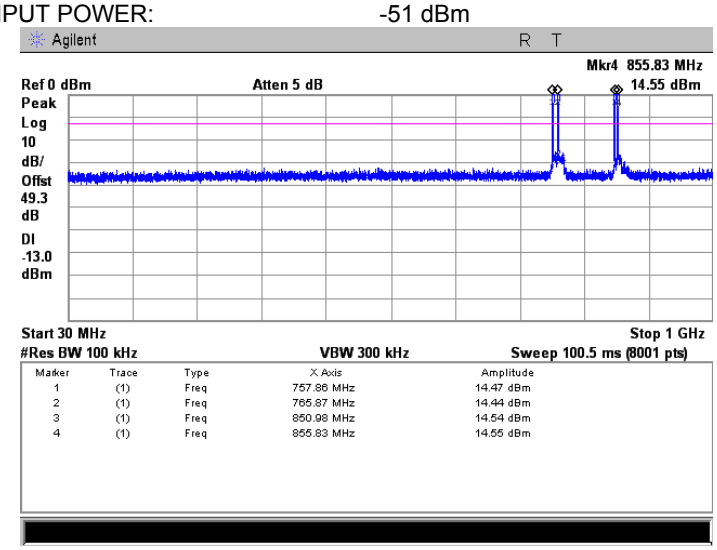
FREQUENCY RANGE: 758 -775 MHz
851 - 861 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

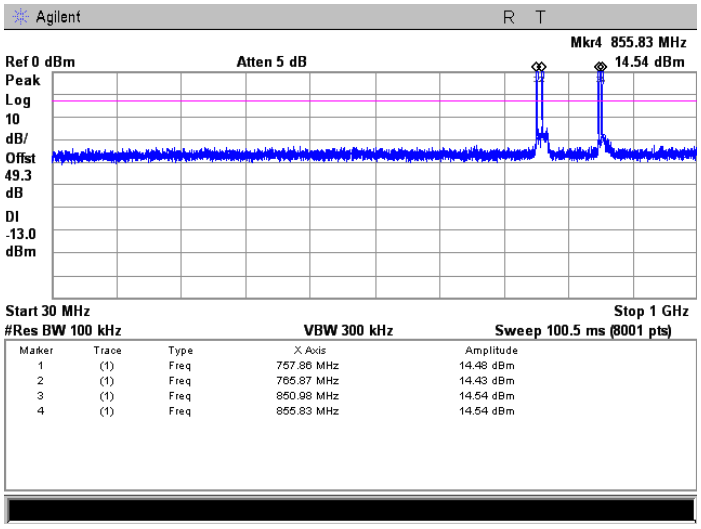
Plot 7.5.95 Spurious emission measurements in 30.0 - 1000 MHz range at low carrier frequency

FREQUENCY RANGE: 758 -775 MHz
851 - 861 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm



Plot 7.5.96 Spurious emission measurements in 30.0 - 1000 MHz range at mid carrier frequency

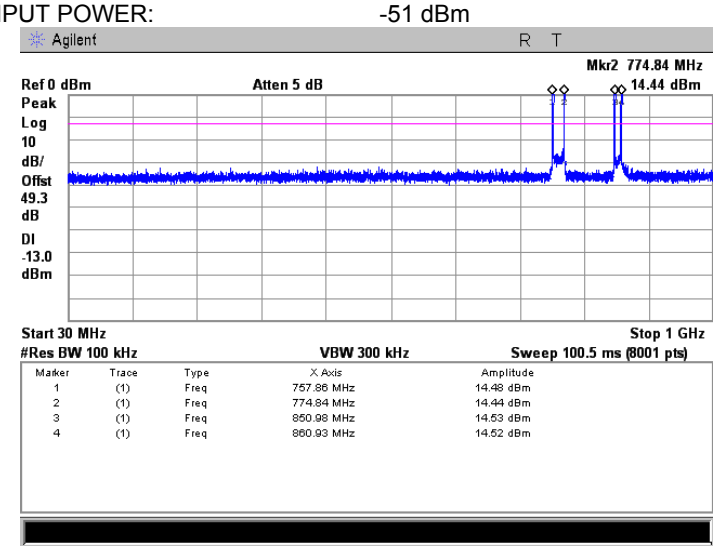
FREQUENCY RANGE: 758 -775 MHz
851 - 861 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

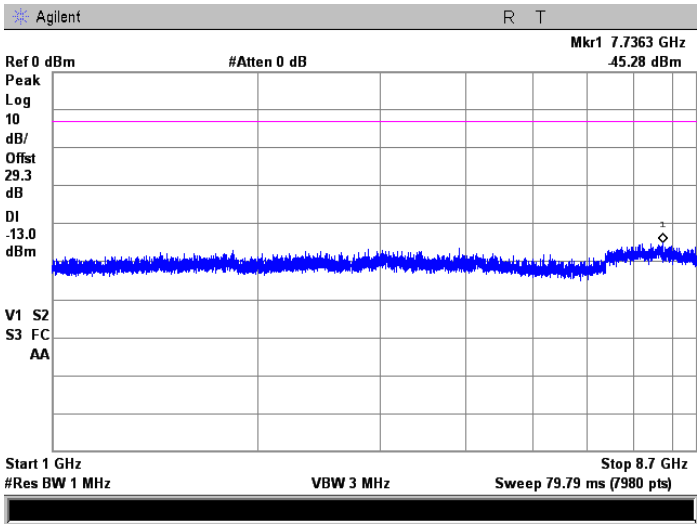
Plot 7.5.97 Spurious emission measurements in 30.0 - 1000 MHz range at high carrier frequency

FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	C4FM downlink transmit
INPUT PORT:	Base
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.98 Spurious emission measurements in 1000 - 8700 MHz range at low carrier frequency

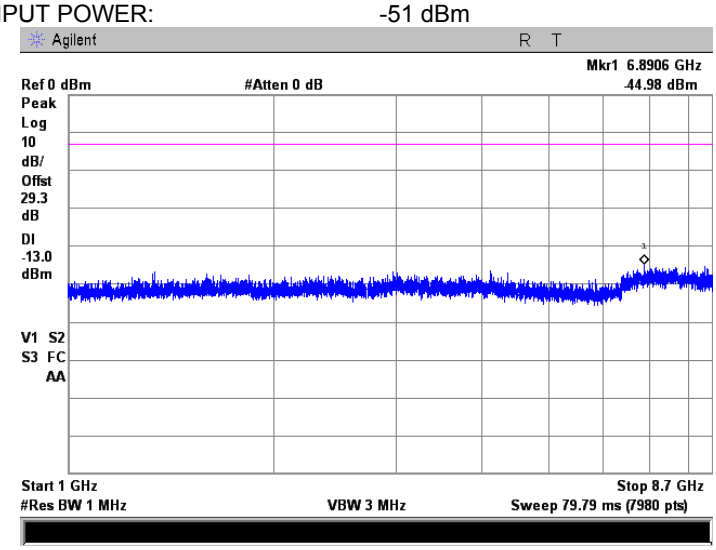
FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	C4FM downlink transmit
INPUT PORT:	Base
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

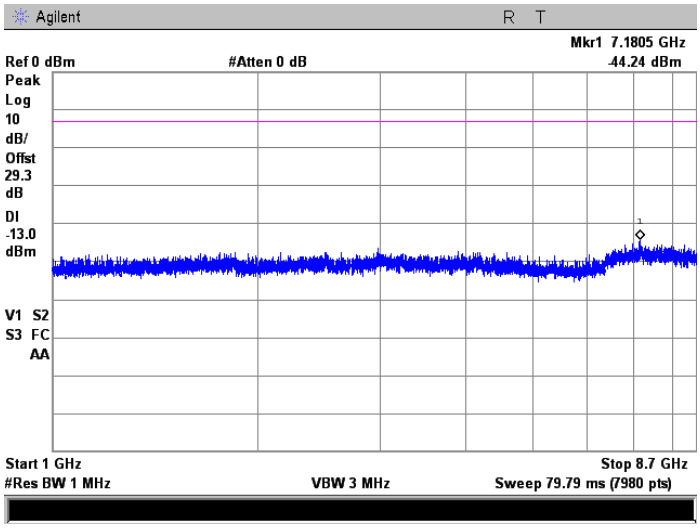
Plot 7.5.99 Spurious emission measurements in 1000 - 9000 MHz at mid carrier frequency

FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	C4FM downlink transmit
INPUT PORT:	Base
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.100 Spurious emission measurements in 1000 - 9000 MHz at high carrier frequency

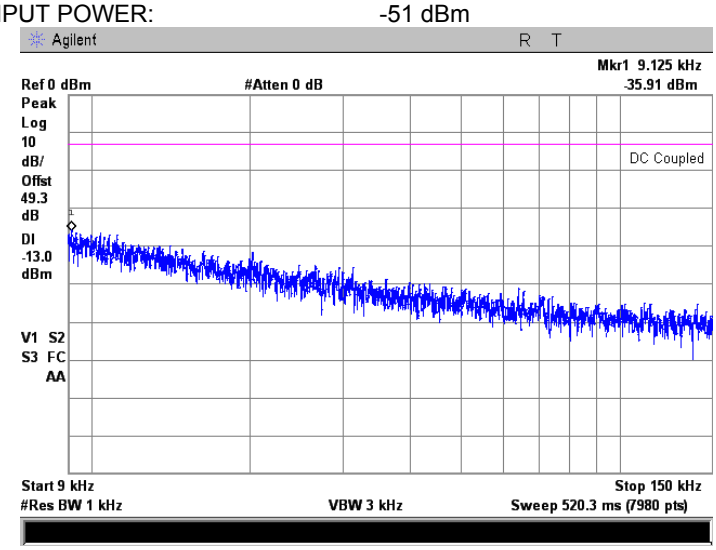
FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	C4FM downlink transmit
INPUT PORT:	Base
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

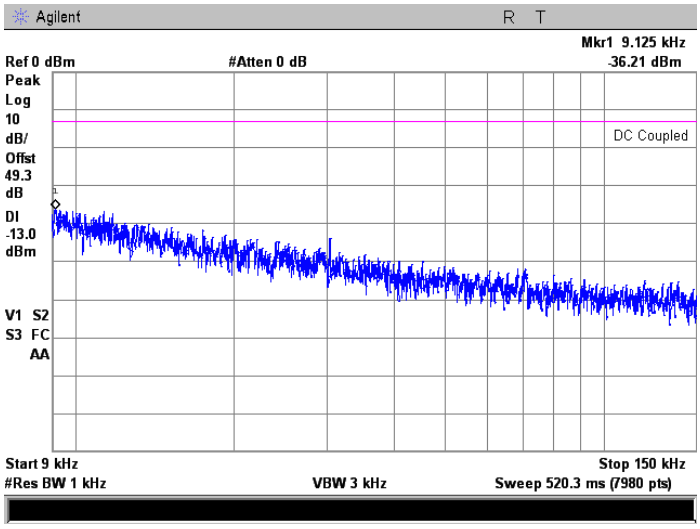
Plot 7.5.101 Spurious emission measurements in 9 - 150 kHz range at low carrier frequency

FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	iDEN QAM downlink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.102 Spurious emission measurements in 9 - 150 kHz range at mid carrier frequency

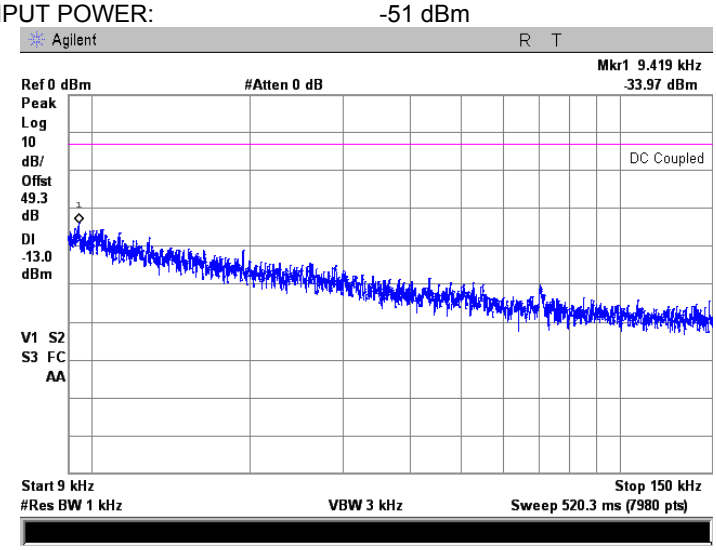
FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	iDEN QAM downlink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

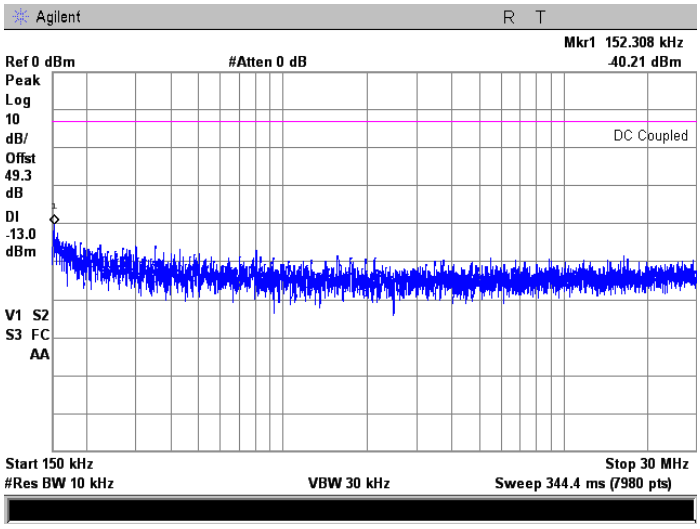
Plot 7.5.103 Spurious emission measurements in 9 - 150 kHz range at high carrier frequency

FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	iDEN QAM downlink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.104 Spurious emission measurements in 0.15 - 30.0 MHz range at low carrier frequency

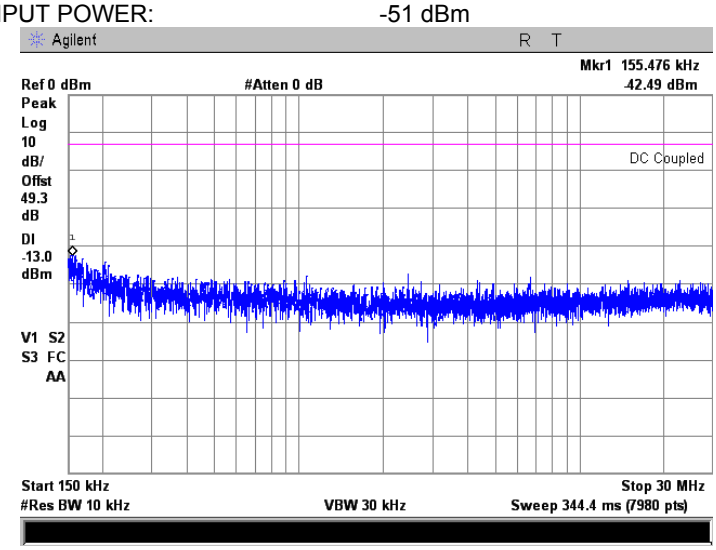
FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	iDEN QAM downlink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

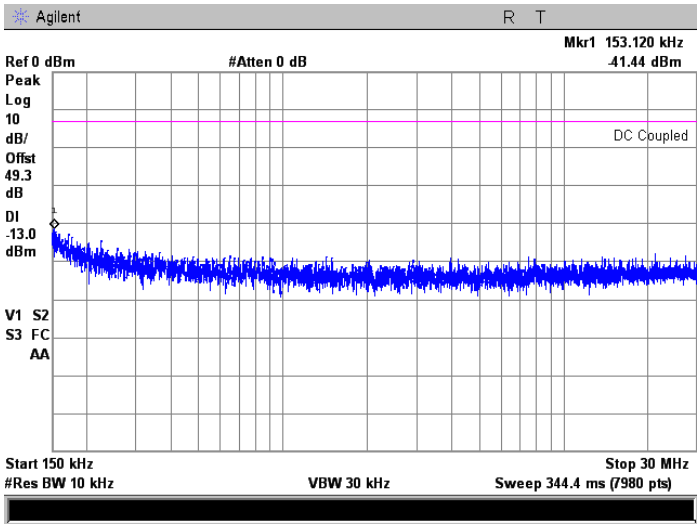
Plot 7.5.105 Spurious emission measurements in 0.15 - 30.0 MHz range at mid carrier frequency

FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	iDEN QAM downlink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.106 Spurious emission measurements in 0.15 - 30.0 MHz range at high carrier frequency

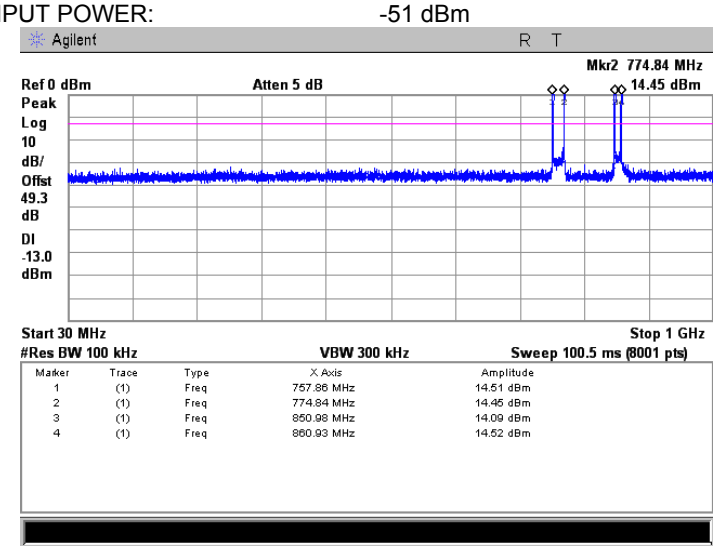
FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	iDEN QAM downlink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

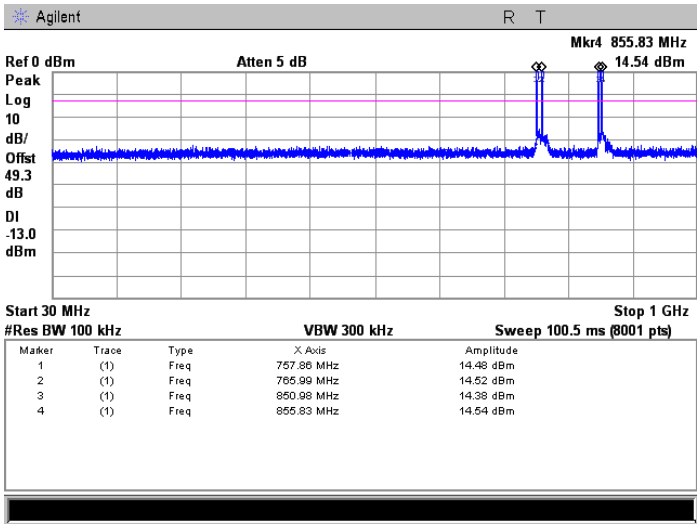
Plot 7.5.107 Spurious emission measurements in 30.0 - 1000 MHz range at low carrier frequency

FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	iDEN QAM downlink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.108 Spurious emission measurements in 30.0 - 1000 MHz range at mid carrier frequency

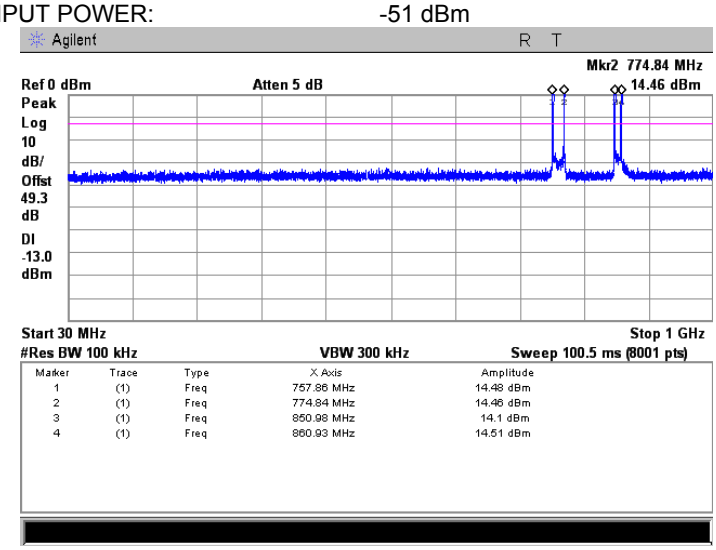
FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	iDEN QAM downlink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

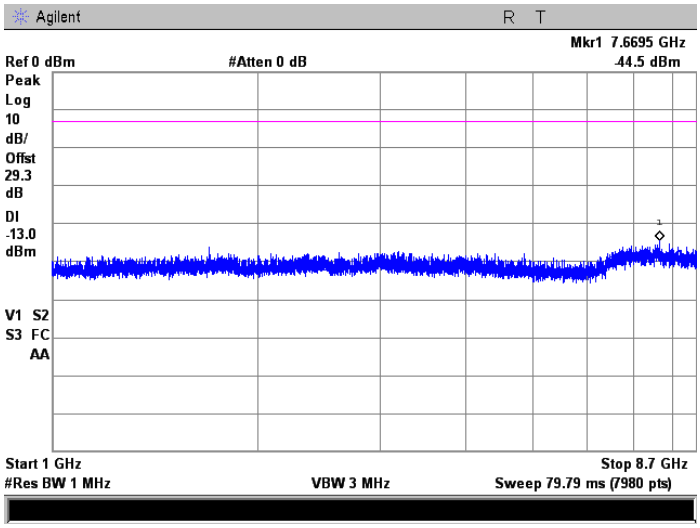
Plot 7.5.109 Spurious emission measurements in 30.0 - 1000 MHz range at high carrier frequency

FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	iDEN QAM downlink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.110 Spurious emission measurements in 1000 - 9000 MHz range at low carrier frequency

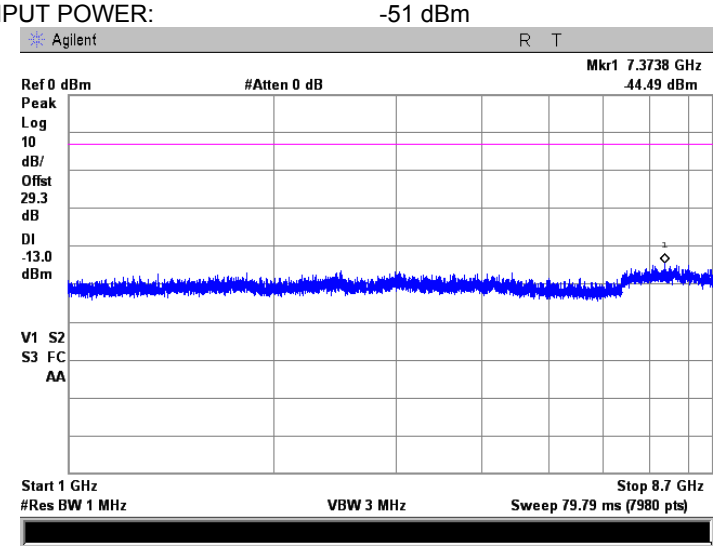
FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	iDEN QAM downlink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

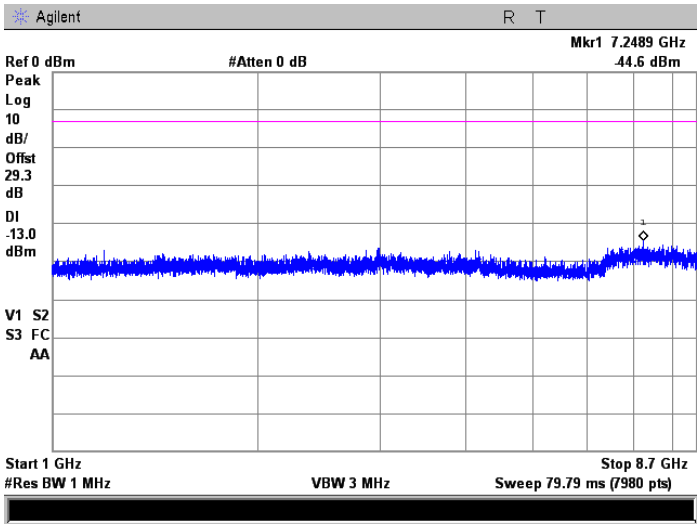
Plot 7.5.111 Spurious emission measurements in 1000 - 9000 MHz at mid carrier frequency

FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	iDEN QAM downlink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.112 Spurious emission measurements in 1000 - 9000 MHz at high carrier frequency

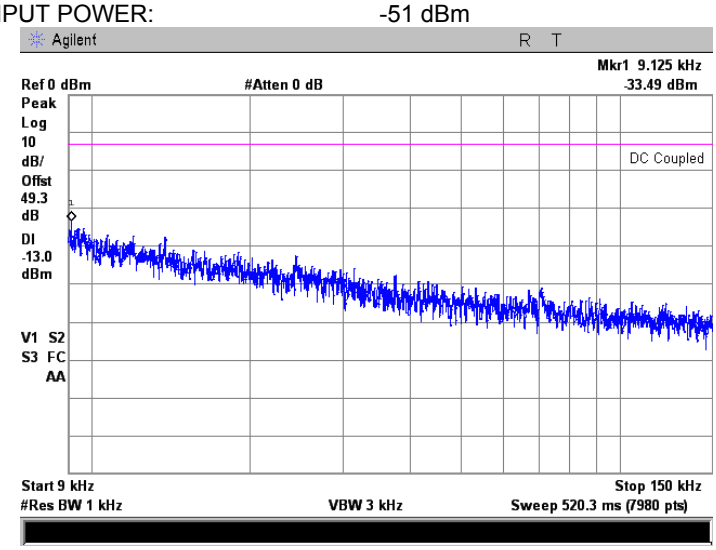
FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	iDEN QAM downlink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

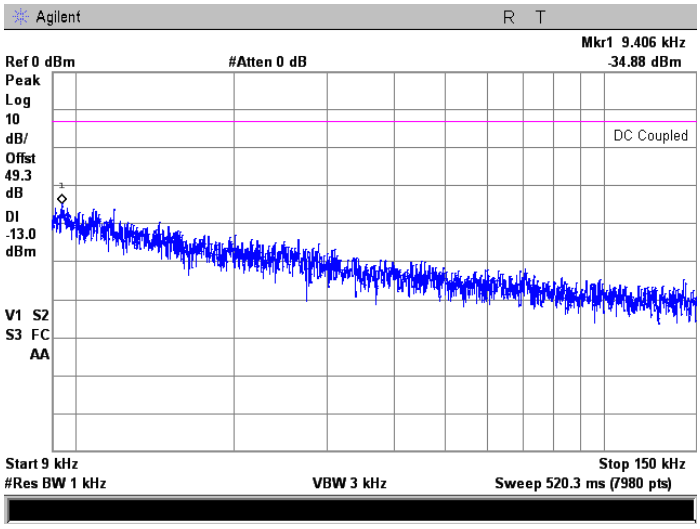
Plot 7.5.113 Spurious emission measurements in 9 - 150 kHz range at low carrier frequency

FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	Analog FM downlink transmit
INPUT PORT:	Base
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.114 Spurious emission measurements in 9 - 150 kHz range at mid carrier frequency

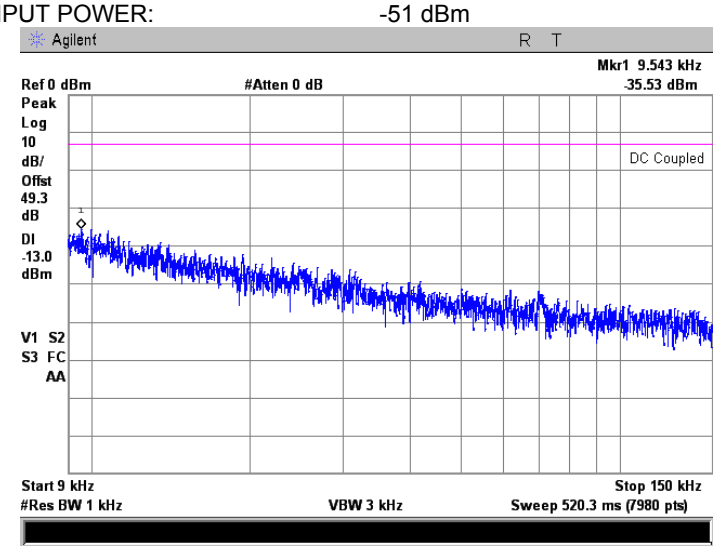
FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	Analog FM downlink transmit
INPUT PORT:	Base
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

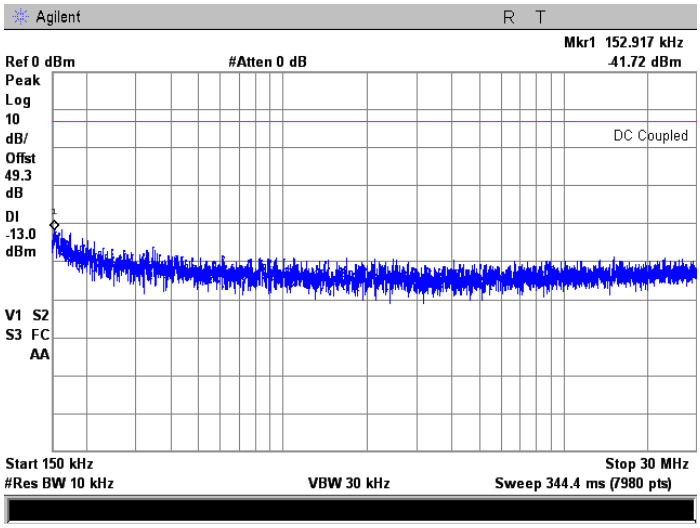
Plot 7.5.115 Spurious emission measurements in 9 - 150 kHz range at high carrier frequency

FREQUENCY RANGE: 758 -775 MHz
851 - 861 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm



Plot 7.5.116 Spurious emission measurements in 0.15 - 30.0 MHz range at low carrier frequency

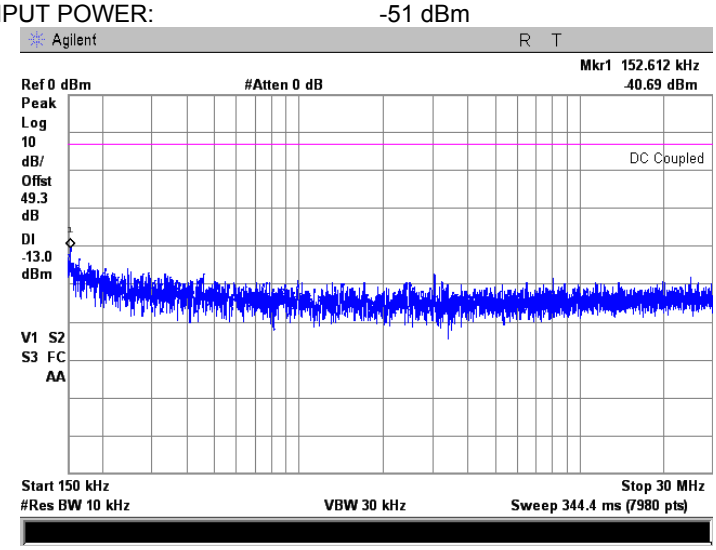
FREQUENCY RANGE: 758 -775 MHz
851 - 861 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

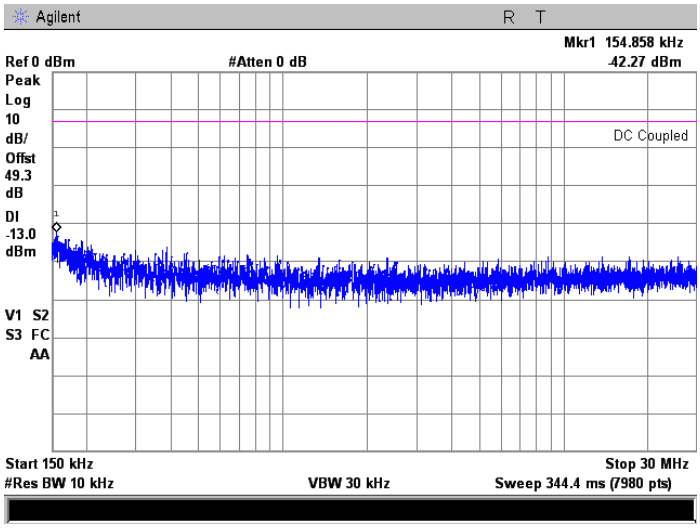
Plot 7.5.117 Spurious emission measurements in 0.15 - 30.0 MHz range at mid carrier frequency

FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	Analog FM downlink transmit
INPUT PORT:	Base
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.118 Spurious emission measurements in 0.15 - 30.0 MHz range at high carrier frequency

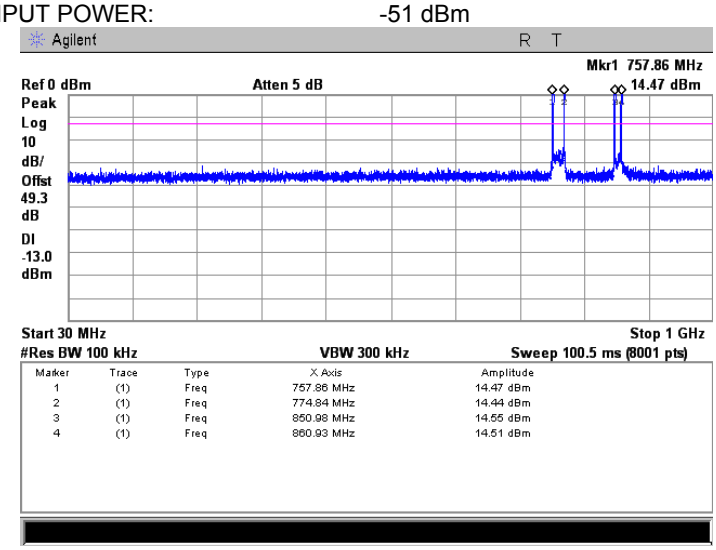
FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	Analog FM downlink transmit
INPUT PORT:	Base
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

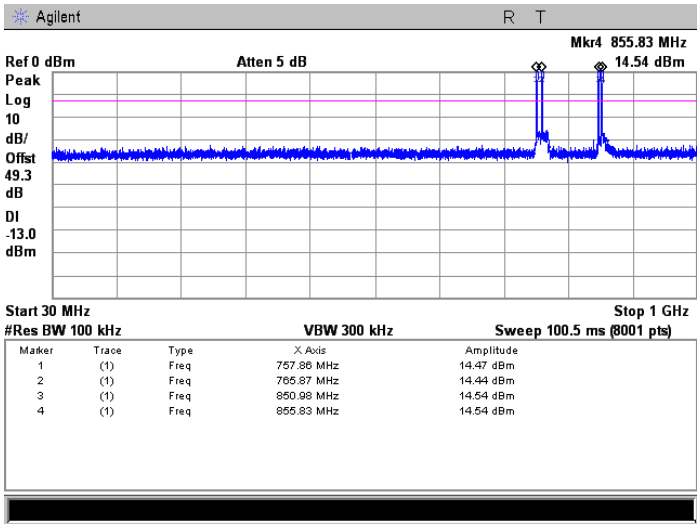
Plot 7.5.119 Spurious emission measurements in 30.0 - 1000 MHz range at low carrier frequency

FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	Analog FM downlink transmit
INPUT PORT:	Base
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.120 Spurious emission measurements in 30.0 - 1000 MHz range at mid carrier frequency

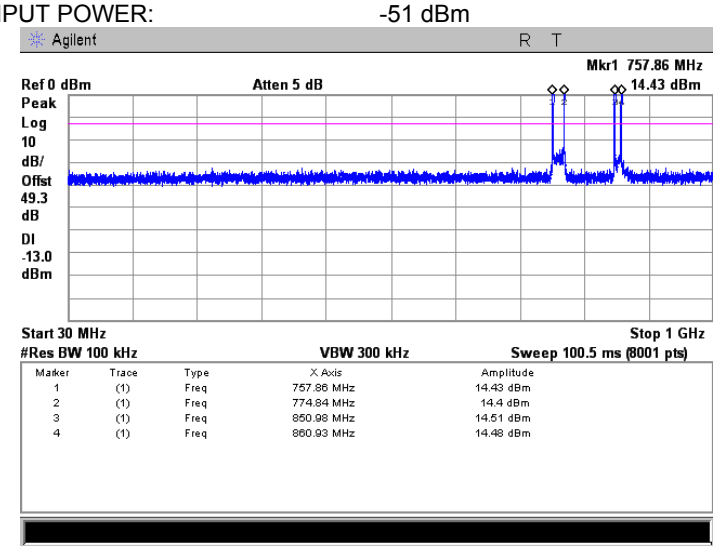
FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	Analog FM downlink transmit
INPUT PORT:	Base
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

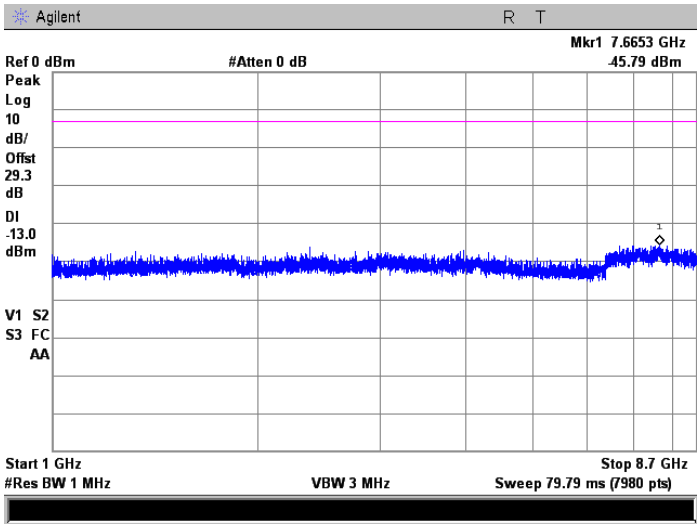
Plot 7.5.121 Spurious emission measurements in 30.0 - 1000 MHz range at high carrier frequency

FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	Analog FM downlink transmit
INPUT PORT:	Base
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.122 Spurious emission measurements in 1000 - 9000 MHz range at low carrier frequency

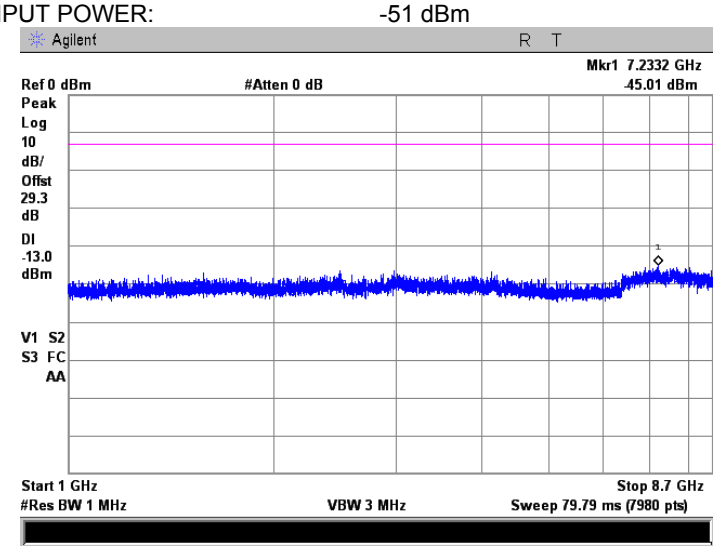
FREQUENCY RANGE:	758 -775 MHz 851 - 861 MHz
OPERATIONAL MODE:	Analog FM downlink transmit
INPUT PORT:	Base
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

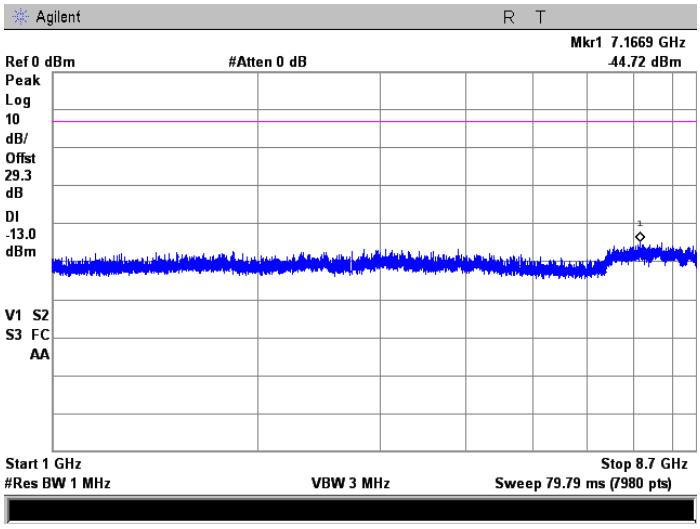
Plot 7.5.123 Spurious emission measurements in 1000 - 9000 MHz at mid carrier frequency

FREQUENCY RANGE: 758 -775 MHz
851 - 861 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm



Plot 7.5.124 Spurious emission measurements in 1000 - 9000 MHz at high carrier frequency

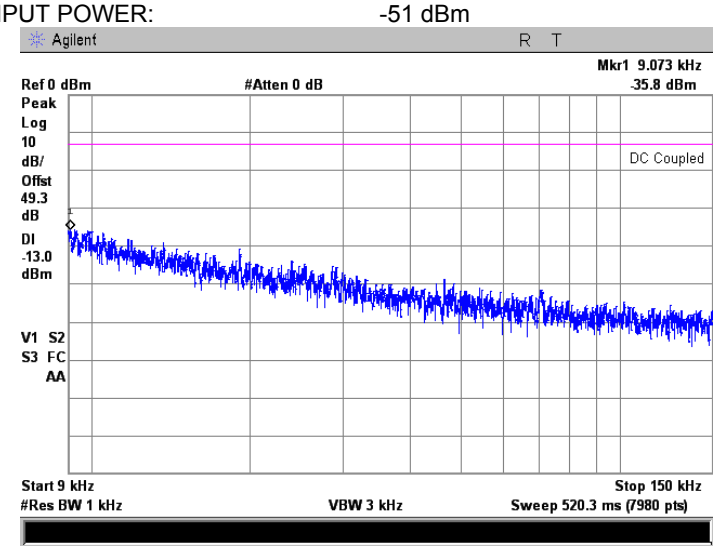
FREQUENCY RANGE: 758 -775 MHz
851 - 861 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

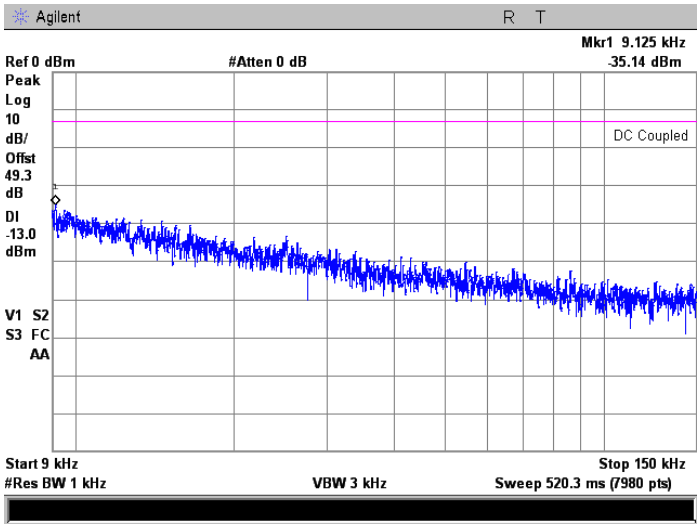
Plot 7.5.125 Spurious emission measurements in 9 - 150 kHz range at low carrier frequency

FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	C4FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.126 Spurious emission measurements in 9 - 150 kHz range at mid carrier frequency

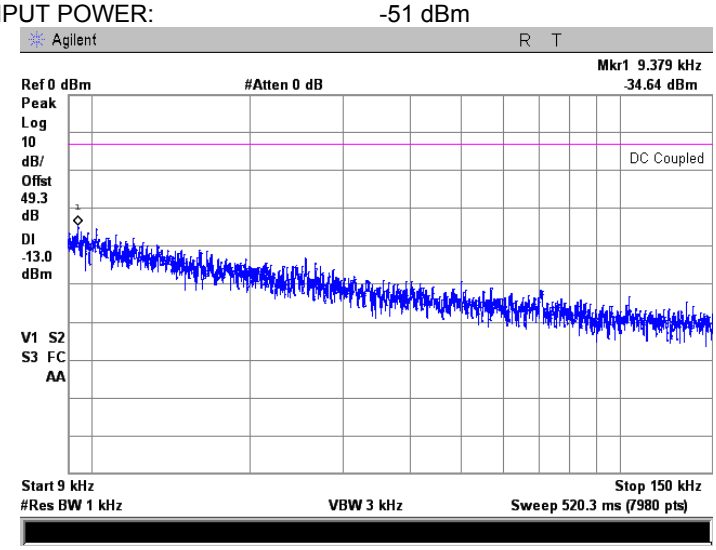
FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	C4FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

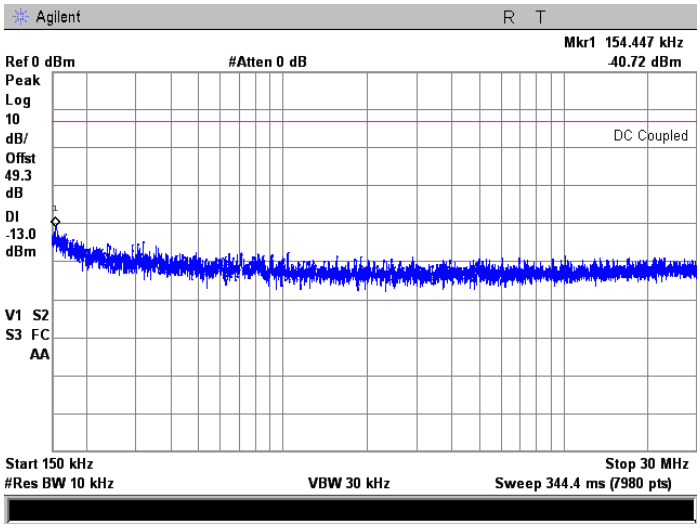
Plot 7.5.127 Spurious emission measurements in 9 - 150 kHz range at high carrier frequency

FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	C4FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.128 Spurious emission measurements 0.15 – 30.0 MHz range at low carrier frequency

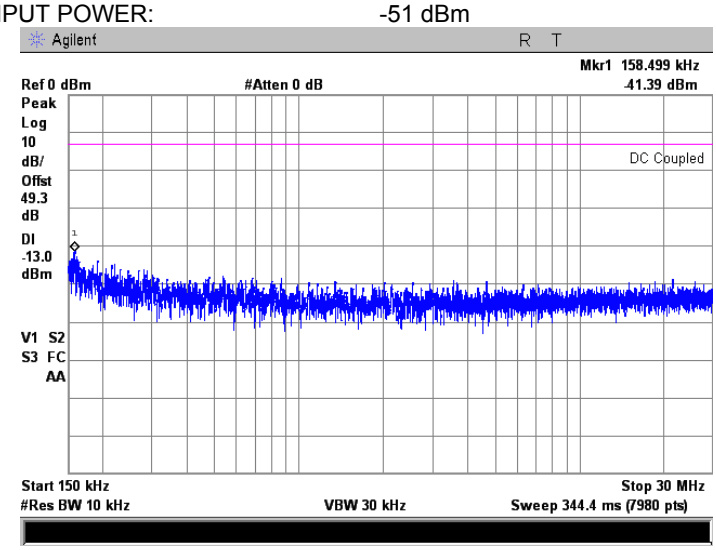
FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	C4FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

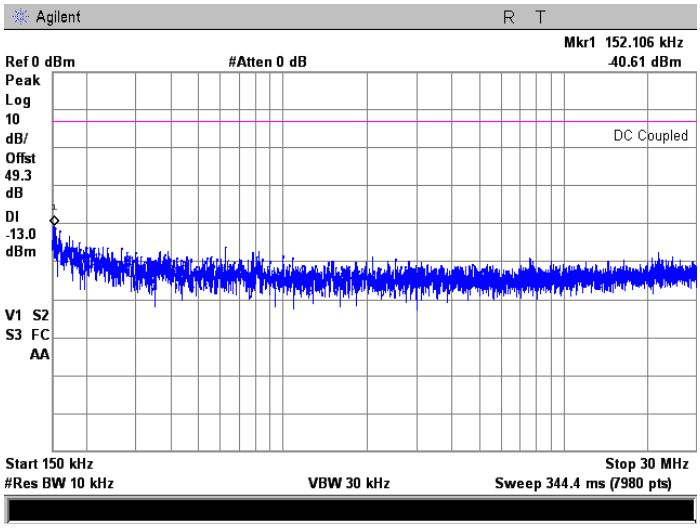
Plot 7.5.129 Spurious emission measurements 0.15 – 30.0 MHz range at mid carrier frequency

FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	C4FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.130 Spurious emission measurements in 0.15 – 30.0 MHz range at high carrier frequency

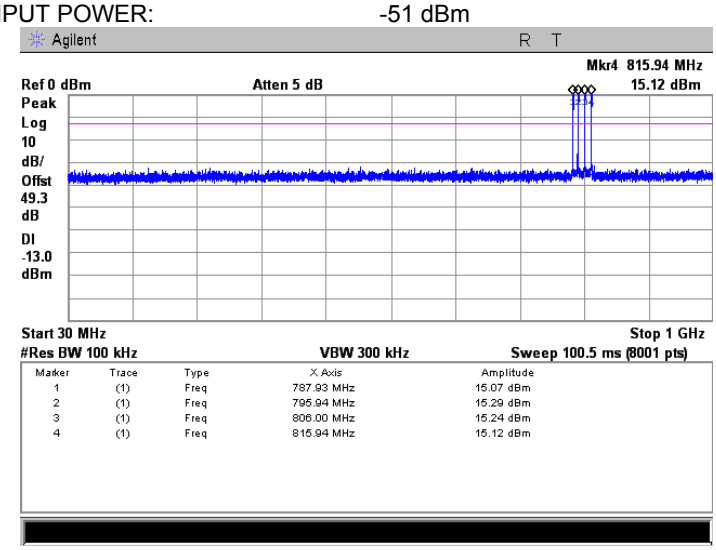
FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	C4FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

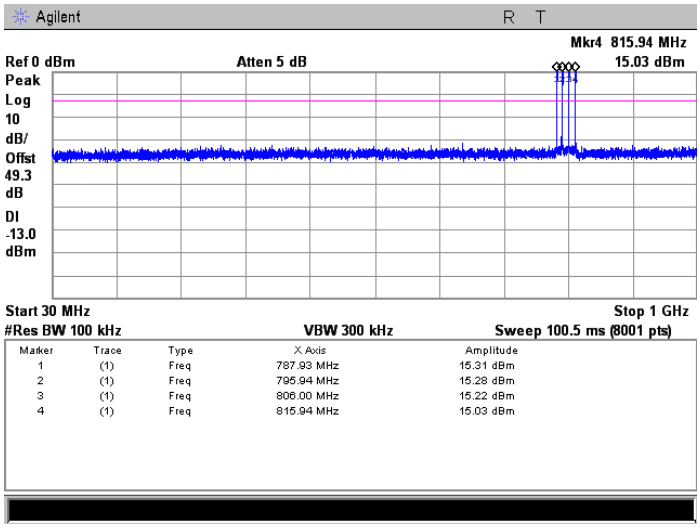
Plot 7.5.131 Spurious emission measurements in 30.0 - 1000 MHz range at low carrier frequency

FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	C4FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.132 Spurious emission measurements in 30.0 - 1000 MHz range at mid carrier frequency

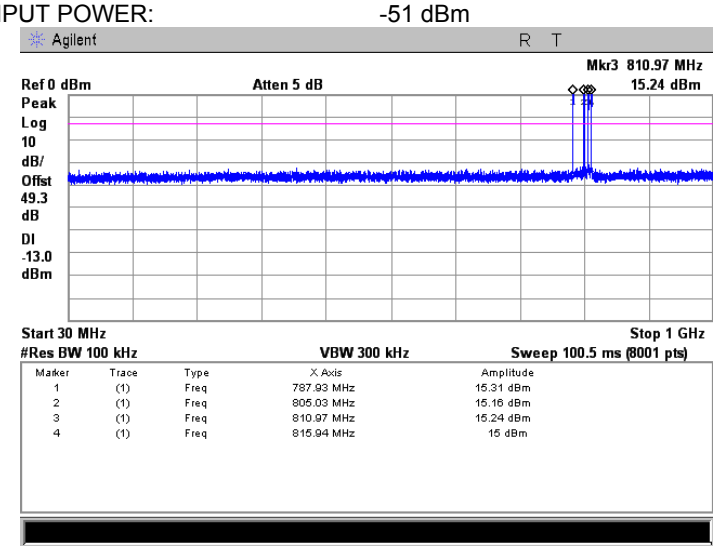
FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	C4FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

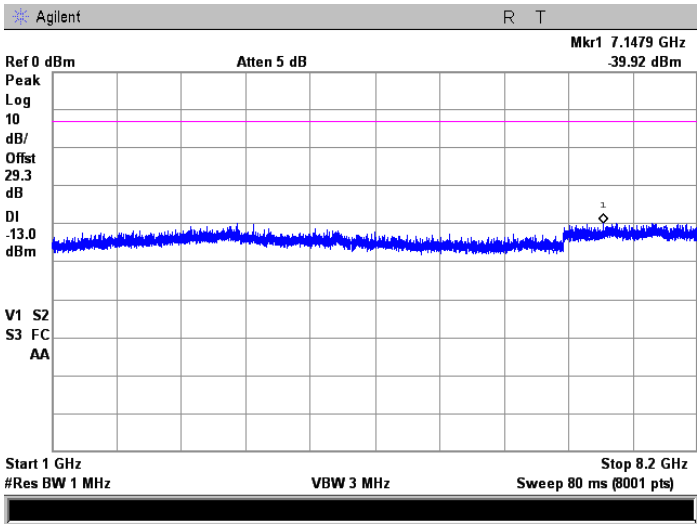
Plot 7.5.133 Spurious emission measurements in 30.0 - 1000 MHz range at high carrier frequency

FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	C4FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.134 Spurious emission measurements in 1000 - 8200 MHz range at low carrier frequency

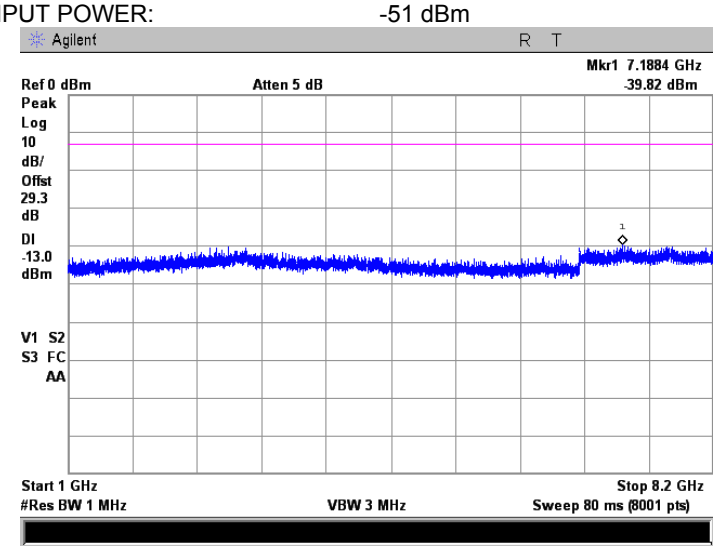
FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	C4FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

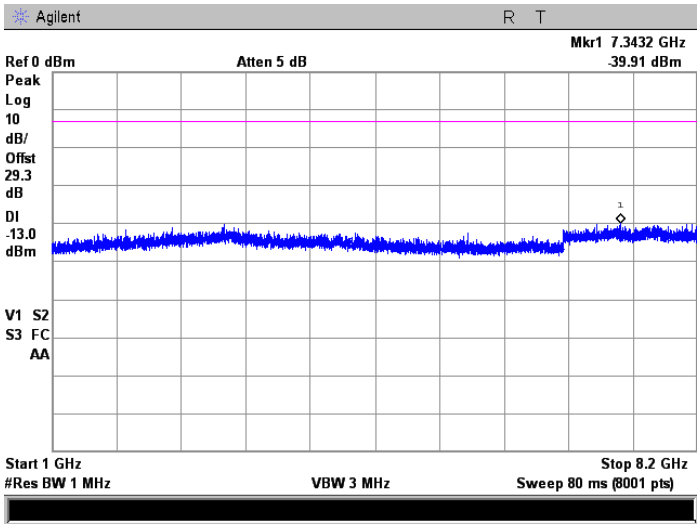
Plot 7.5.135 Spurious emission measurements in 1000 - 8200 MHz at mid carrier frequency

FREQUENCY RANGE: 788 – 805 MHz
806 - 816 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm



Plot 7.5.136 Spurious emission measurements in 1000 - 8200 MHz at high carrier frequency

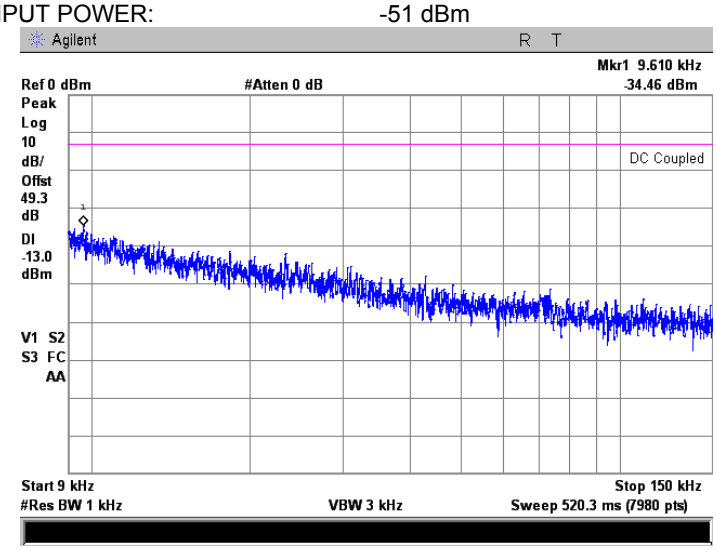
FREQUENCY RANGE: 788 – 805 MHz
806 - 816 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

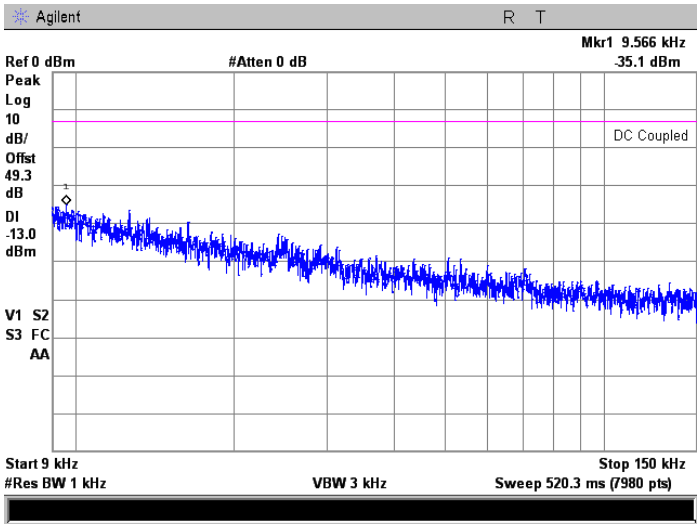
Plot 7.5.137 Spurious emission measurements in 9 - 150 kHz range at low carrier frequency

FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	iDEN QAM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.138 Spurious emission measurements in 9 - 150 kHz range at mid carrier frequency

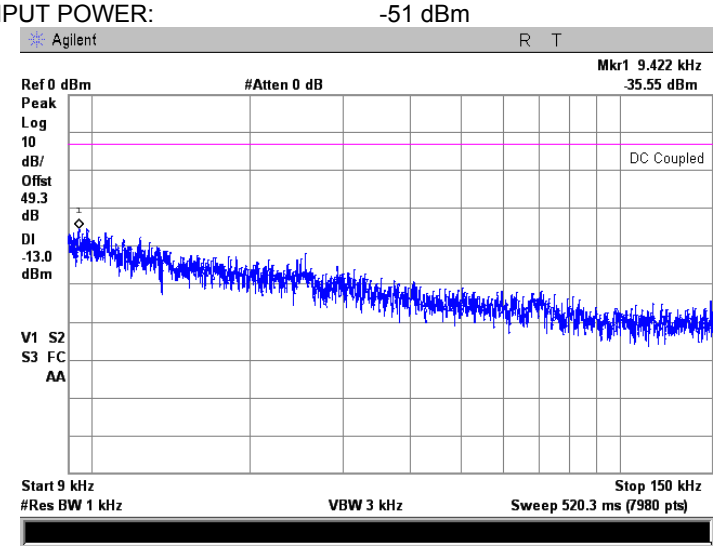
FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	iDEN QAM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

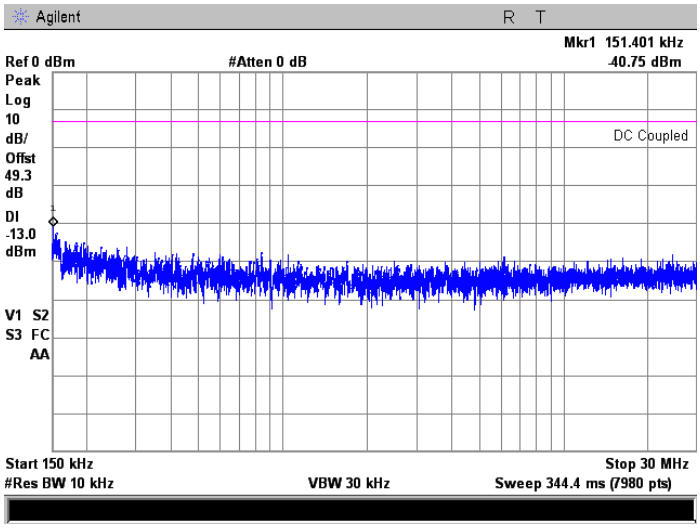
Plot 7.5.139 Spurious emission measurements in 9 - 150 kHz range at high carrier frequency

FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	iDEN QAM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.140 Spurious emission measurements in 0.15 – 30.0 MHz range at low carrier frequency

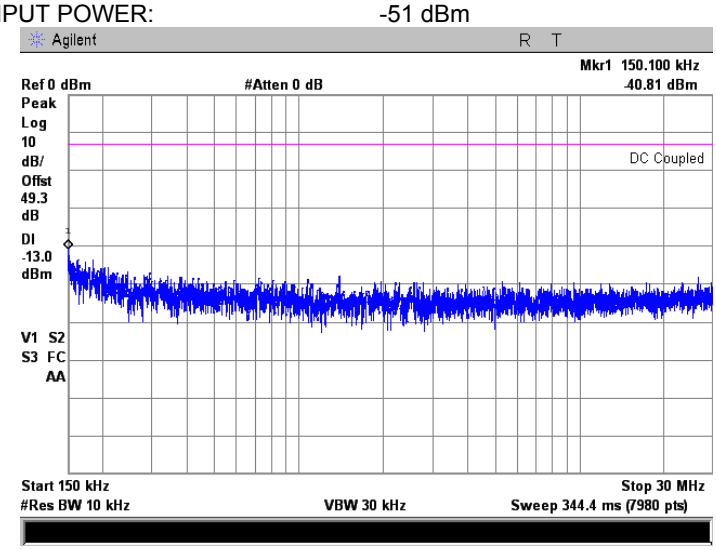
FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	iDEN QAM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

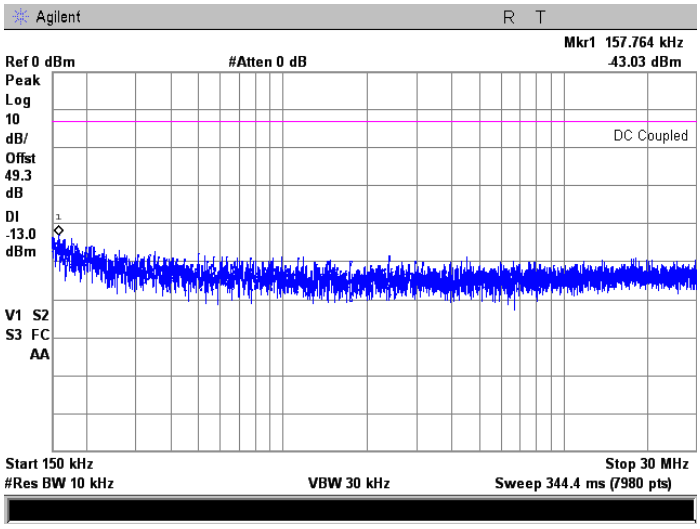
Plot 7.5.141 Spurious emission measurements in 0.15 – 30.0 MHz range at mid carrier frequency

FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	iDEN QAM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.142 Spurious emission measurements in 0.15 – 30.0 MHz range at high carrier frequency

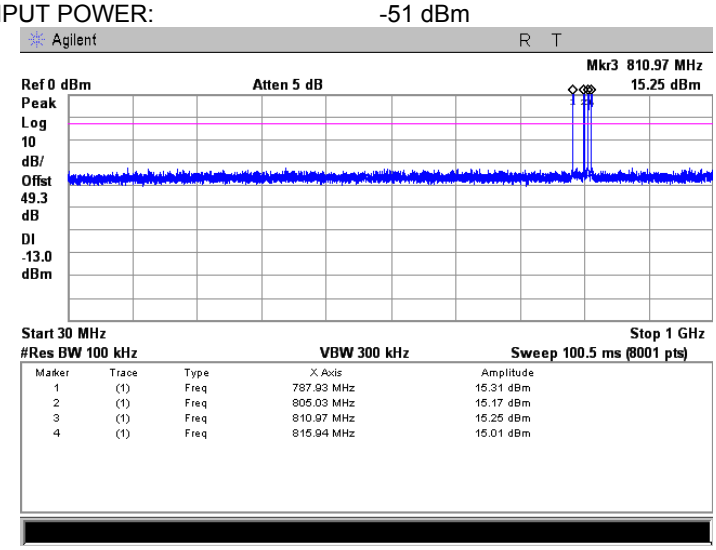
FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	iDEN QAM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

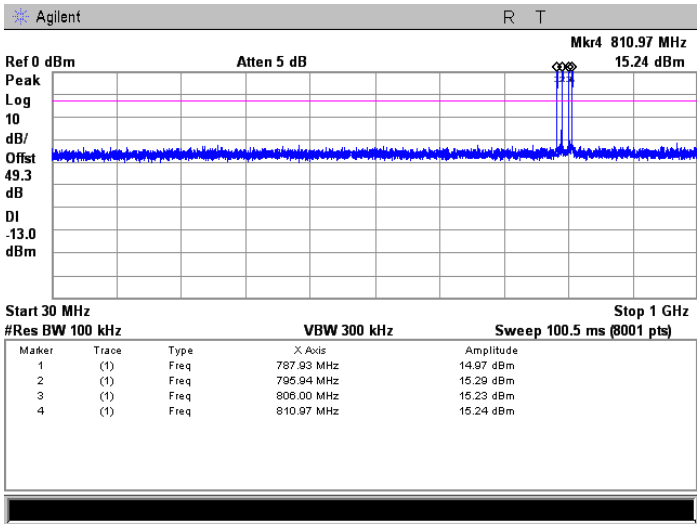
Plot 7.5.143 Spurious emission measurements in 30.0 - 1000 MHz range at low carrier frequency

FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	iDEN QAM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.144 Spurious emission measurements in 30.0 - 1000 MHz range at mid carrier frequency

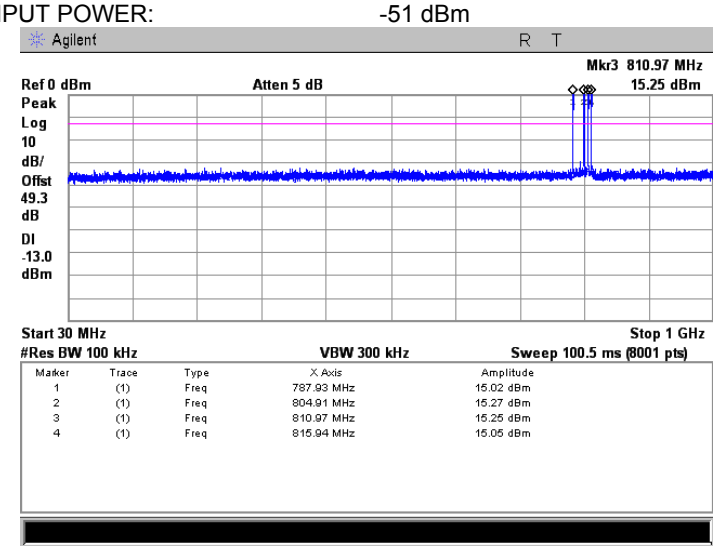
FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	iDEN QAM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

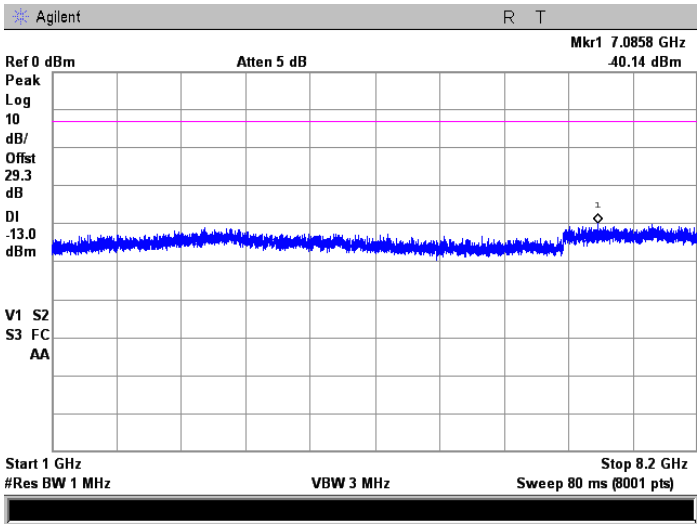
Plot 7.5.145 Spurious emission measurements in 30.0 - 1000 MHz range at high carrier frequency

FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	iDEN QAM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.146 Spurious emission measurements in 1000 - 8200 MHz range at low carrier frequency

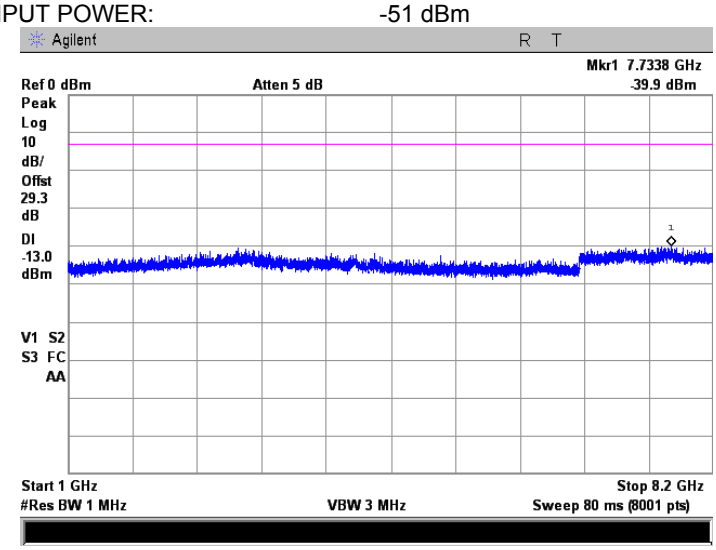
FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	iDEN QAM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

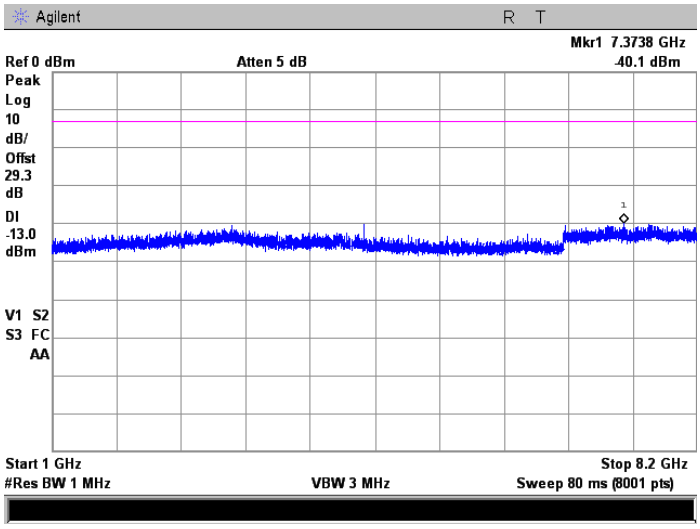
Plot 7.5.147 Spurious emission measurements in 1000 - 8200 MHz at mid carrier frequency

FREQUENCY RANGE: 788 – 805 MHz
806 - 816 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm



Plot 7.5.148 Spurious emission measurements in 1000 - 8200 MHz at high carrier frequency

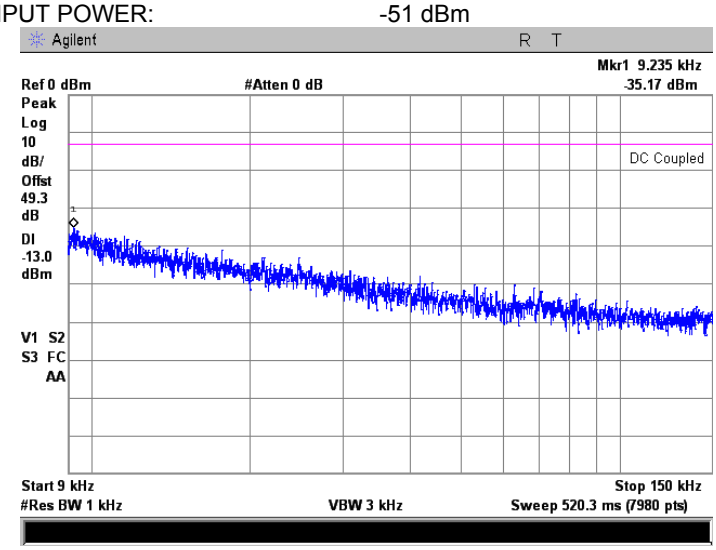
FREQUENCY RANGE: 788 – 805 MHz
806 - 816 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

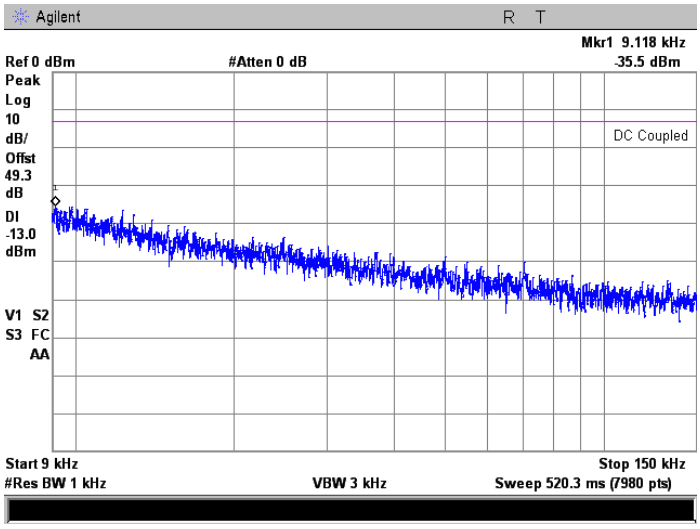
Plot 7.5.149 Spurious emission measurements in 9 - 150 kHz range at low carrier frequency

FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	Analog FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.150 Spurious emission measurements in 9 - 150 kHz range at mid carrier frequency

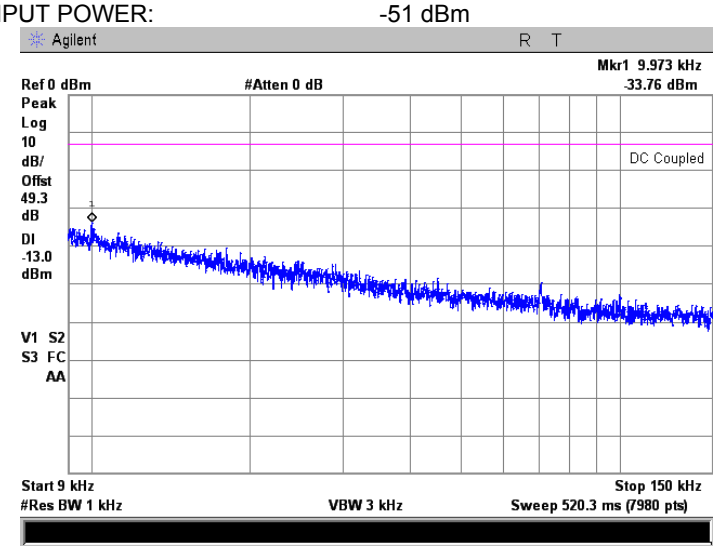
FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	Analog FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

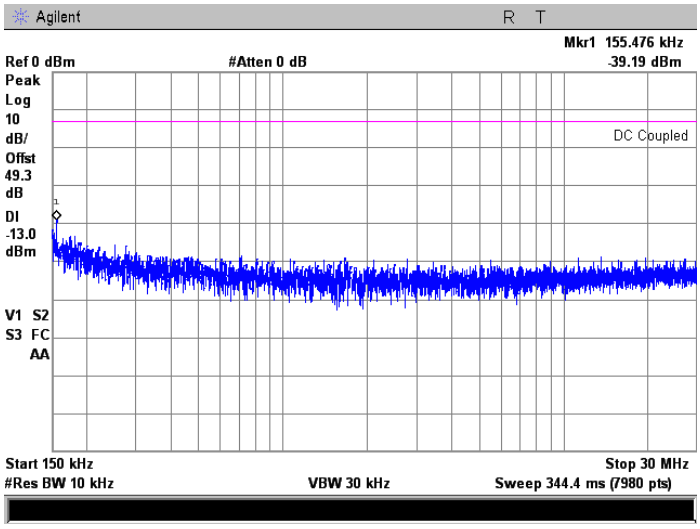
Plot 7.5.151 Spurious emission measurements in 9 - 150 kHz range at high carrier frequency

FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	Analog FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.152 Spurious emission measurements in 0.15 – 30.0 MHz range at low carrier frequency

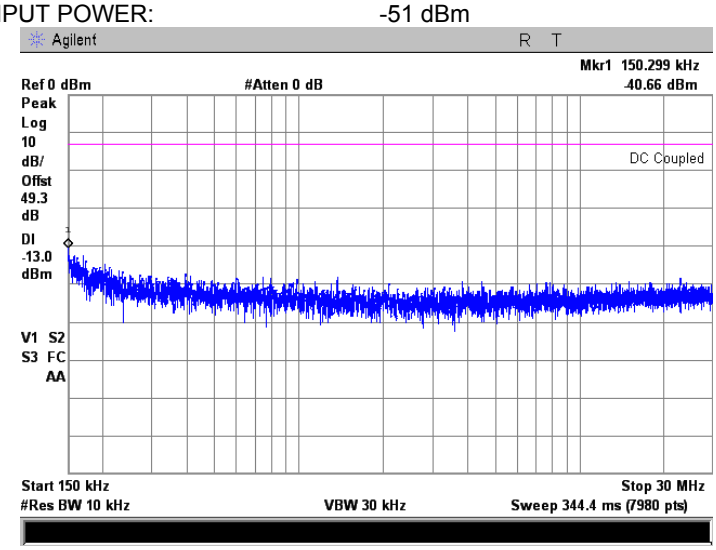
FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	Analog FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

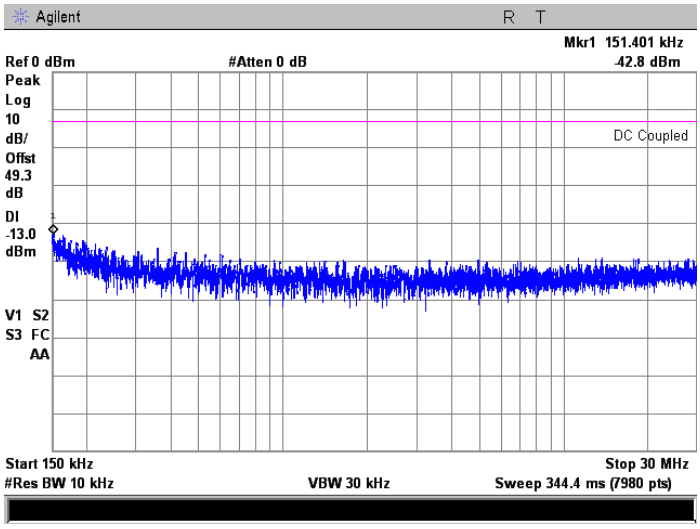
Plot 7.5.153 Spurious emission measurements in 0.15 – 30.0 MHz range at mid carrier frequency

FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	Analog FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.154 Spurious emission measurements in 0.15 – 30.0 MHz range at high carrier frequency

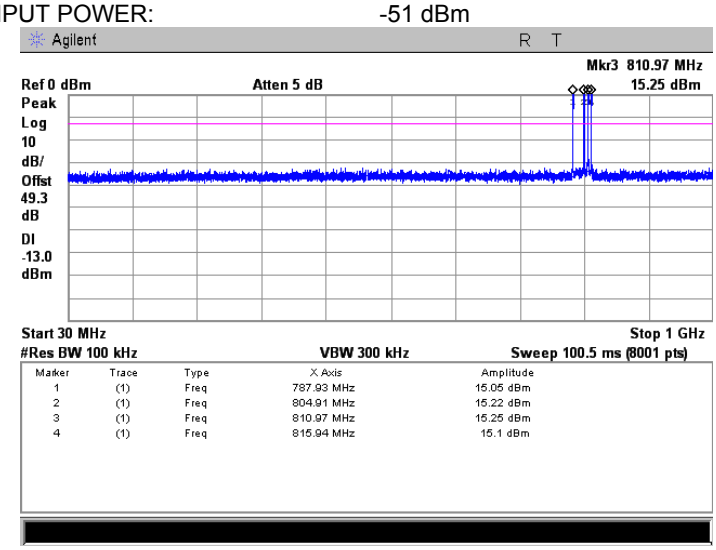
FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	Analog FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

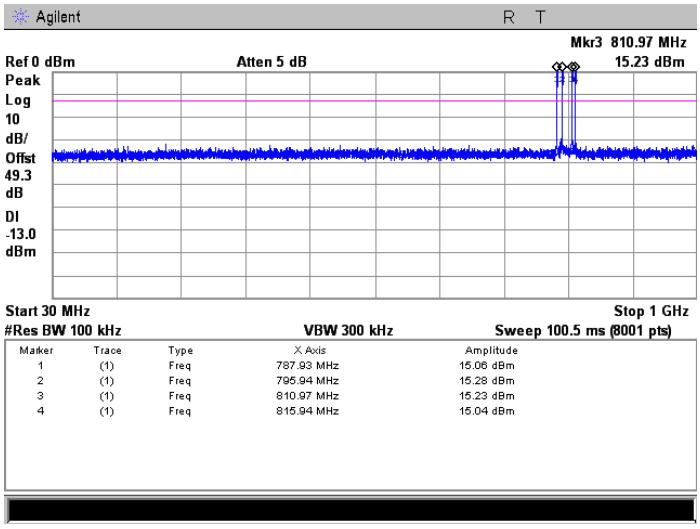
Plot 7.5.155 Spurious emission measurements in 30.0 - 1000 MHz range at low carrier frequency

FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	Analog FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.156 Spurious emission measurements in 30.0 - 1000 MHz range at mid carrier frequency

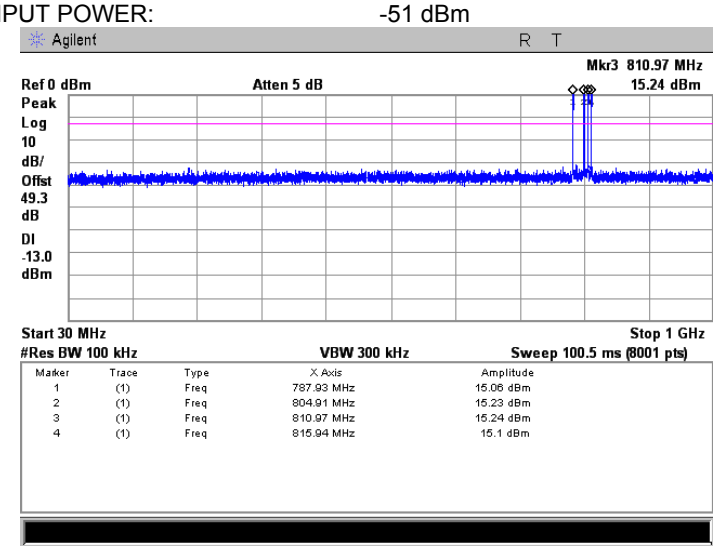
FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	Analog FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

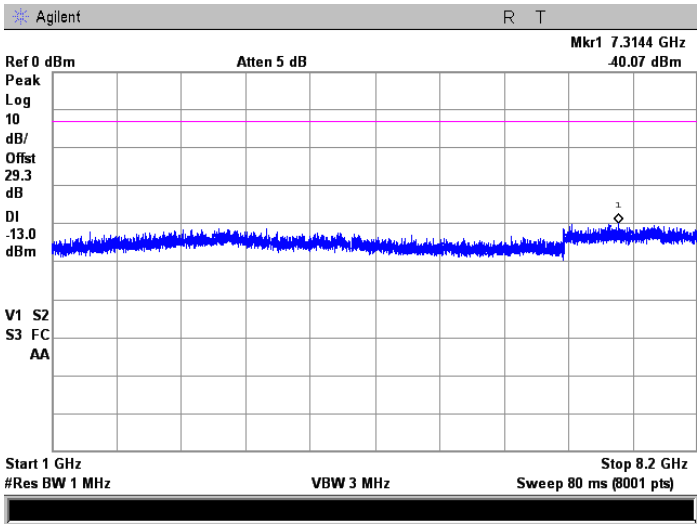
Plot 7.5.157 Spurious emission measurements in 30.0 - 1000 MHz range at high carrier frequency

FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	Analog FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.158 Spurious emission measurements in 1000 - 8200 MHz range at low carrier frequency

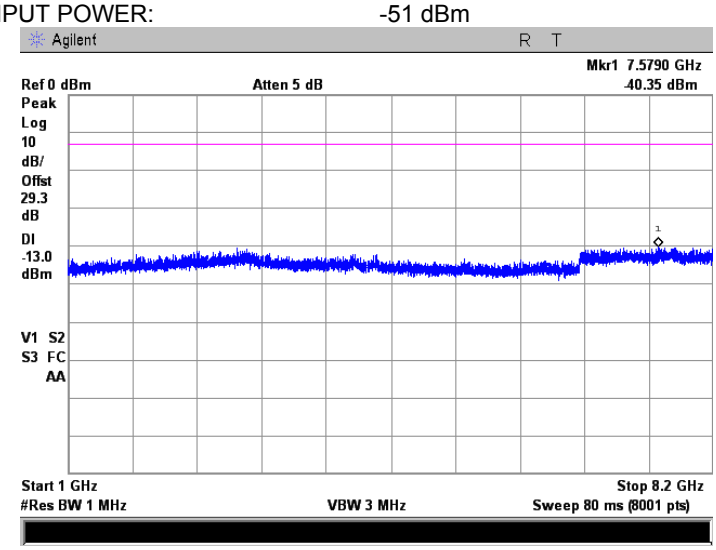
FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	Analog FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

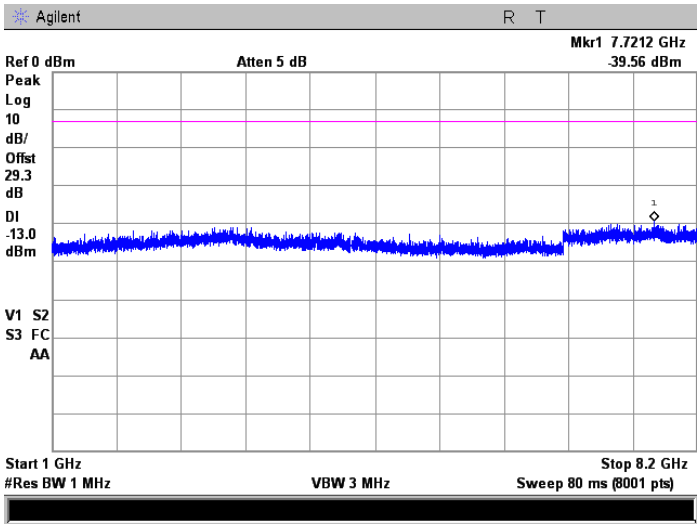
Plot 7.5.159 Spurious emission measurements in 1000 - 8200 MHz at mid carrier frequency

FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	Analog FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Plot 7.5.160 Spurious emission measurements in 1000 -8200 MHz at high carrier frequency

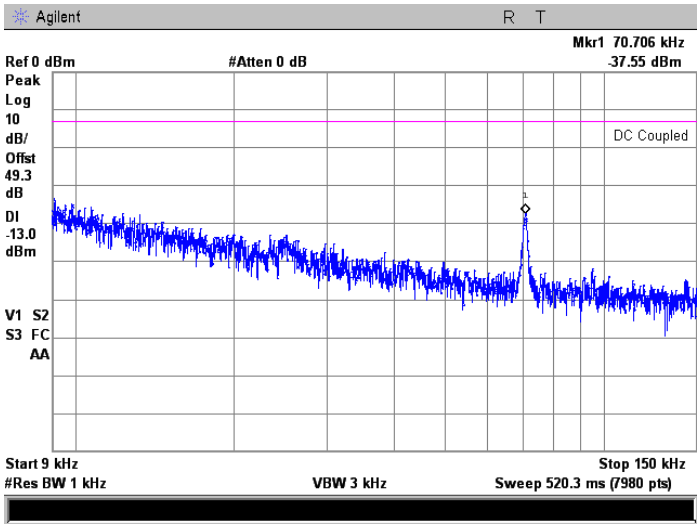
FREQUENCY RANGE:	788 – 805 MHz 806 - 816 MHz
OPERATIONAL MODE:	Analog FM uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Dual Channel
COMPOSITE INPUT POWER:	-51 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

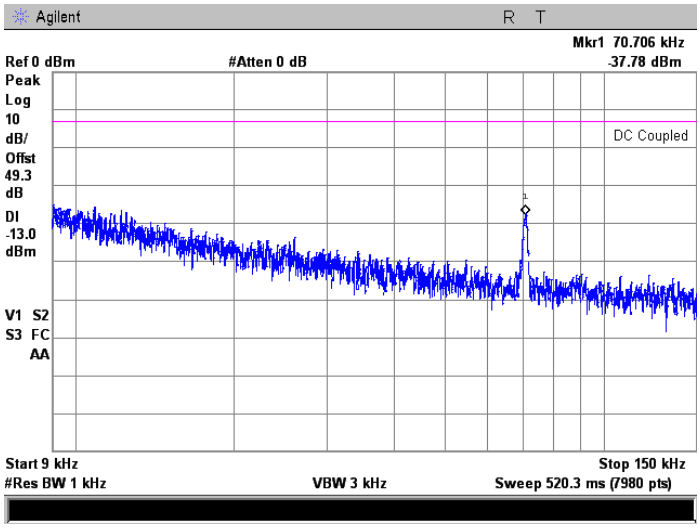
Plot 7.5.161 Spurious emission measurements in 9 - 150 kHz range at low carrier frequency

FRQUENCY RANGE: 758 - 768 MHz
OPERATIONAL MODE: LTE downlink transmit
INPUT PORT: Base
CONFIGURATION: Single Band Dual channel
INPUT POWER: -56 dBm



Plot 7.5.162 Spurious emission measurements in 9 - 150 kHz range at high carrier frequency

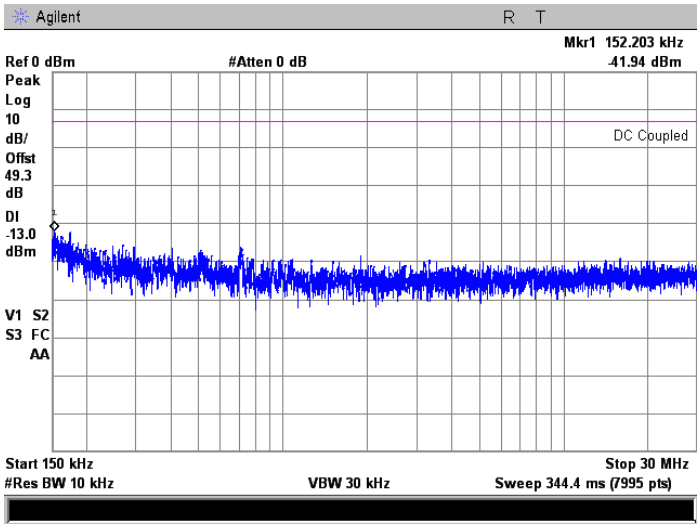
FRQUENCY RANGE: 758 - 768 MHz
OPERATIONAL MODE: LTE downlink transmit
INPUT PORT: Base
CONFIGURATION: Single Band Dual channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

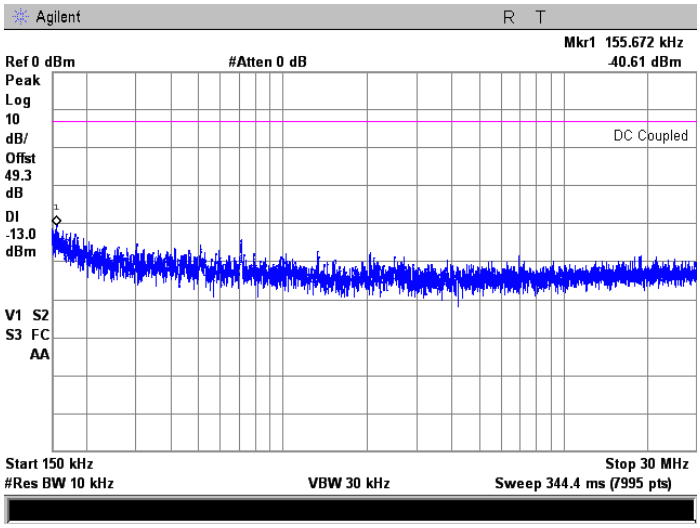
Plot 7.5.163 Spurious emission measurements in 0.15 - 30.0 MHz range at low carrier frequency

FRQUENCY RANGE:	758 - 768 MHz
OPERATIONAL MODE:	LTE downlink transmit
INPUT PORT:	Base
CONFIGURATION:	Single Band Dual channel
INPUT POWER:	-56 dBm



Plot 7.5.164 Spurious emission measurements in 0.15 – 30.0 MHz range at high carrier frequency

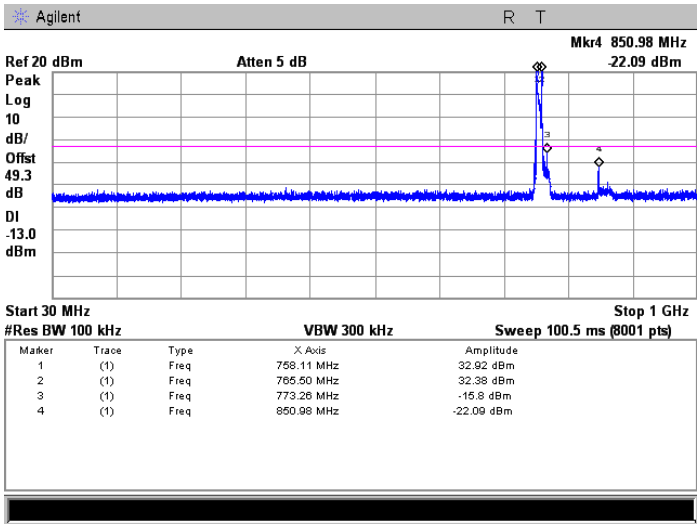
FRQUENCY RANGE:	758 - 768 MHz
OPERATIONAL MODE:	LTE downlink transmit
INPUT PORT:	Base
CONFIGURATION:	Single Band Dual channel
INPUT POWER:	-56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

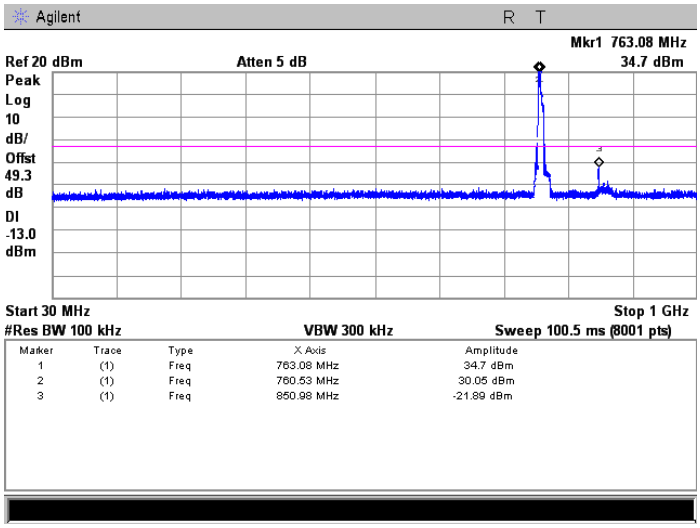
Plot 7.5.165 Spurious emission measurements in 30.0 - 1000 MHz range at low carrier frequency

FRQUENCY RANGE: 758 - 768 MHz
OPERATIONAL MODE: LTE downlink transmit
INPUT PORT: Base
CONFIGURATION: Single Band Dual channel
INPUT POWER: -56 dBm



Plot 7.5.166 Spurious emission measurements in 30.0 - 1000 MHz range at high carrier frequency

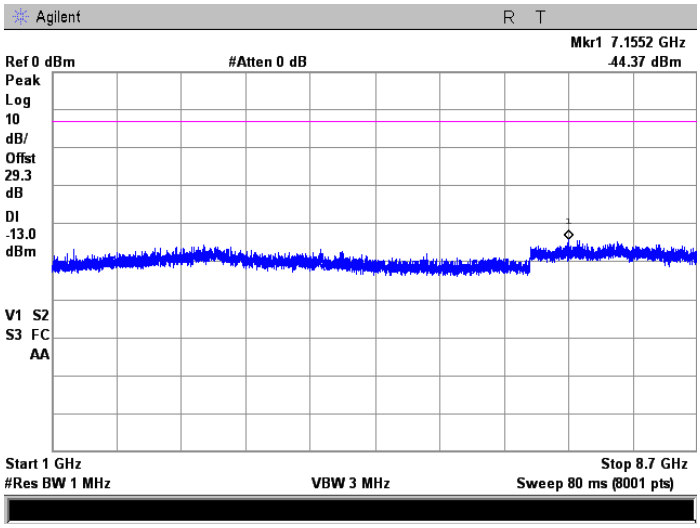
FRQUENCY RANGE: 758 - 768 MHz
OPERATIONAL MODE: LTE downlink transmit
INPUT PORT: Base
CONFIGURATION: Single Band Dual channel
INPUT POWER: -56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

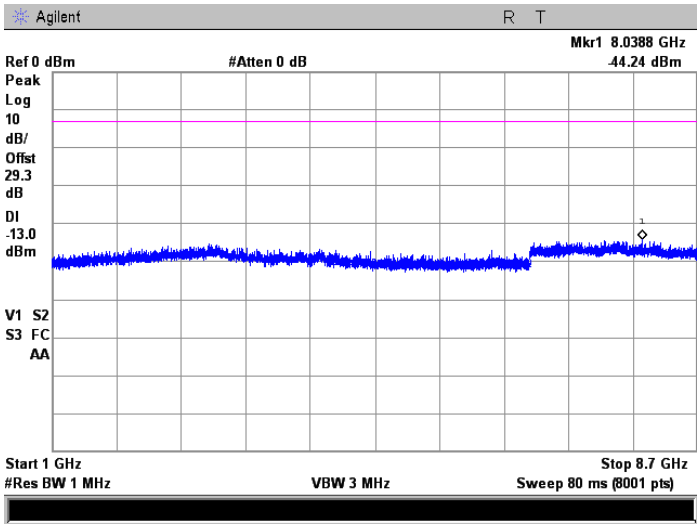
Plot 7.5.167 Spurious emission measurements in 1000 - 8700 MHz range at low carrier frequency

FRQUENCY RANGE:	758 - 768 MHz
OPERATIONAL MODE:	LTE downlink transmit
INPUT PORT:	Base
CONFIGURATION:	Single Band Dual channel
INPUT POWER:	-56 dBm



Plot 7.5.168 Spurious emission measurements in 1000 - 8700 MHz at high carrier frequency

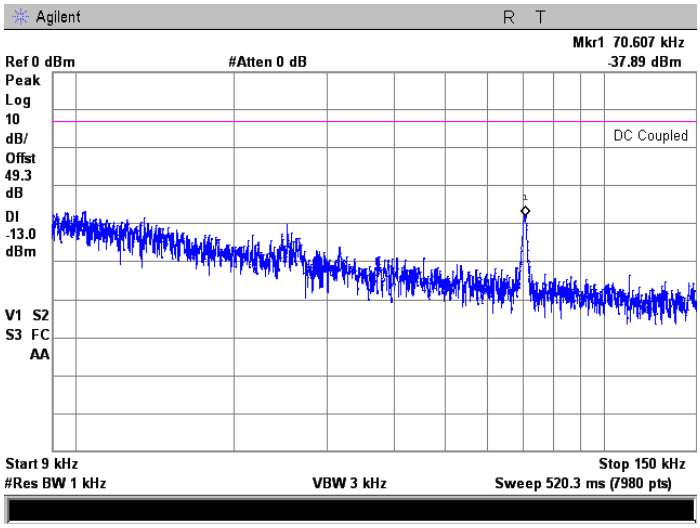
FRQUENCY RANGE:	758 - 768 MHz
OPERATIONAL MODE:	LTE downlink transmit
INPUT PORT:	Base
CONFIGURATION:	Single Band Dual channel
INPUT POWER:	-56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

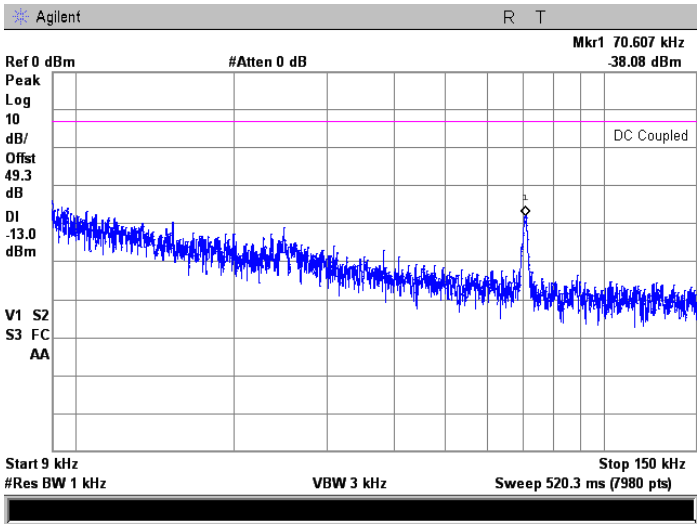
Plot 7.5.169 Spurious emission measurements in 9 - 150 kHz range at low carrier frequency

FRQUENCY RANGE:	788 - 798 MHz
OPERATIONAL MODE:	LTE uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Single Band Dual channel
INPUT POWER:	-56 dBm



Plot 7.5.170 Spurious emission measurements in 9 - 150 kHz range at high carrier frequency

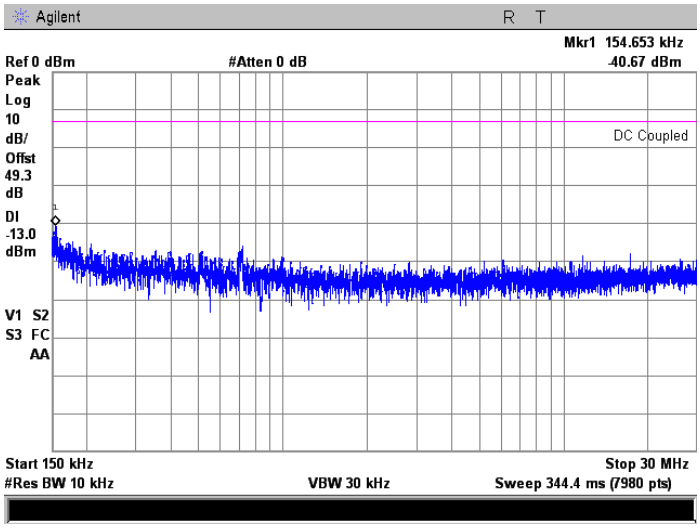
FRQUENCY RANGE:	788 - 798 MHz
OPERATIONAL MODE:	LTE uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Single Band Dual channel
INPUT POWER:	-56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

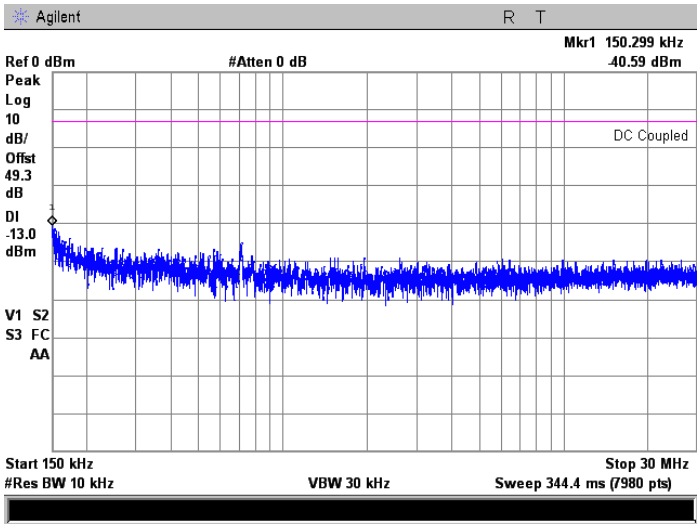
Plot 7.5.171 Spurious emission measurements in 0.15 - 30.0 MHz range at low carrier frequency

FRQUENCY RANGE:	788 - 798 MHz
OPERATIONAL MODE:	LTE uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Single Band Dual channel
INPUT POWER:	-56 dBm



Plot 7.5.172 Spurious emission measurements in 0.15 – 30.0 MHz range at high carrier frequency

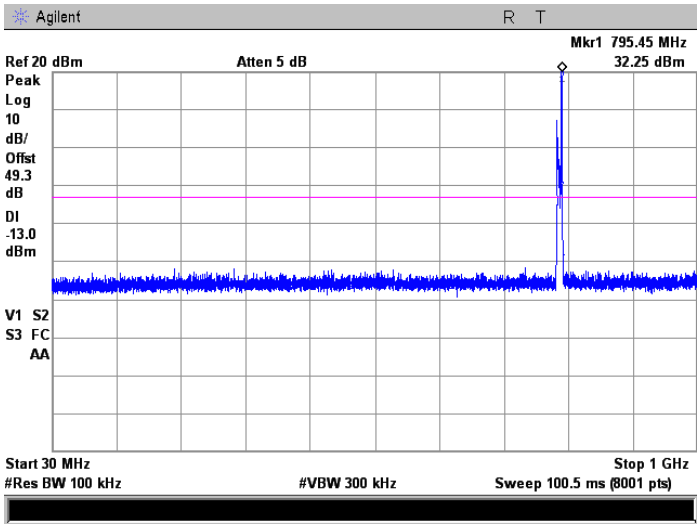
FRQUENCY RANGE:	788 - 798 MHz
OPERATIONAL MODE:	LTE uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Single Band Dual channel
INPUT POWER:	-56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

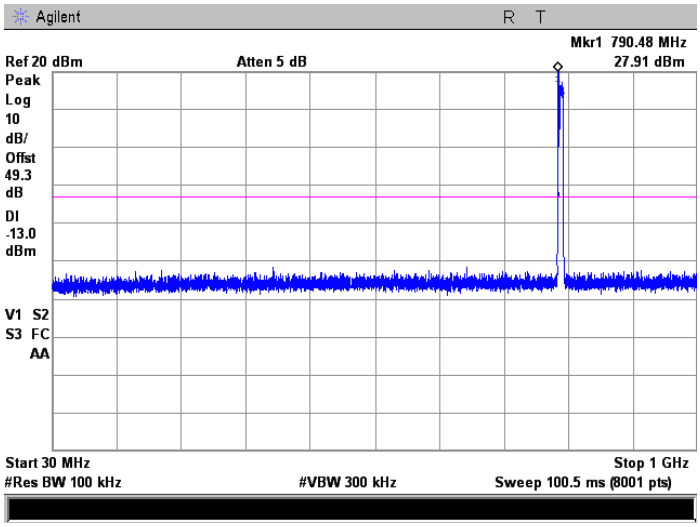
Plot 7.5.173 Spurious emission measurements in 30.0 - 1000 MHz range at low carrier frequency

FRQUENCY RANGE:	788 - 798 MHz
OPERATIONAL MODE:	LTE uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Single Band Dual channel
INPUT POWER:	-56 dBm



Plot 7.5.174 Spurious emission measurements in 30.0 - 1000 MHz range at high carrier frequency

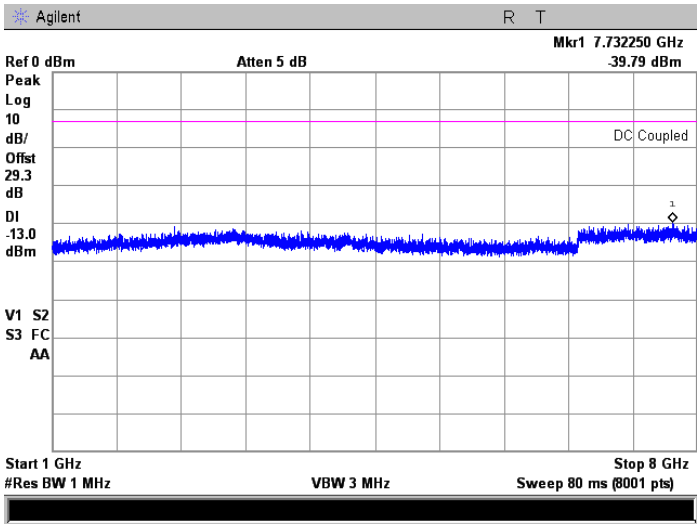
FRQUENCY RANGE:	788 - 798 MHz
OPERATIONAL MODE:	LTE uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Single Band Dual channel
INPUT POWER:	-56 dBm



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 23-Jul-15		
Temperature: 23.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

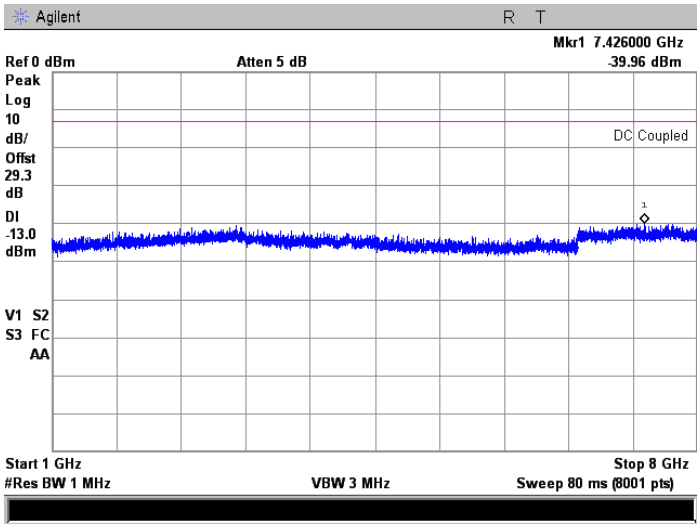
Plot 7.5.175 Spurious emission measurements in 1000 - 8000 MHz range at low carrier frequency

FRQUENCY RANGE:	788 - 798 MHz
OPERATIONAL MODE:	LTE uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Single Band Dual channel
INPUT POWER:	-56 dBm



Plot 7.5.176 Spurious emission measurements in 1000 - 8000 MHz at high carrier frequency

FRQUENCY RANGE:	788 - 798 MHz
OPERATIONAL MODE:	LTE uplink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Single Band Dual channel
INPUT POWER:	-56 dBm



Test specification:	Section 90.210(b), Intermodulation product test		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b); KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	28-Jul-15		
Temperature: 24.2 ºC	Air Pressure: 1004 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

7.6 Intermodulation product test

7.6.1 General

This test was performed to measure to demonstrate compliance to the intermodulation limit at RF antenna connectors. Specification test limits are given in Table 7.6.1.

Table 7.6.1 ERP Intermodlation product limits

Frequency range, MHz	ERP Intermodlation product limit, dBm
758 – 775 / 788 - 805	-13.0
851 – 861 / 806 - 816	-13.0

7.6.2 Test procedure

7.6.2.1 The EUT was set up as shown in Figure 7.4.1, energized and its proper operation was checked.

7.6.2.2 Signal generator A was configured for CW operation at the low frequency of appropriate frequency band, Signal generator C was configured for CW operation at the high frequency of the same frequency band.

7.6.2.3 Signal generator B was configured for CW operation tuned 600 kHz above the low frequency or below the high frequencyof the same frequency band.

7.6.2.4 The generator amplitudes were set so that the power from each into RF combiner was equivalent.

7.6.2.5 The signal generator's amplitudes were increased equally until just before the EUT ALC was begun and all intermodulation products were measured.

7.6.2.6 Signal generator B was varied in frequency to check if intermodulation products were produced.

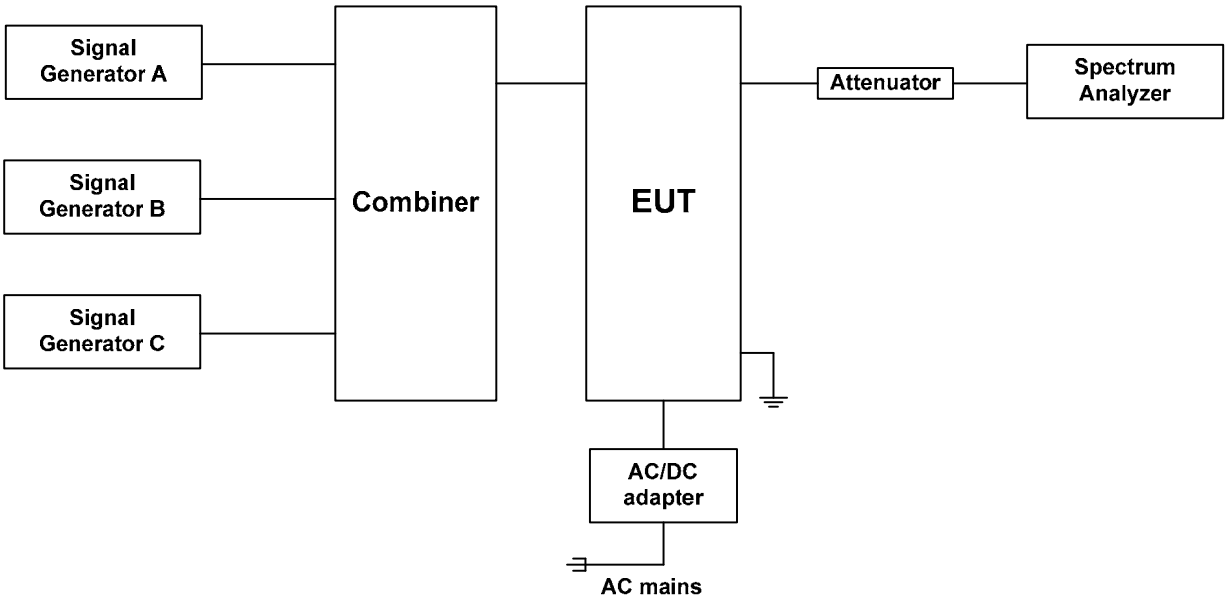
7.6.2.7 The intermodulation products were measured with spectrum analyzer as provided in the associated plots.

7.6.2.8 The EUT was tested at the compression and 10 dB into compression to show ALC operation, worst case results taken.

7.6.2.9 The test was repeated for all uplink and downlink operational bands. The test results are provided in the associated tables and plots.

Test specification:	Section 90.210(b), Intermodulation product test		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b); KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	28-Jul-15		
Temperature: 24.2 °C	Air Pressure: 1004 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Figure 7.6.1 Intermodulation product test setup



Test specification:	Section 90.210(b), Intermodulation product test		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b); KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	28-Jul-15		
Temperature: 24.2 ºC	Air Pressure: 1004 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Table 7.6.2 Intermodulation product test results

OPERATING FREQUENCY RANGE: 758 - 775 MHz (downlink)
788 - 805 MHz (uplink)
DETECTOR USED: Average
RESOLUTION BANDWIDTH: 10 kHz
VIDEO BANDWIDTH: 30 kHz
MODULATING SIGNAL: Unmodulated
CONFIGURATION: Single Band Multi Channel

Frequency, MHz	SA reading, dBm/10kHz	ERP**, dBm/10kHz	ERP Limit, dBm/10kHz	Margin, dB*	Verdict
Frequency range, 758 – 775 MHz Downlink					
771.995	-28.58	-28.58	-13.0	-15.58	Pass
759.197	-25.04	-25.04	-13.0	-12.04	Pass
Frequency range, 788 – 805 MHz Uplink					
No intermodulation products were found					Pass

OPERATING FREQUENCY RANGE: 758 - 775 MHz (downlink)
788 - 805 MHz (uplink)
DETECTOR USED: Average
RESOLUTION BANDWIDTH: 10 kHz
VIDEO BANDWIDTH: 30 kHz
MODULATING SIGNAL: Unmodulated
CONFIGURATION: Single Band Single Channel

Frequency, MHz	SA reading, dBm/10kHz	ERP**, dBm/10kHz	ERP Limit, dBm/10kHz	Margin, dB*	Verdict
Frequency range, 758 – 775 MHz Downlink					
771.991	-28.90	-28.90	-13.0	-15.90	Pass
758.602	-25.44	-25.44	-13.0	-12.44	Pass
Frequency range, 788 – 805 MHz Uplink					
788.599	-33.72	-33.72	-13.0	-20.72	Pass

* - Margin = ERP of intermodulation product – specification limit
** - There are no specific antennas supplied as a part of the unit that is why the maximum antenna assembly gain in dBd shall not exceed the ERP margin in dB.
Antenna Assembly Gain (dBd) = Antenna Gain (dBd) – Feeder Loss (dB) = Antenna Gain (dBi) – 2.15 – Feeder Loss (dB)
Note: Maximum ERP of intermodulation product = Worst case from SA reading (Without ALC or With ALC)

Test specification:	Section 90.210(b), Intermodulation product test		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b); KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	28-Jul-15		
Temperature: 24.2 ºC	Air Pressure: 1004 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Table 7.6.3 Intermodulation product test results

OPERATING FREQUENCY RANGE: 851 - 861 MHz (downlink)
806 - 816 MHz (uplink)
DETECTOR USED: Average
RESOLUTION BANDWIDTH: 10 kHz
VIDEO BANDWIDTH: 30 kHz
MODULATING SIGNAL: Unmodulated
CONFIGURATION: Single Band Multi Channel

Frequency, MHz	SA reading, dBm/10kHz	ERP**, dBm/10kHz	ERP Limit, dBm/10kHz	Margin, dB*	Verdict
Frequency range, 851 – 861 MHz Downlink					
No intermodulation products were found					Pass
Frequency range, 806 –816 MHz Uplink					
No intermodulation products were found					Pass

OPERATING FREQUENCY RANGE: 851 - 861 MHz (downlink)
806 - 816 MHz (uplink)
DETECTOR USED: Average
RESOLUTION BANDWIDTH: 10 kHz
VIDEO BANDWIDTH: 30 kHz
MODULATING SIGNAL: Unmodulated
CONFIGURATION: Single Band Single Channel

Frequency, MHz	SA reading, dBm/10kHz	ERP**, dBm/10kHz	ERP Limit, dBm/10kHz	Margin, dB*	Verdict
Frequency range, 851 – 861 MHz Downlink					
853.0911	-29.53	-29.53	-13.0	-16.53	Pass
Frequency range, 806 –816 MHz Uplink					
No intermodulation products were found					Pass

* - Margin = ERP of intermodulation product – specification limit
** - There are no specific antennas supplied as a part of the unit that is why the maximum antenna assembly gain in dBd shall not exceed the ERP margin in dB.
Antenna Assembly Gain (dBd) = Antenna Gain (dBd) – Feeder Loss (dB) = Antenna Gain (dBi) – 2.15 – Feeder Loss (dB)
Note: Maximum ERP of intermodulation product = Worst case from SA reading (Without ALC or With ALC)

Reference numbers of test equipment used

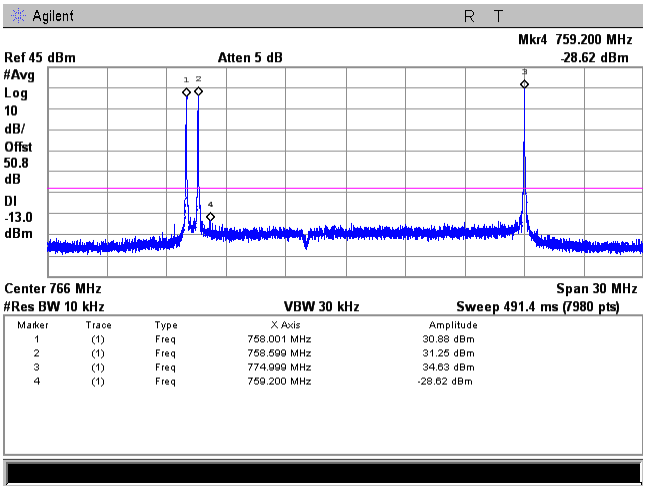
HL 0539	HL 1908	HL 2667	HL 2909	HL 3174	HL 3434	HL 3787	HL 3788
HL 4068	HL 4273	HL 4274	HL 4275	HL 4354	HL 4368		

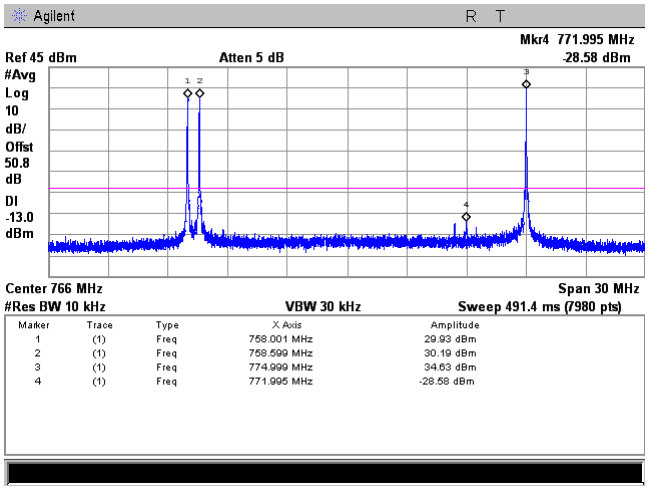
Full description is given in Appendix A.

Test specification:	Section 90.210(b), Intermodulation product test		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b); KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	28-Jul-15		
Temperature: 24.2 °C	Air Pressure: 1004 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

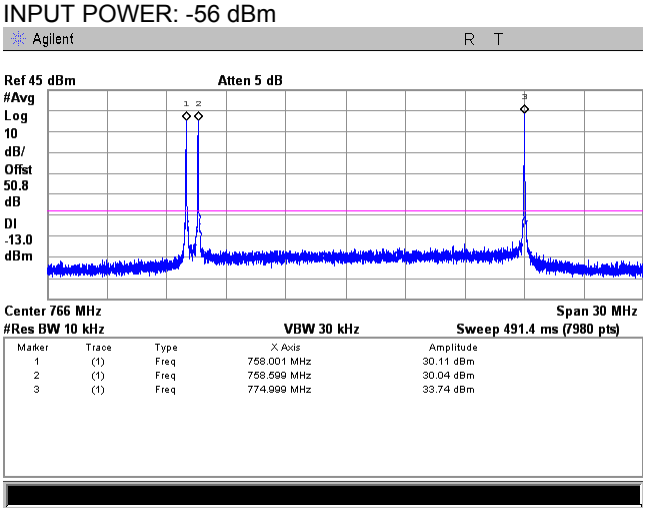
Plot 7.6.1 Intermodulation test results in the 758 - 775 MHz frequency range

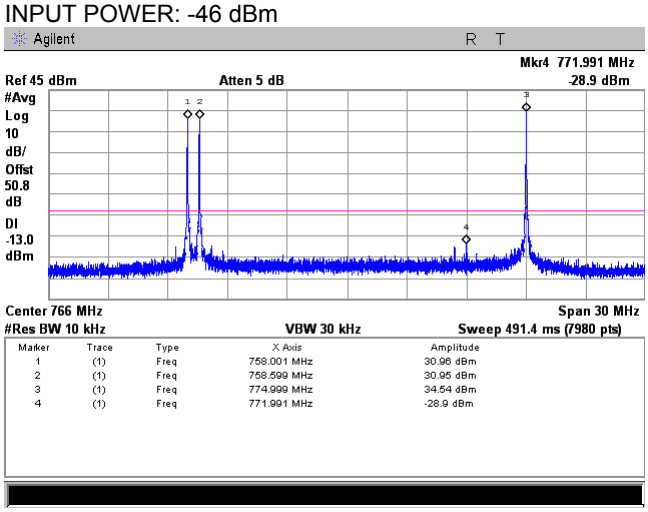
OPERATING FREQUENCY RANGE: 758 – 775 MHz
DETECTOR USED: Average
CONFIGURATION: Downlink
OPERATION FREQUENCES: F_{low}, F_{low}+600 kHz, F_{high}
CONFIGURATION: Single Band Multi Channel
COMPOSITE POWER SETTING: 37 dBm (2*34 dBm)
INPUT POWER: -56 dBm
INPUT POWER: -46 dBm





CONFIGURATION: Single Band Single Channel
POWER SETTING: 37 dBm
INPUT POWER: -56 dBm
INPUT POWER: -46 dBm

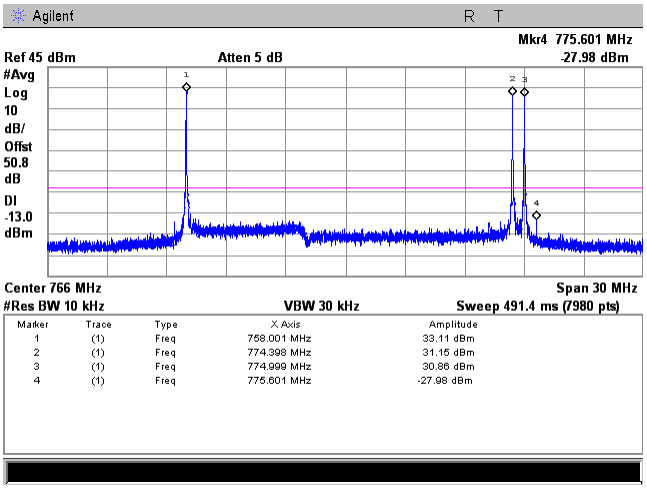


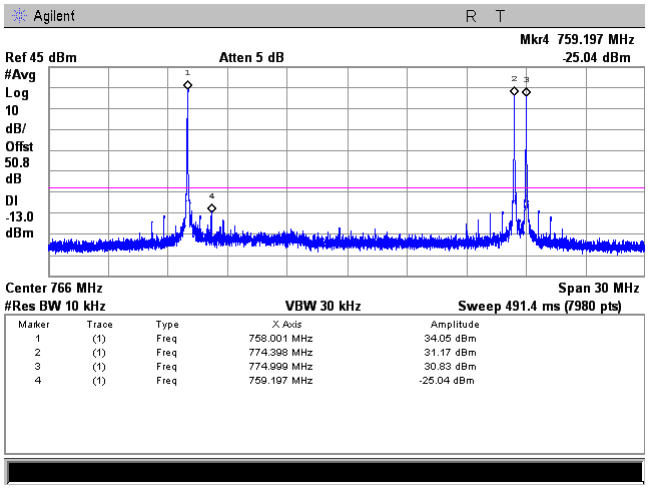


Test specification:	Section 90.210(b), Intermodulation product test		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b); KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	28-Jul-15		
Temperature: 24.2 °C	Air Pressure: 1004 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

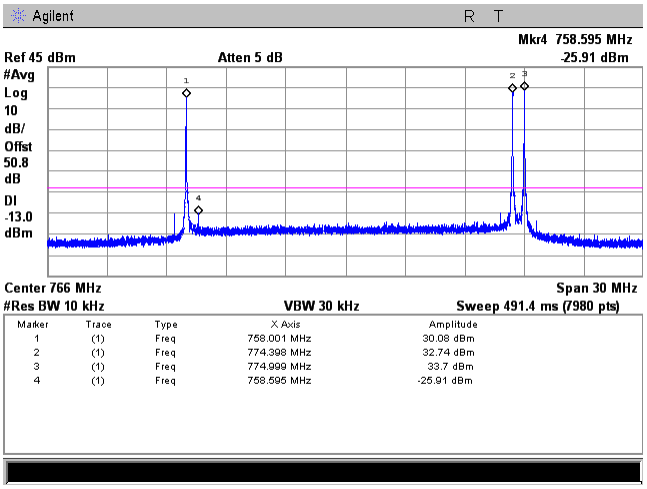
Plot 7.6.2 Intermodulation test results in the 758 - 775 MHz frequency range

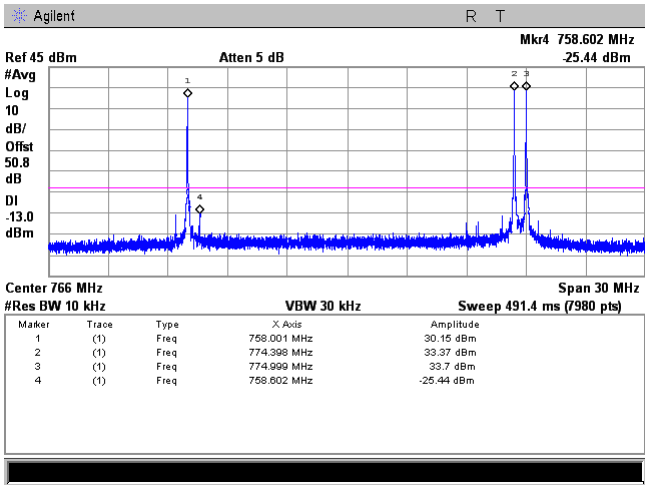
OPERATING FREQUENCY RANGE: 758 – 775 MHz
DETECTOR USED: Average
CONFIGURATION: Downlink
OPERATION FREQUENCES: F_{low}, F_{high}-600 kHz, F_{high}
CONFIGURATION: Single Band Multi Channel
COMPOSITE POWER SETTING: 37 dBm (2*34 dBm)
INPUT POWER: -56 dBm
INPUT POWER: -46 dBm





CONFIGURATION: Single Band Single Channel
POWER SETTING: 37 dBm
INPUT POWER: -56 dBm
INPUT POWER: -46 dBm

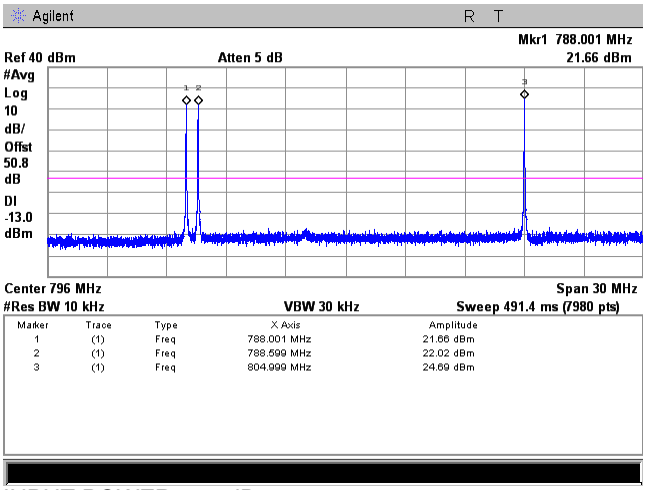




Test specification:	Section 90.210(b), Intermodulation product test		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b); KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	28-Jul-15		
Temperature: 24.2 °C	Air Pressure: 1004 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

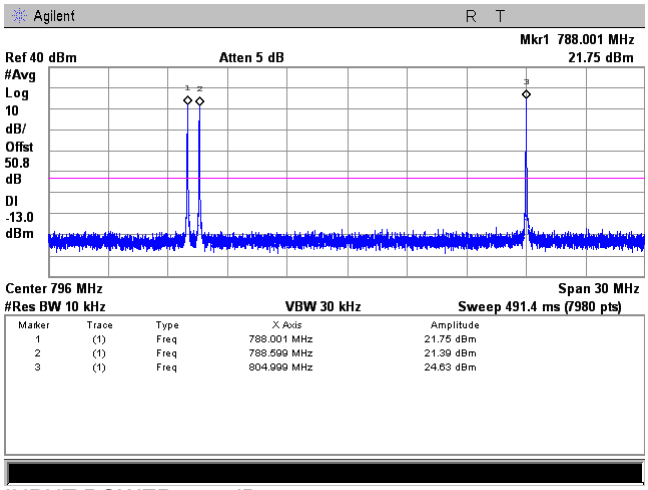
Plot 7.6.3 Intermodulation test results in the 788 - 805 MHz frequency range

OPERATING FREQUENCY RANGE: 788 – 805 MHz
DETECTOR USED: Average
CONFIGURATION: Uplink
OPERATION FREQUENCES: F_{low}, F_{low}+600 kHz, F_{high}
CONFIGURATION: Single Band Multi Channel
COMPOSITE POWER SETTING: 37 dBm (2*34 dBm)
INPUT POWER: -56 dBm



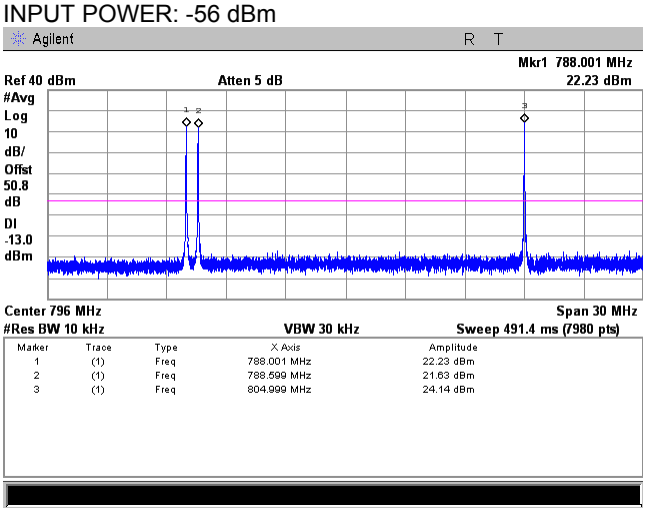
INPUT POWER: -54 dBm

INPUT POWER: -46 dBm

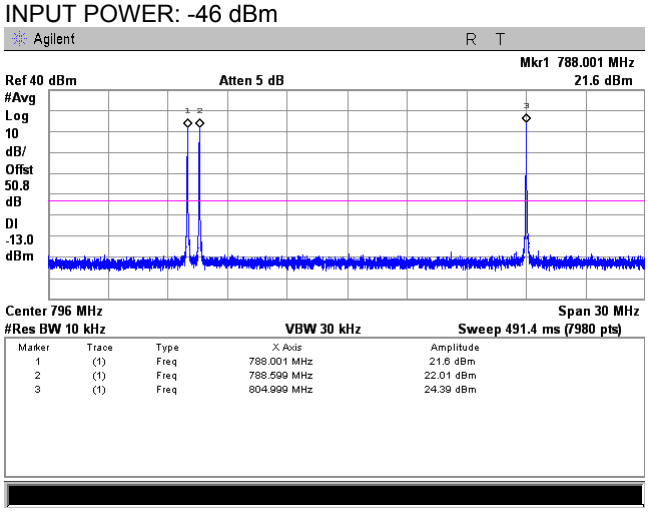


INPUT POWER: -44 dBm

CONFIGURATION: Single Band Single Channel
POWER SETTING: 37 dBm
INPUT POWER: -56 dBm



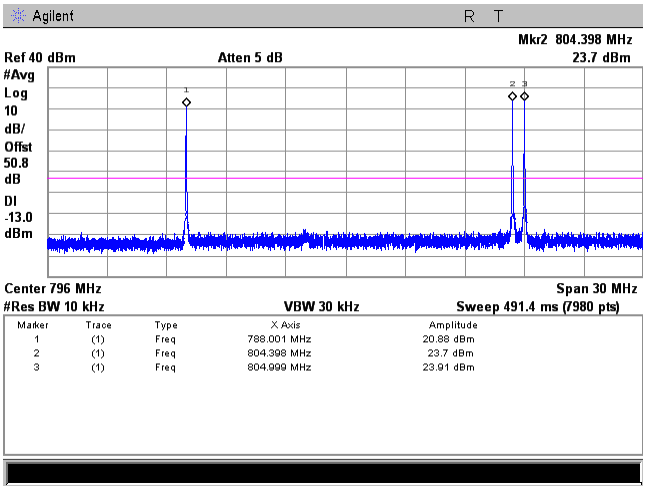
INPUT POWER: -46 dBm



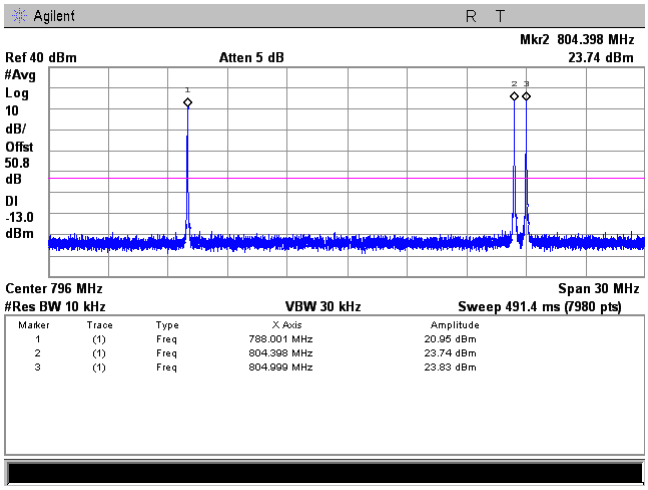
Test specification:	Section 90.210(b), Intermodulation product test		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b); KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	28-Jul-15		
Temperature: 24.2 °C	Air Pressure: 1004 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.6.4 Intermodulation test results in the 788 - 805 MHz frequency range

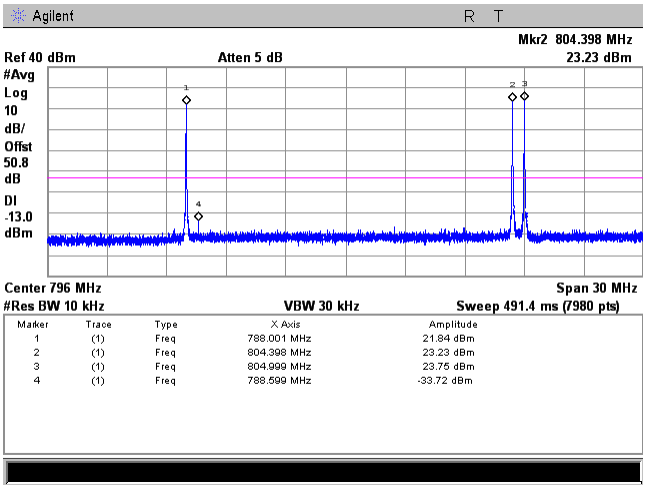
OPERATING FREQUENCY RANGE: 788 – 805 MHz
DETECTOR USED: Average
AVERAGING: On, 100 traces
CONFIGURATION: Uplink
OPERATION FREQUENCES: F_{low}, F_{high}-600 kHz, F_{high}
CONFIGURATION: Single Band Multi Channel
INPUT POWER: -56 dBm



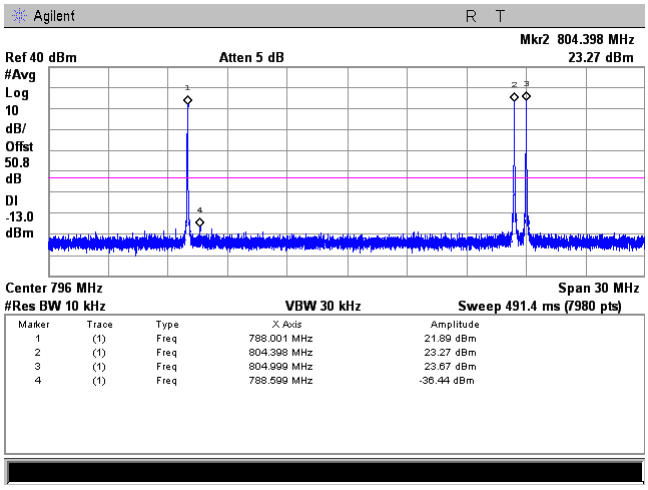
INPUT POWER: -46 dBm



CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm



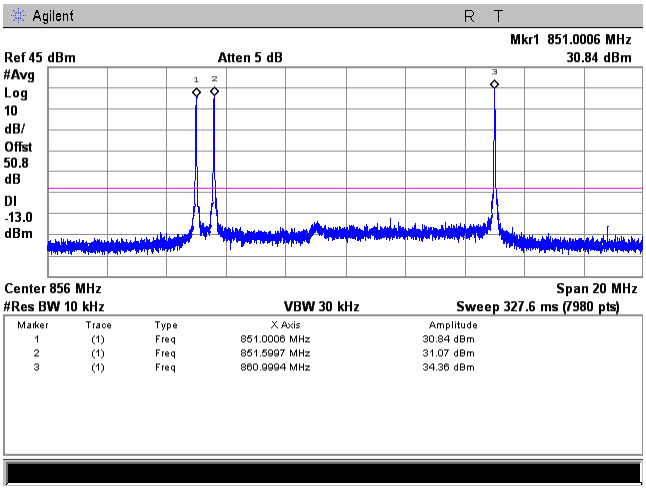
INPUT POWER: -46 dBm

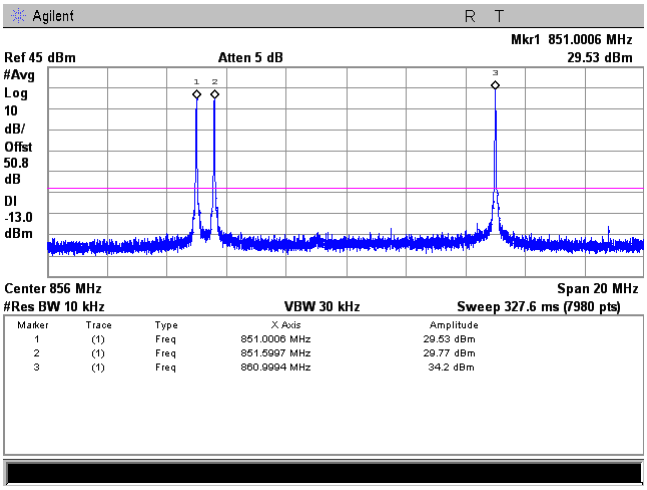


Test specification:	Section 90.210(b), Intermodulation product test		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b); KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	28-Jul-15		
Temperature: 24.2 °C	Air Pressure: 1004 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

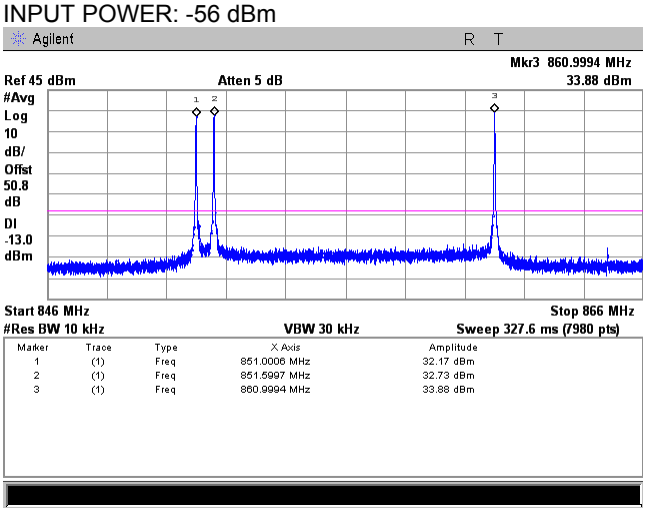
Plot 7.6.5 Intermodulation results in the 851 - 861 MHz frequency range

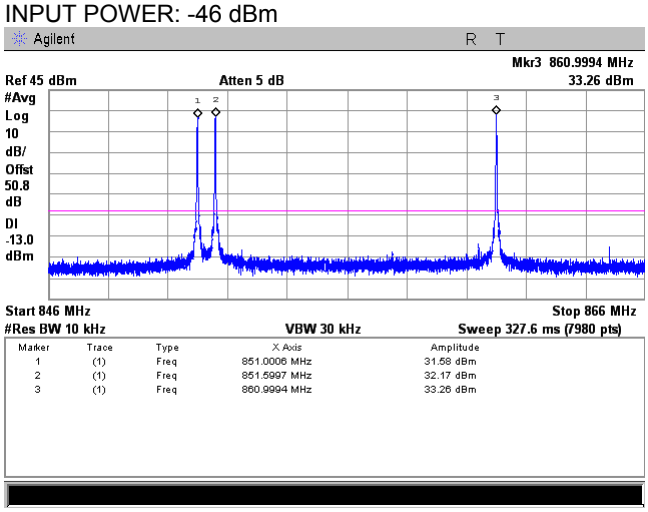
OPERATING FREQUENCY RANGE: 851 – 861 MHz
DETECTOR USED: Average
CONFIGURATION: Downlink
OPERATION FREQUENCES: F_{low}, F_{low}+600 kHz, F_{high}
CONFIGURATION: Single Band Multi Channel
COMPOSITE POWER SETTING: 37 dBm (2*34 dBm)
INPUT POWER: -56 dBm
INPUT POWER: -46 dBm





CONFIGURATION: Single Band Single Channel
POWER SETTING: 37 dBm
INPUT POWER: -56 dBm
INPUT POWER: -46 dBm

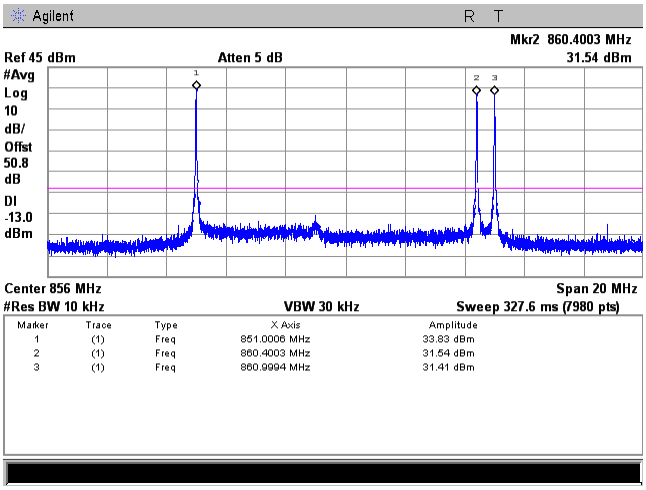


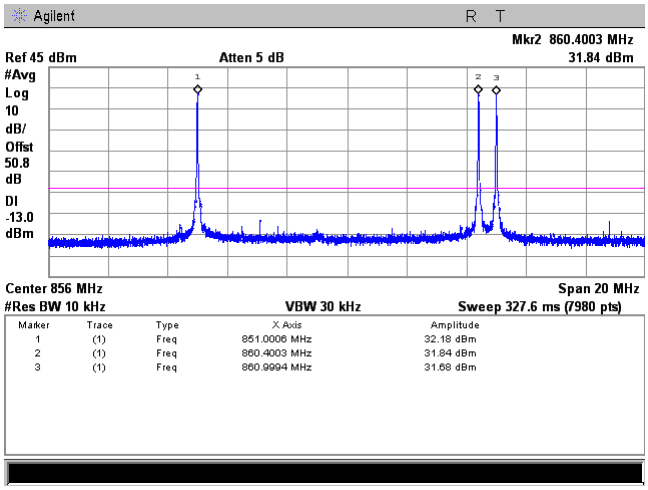


Test specification:	Section 90.210(b), Intermodulation product test		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b); KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	28-Jul-15		
Temperature: 24.2 °C	Air Pressure: 1004 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

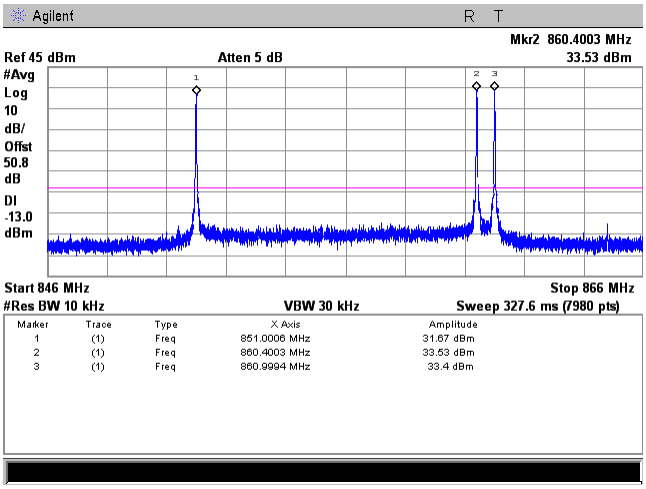
Plot 7.6.6 Intermodulation results in the 851 - 861 MHz frequency range

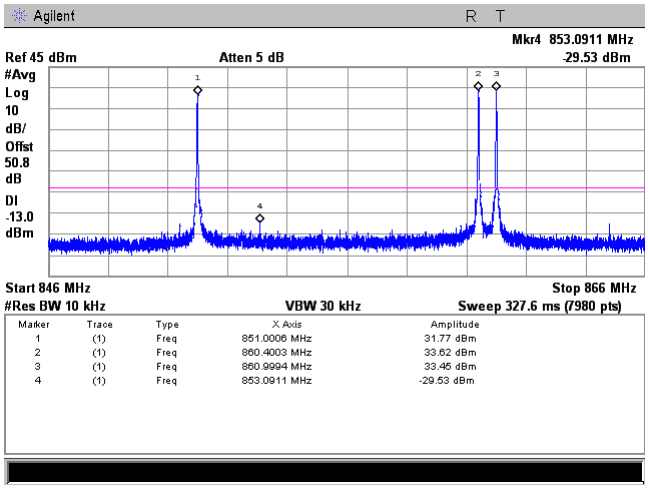
OPERATING FREQUENCY RANGE: 851 – 861 MHz
DETECTOR USED: Average
CONFIGURATION: Downlink
OPERATION FREQUENCES: F_{low}, F_{high}-600 kHz, F_{high}
CONFIGURATION: Single Band Multi Channel
COMPOSITE POWER SETTING: 37 dBm (2*34 dBm)
INPUT POWER: -56 dBm
INPUT POWER: -46 dBm





CONFIGURATION: Single Band Single Channel
POWER SETTING: 37 dBm
INPUT POWER: -51 dBm
INPUT POWER: -41 dBm

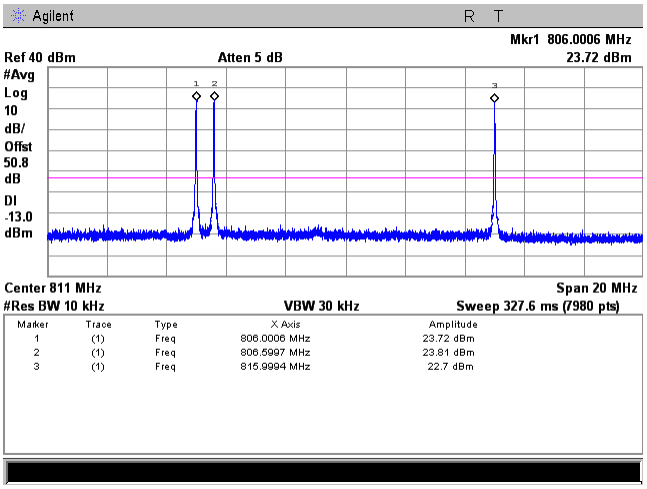




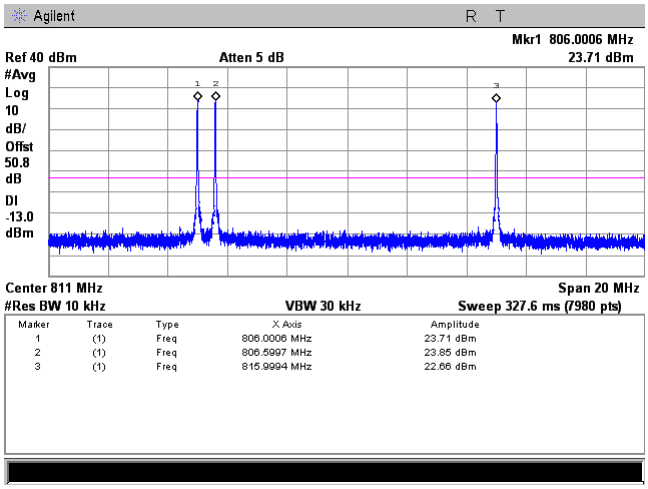
Test specification:	Section 90.210(b), Intermodulation product test		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b); KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	28-Jul-15		
Temperature: 24.2 °C	Air Pressure: 1004 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.6.7 Intermodulation test results in the 806 - 816 MHz frequency range

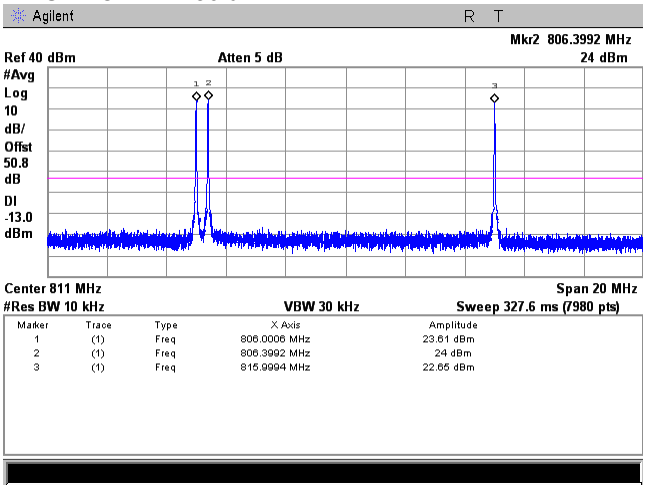
OPERATING FREQUENCY RANGE: 806 – 816 MHz
DETECTOR USED: Average
CONFIGURATION: Uplink
OPERATION FREQUENCES: F_{low}, F_{low}+600 kHz, F_{high}
CONFIGURATION: Single Band Multi Channel
INPUT POWER: -56 dBm



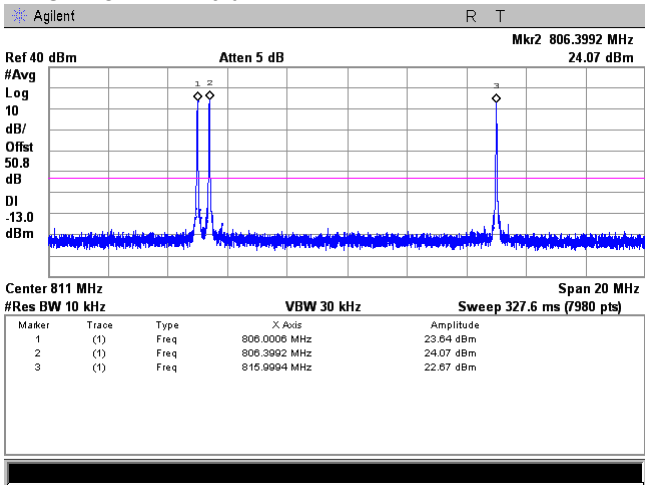
INPUT POWER: -46 dBm



CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm



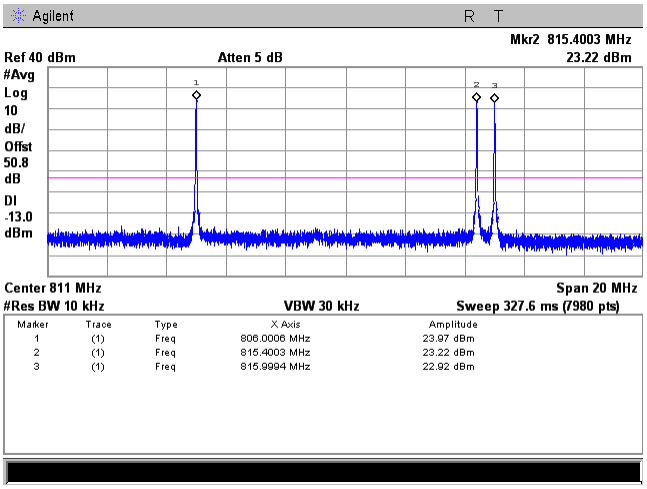
INPUT POWER: -46 dBm

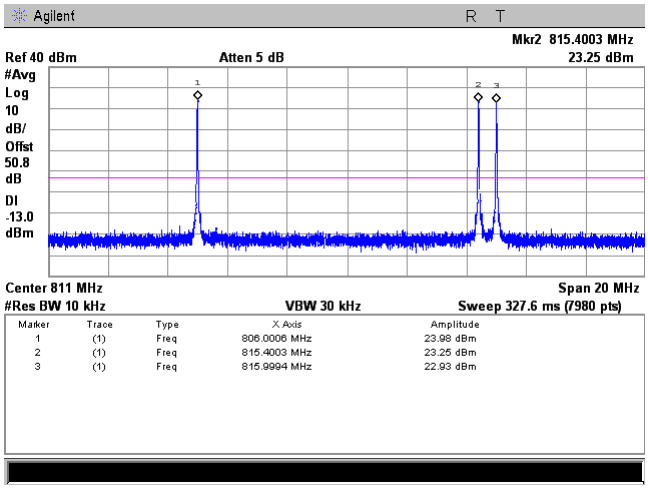


Test specification:	Section 90.210(b), Intermodulation product test		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b); KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	28-Jul-15		
Temperature: 24.2 °C	Air Pressure: 1004 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

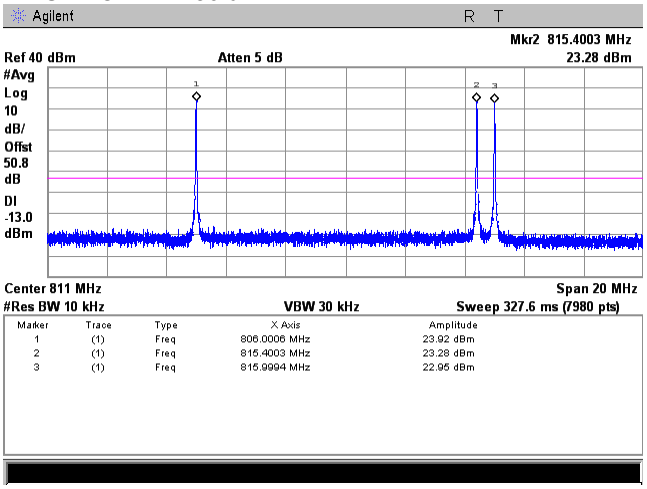
Plot 7.6.8 Intermodulation test results in the 806 - 816 MHz frequency range

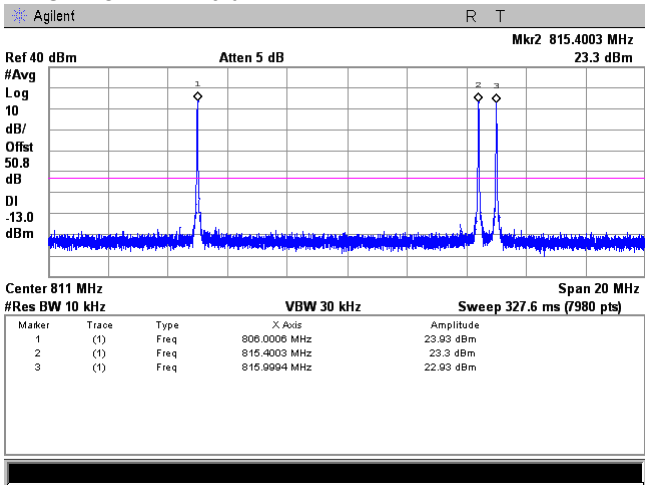
OPERATING FREQUENCY RANGE: 806 – 816 MHz
DETECTOR USED: Average
CONFIGURATION: Uplink
OPERATION FREQUENCES: F_{low}, F_{high}-600 kHz, F_{high}
CONFIGURATION: Single Band Multi Channel
INPUT POWER: -56 dBm
INPUT POWER: -46 dBm





CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm
INPUT POWER: -46 dBm





Test specification:	Section 90.219(e)(2), Noise figure		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	03-Aug-15		
Temperature: 23.2 ºC	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

7.7 Noise figure test

7.7.1 General

This test was performed to measure the noise figure at RF antenna connector. Specification test limits are given in Table 7.6.1. The test results are provided in the associated plots.

Table 7.7.1 Noise figure limits

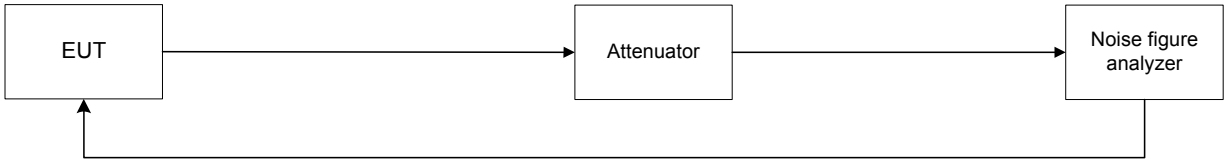
Frequency range	Noise figure limit, dB
Class B Booster	
758.0 – 775.0 / 788.0 – 805.0	9.0
851.0 – 861.0 / 806.0 – 816.0	

7.7.2 Test procedure

7.7.2.1 The EUT was set up as shown inFigure 7.8.1, energized and its proper operation was checked.

7.7.2.2 The noise figure was measured with Noise Figure Analyzer as provided in the associated plots.

Figure 7.7.1 Noise figure test setup



Test specification:	Section 90.219(e)(2), Noise figure		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	03-Aug-15		
Temperature: 23.2 ºC	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Table 7.7.2 Noise figure test results

Frequency, MHz	Noise figure, dB	Limit, dB	Margin, dB	Verdict
Frequency range, 758 – 775 MHz Downlink				
758.00	6.33	9.0	-2.67	Pass
766.50	5.35	9.0	-3.65	Pass
775.00	5.89	9.0	-3.11	Pass
Frequency range, 788 – 805 MHz Uplink				
788.00	3.84	9.0	-5.16	Pass
796.50	2.99	9.0	-6.01	Pass
805.00	2.79	9.0	-6.21	Pass
Frequency range, 851 – 861 MHz Downlink				
851.00	4.86	9.0	-4.14	Pass
856.00	3.73	9.0	-5.27	Pass
861.00	3.60	9.0	-5.40	Pass
Frequency range, 806 –816 MHz Uplink				
806.00	2.91	9.0	-6.09	Pass
811.00	2.91	9.0	-6.09	Pass
816.00	2.80	9.0	-6.20	Pass

Reference numbers of test equipment used

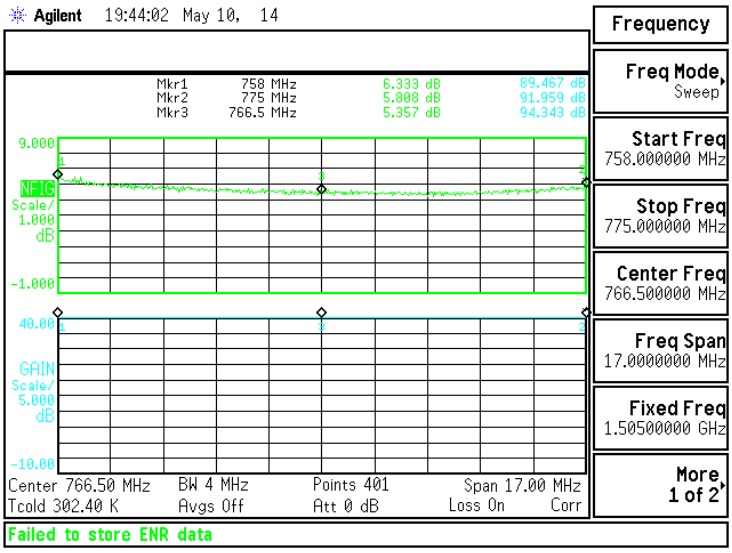
HL 3174	HL 3434	HL 3768	HL 4068				

Full description is given in Appendix A.

Test specification:	Section 90.219(e)(2), Noise figure		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	03-Aug-15		
Temperature: 23.2 °C	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

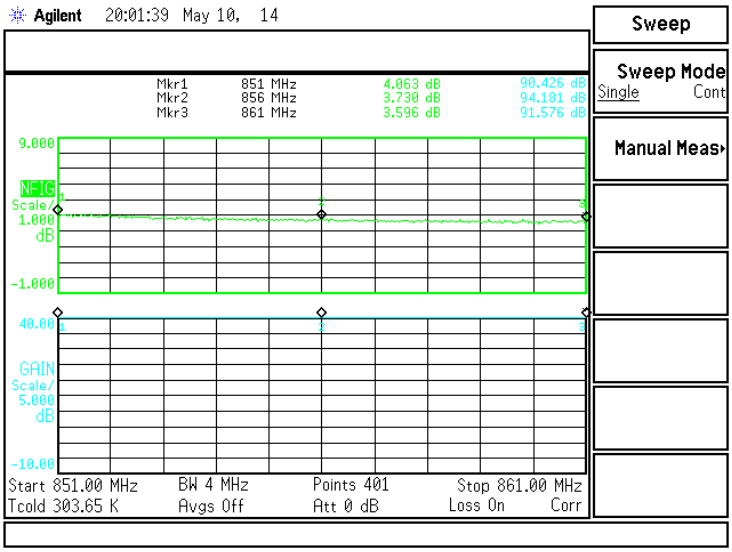
Plot 7.7.1 Noise figure test results at frequency range 758 - 775 MHz

DETECTOR USED: Average
NOISE FIGURE: Within the passband
CONFIGURATION: Downlink
POWER SETTING: 37dBm



Plot 7.7.2 Noise figure test results at frequency range 851 - 861 MHz

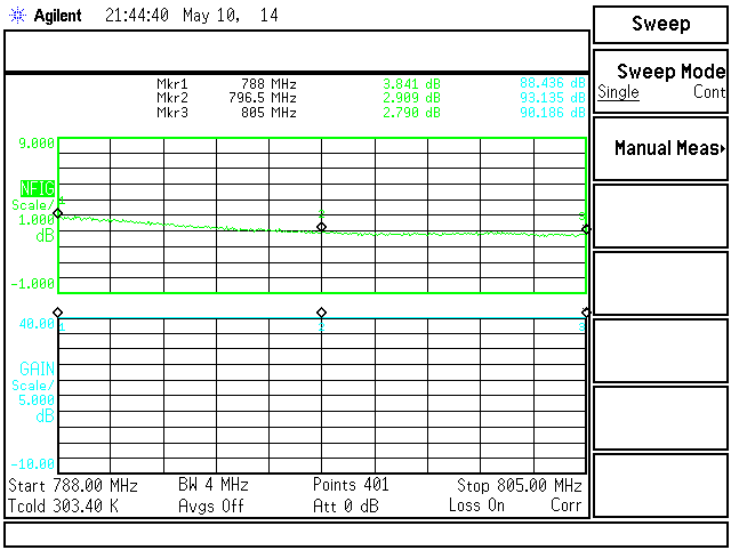
DETECTOR USED: Average
NOISE FIGURE: Within the passband
CONFIGURATION: Downlink
POWER SETTING: 37dBm



Test specification:	Section 90.219(e)(2), Noise figure		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v03		
Test mode:	Compliance	Verdict:	PASS
Date(s):	03-Aug-15		
Temperature: 23.2 °C	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

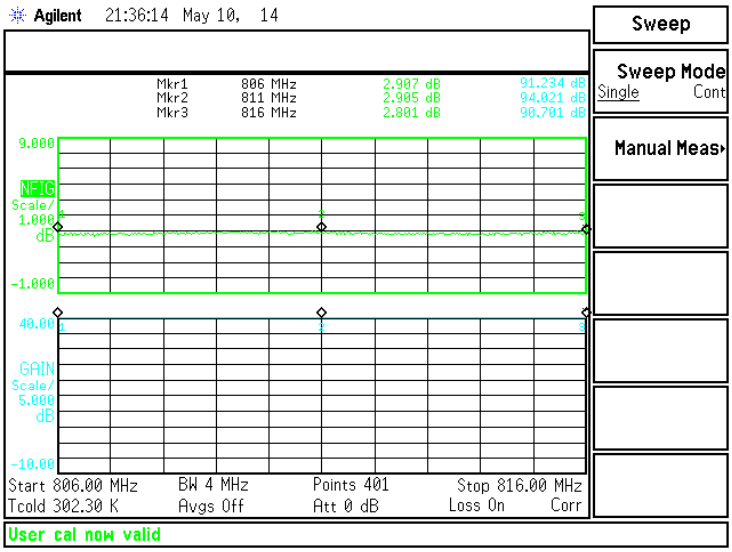
Plot 7.7.3 Noise figure test results at frequency range 788 - 805 MHz

DETECTOR USED: Average
NOISE FIGURE: Within the passband
CONFIGURATION: Uplink
POWER SETTING: 28 dBm:



Plot 7.7.4 Noise figure test results at frequency range 806 - 816 MHz

DETECTOR USED: Average
NOISE FIGURE: Within the passband
CONFIGURATION: Uplink
POWER SETTING: 28 dBm:



8 APPENDIX A Test equipment and ancillaries used for tests

HL No	Description	Manufacturer	Model	Ser. No.	Last Cal./ Check	Due Cal./ Check
0446	Antenna, Loop, Active, 10 kHz - 30 MHz	EMCO	6502	2857	13-Jan-15	13-Jan-16
0521	EMI Receiver (Spectrum Analyzer) with RF filter section 9 kHz-6.5 GHz	Hewlett Packard	8546A	3617A 00319, 3448A002 53	22-Oct-14	22-Oct-15
0539	Generator Signal, 10 kHz - 1.2 GHz	Marconi Instruments	2023	112121/04 1	31-Aug-14	31-Aug-15
0557	Generator Signal, 9 KHz - 1.2 GHz	Marconi Instruments	2023	112225/08 0	02-Jul-15	02-Jul-16
0604	Antenna BiconiLog Log-Periodic/T Bow-TIE, 26 - 2000 MHz	EMCO	3141	9611-1011	15-May-15	15-May-16
0661	Generator Swept Signal, 10 MHz to 40 GHz, + 10 dBm	Hewlett Packard	83640B	3614A002 66	07-Apr-15	07-Apr-16
1908	Power Splitter / Combiner 0.5-1 GHz	Mini-Circuits	ZAPD-1	1908	14-Jul-15	14-Jul-17
1984	Antenna, Double-Ridged Waveguide Horn, 1-18 GHz, 300 W	EMC Test Systems	3115	9911-5964	17-Apr-15	17-Apr-16
2357	Power Supply 48VDC / 10A	Advice Electronics	AR4810	009038	08-Apr-15	08-Apr-16
2667	Signal generator, 9 kHz - 3.3 GHz	Rohde & Schwarz	SML03	101909	07-May-15	07-May-16
2780	EMC analyzer, 100 Hz to 26.5 GHz	Agilent Technologies	E7405A	MY451024 62	02-Sep-14	02-Sep-15
2909	Spectrum analyzer, ESA-E, 100 Hz to 26.5 GHz	Agilent Technologies	E4407B	MY414447 62	22-Feb-15	22-Feb-16
3174	Attenuator, N-type, 10 dB, DC to 18 GHz, 5 W	Mini-Circuits	BW-N10W5+	NA	05-Apr-15	05-Apr-16
3234	Signal generator, 9 kHz - 3.3 GHz	Rohde & Schwarz	SML03	103387	12-Apr-15	12-Apr-16
3301	Power Meter, P-series, 50 MHz to 40 GHz	Agilent Technologies	N1911A	MY451010 57	30-Jan-15	30-Jan-16
3302	Power sensor, P-Series, 50 MHz to 40 GHz, -35/30 to 20 dBm	Agilent Technologies	N1922A	MY452405 86	30-Jan-15	30-Jan-16
3390	Microwave Cable Assembly, 26.5 GHz, 1.0 m, N type/N type	Suhner Sucoflex	104EA	3390	04-Feb-15	04-Feb-16
3434	Test Cable , DC-18 GHz, 1.5 m, SMA - SMA	Mini-Circuits	CBL-5FT-SMSM+	25683	11-Mar-15	11-Mar-16
3622	Cable RF, 6.0 m, N type-N type, DC-6.5 GHz	Alpha Wire	RG 214/U	NA	28-Dec-14	28-Dec-15
3623	Cable RF, 6.0 m, N type-N type, DC-6.5 GHz	Belden	MIL C-17	NA	16-Sep-14	16-Sep-15
3768	Attenuator, N-type, 20 dB, DC to 18 GHz, 5 W	Mini-Circuits	BW-N20W5+	NA	30-Dec-14	30-Dec-15
3770	Attenuator, N-type, 20 dB, DC to 18 GHz, 5 W	Mini-Circuits	BW-N20W5+	NA	18-Aug-15	18-Aug-16
3776	Attenuator, N-type, 10 dB, DC to 18 GHz, 5 W	Mini-Circuits	BW-N10W5+	NA	30-Dec-14	30-Dec-15

HL No	Description	Manufacturer	Model	Ser. No.	Last Cal./ Check	Due Cal./ Check
3779	Attenuator, N-type, 10 dB, DC to 18 GHz, 5 W	Mini-Circuits	BW-N10W5+	NA	31-May-15	31-May-16
3780	Attenuator, N-type, 10 dB, DC to 18 GHz, 5 W	Mini-Circuits	BW-N10W5+	NA	18-Aug-15	18-Aug-16
3787	Precision Fixed Attenuator, 50 Ohm, 5 W, 10 dB, DC to 18 GHz	Mini-Circuits	BW-S10W5+	NA	02-Dec-14	02-Dec-15
3788	Precision Fixed Attenuator, 50 Ohm, 5 W, 10 dB, DC to 18 GHz	Mini-Circuits	BW-S10W5+	NA	02-Dec-14	02-Dec-15
4068	Attenuator, SMA, 30 dB, DC to 12.4 GHz	Midwest Microwave	ATT-0527-30-SMA-07	NA	13-Jul-15	13-Jul-16
4224	Precision Fixed Attenuator, 50 Ohm, 5W, 10dB, DC to 18000 MHz	Mini-Circuits	BW-N10W5+	NA	09-Mar-15	09-Mar-16
4273	Test Cable , DC-18 GHz, 1.8 m, SMA/M - N/M	Mini-Circuits	CBL-6FT-SMNM+	70045	28-May-15	28-May-16
4274	Test Cable , DC-18 GHz, 1.8 m, SMA/M - N/M	Mini-Circuits	CBL-6FT-SMNM+	70047	28-May-15	28-May-16
4275	Test Cable , DC-18 GHz, 1.8 m, SMA/M - N/M	Mini-Circuits	CBL-6FT-SMNM+	70050	20-Nov-14	20-Nov-15
4276	Test Cable , DC-18 GHz, 3.05 m, N/M - N/M	Mini-Circuits	APC-10FT-NMNM+	0747A	20-Nov-14	20-Nov-15
4278	Test Cable , DC-18 GHz, 4.6 m, N/M - N/M	Mini-Circuits	APC-15FT-NMNM+	0755A	20-Nov-14	20-Nov-15
4353	Low Loss Armored Test Cable, DC - 18 GHz, 6.2 m, N type-M/N type-M	MegaPhase	NC29-N1N1-244	12025101003	15-Mar-15	15-Mar-16
4354	Vector Signal Generator,100 kHz to 6.0 GHz	Rohde & Schwarz	SMJ 100A	1403.4507K02-101777-rc	27-Jun-14	27-Jun-16
4368	4-way Power Divider, 1.0 to 18.0 GHz, 50 Ohm, SMA-FM	Tiger Micro-Electronics Institute	TGP-A0411	11-JSPE902-018	18-May-14	18-May-16
4413	Resistive divider, DC to 1.5 GHz, 2 W	Microlab	DA-3FN	NA	15-Jul-14	15-Jul-16
4722	Low Loss Armored Test Cable, DC - 18 GHz, 6.2 m, N type-M/N type-M	MegaPhase	NC29-N1N1-244	51228701001	26-Aug-14	26-Aug-15
4932	Microwave preamplifier, 500 MHz to 18 GHz, 40 dB Gain	Com-Power Corporation	PAM-118A	551029	18-Nov-14	18-Nov-15

8.1 Test equipment and ancillaries used for tests

HL No.	Description	Manufacturer	Model	Ser. No.	Last Cal./ Check	Due Cal./ Check
NA	Noise Figure Analyzer	Agilent	N8973A	GB39490364	20-Aug-15	19-Aug-17
NA	Noise Source	Agilent	N4000A	MY44420199	20-Aug-15	19-Aug-17

9 APPENDIX B Measurement uncertainties

Expanded uncertainty at 95% confidence in Hermon Labs EMC measurements

Test description	Expanded uncertainty
Transmitter tests	
Carrier power conducted at antenna connector	± 1.7 dB
Carrier power radiated (substitution method)	± 4.5 dB
Occupied bandwidth	±8%
Conducted emissions at RF antenna connector	9 kHz to 2.9 GHz: ± 2.6 dB 2.9 GHz to 6.46 GHz: ± 3.5 dB 6.46 GHz to 13.2 GHz: ± 4.3 dB 13.2 GHz to 22.0 GHz: ± 5.0 dB 22.0 GHz to 26.8 GHz: ± 5.5 dB 26.8 GHz to 40.0 GHz: ± 4.8 dB
Spurious emissions radiated 30 MHz – 40 GHz (substitution method)	± 4.5 dB
Frequency error	30 – 300 MHz: ± 50.5 Hz (1.68 ppm) 300 – 1000 MHz: ± 168 Hz (0.56 ppm)
Transient frequency behaviour	187 Hz ± 13.9 %
Duty cycle, timing (Tx ON / OFF) and average factor measurements	± 1.0 %

Hermon Laboratories is accredited by A2LA for calibration according to present requirements of ISO/IEC 17025 and NCSL Z540-1. The accreditation is granted to perform calibration of parameters that are listed in the Scope of Hermon Laboratories Accreditation.
Hermon Laboratories calibrates its reference and transfer standards by calibration laboratories accredited to ISO/IEC 17025 by a mutually recognized Accreditation Body or by a recognized national metrology institute. All reference and transfer standards used in the calibration system are traceable to national or international standards.
In-house calibration of all test and measurement equipment is performed on a regular basis according to Hermon Laboratories calibration procedures, manufacturer calibration/verification procedures or procedures defined in the relevant standards. The Hermon Laboratories test and measurement equipment is calibrated within the tolerances specified by the manufacturers and/or by the relevant standards.

10 APPENDIX C Test facility description

Tests were performed at Hermon Laboratories Ltd., which is a fully independent, private, EMC, safety, environmental and telecommunication testing facility.
Hermon Laboratories is listed by the Federal Communications Commission (USA) for all parts of Code of Federal Regulations 47 (CFR 47), Registration Numbers 90624 for OATS and 90623 for the anechoic chamber; by Industry Canada for electromagnetic emissions (file numbers IC 2186A-1 for OATS), certified by VCCI, Japan (the registration numbers are R-808 for OATS, R-1082 for anechoic chamber, G-27 for full-anechoic chamber for RE measurements above 1 GHz, C-845 for conducted emissions site, T-1606 for conducted emissions at telecommunication ports), has a status of a Telefication - Listed Testing Laboratory, Certificate No. L138/00. The laboratory is accredited by American Association for Laboratory Accreditation (USA) according to ISO/IEC 17025 for electromagnetic compatibility, product safety, telecommunications testing and environmental simulation (for exact scope please refer to Certificate No. 839.01). The FCC Designation Number is US1003.

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11 APPENDIX D Specification references

47CFR part 90: 2014	Private land mobile radio services
47CFR part 2: 2014	Frequency allocations and radio treaty matters; general rules and regulations
ANSI C63.2: 1996	American National Standard for Instrumentation-Electromagnetic Noise and Field Strength, 10 kHz to 40 GHz-Specifications.
ANSI C63.4: 2009	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.
ANSI/TIA/EIA-603-D:2010	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards
KDB 935210 D02 v03, June 5.2015	Signal Boosters Basic Certification Requirements
KDB 935210 D05 v01, June 5.2015	Measurements Guidance for Industrial and Non-Consumer Signal Booster, Repeater, and Amplifier Devices

12 APPENDIX E Test equipment correction factors

Antenna factor
Active loop antenna
Model 6502, S/N 2857, HL 0446

Frequency, MHz	Magnetic antenna factor, dB	Electric antenna factor, dB
0.009	-32.8	18.7
0.010	-33.8	17.7
0.020	-38.3	13.2
0.050	-41.1	10.4
0.075	-41.3	10.2
0.100	-41.6	9.9
0.150	-41.7	9.8
0.250	-41.6	9.9
0.500	-41.8	9.8
0.750	-41.9	9.7
1.000	-41.4	10.1
2.000	-41.5	10.0
3.000	-41.4	10.2
4.000	-41.4	10.1
5.000	-41.5	10.1
10.000	-41.9	9.6
15.000	-41.9	9.6
20.000	-42.2	9.3
25.000	-42.8	8.7
30.000	-44.0	7.5

Antenna factor in dB(1/m) is to be added to receiver meter reading in dB(μV) to convert it into field strength in dB(μV/m).

Antenna factor
Biconilog antenna EMCO Model 3141
Ser.No.1011, HL 0604

Frequency, MHz	Antenna factor, dB(1/m)	Frequency, MHz	Antenna factor, dB(1/m)	Frequency, MHz	Antenna factor, dB(1/m)
26	7.8	580	20.6	1320	27.8
28	7.8	600	21.3	1340	28.3
30	7.8	620	21.5	1360	28.2
40	7.2	640	21.2	1380	27.9
60	7.1	660	21.4	1400	27.9
70	8.5	680	21.9	1420	27.9
80	9.4	700	22.2	1440	27.8
90	9.8	720	22.2	1460	27.8
100	9.7	740	22.1	1480	28.0
110	9.3	760	22.3	1500	28.5
120	8.8	780	22.6	1520	28.9
130	8.7	800	22.7	1540	29.6
140	9.2	820	22.9	1560	29.8
150	9.8	840	23.1	1580	29.6
160	10.2	860	23.4	1600	29.5
170	10.4	880	23.8	1620	29.3
180	10.4	900	24.1	1640	29.2
190	10.3	920	24.1	1660	29.4
200	10.6	940	24.0	1680	29.6
220	11.6	960	24.1	1700	29.8
240	12.4	980	24.5	1720	30.3
260	12.8	1000	24.9	1740	30.8
280	13.7	1020	25.0	1760	31.1
300	14.7	1040	25.2	1780	31.0
320	15.2	1060	25.4	1800	30.9
340	15.4	1080	25.6	1820	30.7
360	16.1	1100	25.7	1840	30.6
380	16.4	1120	26.0	1860	30.6
400	16.6	1140	26.4	1880	30.6
420	16.7	1160	27.0	1900	30.6
440	17.0	1180	27.0	1920	30.7
460	17.7	1200	26.7	1940	30.9
480	18.1	1220	26.5	1960	31.2
500	18.5	1240	26.5	1980	31.6
520	19.1	1260	26.5	2000	32.0
540	19.5	1280	26.6		
560	19.8	1300	27.0		

Antenna factor in dB(1/m) is to be added to receiver meter reading in dB(μV) to convert it into field strength in dB(μV/m).

Antenna factor
Double-ridged wave guide horn antenna
Model 3115, S/N 9911-5964, HL1984

Frequency, MHz	Antenna factor, dB(1/m)
1000.0	24.7
1500.0	25.7
2000.0	27.6
2500.0	28.9
3000.0	31.2
3500.0	32.0
4000.0	32.5
4500.0	32.7
5000.0	33.6
5500.0	35.1
6000.0	35.4
6500.0	34.9
7000.0	36.1
7500.0	37.8
8000.0	38.0
8500.0	38.1
9000.0	39.1
9500.0	38.3
10000.0	38.6
10500.0	38.2
11000.0	38.7
11500.0	39.5
12000.0	40.0
12500.0	40.4
13000.0	40.5
13500.0	41.1
14000.0	41.6
14500.0	41.7
15000.0	38.7
15500.0	38.2
16000.0	38.8
16500.0	40.5
17000.0	42.5
17500.0	45.9
18000.0	49.4

Antenna factor in dB(1/m) is to be added to receiver meter reading in dB(μV) to convert it into field strength in dB(μV/m).

Cable loss
Cable coaxial, Microwave Cable Assembly, 104EA, 18 GHz, 1.0 m
Suhner Sucoflex, HL 3390

Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB
10	0.03	4800	0.55	9800	0.89	14900	1.07
30	0.04	4900	0.56	9900	0.89	15000	1.07
50	0.05	5000	0.57	10000	0.86	15100	1.08
100	0.07	5100	0.58	10100	0.86	15200	1.07
200	0.10	5200	0.58	10200	0.88	15300	1.09
300	0.12	5300	0.59	10300	0.92	15400	1.10
400	0.14	5400	0.59	10400	0.94	15500	1.10
500	0.16	5500	0.60	10500	0.96	15600	1.12
600	0.17	5600	0.61	10600	0.93	15700	1.15
700	0.18	5700	0.61	10700	0.89	15800	1.15
800	0.20	5800	0.63	10800	0.89	15900	1.17
900	0.21	5900	0.63	10900	0.88	16000	1.14
1000	0.23	6000	0.64	11000	0.92	16100	1.14
1100	0.24	6100	0.64	11100	0.91	16200	1.15
1200	0.25	6200	0.64	11200	0.89	16300	1.14
1300	0.27	6300	0.65	11300	0.88	16400	1.13
1400	0.28	6400	0.65	11400	0.88	16500	1.13
1500	0.28	6500	0.66	11500	0.90	16600	1.13
1600	0.30	6600	0.67	11600	0.94	16700	1.14
1700	0.31	6700	0.67	11700	0.96	16800	1.14
1800	0.32	6800	0.67	11800	0.92	16900	1.14
1900	0.33	6900	0.68	11900	0.92	17000	1.14
2000	0.34	7000	0.67	12000	0.91	17100	1.15
2100	0.35	7100	0.68	12100	0.92	17200	1.14
2200	0.35	7200	0.69	12200	0.95	17300	1.15
2300	0.36	7300	0.69	12300	0.98	17400	1.15
2400	0.37	7400	0.68	12400	0.96	17500	1.16
2500	0.39	7500	0.69	12500	0.99	17600	1.16
2600	0.40	7600	0.70	12600	0.96	17700	1.16
2700	0.41	7700	0.71	12700	0.93	17800	1.19
2800	0.42	7800	0.72	12800	0.94	17900	1.21
2900	0.42	7900	0.72	12900	0.98	18000	1.25
3000	0.43	8000	0.72	13000	0.99		
3100	0.44	8100	0.73	13100	0.99		
3200	0.45	8200	0.74	13200	0.99		
3300	0.46	8300	0.75	13300	0.99		
3400	0.46	8400	0.74	13400	1.00		
3500	0.47	8500	0.73	13500	1.02		
3600	0.47	8600	0.73	13600	1.05		
3700	0.47	8700	0.75	13700	1.03		
3800	0.49	8800	0.77	13800	1.02		
3900	0.49	8900	0.77	13900	1.03		
4000	0.50	9000	0.77	14000	1.03		
4100	0.51	9100	0.77	14100	1.05		
4200	0.52	9200	0.78	14200	1.05		
4300	0.52	9300	0.80	14300	1.04		
4400	0.53	9400	0.82	14400	1.03		
4500	0.53	9500	0.82	14600	1.06		
4600	0.54	9600	0.83	14700	1.07		
4700	0.56	9700	0.89	14800	1.08		

Cable loss
Test Cable, Mini-Circuits, CBL-5FT-SMSM+, SMA-SMA, 18 GHz, 1.5 m, S/N 25679
Mini-Circuits, HL 3433

Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB
10.0	0.06	9000	2.01
100	0.17	9500	2.06
500	0.41	10000	2.05
1000	0.58	10500	2.18
1500	0.72	11000	2.26
2000	0.86	11500	2.28
2500	0.96	12000	2.43
3000	1.04	12500	2.53
3500	1.13	13000	2.52
4000	1.23	13500	2.56
4500	1.31	14000	2.60
5000	1.41	14500	2.59
5500	1.49	15000	2.67
6000	1.55	15500	2.76
6500	1.63	16000	2.86
7000	1.71	16500	2.91
7500	1.78	17000	2.95
8000	1.86	17500	3.02
8500	1.92	18000	3.07

Cable loss
Cable coaxial, RG-214/U, N type-N type, 6 m
Alpha Wire, HL 3622

Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB
10	0.13	2100	2.95	4400	4.99
30	0.24	2200	2.99	4500	5.00
50	0.32	2300	3.11	4600	5.17
100	0.47	2400	3.16	4700	5.18
200	0.70	2500	3.31	4800	5.33
300	0.88	2600	3.36	4900	5.34
400	1.05	2700	3.46	5000	5.50
500	1.21	2800	3.52	5100	5.56
600	1.36	2900	3.65	5200	5.76
700	1.49	3000	3.70	5300	5.76
800	1.63	3100	3.82	5400	5.85
900	1.72	3200	3.88	5500	5.88
1000	1.84	3300	3.99	5600	5.96
1100	1.96	3400	4.08	5700	6.02
1200	2.06	3500	4.19	5800	6.06
1300	2.15	3600	4.28	5900	6.14
1400	2.28	3700	4.42	6000	6.17
1500	2.35	3800	4.40	6100	6.28
1600	2.43	3900	4.51	6200	6.36
1700	2.57	4000	4.62	6300	6.47
1800	2.62	4100	4.70	6400	6.51
1900	2.75	4200	4.78	6500	6.65
2000	2.80	4300	4.83		

Cable loss
Cable coaxial, MIL C-17, N type-N type, 6 m
Belden, HL 3623

Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB
10	0.10	2600	4.35	5300	7.67
50	0.30	2700	4.54	5400	7.79
100	0.45	2800	4.70	5500	7.89
200	0.69	2900	4.87	5600	7.94
300	0.89	3000	5.04	5700	8.01
400	1.06	3100	5.19	5800	8.12
500	1.24	3200	5.35	5900	8.19
600	1.38	3300	5.50	6000	8.30
700	1.54	3400	5.65	6100	8.35
800	1.69	3500	5.79	6200	8.45
900	1.83	3600	5.92	6300	8.55
1000	1.96	3700	6.07	6400	8.65
1100	2.14	3800	6.17	6500	8.75
1200	2.31	3900	6.30		
1300	2.38	4000	6.43		
1400	2.51	4100	6.53		
1500	2.63	4200	6.65		
1600	2.76	4300	6.75		
1700	2.90	4400	6.85		
1800	3.04	4500	7.01		
1900	3.19	4600	7.09		
2000	3.35	4700	7.20		
2100	3.51	4800	7.24		
2200	3.67	4900	7.31		
2300	3.84	5000	7.41		
2400	4.01	5100	7.48		
2500	4.18	5200	7.56		

Cable loss
Test cable, Mini-Circuits, S/N 70045, 18 GHz, 1.8 m, SMA/M - N/M
CBL-6FT-SMNM+, HL 4273

Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB
10	0.09	4800	1.76	9800	2.70	14800	3.59
30	0.11	4900	1.78	9900	2.71	14900	3.59
50	0.14	5000	1.81	10000	2.73	15000	3.60
100	0.20	5100	1.82	10100	2.75	15100	3.63
200	0.30	5200	1.86	10200	2.76	15200	3.67
300	0.38	5300	1.89	10300	2.79	15300	3.70
400	0.45	5400	1.92	10400	2.81	15400	3.68
500	0.50	5500	1.96	10500	2.82	15500	3.70
600	0.55	5600	2.00	10600	2.83	15600	3.71
700	0.60	5700	2.03	10700	2.87	15700	3.77
800	0.65	5800	2.04	10800	2.87	15800	3.75
900	0.69	5900	2.07	10900	2.88	15900	3.77
1000	0.73	6000	2.10	11000	2.89	16000	3.79
1100	0.77	6100	2.10	11100	2.91	16100	3.85
1200	0.80	6200	2.11	11200	2.92	16200	3.82
1300	0.84	6300	2.11	11300	2.94	16300	3.83
1400	0.88	6400	2.14	11400	2.95	16400	3.88
1500	0.92	6500	2.15	11500	2.98	16500	3.89
1600	0.95	6600	2.15	11600	3.00	16600	3.92
1700	0.98	6700	2.16	11700	3.02	16700	3.88
1800	1.01	6800	2.19	11800	3.04	16800	3.95
1900	1.04	6900	2.22	11900	3.08	16900	3.91
2000	1.07	7000	2.24	12000	3.09	17000	3.97
2100	1.09	7100	2.26	12100	3.12	17100	3.92
2200	1.13	7200	2.29	12200	3.13	17200	3.94
2300	1.15	7300	2.32	12300	3.16	17300	3.94
2400	1.18	7400	2.36	12400	3.17	17400	3.98
2500	1.21	7500	2.39	12500	3.19	17500	3.93
2600	1.24	7600	2.41	12600	3.20	17600	3.95
2700	1.27	7700	2.43	12700	3.21	17700	3.96
2800	1.30	7800	2.46	12800	3.21	17800	3.97
2900	1.34	7900	2.49	12900	3.22	17900	3.96
3000	1.36	8000	2.52	13000	3.22	18000	3.97
3100	1.38	8100	2.52	13100	3.24		
3200	1.41	8200	2.54	13200	3.24		
3300	1.45	8300	2.59	13300	3.27		
3400	1.46	8400	2.61	13400	3.28		
3500	1.49	8500	2.60	13500	3.31		
3600	1.51	8600	2.63	13600	3.31		
3700	1.55	8700	2.65	13700	3.35		
3800	1.34	8800	2.65	13800	3.37		
3900	1.36	8900	2.65	13900	3.40		
4000	1.38	9000	2.66	14000	3.43		
4100	1.41	9100	2.66	14100	3.45		
4200	1.45	9200	2.67	14200	3.46		
4300	1.46	9300	2.67	14300	3.46		
4400	1.49	9400	2.67	14400	3.49		
4500	1.51	9500	2.68	14500	3.50		
4600	1.55	9600	2.69	14600	3.50		
4700	1.34	9700	2.69	14700	3.52		

Cable loss
Test cable, Mini-Circuits, S/N 70047, 18 GHz, 1.8 m, SMA/M - N/M
CBL-6FT-SMNM+, HL 4274

Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB
10	0.07	4800	1.69	9800	2.62	14800	3.42
30	0.11	4900	1.70	9900	2.63	14900	3.39
50	0.14	5000	1.72	10000	2.64	15000	3.38
100	0.21	5100	1.75	10100	2.64	15100	3.40
200	0.26	5200	1.76	10200	2.66	15200	3.41
300	0.30	5300	1.77	10300	2.67	15300	3.40
400	0.37	5400	1.79	10400	2.68	15400	3.39
500	0.44	5500	1.82	10500	2.68	15500	3.41
600	0.49	5600	1.85	10600	2.70	15600	3.44
700	0.54	5700	1.86	10700	2.71	15700	3.46
800	0.58	5800	1.87	10800	2.73	15800	3.45
900	0.63	5900	1.91	10900	2.74	15900	3.47
1000	0.67	6000	1.94	11000	2.76	16000	3.51
1100	0.71	6100	1.97	11100	2.77	16100	3.56
1200	0.75	6200	1.98	11200	2.78	16200	3.55
1300	0.78	6300	1.99	11300	2.79	16300	3.54
1400	0.81	6400	2.02	11400	2.80	16400	3.57
1500	0.85	6500	2.05	11500	2.82	16500	3.62
1600	0.88	6600	2.06	11600	2.83	16600	3.61
1700	0.91	6700	2.06	11700	2.84	16700	3.60
1800	0.94	6800	2.08	11800	2.85	16800	3.62
1900	0.97	6900	2.10	11900	2.87	16900	3.68
2000	1.00	7000	2.12	12000	2.88	17000	3.70
2100	1.03	7100	2.12	12100	2.89	17100	3.68
2200	1.06	7200	2.13	12200	2.90	17200	3.70
2300	1.08	7300	2.16	12300	2.92	17300	3.80
2400	1.11	7400	2.19	12400	2.94	17400	3.84
2500	1.14	7500	2.22	12500	2.95	17500	3.83
2600	1.16	7600	2.23	12600	2.96	17600	3.83
2700	1.19	7700	2.26	12700	2.98	17700	3.86
2800	1.21	7800	2.30	12800	3.00	17800	3.86
2900	1.27	7900	2.33	12900	3.02	17900	3.80
3000	1.29	8000	2.35	13000	3.03	18000	3.79
3100	1.32	8100	2.37	13100	3.06		
3200	1.35	8200	2.41	13200	3.08		
3300	1.37	8300	2.44	13300	3.09		
3400	1.38	8400	2.47	13400	3.10		
3500	1.41	8500	2.48	13500	3.13		
3600	1.43	8600	2.51	13600	3.17		
3700	1.46	8700	2.53	13700	3.17		
3800	1.47	8800	2.55	13800	3.18		
3900	1.49	8900	2.56	13900	3.22		
4000	1.52	9000	2.57	14000	3.26		
4100	1.55	9100	2.58	14100	3.28		
4200	1.56	9200	2.59	14200	3.30		
4300	1.58	9300	2.59	14300	3.35		
4400	1.60	9400	2.60	14400	3.39		
4500	1.63	9500	2.60	14500	3.39		
4600	1.65	9600	2.61	14600	3.39		
4700	1.67	9700	2.61	14700	3.41		

Cable loss
Test cable, Mini-Circuits, S/N 70050, 18 GHz, 1.8 m, SMA/M - N/M
CBL-6FT-SMNM+, HL 4275

Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB
10	0.08	5000	1.71	10200	2.64	15400	3.46
30	0.11	5100	1.73	10300	2.65	15500	3.47
50	0.14	5200	1.75	10400	2.66	15600	3.52
100	0.21	5300	1.76	10500	2.67	15700	3.55
200	0.30	5400	1.77	10600	2.70	15800	3.55
300	0.37	5500	1.82	10700	2.71	15900	3.55
400	0.43	5600	1.84	10800	2.72	16000	3.61
500	0.49	5700	1.86	10900	2.73	16100	3.62
600	0.54	5800	1.86	11000	2.75	16200	3.63
700	0.58	5900	1.89	11100	2.77	16300	3.62
800	0.62	6000	1.94	11200	2.78	16400	3.66
900	0.66	6100	1.95	11300	2.80	16500	3.71
1000	0.70	6200	1.96	11400	2.82	16600	3.71
1100	0.74	6300	1.97	11500	2.83	16700	3.67
1200	0.78	6400	2.01	11600	2.84	16800	3.69
1300	0.81	6500	2.03	11700	2.86	16900	3.74
1400	0.84	6600	2.02	11800	2.88	17000	3.73
1500	0.88	6700	2.02	11900	2.89	17100	3.71
1600	0.91	6800	2.05	12000	2.90	17200	3.73
1700	0.94	6900	2.06	12100	2.92	17300	3.77
1800	0.97	7000	2.07	12200	2.93	17400	3.77
1900	1.00	7100	2.07	12300	2.94	17500	3.76
2000	1.02	7200	2.08	12400	2.96	17600	3.76
2100	1.05	7300	2.11	12500	2.98	17700	3.78
2200	1.07	7400	2.13	12600	2.99	17800	3.80
2300	1.10	7500	2.15	12700	3.01	17900	3.79
2400	1.13	7600	2.16	12800	3.03	18000	3.78
2500	1.15	7700	2.18	12900	3.05		
2600	1.18	7800	2.21	13000	3.07		
2700	1.20	7900	2.24	13100	3.09		
2800	1.24	8000	2.25	13200	3.12		
2900	1.26	8100	2.26	13300	3.13		
3000	1.28	8200	2.29	13400	3.14		
3100	1.30	8300	2.31	13500	3.16		
3200	1.33	8400	2.33	13600	3.18		
3300	1.36	8500	2.33	13700	3.19		
3400	1.37	8600	2.34	13800	3.21		
3500	1.39	8700	2.36	13900	3.23		
3600	1.42	8800	2.38	14000	3.25		
3700	1.45	8900	2.39	14100	3.26		
3800	1.46	9000	2.40	14200	3.27		
3900	1.48	9100	2.42	14300	3.30		
4000	1.50	9200	2.45	14400	3.32		
4100	1.53	9300	2.46	14500	3.33		
4200	1.55	9400	2.48	14600	3.34		
4300	1.57	9500	2.50	14700	3.36		
4400	1.59	9600	2.52	14800	3.39		
4500	1.61	9700	2.54	14900	3.40		
4600	1.64	9800	2.56	15000	3.41		
4700	1.66	9900	2.58	15100	3.41		
4800	1.67	10000	2.60	15200	3.44		
4900	1.69	10100	2.61	15300	3.46		

Cable loss
Test cable, Mini-Circuits, S/N 0747A, 18 GHz, 3.05 m, N/M - N/M
APC-10FT-NMNM+, HL 4276

Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB
10	0.11	4500	2.81	9300	4.30	14100	5.59
30	0.19	4600	2.85	9400	4.33	14200	5.61
50	0.25	4700	2.88	9500	4.36	14300	5.63
100	0.36	4800	2.92	9600	4.39	14400	5.66
150	0.44	4900	2.95	9700	4.42	14500	5.68
200	0.52	5000	3.00	9800	4.46	14600	5.70
300	0.64	5100	3.03	9900	4.49	14700	5.72
400	0.75	5200	3.08	10000	4.53	14800	5.75
500	0.84	5300	3.11	10100	4.56	14900	5.77
600	0.93	5400	3.13	10200	4.60	15000	5.80
700	1.01	5500	3.16	10300	4.64	15100	5.82
800	1.08	5600	3.20	10400	4.66	15200	5.85
900	1.15	5700	3.22	10500	4.68	15300	5.88
1000	1.22	5800	3.26	10600	4.70	15400	5.91
1100	1.28	5900	3.30	10700	4.73	15500	5.93
1200	1.34	6000	3.34	10800	4.75	15600	5.97
1300	1.40	6100	3.39	10900	4.77	15700	5.99
1400	1.46	6200	3.42	11000	4.80	15800	6.02
1500	1.51	6300	3.47	11100	4.83	15900	6.07
1600	1.57	6400	3.50	11200	4.86	16000	6.08
1700	1.62	6500	3.52	11300	4.88	16100	6.11
1800	1.68	6600	3.55	11400	4.90	16200	6.12
1900	1.72	6700	3.58	11500	4.92	16300	6.14
2000	1.77	6800	3.60	11600	4.94	16400	6.17
2100	1.82	6900	3.62	11700	4.96	16500	6.19
2200	1.87	7000	3.64	11800	4.98	16600	6.21
2300	1.92	7100	3.66	11900	5.01	16700	6.22
2400	1.96	7200	3.68	12000	5.03	16800	6.24
2500	2.01	7300	3.71	12100	5.06	16900	6.26
2600	2.05	7400	3.74	12200	5.09	17000	6.28
2700	2.10	7500	3.78	12300	5.12	17100	6.31
2800	2.14	7600	3.81	12400	5.15	17200	6.33
2900	2.18	7700	3.84	12500	5.17	17300	6.36
3000	2.23	7800	3.87	12600	5.20	17400	6.39
3100	2.27	7900	3.90	12700	5.22	17500	6.42
3200	2.31	8000	3.93	12800	5.25	17600	6.45
3300	2.35	8100	3.96	12900	5.28	17700	6.48
3400	2.39	8200	4.00	13000	5.32	17800	6.50
3500	2.42	8300	4.03	13100	5.35	17900	6.52
3600	2.46	8400	4.06	13200	5.38	18000	6.55
3700	2.50	8500	4.08	13300	5.40		
3800	2.54	8600	4.11	13400	5.42		
3900	2.58	8700	4.13	13500	5.44		
4000	2.61	8800	4.16	13600	5.46		
4100	2.65	8900	4.18	13700	5.48		
4200	2.69	9000	4.21	13800	5.51		
4300	2.73	9100	4.24	13900	5.53		
4400	2.77	9200	4.27	14000	5.56		

Cable loss
Test cable, Mini-Circuits, S/N 0755A, 18 GHz, 4.6 m, N/M - N/M
APC-15FT-NMNM+, HL 4278

Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB
10	0.24	4900	4.19	10000	6.47	15100	8.33
30	0.26	5000	4.25	10100	6.50	15200	8.35
50	0.34	5100	4.29	10200	6.52	15300	8.37
100	0.50	5200	4.32	10300	6.57	15400	8.40
200	0.72	5300	4.38	10400	6.59	15500	8.42
300	0.90	5400	4.41	10500	6.61	15600	8.46
400	1.06	5500	4.46	10600	6.64	15700	8.50
500	1.20	5600	4.51	10700	6.64	15800	8.52
600	1.32	5700	4.56	10800	6.65	15900	8.56
700	1.44	5800	4.59	10900	6.68	16000	8.61
800	1.54	5900	4.64	11000	6.68	16100	8.64
900	1.64	6000	4.69	11100	6.69	16200	8.66
1000	1.74	6100	4.72	11200	6.70	16300	8.70
1100	1.83	6200	4.77	11300	6.74	16400	8.73
1200	1.92	6300	4.80	11400	6.78	16500	8.74
1300	2.01	6400	4.83	11500	6.81	16600	8.75
1400	2.09	6500	4.89	11600	6.84	16700	8.78
1500	2.18	6600	4.90	11700	6.87	16800	8.79
1600	2.25	6700	4.95	11800	6.92	16900	8.81
1700	2.33	6800	5.01	11900	6.98	17000	8.85
1800	2.39	6900	4.99	12000	7.02	17100	8.90
1900	2.47	7000	5.04	12100	7.08	17200	8.95
2000	2.53	7100	5.11	12200	7.15	17300	8.99
2100	2.60	7200	5.14	12300	7.20	17400	9.03
2200	2.67	7300	5.21	12400	7.26	17500	9.07
2300	2.73	7400	5.29	12500	7.31	17600	9.11
2400	2.80	7500	5.33	12600	7.36	17700	9.15
2500	2.87	7600	5.38	12700	7.41	17800	9.19
2600	2.93	7700	5.46	12800	7.46	17900	9.24
2700	3.00	7800	5.52	12900	7.51	18000	9.28
2800	3.06	7900	5.58	13000	7.55		
2900	3.12	8000	5.64	13100	7.59		
3000	3.18	8100	5.69	13200	7.65		
3100	3.24	8200	5.75	13300	7.69		
3200	3.30	8300	5.80	13400	7.72		
3300	3.35	8400	5.84	13500	7.78		
3400	3.42	8500	5.90	13600	7.82		
3500	3.46	8600	5.97	13700	7.86		
3600	3.52	8700	5.99	13800	7.91		
3700	3.57	8800	6.04	13900	7.96		
3800	3.61	8900	6.10	14000	8.01		
3900	3.67	9000	6.13	14100	8.06		
4000	3.71	9100	6.17	14200	8.10		
4100	3.77	9200	6.23	14300	8.13		
4200	3.83	9300	6.27	14400	8.16		
4300	3.89	9400	6.30	14500	8.19		
4400	3.94	9500	6.35	14600	8.21		
4500	4.00	9600	6.37	14700	8.23		
4600	4.05	9700	6.40	14800	8.26		
4700	4.10	9800	6.44	14900	8.28		
4800	4.16	9900	6.45	15000	8.30		

Cable loss
Low Loss Armored Test Cable, MegaPhase, 18 GHz, 6.2 m, N type-M/N type-M,
NC29-N1N1-244S/N 12025101 003,
HL 4353

Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB
50	0.20	9000	2.71
100	0.27	9500	2.81
300	0.47	10000	2.90
500	0.61	10500	2.97
1000	0.87	11000	3.06
1500	1.07	11500	3.13
2000	1.24	12000	3.20
2500	1.39	12500	3.26
3000	1.53	13000	3.34
3500	1.65	13500	3.39
4000	1.77	14000	3.47
4500	1.89	14500	3.54
5000	1.99	15000	3.62
5500	2.07	15500	3.69
6000	2.20	16000	3.76
6500	2.30	16500	3.83
7000	2.39	17000	3.86
7500	2.51	17500	3.94
8000	2.58	18000	4.02
8500	2.65		

Cable loss
Low Loss Armored Test Cable, MegaPhase, 18 GHz, 6.2 m, N type-M/N type-M, NC29-N1N1-244, S/N 51228701001
HL 4722

Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB
50	0.22	9000	2.93
100	0.30	9500	3.06
300	0.52	10000	3.16
500	0.66	10500	3.20
1000	0.93	11000	3.34
1500	1.15	11500	3.39
2000	1.33	12000	3.48
2500	1.49	12500	3.55
3000	1.64	13000	3.66
3500	1.77	13500	3.75
4000	1.90	14000	3.76
4500	2.03	14500	3.87
5000	2.17	15000	3.98
5500	2.30	15500	4.01
6000	2.39	16000	4.14
6500	2.51	16500	4.15
7000	2.59	17000	4.32
7500	2.67	17500	4.36
8000	2.76	18000	4.38
8500	2.84		

13 APPENDIX F Abbreviations and acronyms

A	ampere
AC	alternating current
AM	amplitude modulation
AVRG	average (detector)
BB	broad band
cm	centimeter
dB	decibel
dBm	decibel referred to one milliwatt
dB(μV)	decibel referred to one microvolt
dB(μV/m)	decibel referred to one microvolt per meter
dB(μA)	decibel referred to one microampere
DC	direct current
EIRP	equivalent isotropically radiated power
ERP	effective radiated power
EUT	equipment under test
F	frequency
GHz	gigahertz
GND	ground
H	height
HL	Hermon laboratories
Hz	hertz
k	kilo
kHz	kilohertz
LO	local oscillator
m	meter
MHz	megahertz
min	minute
mm	millimeter
ms	millisecond
μs	microsecond
NA	not applicable
NB	narrow band
OATS	open area test site
Ω	Ohm
QP	quasi-peak
RE	radiated emission
RF	radio frequency
rms	root mean square
Rx	receive
s	second
T	temperature
Tx	transmit
V	volt

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