HERMON LABORATORIES

ELECTRICAL TESTING
0839.01

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TEST REPORT

ACCORDING TO: FCC CFR 47 PART 90, section 90.219

FOR:

Axell Wireless Israel Ltd.
High power repeater, Class A
Model: D-MBR 3707-3708-PS-NFPA-DC-CLASS-A
FCC ID:NEODMBA37073708PS

Table of contents

1 Applicant information

Client name:	Axell Wireless Israel Ltd.
Address:	6 Bareket street, Petach Tikva 49002, Israel
Telephone:	+972 3918 0180
Fax:	+972 3918 0190
E-mail:	Tamir.BenShoshan@axellwireless.com
Contact name:	Mr. Tamir Ben Shoshan

2 Equipment under test attributes

Product name:	High power repeater
Product type:	Class A signal booster
Model(s):	D-MBR 3707-3708-PS-NFPA-DC-CLASS-A
Serial number:	15102001
Hardware version:	DMBR024_Rev1A
Software release:	File System: 24_03_15 CCD Application: 6.2.2
Receipt date	25-Jun-15

3 Manufacturer information

Manufacturer name:	Axell Wireless Israel Ltd.
Address:	6 Bareket street, Petach Tikva 49002, Israel
Telephone:	+972 3918 0180
Fax:	+972 3918 0190
E-Mail:	Tamir.BenShoshan@axellwireless.com
Contact name:	Mr. Tamir Ben Shoshan

4 Test details

Project ID:	27215
Location:	Hermon Laboratories Ltd. Harakevet Industrial Zone, Binyamina 30500, Israel
Test started:	15-Jul-15
Test completed:	20-Sep-15
Test specification(s):	47CFR part 90, section 90.219

5 Tests summary

Test	Status
Transmitter characteristics	
Section 90.219(e)(1), Radiated output power	Pass
Section 90.219(a), Occupied bandwidth	Pass
Sections 90.210(b), 90.210(h), Emission mask	Pass
Section 90.210(b), Intermodulation product	Pass
Section 90.219(e)(2) Noise figure	Pass
Section 90.219(e)(3), Radiated spurious emissions	Pass
Section 90.219(e)(3), Conducted spurious emissions	Pass
Section 2.1091, RF radiation exposure evaluation	Pass, exhibit provided in Application for certification

Testing was completed against all relevant requirements of the test standard. The results obtained indicate that the product under test complies in full with the requirements tested.
The test results relate only to the items tested. Pass/ fail decision was based on nominal values.

	Name and Title	Date	Signature
Tested by:	Mr. S. Samokha, test engineer	September 20, 2015	
Reviewed by:	Mrs. M. Cherniavsky, certification engineer	October 11, 2015	
Approved by:	Mr. M. Nikishin, EMC and Radio group manager	November 2, 2015	

6 EUT description

6.1 General information

6.2 General information

The EUT, D-MBR 3707-3708-PS-NFPA-DC-CLASS-A (Digital Multi Band Repeater for Public Safety) is a high-power digital multi-channel signal booster (DCSB) that features an array of up to 12 DSP based, softwarecontrolled, variable bandwidth filters, user-programmable across the 700 and 800 MHz bands.

The D-MBR 3707-3708-PS-NFPA-DC-CLASS-A supports all public safety technologies. In addition to specifying the centre frequency of each filter, the user can select a filter from a drop down list that has several choices for each pass band that vary in time delay and filter slope. This gives the engineer the unique ability to trade off the adjacent channel rejection and time delay interference for the coverage area permitting the use of the D-MBR 3707-3708-PS-NFPA-DC-CLASS-A in applications where no other booster solution will work.

Every parameter of D-MBR 3707-3708-PS-NFPA-DC-CLASS-A including filter tuning and selection, is software controlled via Web management. The patented Axell Wireless' digital RF filter not only enables simple initial setup for any channel plan, but if necessary even permits a simple reconfiguration because of re-banding.

6.3 EUT modules and sub-assemblies

Description	Manufacturer	Model or P/N	Serial number
Booster	Axell Wireless	D-MBR 3707-3708-PS-NFPA-DC-CLASS-A	15102001
AC/DC adapter	MW	CLG-150-30A	825279200

6.4 EUT options/configurations

Number	Operating mode description	Configuration
1	Transmit 758-775 MHz, Downlink	1
2	Transmit 851-869 MHz, Downlink	2
3	Transmit 788-805 MHz, Uplink	3
4	Transmit 806-824 MHz, Uplink	4

6.5 Ports and lines

Port type	Port description	Connected from	Connected to	Qty.	Cable type	Cable length, m
Power	AC	AC mains	AC/DC adapter	1	Unshielded	1.5
Power	DC	AC/DC adapter	EUT	1	Unshielded	0.3
Signal	Ethernet	EUT	PC	1	UTP	5
Signal	Antenna	EUT	Antenna	2	Coax	NA
Signal	Alarm I/O	EUT	OC	1	Unshielded	3

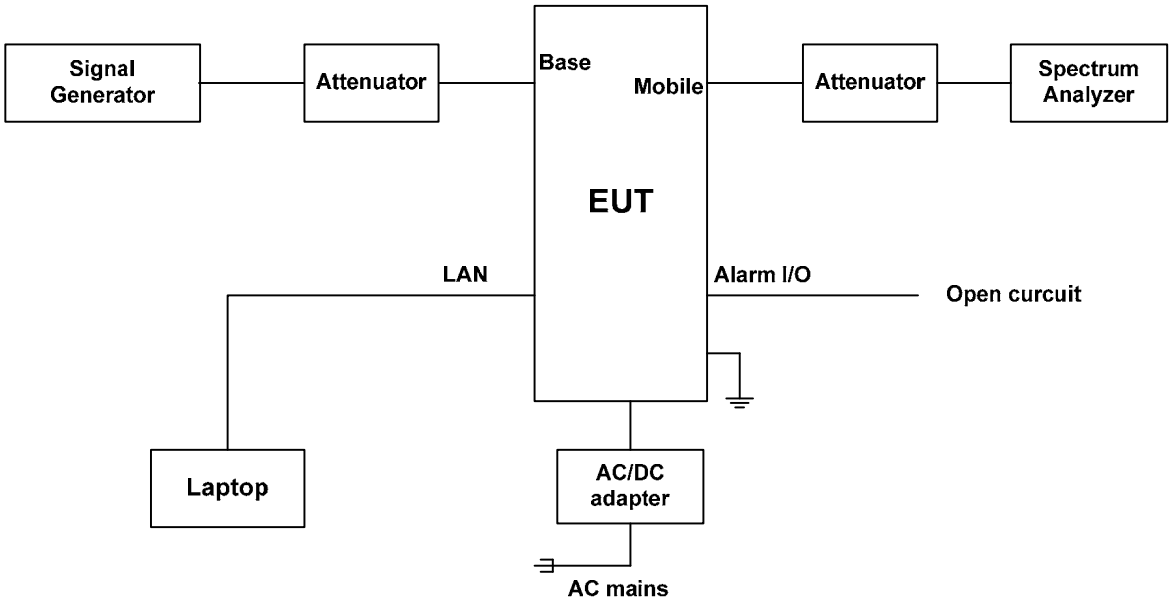
6.6 Support and test equipment

Description	Manufacturer	Model number	Serial number
Laptop	DELL	PP20L	5QXF83G
AC/DC adapter	DELL	LA65N80	0DF263-71615-7QF-E850
Mouse	Logitech	810-001317	NA

6.7 Changes made in EUT

No changes were implemented in the EUT during testing.

6.8 Test configuration



6.9 Transmitter characteristics

Type of equipment	
V	Stand-alone (Equipment with or without its own control provisions)
	Combined equipment (Equipment where the radio part is fully integrated within another type of equipment)
	Plug-in card (Equipment intended for a variety of host systems)

Intended use		Condition of use
V	fixed	Always at a distance more than 2 m from all people
	mobile	Always at a distance more than 20 cm from all people
	portable	May operate at a distance closer than 20 cm to human body

Assigned frequency range	DL 758.0 – 775.0 MHz; UL 788.0 – 805.0 MHz- FCC part 90, subpart R DL 851.0 – 869.0 MHz; UL 806.0 – 824.0 MHz - FCC part 90, section 90.614
Operating frequency range	DL 758.0 – 775.0 MHz; UL 788.0 – 805.0 MHz DL 851.0 – 869.0 MHz; UL 806.0 – 824.0 MHz

Maximum rated output power	At maximum gain, Output port	37 dBm each band
	EIRP density dBm / MHz (aggregate power of both RF chains) with maximum declared antenna gain	NA

Is transmitter output power variable?		No		
	V	Yes		continuous variable
			V	stepped variable with stepsize: 1.0 dB
				minimum RF power: NA
				maximum RF power: 37 dBm

Antenna connection				
unique coupling	**V**	standard connector	Integral	with temporary RF connector
				without temporary RF connector

Antenna/s technical characteristics				
Type	Manufacturer	Model number	Antenna gain, dBi	Cable loss, dB
External (Indoor)	NA	NA	NA	NA
External (Outdoor)	NA	NA	NA	NA

Transmitter aggregate data rate/s, Mbps			
Transmitter 99% power bandwidth	Type of modulation		
	C4FM	iDEN QAM	Analog FM
	9.6 kbps	64 kbps	9.6 kbps

Type of multiplexing	
Modulating test signal (baseband)	
Maximum transmitter duty cycle in normal use	

Transmitter power source			
	DC	Nominal rated voltage	
V	AC	Nominal rated voltage	From 120 VAC via AC/DC adapter

Common power source for transmitter and receiver	V	yes	no

Test specification:	Section 90.219(e)(1), Maximum output power		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 ºC	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

7 Transmitter tests according to 47CFR part 90 requirements

7.1 Peak output power test

7.1.1 General

This test was performed to measure the peak output power at RF antenna connector. Specification test limits are given in Table 7.1.1.

Table 7.1.1 Peak output power limits

Assigned frequency range, MHz	Maximum peak output power	
	W	dBm
Above 150.0	5.0	37.0

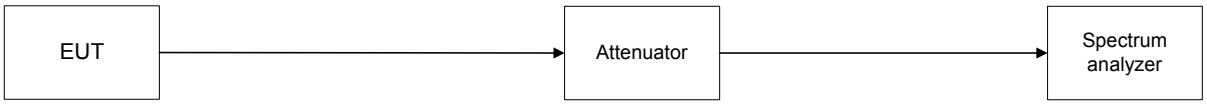
7.1.2 Test procedure

7.1.2.1 The EUT was set up as shown in Figure 7.1.1, energized and its proper operation was checked.

7.1.2.2 The EUT was adjusted to produce maximum available to the end user RF output power.

7.1.2.3 The peak output power was measured with spectrum analyzer as provided in Table 7.1.2 and the associated plots.

Figure 7.1.1 Peak output power test setup



Test specification:	Section 90.219(e)(1), Maximum output power		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 ºC	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Table 7.1.2 Peak output power test results

DETECTOR USED: Average
RESOLUTION BANDWIDTH: 1 MHz
VIDEO BANDWIDTH: 3 MHz
MODULATING SIGNAL: C4FM
CONFIGURATION: Single Channel

OPERATING FREQUENCY RANGE: 758 - 775 MHz (downlink)
788 - 805 MHz (uplink)

Carrier frequency, MHz	Input port	SA reading, dBm		Output power**, dBm	Limit, dBm	Margin*, dB	Verdict
		Without ALC	With ALC				
Downlink transmit mode							
758.0	Base	35.12	35.13	35.13	37.0	-1.87	Pass
766.0	Base	35.57	35.37	35.57	37.0	-1.43	Pass
775.0	Base	34.96	34.86	34.96	37.0	-2.04	Pass
Uplink transmit mode							
788.0	Mobile	25.64	25.81	25.81	37.0	-11.19	Pass
796.0	Mobile	26.37	26.45	26.45	37.0	-10.55	Pass
805.0	Mobile	26.60	26.72	26.72	37.0	-10.28	Pass

OPERATING FREQUENCY RANGE: 851 - 869 MHz (downlink)
806 - 824 MHz (uplink)

Carrier frequency, MHz	Input port	SA reading, dBm		Output power**, dBm	Limit, dBm	Margin*, dB	Verdict
		Without ALC	With ALC				
Downlink transmit mode							
851.0	Base	35.15	34.84	35.15	37.0	-1.85	Pass
861.0	Base	35.24	35.69	35.69	37.0	-1.31	Pass
869.0	Base	35.71	35.69	35.71	37.0	-1.29	Pass
Uplink transmit mode							
806.0	Mobile	26.84	26.88	26.88	37.0	-10.12	Pass
816.0	Mobile	26.67	26.65	26.67	37.0	-10.37	Pass
824.0	Mobile	26.48	26.55	26.55	37.0	-10.45	Pass

* - Margin = Maximum ERP – 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 power margin in dB.
Antenna Assembly Gain (dBd) = Antenna Gain (dBd) – Feeder Loss (dB) = Antenna Gain (dBi) – 2.15 – Feeder Loss (dB)
Note: Output power = Maximum value from SA reading (Without ALC or With ALC)

Test specification:	**Section 90.219(e)(1), Maximum output power**		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 47 %	**Power Supply:** 120 VAC
Remarks:			

Table 7.1.3 Peak output power test results

DETECTOR USED: Average
RESOLUTION BANDWIDTH: 1 kHz
VIDEO BANDWIDTH: 10 kHz
MODULATING SIGNAL: iDEN QAM
CONFIGURATION: Single Channel

OPERATING FREQUENCY RANGE: 758 - 775 MHz (downlink)
788 - 805 MHz (uplink)

Carrier frequency, MHz	Input port	SA reading, dBm		Output power**, dBm	Limit, dBm	Margin*, dB	Verdict
		Without ALC	With ALC				
Downlink transmit mode							
758.0	Base	31.22	33.11	33.11	37.0	-3.89	Pass
766.0	Base	32.07	33.88	33.88	37.0	-3.12	Pass
775.0	Base	31.51	33.40	33.40	37.0	-3.60	Pass
Uplink transmit mode							
788.0	Mobile	27.79	30.16	30.16	37.0	-6.84	Pass
796.0	Mobile	29.63	31.64	31.64	37.0	-5.36	Pass
805.0	Mobile	29.44	31.45	31.45	37.0	-5.55	Pass

OPERATING FREQUENCY RANGE: 851 - 869 MHz (downlink)
806 - 824 MHz (uplink)

Carrier frequency, MHz	Input port	SA reading, dBm		Output power**, dBm	Limit, dBm	Margin*, dB	Verdict
		Without ALC	With ALC				
Downlink transmit mode							
851.0	Base	31.75	33.33	33.33	37.0	-3.67	Pass
861.0	Base	32.57	33.40	33.40	37.0	-3.60	Pass
869.0	Base	32.74	34.32	34.32	37.0	-2.68	Pass
Uplink transmit mode							
806.0	Mobile	29.52	32.27	32.27	37.0	-4.73	Pass
816.0	Mobile	29.15	32.41	32.41	37.0	-4.59	Pass
824.0	Mobile	29.30	32.64	32.64	37.0	-4.36	Pass

* - Margin = Maximum ERP – 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 power margin in dB.
Antenna Assembly Gain (dBd) = Antenna Gain (dBd) – Feeder Loss (dB) = Antenna Gain (dBi) – 2.15 – Feeder Loss (dB)
Note: Output power = Maximum value from SA reading (Without ALC or With ALC)

Test specification:	Section 90.219(e)(1), Maximum output power		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 ºC	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Table 7.1.4 Peak output power test results

DETECTOR USED: Average
RESOLUTION BANDWIDTH: 1 MHz
VIDEO BANDWIDTH: 3 MHz
MODULATING SIGNAL: Analog FM 10.0 kHz/1 kHz
CONFIGURATION: Single Channel

OPERATING FREQUENCY RANGE: 758 - 775 MHz (downlink)
788 - 805 MHz (uplink)

Carrier frequency, MHz	Input port	SA reading, dBm		Output power**, dBm	Limit, dBm	Margin*, dB	Verdict
		Without ALC	With ALC				
Downlink transmit mode							
758.0	Base	34.93	35.03	35.03	37.0	-1.97	Pass
766.0	Base	35.51	35.38	35.51	37.0	-1.49	Pass
775.0	Base	34.53	34.94	34.94	37.0	-2.06	Pass
Uplink transmit mode							
788.0	Mobile	25.65	25.77	25.77	37.0	-11.23	Pass
796.0	Mobile	26.38	26.48	26.48	37.0	-10.52	Pass
805.0	Mobile	26.63	26.76	26.76	37.0	-10.24	Pass

OPERATING FREQUENCY RANGE: 851 - 869 MHz (downlink)
806 - 824 MHz (uplink)

Carrier frequency, MHz	Input port	SA reading, dBm		Output power**, dBm	Limit, dBm	Margin*, dB	Verdict
		Without ALC	With ALC				
Downlink transmit mode							
851.0	Base	35.12	34.87	35.12	37.0	-1.88	Pass
861.0	Base	35.26	35.17	35.73	37.0	-1.27	Pass
869.0	Base	35.72	35.69	35.72	37.0	-1.28	Pass
Uplink transmit mode							
806.0	Mobile	26.74	26.80	26.80	37.0	-10.20	Pass
816.0	Mobile	26.57	26.71	26.71	37.0	-10.29	Pass
824.0	Mobile	26.45	26.61	26.61	37.0	-10.39	Pass

* - Margin = Maximum ERP – 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 power margin in dB.
Antenna Assembly Gain (dBd) = Antenna Gain (dBd) – Feeder Loss (dB) = Antenna Gain (dBi) – 2.15 – Feeder Loss (dB)
Note: Output power = Maximum value from SA reading (Without ALC or With ALC)

Reference numbers of test equipment used

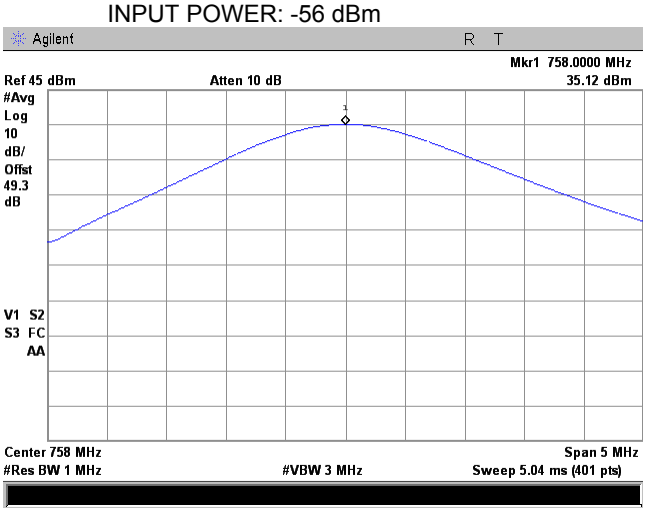
HL 0539	HL 1908	HL 2357	HL 2909	HL 3434	HL 3768	HL 3779	HL 3818
HL 3903	HL 4068	HL 4224	HL 4273	HL 4274	HL 4354		

Full description is given in Appendix A.

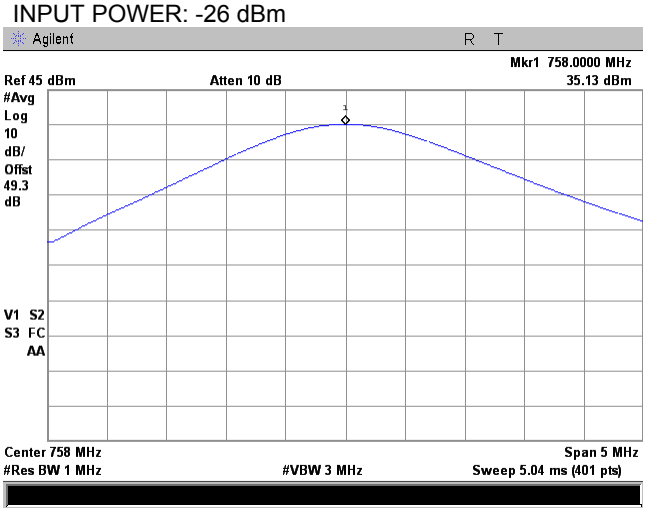
Test specification:	Section 90.219(e)(1), Maximum output power		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.1.1 RF output power measurements at low frequency carrier, Port 1

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

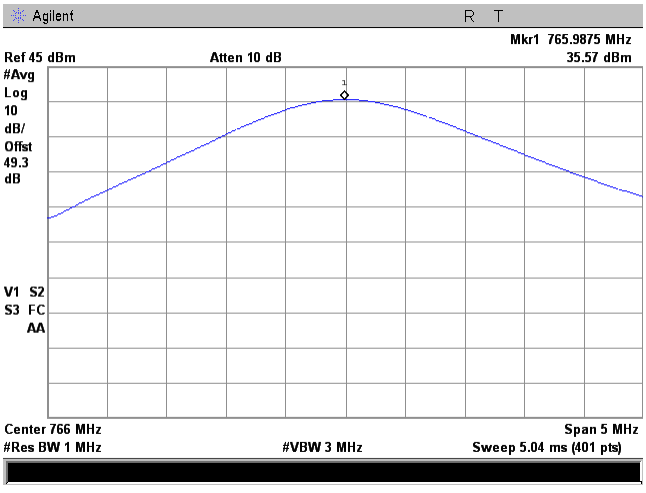


INPUT POWER: -26 dBm

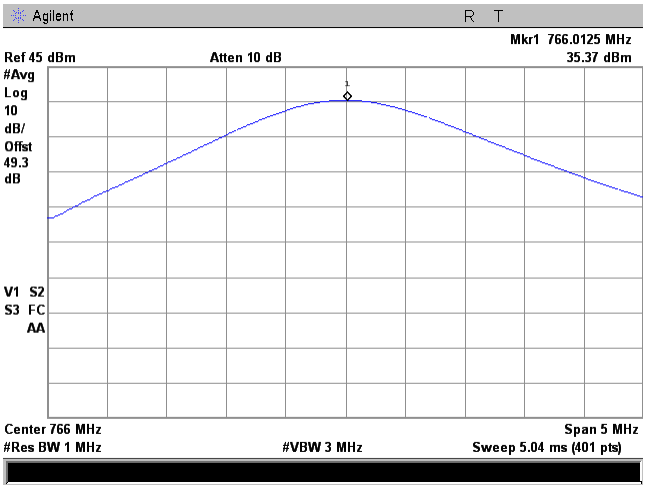


Plot 7.1.2 RF output power measurements at mid frequency carrier, Port 1

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



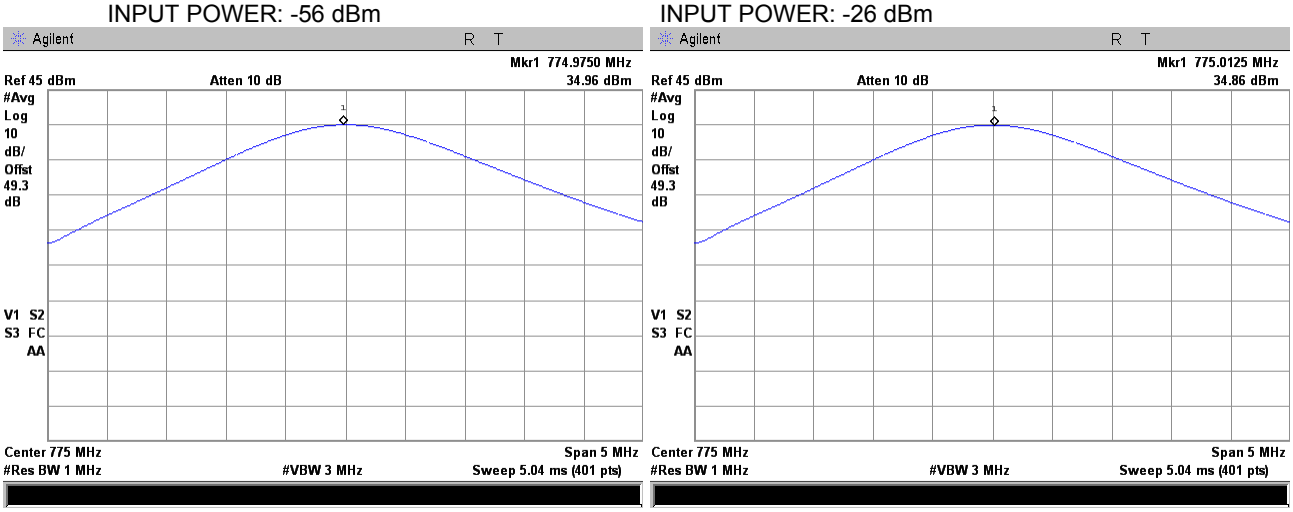
INPUT POWER: -26 dBm



Test specification:	Section 90.219(e)(1), Maximum output power		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

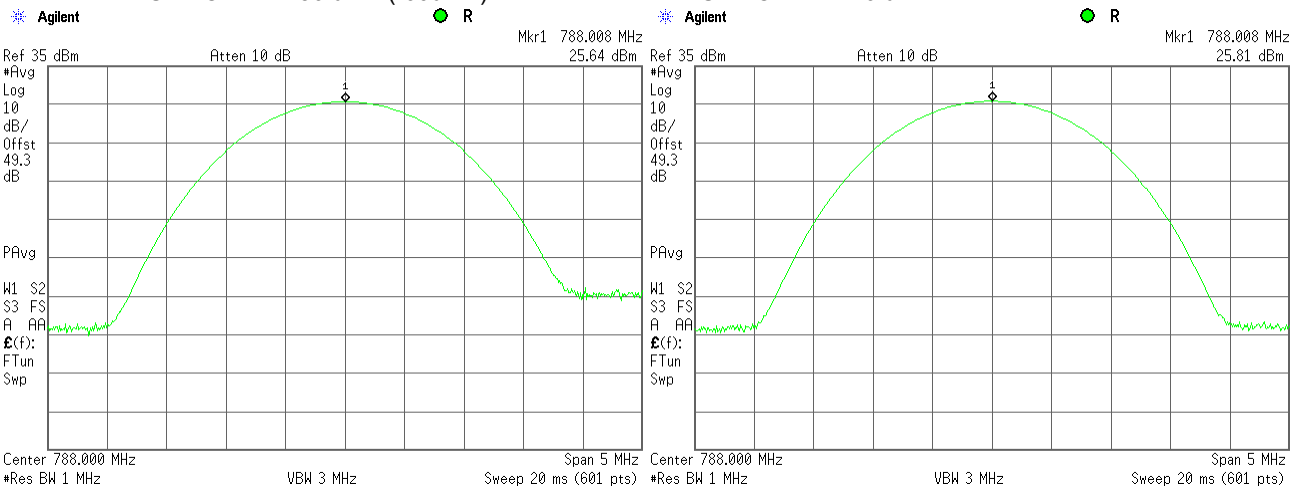
Plot 7.1.3 RF output power measurements at high frequency carrier, Port 1

FRQUENCY RANGE: 758 - 775 MHz
OPERATIONAL MODE: C4FM downlink transmit
CONFIGURATION: Single Channel
INPUT PORT: Base
INPUT POWER: -56 dBm INPUT POWER: -26 dBm



Plot 7.1.4 RF output power measurements at low frequency carrier, Port 2

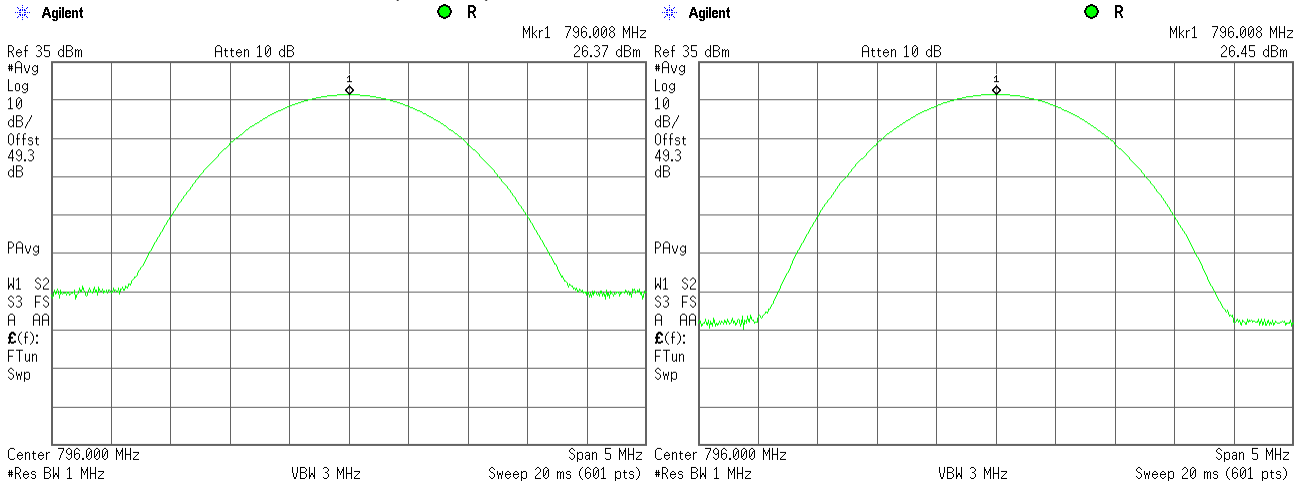
FRQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: C4FM uplink transmit
CONFIGURATION: Single Channel
INPUT PORT: Mobile
INPUT POWER: -56 dBm (-60dBm) INPUT POWER: -26 dBm



Test specification:	Section 90.219(e)(1), Maximum output power		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

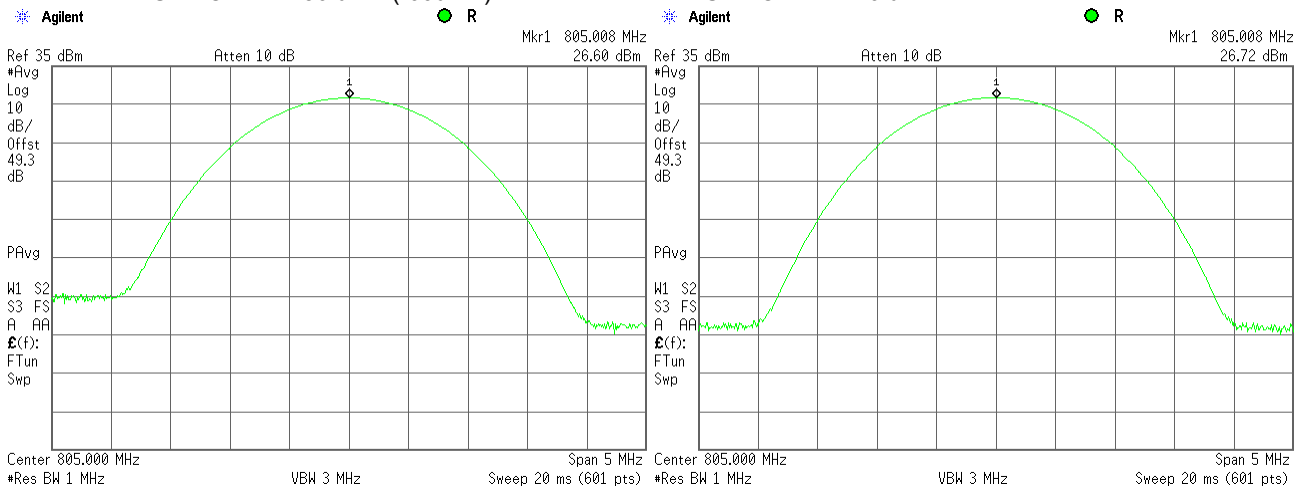
Plot 7.1.5 RF output power measurements at mid frequency carrier, Port 2

FRQUENCY RANGE: 758 - 775 MHz
OPERATIONAL MODE: C4FM uplink transmit
CONFIGURATION: Single Channel
INPUT PORT: Mobile
INPUT POWER: -56 dBm (-60dBm) INPUT POWER: -26 dBm



Plot 7.1.6 RF output power measurements at high frequency carrier, Port 2

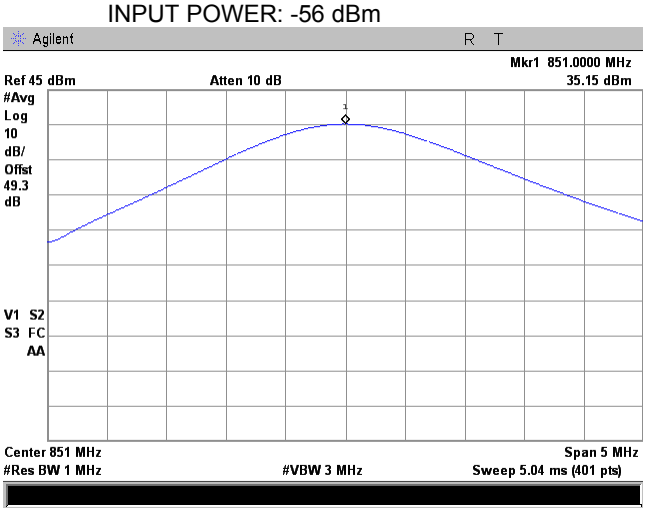
FRQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: C4FM uplink transmit
CONFIGURATION: Single Channel
INPUT PORT: Mobile
INPUT POWER: -56 dBm (-60dBm) INPUT POWER: -26 dBm



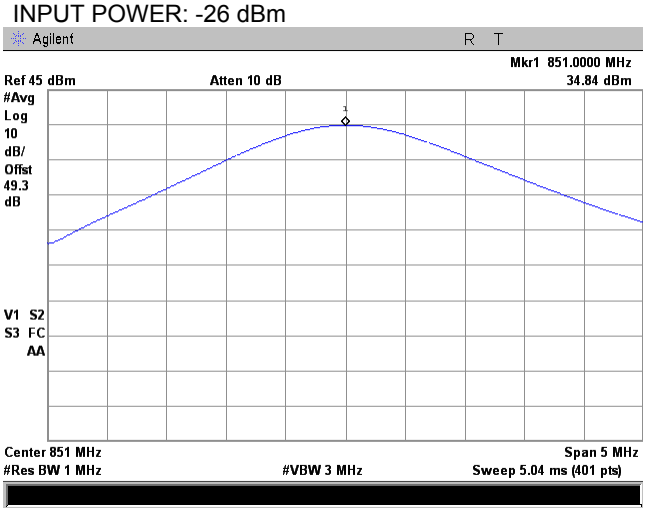
Test specification:	Section 90.219(e)(1), Maximum output power		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.1.7 RF output power measurements at low frequency carrier, Port 1

FRQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: C4FM downlink transmit
CONFIGURATION: Single Channel
INPUT PORT: Base
INPUT POWER: -56 dBm

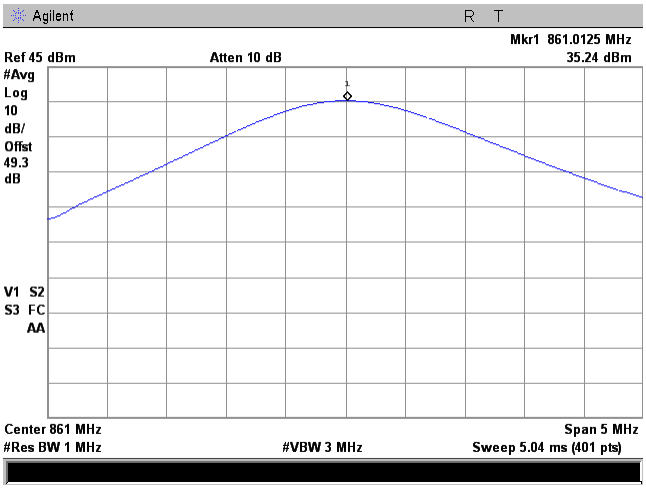


INPUT POWER: -26 dBm

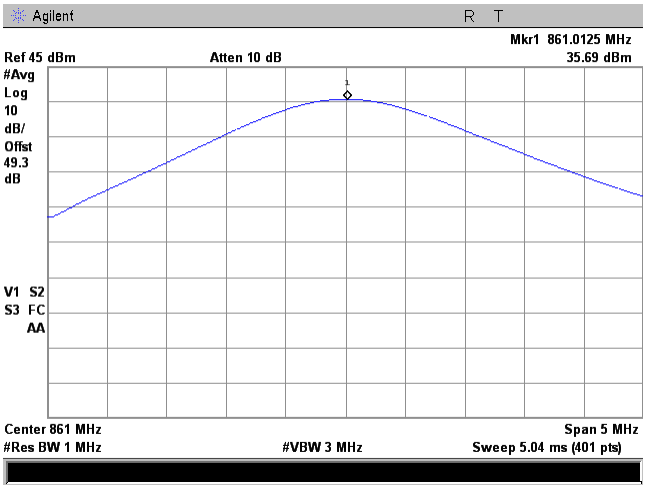


Plot 7.1.8 RF output power measurements at mid frequency carrier, Port 1

FRQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: C4FM downlink transmit
CONFIGURATION: Single Channel
INPUT PORT: Base
INPUT POWER: -56 dBm



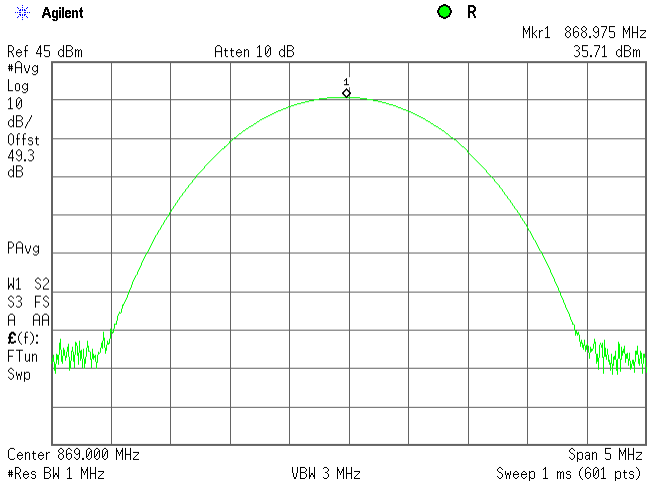
INPUT POWER: -26 dBm



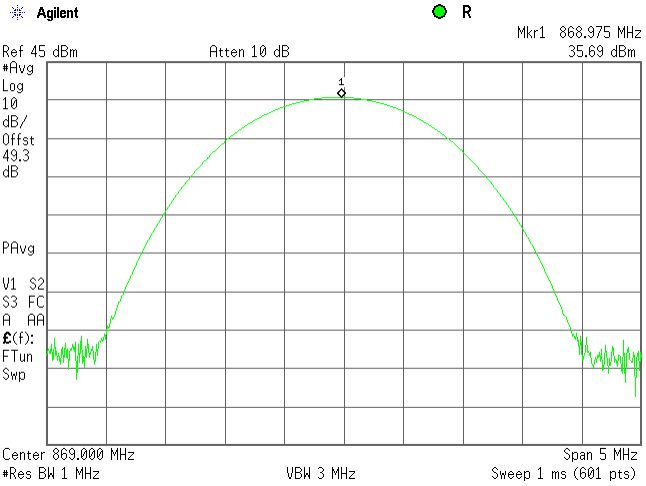
Test specification:	Section 90.219(e)(1), Maximum output power		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 ºC	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.1.9 RF output power measurements at high frequency carrier, Port 1

FRQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: C4FM downlink transmit
CONFIGURATION: Single Channel
INPUT PORT: Base
INPUT POWER: -56 dBm

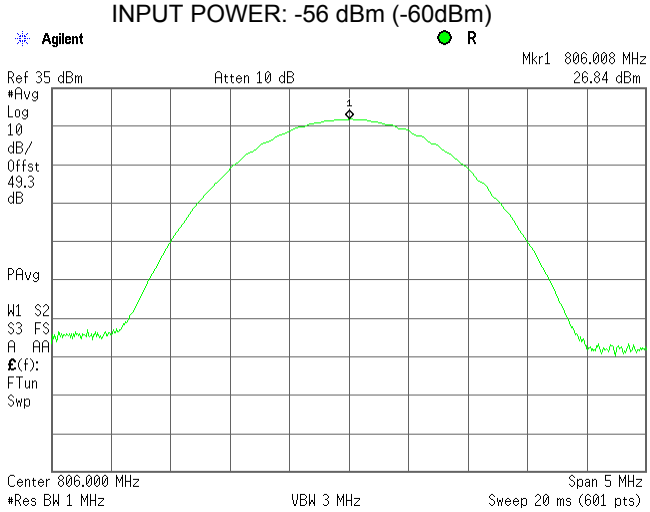


INPUT POWER: -26 dBm

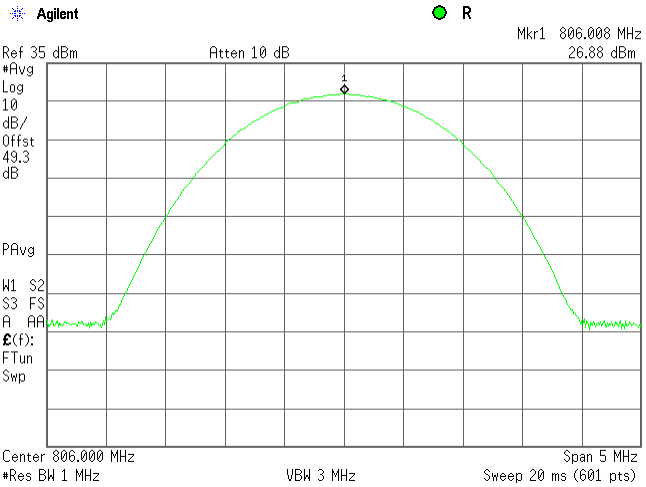


Plot 7.1.10 RF output power measurements at low frequency carrier, Port 2

FRQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: C4FM uplink transmit
CONFIGURATION: Single Channel
INPUT PORT: Mobile
INPUT POWER: -56 dBm (-60dBm)



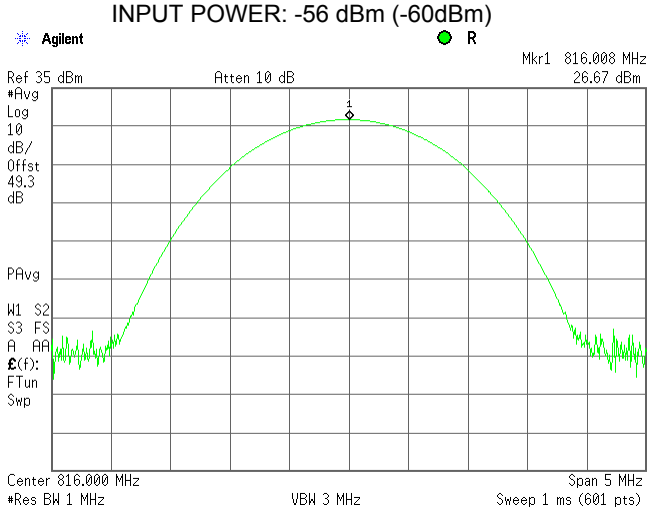
INPUT POWER: -26 dBm

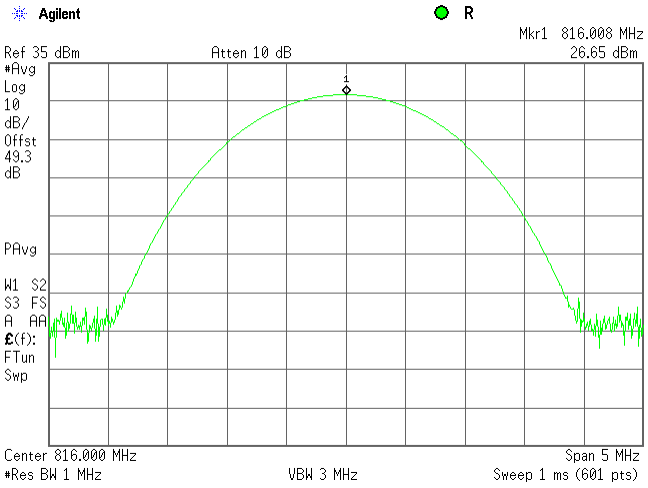


Test specification:	Section 90.219(e)(1), Maximum output power		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.1.11 RF output power measurements at mid frequency carrier, Port 2

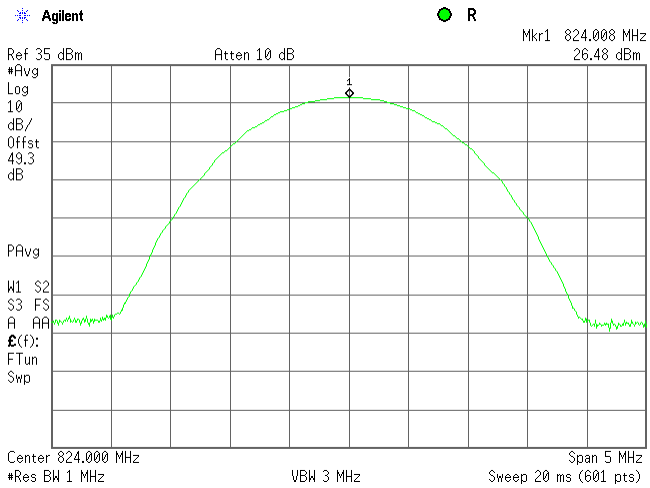
FRQUENCY RANGE:	806 - 824 MHz
OPERATIONAL MODE:	C4FM uplink transmit
CONFIGURATION:	Single Channel
INPUT PORT:	Mobile
INPUT POWER: -56 dBm (-60dBm)	INPUT POWER: -26 dBm

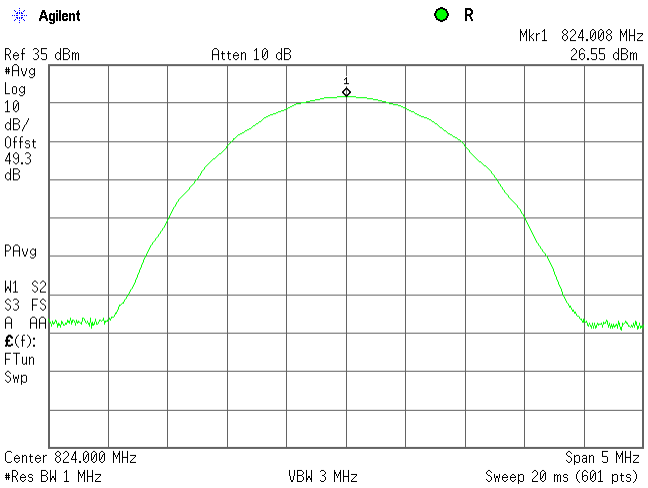




Plot 7.1.12 RF output power measurements at high frequency carrier, Port 2

FRQUENCY RANGE:	806 - 824 MHz
OPERATIONAL MODE:	C4FM uplink transmit
CONFIGURATION:	Single Channel
INPUT PORT:	Mobile
INPUT POWER: -56 dBm (-60dBm)	INPUT POWER: -26 dBm

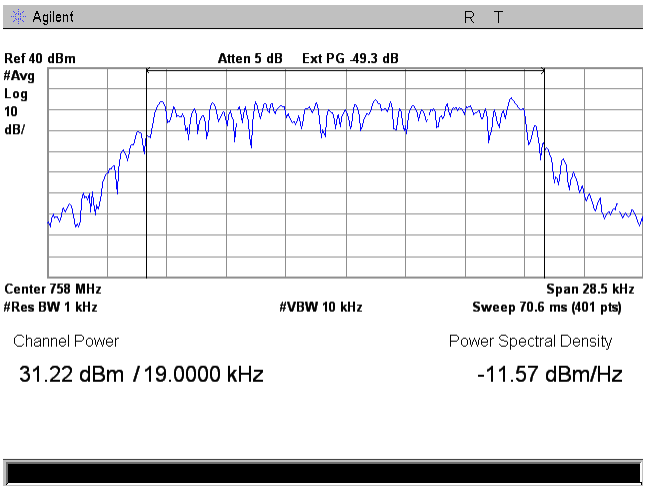




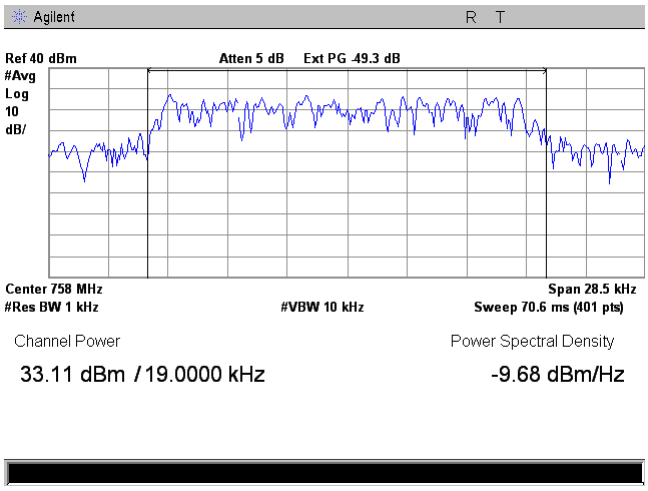
Test specification:	Section 90.219(e)(1), Maximum output power		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.1.13 RF output power measurements at low frequency carrier, Port 1

FRQUENCY RANGE:	758 - 775 MHz
OPERATIONAL MODE:	iDEN QAM downlink transmit
CONFIGURATION:	Single Channel
INPUT PORT:	Base
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm



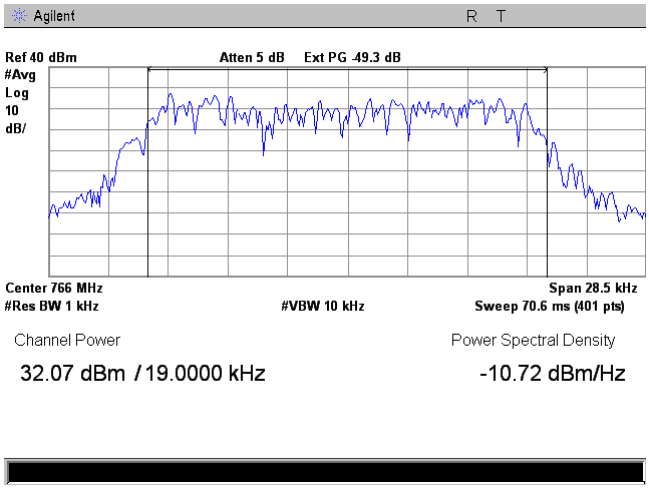
Channel Power: 31.22 dBm / 19.0000 kHz
Power Spectral Density: -11.57 dBm/Hz



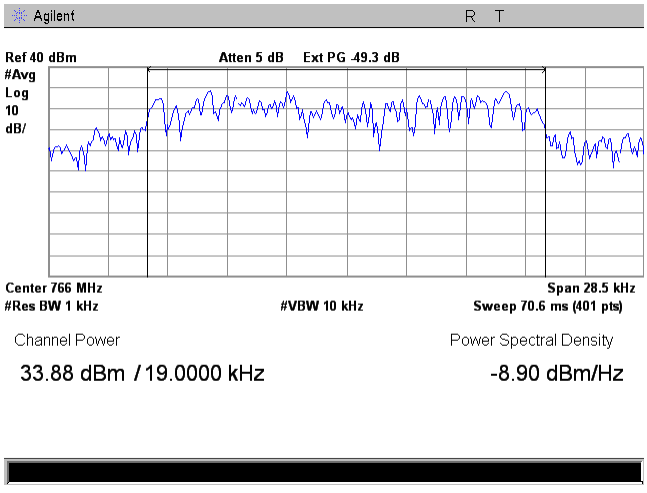
Channel Power: 33.11 dBm / 19.0000 kHz
Power Spectral Density: -9.68 dBm/Hz

Plot 7.1.14 RF output power measurements at mid frequency carrier, Port 1

FRQUENCY RANGE:	758 - 775 MHz
OPERATIONAL MODE:	iDEN QAM downlink transmit
CONFIGURATION:	Single Channel
INPUT PORT:	Base
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm



Channel Power: 32.07 dBm / 19.0000 kHz
Power Spectral Density: -10.72 dBm/Hz

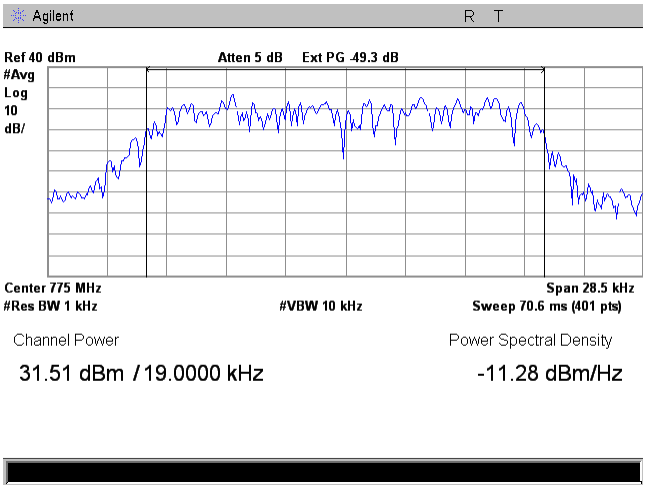


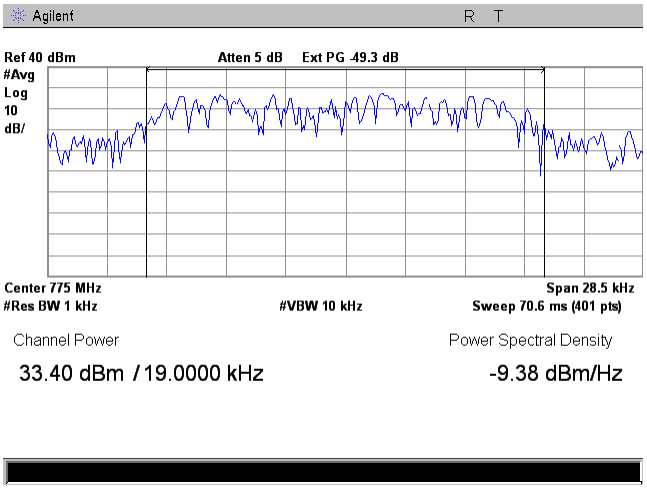
Channel Power: 33.88 dBm / 19.0000 kHz
Power Spectral Density: -8.90 dBm/Hz

Test specification:	Section 90.219(e)(1), Maximum output power		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.1.15 RF output power measurements at high frequency carrier, Port 1

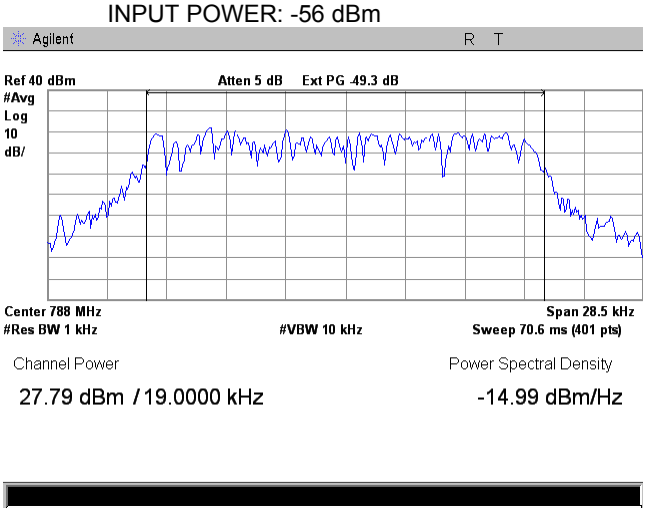
FRQUENCY RANGE:	758 - 775 MHz
OPERATIONAL MODE:	iDEN QAM downlink transmit
CONFIGURATION:	Single Channel
INPUT PORT:	Base
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

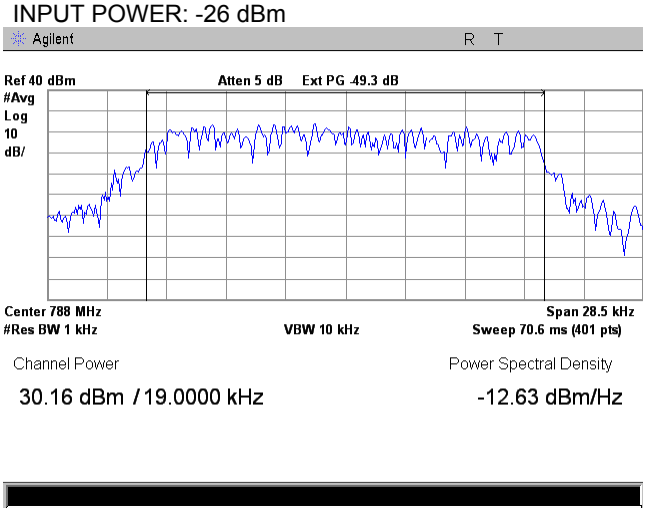




Plot 7.1.16 RF output power measurements at low frequency carrier, Port 2

FRQUENCY RANGE:	788 - 805 MHz
OPERATIONAL MODE:	iDEN QAM uplink transmit
CONFIGURATION:	Single Channel
INPUT PORT:	Mobile
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

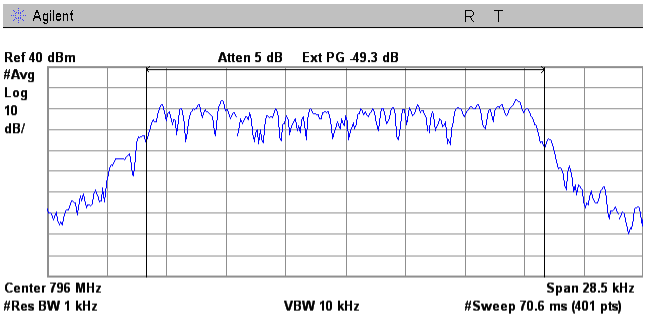




Test specification:	Section 90.219(e)(1), Maximum output power		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

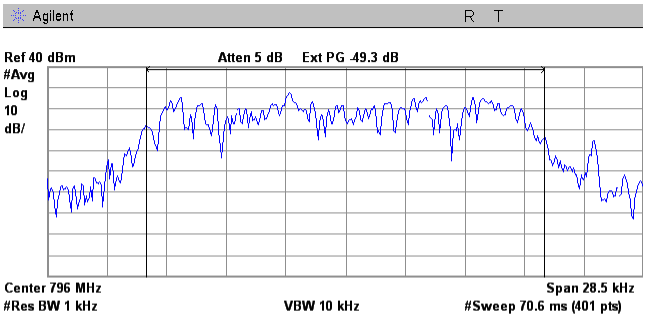
Plot 7.1.17 RF output power measurements at mid frequency carrier, Port 2

FRQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
CONFIGURATION: Single Channel
INPUT PORT: Mobile
INPUT POWER: -56 dBm



Channel Power: 29.63 dBm / 19.0000 kHz
Power Spectral Density: -13.16 dBm/Hz

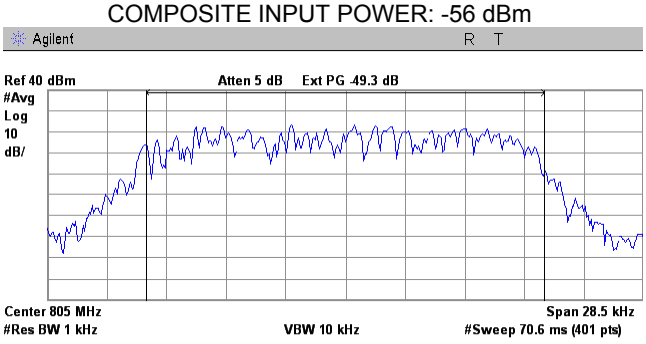
INPUT POWER: -26 dBm



Channel Power: 31.64 dBm / 19.0000 kHz
Power Spectral Density: -11.15 dBm/Hz

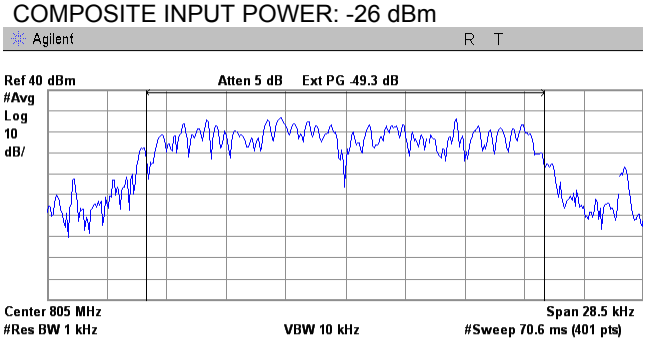
Plot 7.1.18 RF output power measurements at high frequency carrier, Port 2

FRQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
CONFIGURATION: Single Channel
INPUT PORT: Mobile
COMPOSITE INPUT POWER: -56 dBm



Channel Power: 29.44 dBm / 19.0000 kHz
Power Spectral Density: -13.35 dBm/Hz

COMPOSITE INPUT POWER: -26 dBm

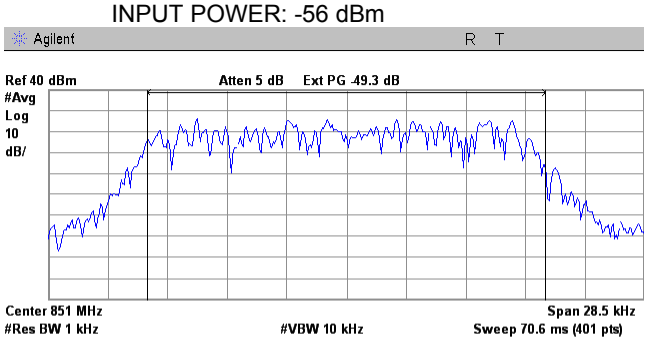


Channel Power: 31.45 dBm / 19.0000 kHz
Power Spectral Density: -11.34 dBm/Hz

Test specification:	Section 90.219(e)(1), Maximum output power		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

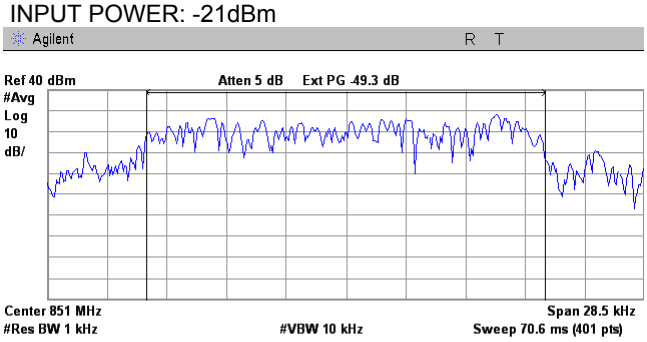
Plot 7.1.19 RF output power measurements at low frequency carrier, Port 1

FRQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
CONFIGURATION: Single Channel
INPUT PORT: Base
INPUT POWER: -56 dBm



Channel Power: 31.75 dBm / 19.0000 kHz
Power Spectral Density: -11.04 dBm/Hz

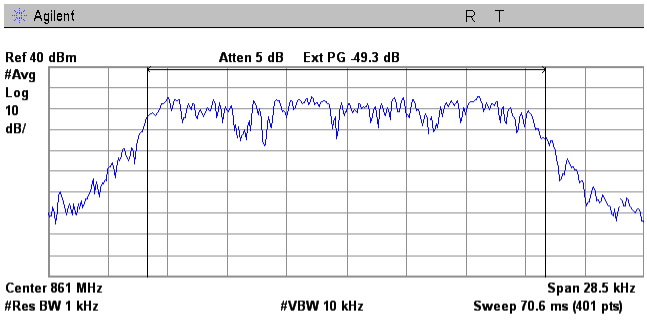
INPUT POWER: -21dBm



Channel Power: 33.33 dBm / 19.0000 kHz
Power Spectral Density: -9.46 dBm/Hz

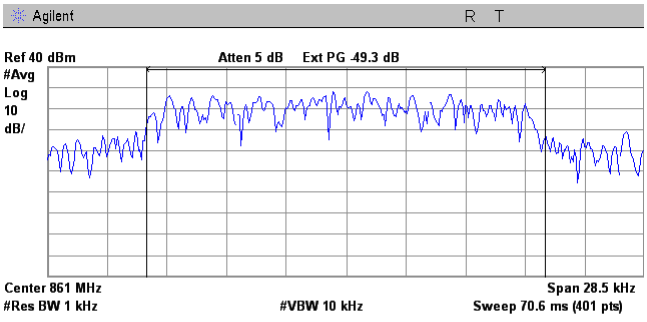
Plot 7.1.20 RF output power measurements at mid frequency carrier, Port 1

FRQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
CONFIGURATION: Single Channel
INPUT PORT: Base
INPUT POWER: -56 dBm



Channel Power: 32.57 dBm / 19.0000 kHz
Power Spectral Density: -10.22 dBm/Hz

INPUT POWER: -26 dBm

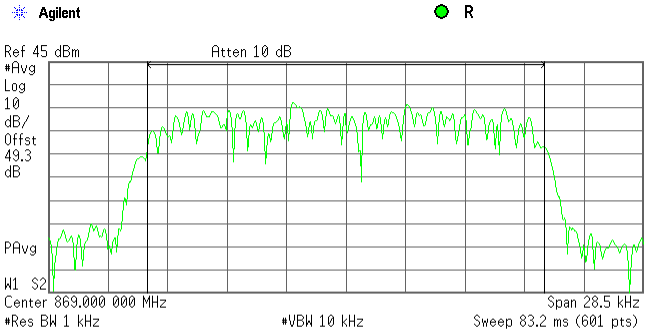


Channel Power: 33.40 dBm / 19.0000 kHz
Power Spectral Density: -9.39 dBm/Hz

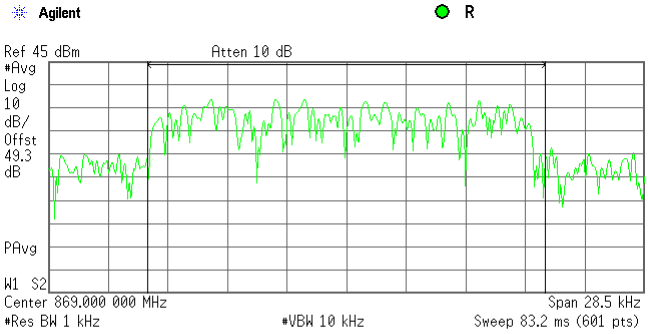
Test specification:	Section 90.219(e)(1), Maximum output power		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.1.21 RF output power measurements at high frequency carrier, Port 1

FRQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
CONFIGURATION: Single Channel
INPUT PORT: Base
INPUT POWER: -56 dBm

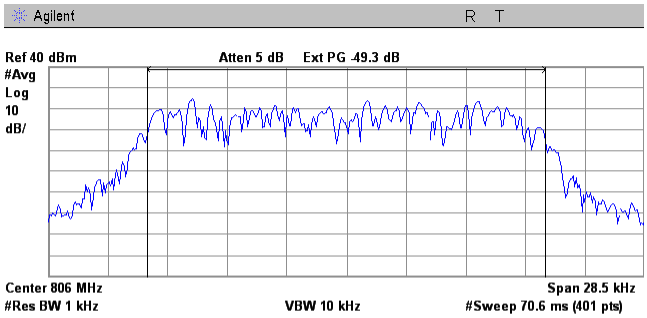


INPUT POWER: -26 dBm

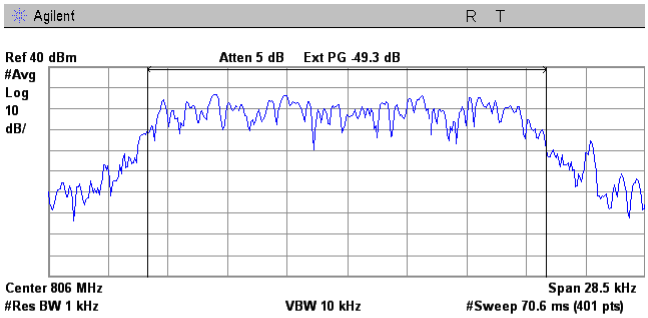


Plot 7.1.22 RF output power measurements at low frequency carrier, Port 2

FRQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
CONFIGURATION: Single Channel
INPUT PORT: Mobile
INPUT POWER: -56 dBm



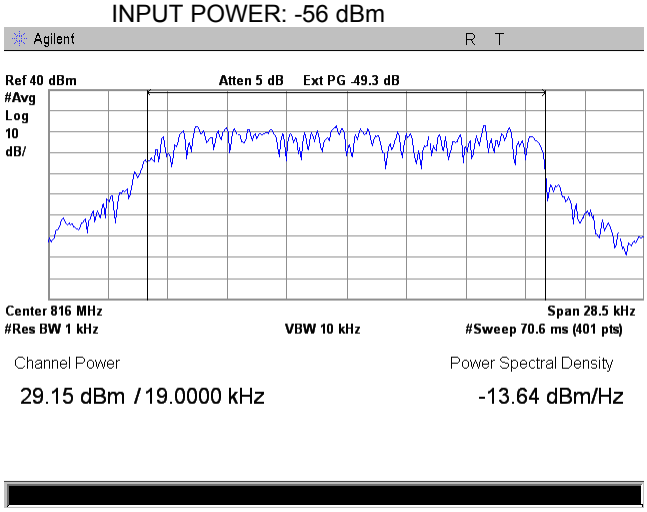
INPUT POWER: -26 dBm

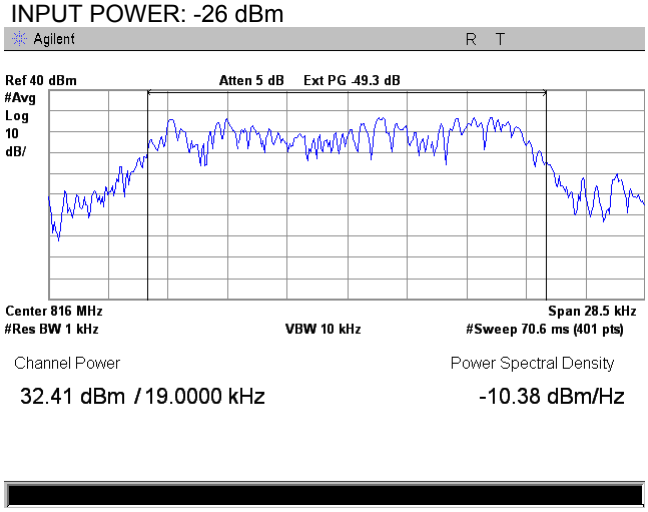


Test specification:	Section 90.219(e)(1), Maximum output power		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.1.23 RF output power measurements at mid frequency carrier, Port 2

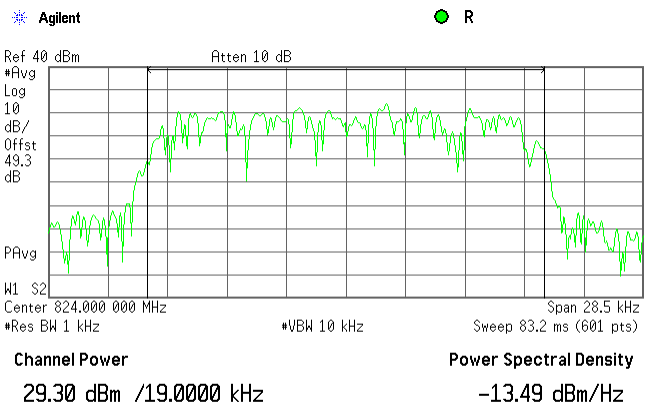
FRQUENCY RANGE:	806 - 824 MHz
OPERATIONAL MODE:	iDEN QAM uplink transmit
CONFIGURATION:	Single Channel
INPUT PORT:	Mobile
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

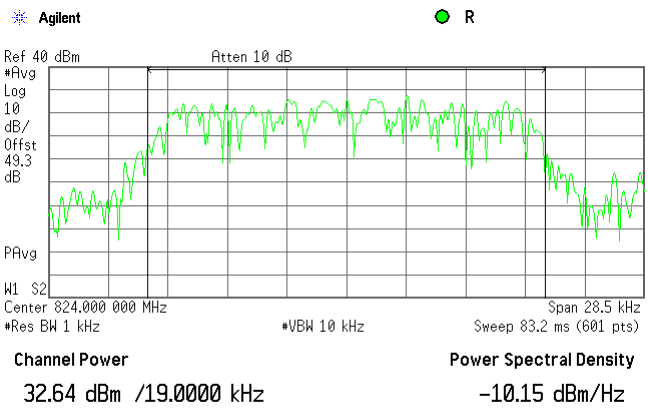




Plot 7.1.24 RF output power measurements at high frequency carrier, Port 2

FRQUENCY RANGE:	806 - 824 MHz
OPERATIONAL MODE:	iDEN QAM uplink transmit
CONFIGURATION:	Single Channel
INPUT PORT:	Mobile
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

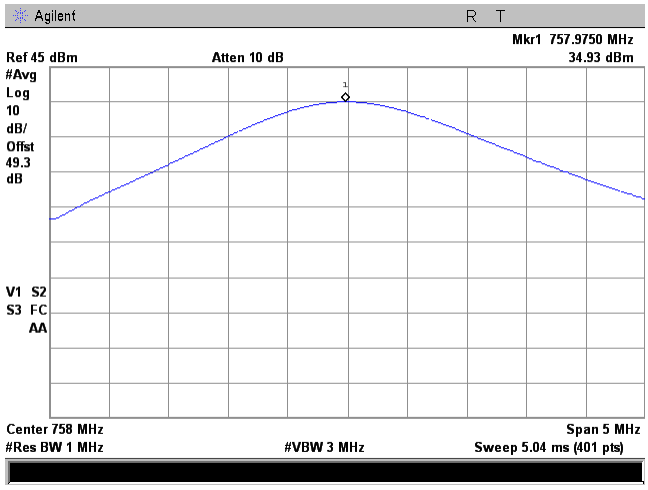


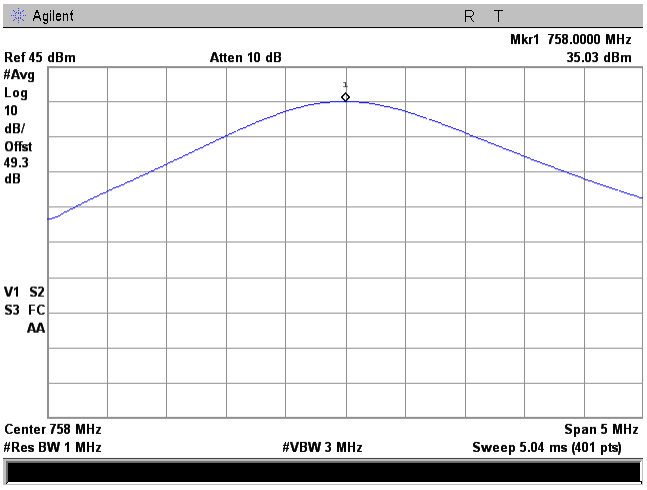


Test specification:	Section 90.219(e)(1), Maximum output power		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.1.25 RF output power measurements at low frequency carrier, Port 1

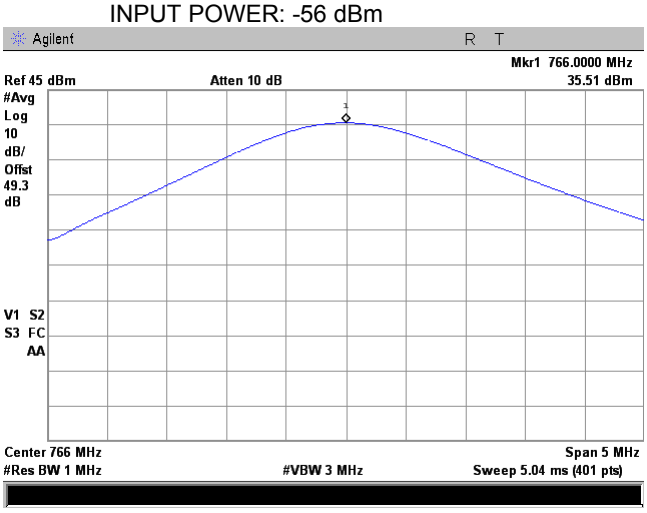
FRQUENCY RANGE:	758 - 775 MHz
OPERATIONAL MODE:	Analog FM downlink transmit
CONFIGURATION:	Single Channel
INPUT PORT:	Base
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

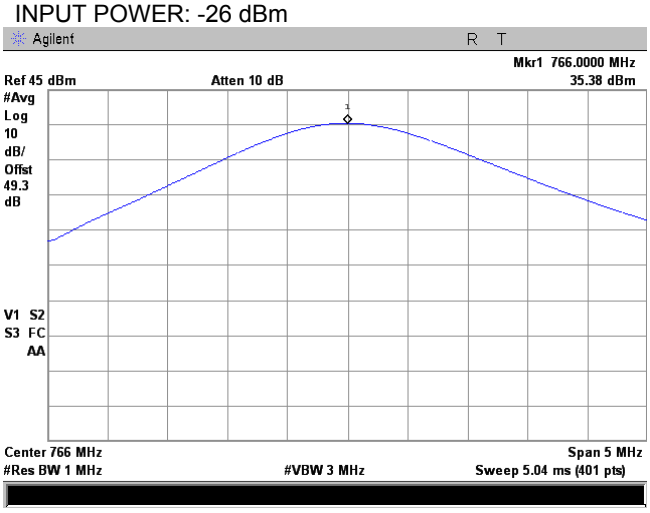




Plot 7.1.26 RF output power measurements at mid frequency carrier, Port 1

FRQUENCY RANGE:	758 - 775 MHz
OPERATIONAL MODE:	Analog FM downlink transmit
CONFIGURATION:	Single Channel
INPUT PORT:	Base
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

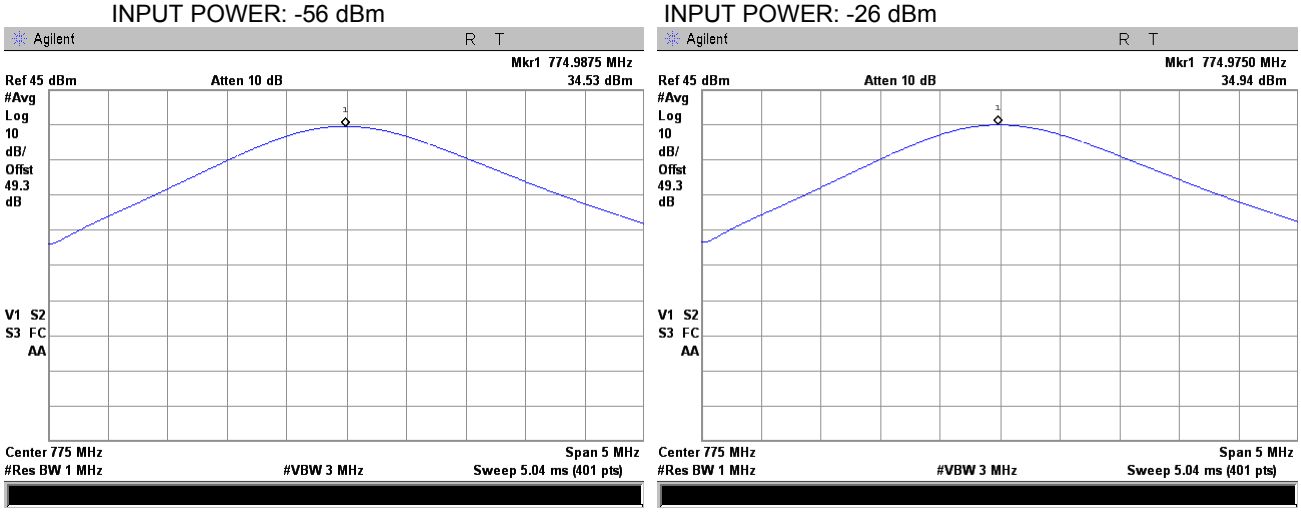




Test specification:	Section 90.219(e)(1), Maximum output power		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

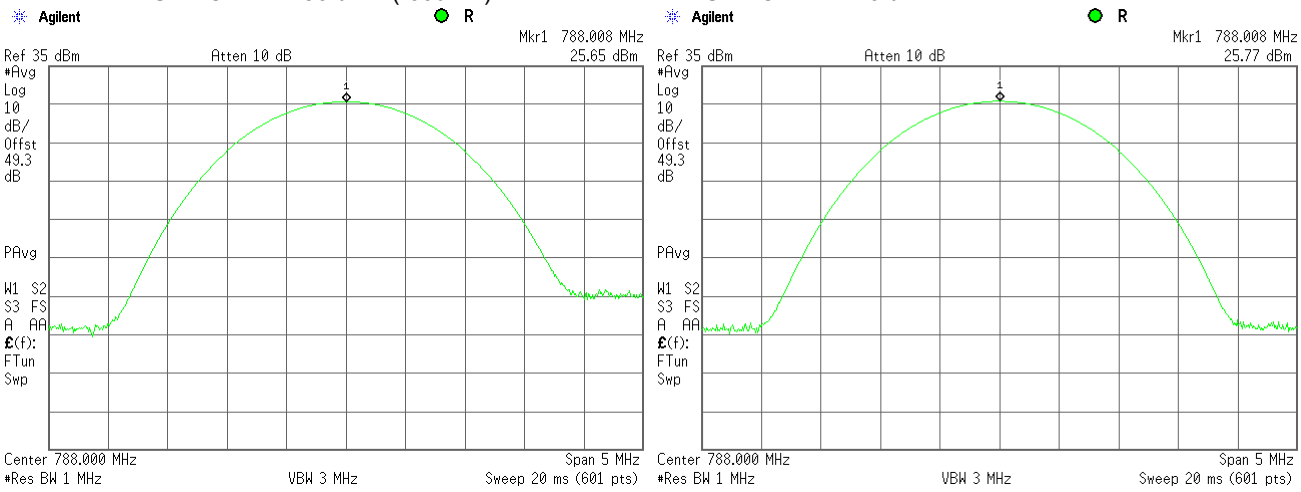
Plot 7.1.27 RF output power measurements at high frequency carrier, Port 1

FRQUENCY RANGE: 758 - 775 MHz
OPERATIONAL MODE: Analog FM downlink transmit
CONFIGURATION: Single Channel
INPUT PORT: Base
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm



Plot 7.1.28 RF output power measurements at low frequency carrier, Port 2

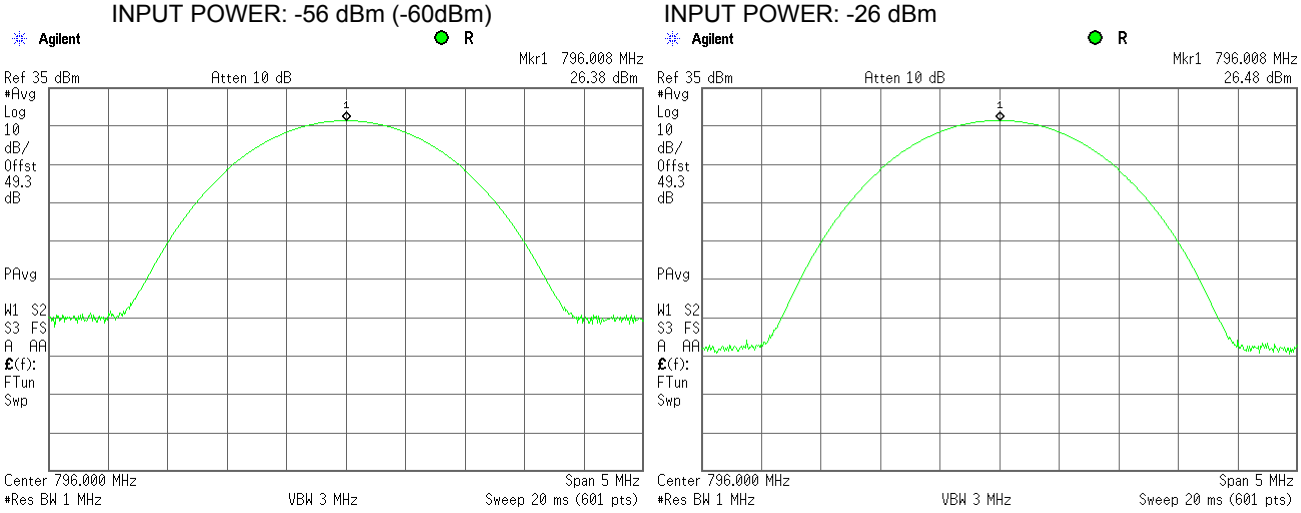
FRQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: Analog FM uplink transmit
CONFIGURATION: Single Channel
INPUT PORT: Mobile
INPUT POWER: -56 dBm (-60dBm)
INPUT POWER: -26 dBm



Test specification:	Section 90.219(e)(1), Maximum output power		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 ºC	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

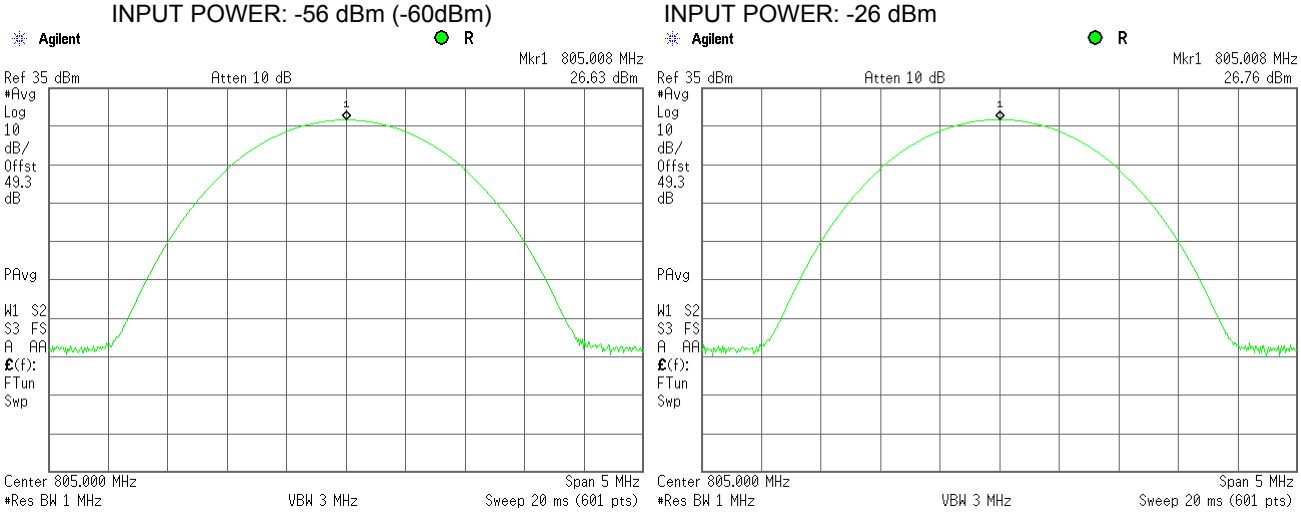
Plot 7.1.29 RF output power measurements at mid frequency carrier, Port 2

FRQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: Analog FM uplink transmit
CONFIGURATION: Single Channel
INPUT PORT: Mobile
INPUT POWER: -56 dBm (-60dBm) INPUT POWER: -26 dBm



Plot 7.1.30 RF output power measurements at high frequency carrier, Port 2

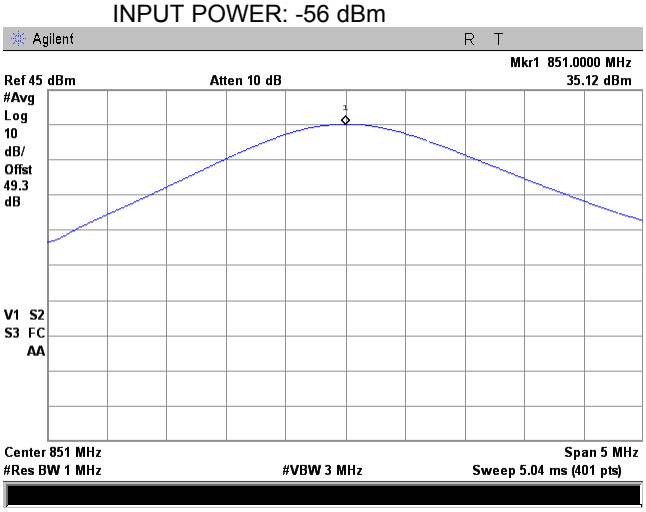
FRQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: Analog FM uplink transmit
CONFIGURATION: Single Channel
INPUT PORT: Mobile
INPUT POWER: -56 dBm (-60dBm) INPUT POWER: -26 dBm



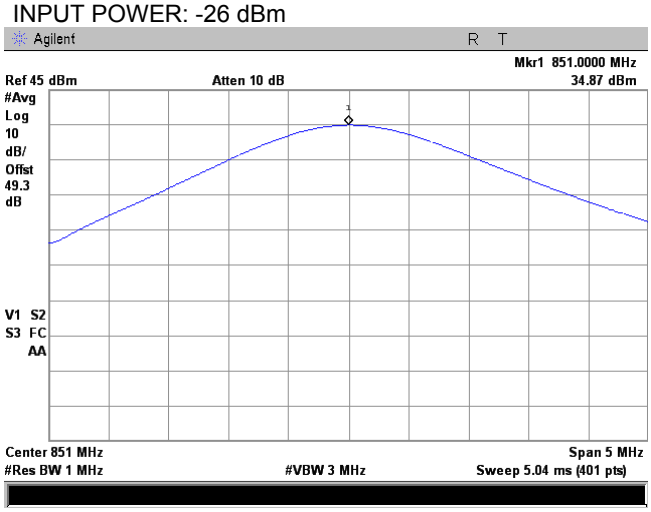
Test specification:	Section 90.219(e)(1), Maximum output power		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.1.31 RF output power measurements at low frequency carrier, Port 1

FRQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: Analog FM downlink transmit
CONFIGURATION: Single Channel
INPUT PORT: Base
INPUT POWER: -56 dBm

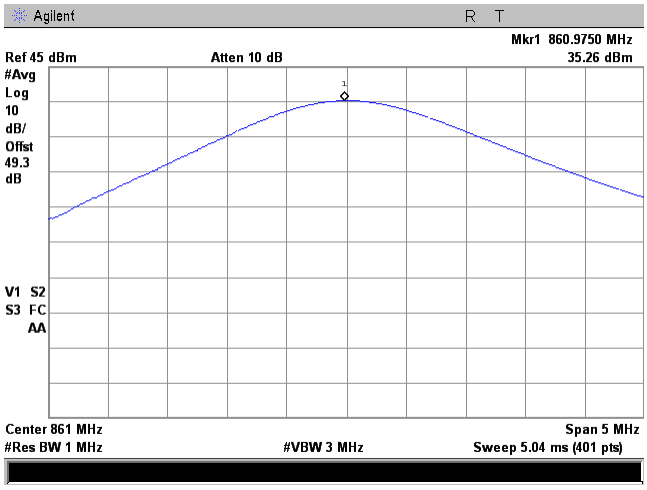


INPUT POWER: -26 dBm

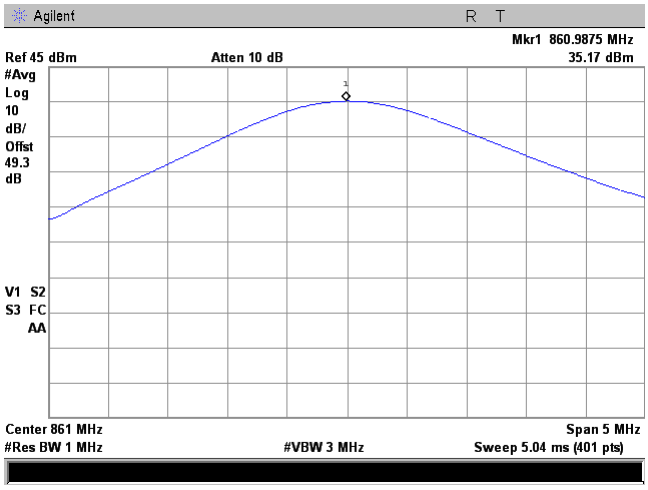


Plot 7.1.32 RF output power measurements at mid frequency carrier, Port 1

FRQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: Analog FM downlink transmit
CONFIGURATION: Single Channel
INPUT PORT: Base
INPUT POWER: -56 dBm



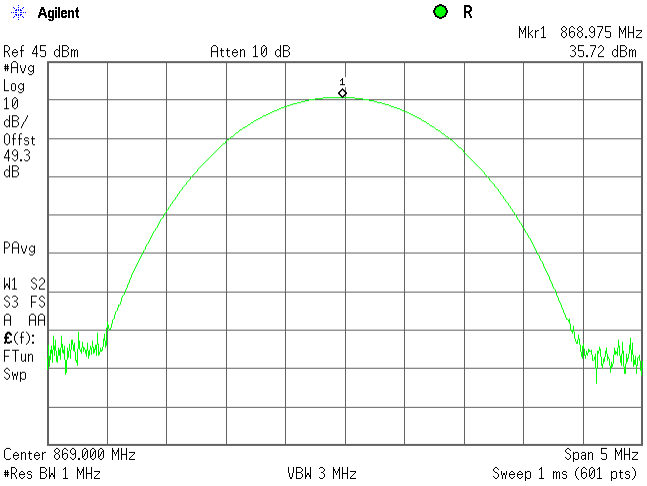
INPUT POWER: -26 dBm



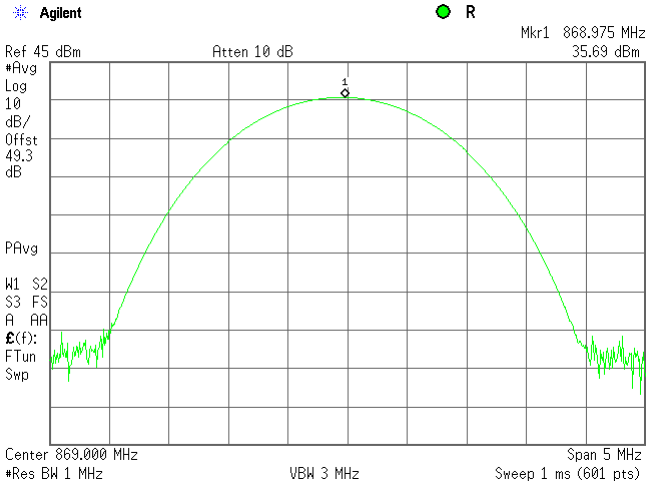
Test specification:	Section 90.219(e)(1), Maximum output power		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.1.33 RF output power measurements at high frequency carrier, Port 1

FRQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: Analog FM downlink transmit
CONFIGURATION: Single Channel
INPUT PORT: Base
INPUT POWER: -56 dBm

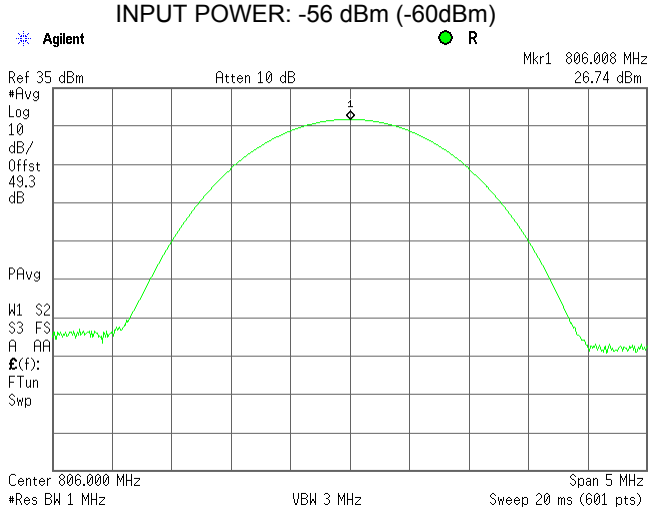


INPUT POWER: -26 dBm

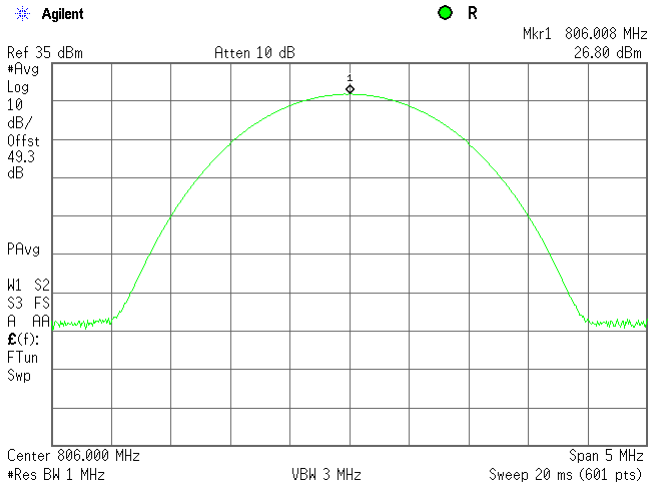


Plot 7.1.34 RF output power measurements at low frequency carrier, Port 2

FRQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: Analog FM uplink transmit
CONFIGURATION: Single Channel
INPUT PORT: Mobile
INPUT POWER: -56 dBm (-60dBm)



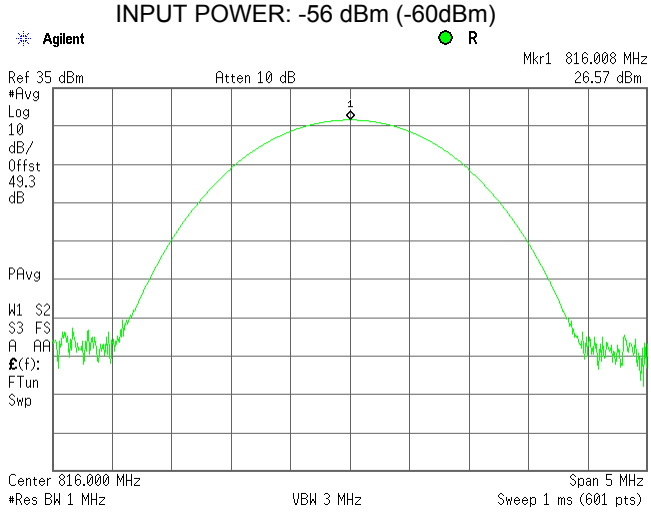
INPUT POWER: -26 dBm

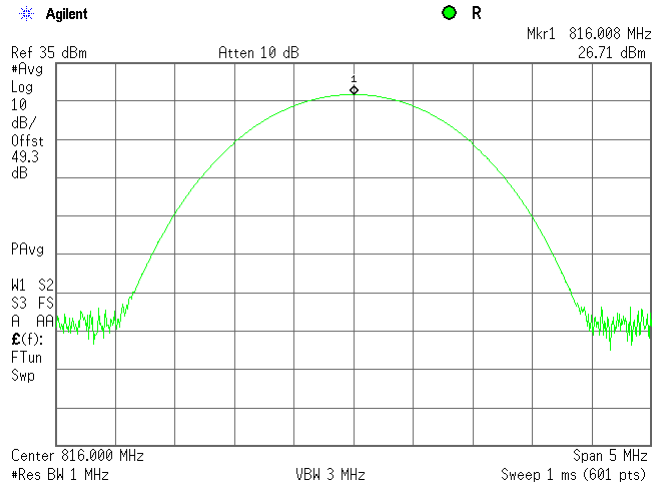


Test specification:	Section 90.219(e)(1), Maximum output power		
Test procedure:	47 CFR, Section 2.1046; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	16-Jul-15 - 07-Sep-15		
Temperature: 24.1 ºC	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.1.35 RF output power measurements at mid frequency carrier, Port 2

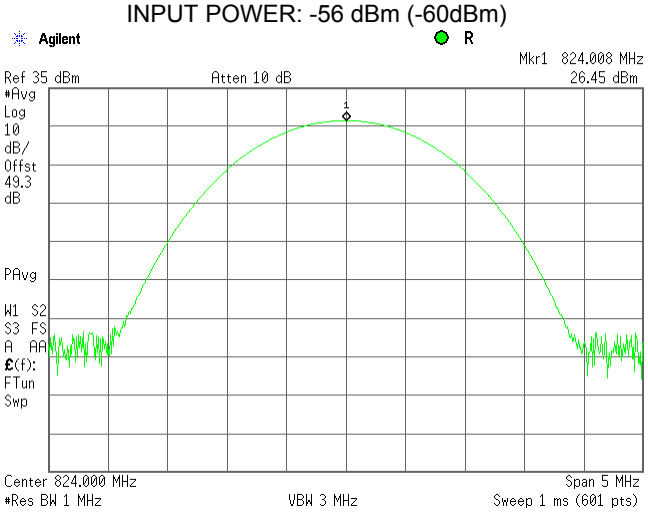
FRQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: Analog FM uplink transmit
CONFIGURATION: Single Channel
INPUT PORT: Mobile
INPUT POWER: -56 dBm (-60dBm) INPUT POWER: -26 dBm

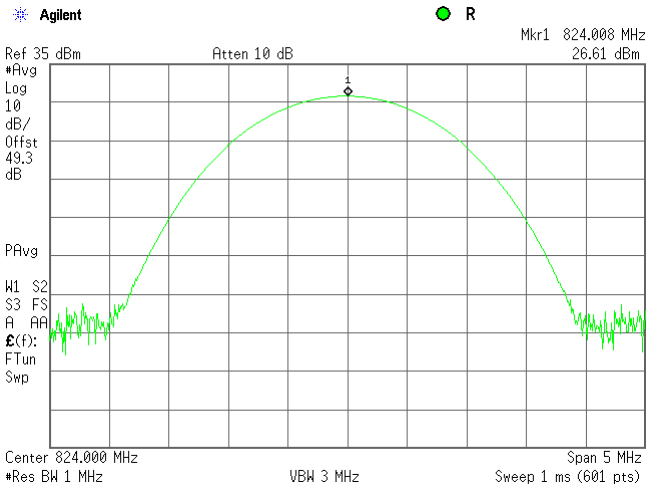




Plot 7.1.36 RF output power measurements at high frequency carrier, Port 2

FRQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: Analog FM uplink transmit
CONFIGURATION: Single Channel
INPUT PORT: Mobile
INPUT POWER: -56 dBm (-60dBm) INPUT POWER: -26 dBm





Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 ºC	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

7.2 Occupied bandwidth test

7.2.1 General

This test was performed to measure transmitter occupied bandwidth. Specification test limits are given in Table 7.2.1.

Table 7.2.1 Occupied bandwidth limits

Assigned frequency, MHz	Modulation envelope reference points*, dBc	Maximum allowed bandwidth, kHz
758 – 775/778 - 805	26	75.0
806 – 824/851 - 869		75.0

* - Modulation envelope reference points are provided in terms of attenuation below the unmodulated carrier.

7.2.2 Test procedure

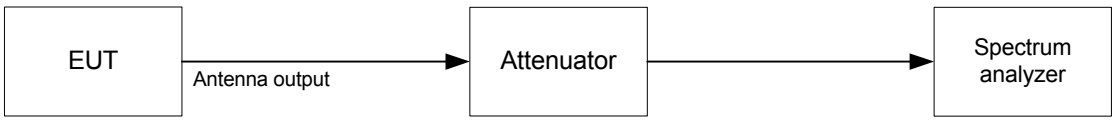
7.2.2.1 The EUT was set up as shown in Figure 7.2.1, energized and its proper operation was checked.

7.2.2.2 The EUT was set to transmit the unmodulated carrier and the reference peak power level was measured.

7.2.2.3 The EUT was set to transmit the normally modulated carrier.

7.2.2.4 The transmitter occupied bandwidth was measured with spectrum analyzer as a frequency delta between the reference points on modulation envelope and provided in Table 7.2.2 and the associated plots.

Figure 7.2.1 Occupied bandwidth test setup



Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 ºC	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Table 7.2.2 Occupied bandwidth test results

OPERATING FREQUENCY RANGE: 758 - 775 MHz (downlink)
788 - 805 MHz (uplink)
DETECTOR USED: Peak hold
RESOLUTION BANDWIDTH: 300 Hz
VIDEO BANDWIDTH: 1 kHz
MODULATION ENVELOPE REFERENCE POINTS: 26 dBc
MODULATING SIGNAL: C4FM
BIT RATE: 4 kbps
CONFIGURATION: Single Band

Carrier frequency, MHz	Output port	Occupied bandwidth, kHz		Limit, kHz	Margin, kHz	Verdict
		Without ALC	With ALC			
758.0	Base	8.088	8.026	75.0	-66.91	Pass
766.0	Base	7.881	7.637	75.0	-67.12	Pass
775.0	Base	7.502	7.934	75.0	-67.07	Pass
778.0	Mobile	8.060	7.984	75.0	-66.94	Pass
796.0	Mobile	8.394	8.292	75.0	-66.61	Pass
805.0	Mobile	8.320	8.530	75.0	-66.47	Pass

OPERATING FREQUENCY RANGE: 851 - 869 MHz (downlink)
806 - 824 MHz (uplink)
CONFIGURATION: Single Band

Carrier frequency, MHz	Output port	Occupied bandwidth, kHz		Limit, kHz	Margin, kHz	Verdict
		Without ALC	With ALC			
851.0	Base	7.837	7.339	75.0	-67.16	Pass
856.0	Base	8.393	7.982	75.0	-66.61	Pass
861.0	Base	7.453	7.740	75.0	-67.26	Pass
869.0	Base	7.626	7.913	75.0	-67.09	Pass
806.0	Mobile	8.298	7.747	75.0	-66.70	Pass
811.0	Mobile	8.025	7.700	75.0	-66.98	Pass
816.0	Mobile	8.377	7.656	75.0	-66.62	Pass
824.0	Mobile	7.665	7.773	75.0	-67.23	Pass

Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 ºC	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Table 7.2.2 Occupied bandwidth test results (continued)

OPERATING FREQUENCY RANGE: 758 - 775 MHz (downlink)
788 - 805 MHz (uplink)
DETECTOR USED: Peak hold
RESOLUTION BANDWIDTH: 300 Hz
VIDEO BANDWIDTH: 1 kHz
MODULATION ENVELOPE REFERENCE POINTS: 26 dBc
MODULATING SIGNAL: iDEN QAM
BIT RATE: 4 kbps
CONFIGURATION: Single Band

Carrier frequency, MHz	Output port	Occupied bandwidth, kHz		Limit, kHz	Margin, kHz	Verdict
		Without ALC	With ALC			
758.0	Base	17.314	17.437	75.0	-57.56	Pass
766.0	Base	17.398	18.246	75.0	-56.75	Pass
775.0	Base	17.140	18.196	75.0	-56.80	Pass
788.0	Mobile	17.387	17.004	75.0	-57.61	Pass
796.0	Mobile	16.953	17.180	75.0	-57.82	Pass
805.0	Mobile	17.353	17.076	75.0	-57.65	Pass

OPERATING FREQUENCY RANGE: 851 - 869 MHz (downlink)
806 - 824 MHz (uplink)
CONFIGURATION: Single Band

Carrier frequency, MHz	Output port	Occupied bandwidth, kHz		Limit, kHz	Margin, kHz	Verdict
		Without ALC	With ALC			
851.0	Base	16.974	17.989	75.0	-57.01	Pass
856.0	Base	17.078	18.112	75.0	-56.89	Pass
861.0	Base	16.651	17.723	75.0	-57.28	Pass
869.0	Base	17.377	17.824	75.0	-57.18	Pass
806.0	Mobile	17.122	17.240	75.0	-57.76	Pass
811.0	Mobile	17.585	17.763	75.0	-57.24	Pass
816.0	Mobile	17.091	17.336	75.0	-57.66	Pass
824.0	Mobile	17.475	17.461	75.0	-57.53	Pass

Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 ºC	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Table 7.2.2 Occupied bandwidth test results (continued)

OPERATING FREQUENCY RANGE: 758 - 775 MHz (downlink)
788 - 805 MHz (uplink)
DETECTOR USED: Peak hold
RESOLUTION BANDWIDTH: 300 Hz
VIDEO BANDWIDTH: 1 kHz
MODULATION ENVELOPE REFERENCE POINTS: 26 dBc
MODULATING SIGNAL: Analog FM 10.0 kHz/1 kHz
BIT RATE: 4 kbps
CONFIGURATION: Single Band

Carrier frequency, MHz	Output port	Occupied bandwidth, kHz		Limit, kHz	Margin, kHz	Verdict
		Without ALC	With ALC			
758.0	Base	23.482	23.522	75.0	-51.48	Pass
796.0	Base	23.505	23.473	75.0	-51.50	Pass
775.0	Base	23.431	23.463	75.0	-51.54	Pass
778.0	Mobile	22.950	23.339	75.0	-51.66	Pass
796.0	Mobile	23.315	22.932	75.0	-51.69	Pass
805.0	Mobile	23.662	23.910	75.0	-51.09	Pass

OPERATING FREQUENCY RANGE: 851 - 869 MHz (downlink)
806 - 824 MHz (uplink)
CONFIGURATION: Single Band

Carrier frequency, MHz	Output port	Occupied bandwidth, kHz		Limit, kHz	Margin, kHz	Verdict
		Without ALC	With ALC			
851.0	Base	24.119	24.120	75.0	-50.88	Pass
856.0	Base	24.082	23.871	75.0	-50.92	Pass
861.0	Base	24.056	24.074	75.0	-50.93	Pass
869.0	Base	23.890	23.965	75.0	-51.04	Pass
806.0	Mobile	23.610	23.715	75.0	-51.29	Pass
811.0	Mobile	23.864	23.939	75.0	-51.06	Pass
816.0	Mobile	23.978	23.932	75.0	-51.02	Pass
824.0	Mobile	23.915	23.880	75.0	-51.09	Pass

Reference numbers of test equipment used

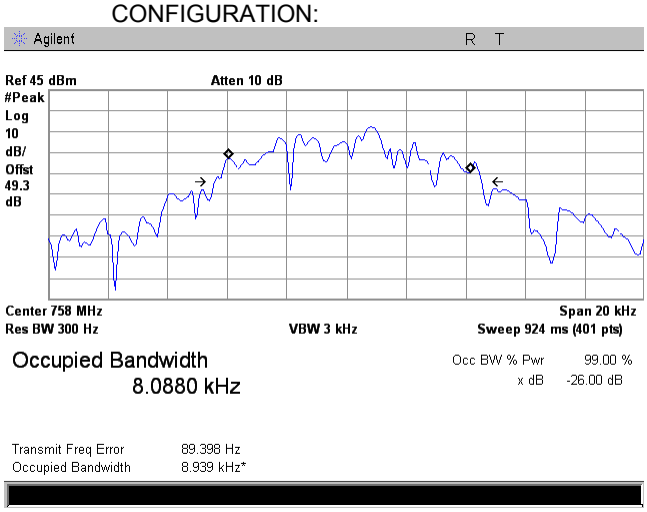
HL 2909	HL 3768	HL 3770	HL 3776	HL 4224	HL 4273	HL 4274	HL 4413
HL 3818	HL 3903						

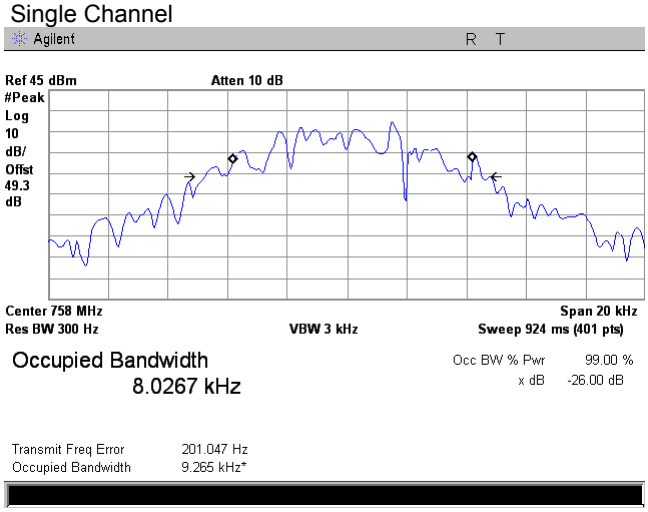
Full description is given in Appendix A.

Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.2.1 Occupied bandwidth test result at low frequency carrier, Port 1

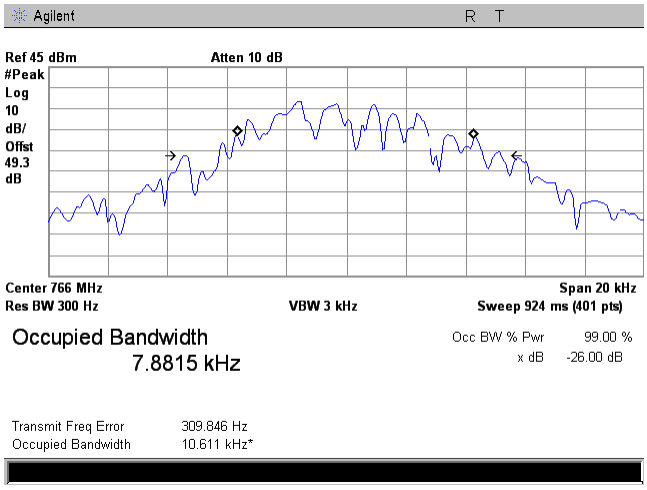
FRQUENCY RANGE: 758 - 775 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

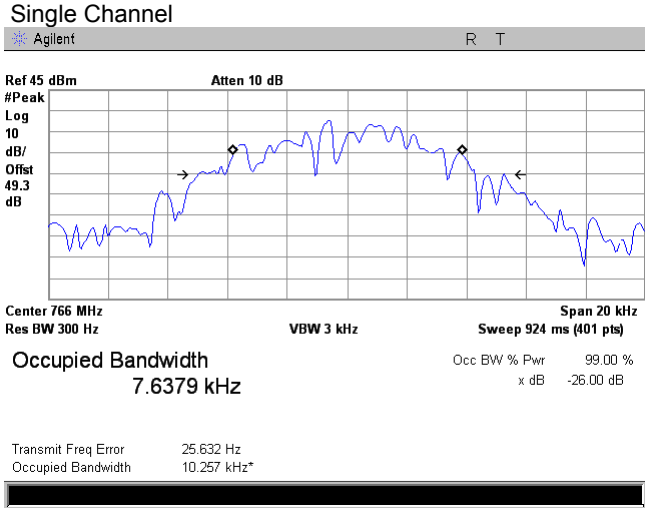




Plot 7.2.2 Occupied bandwidth test result at mid frequency carrier, Port 1

FRQUENCY RANGE: 758 - 775 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

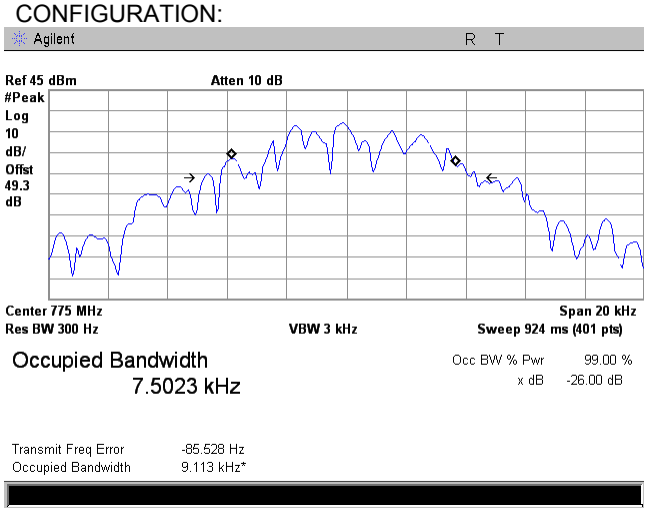


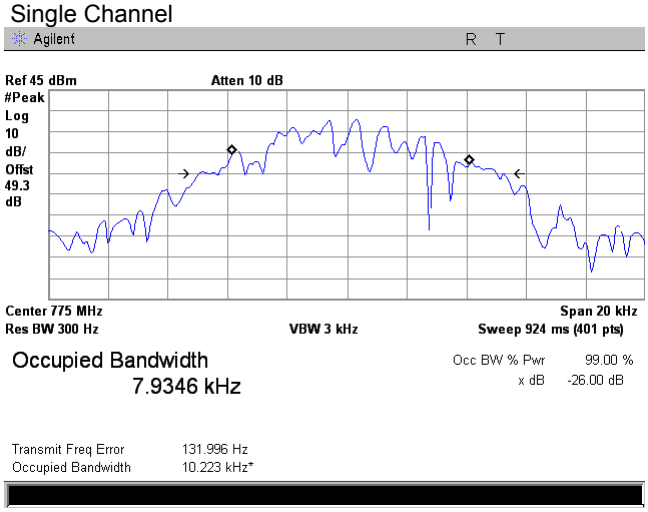


Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.2.3 Occupied bandwidth test result at high frequency carrier, Port 1

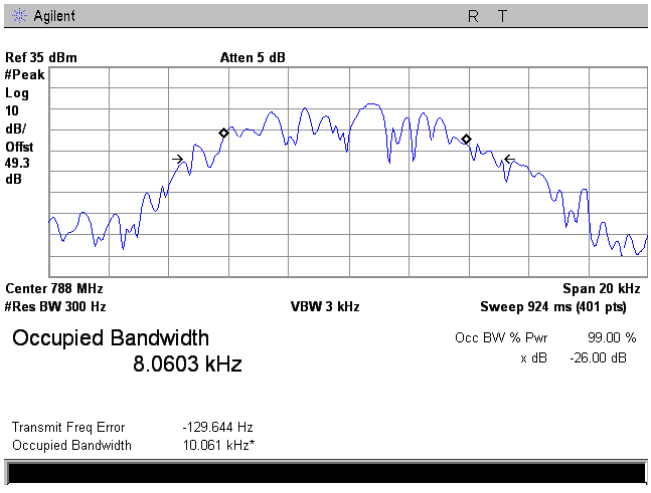
FRQUENCY RANGE: 758 - 775 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

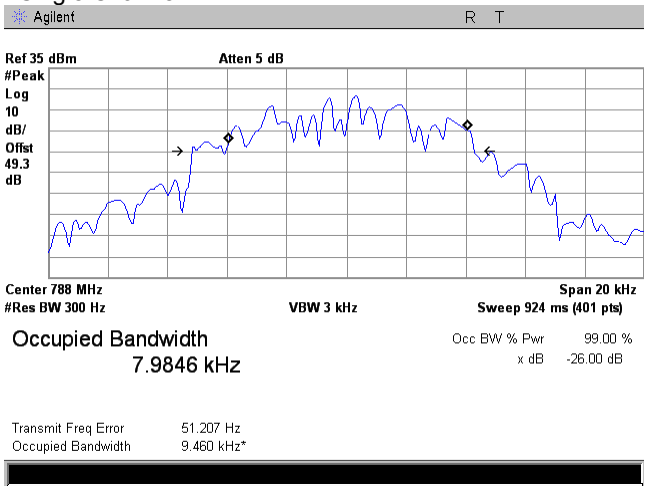




Plot 7.2.4 Occupied bandwidth test result at low frequency carrier, Port 2

FRQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

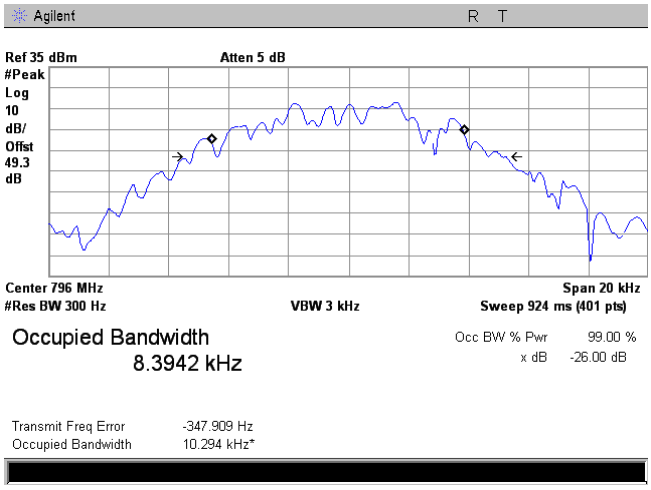


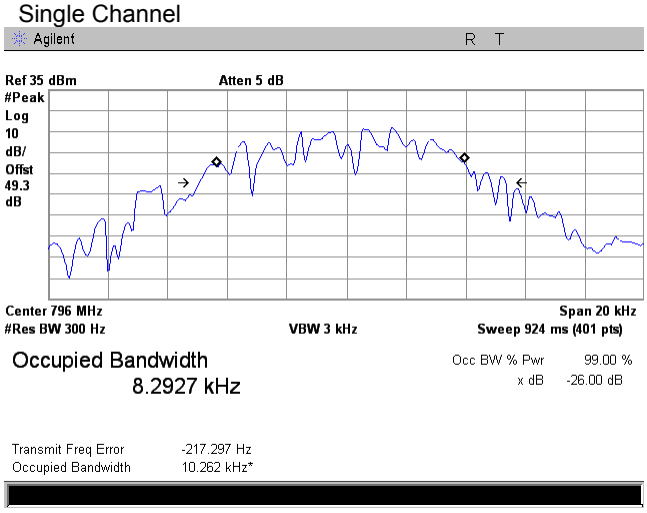


Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.2.5 Occupied bandwidth test result at mid frequency carrier, Port 2

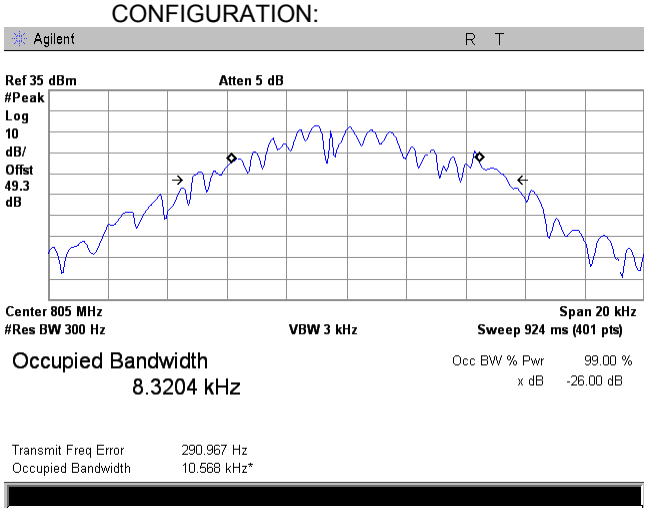
FRQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

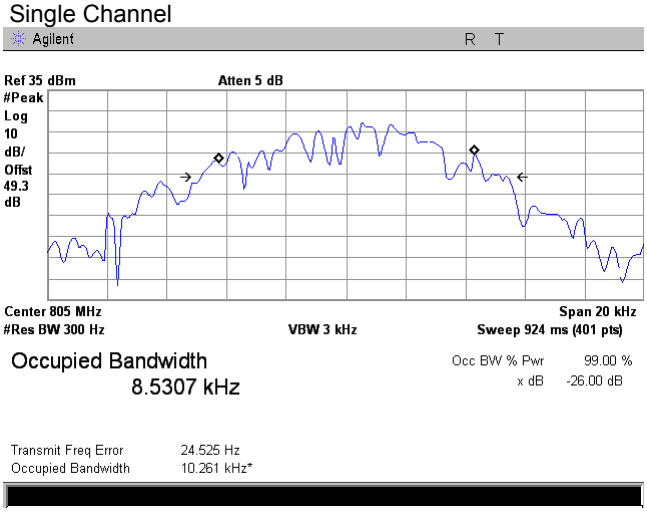




Plot 7.2.6 Occupied bandwidth test result at high frequency carrier, Port 2

FRQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

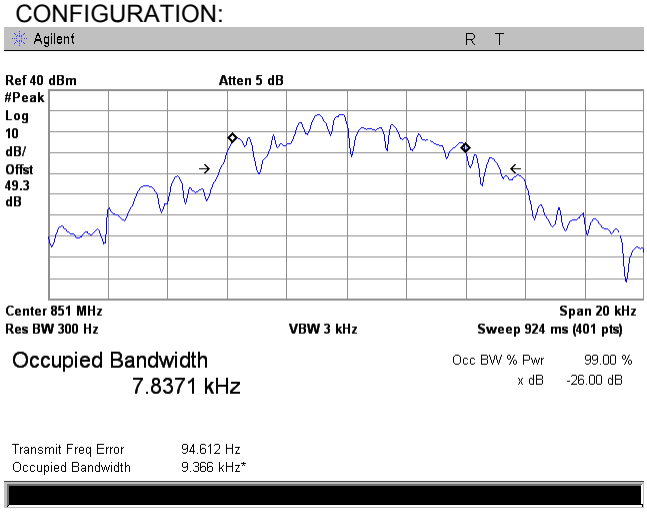


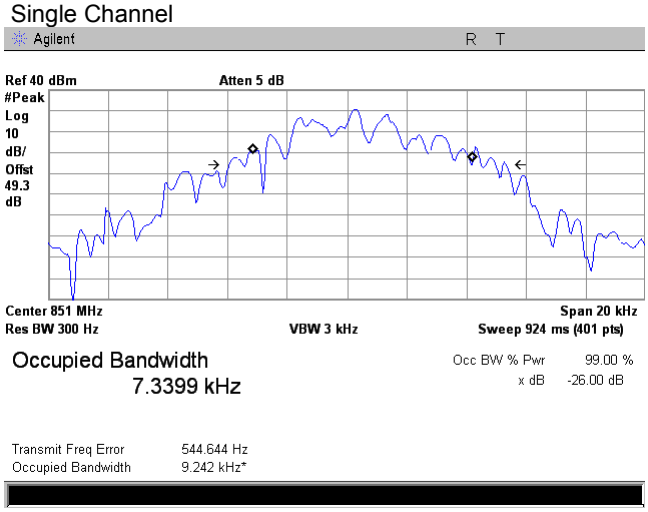


Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.2.7 Occupied bandwidth test result at low frequency carrier, Port 1

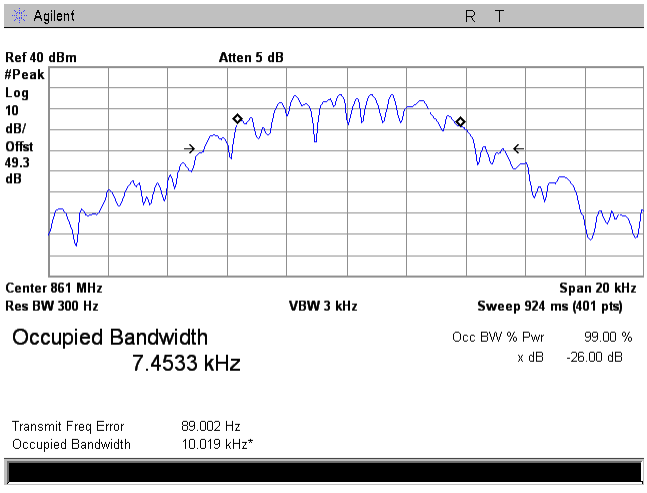
FRQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

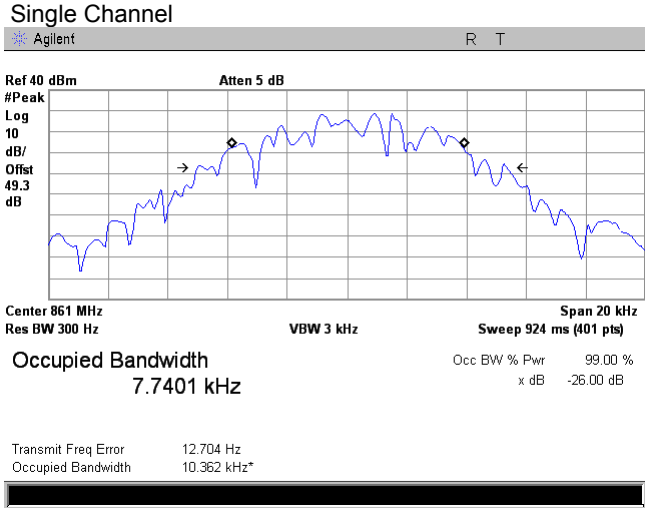




Plot 7.2.8 Occupied bandwidth test result at mid frequency carrier, Port 1

FRQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

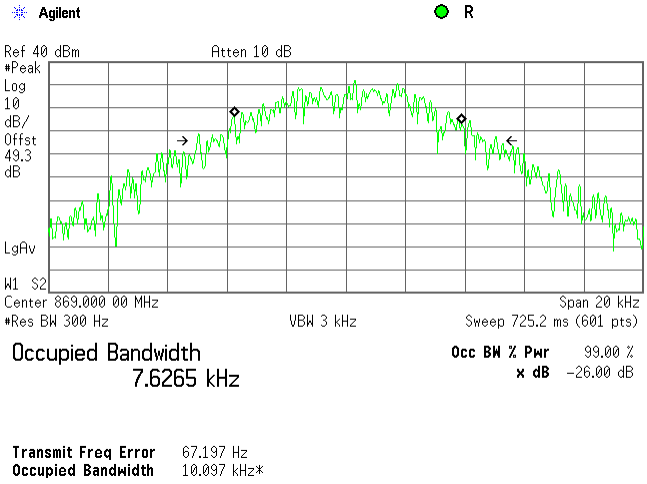


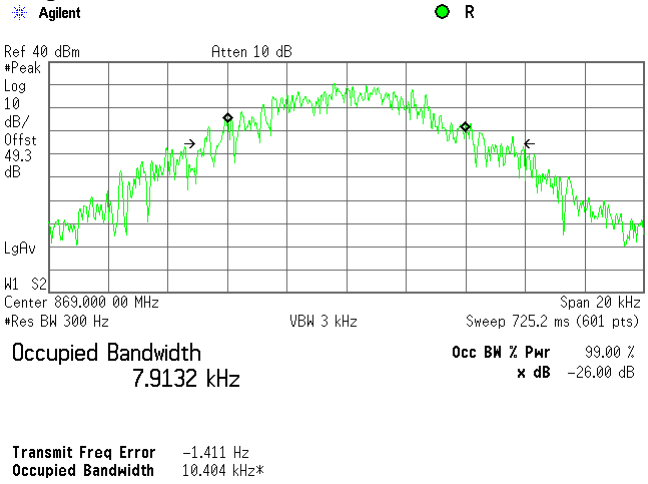


Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.2.9 Occupied bandwidth test result at high frequency carrier, Port 1

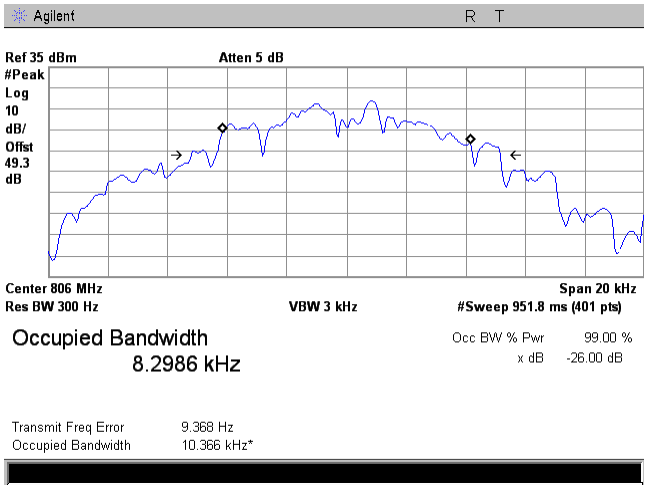
FRQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm
CONFIGURATION: Single Channel

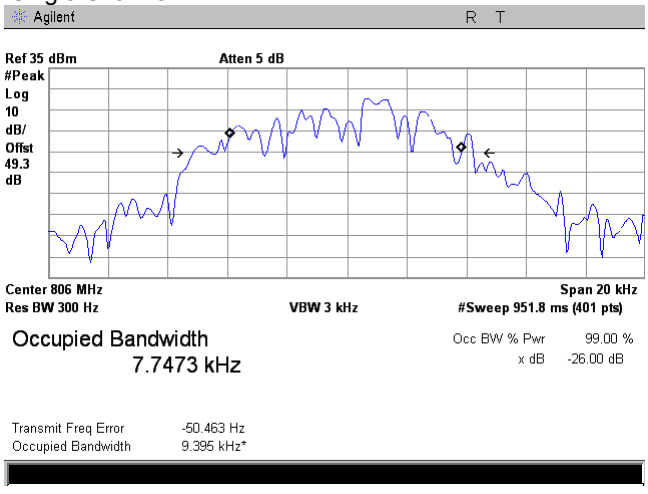




Plot 7.2.10 Occupied bandwidth test result at low frequency carrier, Port 2

FRQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm
CONFIGURATION: Single Channel

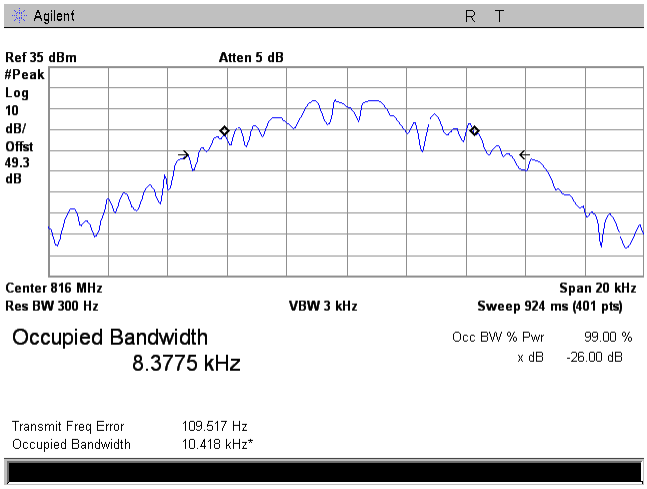


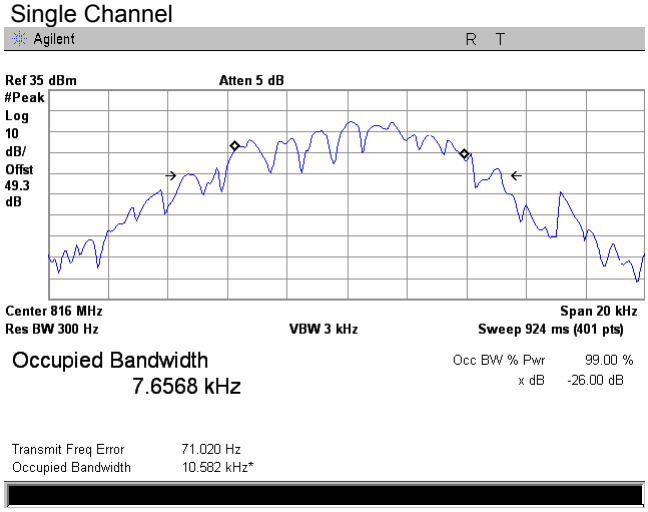


Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.2.11 Occupied bandwidth test result at mid frequency carrier, Port 2

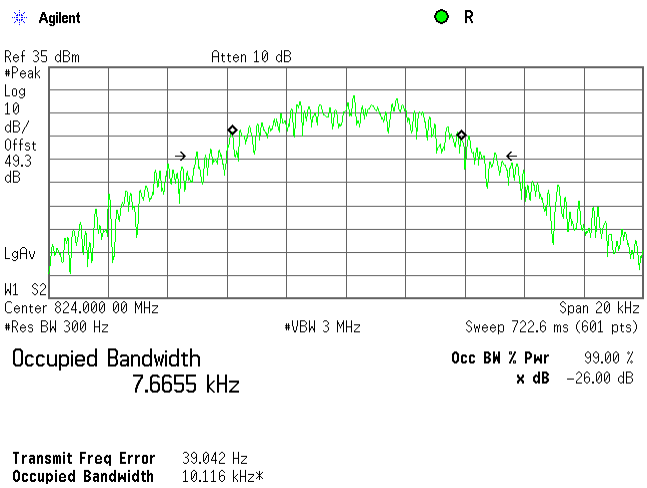
FRQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

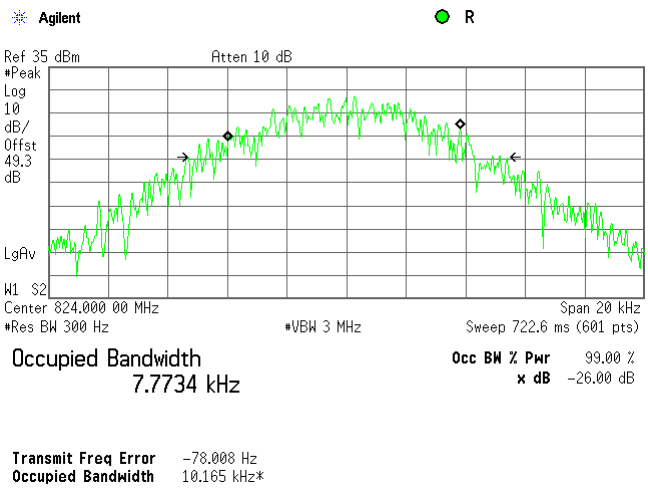




Plot 7.2.12 Occupied bandwidth test result at high frequency carrier, Port 2

FRQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

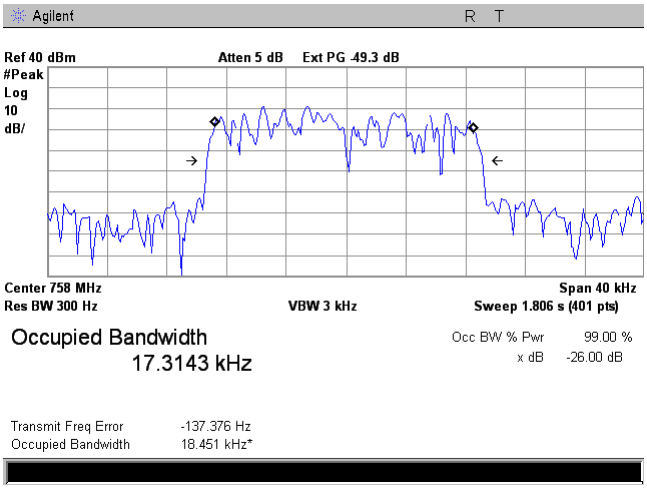


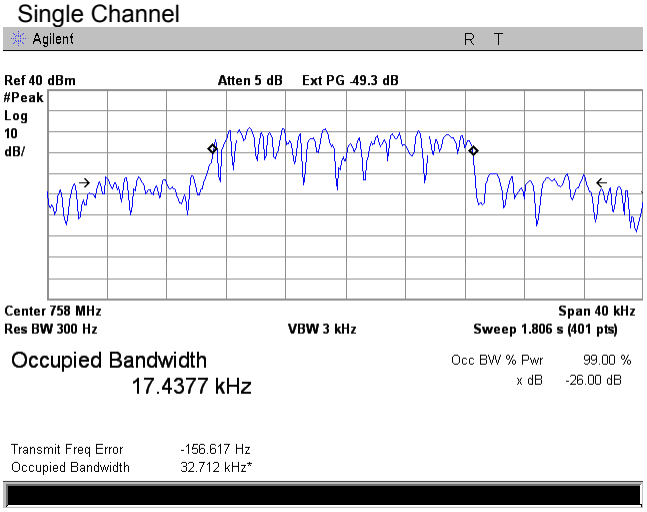


Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.2.13 Occupied bandwidth test result at low frequency carrier, Port 1

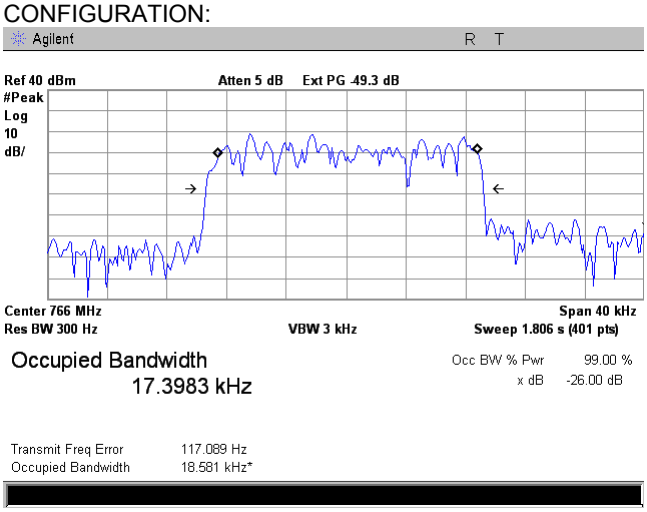
FRQUENCY RANGE: 758 - 775 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Base
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

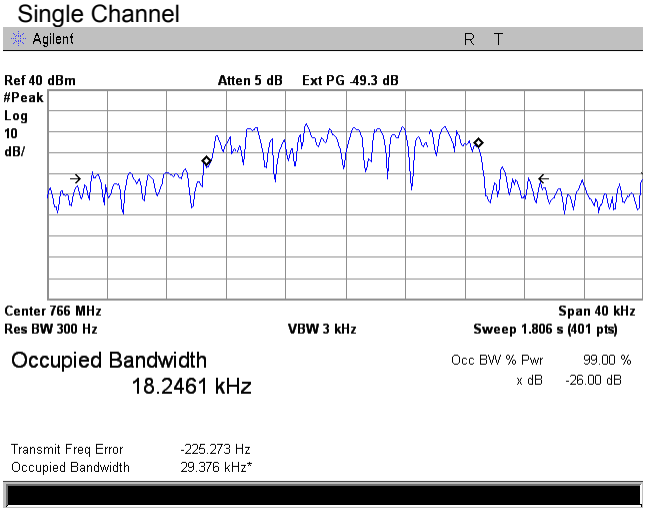




Plot 7.2.14 Occupied bandwidth test result at mid frequency carrier, Port 1

FRQUENCY RANGE: 758 - 775 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

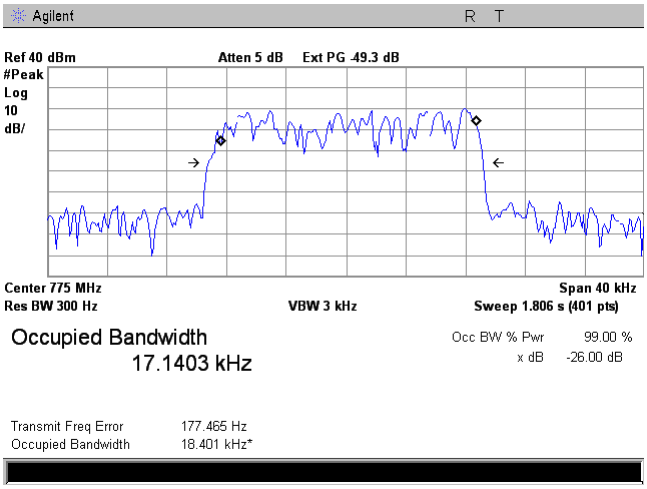


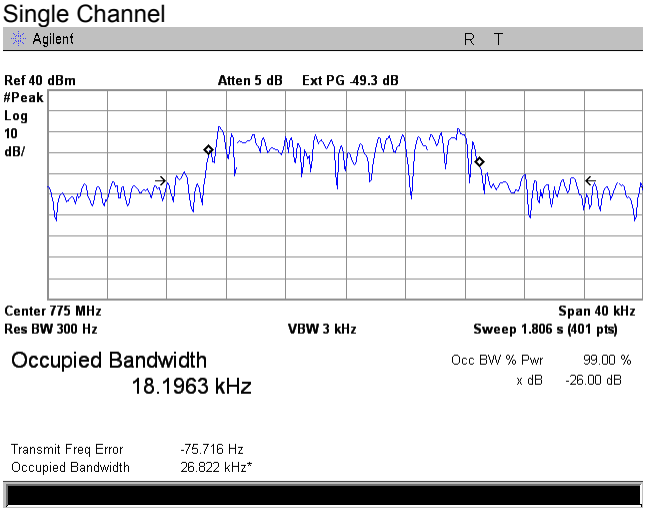


Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.2.15 Occupied bandwidth test result at high frequency carrier, Port 1

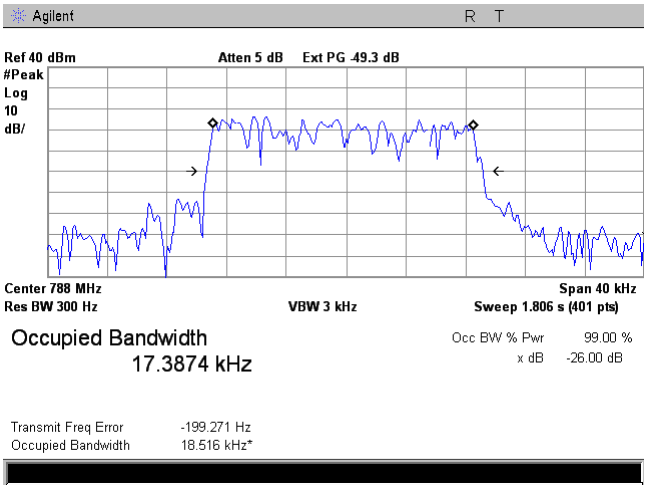
FRQUENCY RANGE: 758 - 775 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

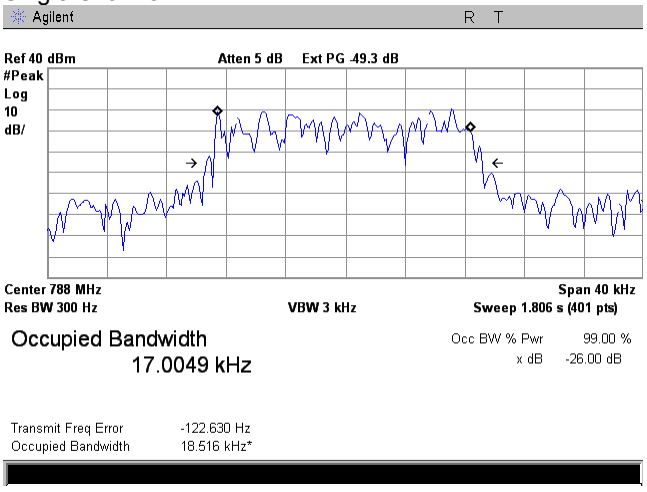




Plot 7.2.16 Occupied bandwidth test result at low frequency carrier, Port 2

FRQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

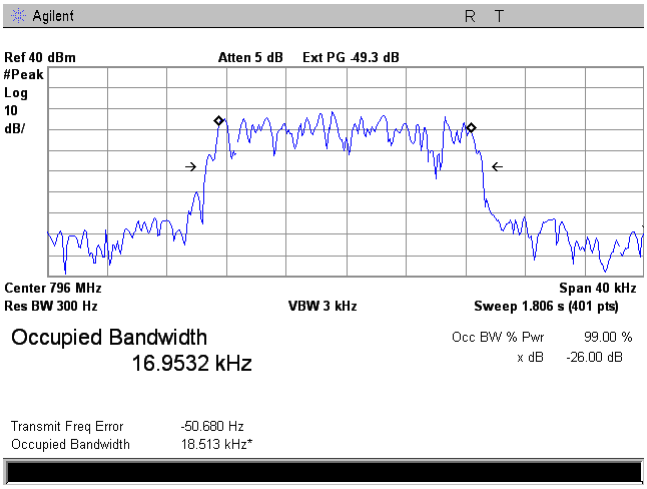


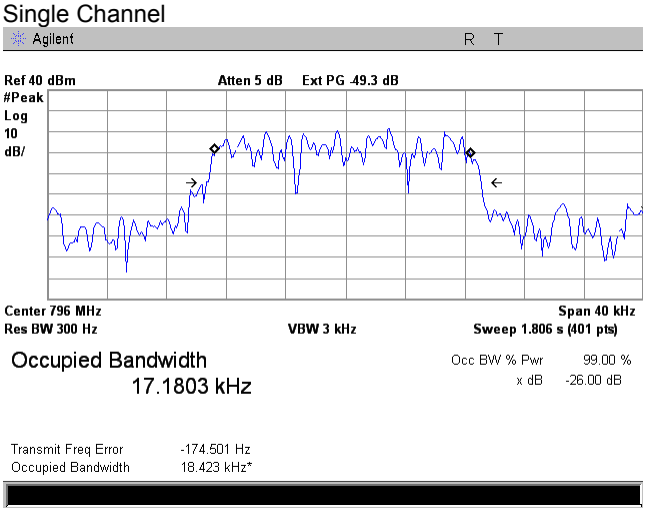


Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.2.17 Occupied bandwidth test result at low frequency carrier, Port 2

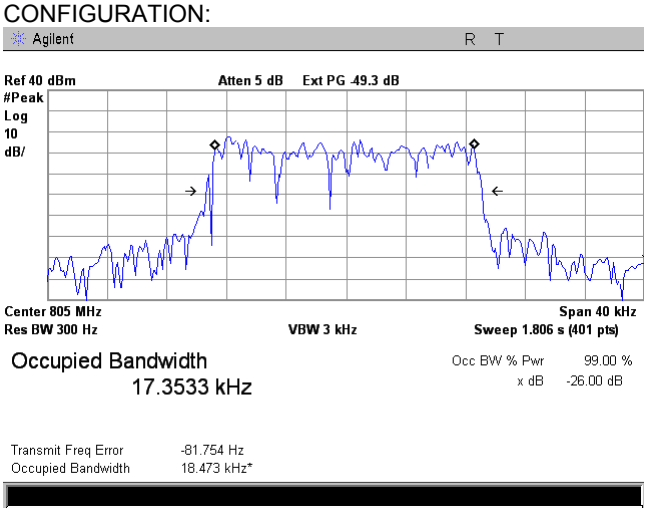
FRQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

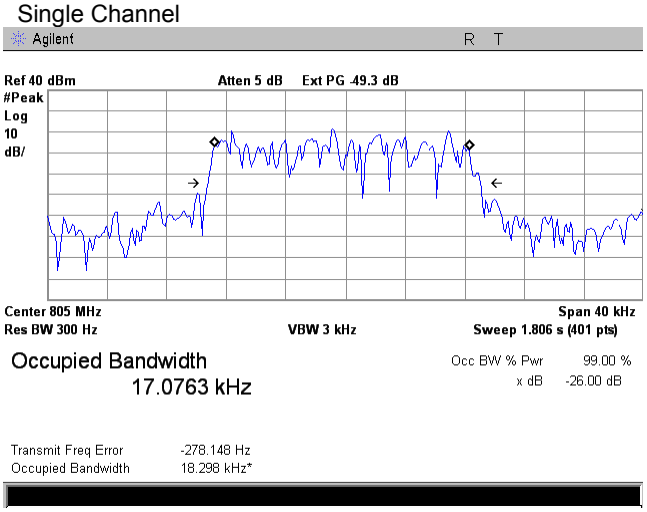




Plot 7.2.18 Occupied bandwidth test result at low frequency carrier, Port 2

FRQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

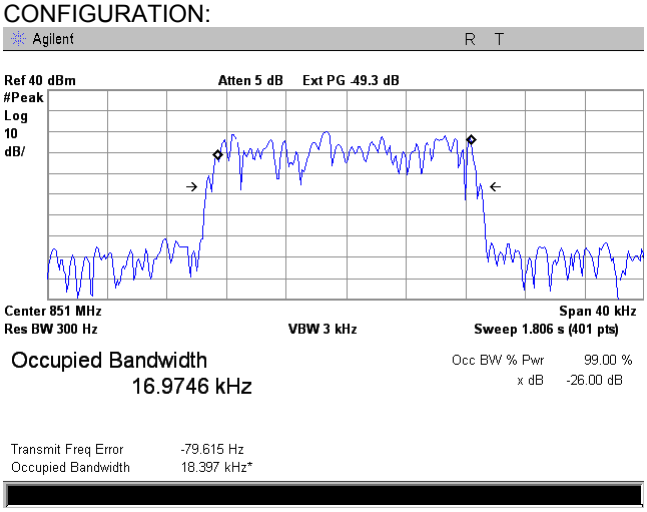


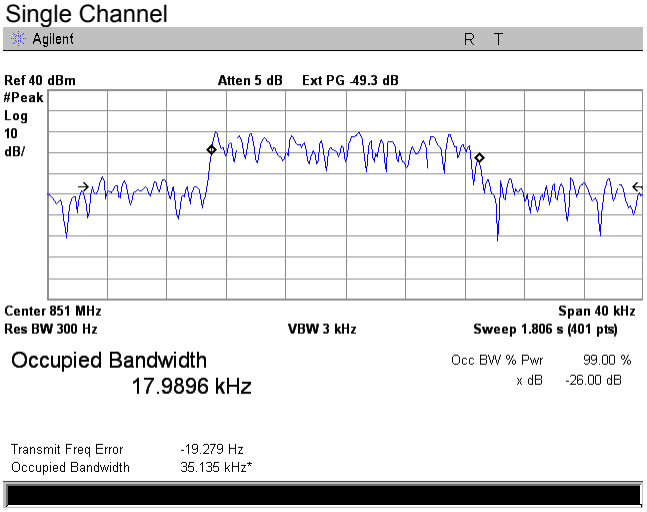


Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.2.19 Occupied bandwidth test result at low frequency carrier, Port 1

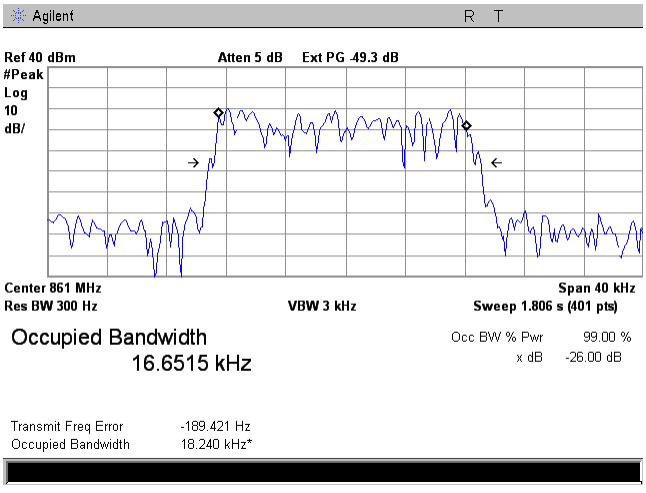
FRQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

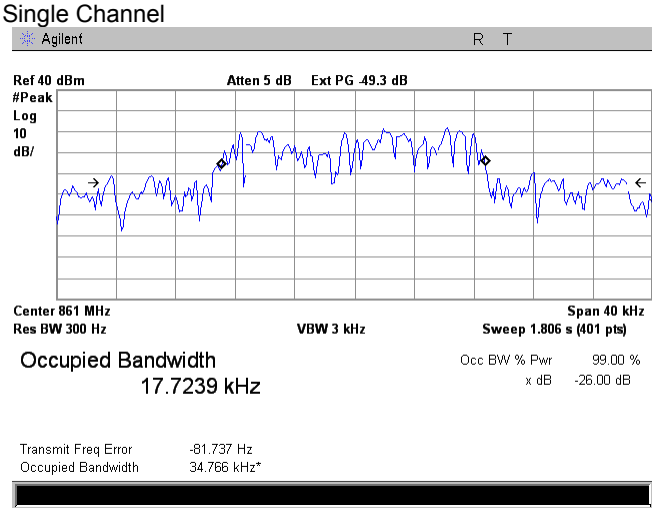




Plot 7.2.20 Occupied bandwidth test result at mid frequency carrier, Port 1

FRQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

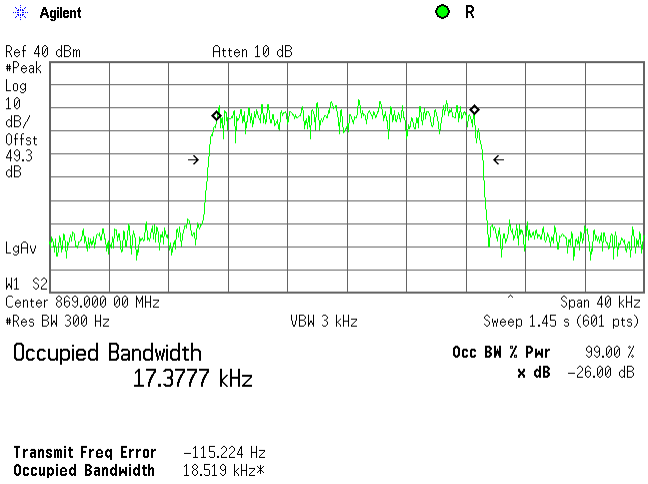


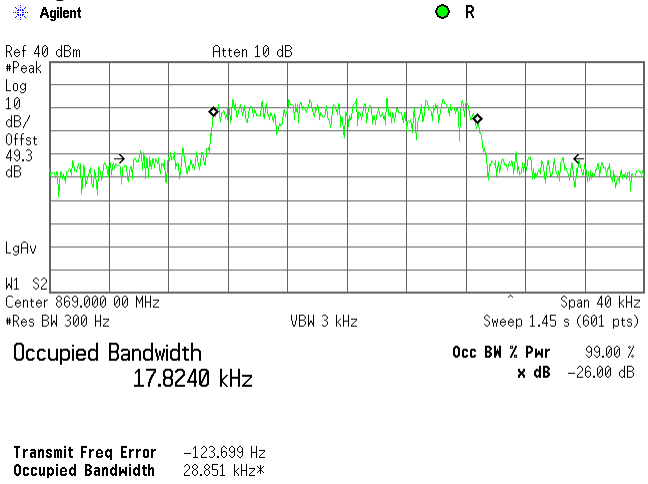


Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.2.21 Occupied bandwidth test result at high frequency carrier, Port 1

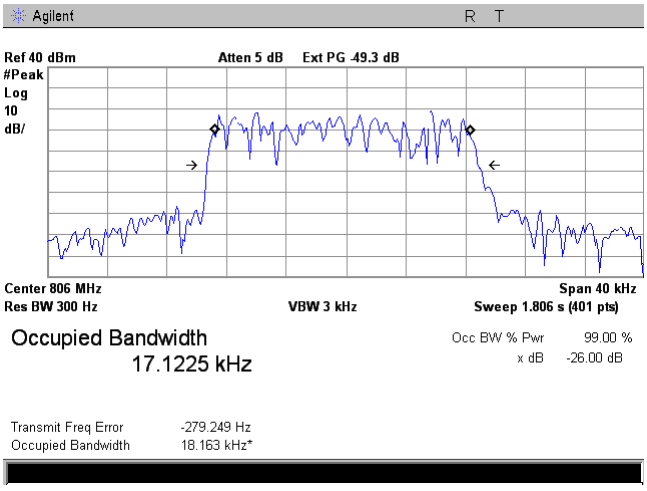
FRQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

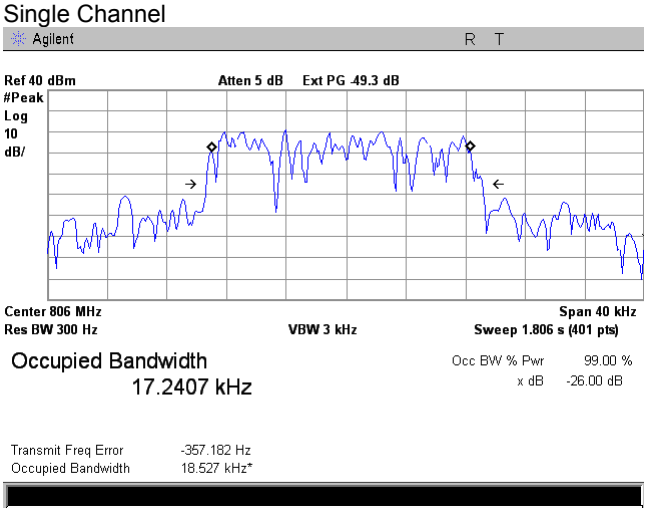




Plot 7.2.22 Occupied bandwidth test result at low frequency carrier, Port 2

FRQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Base
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

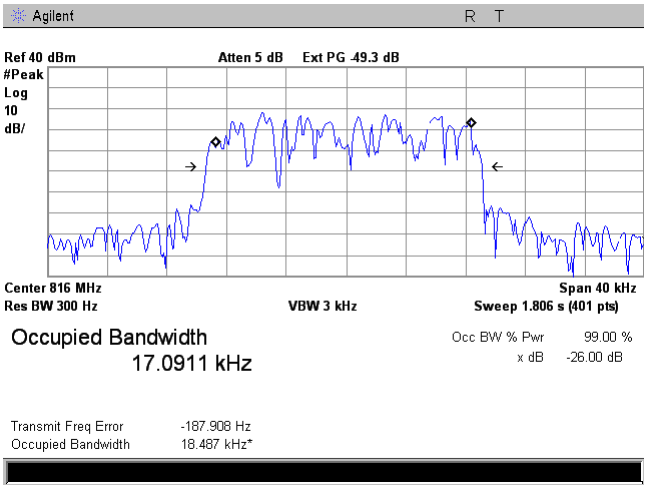


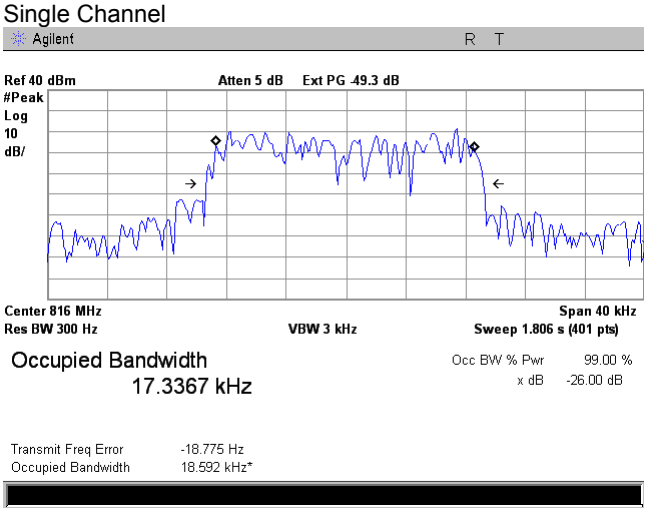


Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.2.23 Occupied bandwidth test result at mid frequency carrier, Port 2

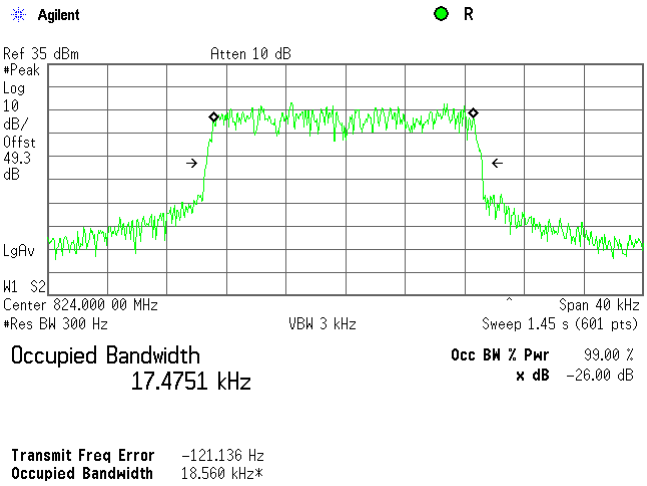
FRQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Base
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

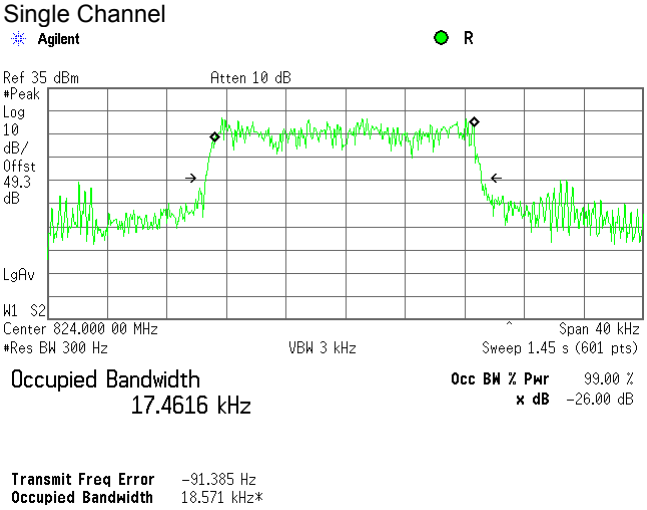




Plot 7.2.24 Occupied bandwidth test result at high frequency carrier, Port 2

FRQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Base
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

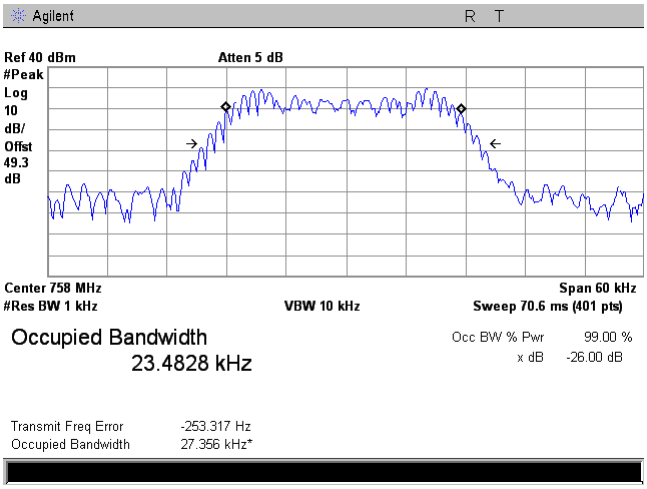


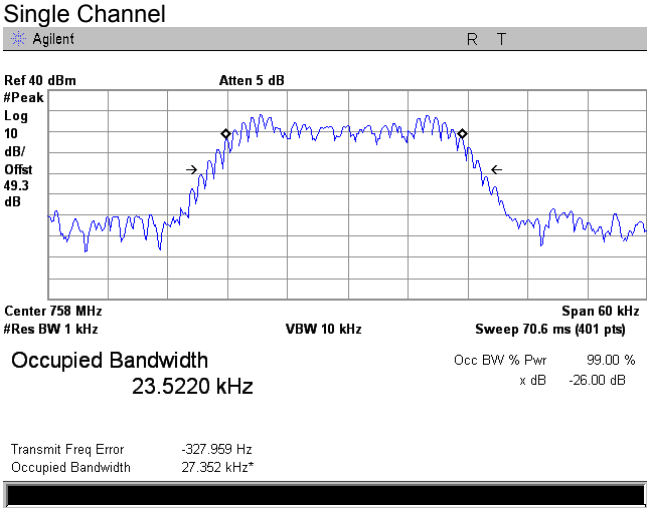


Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.2.25 Occupied bandwidth test result at low frequency carrier, Port 1

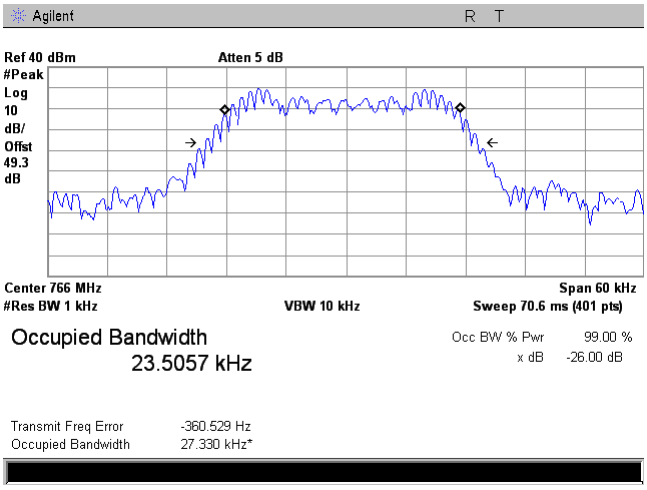
FRQUENCY RANGE: 758 - 775 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

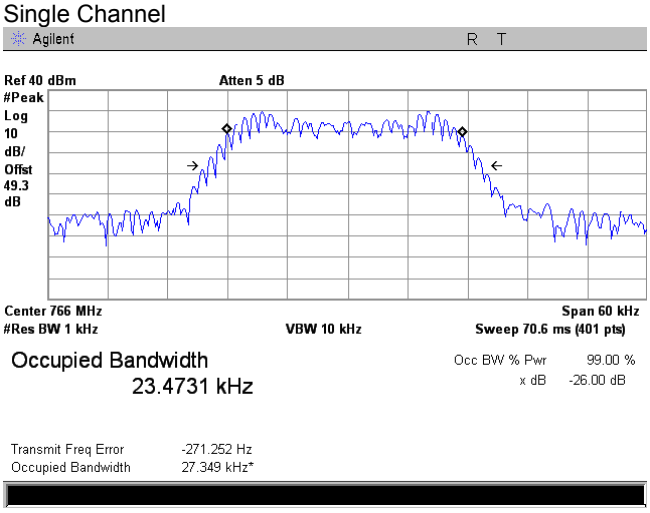




Plot 7.2.26 Occupied bandwidth test result at mid frequency carrier, Port 1

FRQUENCY RANGE: 758 - 775 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

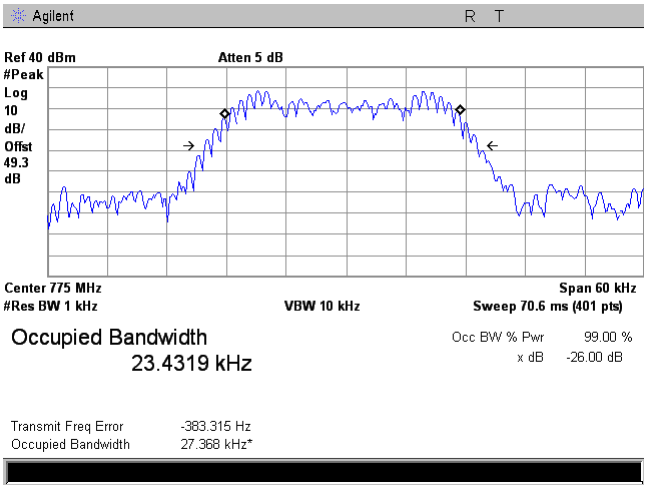


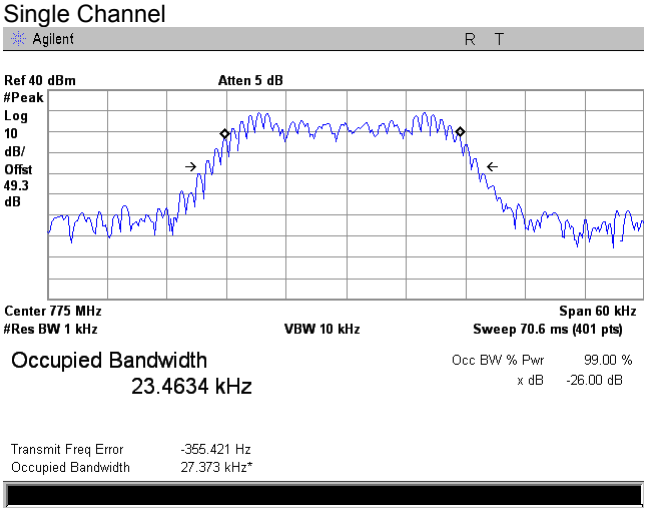


Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.2.27 Occupied bandwidth test result at high frequency carrier, Port 1

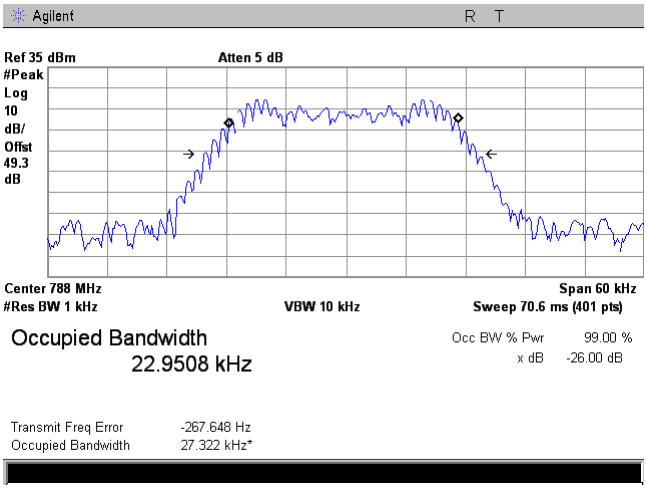
FRQUENCY RANGE: 758 - 775 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

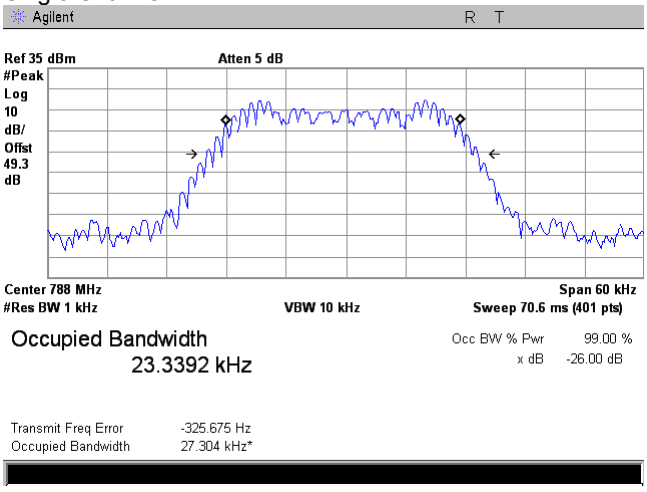




Plot 7.2.28 Occupied bandwidth test result at low frequency carrier, Port 2

FRQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

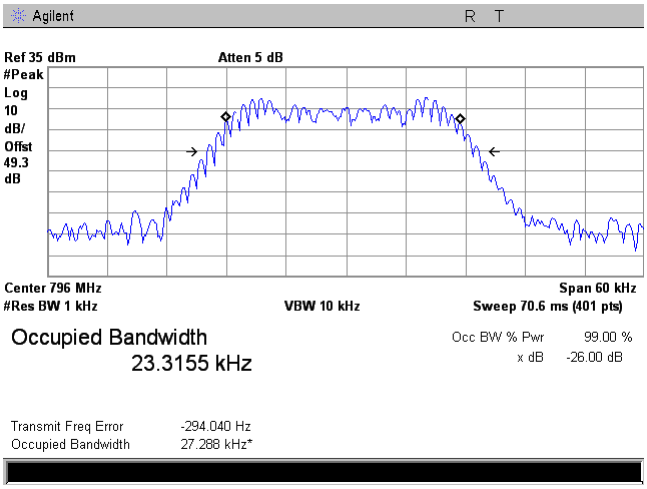


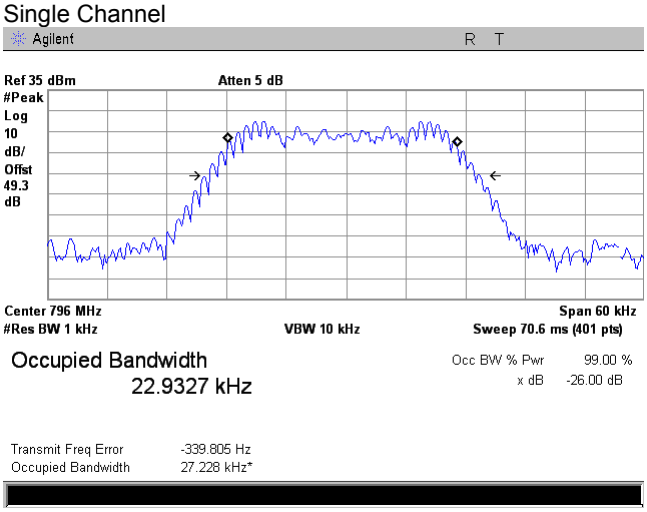


Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.2.29 Occupied bandwidth test result at mid frequency carrier, Port 2

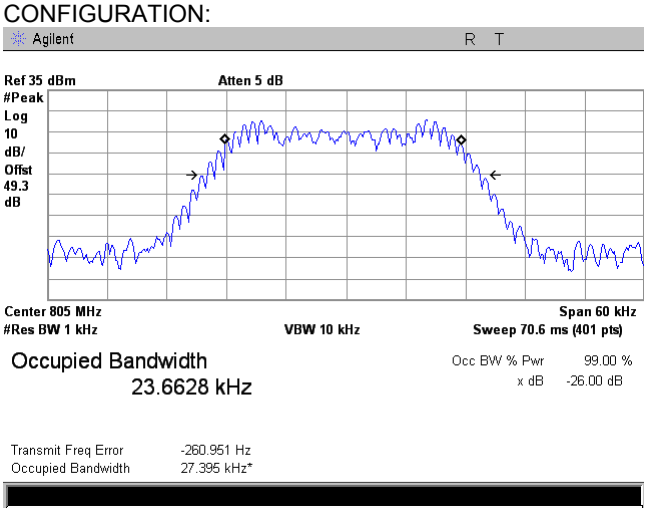
FRQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

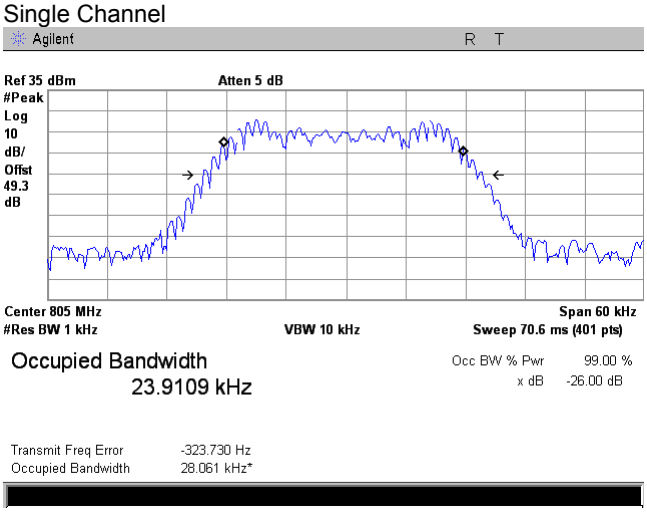




Plot 7.2.30 Occupied bandwidth test result at high frequency carrier, Port 2

FRQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

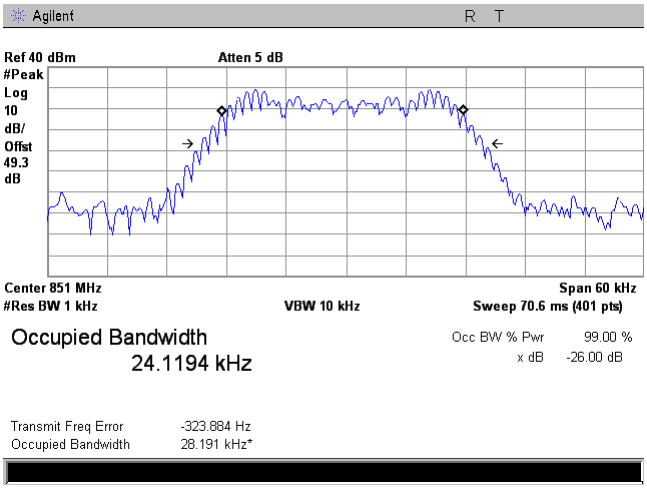


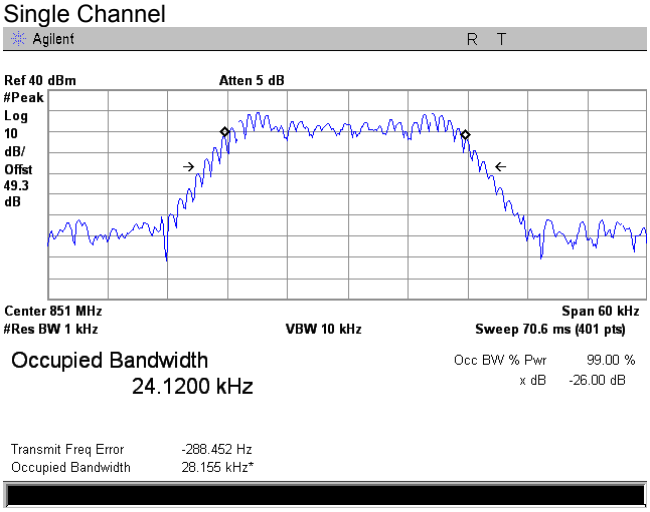


Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.2.31 Occupied bandwidth test result at low frequency carrier, Port 1

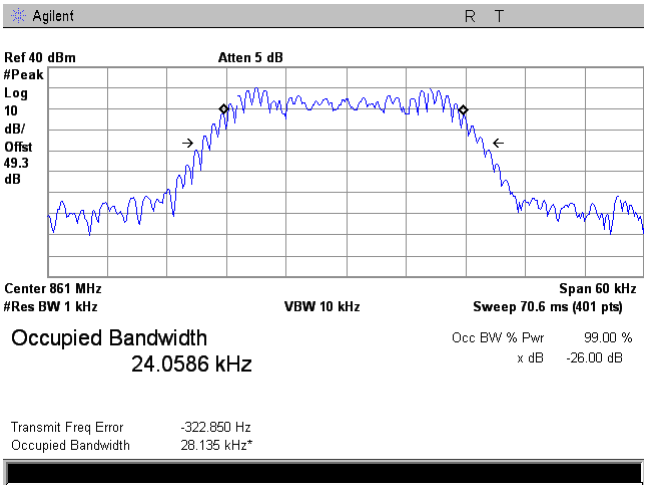
FRQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band
INPUT POWER: -56 dBm
CONFIGURATION: Single Channel

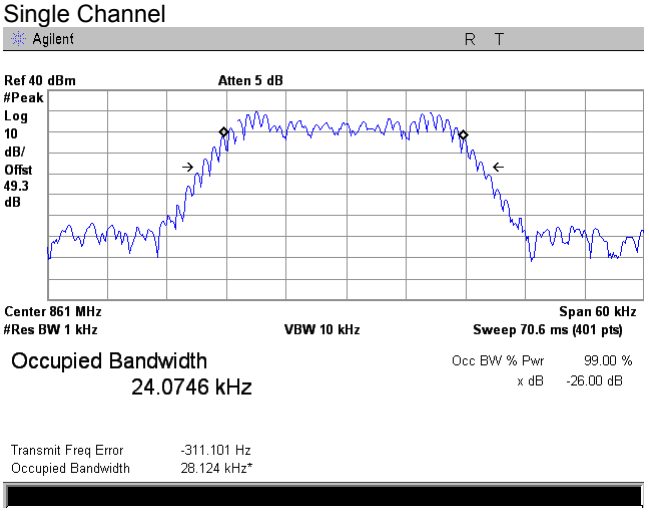




Plot 7.2.32 Occupied bandwidth test result at mid frequency carrier, Port 1

FRQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
INPUT POWER: -56 dBm
CONFIGURATION: Single Channel
INPUT POWER: -26 dBm

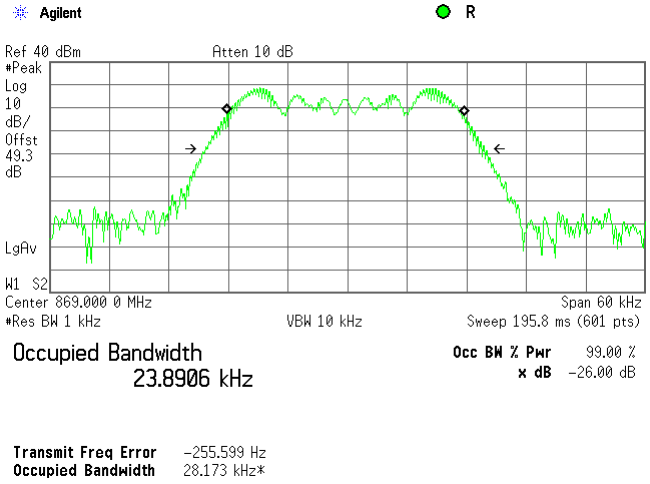


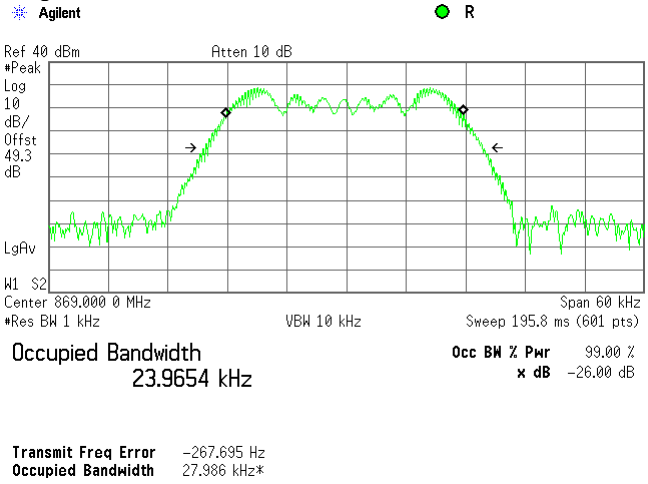


Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.2.33 Occupied bandwidth test result at high frequency carrier, Port 1

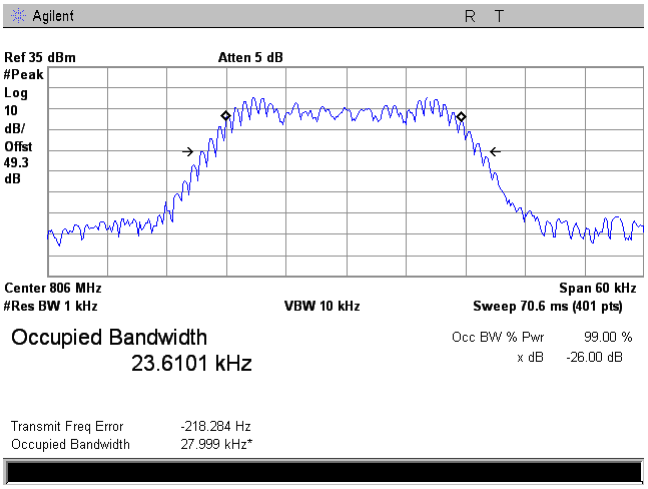
FRQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

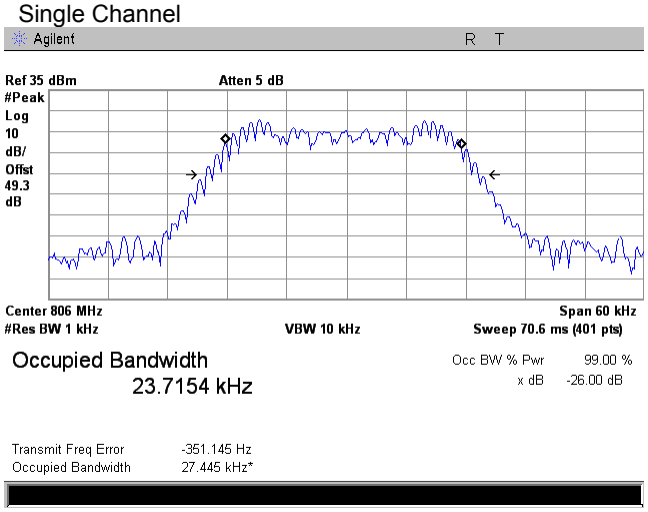




Plot 7.2.34 Occupied bandwidth test result at low frequency carrier, Port 2

FRQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel

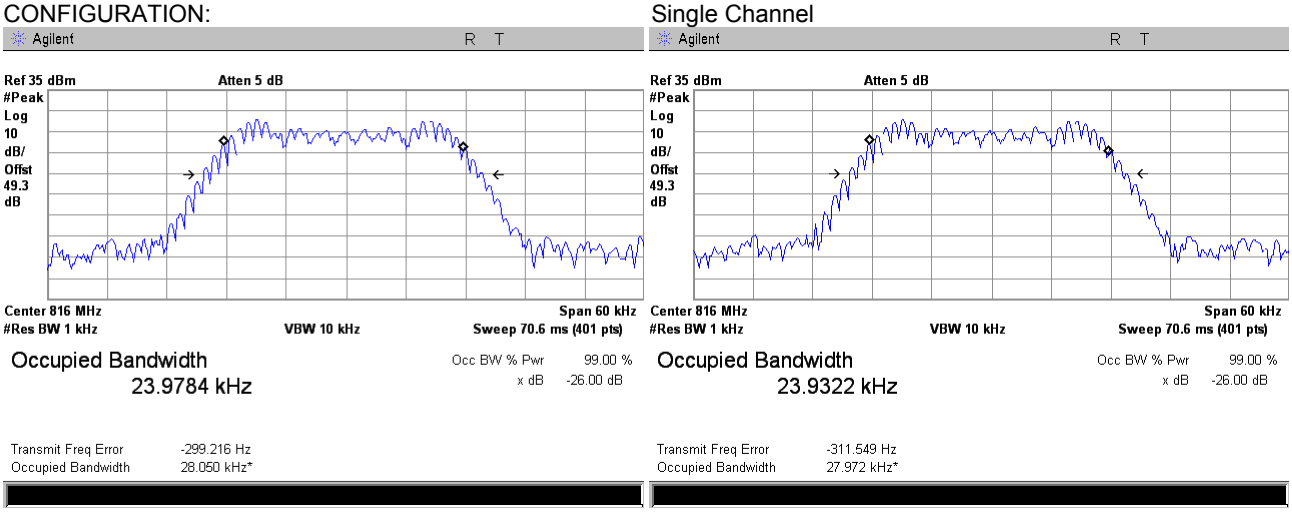




Test specification:	Section 90.219(a), Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	20-Jul-15 - 07-Sep-15		
Temperature: 24.1 °C	Air Pressure: 1005 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

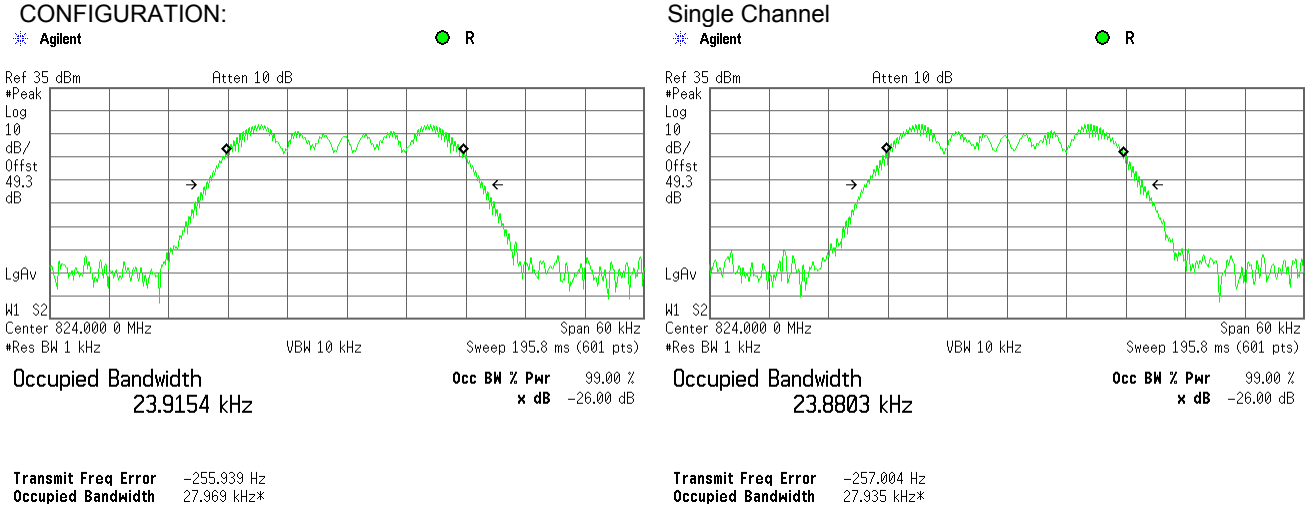
Plot 7.2.35 Occupied bandwidth test result at mid frequency carrier, Port 2

FRQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel



Plot 7.2.36 Occupied bandwidth test result at high frequency carrier, Port 2

FRQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
INPUT POWER: -56 dBm INPUT POWER: -26 dBm
CONFIGURATION: Single Channel



Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 ºC	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

7.3 Emission mask test

7.3.1 General

This test was performed to measure emission mask at RF antenna connector. Specification test limits are given in Table 7.3.1.

Table 7.3.1 Emission mask limits

Frequency displacement from carrier	Attenuation below carrier, dBc
Emission mask B (Channel bandwidth 10 kHz, authorized bandwidth 8 kHz) with audio low pass filter	
0 – 4.0 kHz	0
4.0 – 8.0 kHz	25.0
8.0 – 20.0 kHz	35.0
More than 20.0 kHz	43+10logP(W)
Emission mask B (Channel bandwidth 20.0 kHz, authorized bandwidth 18.0 kHz)	
0 – 9.0 kHz	0
9.0 – 18.0 kHz	25.0
18.0 – 45.0 kHz	35.0
More than 45.0 kHz	43+10logP(W)
Emission mask B (Channel bandwidth 25.0 kHz, authorized bandwidth 23.0 kHz)	
0 – 11.5 kHz	0
11.5 – 23.0 kHz	25.0
23.0 – 11.5 kHz	35.0
More than 23.0 kHz	43+10logP(W)
Emission mask H (Channel bandwidth 8 kHz, authorized bandwidth 8 kHz)	
0 – 4.0 kHz	0
4.0 – 8.5 kHz	107 log (fd/4)
8.5 – 15.0 kHz	40.5 log(fd/1.16)
15.0 – 25.0 kHz	116 log(fd/6.1)
More than 25.0 kHz	43+10logP(W)

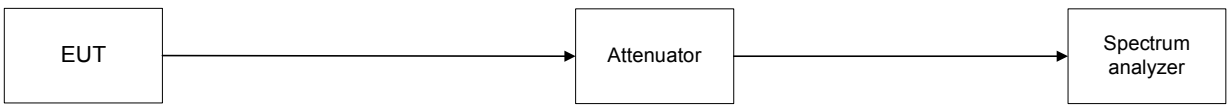
* - linearly increase with frequency
** - emission mask includes carrier modulation envelope within ± 250 % of the authorized bandwidth; the frequency range removed beyond ± 250 % of the authorized bandwidth from carrier was investigated as spurious emission

7.3.2 Test procedure

7.3.2.1 The EUT was set up as shown in Figure 7.3.1, energized and its proper operation was checked.

7.3.2.2 The emission mask was measured with spectrum analyzer as provided in Table 7.3.2 and the associated plots.

Figure 7.3.1 Emission mask test setup



Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 ºC	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Table 7.3.2 Emission mask test results

Carrier frequency, MHz	Limit	Verdict
Modulation C4F/iDEN/Analog FM		
Downlink 758 – 775 MHz		
758.0	Emission mask B	Pass
766.0		
775.0		
Uplink 788 – 805 MHz		
788.0	Emission mask B	Pass
796.0		
805.0		
Downlink 851 – 869 MHz		
851.0	Emission mask B, H	Pass
861.0		
869.0		
Uplink 806 – 824 MHz		
806.0	Emission mask B, H	Pass
816.0		
824.0		

Reference numbers of test equipment used

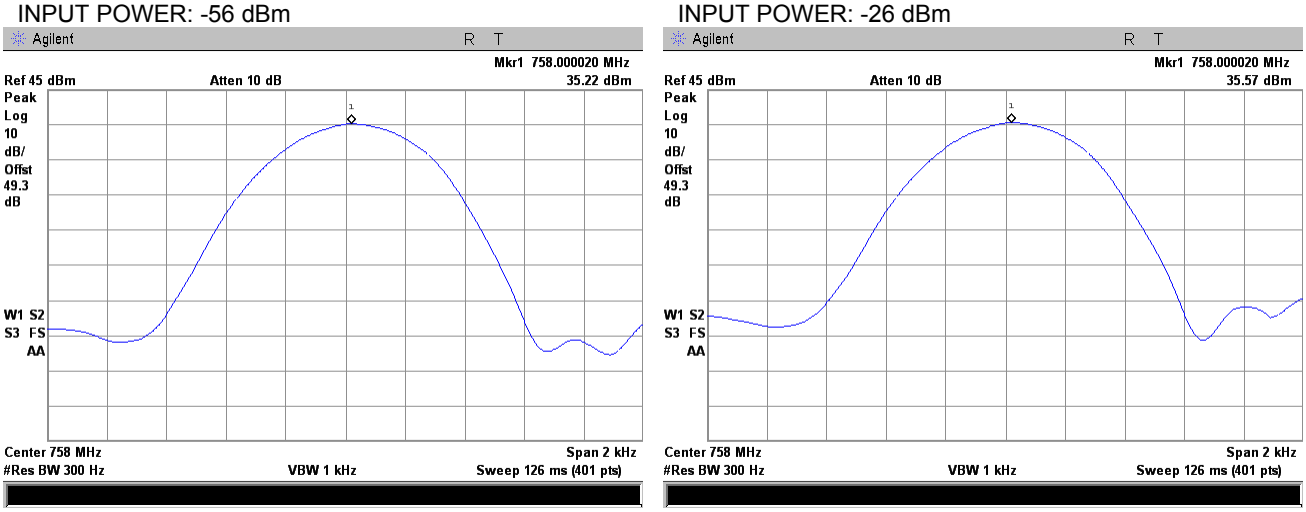
HL 2909	HL 3768	HL 3770	HL 3776	HL 3818	HL 3903	HL 4224	HL 4273
HL 4274	HL 4413						

Full description is given in Appendix A.

Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 ºC	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

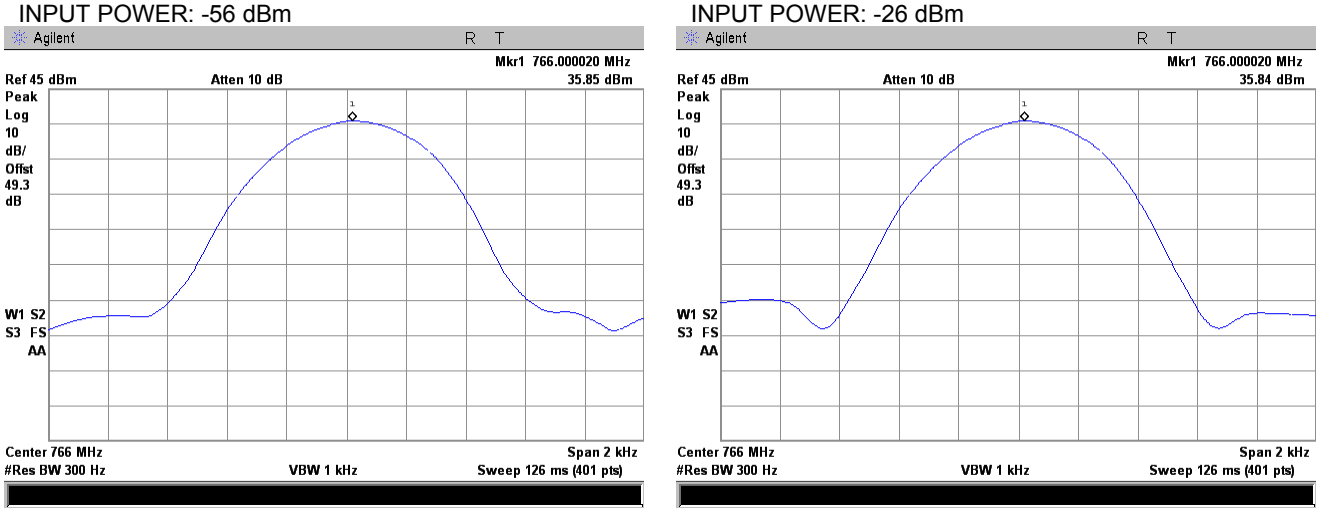
Plot 7.3.1 Reference level test results at low carrier frequency, Port 1

FREQUENCY RANGE: 758 - 775 MHz
REFERENCE LEVEL: Unmodulated power
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm INPUT POWER: -26 dBm



Plot 7.3.2 Reference level test results at mid carrier frequency, Port 1

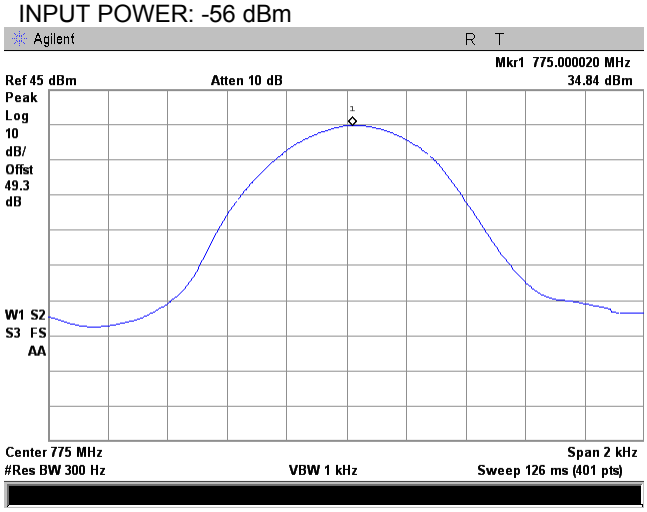
FREQUENCY RANGE: 758 - 775 MHz
REFERENCE LEVEL: Unmodulated power
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm INPUT POWER: -26 dBm



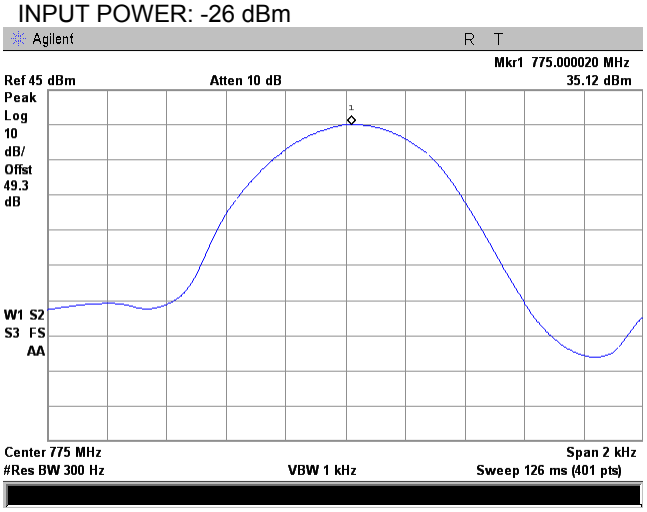
Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.3 Reference level test results at high carrier frequency, Port 1

FREQUENCY RANGE: 758 - 775 MHz
REFERENCE LEVEL: Unmodulated power
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm

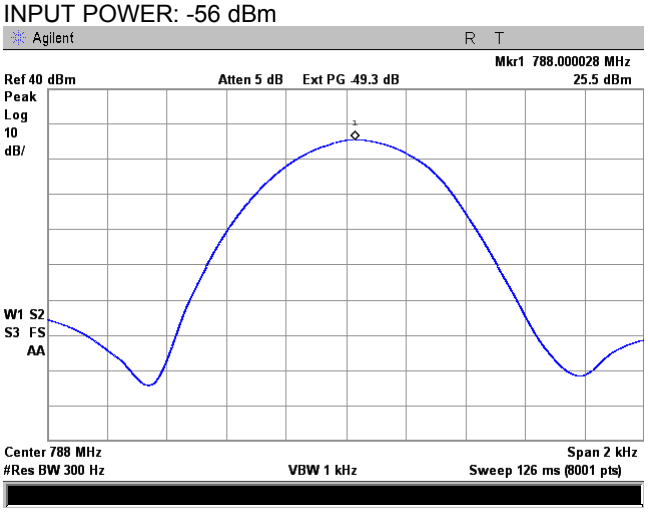


INPUT POWER: -26 dBm

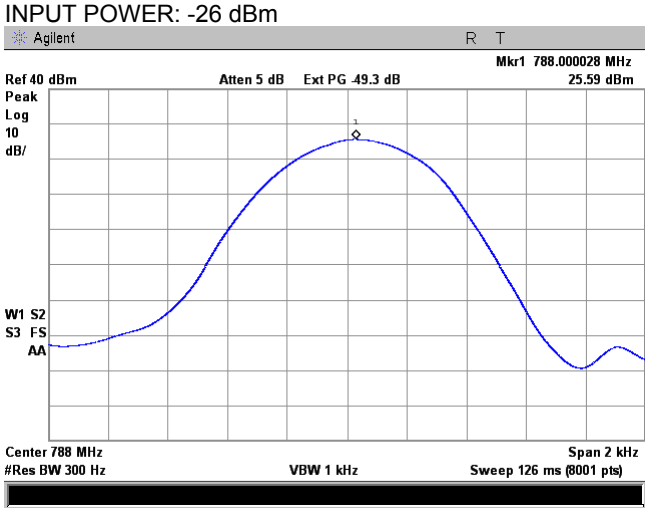


Plot 7.3.4 Reference level test results at low carrier frequency, Port 1

FREQUENCY RANGE: 788 - 805 MHz
REFERENCE LEVEL: Unmodulated power
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm



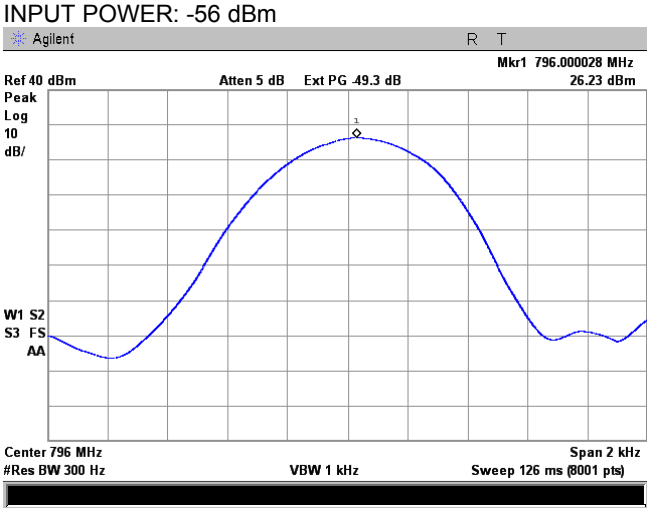
INPUT POWER: -26 dBm



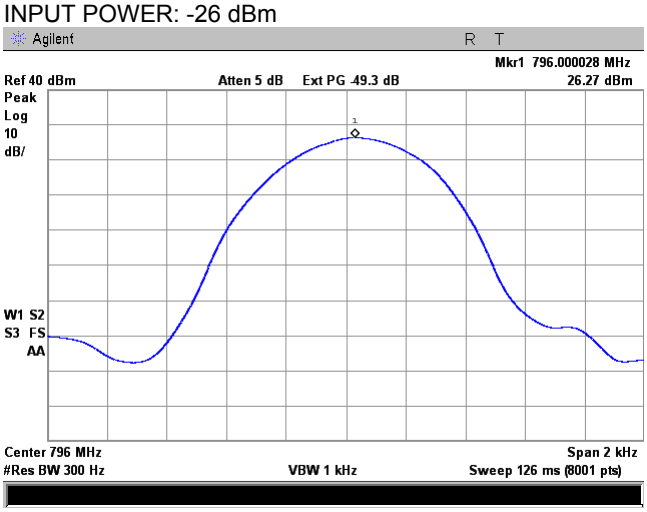
Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 ºC	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.5 Reference level test results at mid carrier frequency, Port 1

FREQUENCY RANGE: 788 - 805 MHz
REFERENCE LEVEL: Unmodulated power
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm

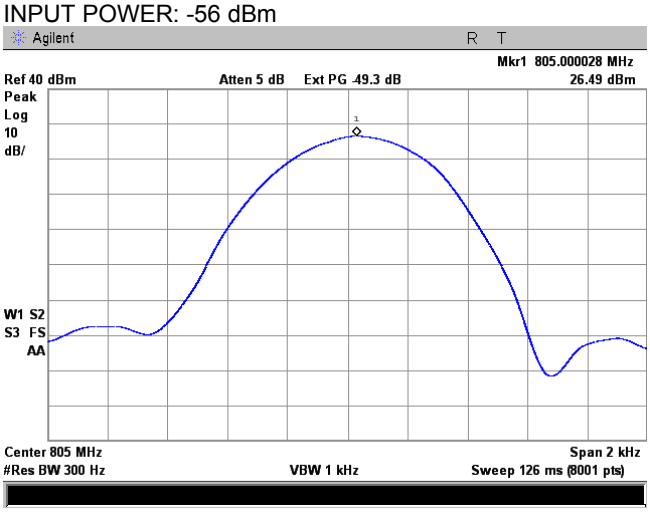


INPUT POWER: -26 dBm

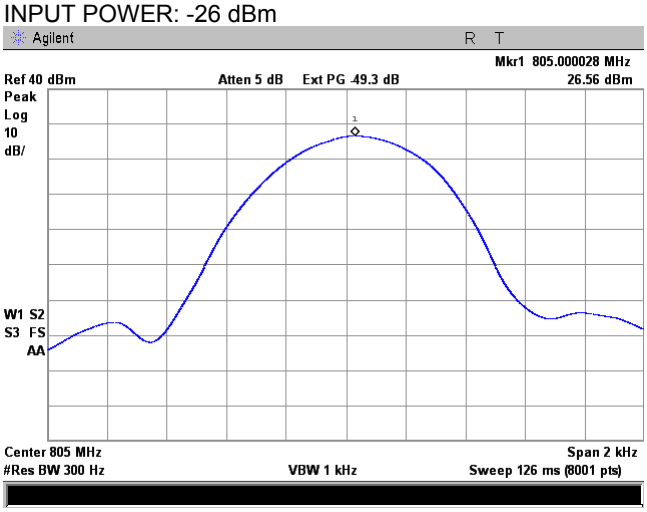


Plot 7.3.6 Reference level test results at high carrier frequency, Port 1

FREQUENCY RANGE: 788 - 805 MHz
REFERENCE LEVEL: Unmodulated power
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm



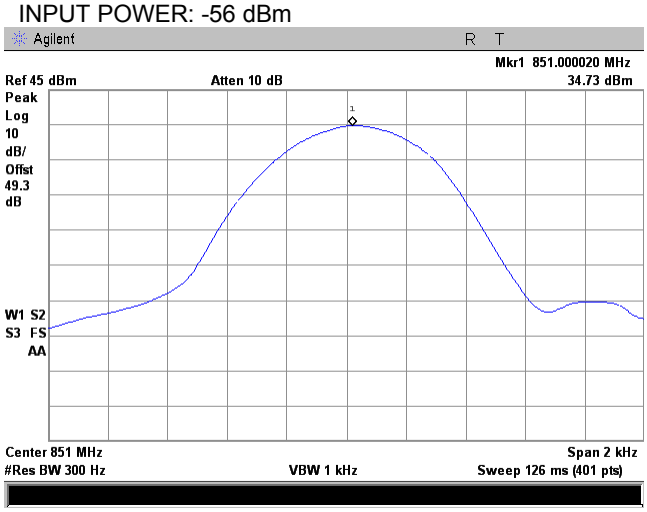
INPUT POWER: -26 dBm

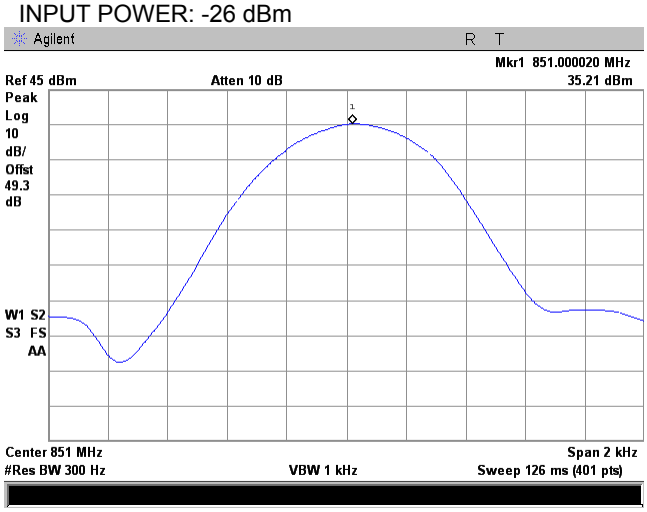


Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 ºC	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.7 Reference level test results at low carrier frequency, Port 1

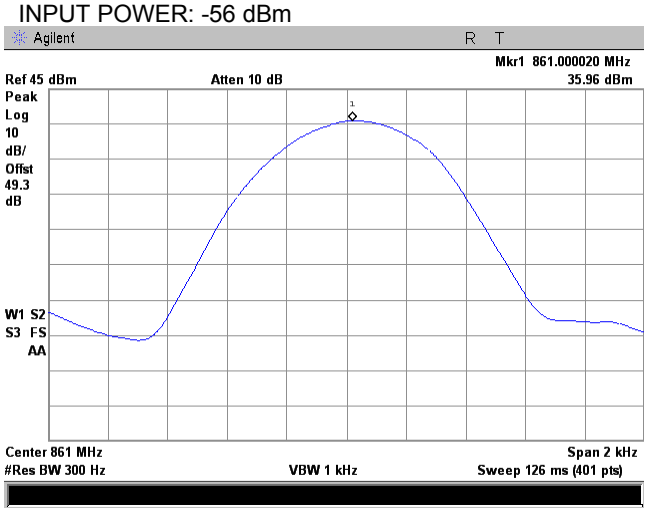
FREQUENCY RANGE: 851 - 869 MHz
REFERENCE LEVEL: Unmodulated power
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm INPUT POWER: -26 dBm

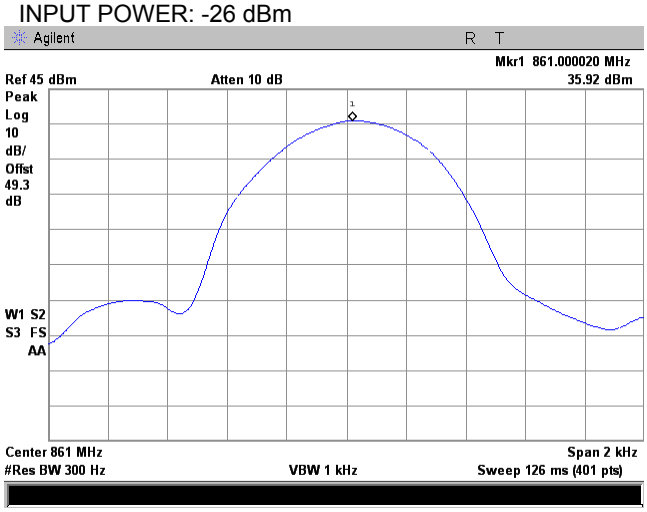




Plot 7.3.8 Reference level test results at mid carrier frequency, Port 1

FREQUENCY RANGE: 851 - 869 MHz
REFERENCE LEVEL: Unmodulated power
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm INPUT POWER: -26 dBm

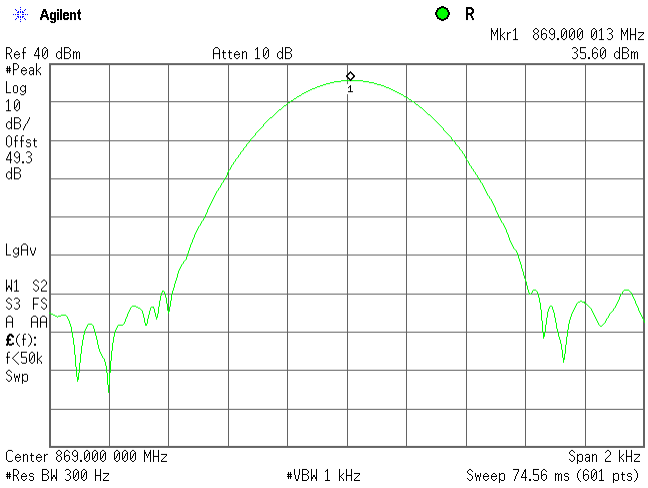


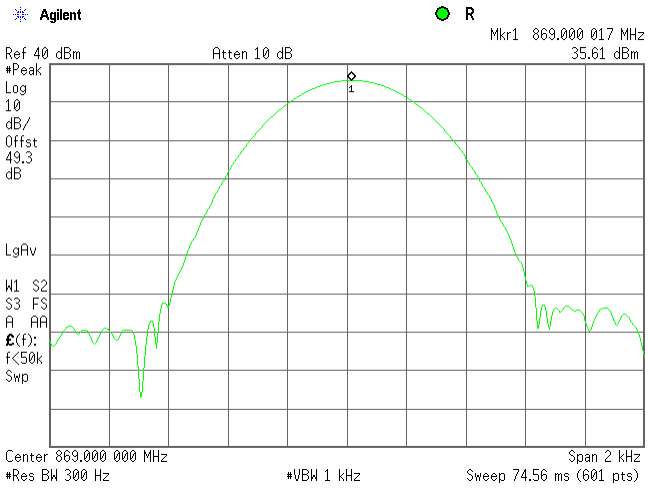


Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.9 Reference level test results at high carrier frequency, Port 1

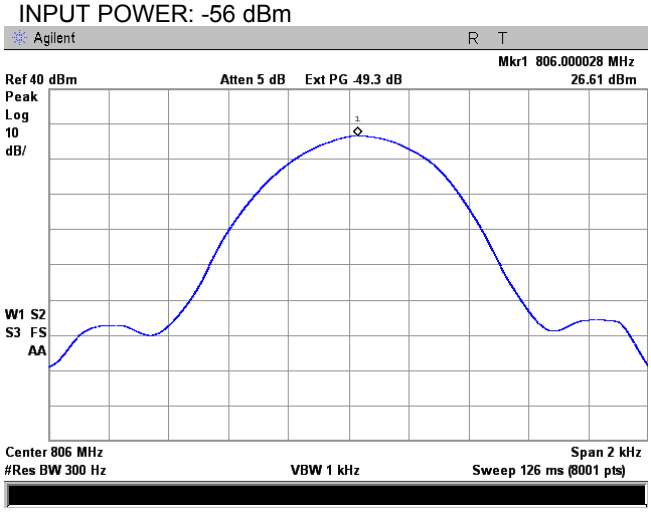
FREQUENCY RANGE: 851 - 869 MHz
REFERENCE LEVEL: Unmodulated power
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm INPUT POWER: -26 dBm

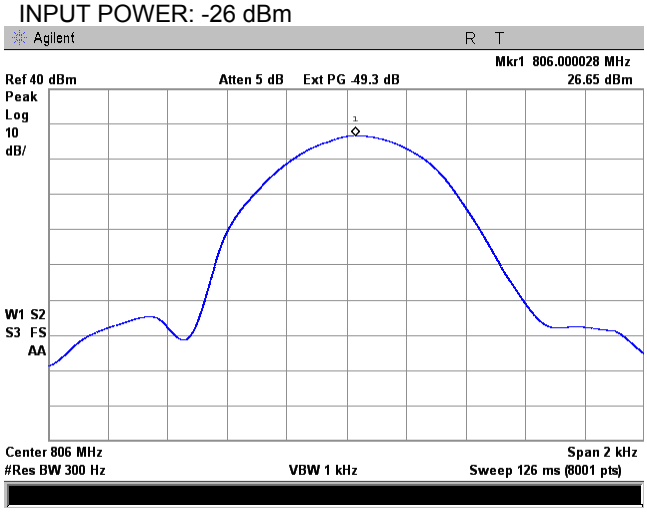




Plot 7.3.10 Reference level test results at low carrier frequency, Port 1

FREQUENCY RANGE: 806 - 824 MHz
REFERENCE LEVEL: Unmodulated power
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm INPUT POWER: -26 dBm

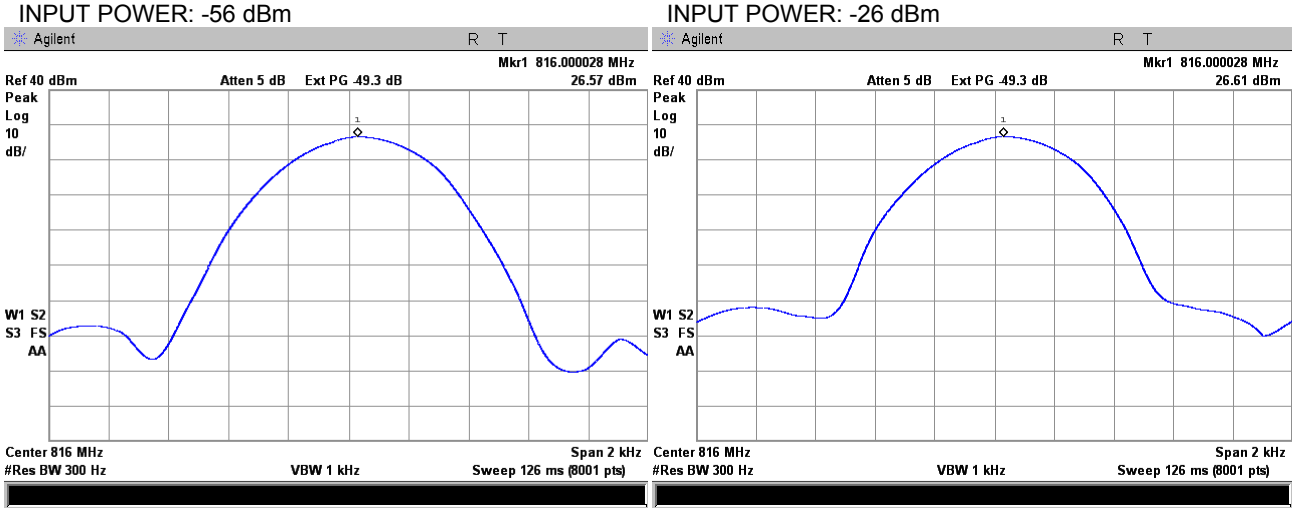




Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 ºC	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

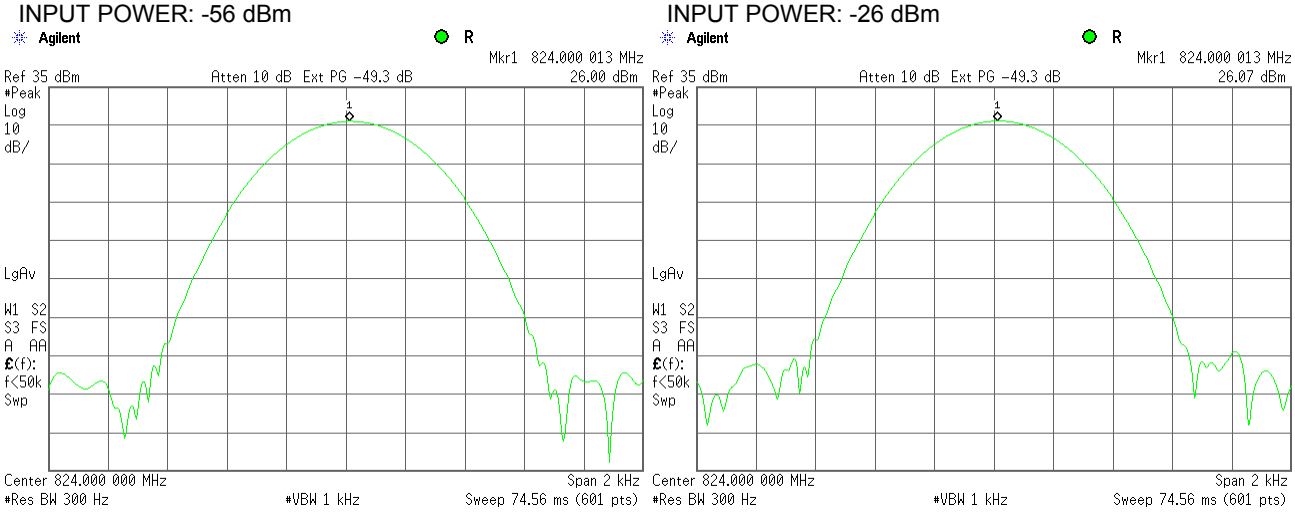
Plot 7.3.11 Reference level test results at mid carrier frequency, Port 1

FREQUENCY RANGE: 806 - 824 MHz
REFERENCE LEVEL: Unmodulated power
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm | INPUT POWER: -26 dBm



Plot 7.3.12 Reference level test results at high carrier frequency, Port 1

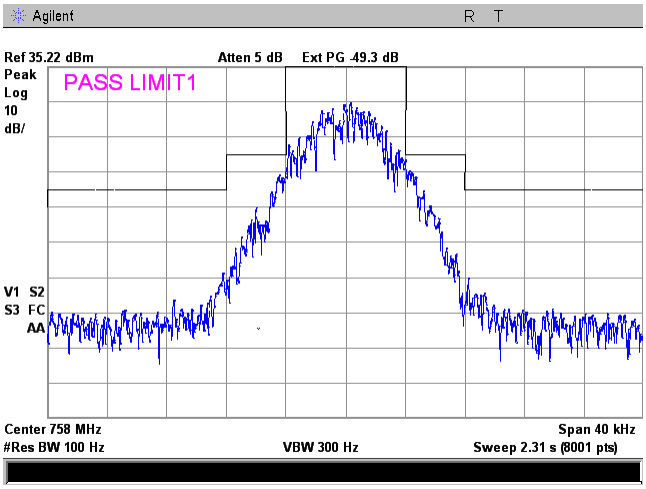
FREQUENCY RANGE: 806 - 824 MHz
REFERENCE LEVEL: Unmodulated power
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm | INPUT POWER: -26 dBm

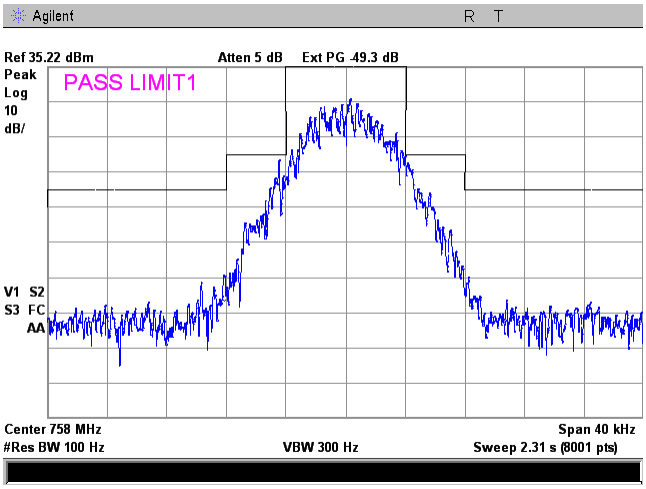


Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.13 Emission mask test results at low carrier frequency, Port 1

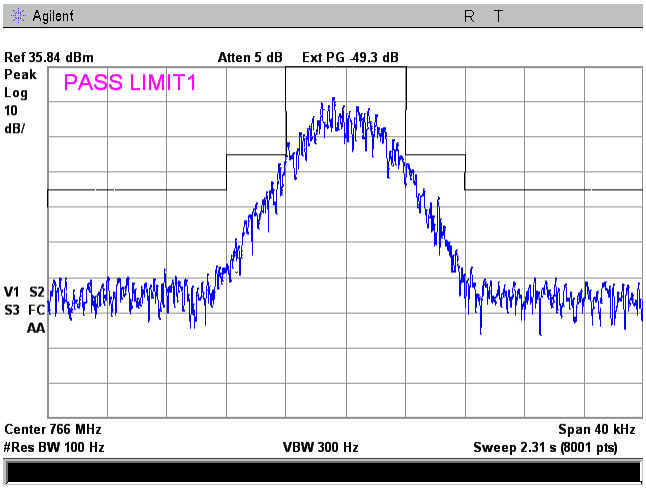
FREQUENCY RANGE:	758 - 775 MHz
OPERATIONAL MODE:	C4FM downlink transmit
INPUT PORT:	Base
EMISSION MASK:	90.210(b)
CONFIGURATION:	Single Channel
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

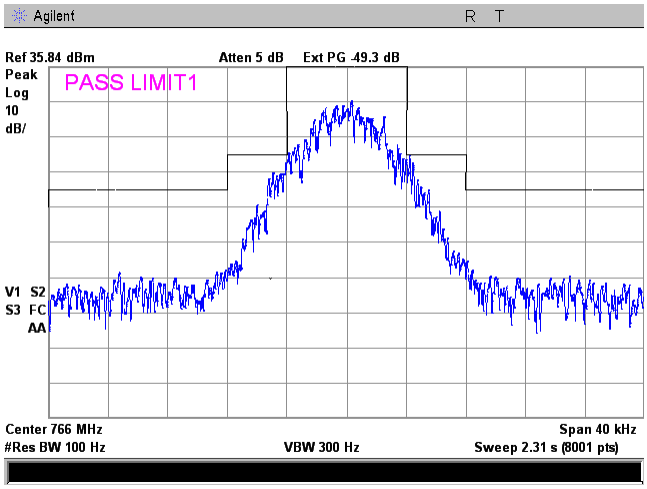




Plot 7.3.14 Emission mask test result at mid frequency carrier, Port 1

FREQUENCY RANGE:	758 - 775 MHz
OPERATIONAL MODE:	C4FM downlink transmit
INPUT PORT:	Base
EMISSION MASK:	90.210(b)
CONFIGURATION:	Single Channel
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

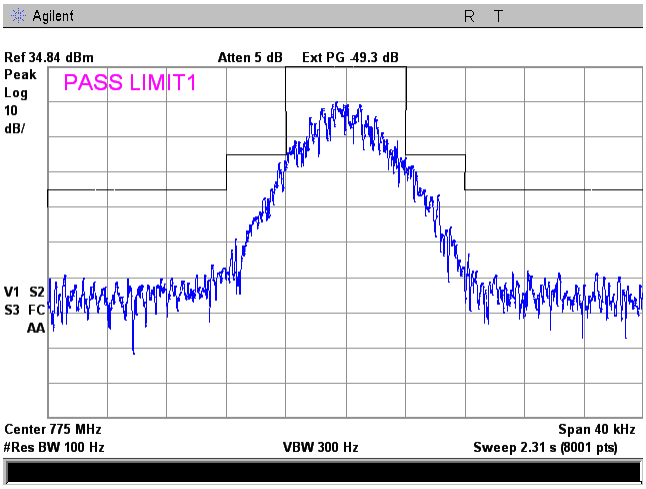


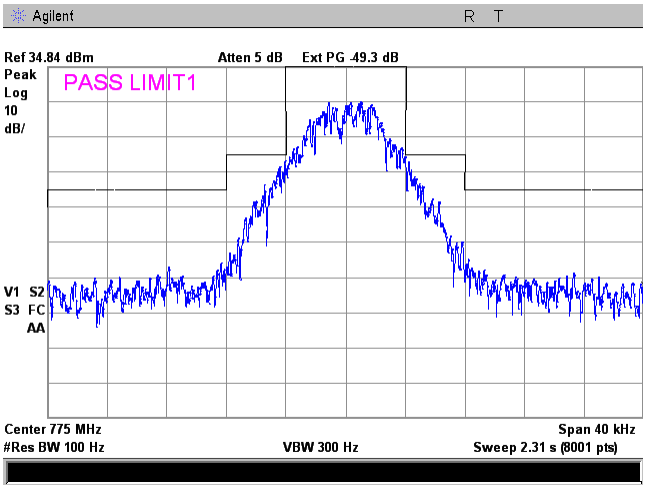


Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.15 Emission mask test result at high frequency carrier, Port 1

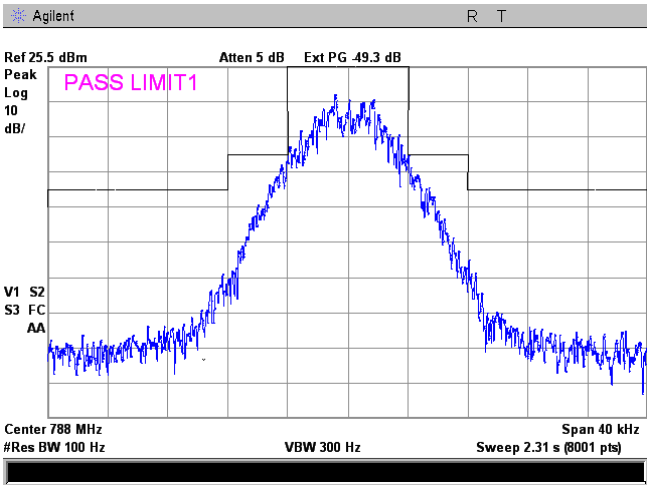
FREQUENCY RANGE: 758 - 775 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
EMISSION MASK: 90.210(b)
CONFIGURATION: Single Channel
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm

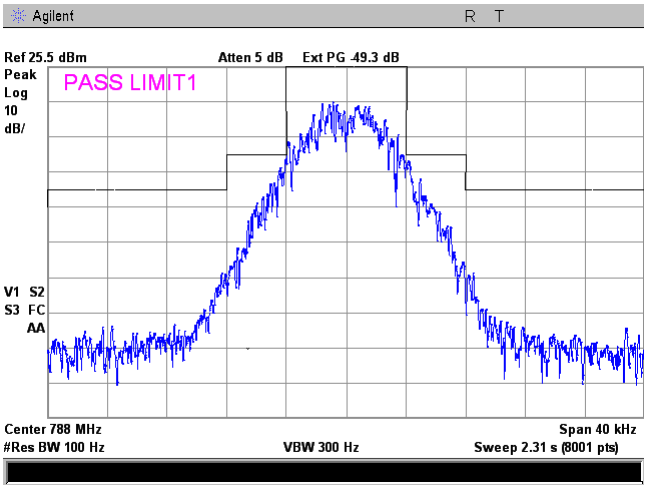




Plot 7.3.16 Emission mask test result at low frequency carrier, Port 2

FREQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
EMISSION MASK: 90.210(b)
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm

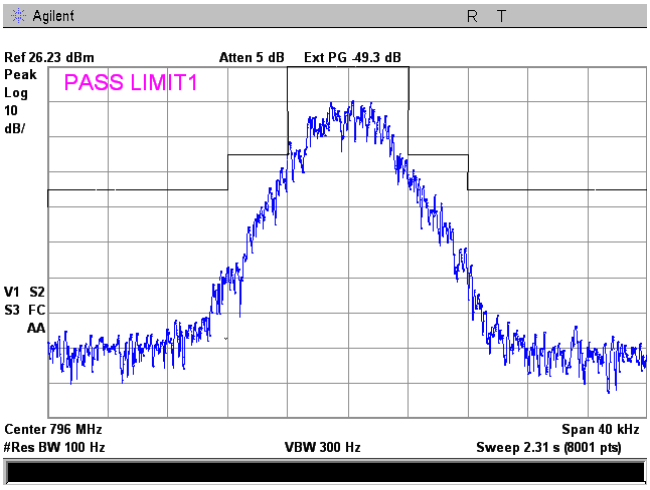




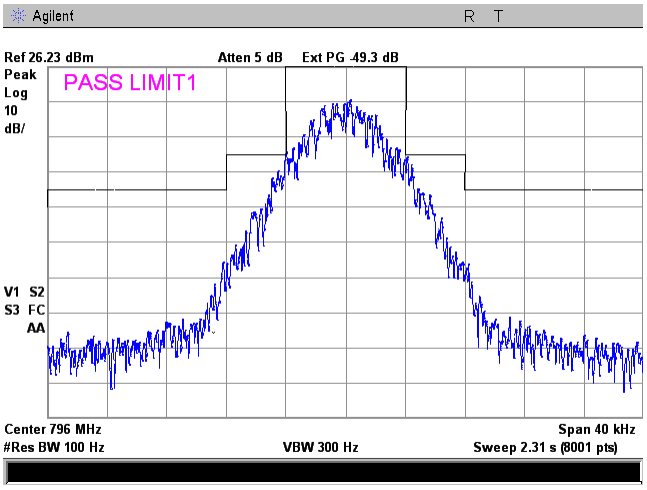
Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.17 Emission mask test result at mid frequency carrier, Port 2

FREQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
EMISSION MASK: 90.210(b)
INPUT POWER: -56 dBm

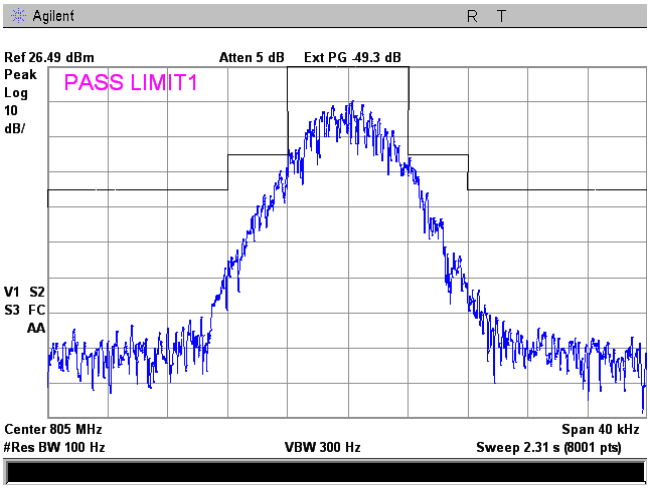


INPUT POWER: -26 dBm

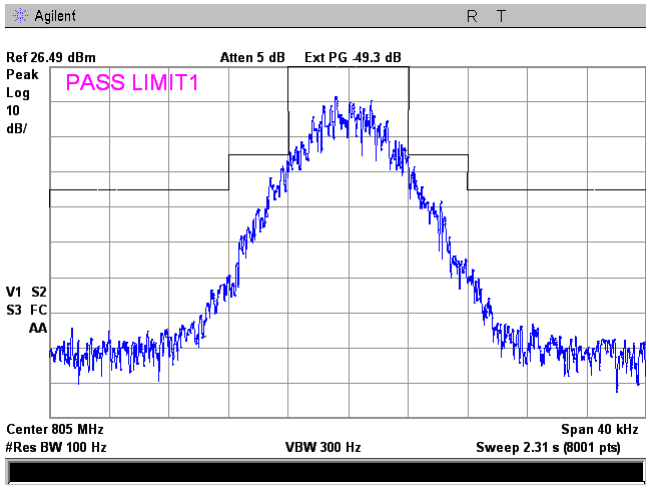


Plot 7.3.18 Emission mask test result at high frequency carrier, Port 2

FREQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
EMISSION MASK: 90.210(b)
INPUT POWER: -56 dBm



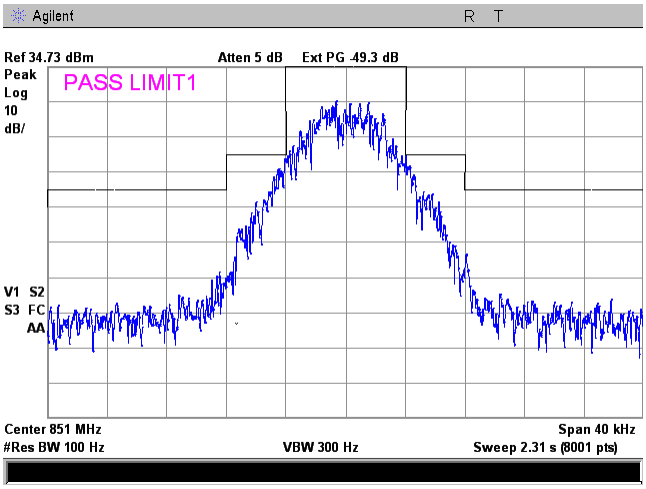
INPUT POWER: -26 dBm

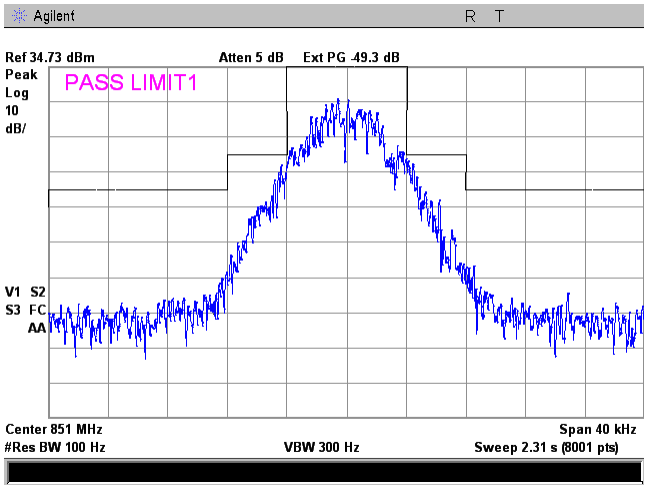


Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.19 Emission mask test result at low frequency carrier, Port 1

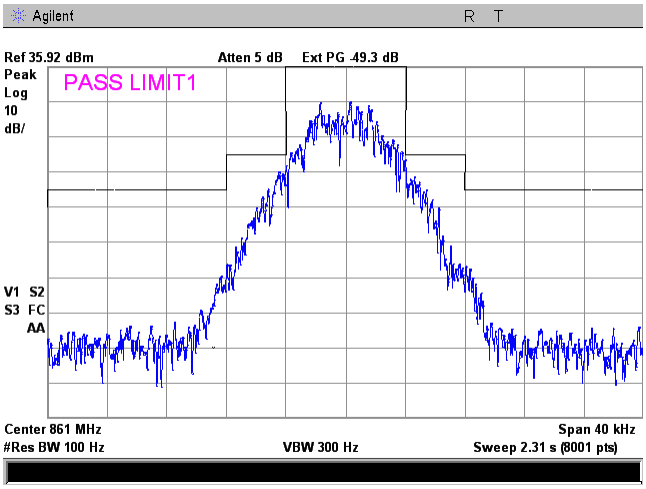
FREQUENCY RANGE:	851 - 869 MHz
OPERATIONAL MODE:	C4FM downlink transmit
INPUT PORT:	Base
EMISSION MASK:	90.210(b)
CONFIGURATION:	Single Channel
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

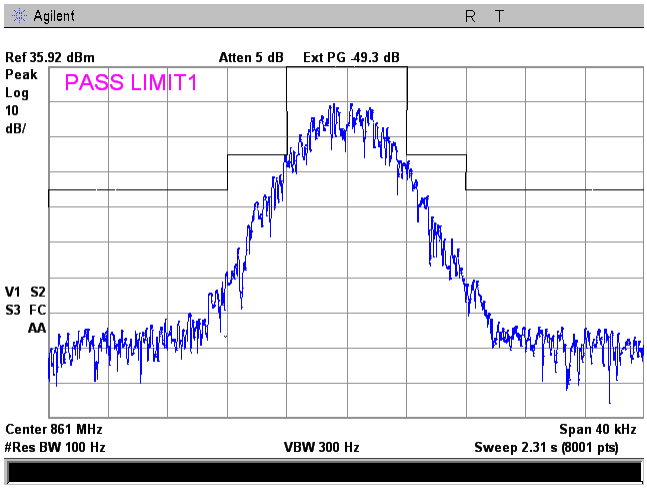




Plot 7.3.20 Emission mask test result at mid frequency carrier, Port 1

FREQUENCY RANGE:	851 - 869 MHz
OPERATIONAL MODE:	C4FM downlink transmit
INPUT PORT:	Base
EMISSION MASK:	90.210(b)
CONFIGURATION:	Single Channel
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

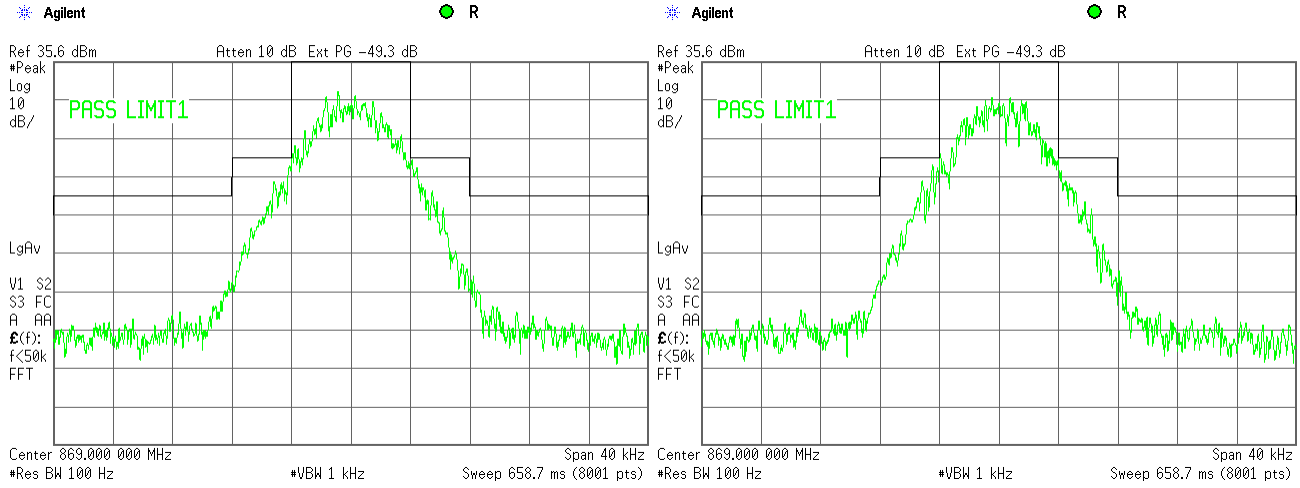




Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

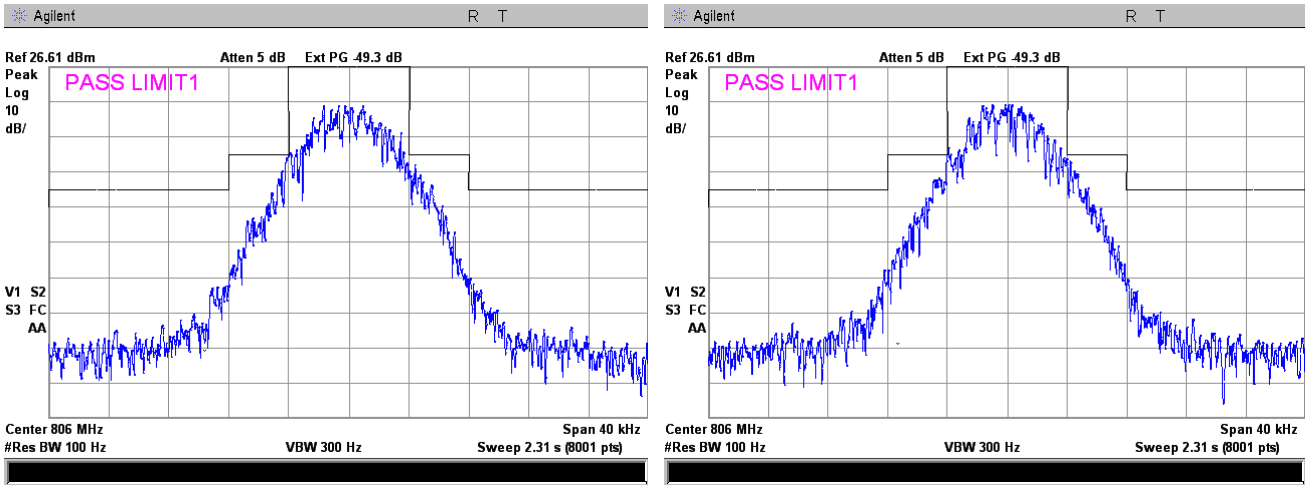
Plot 7.3.21 Emission mask test result at high frequency carrier, Port 1

FREQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
EMISSION MASK: 90.210(b)
CONFIGURATION: Single Channel
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm



Plot 7.3.22 Emission mask test result at low frequency carrier, Port 2

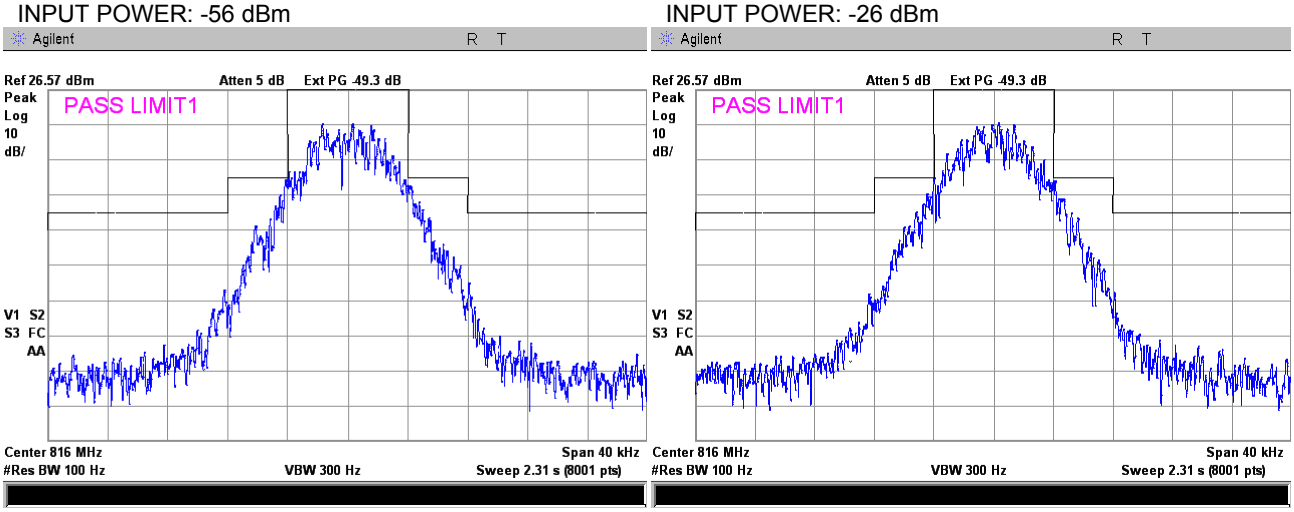
FREQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
EMISSION MASK: 90.210(b)
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm



Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

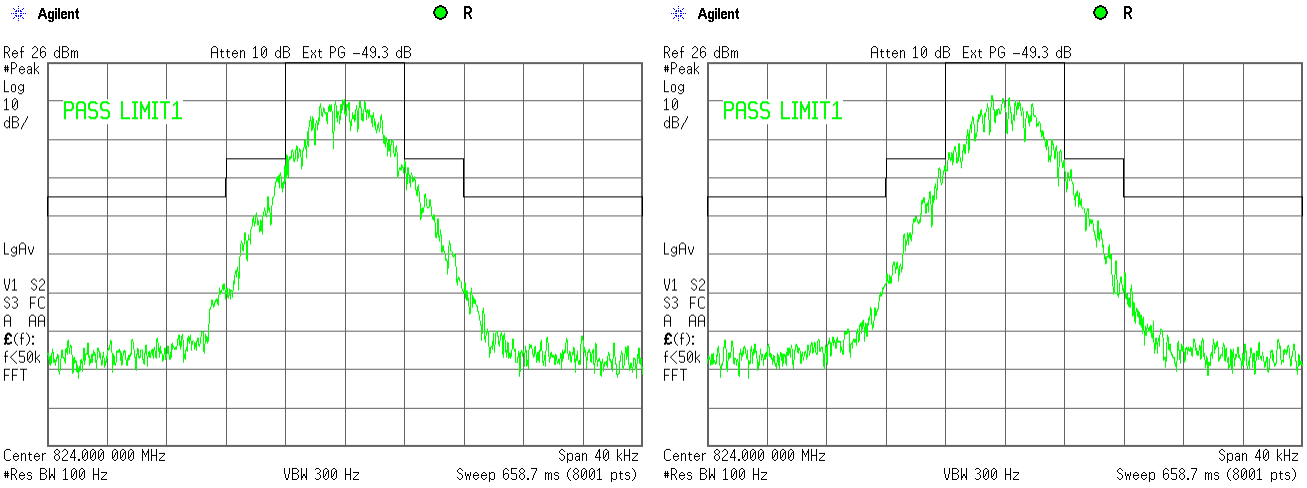
Plot 7.3.23 Emission mask test result at mid frequency carrier, Port 2

FREQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
EMISSION MASK: 90.210(b)
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm



Plot 7.3.24 Emission mask test result at high frequency carrier, Port 2

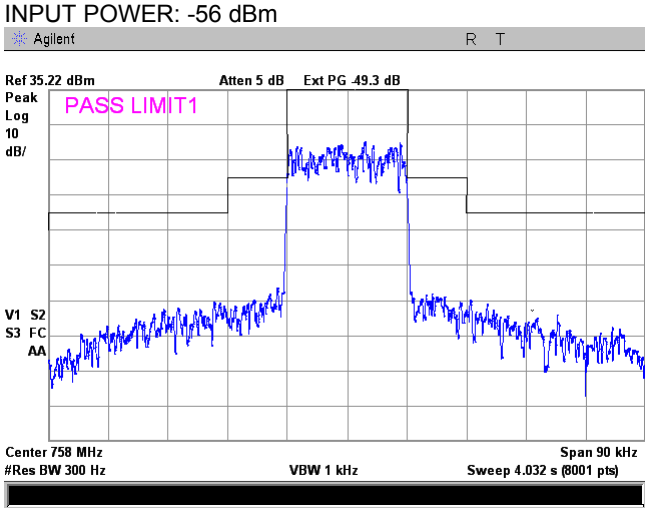
FREQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
EMISSION MASK: 90.210(b)
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm

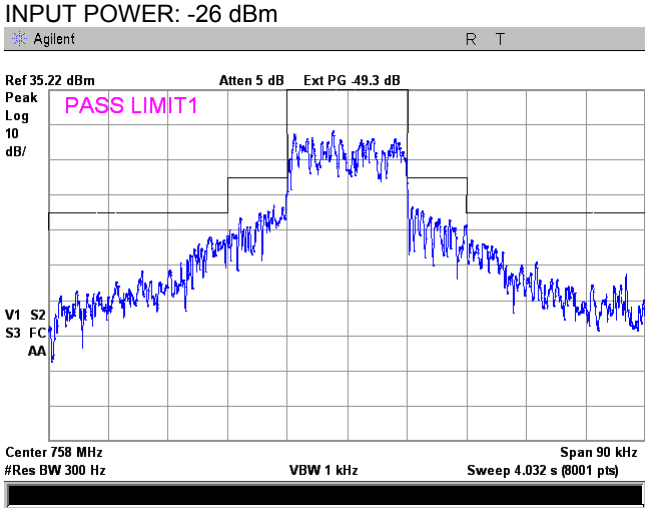


Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 ºC	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.25 Emission mask test result at low frequency carrier, Port 1

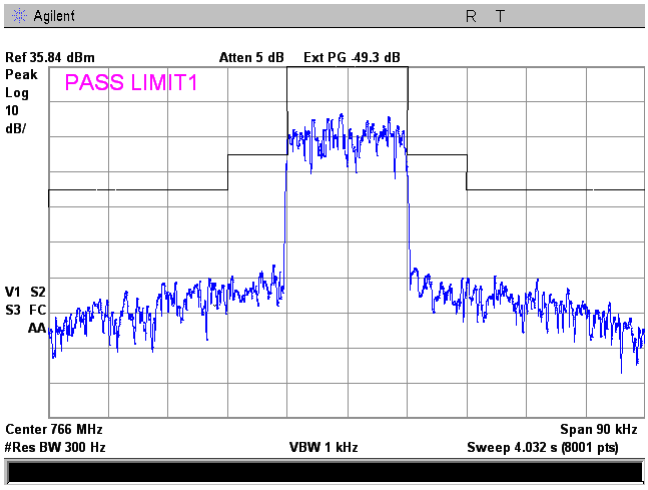
FREQUENCY RANGE: 758 - 775 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Base
EMISSION MASK: 90.210(b)
CONFIGURATION: Single Channel
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm

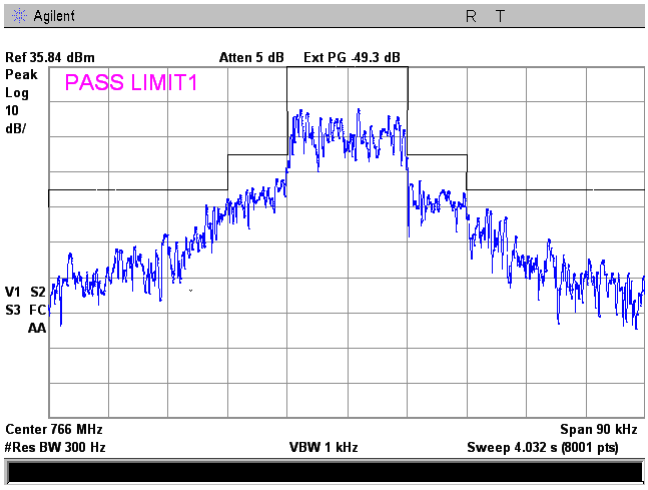




Plot 7.3.26 Emission mask test result at mid frequency carrier, Port 1

FREQUENCY RANGE: 758 - 775 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Base
EMISSION MASK: 90.210(b)
CONFIGURATION: Single and Single Channel
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm

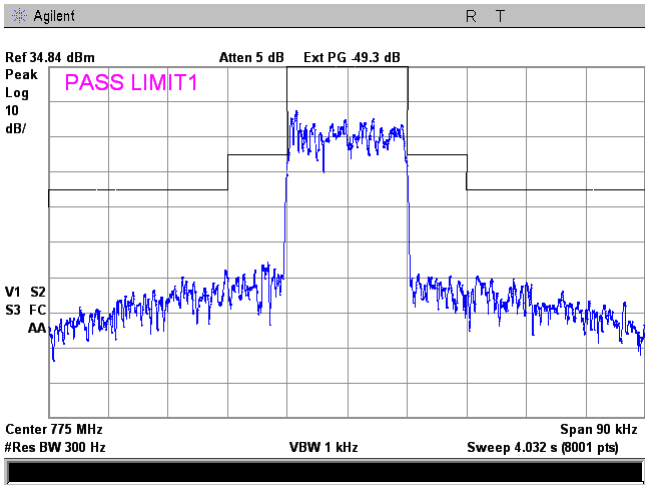


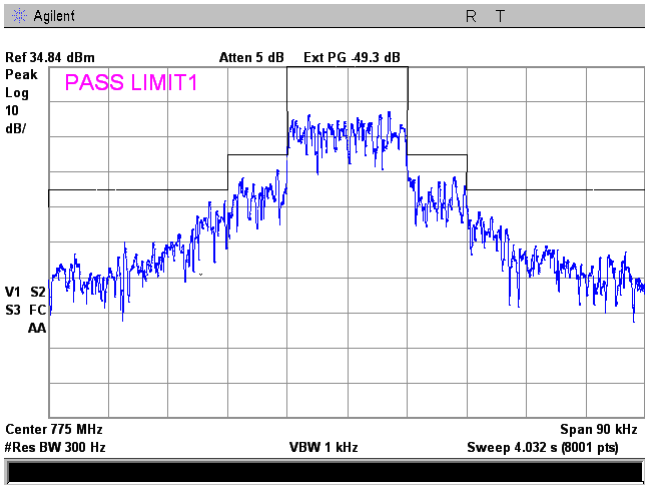


Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.27 Emission mask test result at high frequency carrier, Port 1

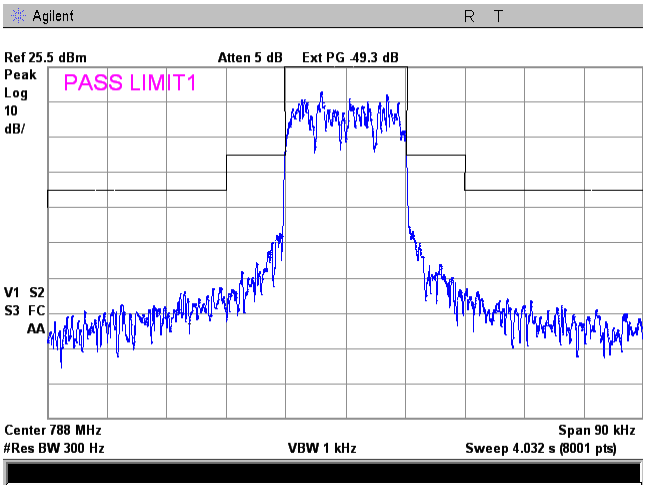
FREQUENCY RANGE: 758 - 775 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Base
EMISSION MASK: 90.210(b)
CONFIGURATION: Single Channel
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm

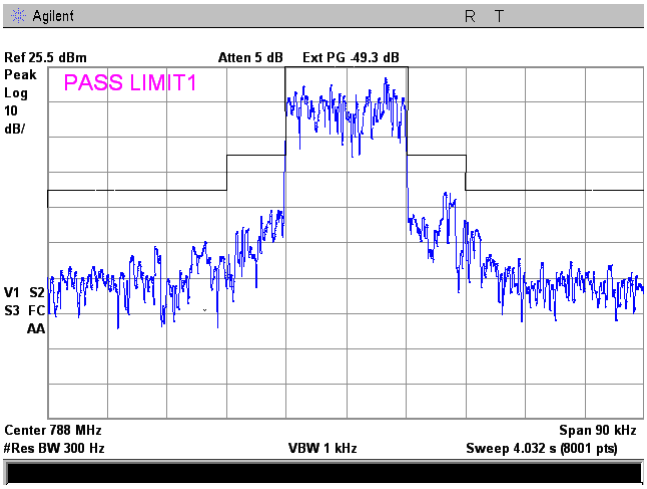




Plot 7.3.28 Emission mask test result at low frequency carrier, Port 2

FREQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
EMISSION MASK: 90.210(b)
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm

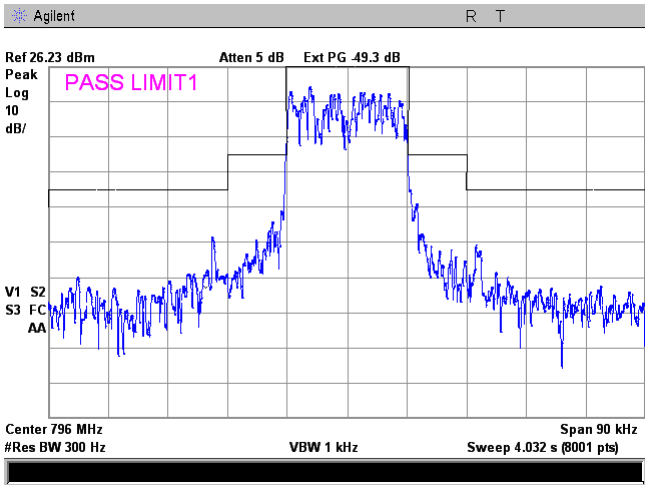




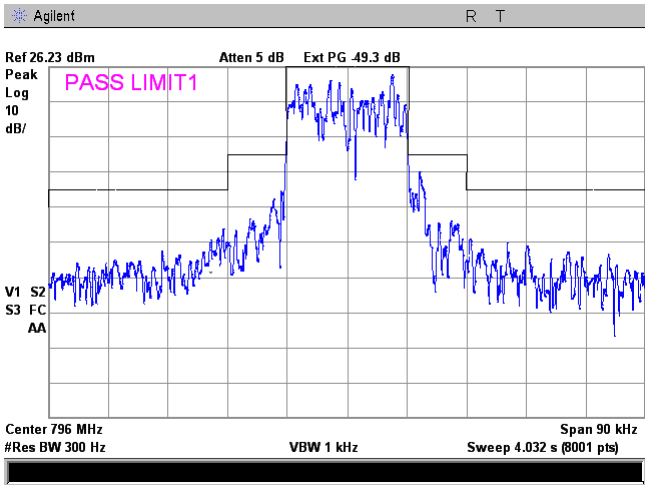
Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.29 Emission mask test result at mid frequency carrier, Port 2

FREQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
EMISSION MASK: 90.210(b)
INPUT POWER: -56 dBm

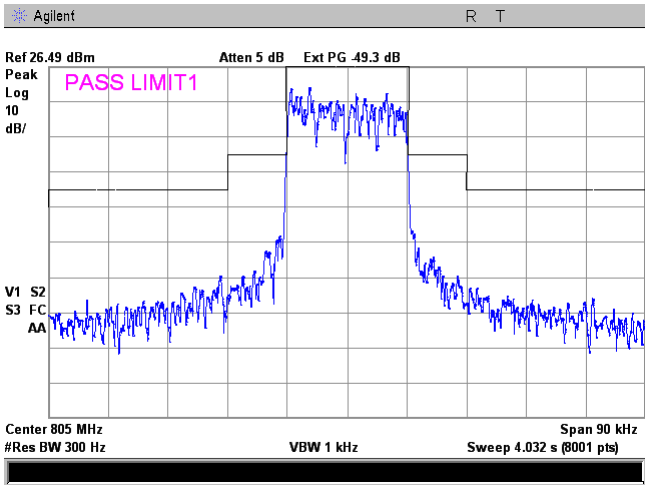


INPUT POWER: -26 dBm

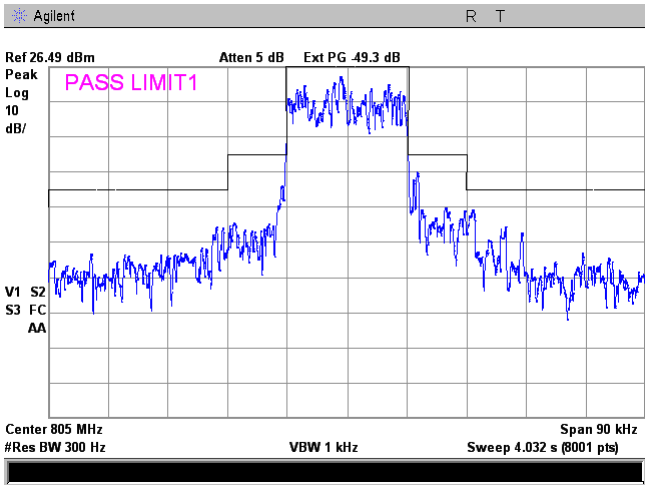


Plot 7.3.30 Emission mask test result at high frequency carrier, Port 2

FREQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
EMISSION MASK: 90.210(b)
INPUT POWER: -56 dBm



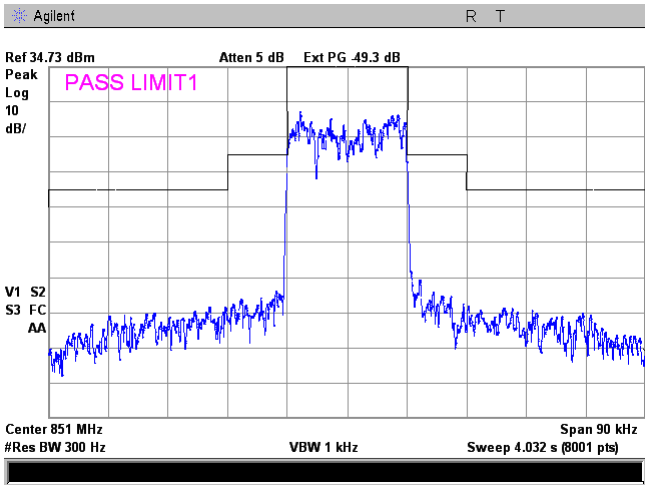
INPUT POWER: -26 dBm



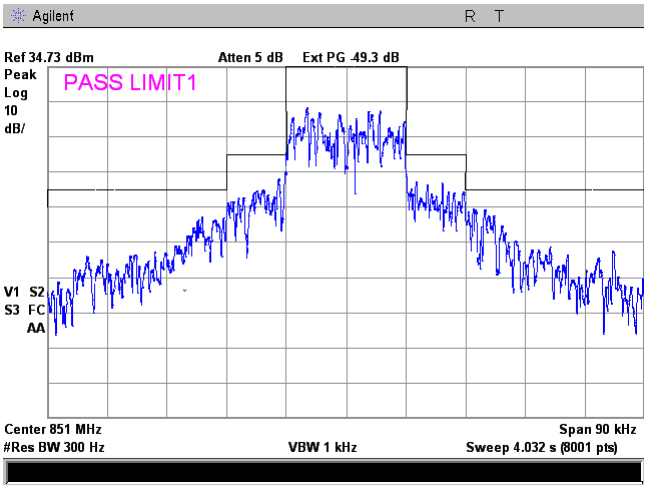
Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 ºC	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.31 Emission mask test result at low frequency carrier, Port 1

FREQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Base
EMISSION MASK: 90.210(b)
CONFIGURATION: Single Channel
INPUT POWER: -56 dBm

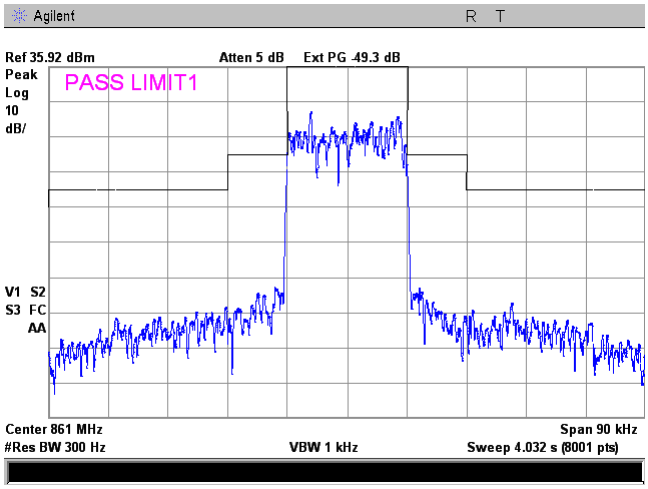


INPUT POWER: -26 dBm

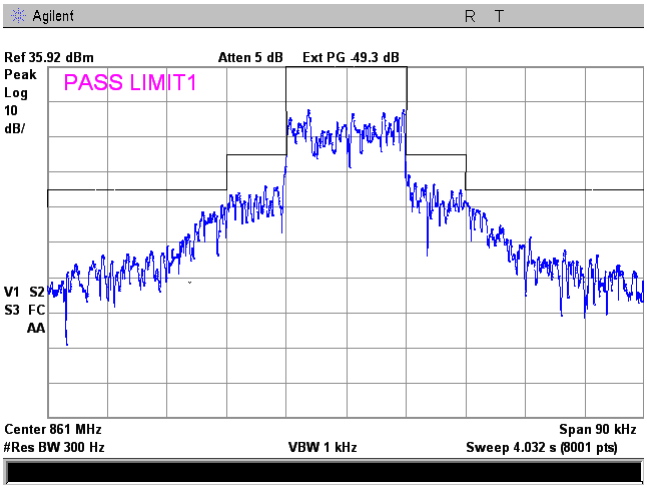


Plot 7.3.32 Emission mask test result at mid frequency carrier, Port 1

FREQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Base
EMISSION MASK: 90.210(b)
CONFIGURATION: Single Channel
INPUT POWER: -56 dBm



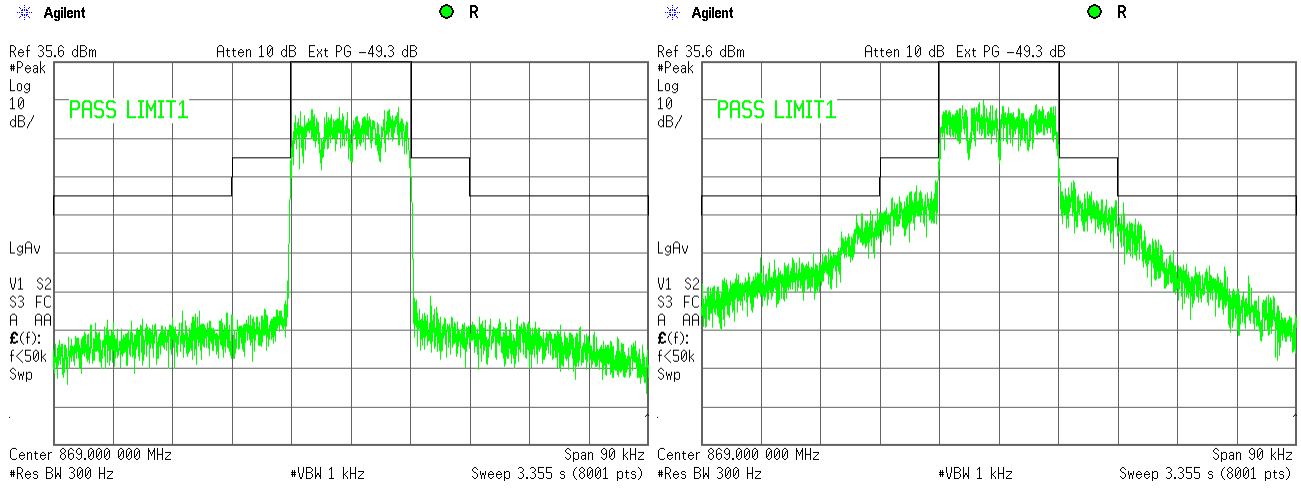
INPUT POWER: -26 dBm



Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

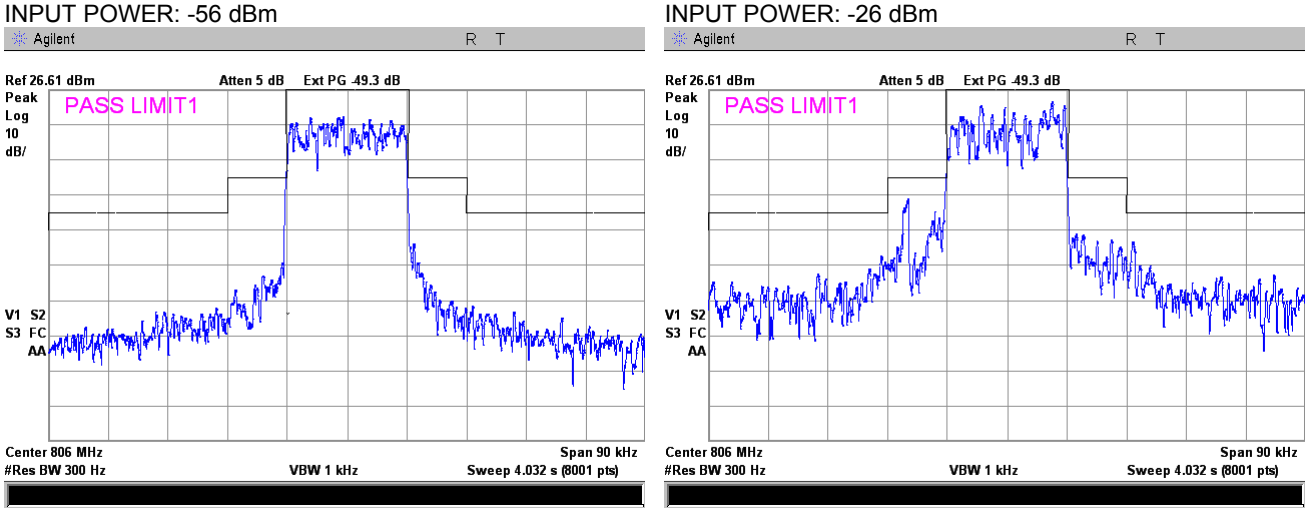
Plot 7.3.33 Emission mask test result at high frequency carrier, Port 1

FREQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Base
EMISSION MASK: 90.210(b)
CONFIGURATION: Single Channel
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm



Plot 7.3.34 Emission mask test result at low frequency carrier, Port 2

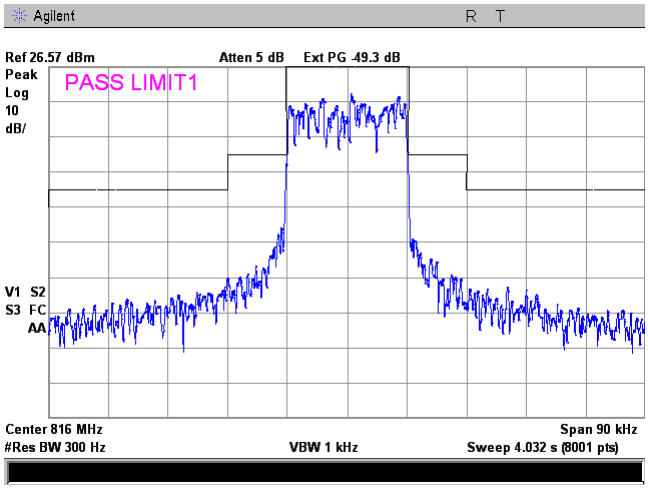
FREQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
COMPOSITE INPUT POWER: -56 dBm
EMISSION MASK: 90.210(b)
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm



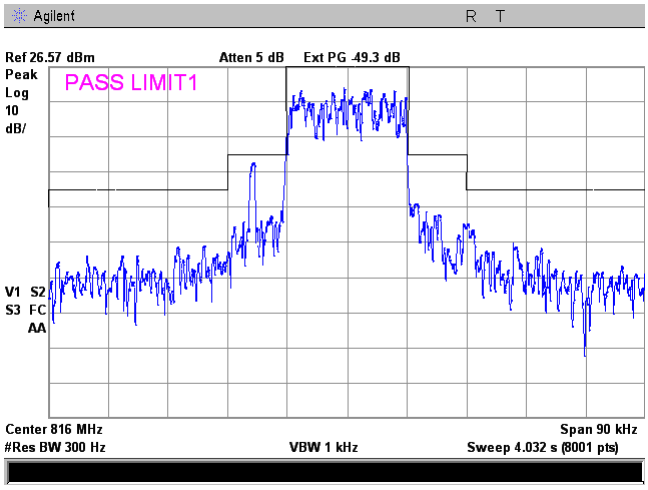
Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.35 Emission mask test result at mid frequency carrier, Port 2

FREQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
EMISSION MASK: 90.210(b)
INPUT POWER: -56 dBm

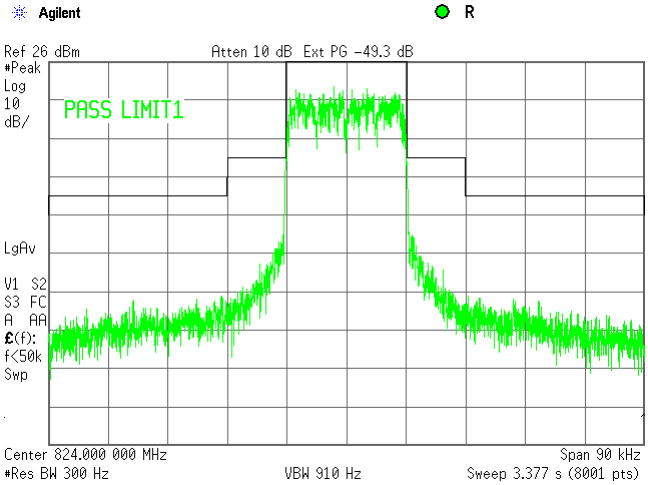


INPUT POWER: -26 dBm

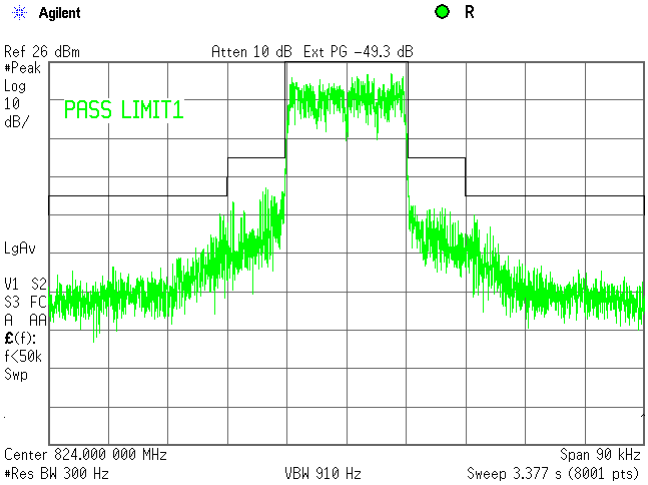


Plot 7.3.36 Emission mask test result at high frequency carrier, Port 2

FREQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
EMISSION MASK: 90.210(b)
INPUT POWER: -56 dBm



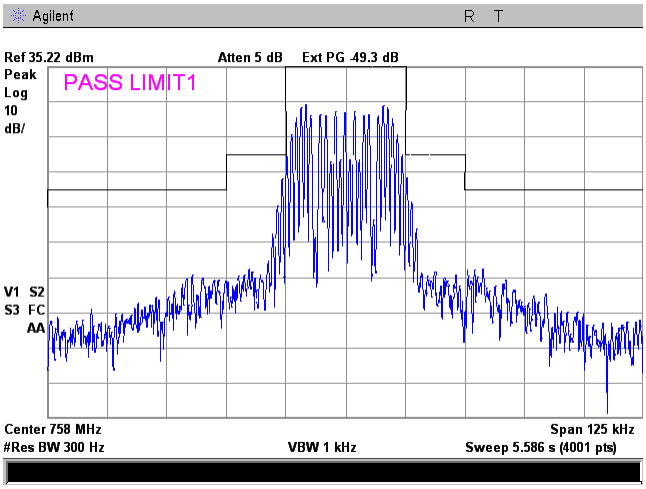
INPUT POWER: -26 dBm

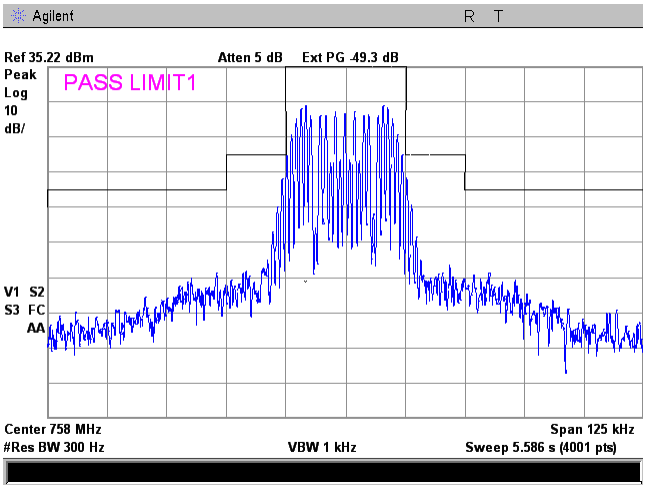


Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 ºC	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.37 Emission mask test result at low frequency carrier, Port 1

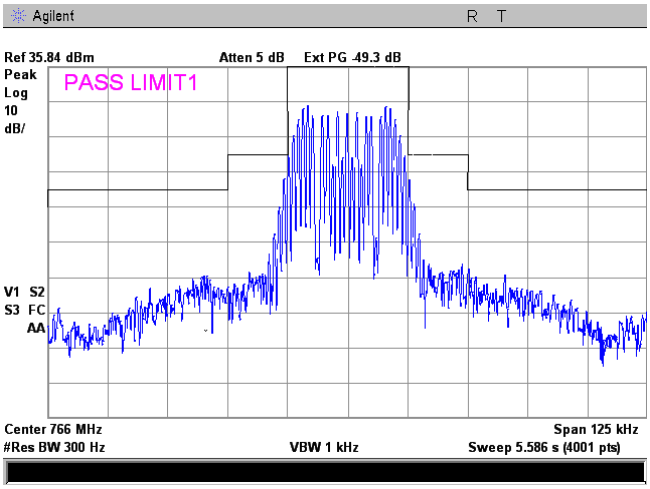
FREQUENCY RANGE:	758 - 775 MHz
OPERATIONAL MODE:	Analog FM downlink transmit
INPUT PORT:	Base
EMISSION MASK:	90.210(b)
CONFIGURATION:	Single Channel
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

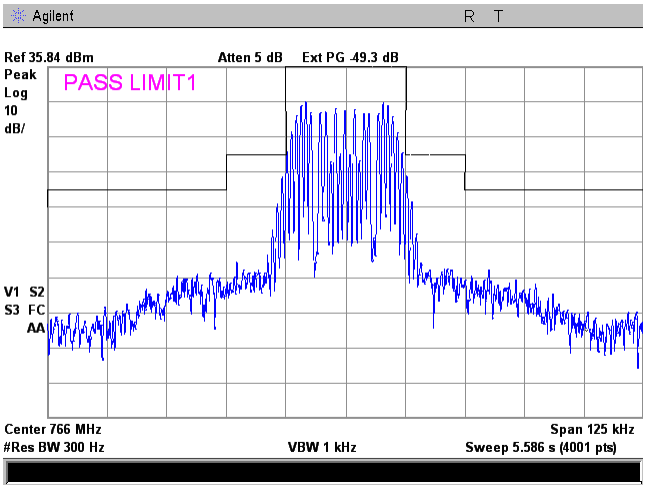




Plot 7.3.38 Emission mask test result at mid frequency carrier, Port 1

FREQUENCY RANGE:	758 - 775 MHz
OPERATIONAL MODE:	Analog FM downlink transmit
INPUT PORT:	Base
EMISSION MASK:	90.210(b)
CONFIGURATION:	Single Channel
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

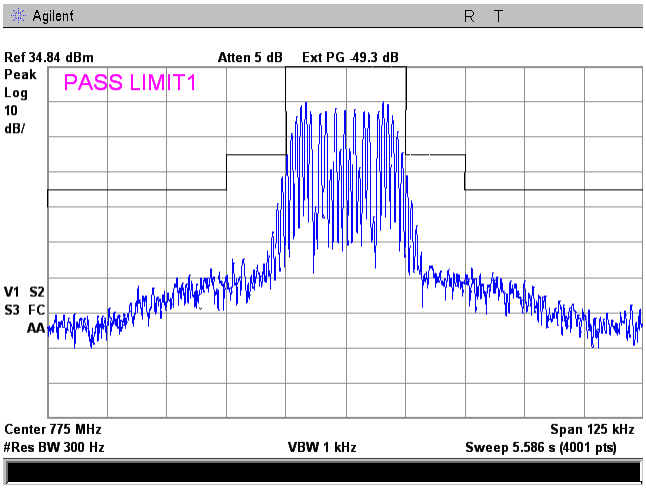


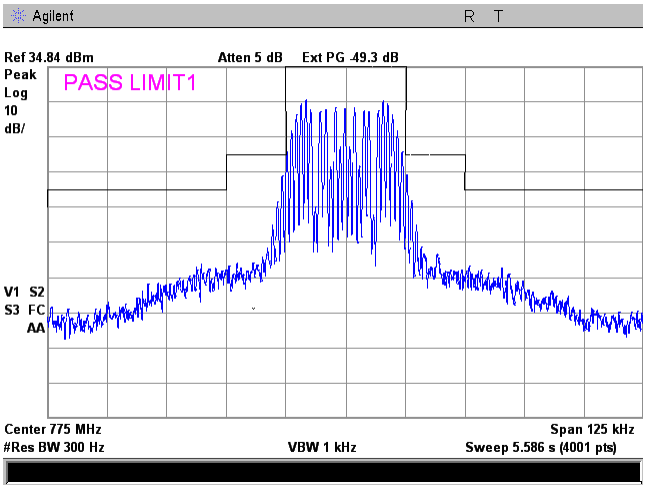


Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 ºC	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.39 Emission mask test result at high frequency carrier, Port 1

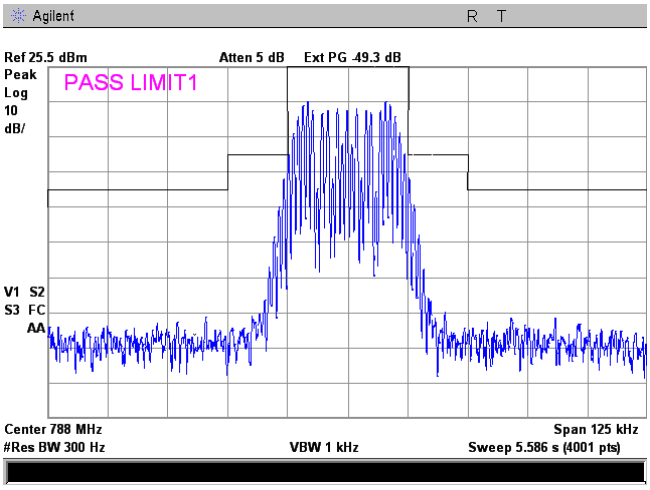
FREQUENCY RANGE: 758 - 775 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
EMISSION MASK: 90.210(b)
CONFIGURATION: Single Channel
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm

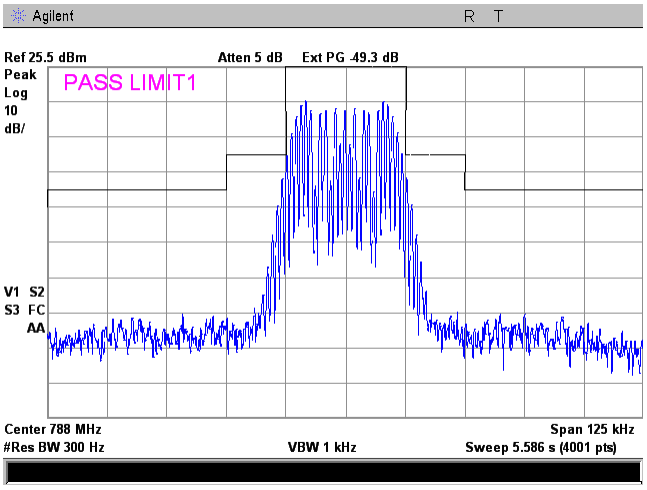




Plot 7.3.40 Emission mask test result at low frequency carrier, Port 2

FREQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
EMISSION MASK: 90.210(b)
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm

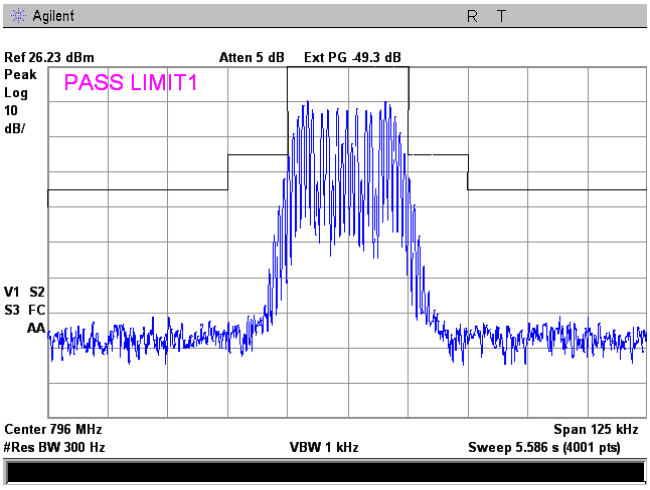




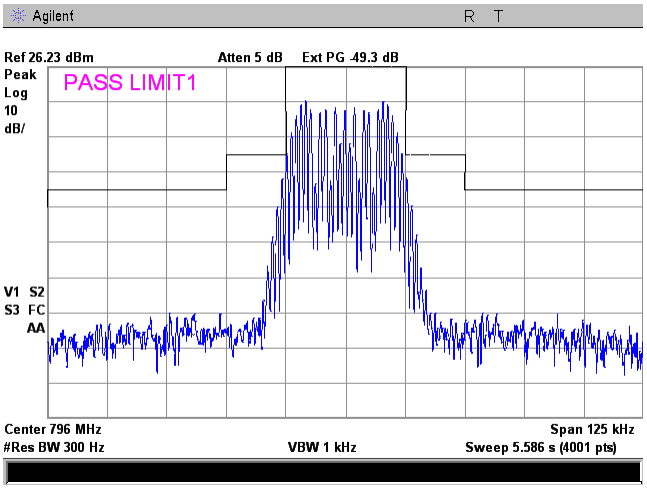
Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.41 Emission mask test result at mid frequency carrier, Port 2

FREQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
EMISSION MASK: 90.210(b)
INPUT POWER: -56 dBm

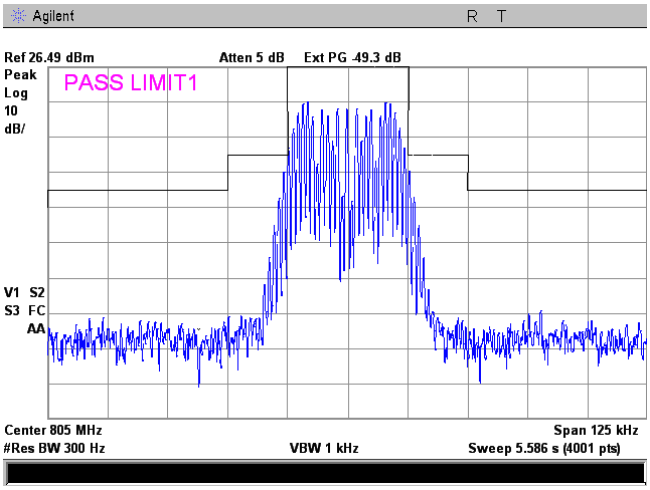


INPUT POWER: -26 dBm

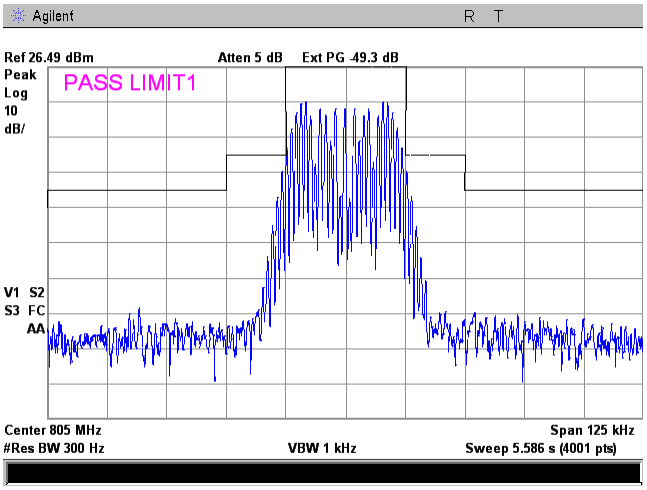


Plot 7.3.42 Emission mask test result at high frequency carrier, Port 2

FREQUENCY RANGE: 788 - 805 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
EMISSION MASK: 90.210(b)
INPUT POWER: -56 dBm



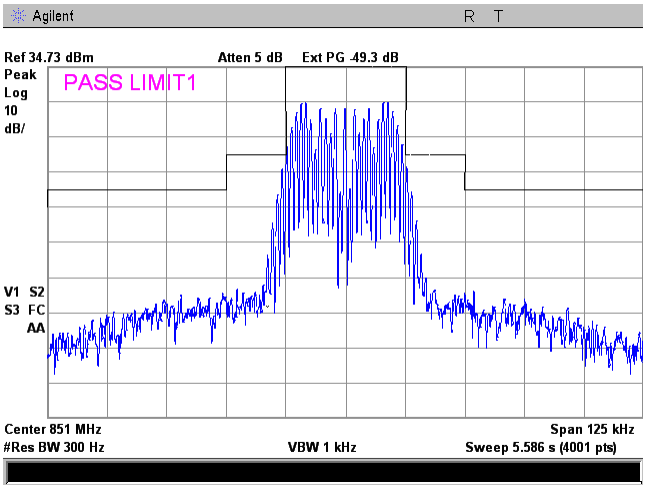
INPUT POWER: -26 dBm

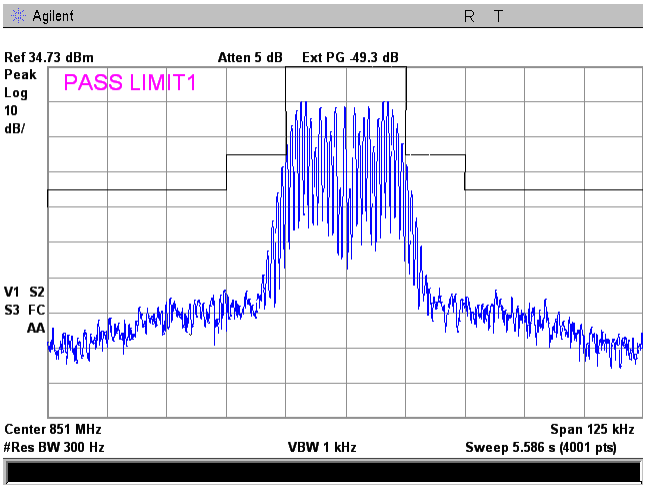


Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.43 Emission mask test result at low frequency carrier, Port 1

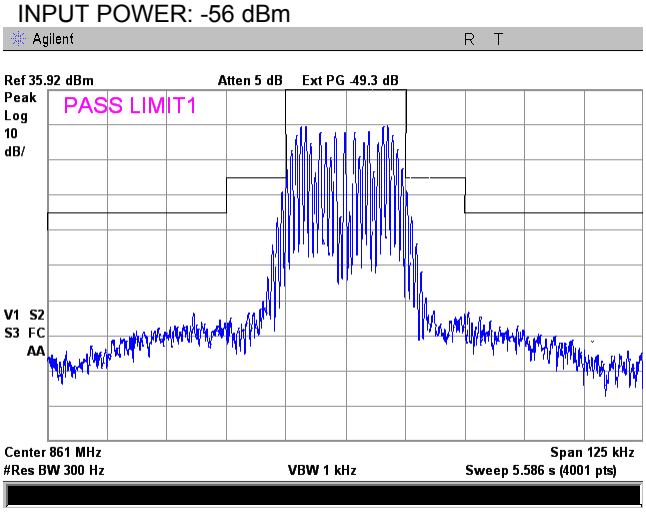
FREQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
EMISSION MASK: 90.210(b)
CONFIGURATION: Single Channel
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm

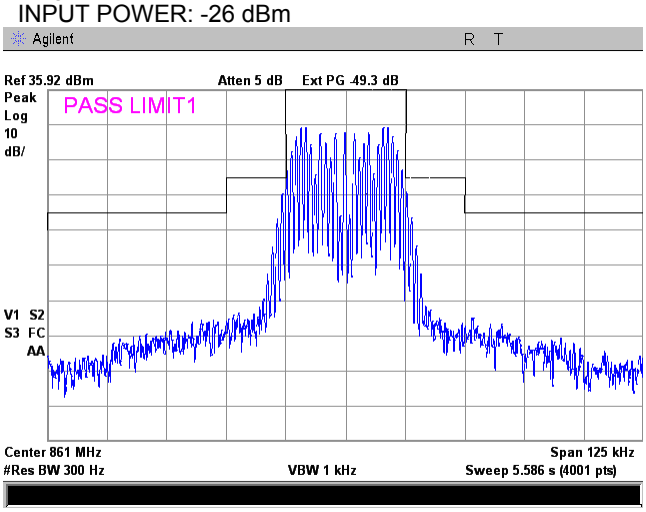




Plot 7.3.44 Emission mask test result at mid frequency carrier, Port 1

FREQUENCY RANGE: 851 - 869 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
EMISSION MASK: 90.210(b)
CONFIGURATION: Single Channel
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm

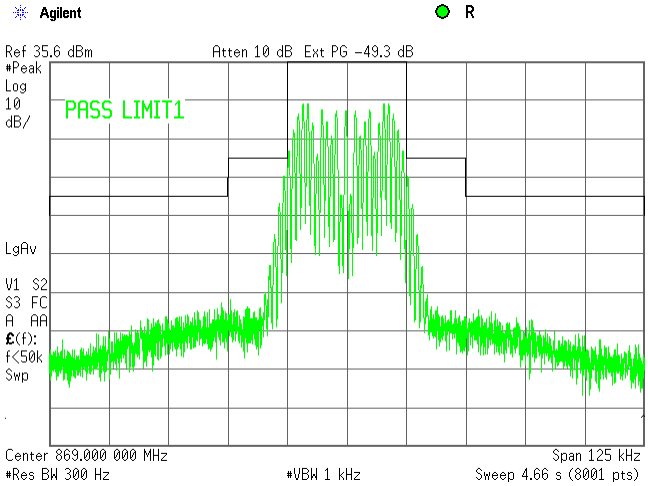


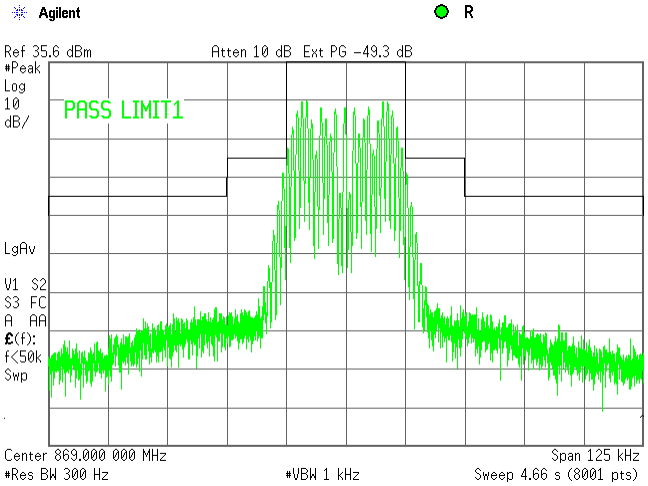


Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.45 Emission mask test result at high frequency carrier, Port 1

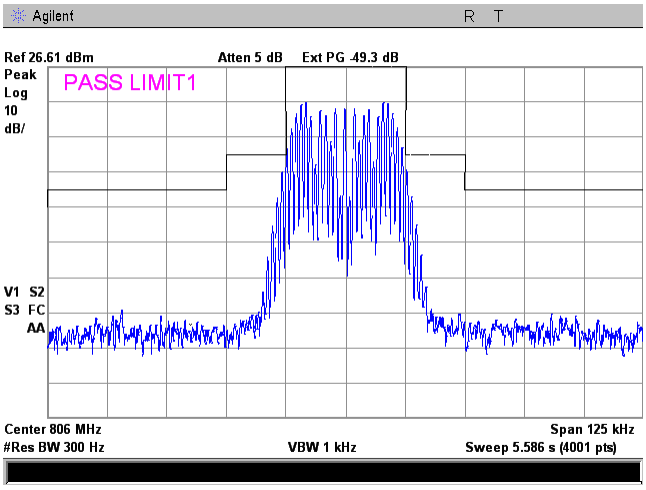
FREQUENCY RANGE:	851 - 869 MHz
OPERATIONAL MODE:	Analog FM downlink transmit
INPUT PORT:	Base
EMISSION MASK:	90.210(b)
CONFIGURATION:	Single Channel
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

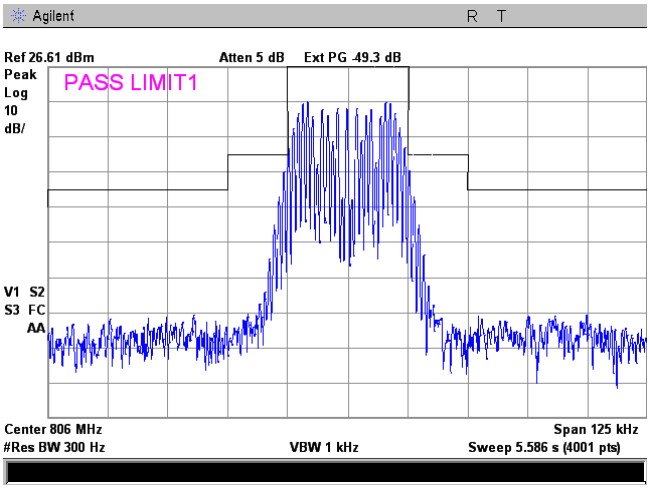




Plot 7.3.46 Emission mask test result at low frequency carrier, Port 2

FREQUENCY RANGE:	806 - 824 MHz
OPERATIONAL MODE:	Analog FM downlink transmit
INPUT PORT:	Mobile
EMISSION MASK:	90.210(b)
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

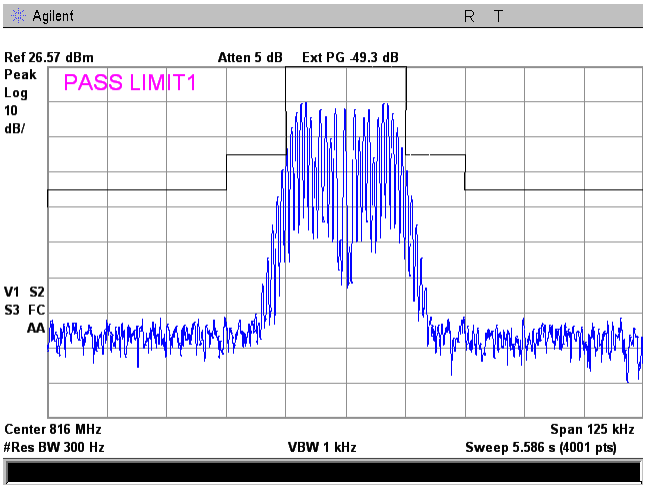




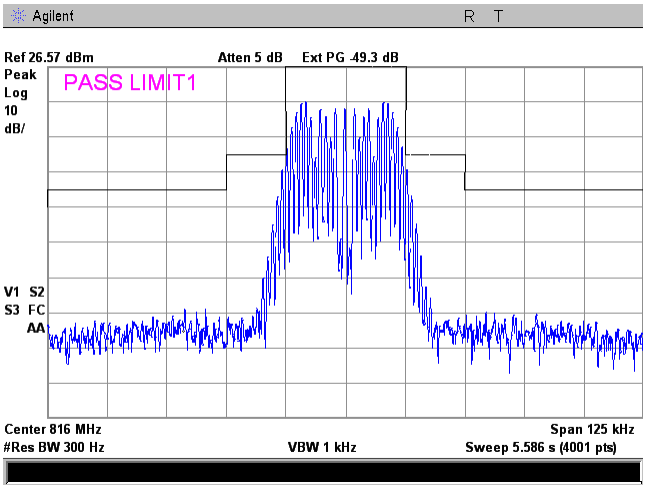
Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 ºC	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.47 Emission mask test result at mid frequency carrier, Port 2

FREQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Mobile
EMISSION MASK: 90.210(b)
INPUT POWER: -56 dBm

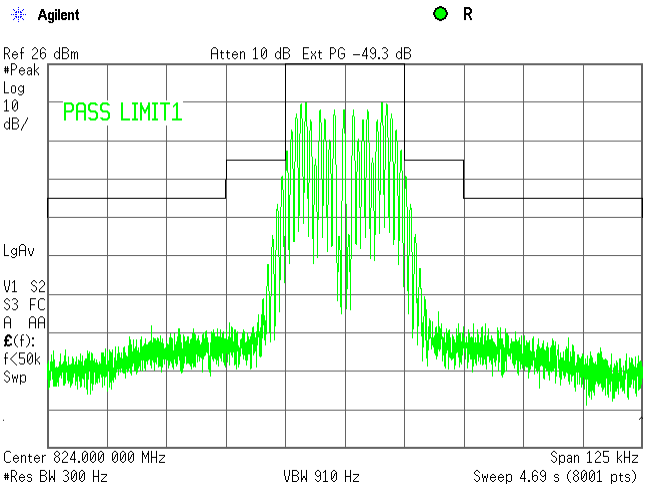


INPUT POWER: -26 dBm

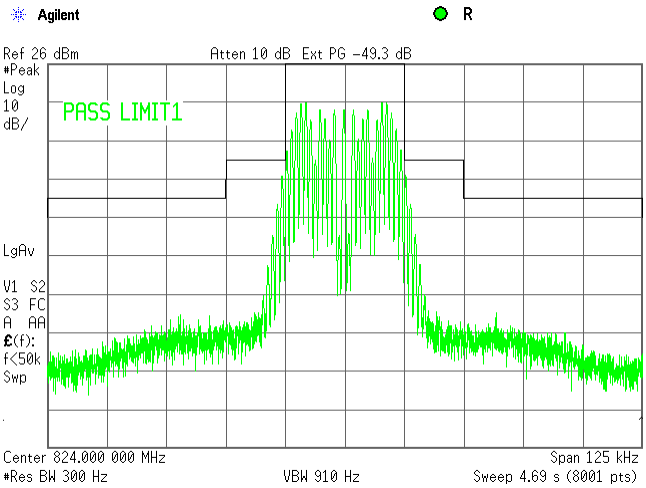


Plot 7.3.48 Emission mask test result at high frequency carrier, Port 2

FREQUENCY RANGE: 806 - 824 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Mobile
EMISSION MASK: 90.210(b)
INPUT POWER: -56 dBm



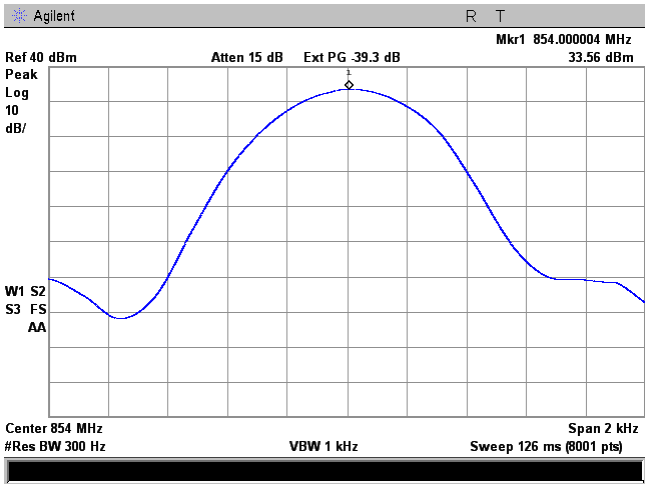
INPUT POWER: -26 dBm

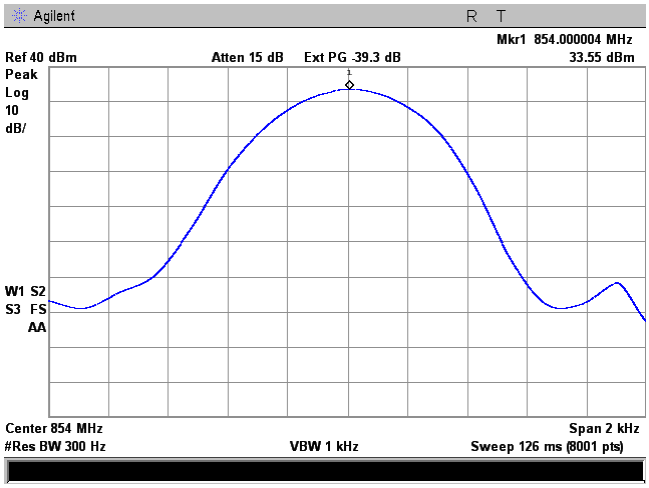


Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.49 Reference level test results at 854 MHz carrier frequency, Port 1

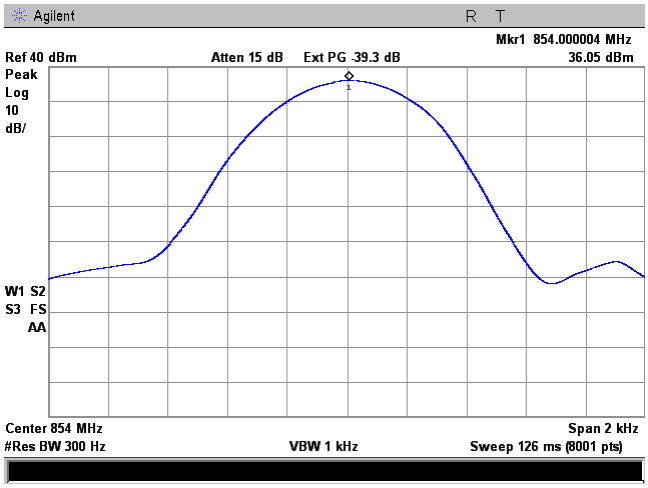
FREQUENCY RANGE: 851 – 854 MHz
REFERENCE LEVEL: Unmodulated power
CONFIGURATION: Single Band Dual Channels
INPUT POWER: -56 dBm
INPUT POWER: -56 dBm

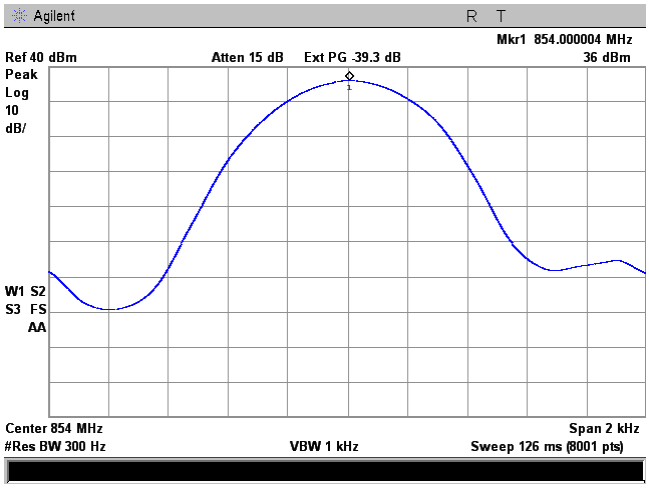




Plot 7.3.50 Reference level test results at 854 MHz carrier frequency, Port 1

FREQUENCY RANGE: 851 – 854 MHz
REFERENCE LEVEL: Unmodulated power
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm

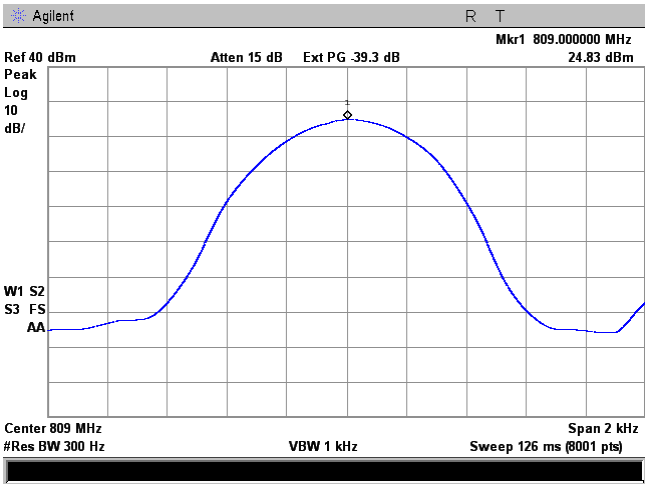


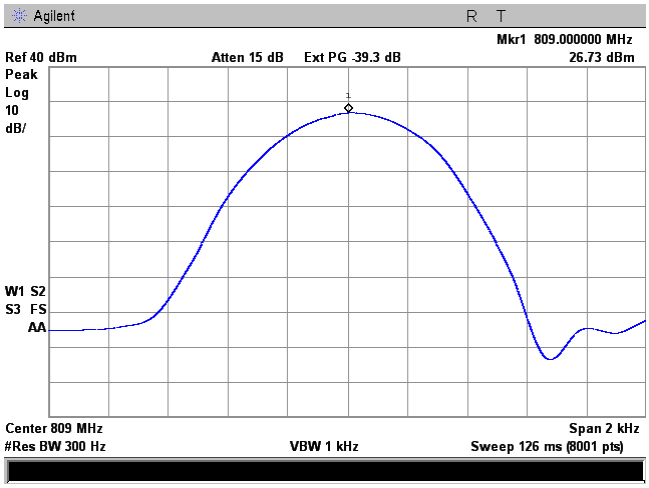


Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.51 Reference level test results at 809 MHz carrier frequency, Port 2

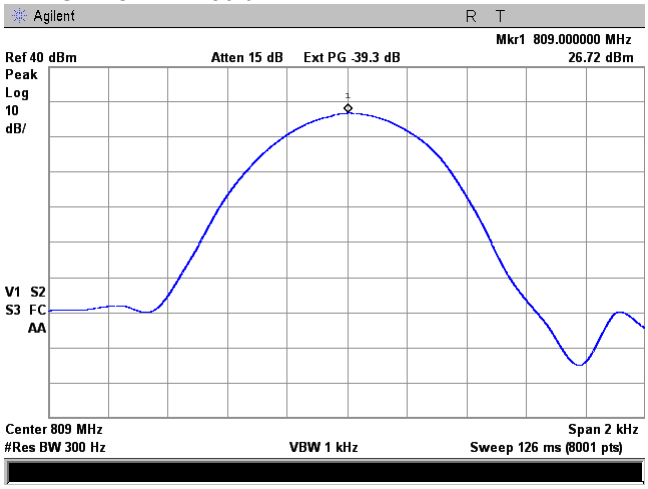
FREQUENCY RANGE: 806 - 824 MHz
REFERENCE LEVEL: Unmodulated power
CONFIGURATION: Single Band Dual Channels
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm

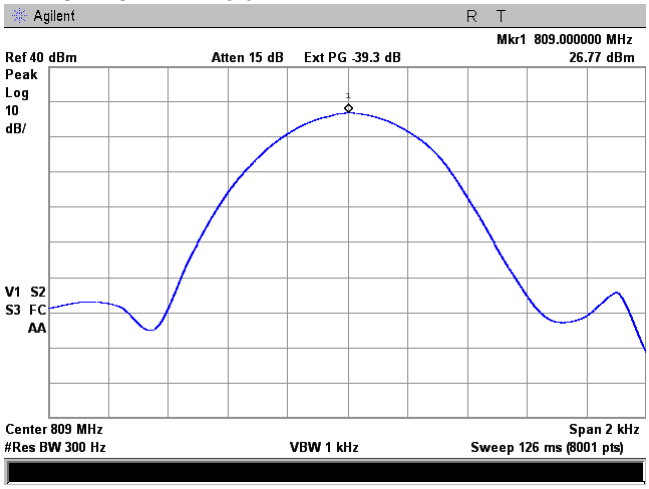




Plot 7.3.52 Reference level test results at 809 MHz carrier frequency, Port 2

FREQUENCY RANGE: 806 - 824 MHz
REFERENCE LEVEL: Unmodulated power
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm

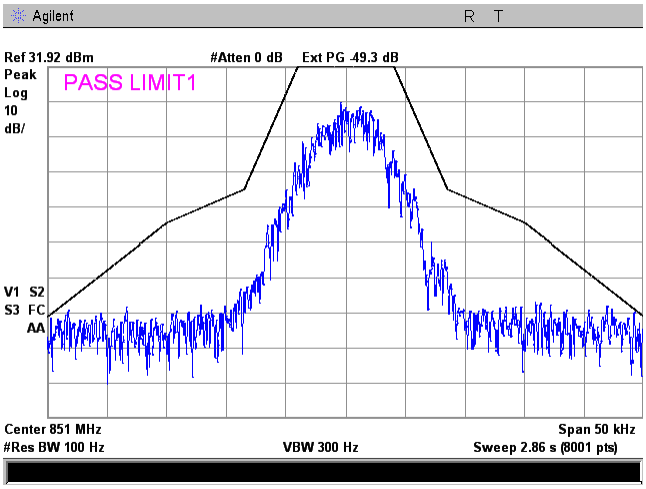


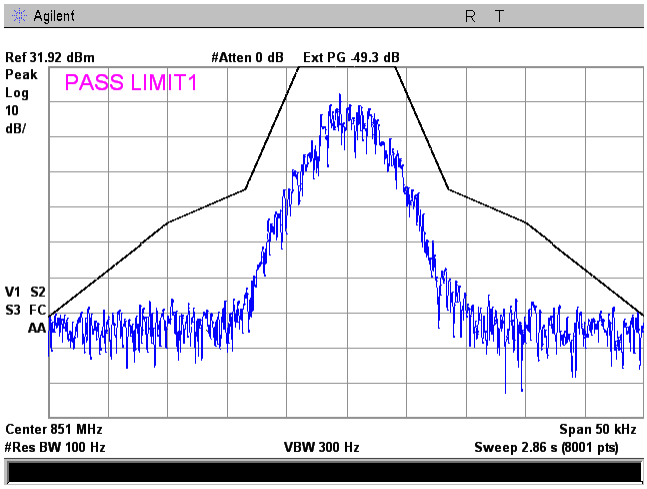


Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 ºC	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.53 Emission mask test result at low frequency carrier, Port 1

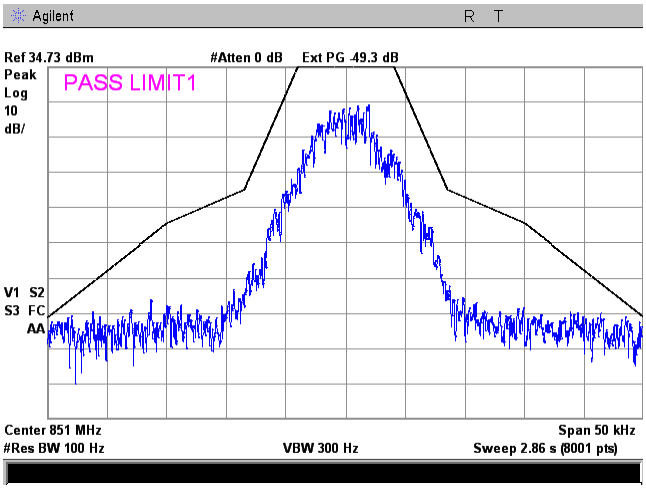
FRQUENCY RANGE: 851 - 854 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Mobile
EMISSION MASK: 90.210(h)
CONFIGURATION: Single Band Dual Channels
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm

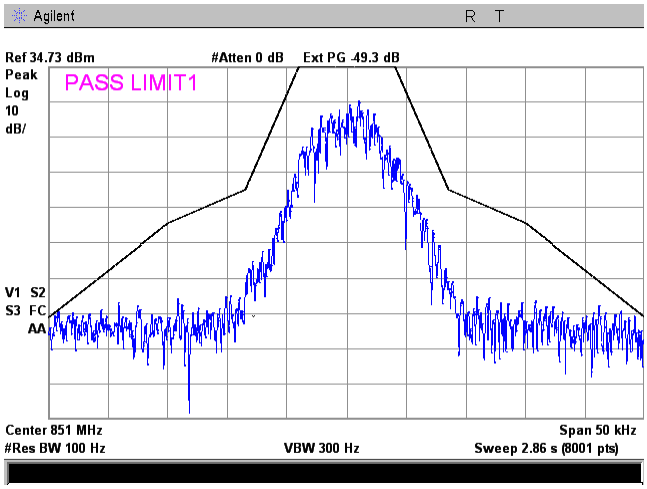




Plot 7.3.54 Emission mask test result at low frequency carrier, Port 1

FRQUENCY RANGE: 851 - 854 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Mobile
EMISSION MASK: 90.210(h)
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm
INPUT POWER: -26 dBm

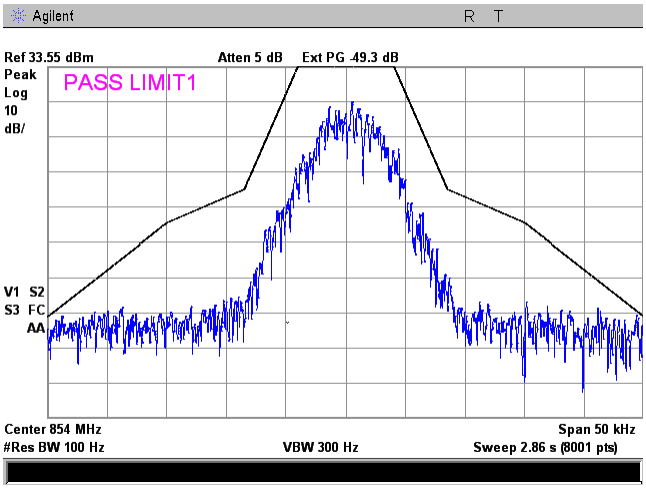


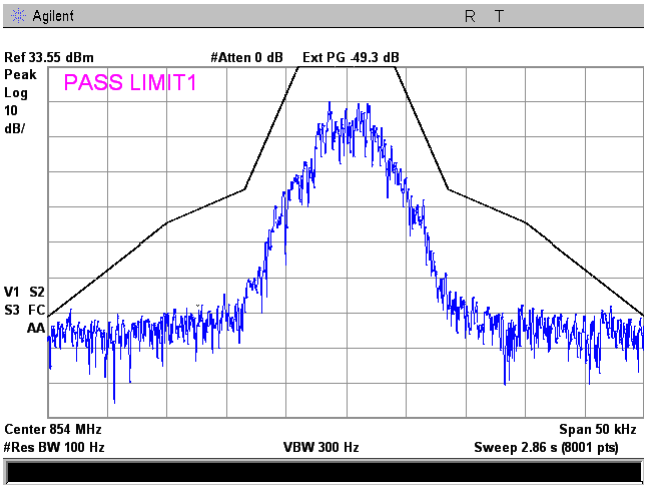


Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 ºC	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.55 Emission mask test result at high frequency carrier, Port 1

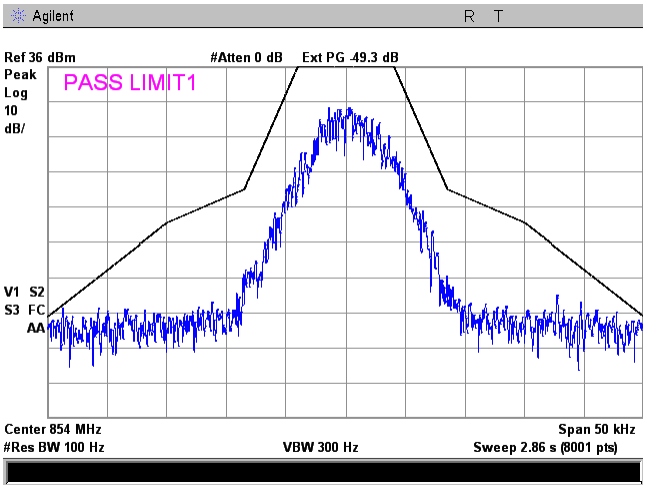
FRQUENCY RANGE:	851 - 854 MHz
OPERATIONAL MODE:	C4FM downlink transmit
INPUT PORT:	Mobile
EMISSION MASK:	90.210(h)
CONFIGURATION:	Single Band Dual Channels
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

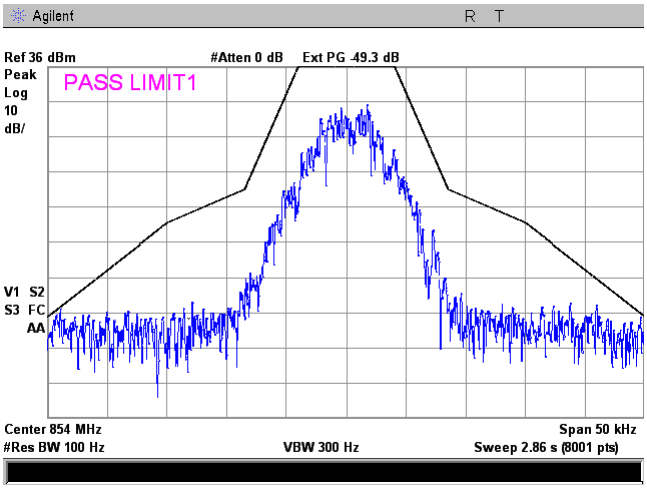




Plot 7.3.56 Emission mask test result at high frequency carrier, Port 1

FRQUENCY RANGE:	851 - 854 MHz
OPERATIONAL MODE:	C4FM downlink transmit
INPUT PORT:	Mobile
EMISSION MASK:	90.210(h)
CONFIGURATION:	Single Band Single Channel
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

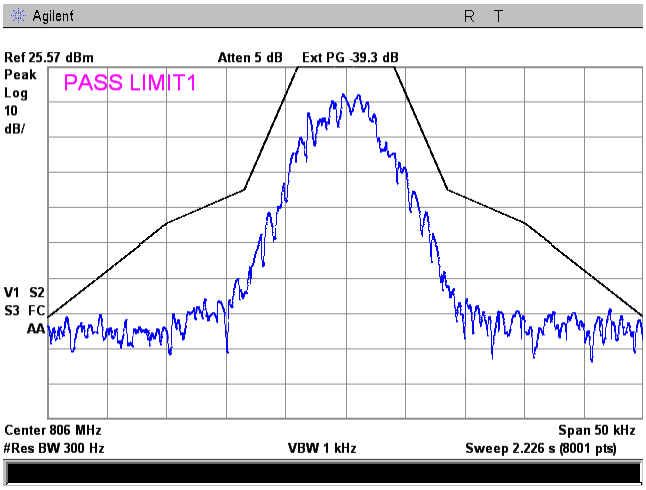


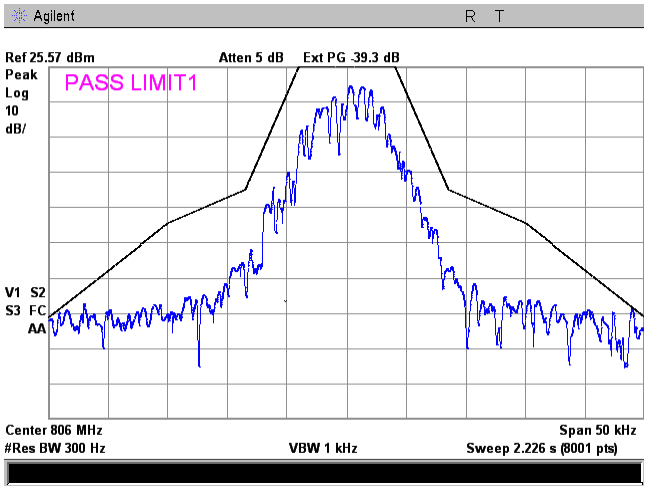


Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 ºC	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.57 Emission mask test result at low frequency carrier, Port 2

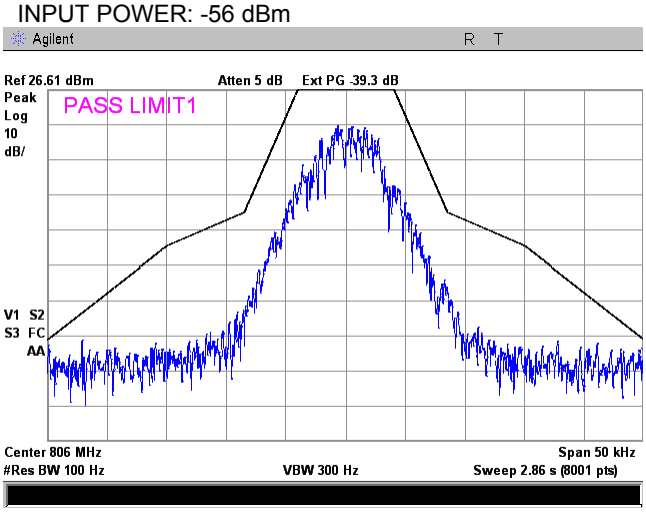
FRQUENCY RANGE:	806 - 809 MHz
OPERATIONAL MODE:	C4FM uplink transmit
INPUT PORT:	Base
COMPOSITE INPUT POWER:	-54 dBm
EMISSION MASK:	90.210(h)
CONFIGURATION:	Single Band Dual Channels
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

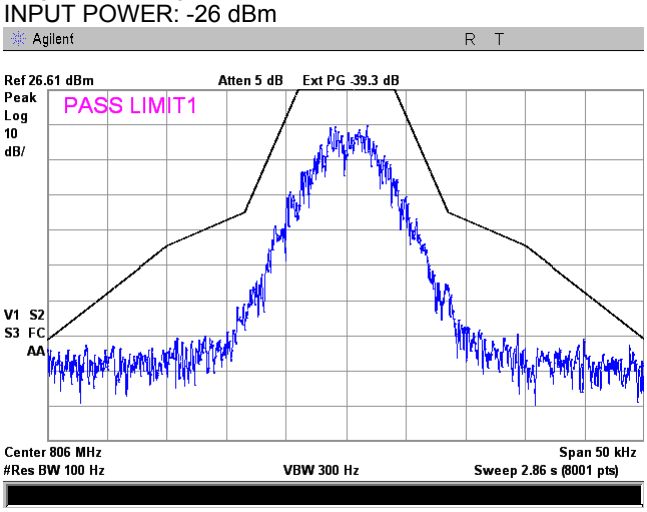




Plot 7.3.58 Emission mask test result at low frequency carrier, Port 2

FRQUENCY RANGE:	806 - 809 MHz
OPERATIONAL MODE:	C4FM uplink transmit
INPUT PORT:	Base
COMPOSITE INPUT POWER:	-54 dBm
EMISSION MASK:	90.210(h)
CONFIGURATION:	Single Band Single Channel
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

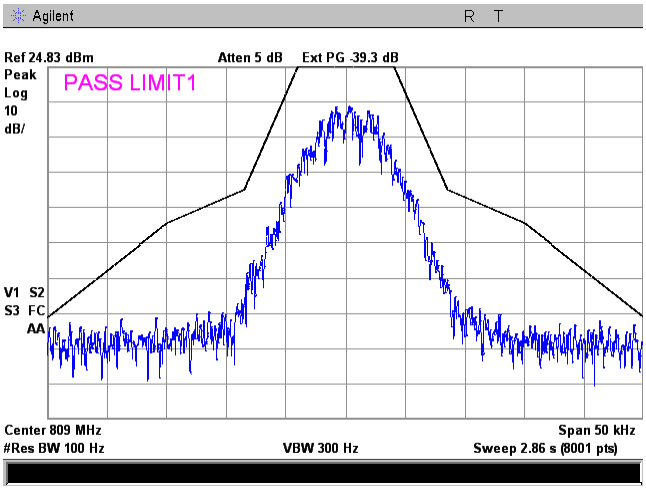


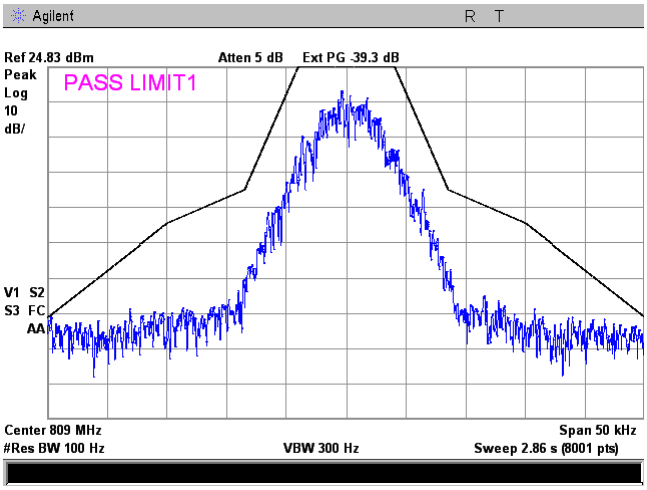


Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 ºC	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.59 Emission mask test result at high frequency carrier, Port 2

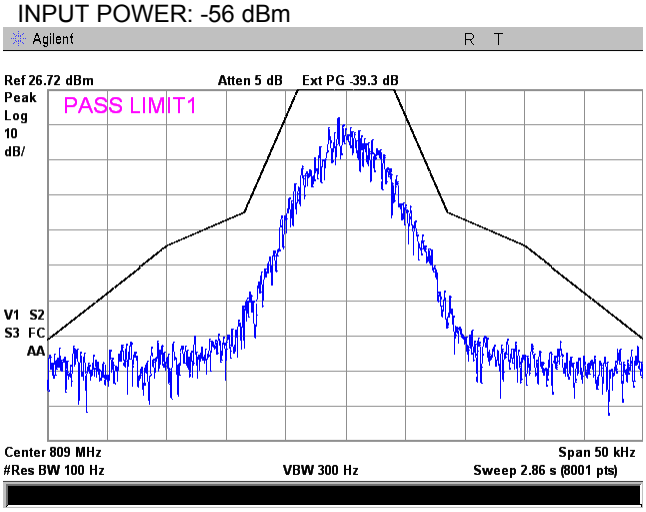
FRQUENCY RANGE:	806 - 809 MHz
OPERATIONAL MODE:	C4FM uplink transmit
INPUT PORT:	Base
COMPOSITE INPUT POWER:	-54 dBm
EMISSION MASK:	90.210(h)
CONFIGURATION:	Single Band Dual Channels
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

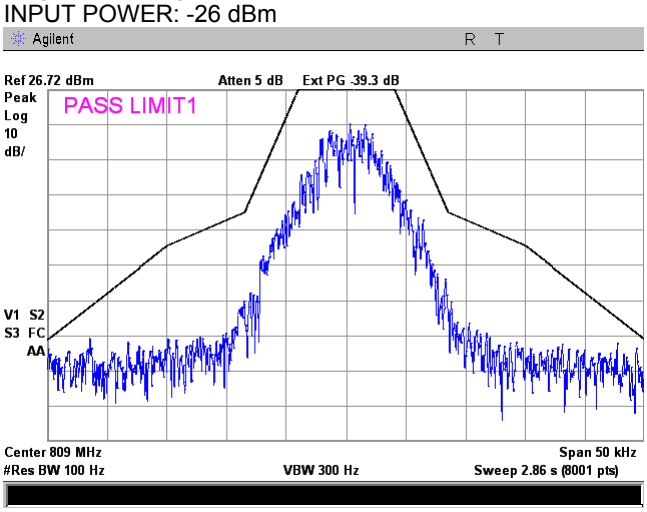




Plot 7.3.60 Emission mask test result at high frequency carrier, Port 2

FRQUENCY RANGE:	806 - 809 MHz
OPERATIONAL MODE:	C4FM uplink transmit
INPUT PORT:	Base
COMPOSITE INPUT POWER:	-54 dBm
EMISSION MASK:	90.210(h)
CONFIGURATION:	Single Band Single Channel
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

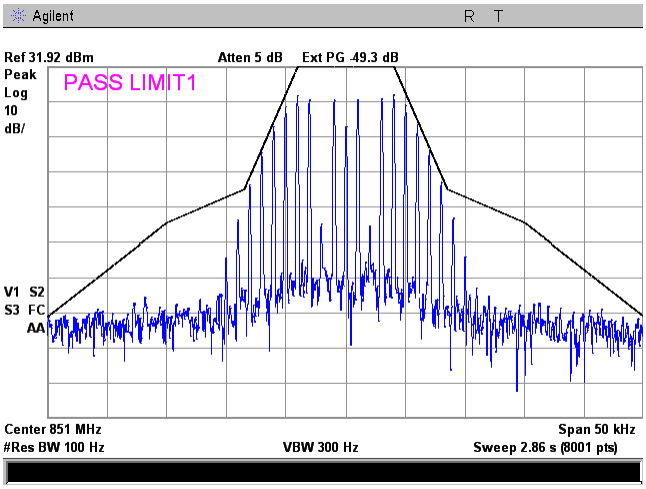


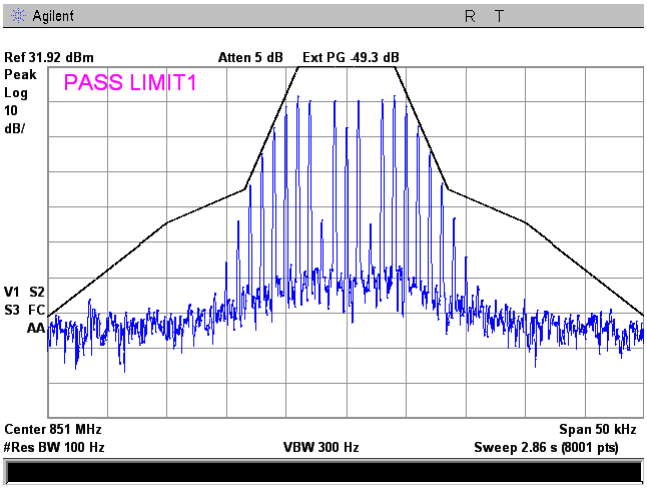


Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 ºC	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.61 Emission mask test result at low frequency carrier, Port 1

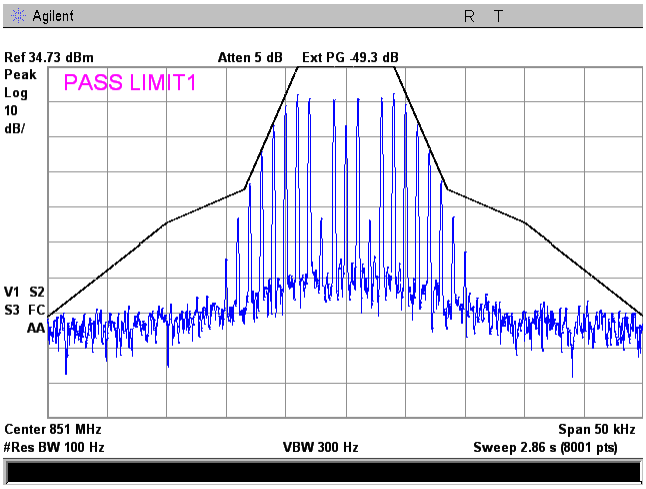
FRQUENCY RANGE:	851 - 861 MHz
OPERATIONAL MODE:	Analog FM downlink transmit
INPUT PORT:	Base
EMISSION MASK:	90.210(h)
CONFIGURATION:	Single Band Dual Channels
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

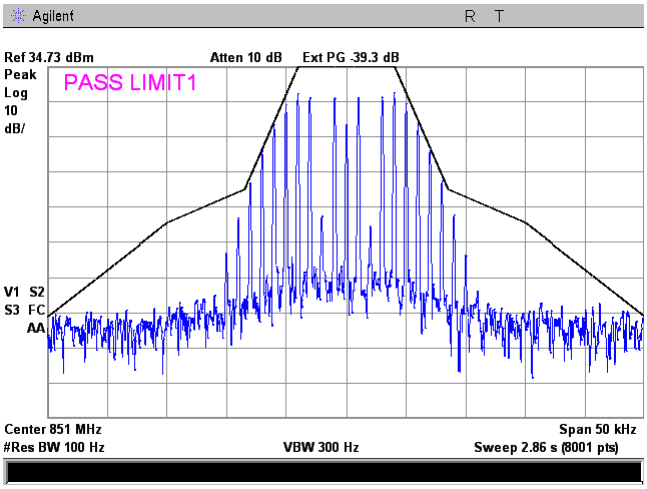




Plot 7.3.62 Emission mask test result at low frequency carrier, Port 1

FRQUENCY RANGE:	851 - 861 MHz
OPERATIONAL MODE:	Analog FM downlink transmit
INPUT PORT:	Base
EMISSION MASK:	90.210(h)
CONFIGURATION:	Single Band Single Channel
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

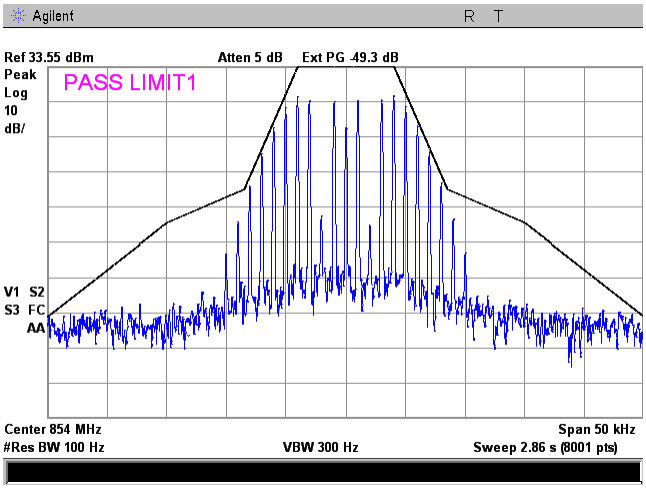


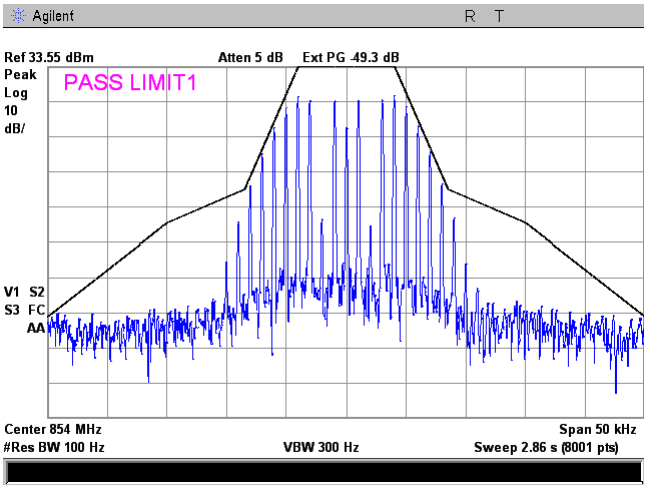


Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 ºC	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.63 Emission mask test result at high frequency carrier, Port 1

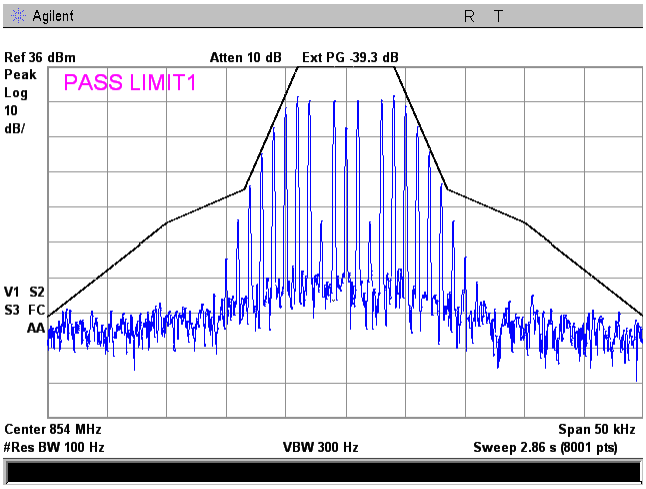
FRQUENCY RANGE:	851 - 854 MHz
OPERATIONAL MODE:	Analog FM downlink transmit
INPUT PORT:	Base
EMISSION MASK:	90.210(h)
CONFIGURATION:	Single Band Dual Channels
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

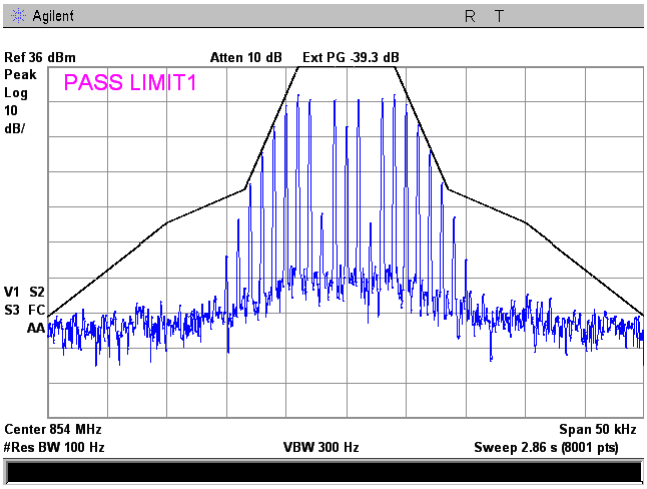




Plot 7.3.64 Emission mask test result at high frequency carrier, Port 1

FRQUENCY RANGE:	851 - 854 MHz
OPERATIONAL MODE:	Analog FM downlink transmit
INPUT PORT:	Base
EMISSION MASK:	90.210(h)
CONFIGURATION:	Single Band Single Channel
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

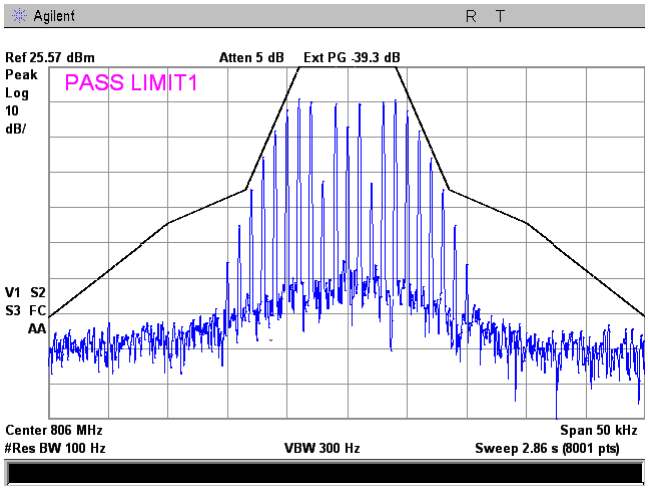


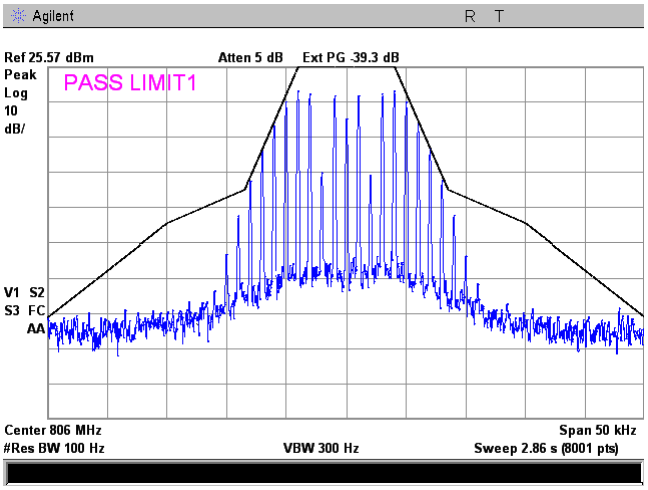


Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.65 Emission mask test result at low frequency carrier, Port 2

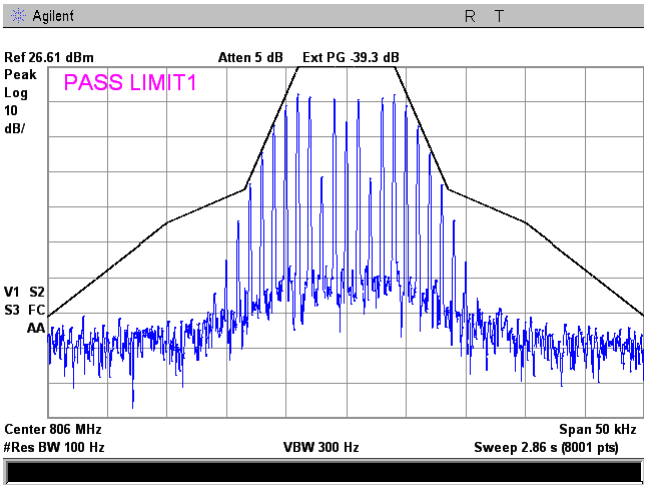
FRQUENCY RANGE:	806 - 809 MHz
OPERATIONAL MODE:	Analog FM uplink transmit
INPUT PORT:	Mobile
EMISSION MASK:	90.210(h)
CONFIGURATION:	Single Band Dual Channels
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

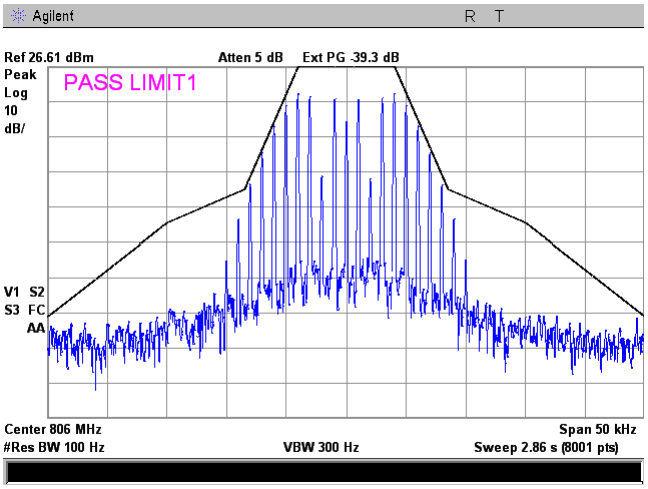




Plot 7.3.66 Emission mask test result at low frequency carrier, Port 2

FRQUENCY RANGE:	806 - 809 MHz
OPERATIONAL MODE:	Analog FM uplink transmit
INPUT PORT:	Mobile
EMISSION MASK:	90.210(h)
CONFIGURATION:	Single Band Single Channel
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

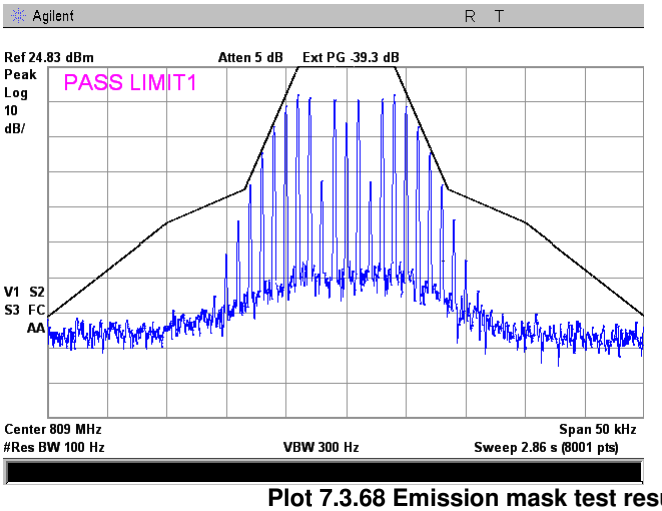


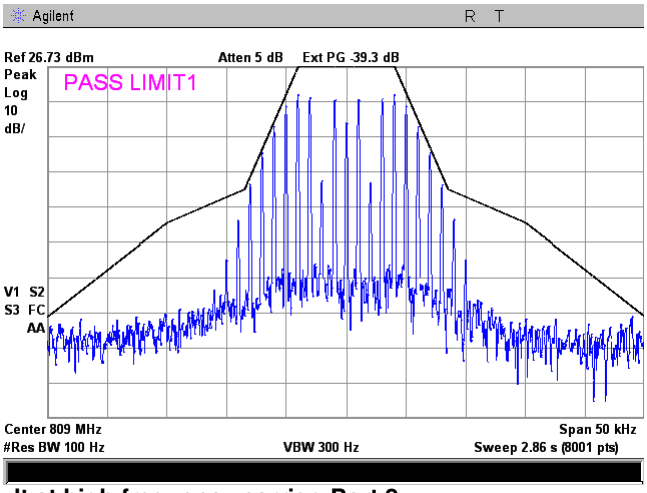


Test specification:	Sections 90.210(b), 90.210(h), Emission mask		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b), KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Jul-15 - 07-Sep-15		
Temperature: 23.4 ºC	Air Pressure: 1008 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.67 Emission mask test result at high frequency carrier, Port 2

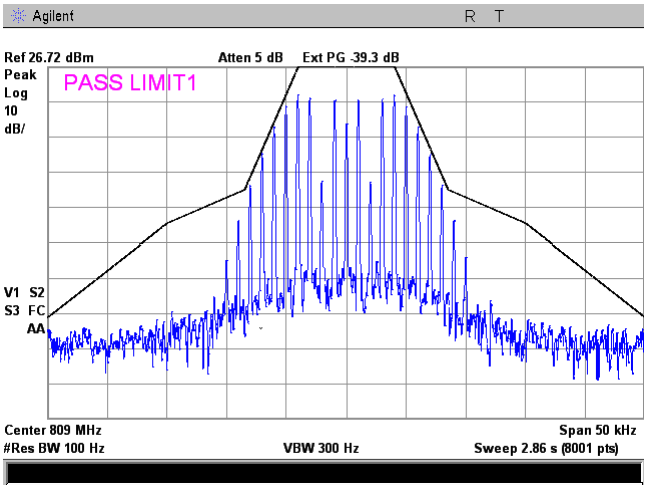
FRQUENCY RANGE:	806 - 809 MHz
OPERATIONAL MODE:	Analog FM uplink transmit
INPUT PORT:	Mobile
EMISSION MASK:	90.210(h)
CONFIGURATION:	Single Band Dual Channels
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm

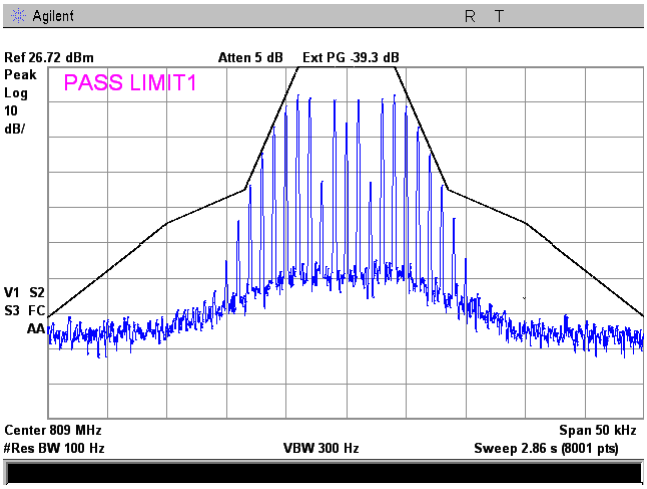




Plot 7.3.68 Emission mask test result at high frequency carrier, Port 2

FRQUENCY RANGE:	806 - 809 MHz
OPERATIONAL MODE:	Analog FM uplink transmit
INPUT PORT:	Mobile
EMISSION MASK:	90.210(h)
CONFIGURATION:	Single Band Single Channel
INPUT POWER: -56 dBm	INPUT POWER: -26 dBm





Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v02, Appendix D		
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, Table 7.4.3, Table 7.4.4 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, Table 7.4.3, Table 7.4.4 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 v02, Appendix D		
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

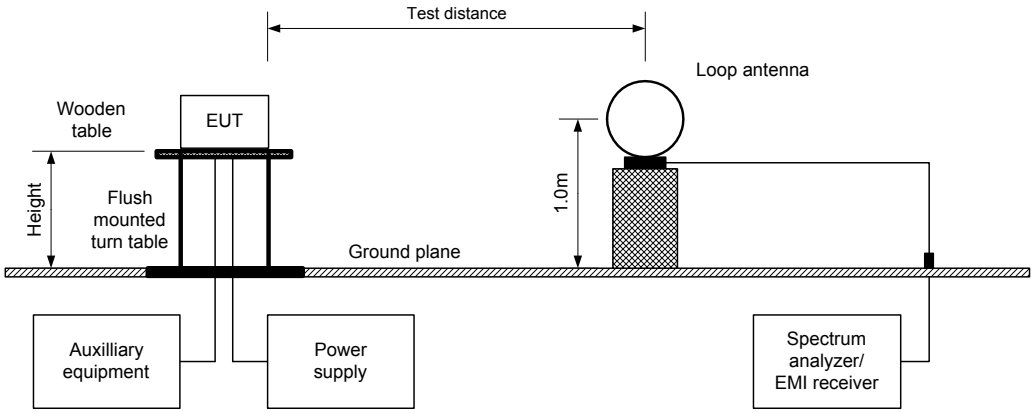
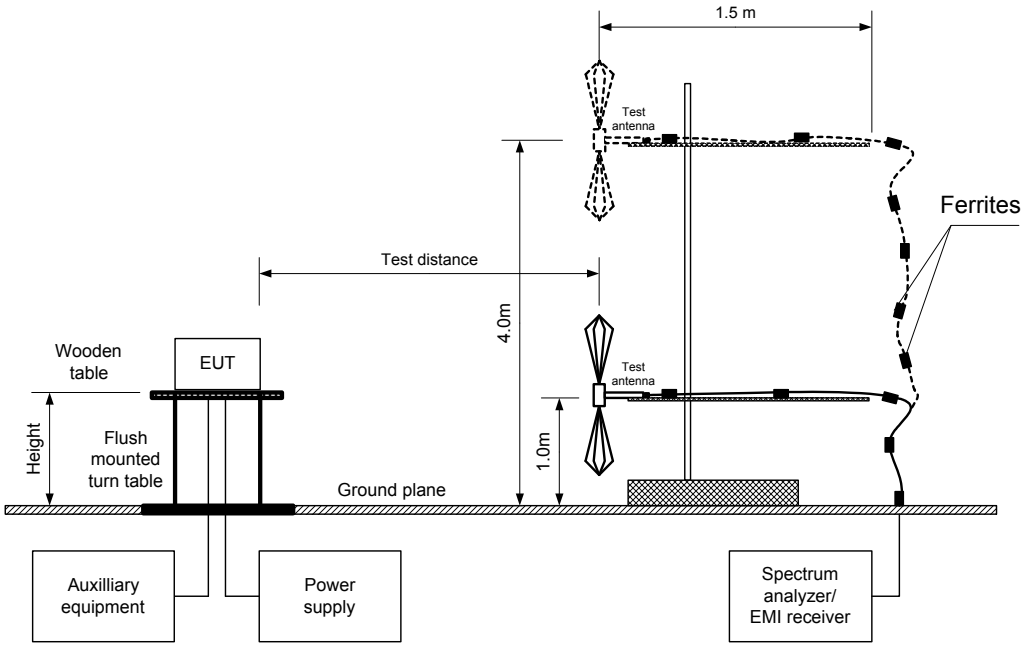


Figure 7.4.2 Setup for spurious emission field strength measurements above 30 MHz



Test specification:	**Section 90.219(e)(3), Radiated spurious emissions**		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v02, Appendix D		
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

ASSIGNED FREQUENCY RANGE: 758 - 775 MHz Downlink
788 – 805 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: 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

*- 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 v02, Appendix D		
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: 851 – 869 MHz Downlink
806 – 824 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: 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 861 MHz								
All emissions were found more than 20 dB below the limit								Pass
High carrier frequency 869 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 v02, Appendix D		
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 7.4.4 Spurious emission field strength test results

ASSIGNED FREQUENCY RANGE: 758 - 775 MHz Downlink
788 – 805 MHz Uplink
851 – 869 MHz Downlink
806 – 824 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 766/861 MHz								
All emissions were found more than 20 dB below the limit								Pass
High carrier frequency 775/869MHz								
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

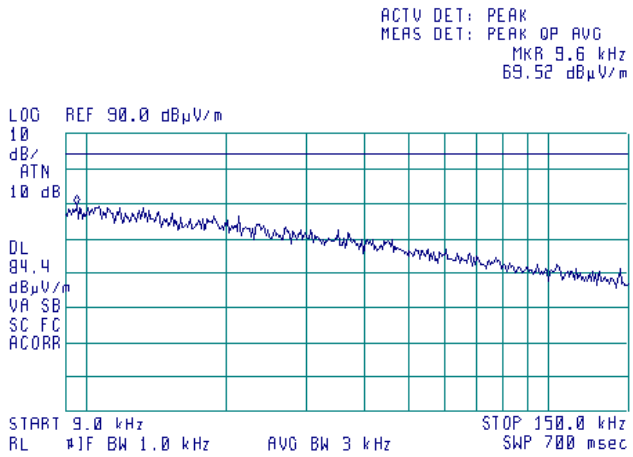
HL 0446	HL 0521	HL 0604	HL 0557	HL 0661	HL 1984	HL 2780	HL 3234
HL 3622	HL 3623	HL 4276	HL 4278	HL 4353	HL 4722	HL 4932	

Full description is given in Appendix A.

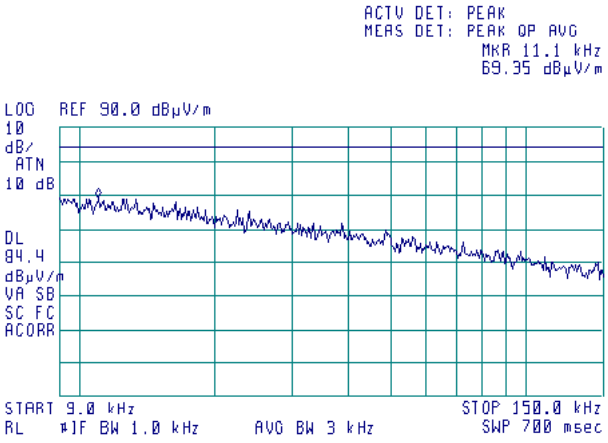
Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 ºC	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.4.1 Radiated emission measurements in 9 - 150 kHz range

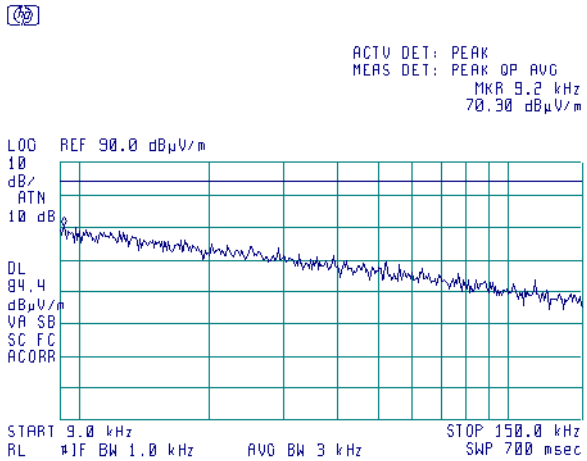
TEST SITE: Semi anechoic chamber
ASSIGNED FREQUENCY RANGES: 758 – 775 MHz Downlink
788 – 805 MHz Uplink
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Single Band Dual Channels
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

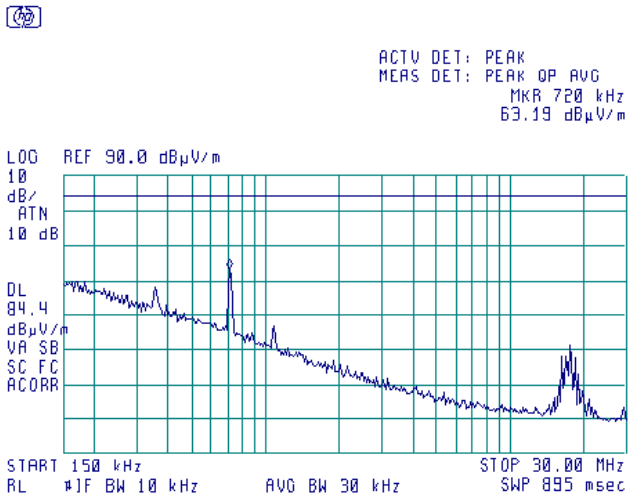


4

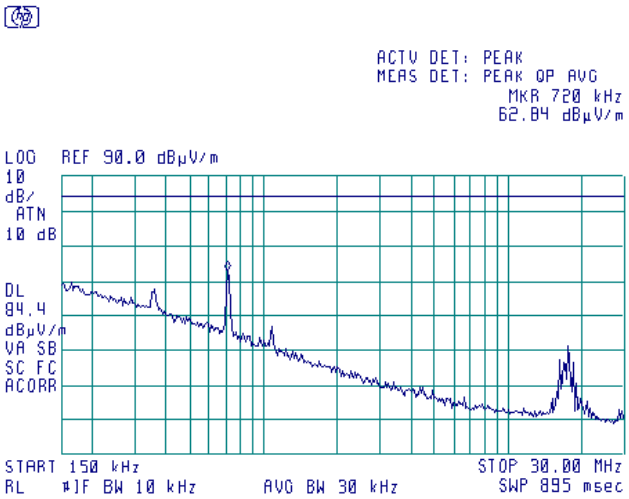
Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 ºC	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.4.2 Radiated emission measurements in 0.15 - 30 MHz range

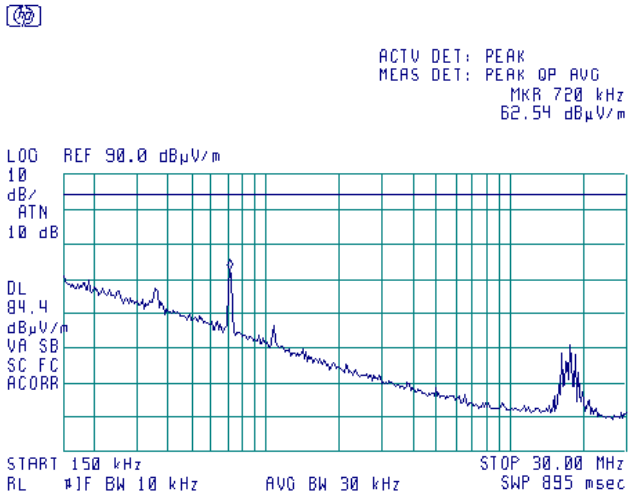
TEST SITE: Semi anechoic chamber
ASSIGNED FREQUENCY RANGES: 758 – 775 MHz Downlink
788 – 805 MHz Uplink
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Single Band Dual Channels
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

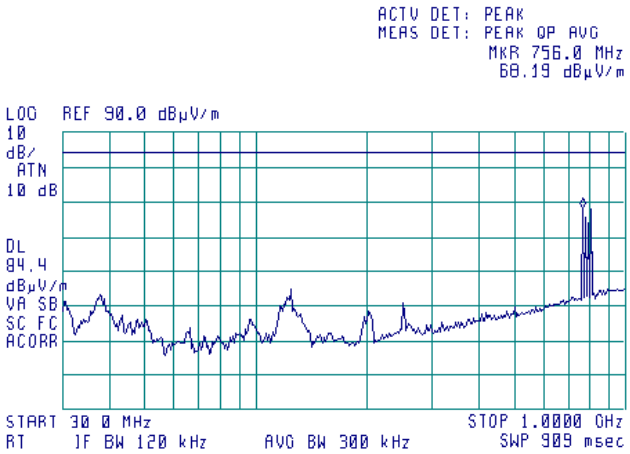


Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 ºC	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

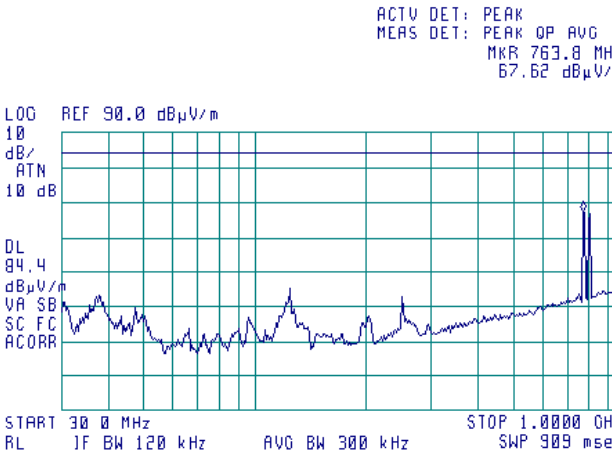
Plot 7.4.3 Radiated emission measurements in 30 - 1000 MHz range

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

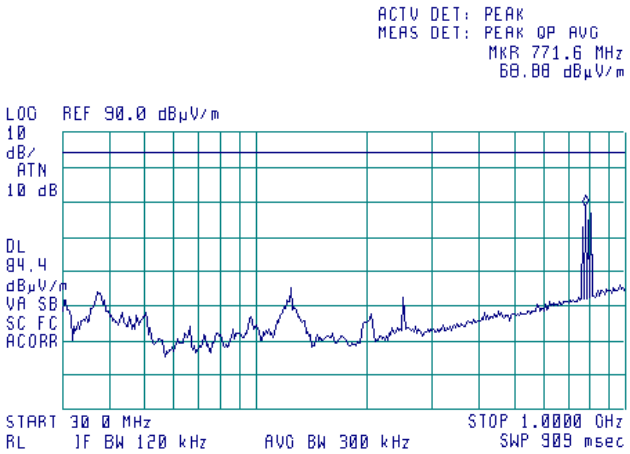
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Single Band Dual Channels
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High
4



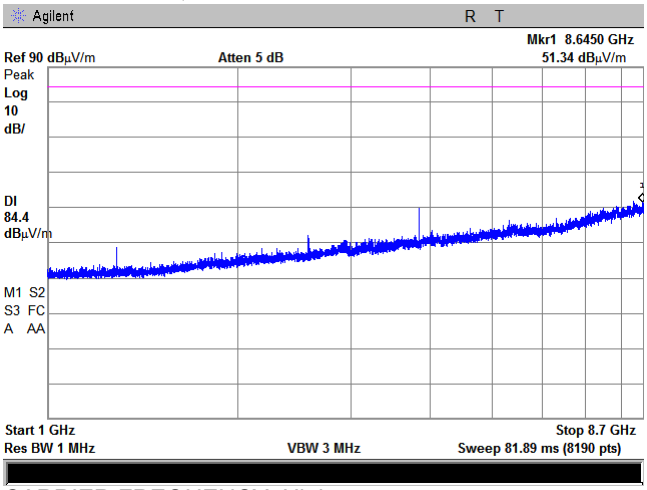
758/766/775 MHz – Downlink frequencies; 788/796/805 MHz – Uplink frequencies

Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v02, Appendix D		
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:			

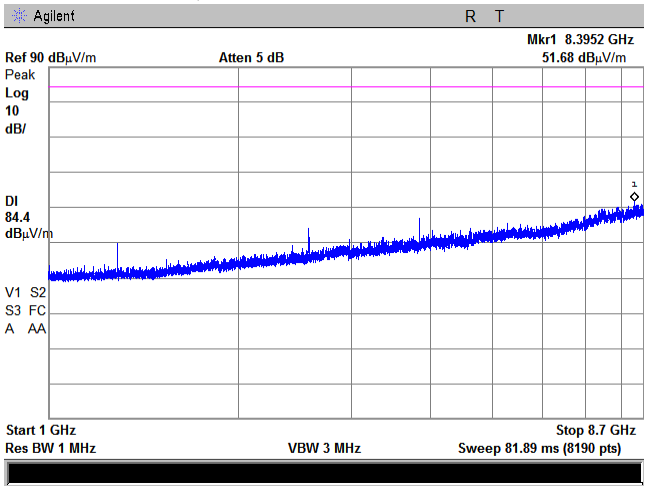
Plot 7.4.4 Radiated emission measurements in 1000 – 8700 MHz range

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

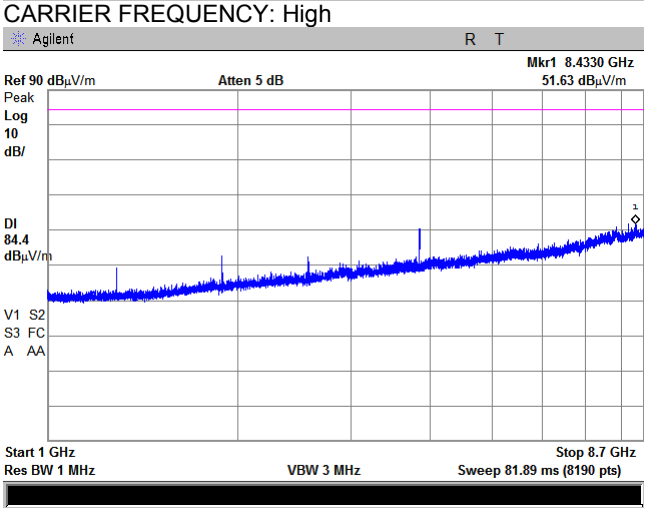
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



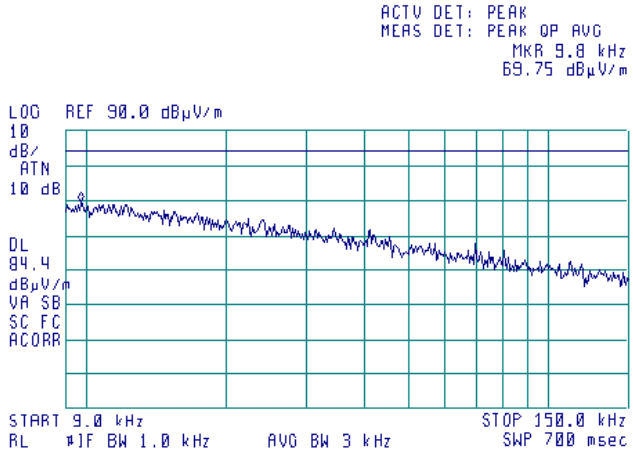
CARRIER FREQUENCY: High



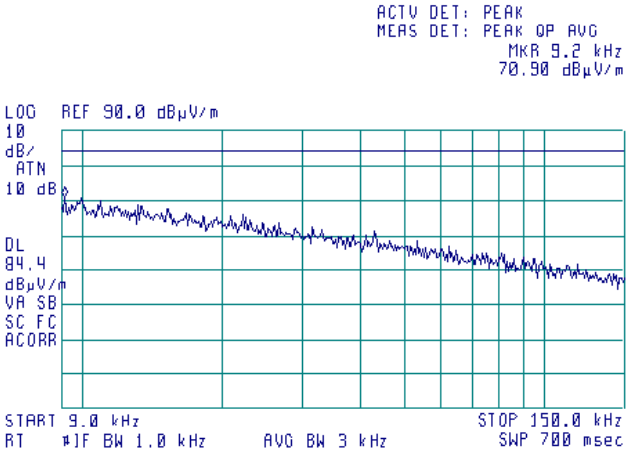
Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 ºC	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.4.5 Radiated emission measurements in 9 - 150 kHz range

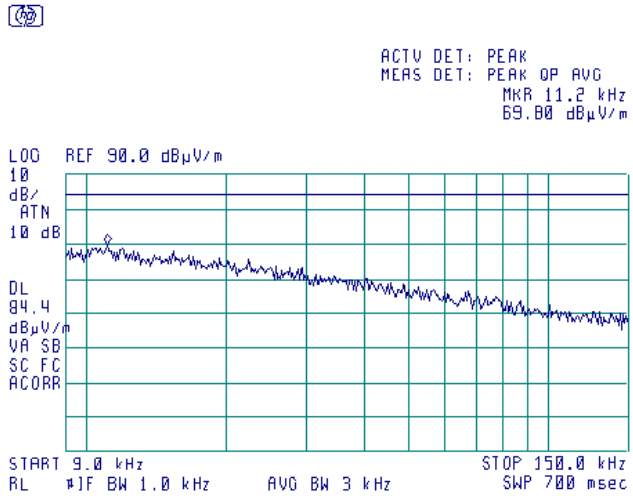
TEST SITE: Semi anechoic chamber
ASSIGNED FREQUENCY RANGES: 851 – 869 MHz Downlink
806 – 824 MHz Uplink
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Single Band Dual Channels
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



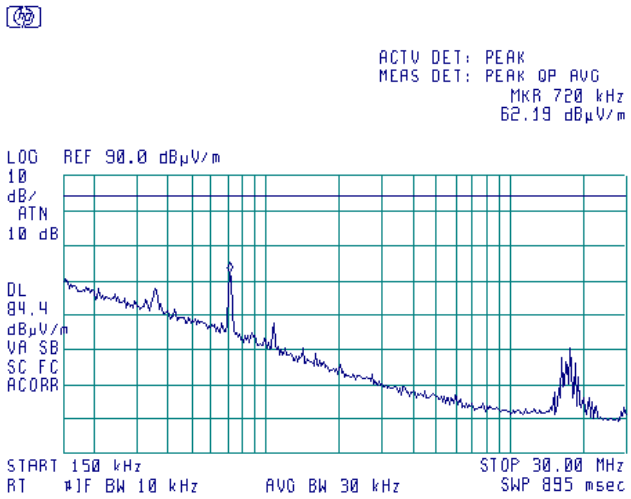
CARRIER FREQUENCY: High



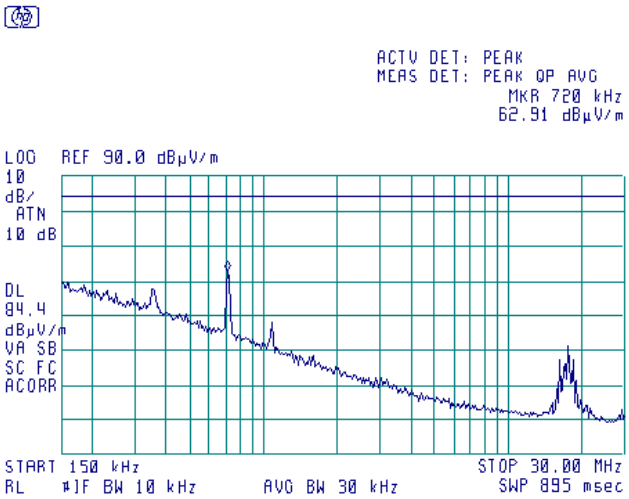
Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 ºC	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.4.6 Radiated emission measurements in 0.15 - 30 MHz range

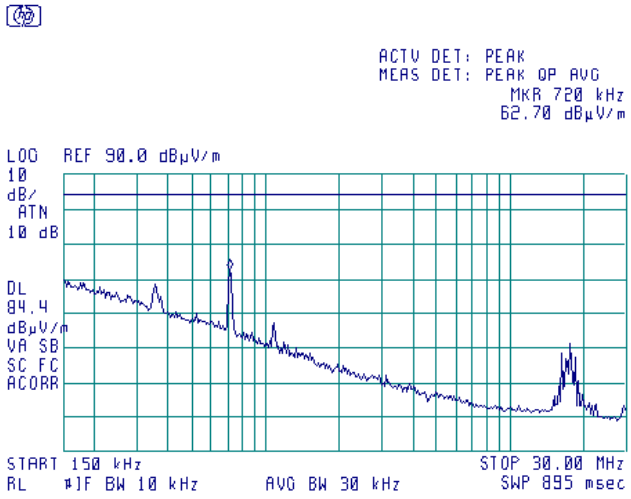
TEST SITE: Semi anechoic chamber
ASSIGNED FREQUENCY RANGES: 851 – 869 MHz Downlink
806 – 824 MHz Uplink
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Single Band Dual Channels
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



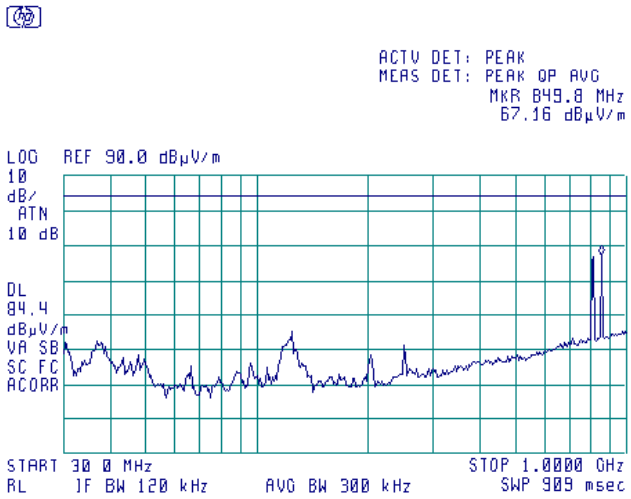
CARRIER FREQUENCY: High



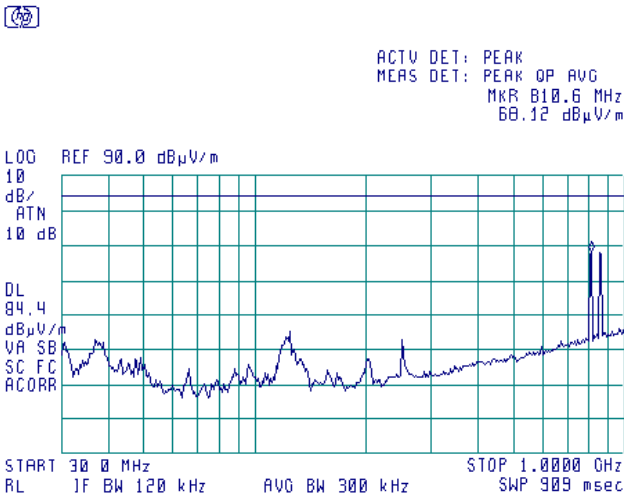
Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 ºC	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.4.7 Radiated emission measurements in 30 - 1000 MHz range

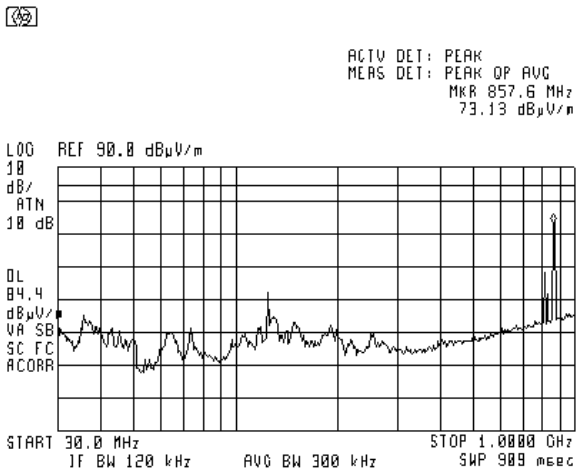
TEST SITE: Semi anechoic chamber
ASSIGNED FREQUENCY RANGES: 851 – 869 MHz Downlink
806 – 824 MHz Uplink
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Single Band Dual Channels
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

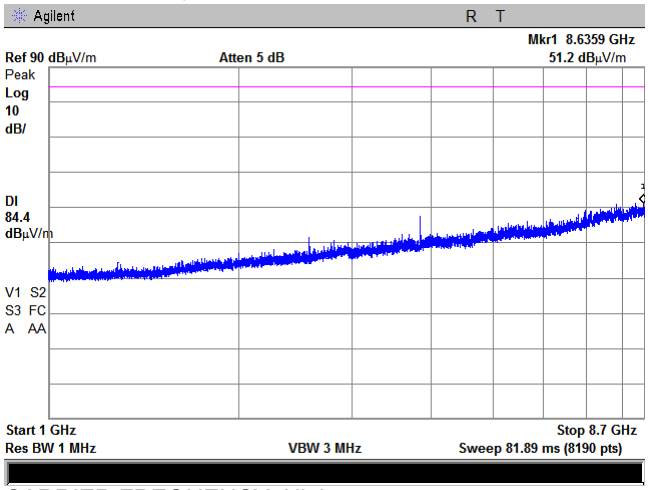


851/861/869 MHz – Downlink frequencies; 806/816/824 MHz – Uplink frequencies

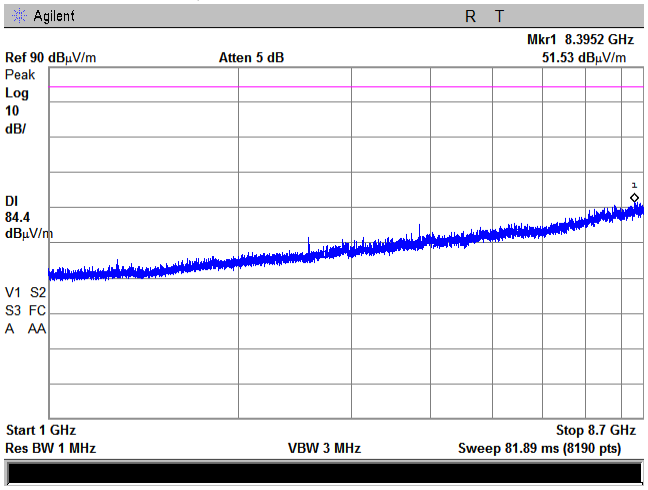
Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 °C	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.4.8 Radiated emission measurements in 1000 – 8700 MHz range

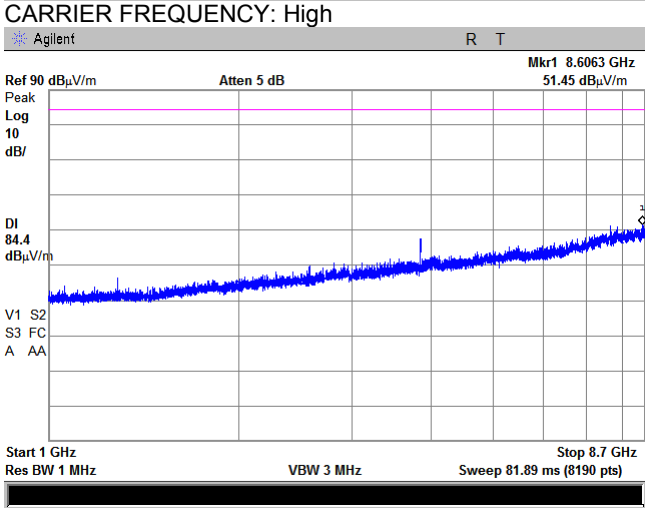
TEST SITE: Semi anechoic chamber
ASSIGNED FREQUENCY RANGES: 851 – 869 MHz Downlink
806 – 824 MHz Uplink
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Single Band Dual Channels
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



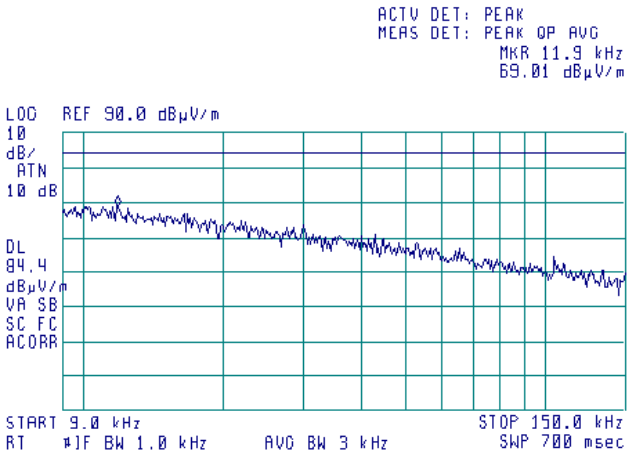
CARRIER FREQUENCY: High



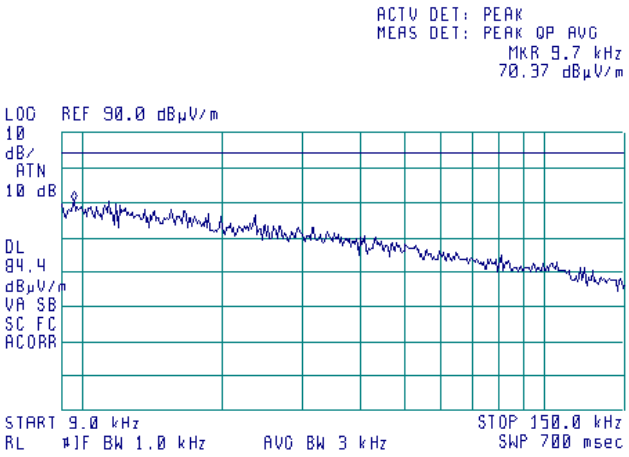
Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 ºC	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.4.9 Radiated emission measurements in 9 - 150 kHz range

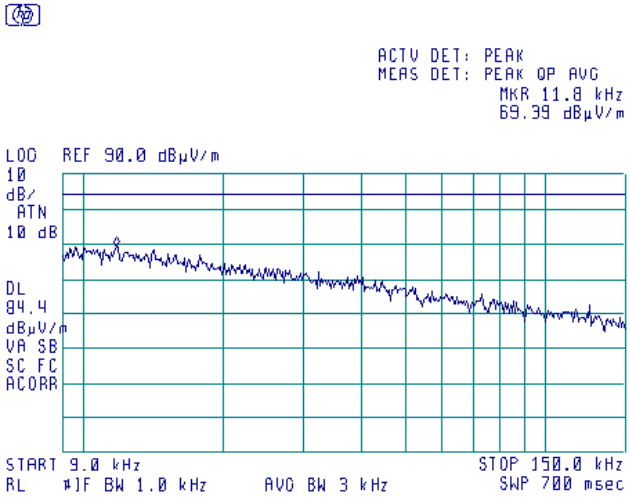
TEST SITE: Semi anechoic chamber
ASSIGNED FREQUENCY RANGES: 758 – 775 MHz Downlink
788 – 805 MHz Uplink
851 – 869 MHz Downlink
806 – 824 MHz Uplink
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Dual Band Single Channel
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



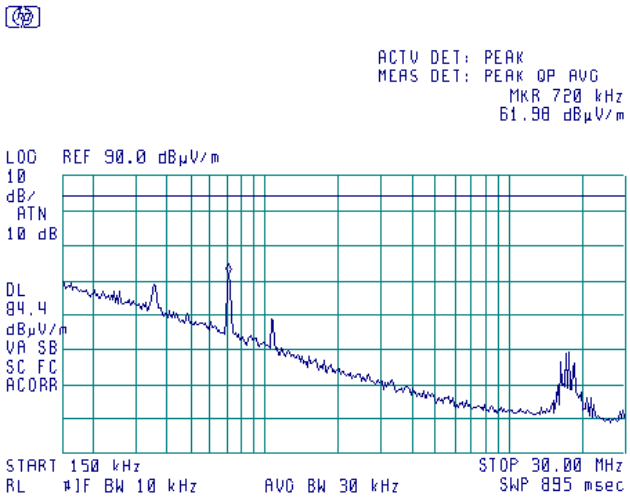
CARRIER FREQUENCY: High



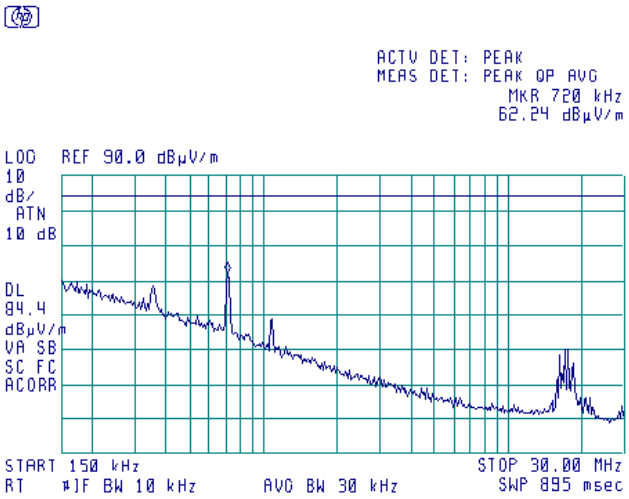
Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 ºC	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.4.10 Radiated emission measurements in 0.15 - 30 MHz range

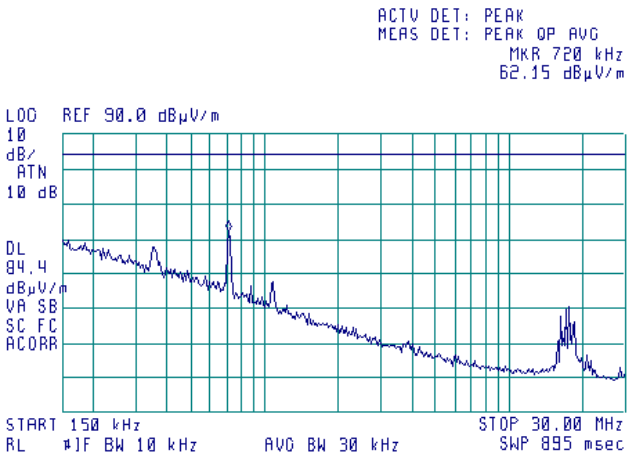
TEST SITE: Semi anechoic chamber
ASSIGNED FREQUENCY RANGES: 758 – 775 MHz Downlink
788 – 805 MHz Uplink
851 – 869 MHz Downlink
806 – 824 MHz Uplink
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Dual Band Single Channel
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



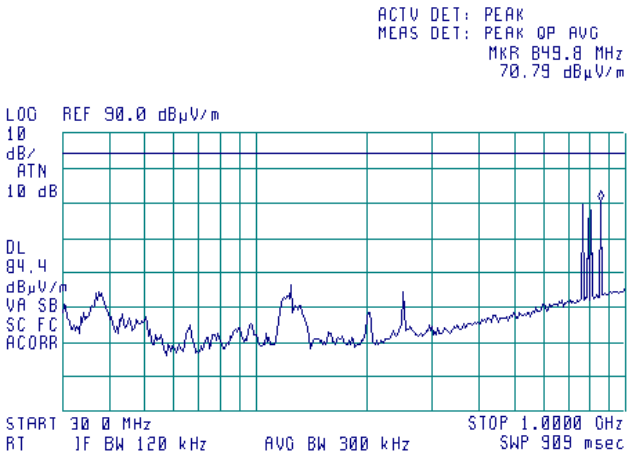
CARRIER FREQUENCY: High



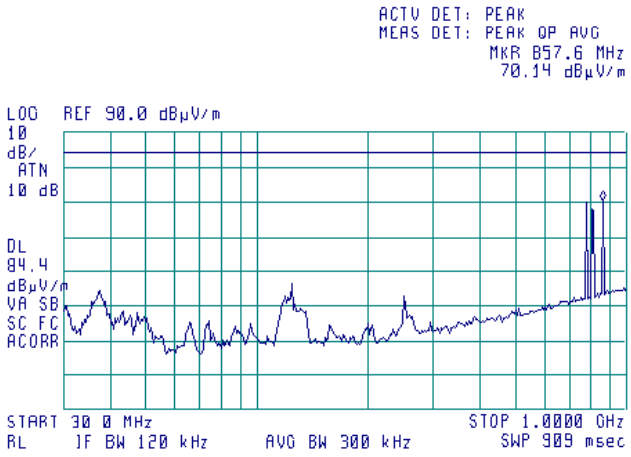
Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 ºC	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.4.11 Radiated emission measurements in 30 - 1000 MHz range

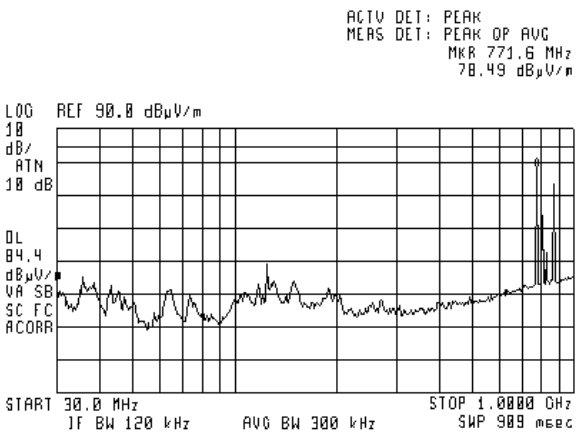
TEST SITE: Semi anechoic chamber
ASSIGNED FREQUENCY RANGES: 758 – 775 MHz Downlink
788 – 805 MHz Uplink
851 – 869 MHz Downlink
806 – 824 MHz Uplink
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CONFIGURATION: Dual Band Single Channel
CARRIER FREQUENCY: Low



CARRIER FREQUENCY:



CARRIER FREQUENCY: High

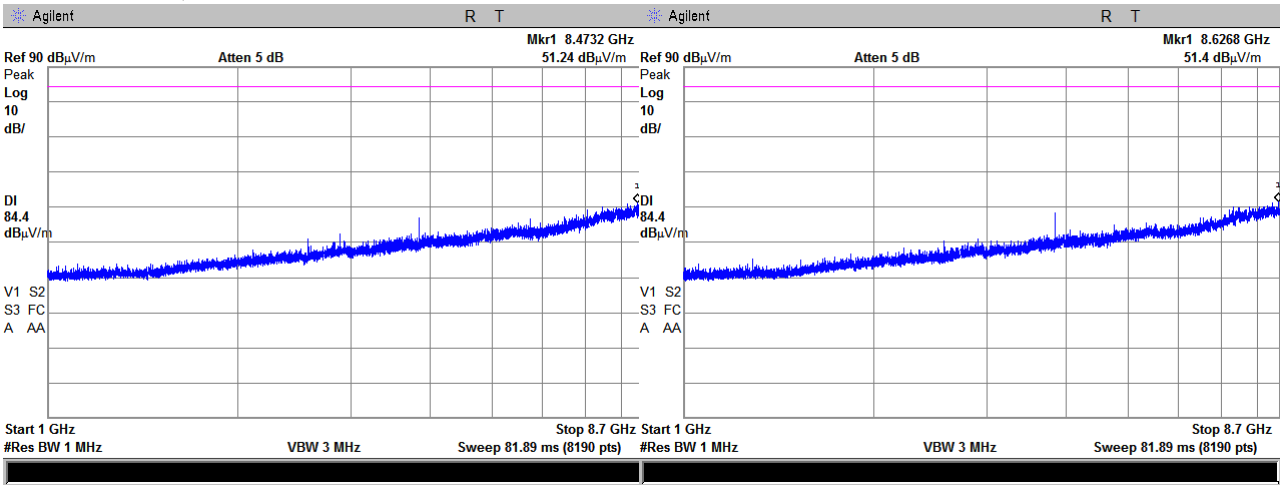


758/766/775 and 851/861/869 MHz – Downlink frequencies; 788/796/805 and 806/816/824 MHz – Uplink frequencies

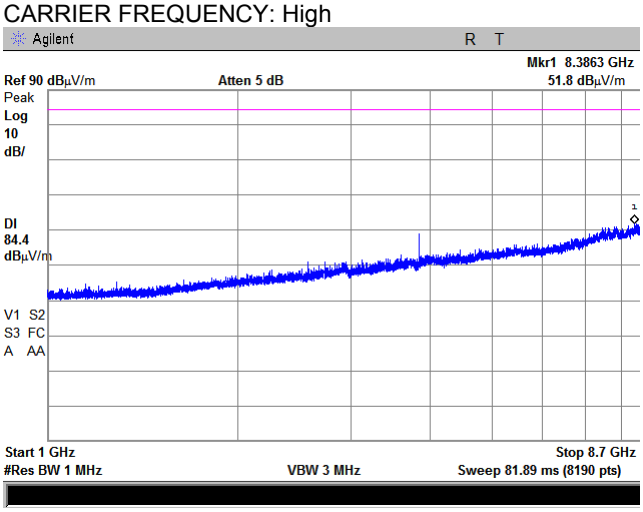
Test specification:	Section 90.219(e)(3), Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Jul-15 - 27-Jul-15		
Temperature: 23.2 °C	Air Pressure: 1005 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.4.12 Radiated emission measurements in 1000 – 8700 MHz range

TEST SITE:	Semi anechoic chamber
ASSIGNED FREQUENCY RANGES:	758 – 775 MHz Downlink 788 – 805 MHz Uplink 851 – 869 MHz Downlink 806 – 824 MHz Uplink
ANTENNA POLARIZATION:	Vertical and Horizontal
TEST DISTANCE:	3 m
CONFIGURATION:	Dual Band Single Channel
CARRIER FREQUENCY:	Low



CARRIER FREQUENCY: High



Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 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, C)	-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

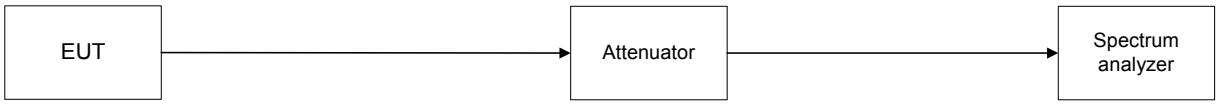
7.5.2 Test procedure

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, Table 7.5.3 and the 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 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 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 – 8700 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 – 869 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 – 824 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 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 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 – 8700 MHz
DETECTOR USED: Peak
VIDEO BANDWIDTH: ≥ Resolution bandwidth
MODULATION: C4FM/iDEN/Analog FM
CONFIGURATION: Dual Band Dual Channel
BOOSTER OUTPUT POWER SETTINGS: 37 dBm
ASSIGNED FREQUENCY RANGES: 758 – 775 MHz Downlink
851 – 869 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: Single Band Dual Channel
BOOSTER OUTPUT POWER SETTINGS: 28 dBm
ASSIGNED FREQUENCY RANGES: 778 – 805 MHz Uplink
806 – 824 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 3818	HL 3903	HL 4068	HL 4273	HL 4275	HL 4354	

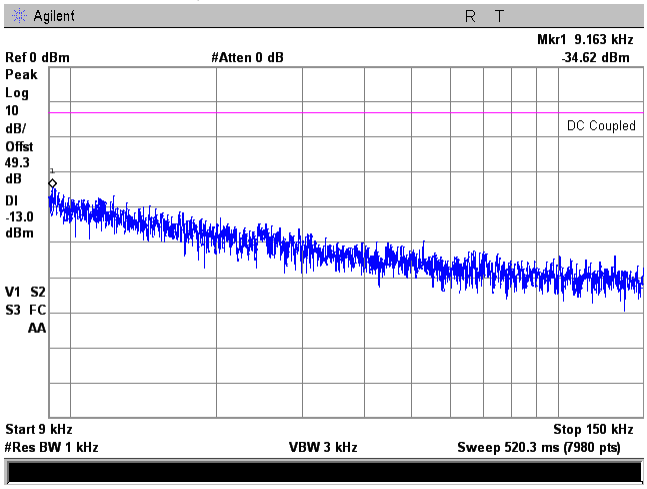
Full description is given in Appendix A.

Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

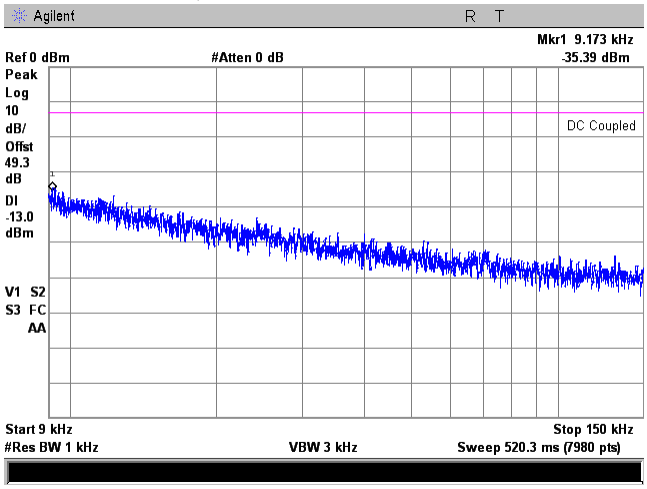
Plot 7.5.1 Spurious emission measurements in 9 - 150 kHz range

FREQUENCY RANGE:	758 – 775 MHz 851 – 869 MHz
OPERATIONAL MODE:	C4FM downlink transmit
INPUT PORT:	Base
CONFIGURATION:	Dual Band Single Channel
INPUT POWER:	-56 dBm

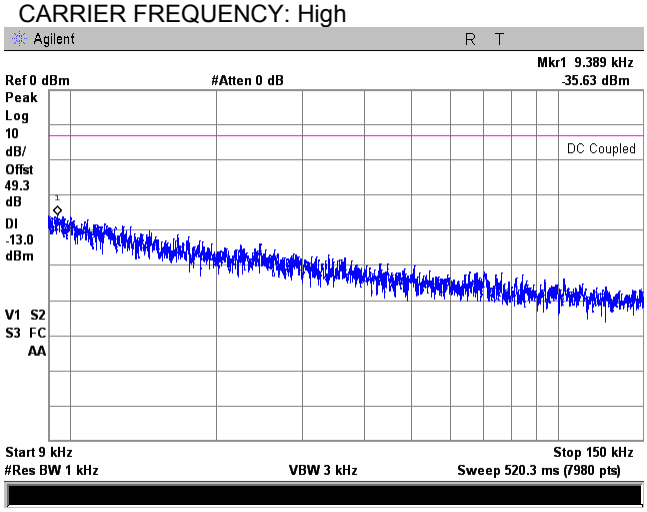
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

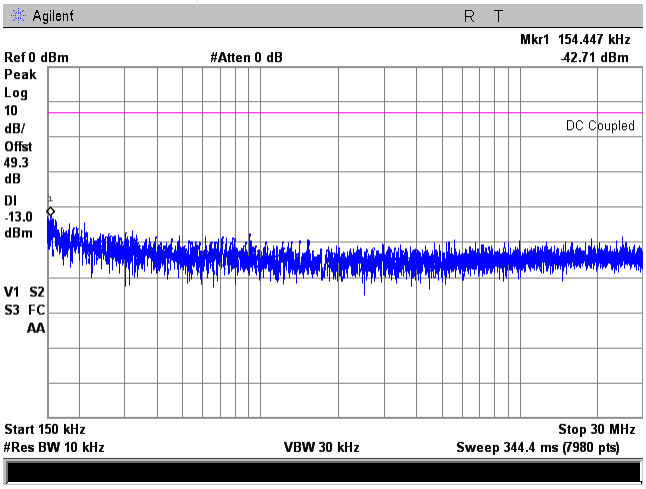


Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

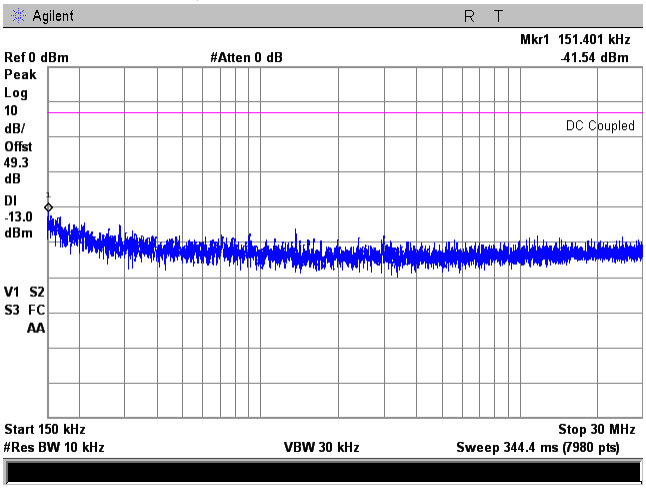
Plot 7.5.2 Spurious emission measurements in 0.15 - 30.0 MHz range

FREQUENCY RANGE:	758 – 775 MHz 851 – 869 MHz
OPERATIONAL MODE:	C4FM downlink transmit
INPUT PORT:	Base
CONFIGURATION:	Dual Band Single Channel
INPUT POWER:	-56 dBm

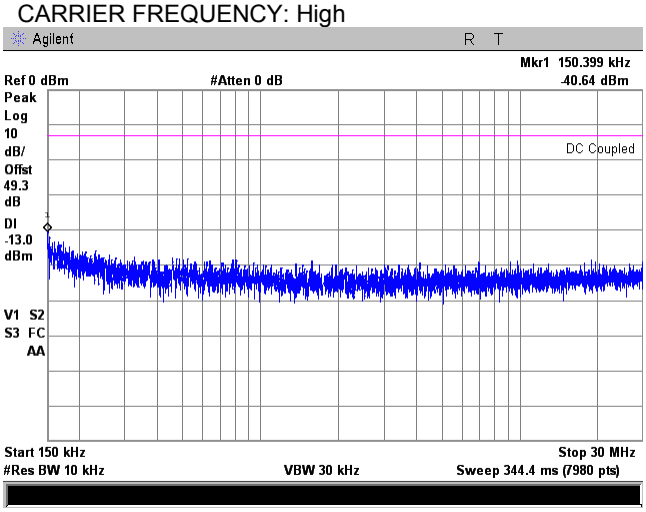
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



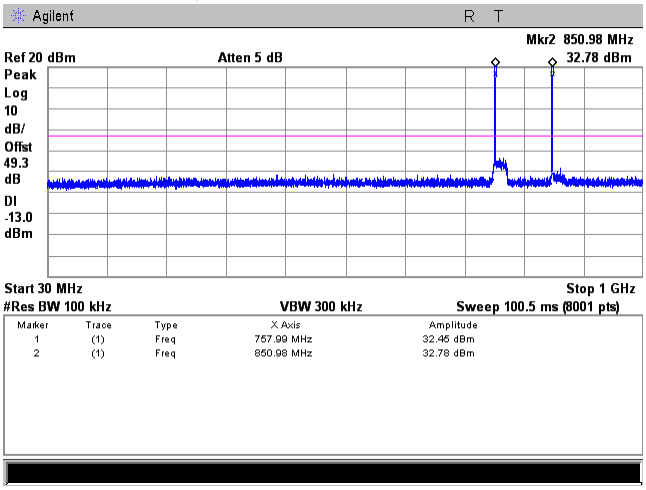
CARRIER FREQUENCY: High



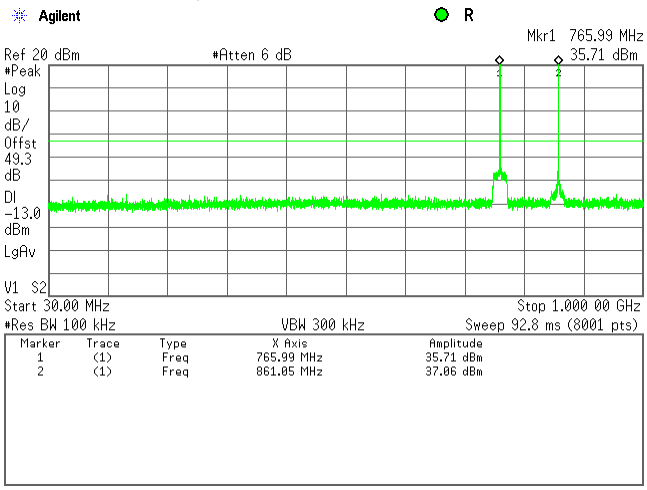
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.3 Spurious emission measurements in 30.0 - 1000 MHz range

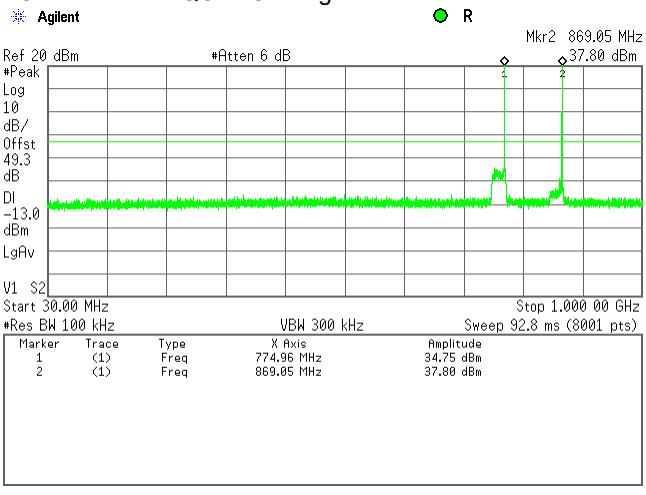
FREQUENCY RANGE: 758 – 775 MHz
851 – 869 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

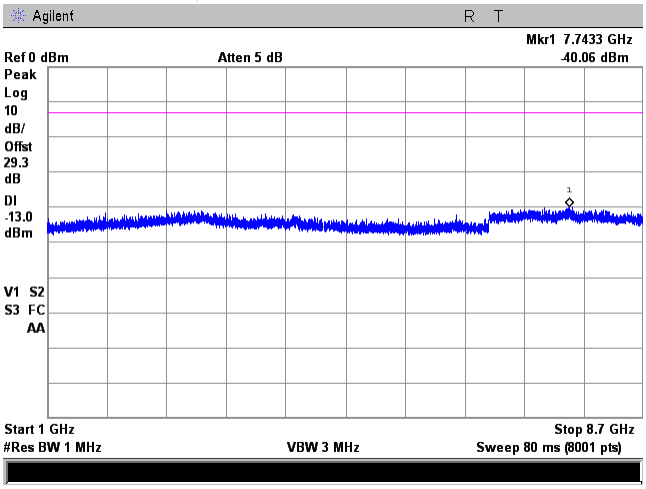


Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

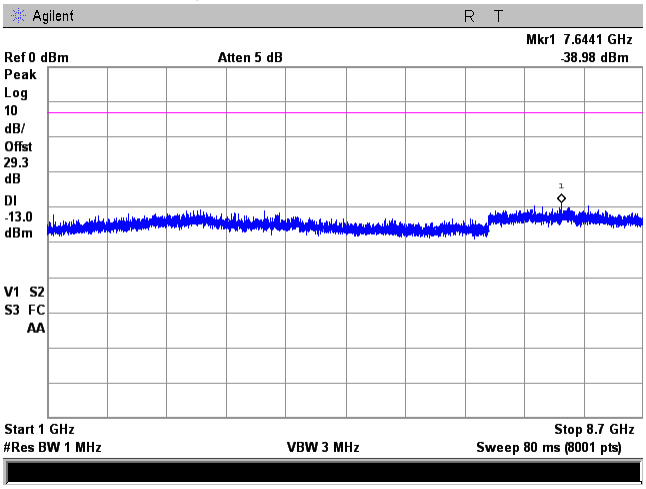
Plot 7.5.4 Spurious emission measurements in 1000 - 8700 MHz range

FREQUENCY RANGE:	758 – 775 MHz 851 – 869 MHz
OPERATIONAL MODE:	C4FM downlink transmit
INPUT PORT:	Base
CONFIGURATION:	Dual Band Single Channel
INPUT POWER:	-56 dBm

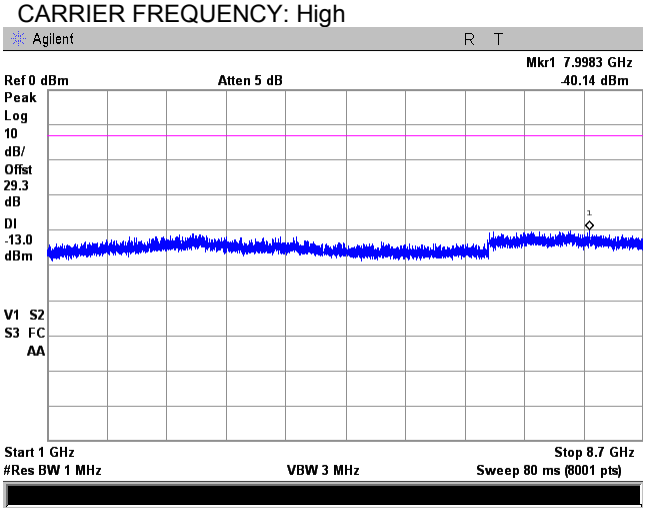
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

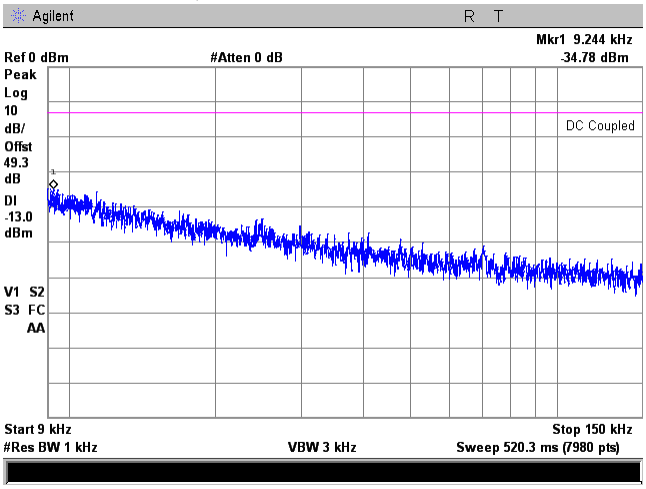


Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

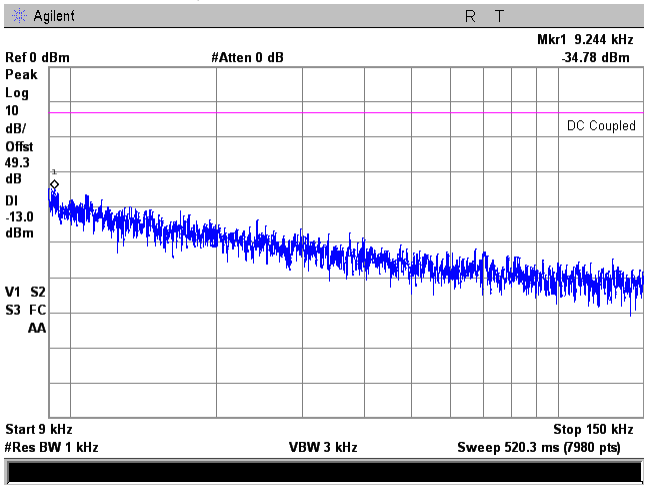
Plot 7.5.5 Spurious emission measurements in 9 - 150 kHz range

FREQUENCY RANGE:	758 – 775 MHz 851 – 869 MHz
OPERATIONAL MODE:	iDEN QAM downlink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Single Channel
INPUT POWER:	-56 dBm

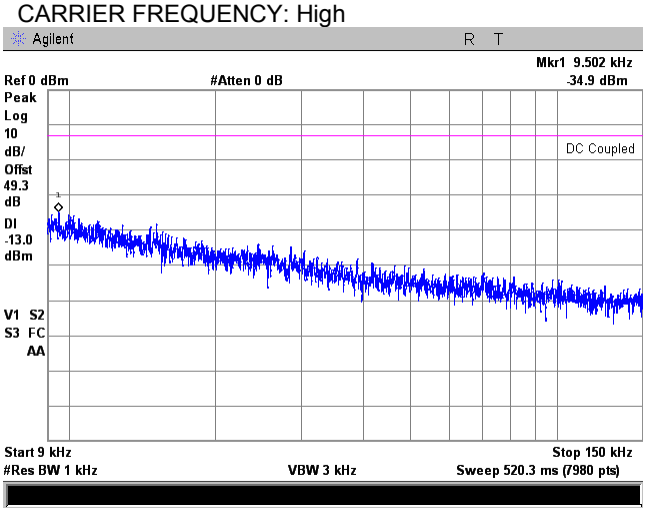
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

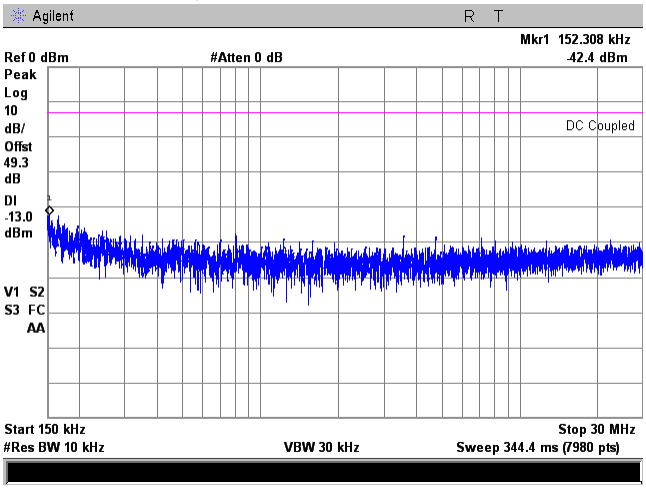


Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

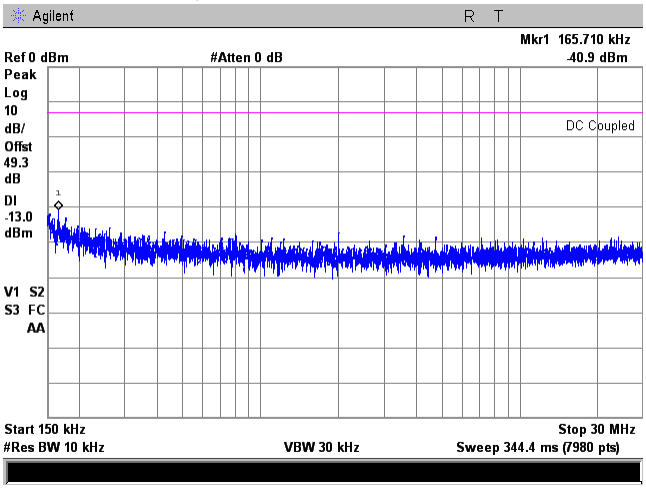
Plot 7.5.6 Spurious emission measurements in 0.15 - 30.0 MHz range

FREQUENCY RANGE:	758 – 775 MHz 851 – 869 MHz
OPERATIONAL MODE:	iDEN QAM downlink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Single Channel
INPUT POWER:	-56 dBm

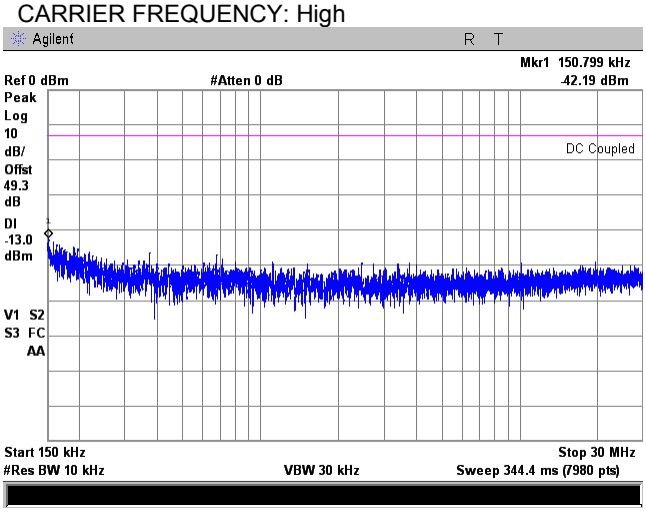
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

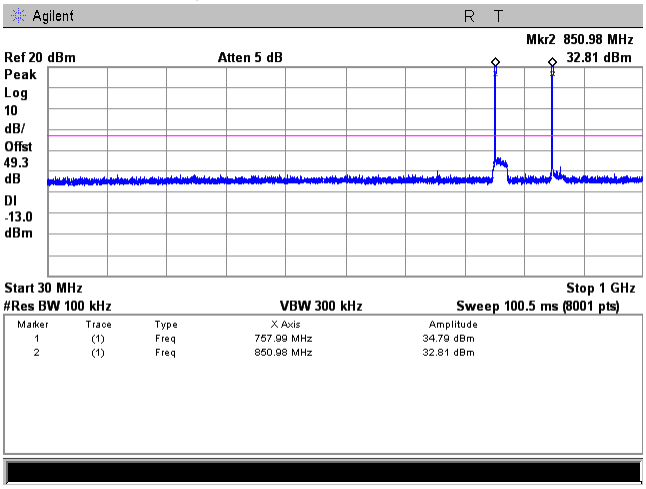


Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

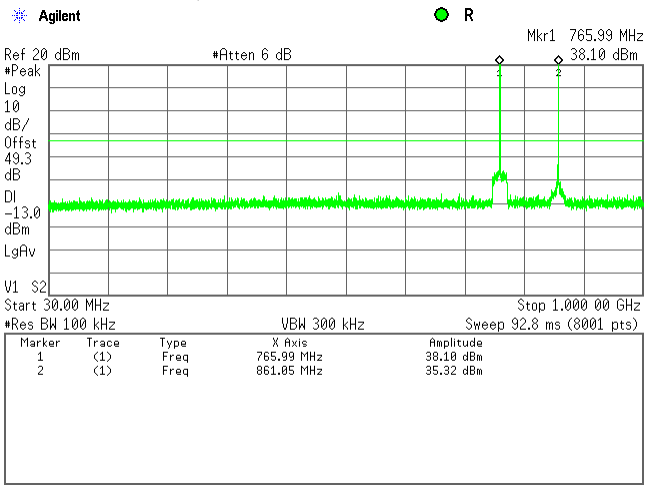
Plot 7.5.7 Spurious emission measurements in 30.0 - 1000 MHz range

FREQUENCY RANGE: 758 – 775 MHz
851 – 869 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm

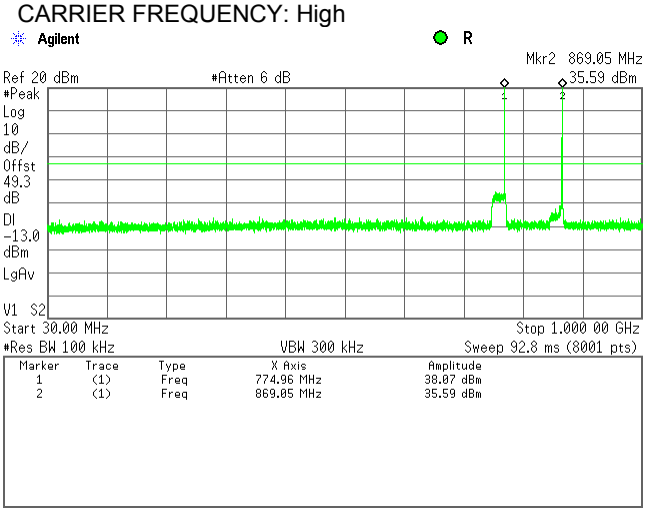
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

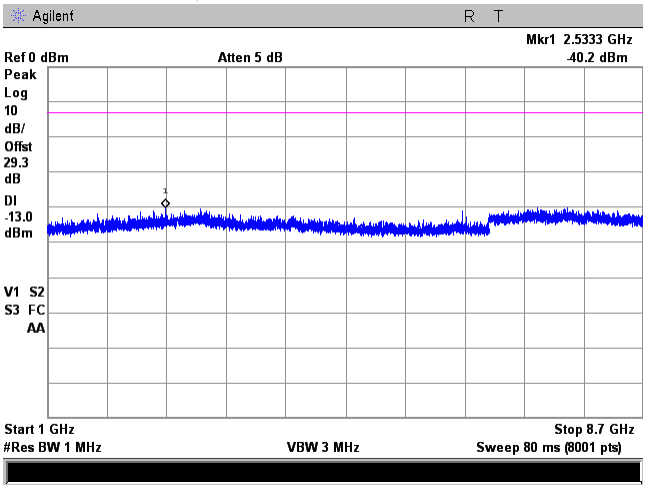


Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

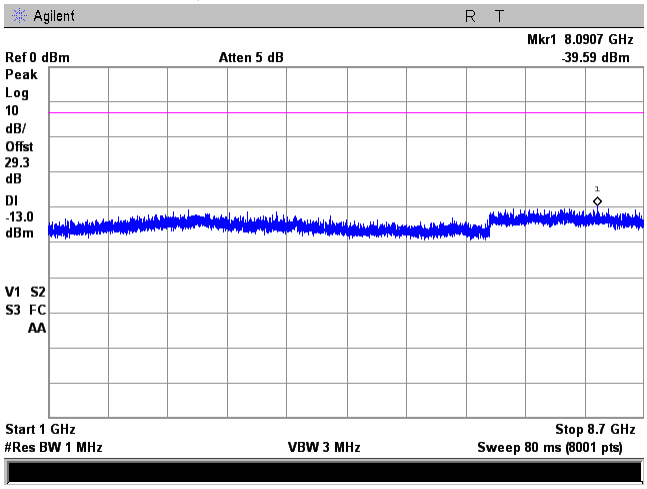
Plot 7.5.8 Spurious emission measurements in 1000 - 8700 MHz range

FREQUENCY RANGE:	758 – 775 MHz 851 – 869 MHz
OPERATIONAL MODE:	iDEN QAM downlink transmit
INPUT PORT:	Mobile
CONFIGURATION:	Dual Band Single Channel
INPUT POWER:	-56 dBm

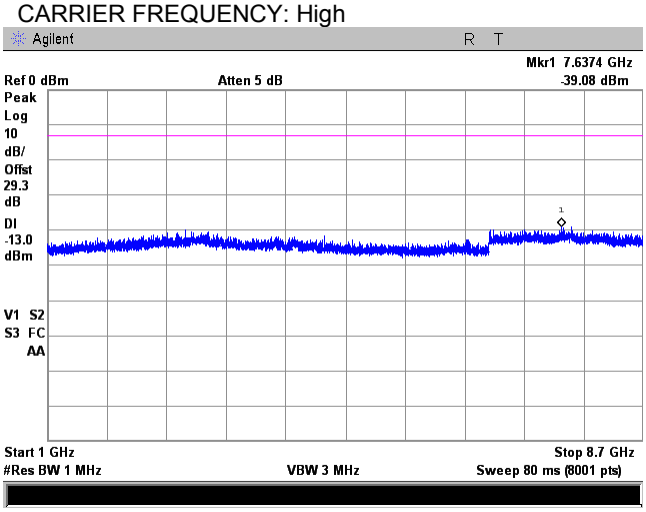
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

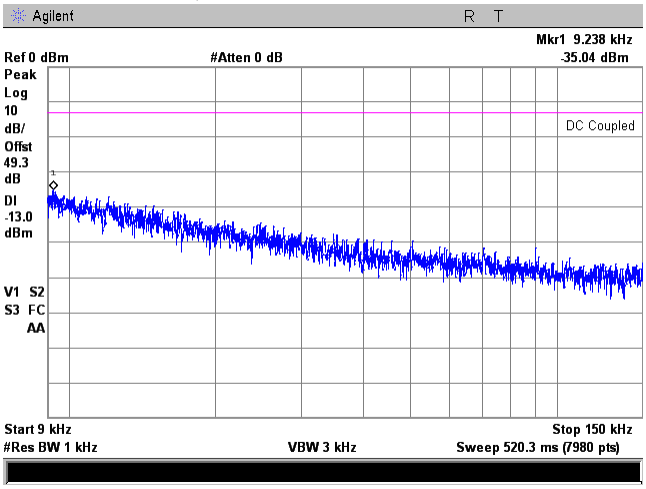


Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

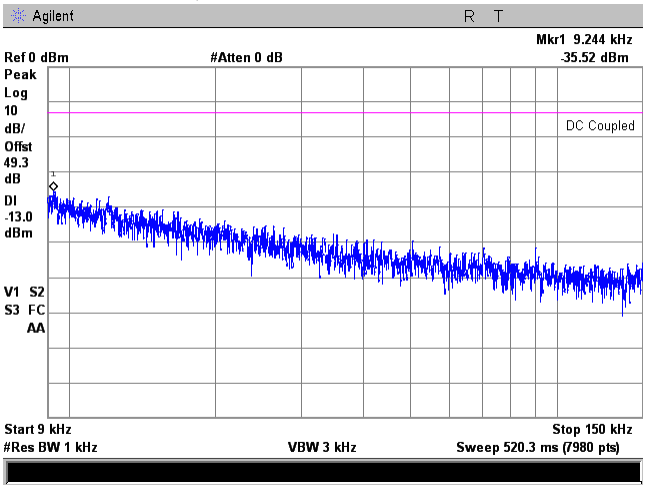
Plot 7.5.9 Spurious emission measurements in 9 - 150 kHz range

FREQUENCY RANGE: 758 – 775 MHz
851 – 869 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm

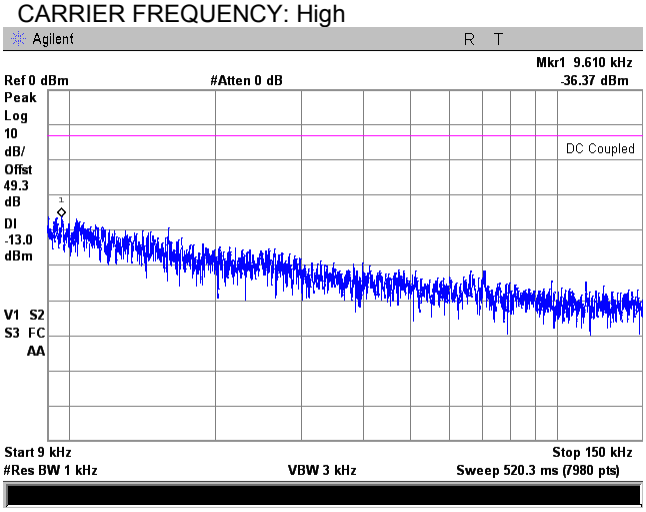
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

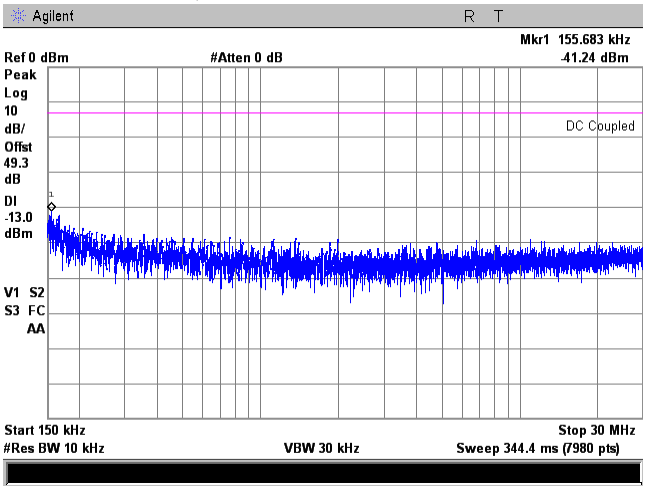


Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

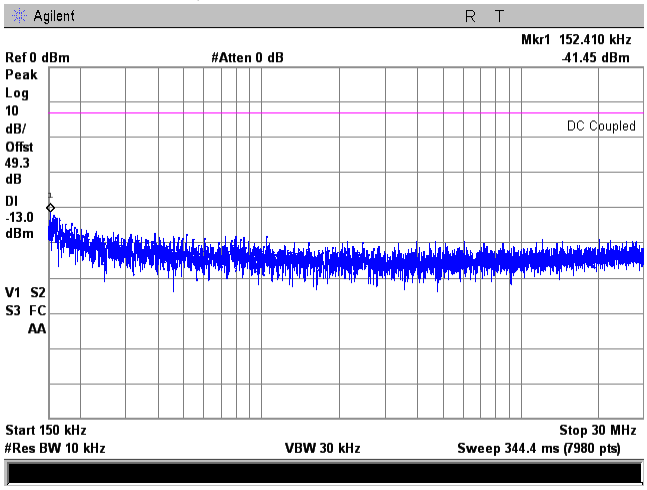
Plot 7.5.10 Spurious emission measurements in 0.15 - 30.0 MHz range

FREQUENCY RANGE: 758 – 775 MHz
851 – 869 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm

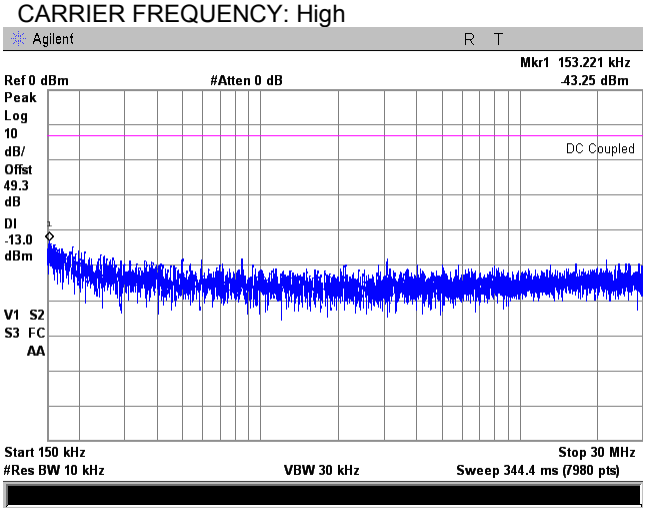
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



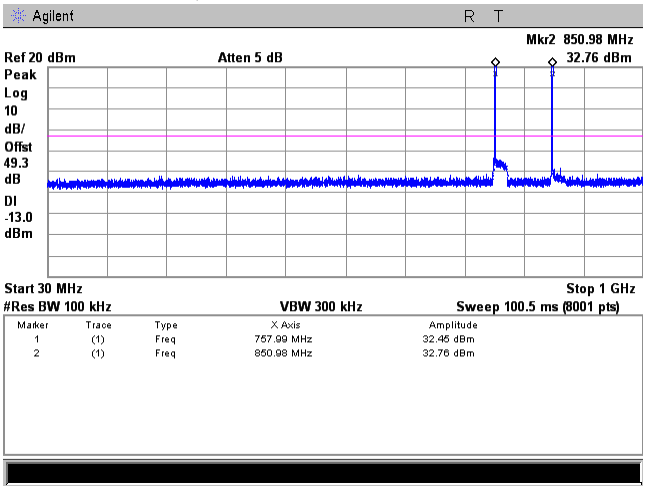
CARRIER FREQUENCY: High



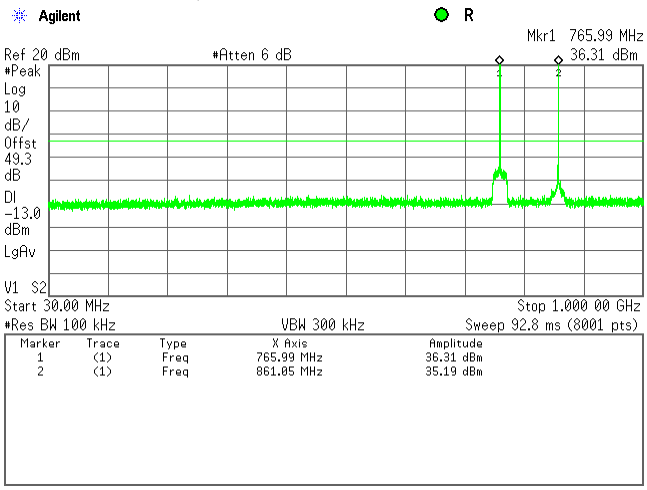
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.11 Spurious emission measurements in 30.0 - 1000 MHz range

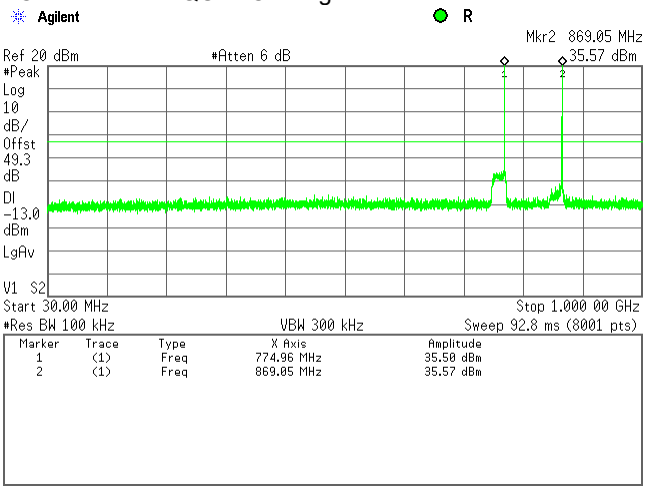
FREQUENCY RANGE: 758 – 775 MHz
851 – 869 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

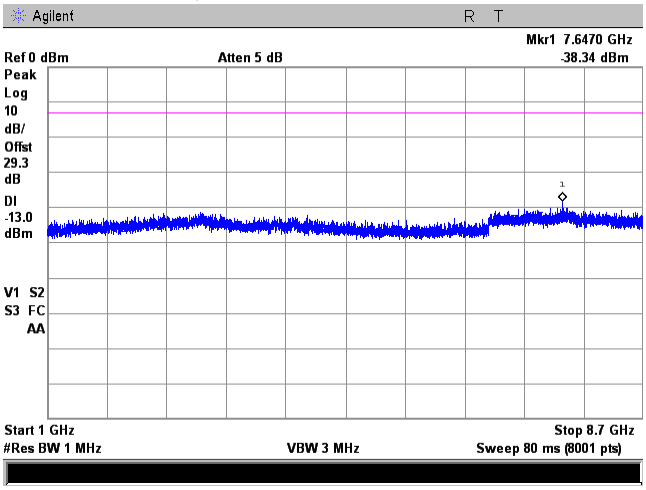


Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

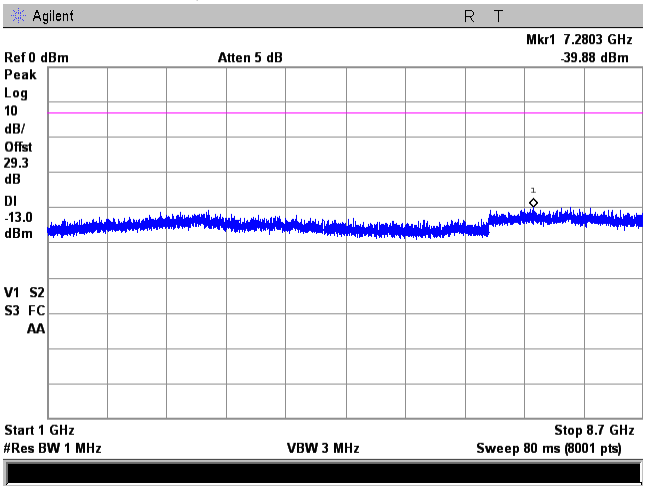
Plot 7.5.12 Spurious emission measurements in 1000 - 8700 MHz range

FREQUENCY RANGE: 758 – 775 MHz
851 – 869 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm

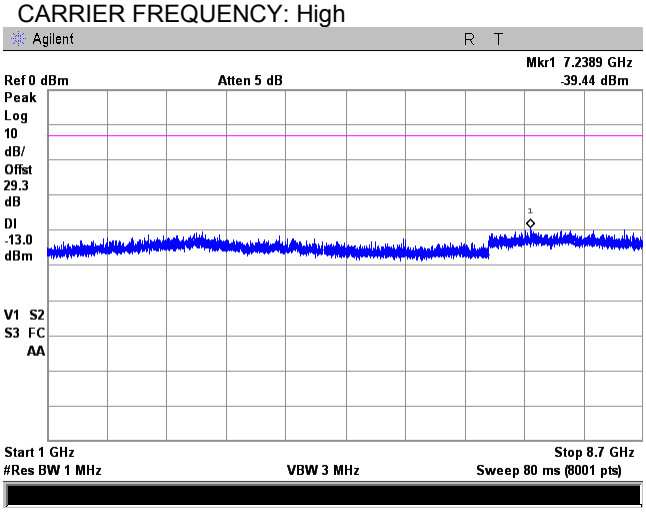
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

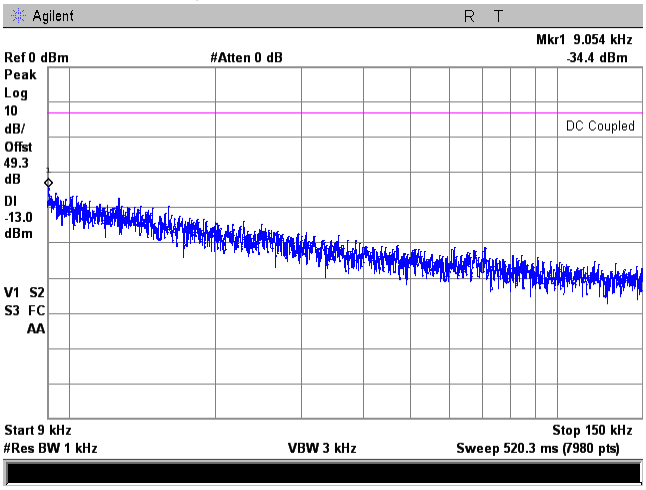


Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

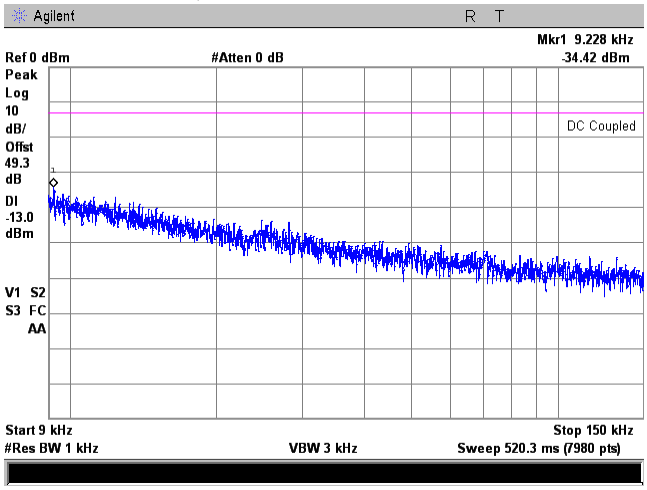
Plot 7.5.13 Spurious emission measurements in 9 - 150 kHz range

FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm

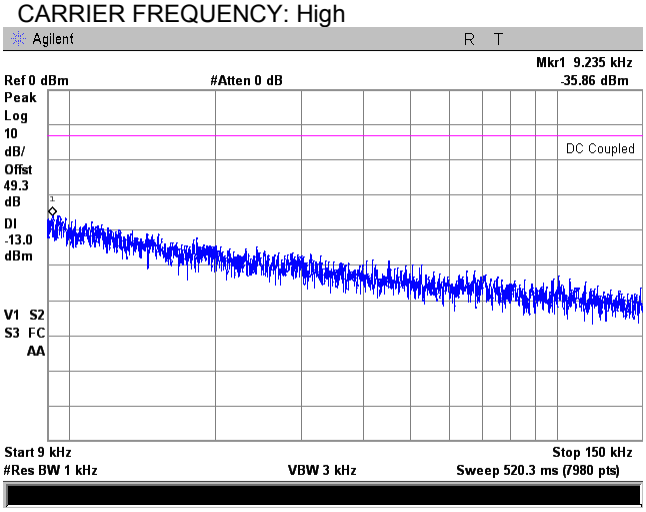
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



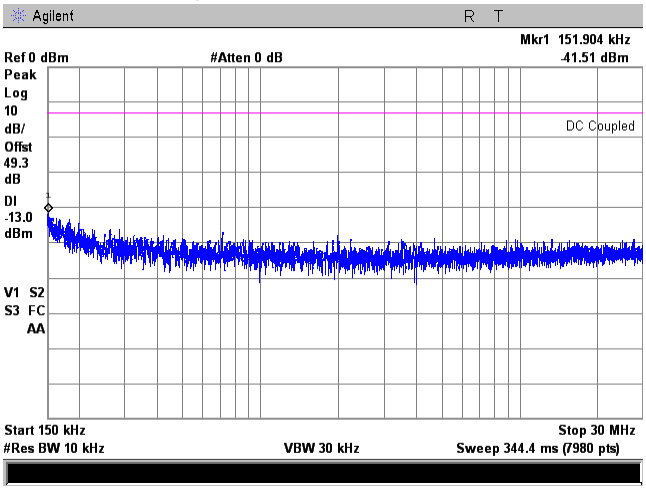
CARRIER FREQUENCY: High



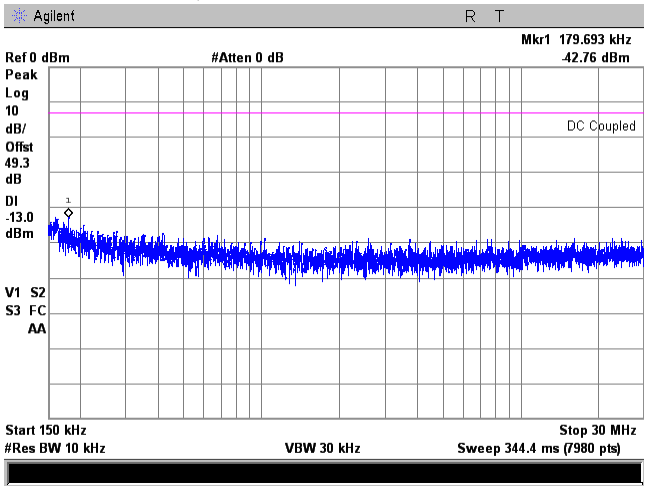
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.14 Spurious emission measurements in 0.15 - 30.0 MHz range

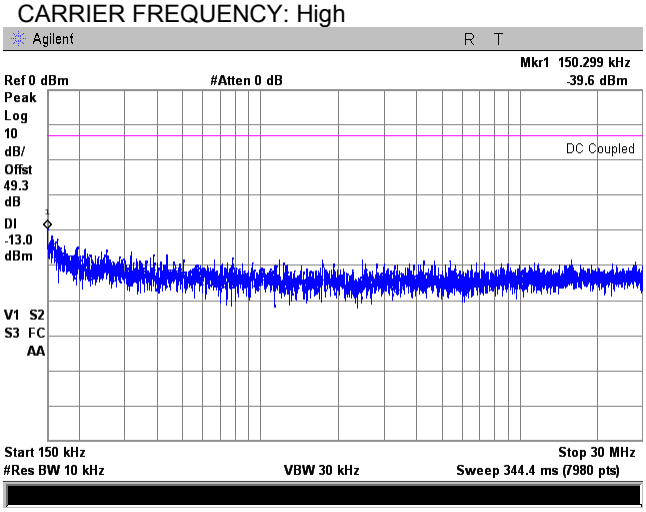
FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

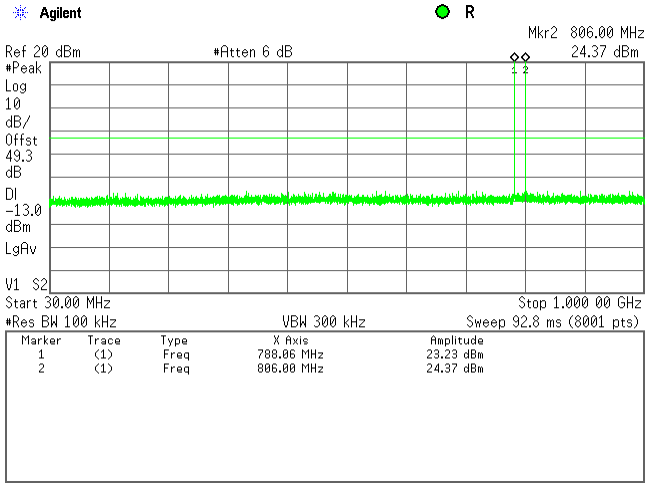


Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

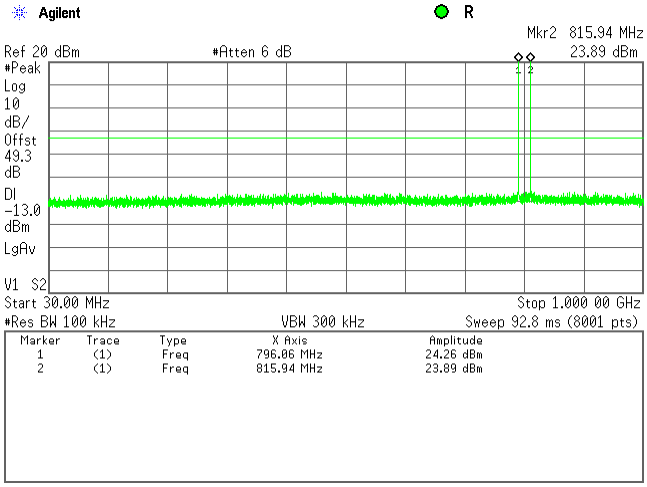
Plot 7.5.15 Spurious emission measurements in 30.0 - 1000 MHz range

FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm

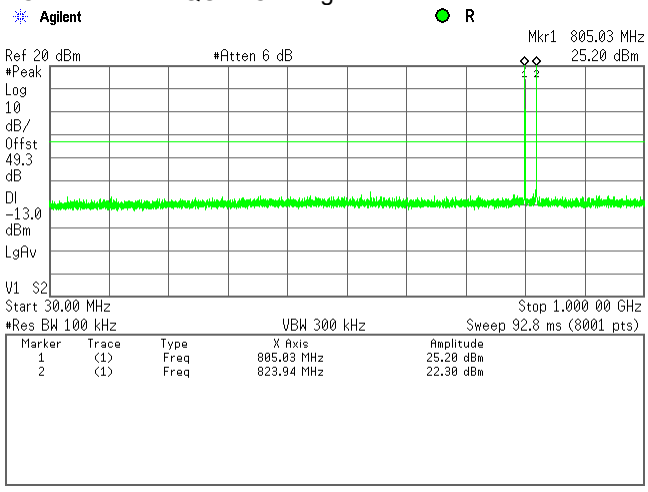
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

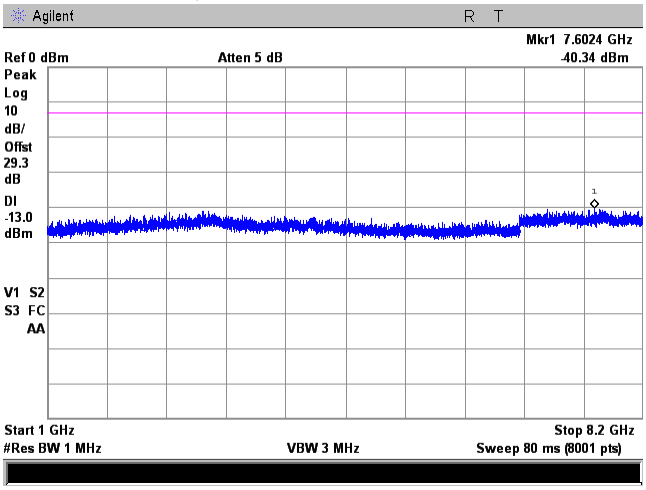


Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

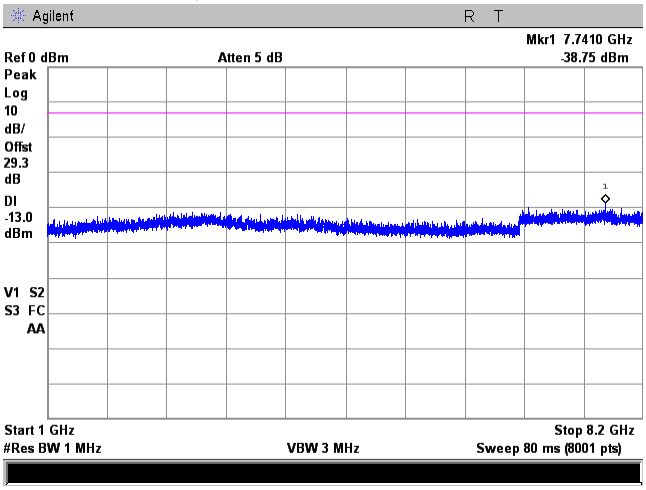
Plot 7.5.16 Spurious emission measurements in 1000 - 8200 MHz range

FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm

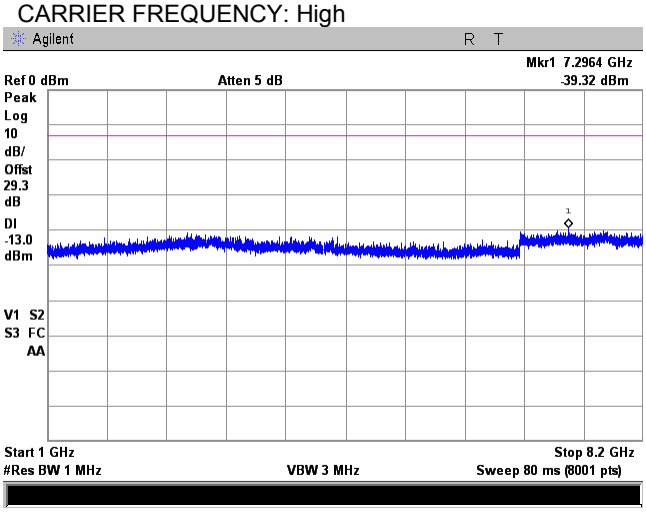
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



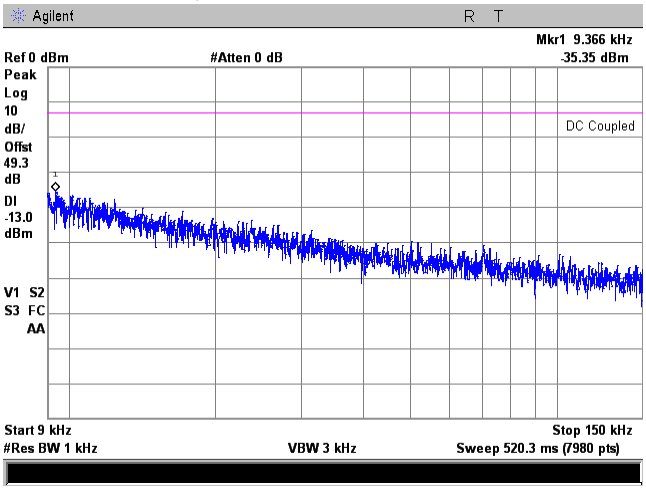
CARRIER FREQUENCY: High



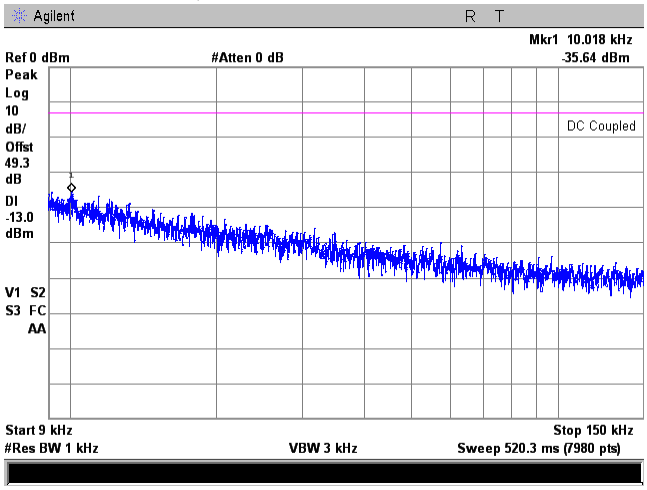
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.17 Spurious emission measurements in 9 - 150 kHz range

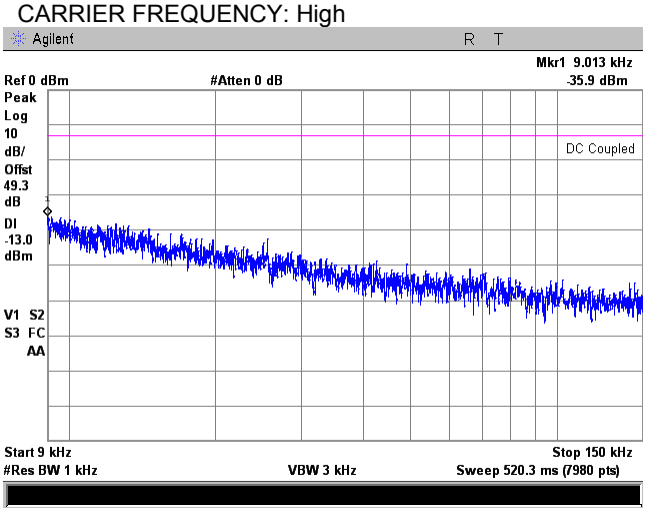
FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



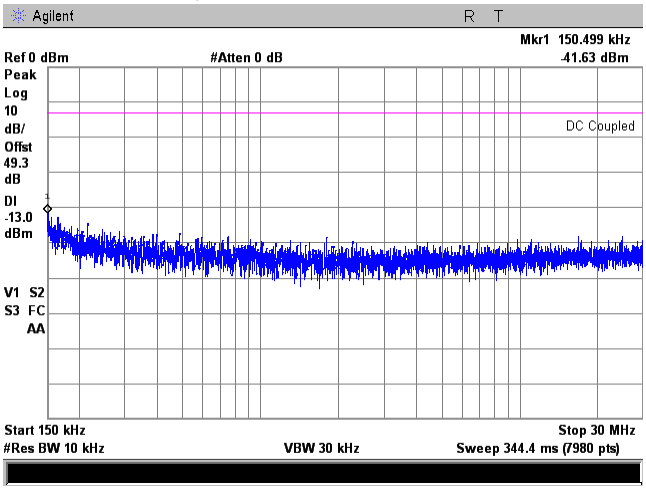
CARRIER FREQUENCY: High



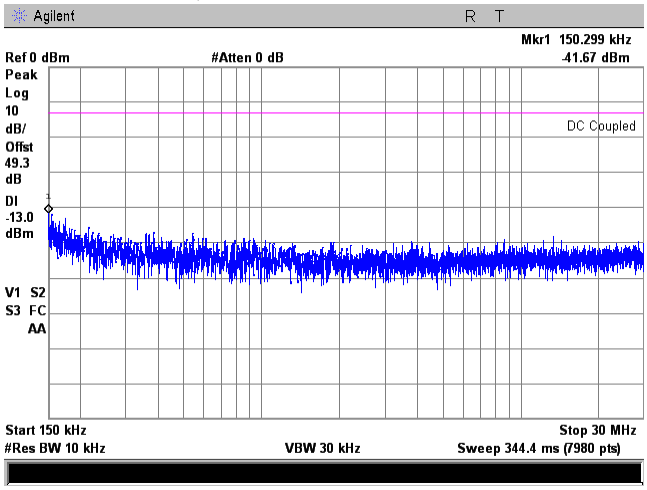
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.18 Spurious emission measurements in 0.15 - 30.0 MHz range

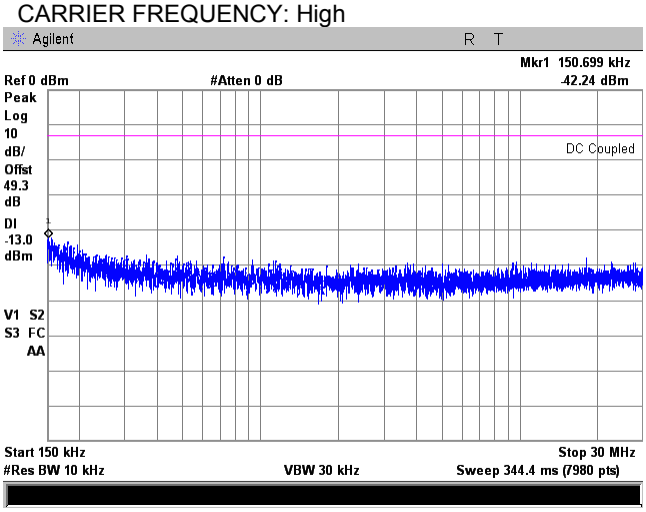
FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

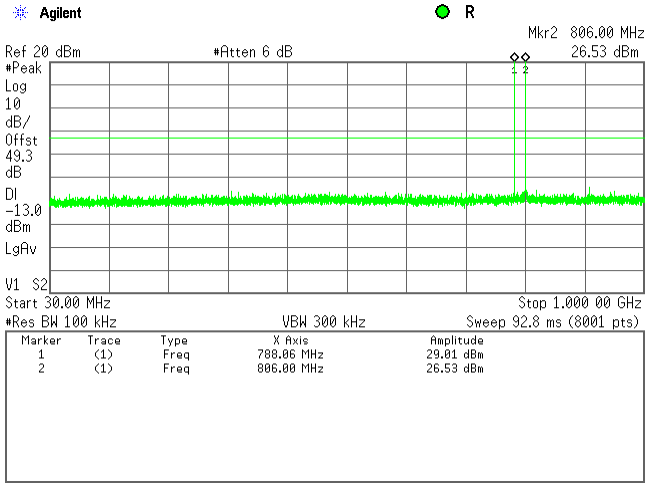


Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

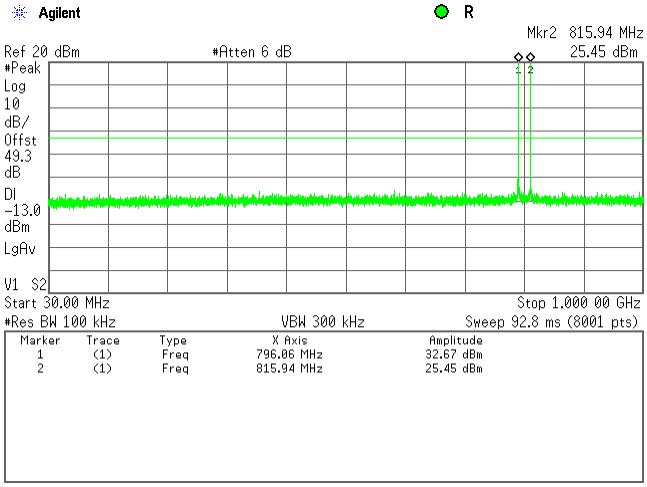
Plot 7.5.19 Spurious emission measurements in 30.0 - 1000 MHz range

FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm

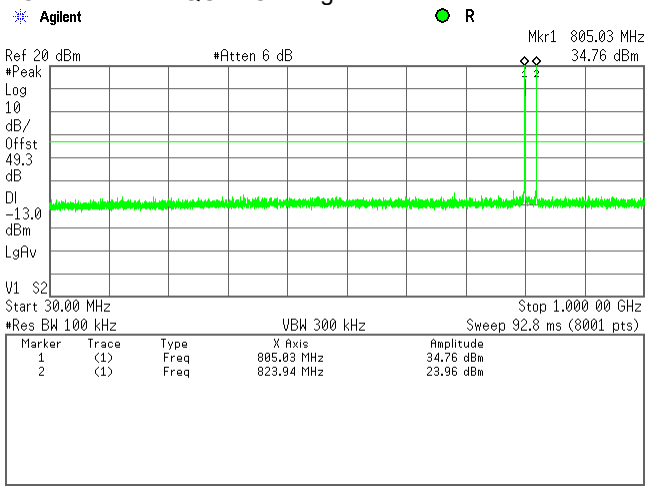
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



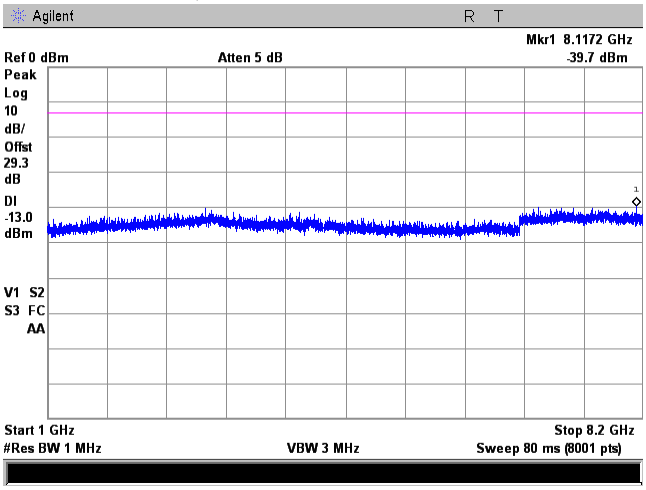
CARRIER FREQUENCY: High



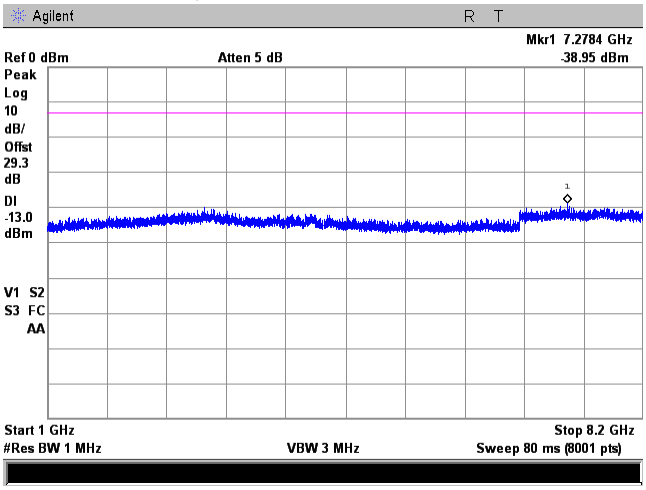
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.20 Spurious emission measurements in 1000 - 8200 MHz range

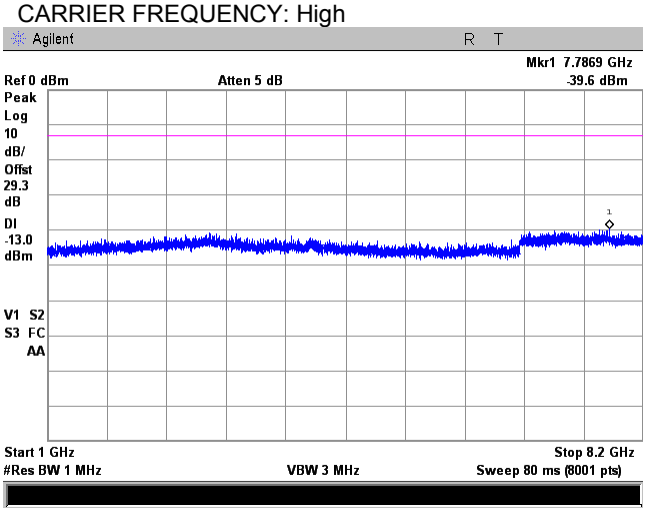
FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



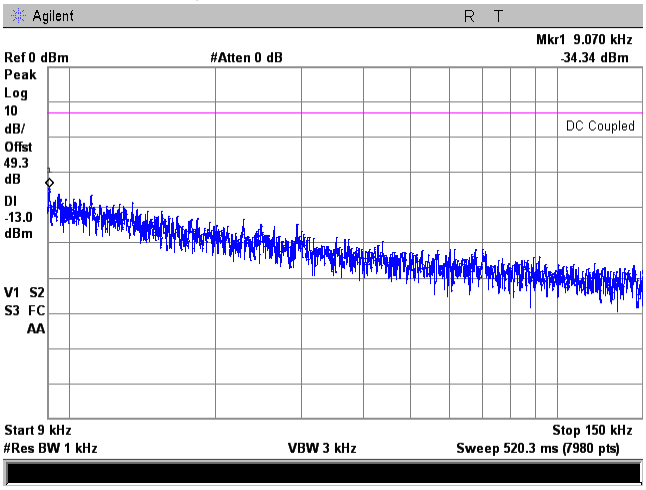
CARRIER FREQUENCY: High



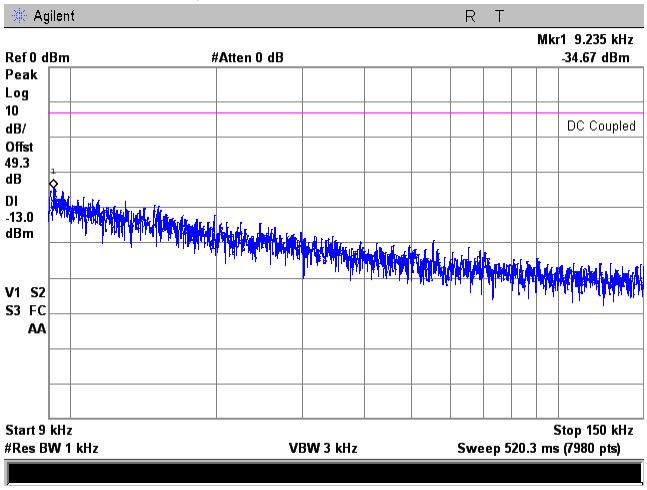
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.21 Spurious emission measurements in 9 - 150 kHz range

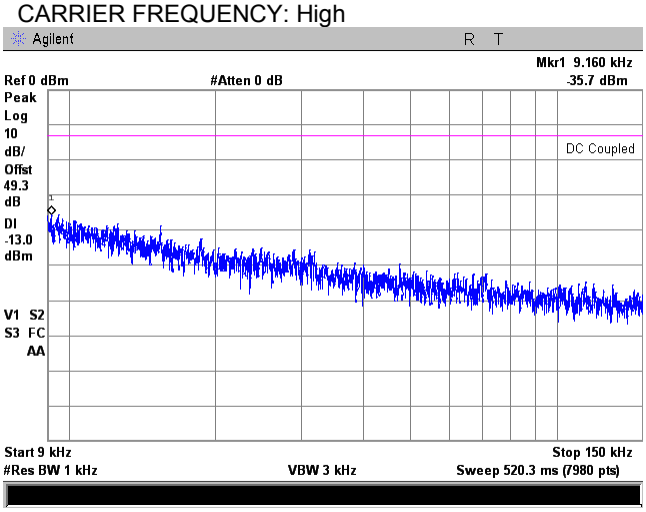
FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

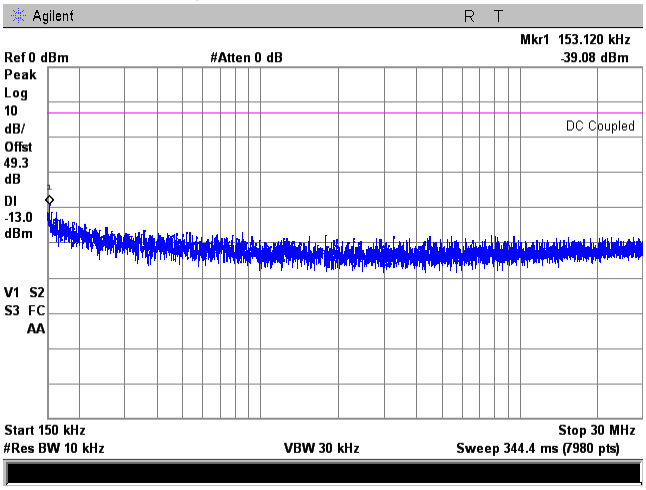


Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

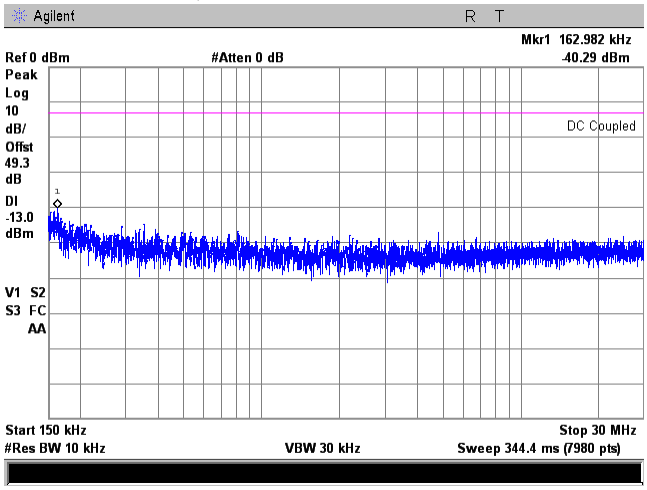
Plot 7.5.22 Spurious emission measurements in 0.15 - 30.0 MHz range

FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm

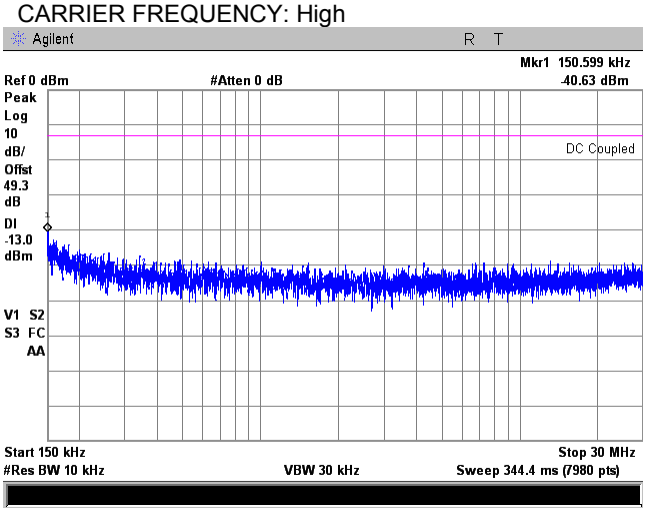
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

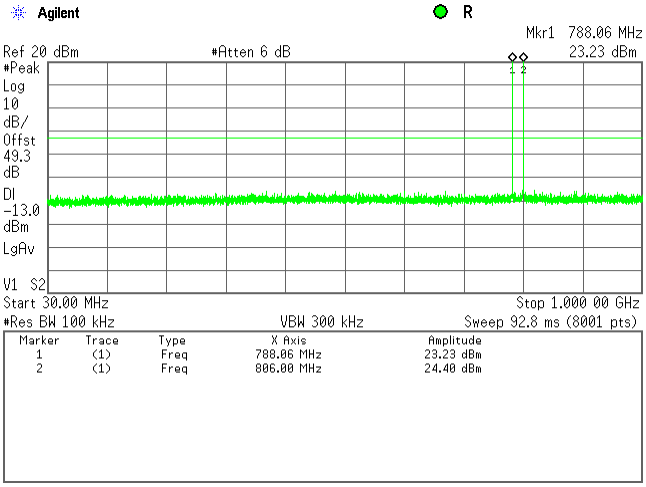


Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

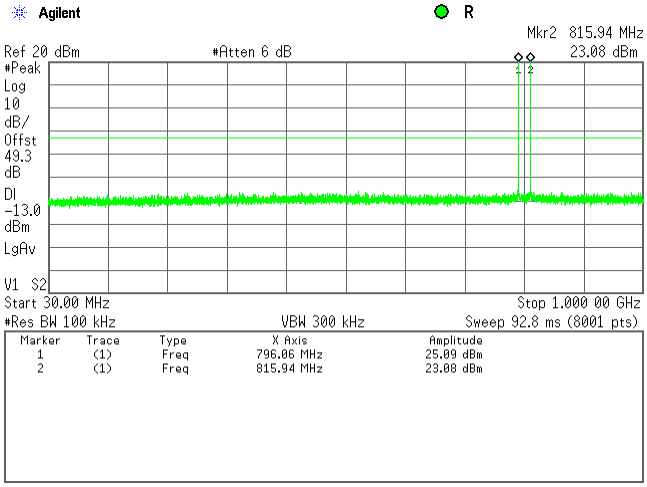
Plot 7.5.23 Spurious emission measurements in 30.0 - 1000 MHz range

FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm

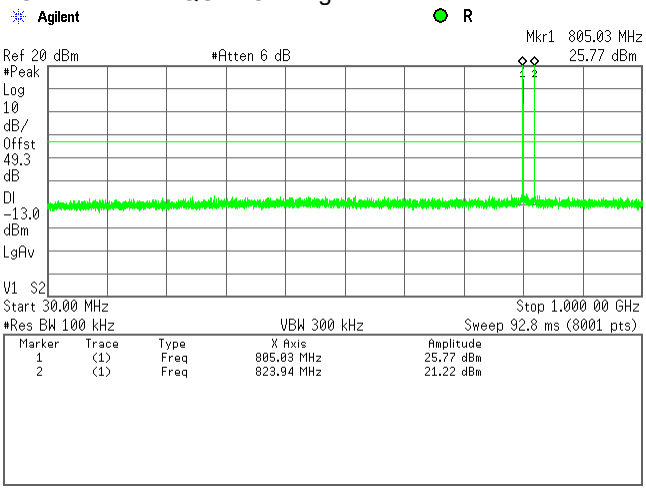
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

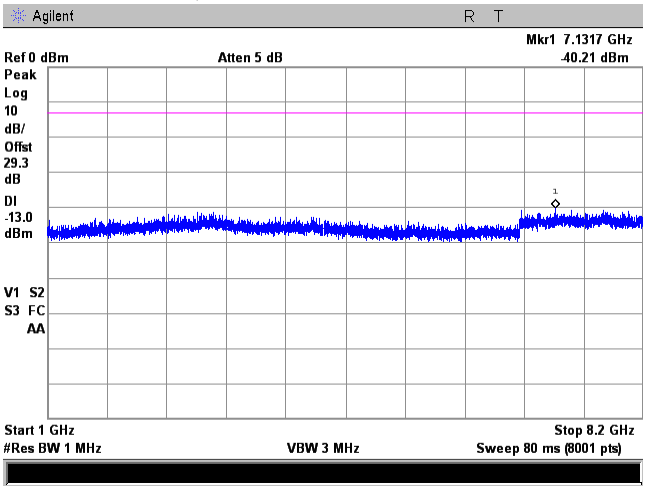


Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

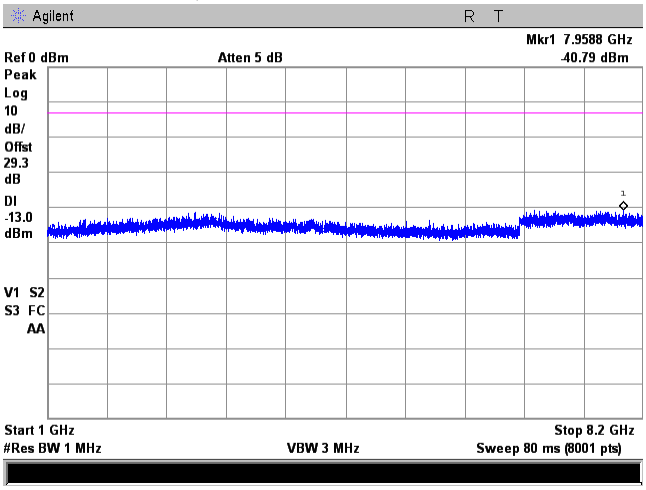
Plot 7.5.24 Spurious emission measurements in 1000 - 8200 MHz range

FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Single Channel
INPUT POWER: -56 dBm

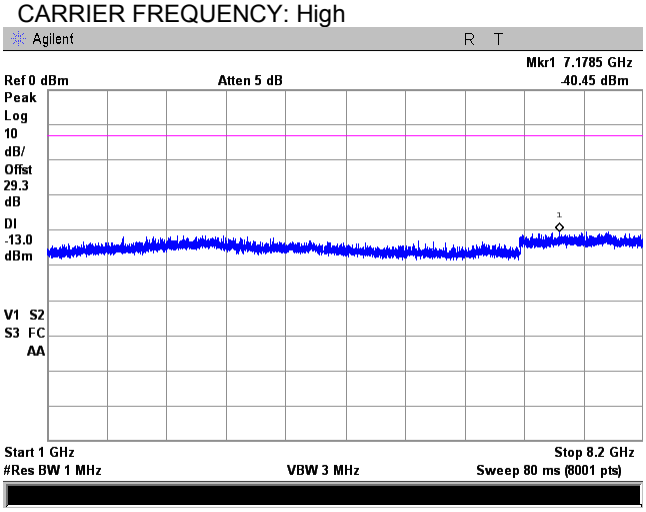
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



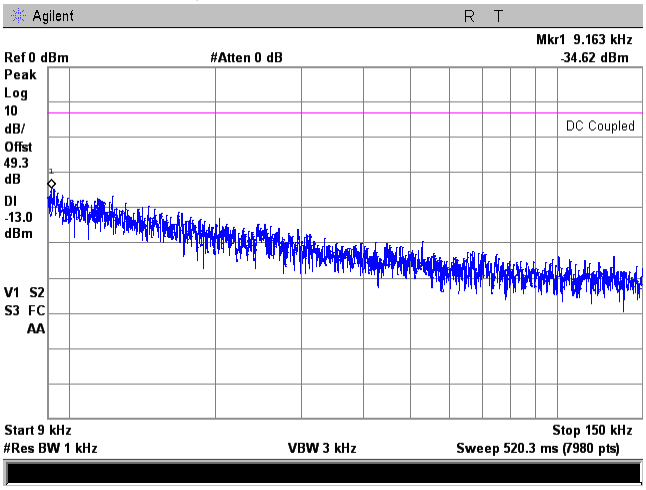
CARRIER FREQUENCY: High



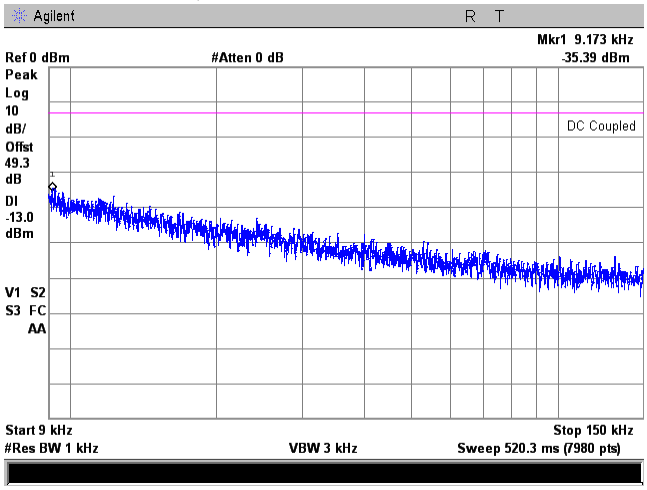
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.25 Spurious emission measurements in 9 - 150 kHz range

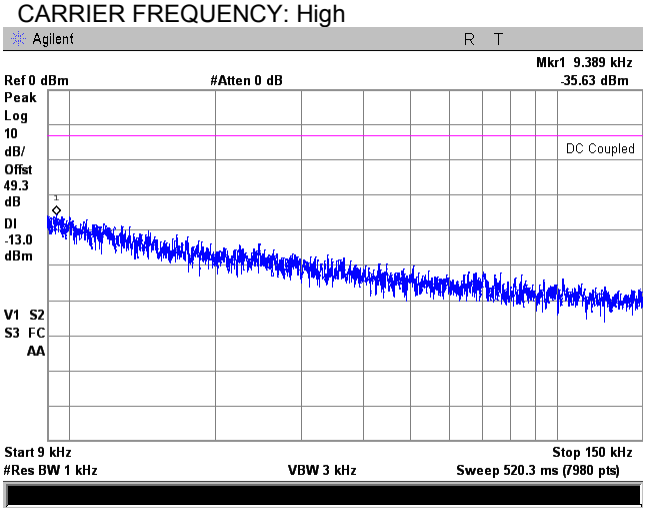
FREQUENCY RANGE: 758 – 775 MHz
851 – 869 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



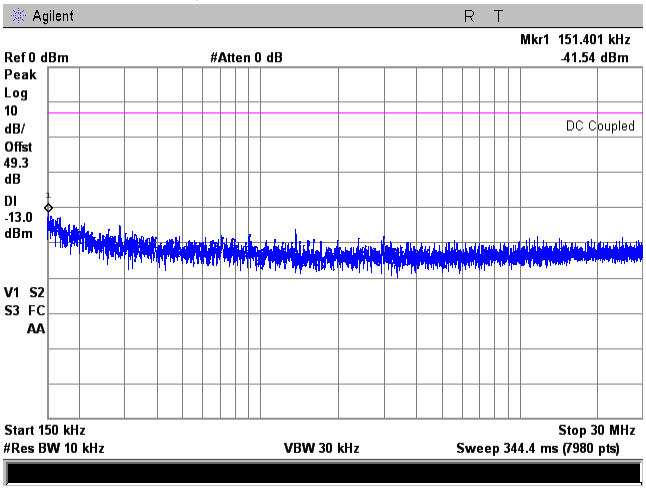
CARRIER FREQUENCY: High



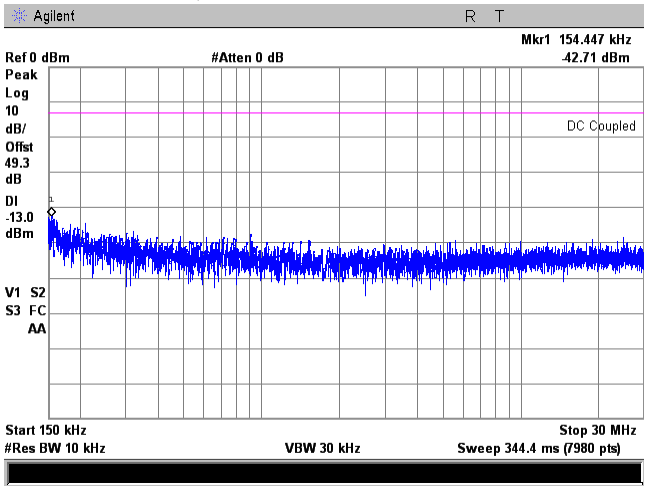
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.26 Spurious emission measurements in 0.15 – 30.0 MHz range

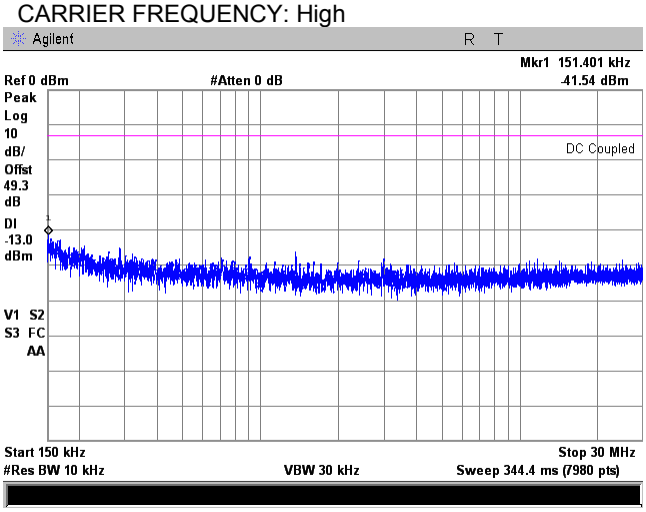
FREQUENCY RANGE: 758 – 775 MHz
851 – 869 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



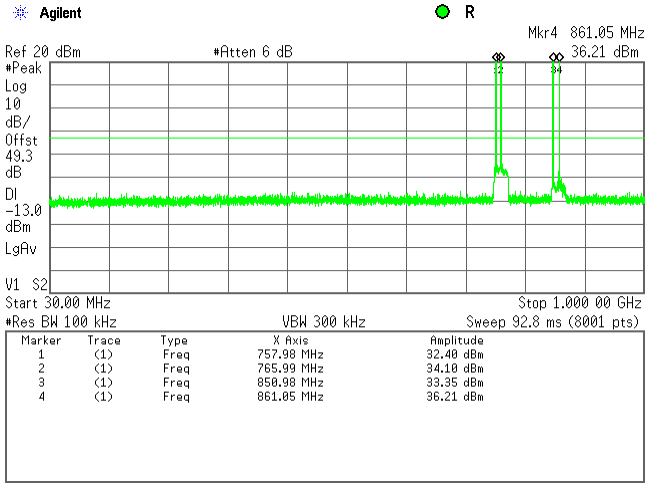
CARRIER FREQUENCY: High



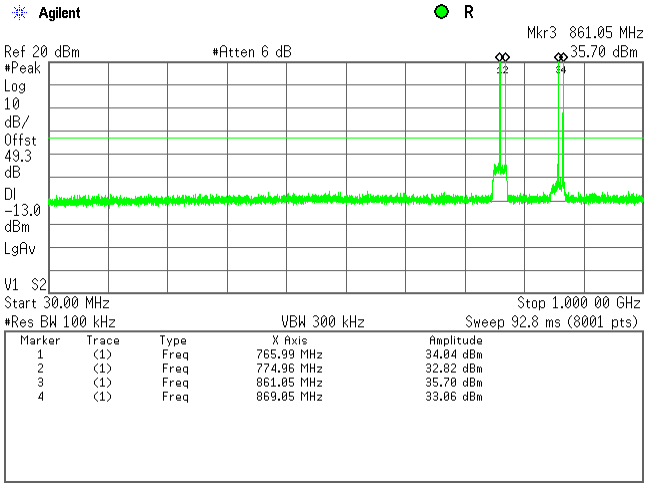
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.27 Spurious emission measurements in 30.0 - 1000 MHz range

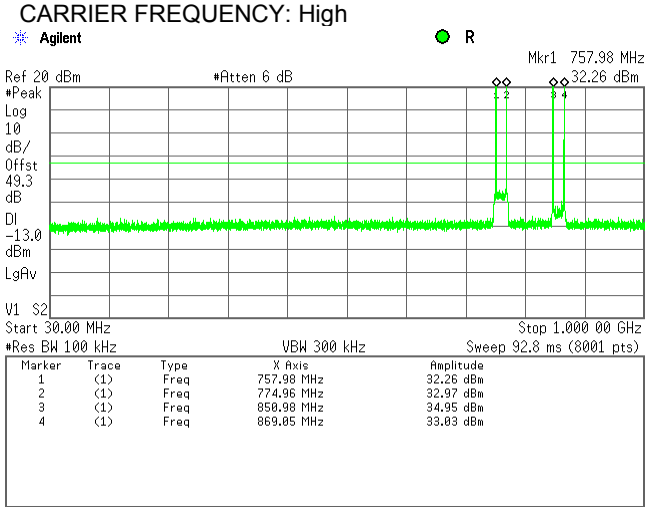
FREQUENCY RANGE: 758 – 775 MHz
851 – 869 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

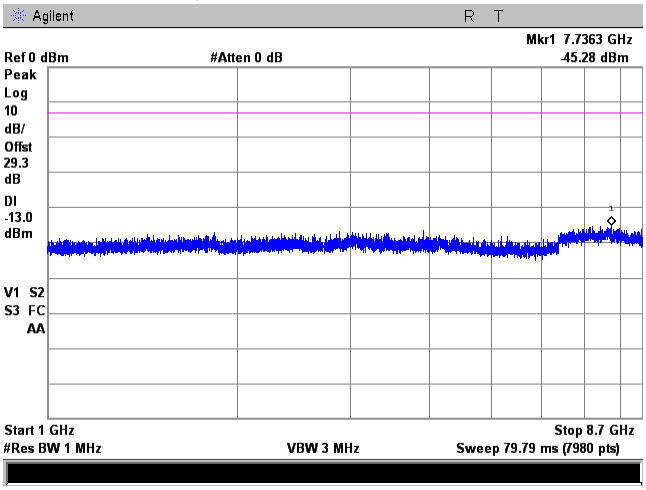


Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

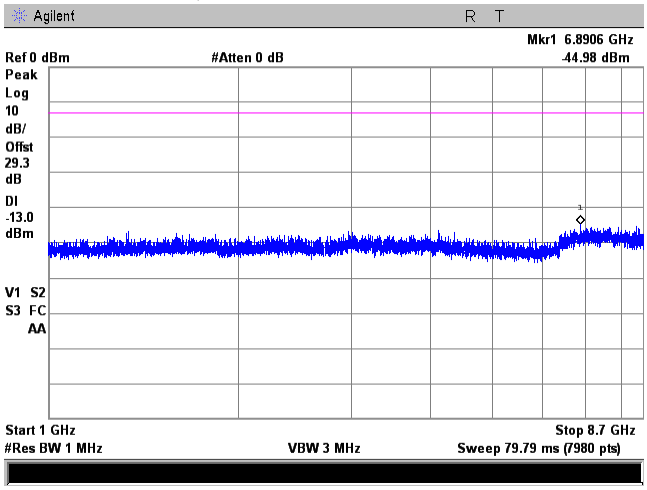
Plot 7.5.28 Spurious emission measurements in 1000 - 8700 MHz range

FREQUENCY RANGE: 758 – 775 MHz
851 – 869 MHz
OPERATIONAL MODE: C4FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm

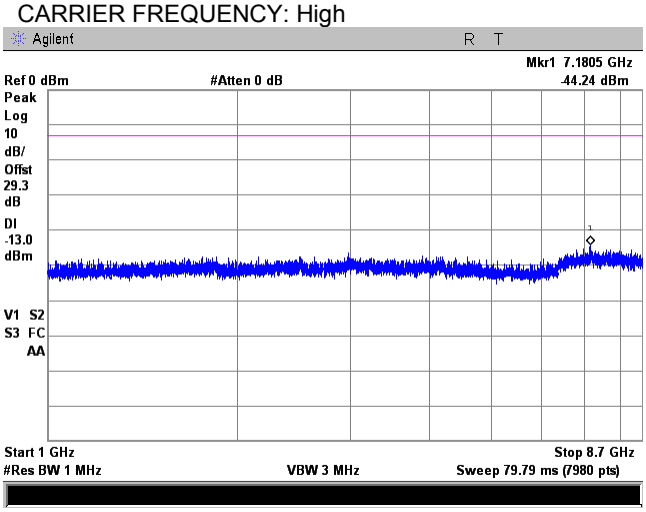
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



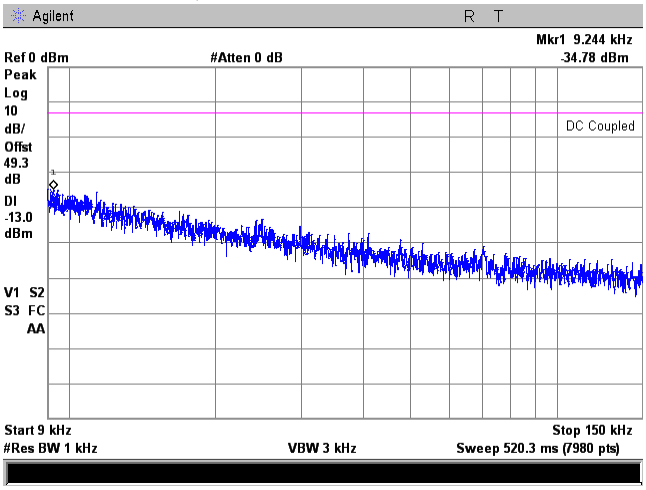
CARRIER FREQUENCY: High



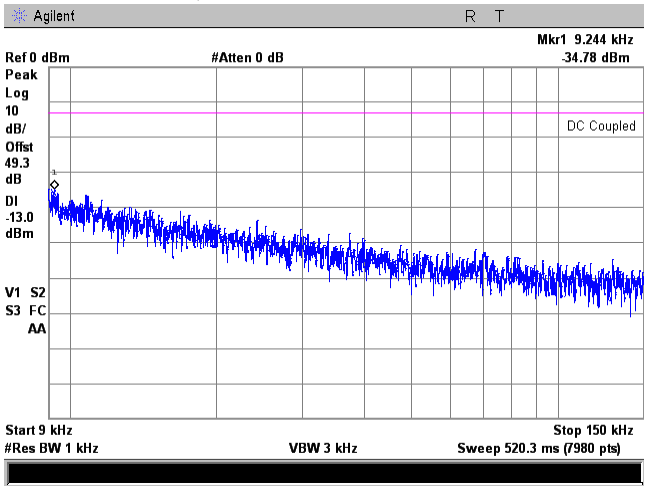
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.29 Spurious emission measurements in 9 - 150 kHz range

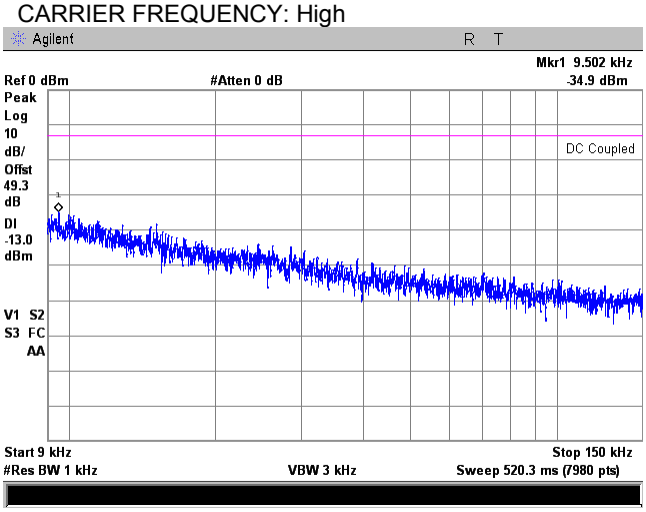
FREQUENCY RANGE: 758 – 775 MHz
851 – 869 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



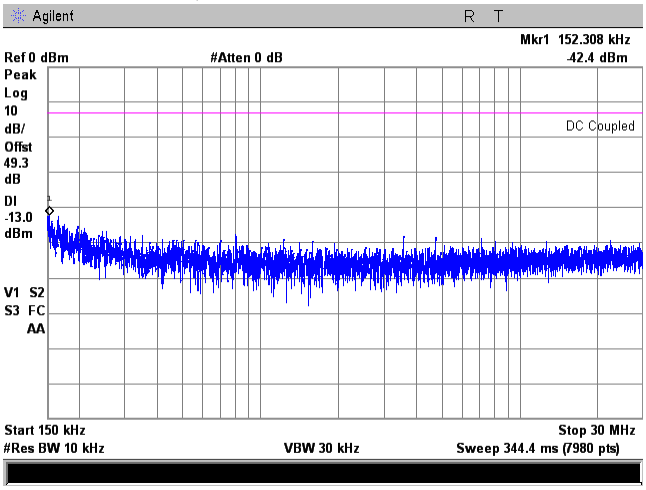
CARRIER FREQUENCY: High



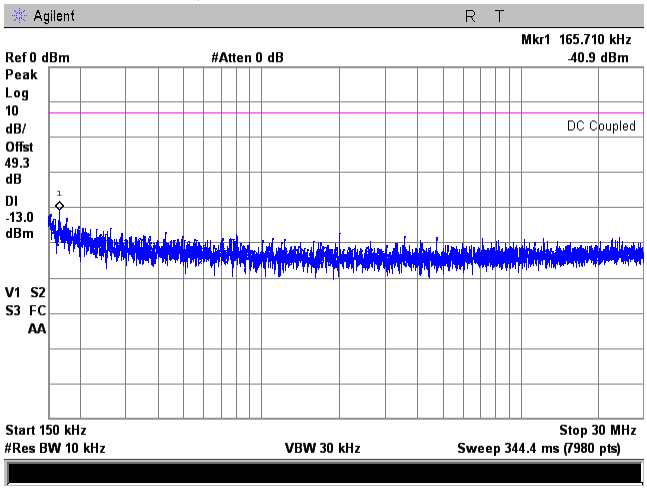
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.30 Spurious emission measurements in 0.15 - 30.0 MHz range

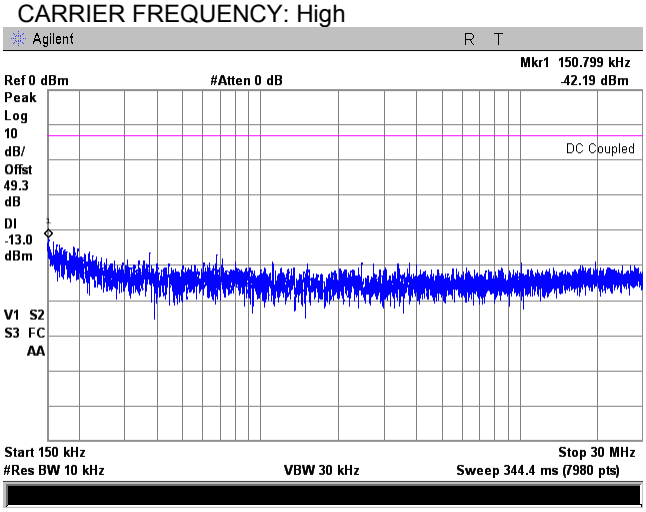
FREQUENCY RANGE: 758 – 775 MHz
851 – 869 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Mobile
CONFIGURATION: Single Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



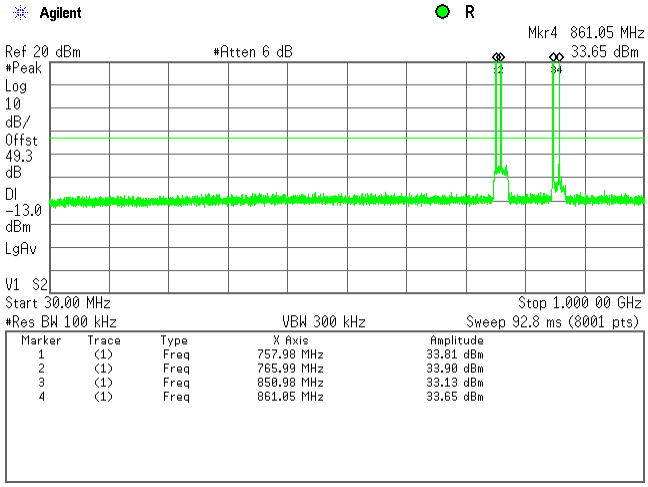
CARRIER FREQUENCY: High



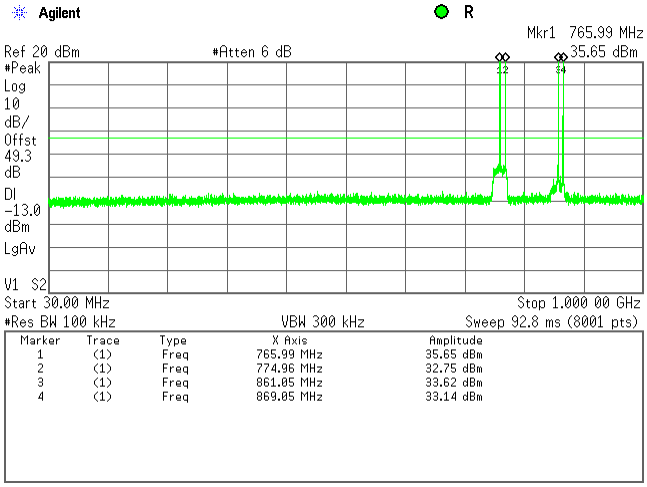
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.31 Spurious emission measurements in 30.0 - 1000 MHz range

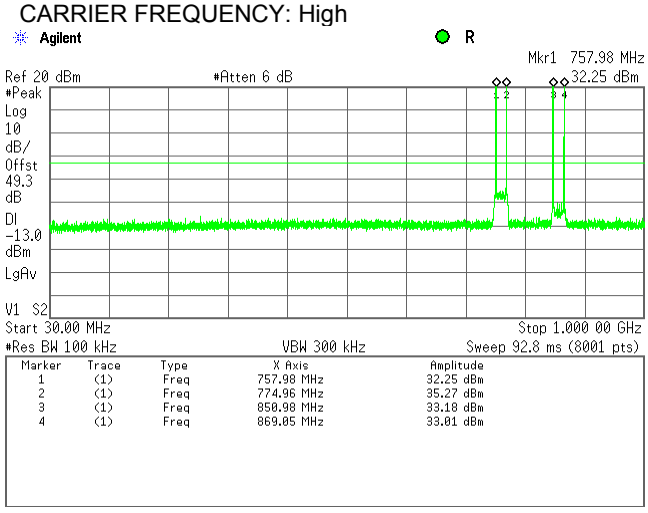
FREQUENCY RANGE: 758 – 775 MHz
851 – 869 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



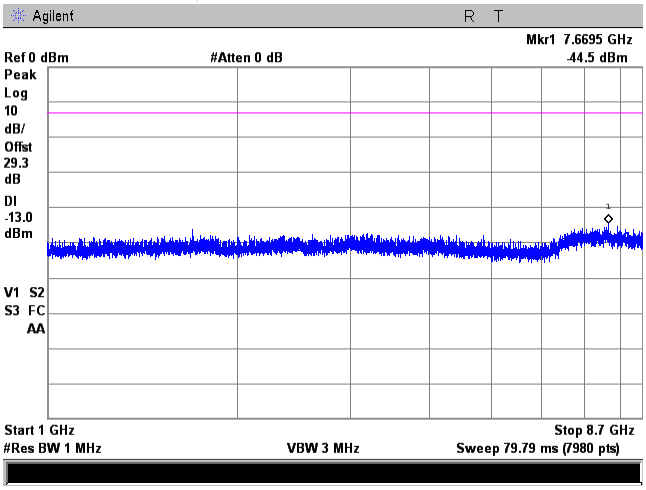
CARRIER FREQUENCY: High



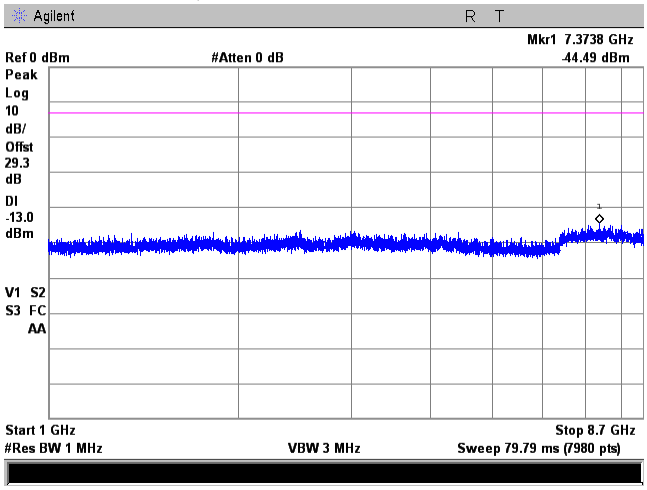
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.32 Spurious emission measurements in 1000 - 8700 MHz range

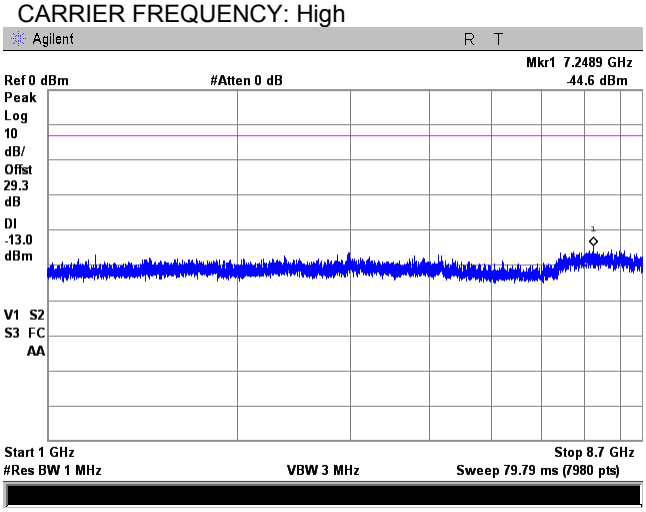
FREQUENCY RANGE: 758 – 775 MHz
851 – 869 MHz
OPERATIONAL MODE: iDEN QAM downlink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



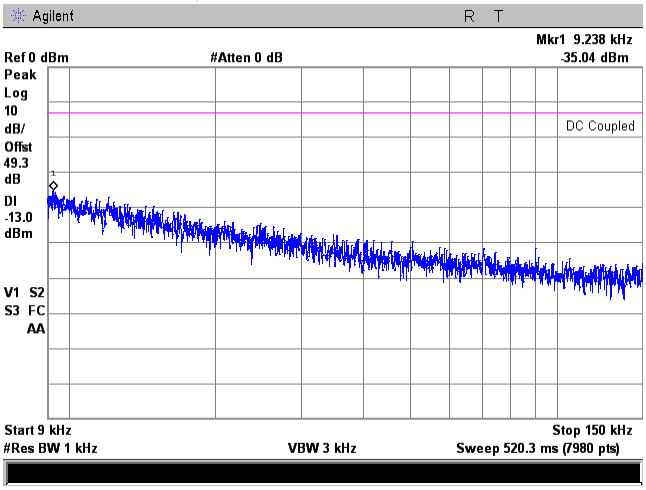
CARRIER FREQUENCY: High



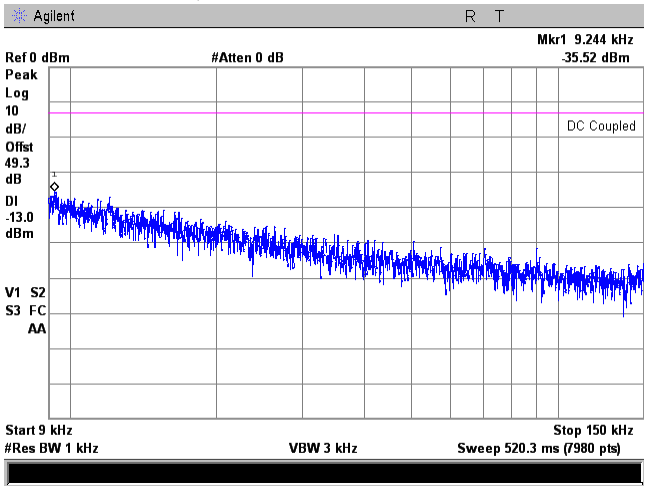
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.33 Spurious emission measurements in 9 - 150 kHz range

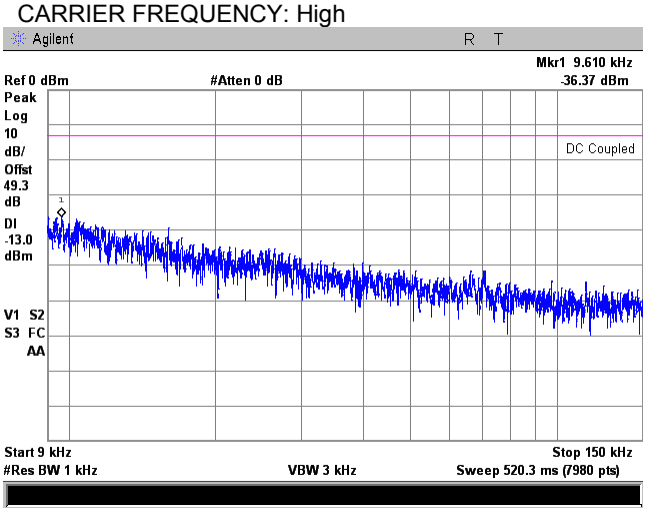
FREQUENCY RANGE: 758 – 775 MHz
851 – 869 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



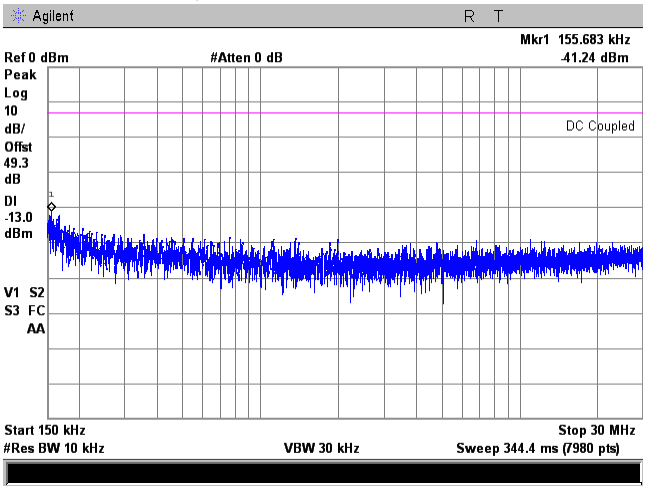
CARRIER FREQUENCY: High



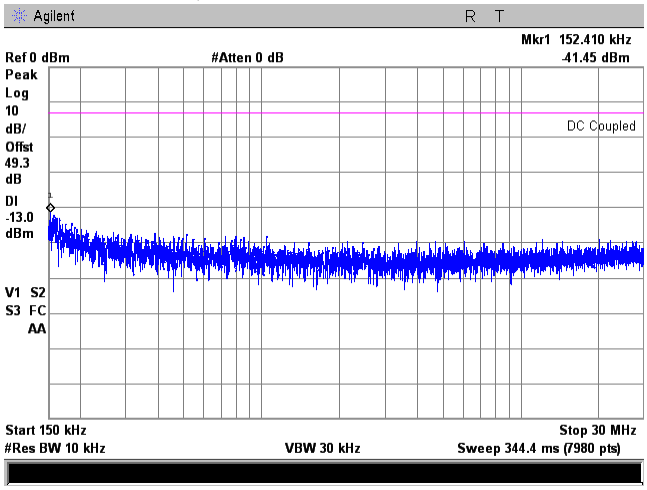
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.34 Spurious emission measurements in 0.15 - 30.0 MHz rangeuency

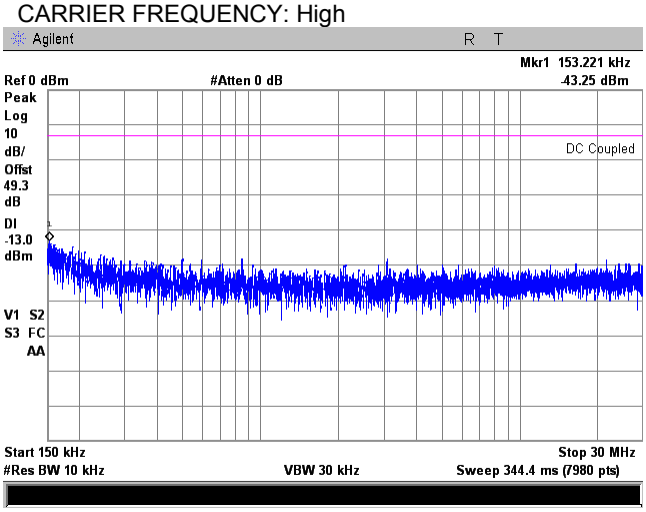
FREQUENCY RANGE: 758 – 775 MHz
851 – 869 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



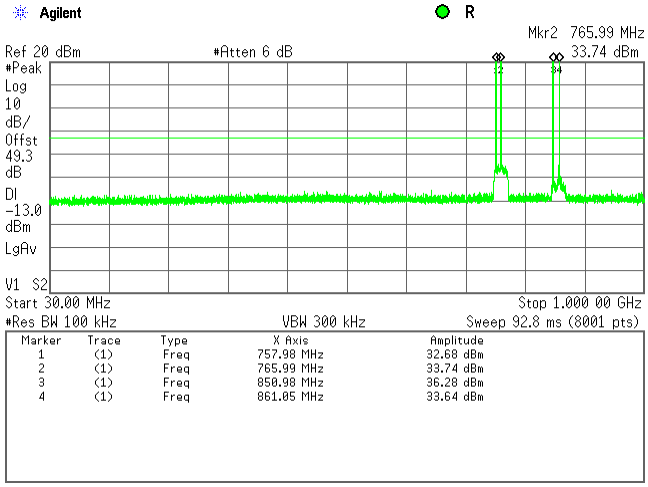
CARRIER FREQUENCY: High



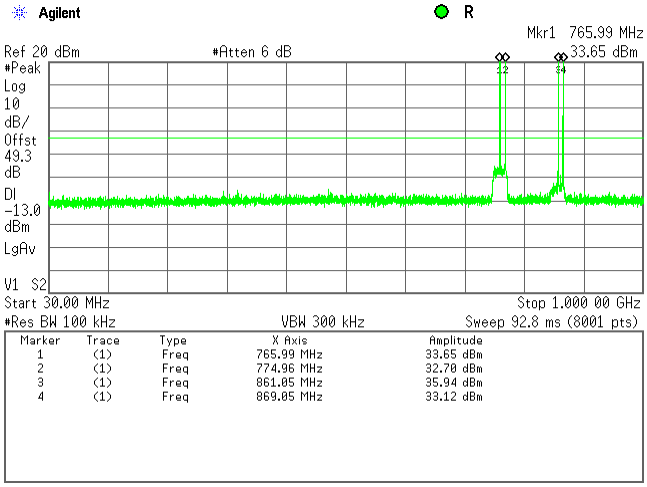
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.35 Spurious emission measurements in 30.0 - 1000 MHz range

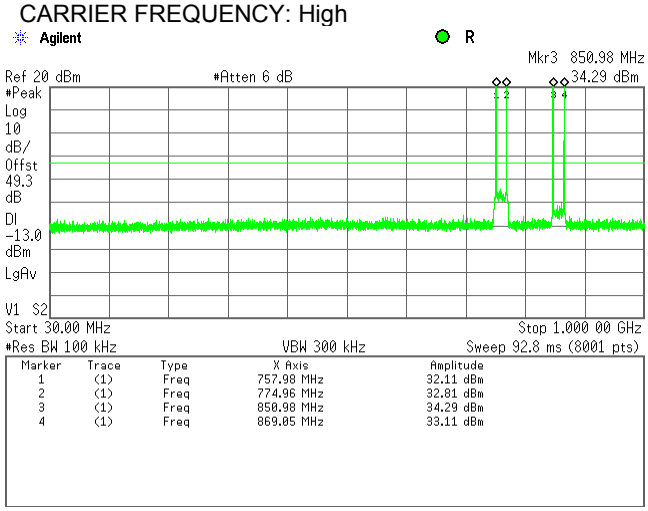
FREQUENCY RANGE: 758 – 775 MHz
851 – 869 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



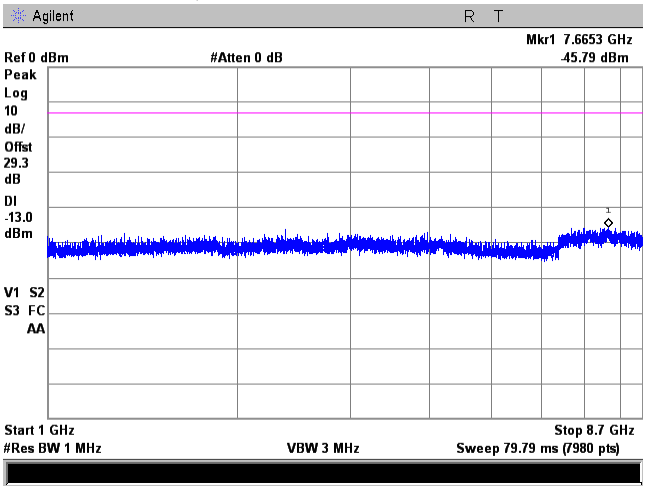
CARRIER FREQUENCY: High



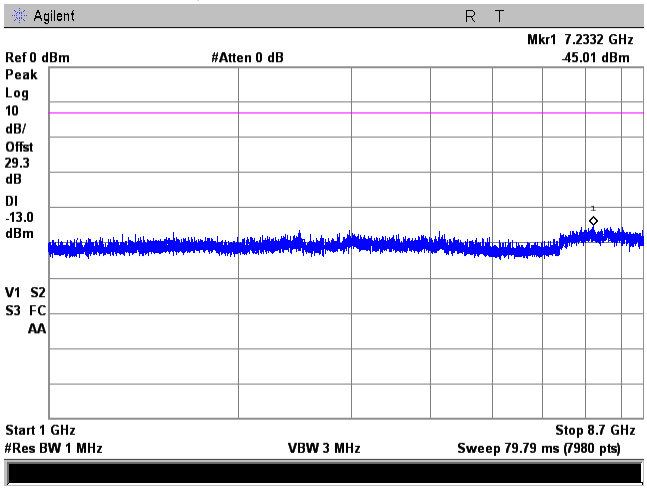
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.36 Spurious emission measurements in 1000 - 8700 MHz range

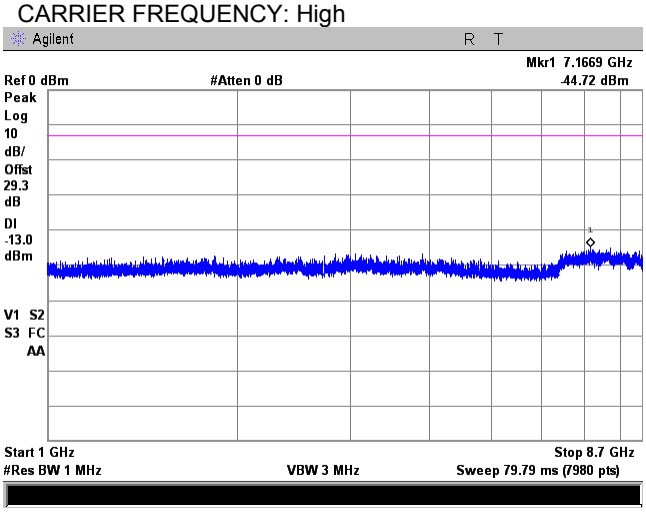
FREQUENCY RANGE: 758 – 775 MHz
851 – 869 MHz
OPERATIONAL MODE: Analog FM downlink transmit
INPUT PORT: Base
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



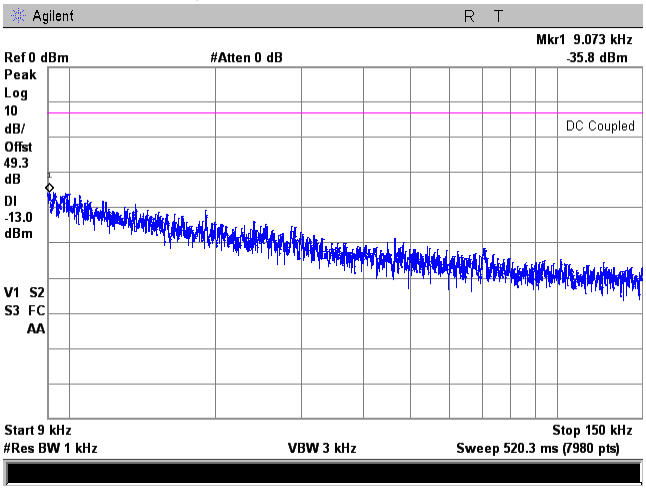
CARRIER FREQUENCY: High



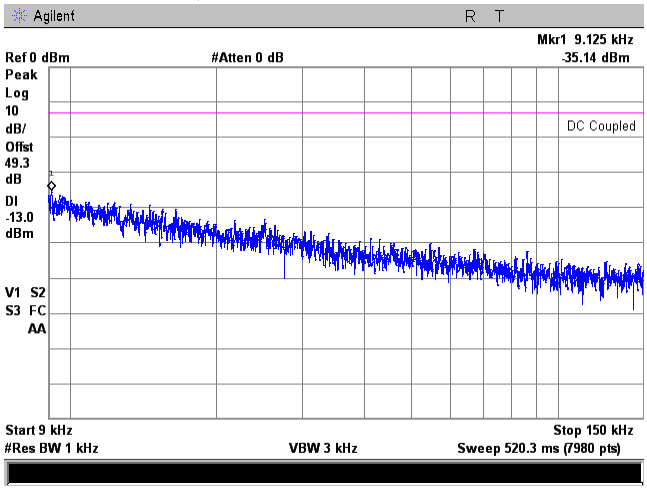
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.37 Spurious emission measurements in 9 - 150 kHz range

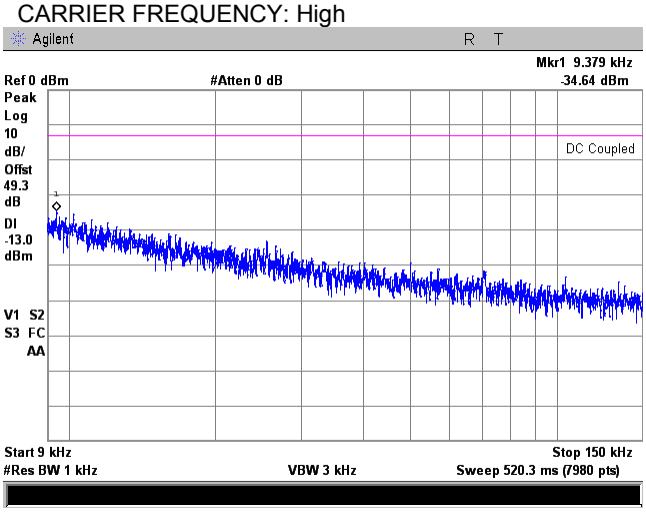
FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



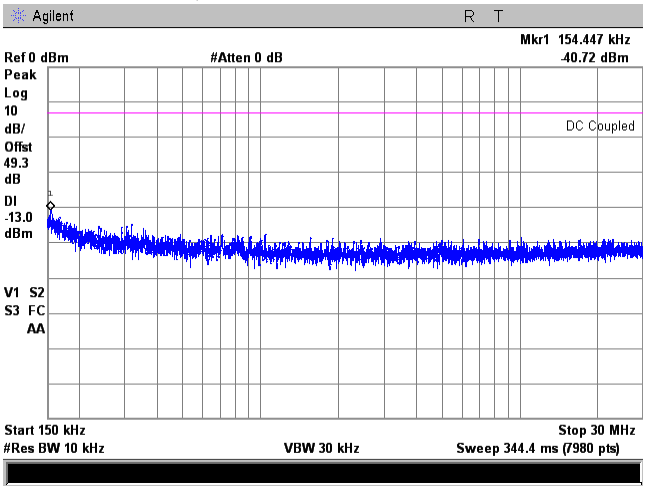
CARRIER FREQUENCY: High



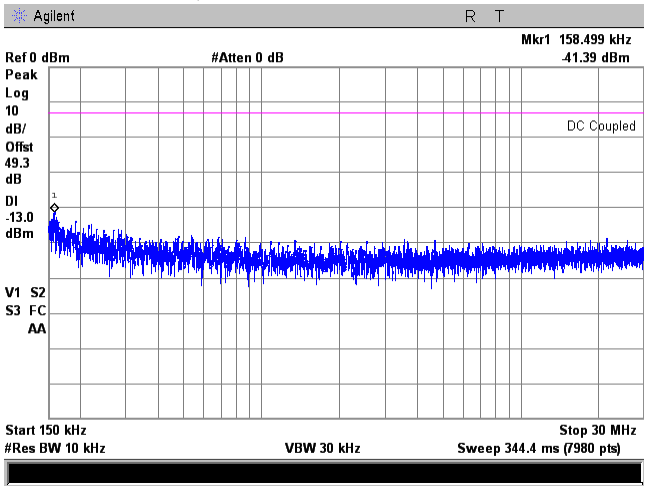
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.38 Spurious emission measurements 0.15 – 30.0 MHz range

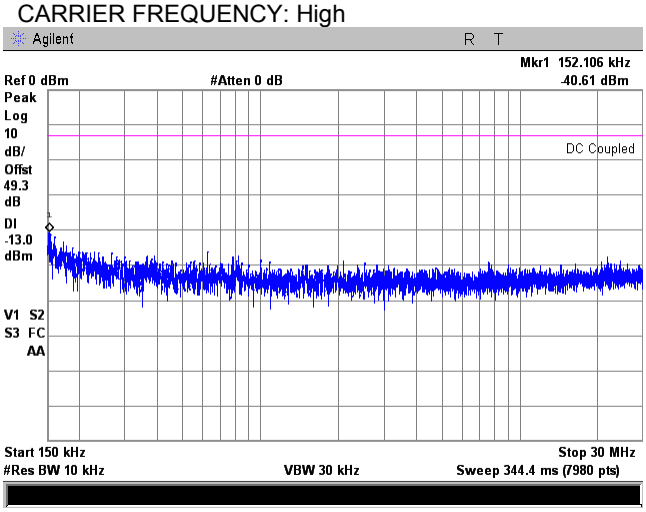
FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



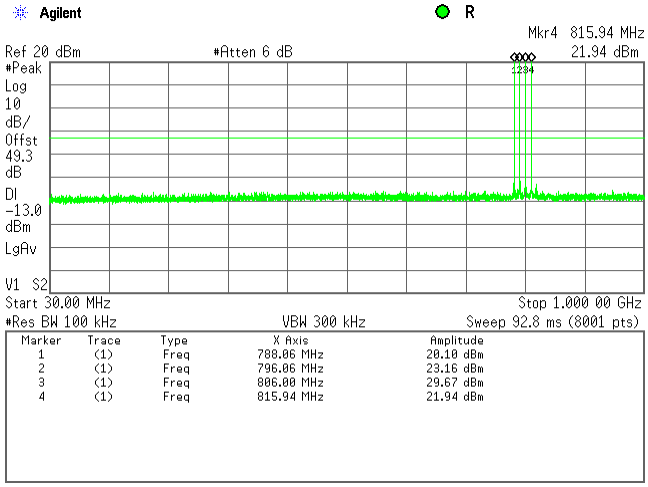
CARRIER FREQUENCY: High



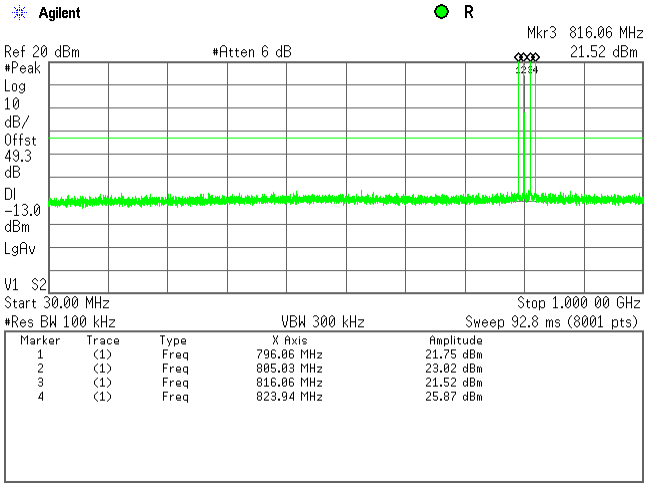
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.39 Spurious emission measurements in 30.0 - 1000 MHz range

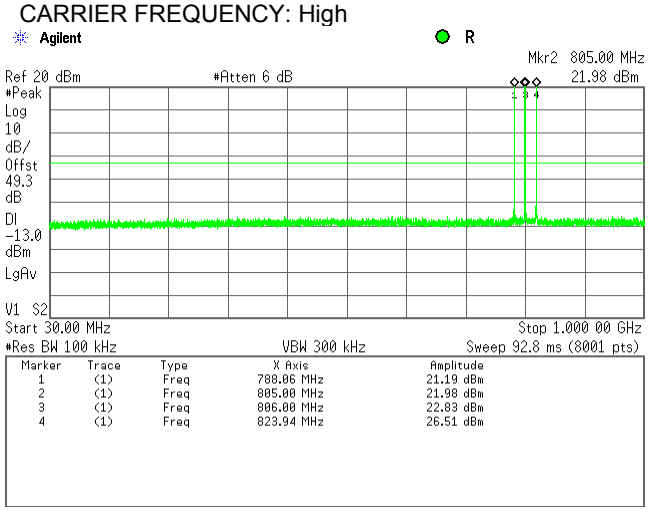
FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



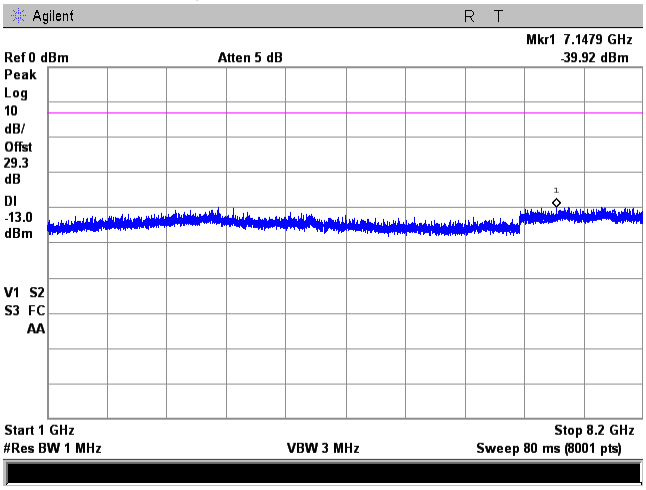
CARRIER FREQUENCY: High



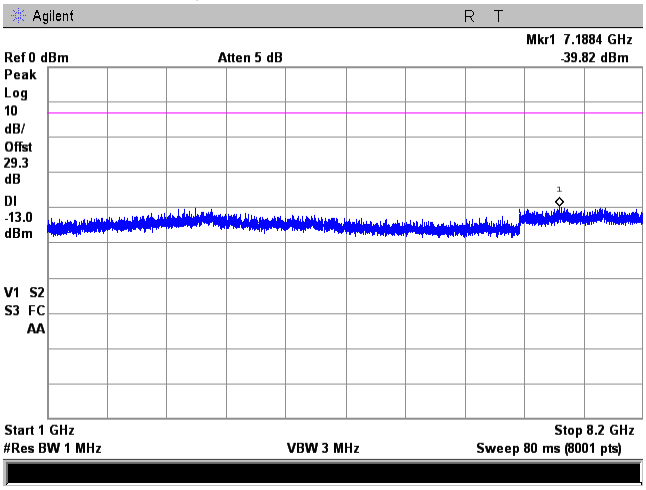
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.40 Spurious emission measurements in 1000 - 8200 MHz range

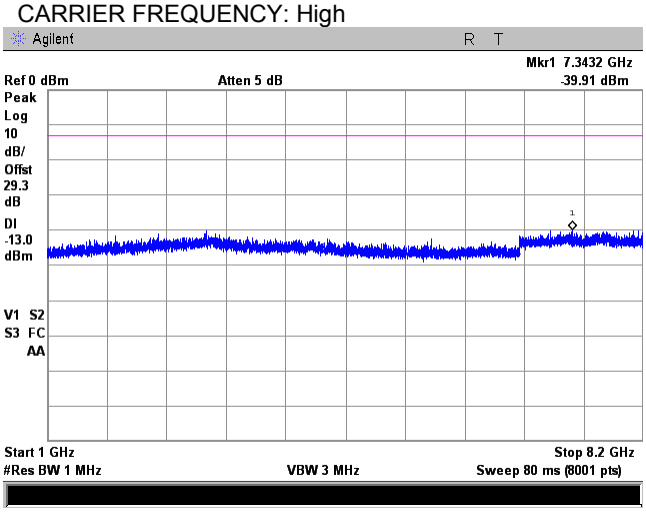
FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: C4FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



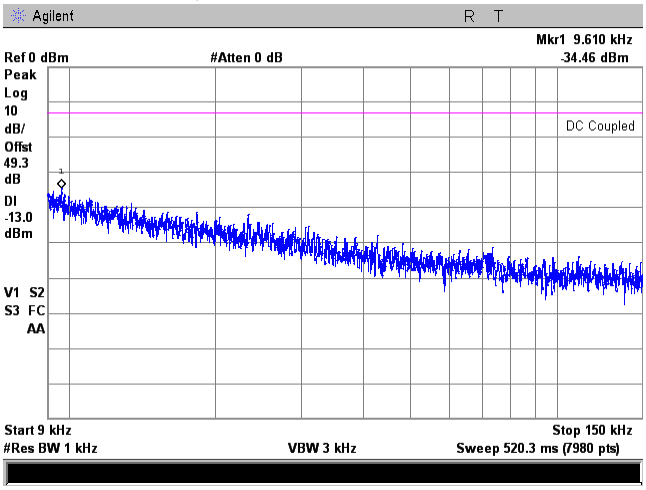
CARRIER FREQUENCY: High



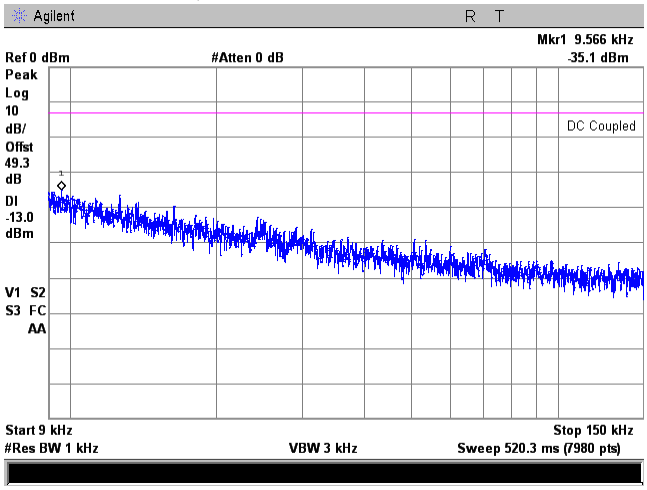
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.41 Spurious emission measurements in 9 - 150 kHz range

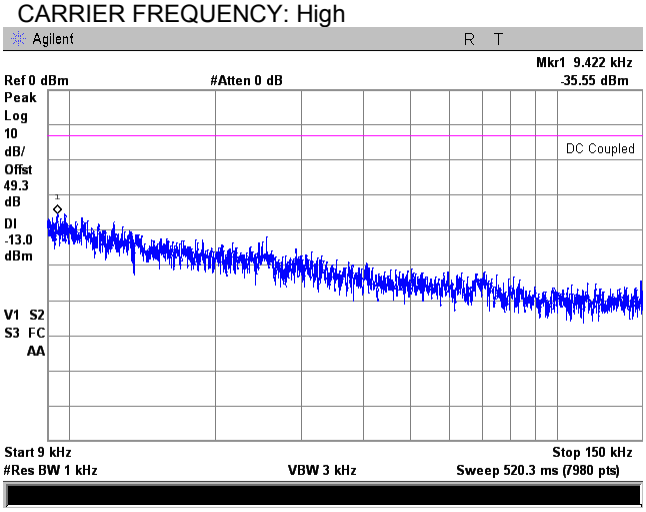
FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



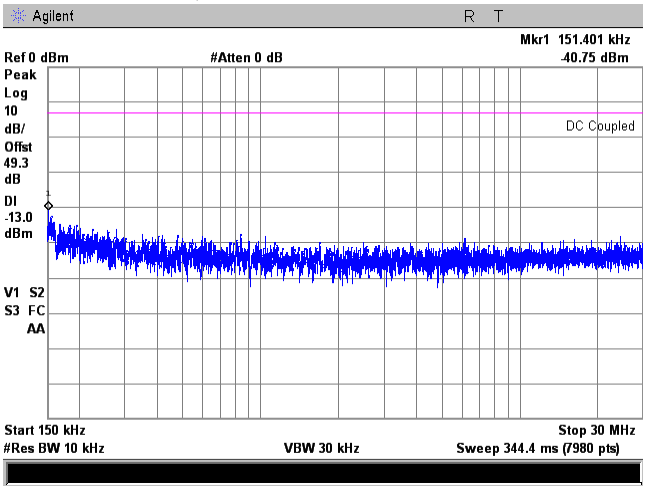
CARRIER FREQUENCY: High



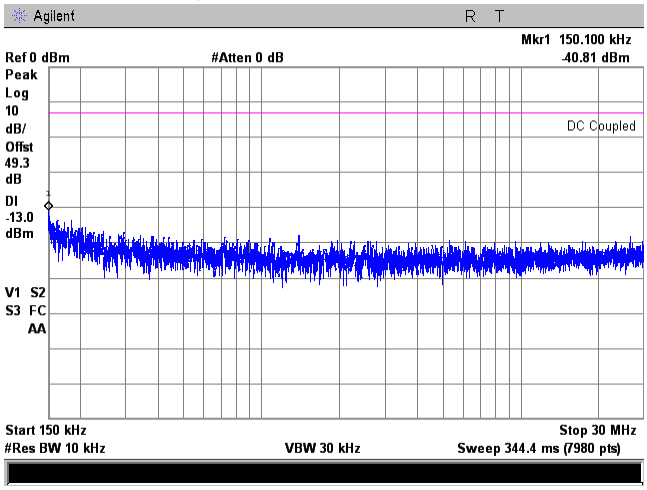
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.42 Spurious emission measurements in 0.15 – 30.0 MHz range

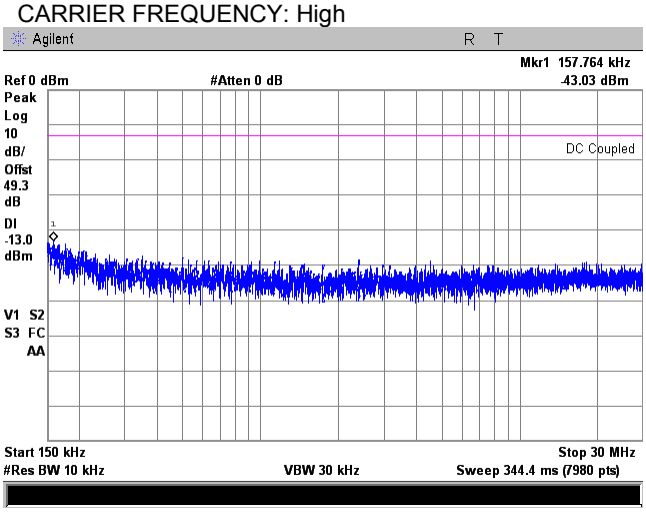
FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High

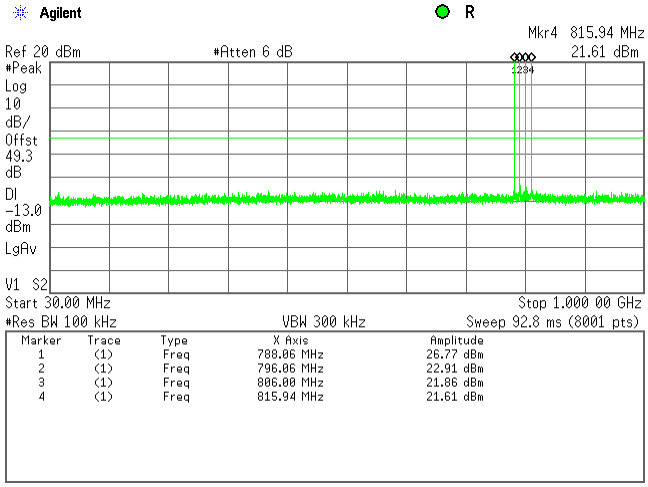


Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

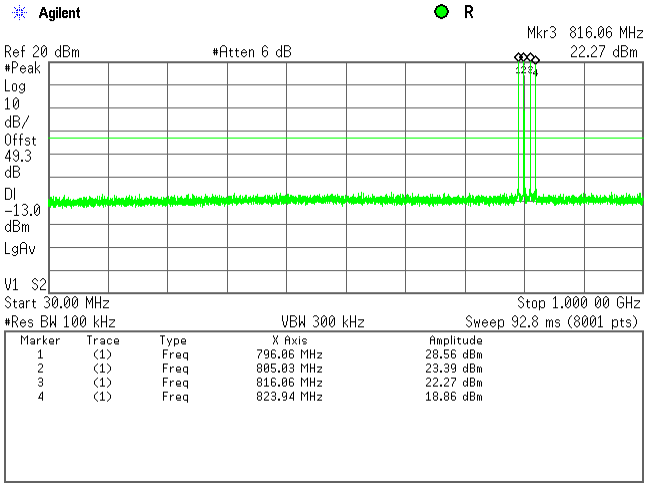
Plot 7.5.43 Spurious emission measurements in 30.0 - 1000 MHz range

FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm

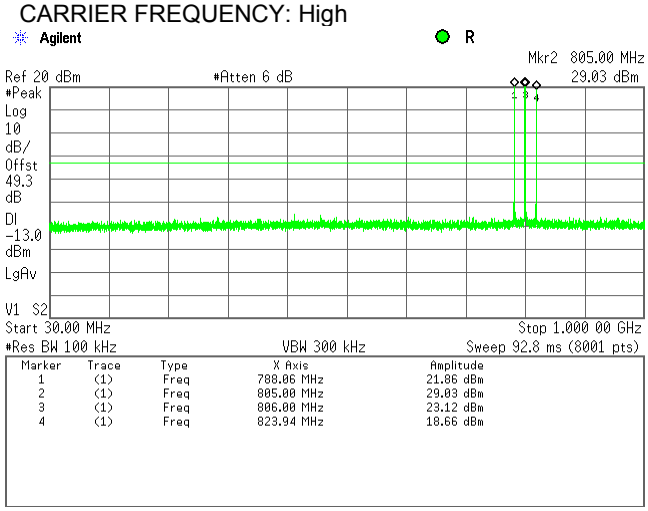
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



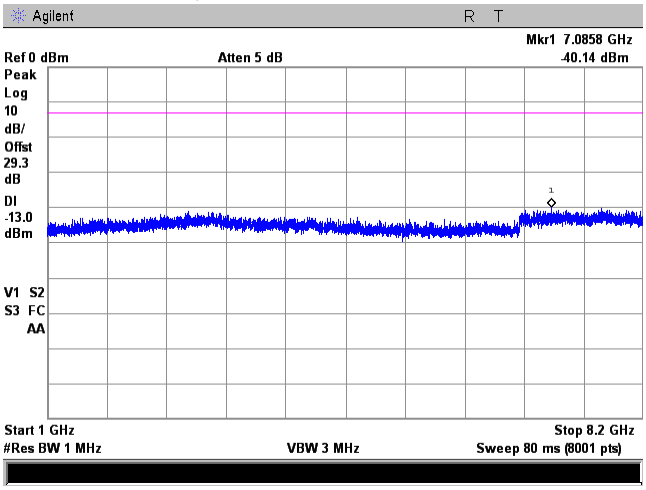
CARRIER FREQUENCY: High



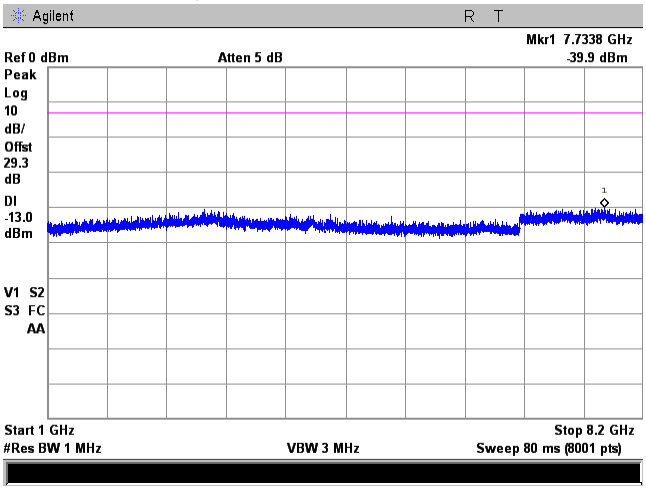
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.44 Spurious emission measurements in 1000 - 8200 MHz range

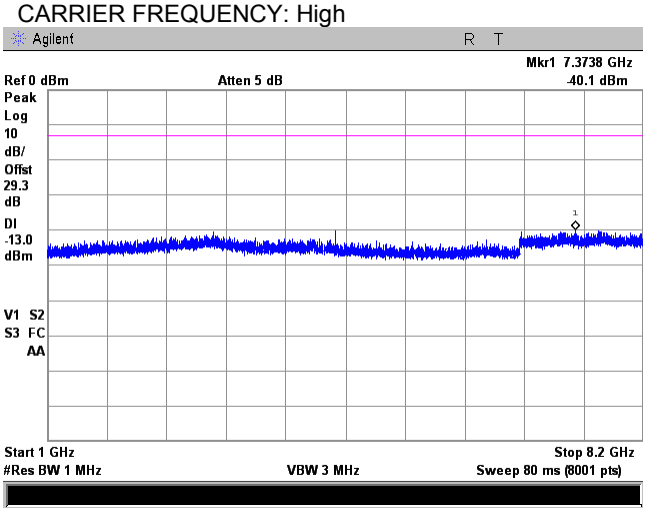
FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: iDEN QAM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



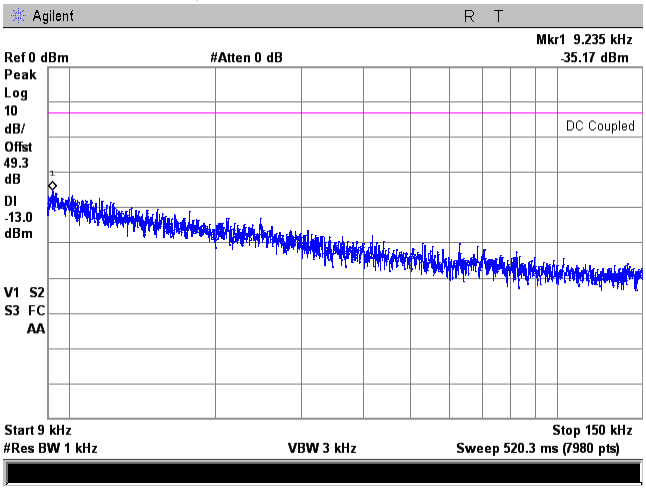
CARRIER FREQUENCY: High



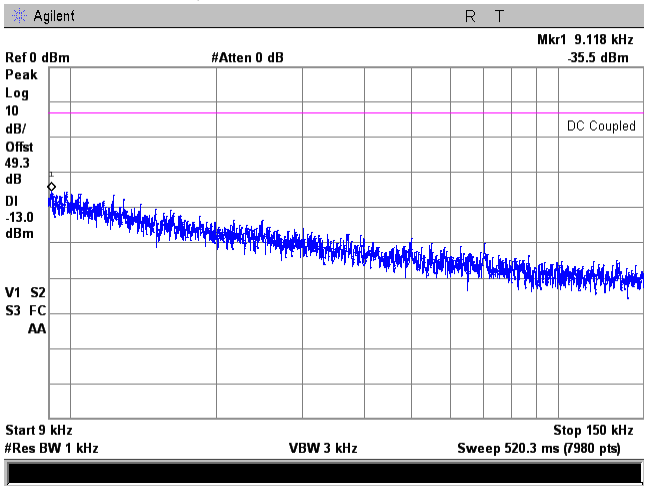
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.45 Spurious emission measurements in 9 - 150 kHz range

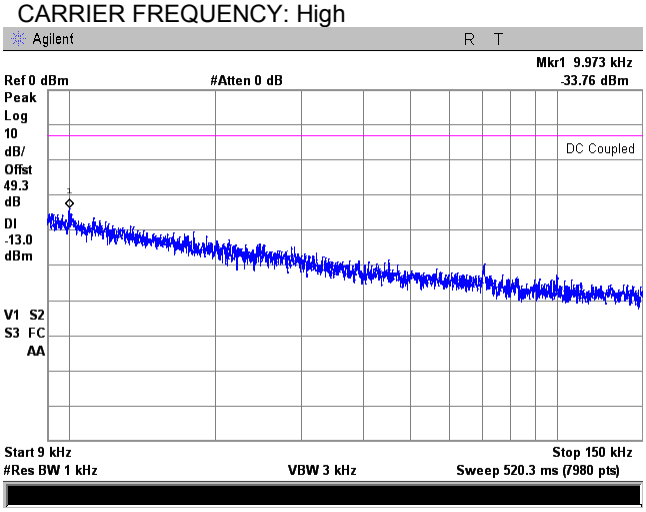
FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



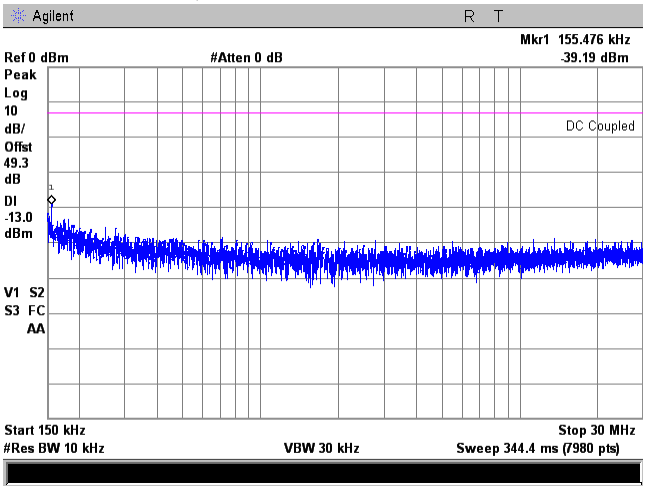
CARRIER FREQUENCY: High



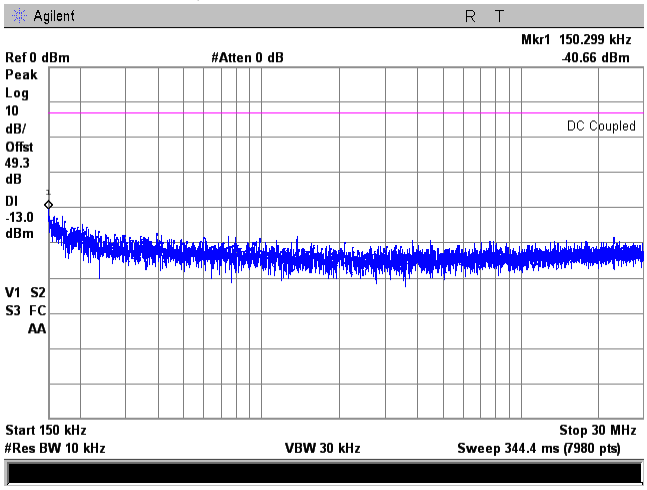
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.46 Spurious emission measurements in 0.15 – 30.0 MHz range

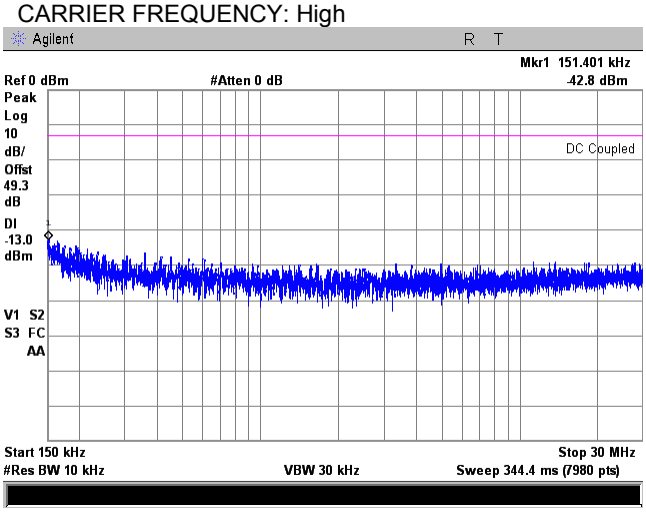
FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



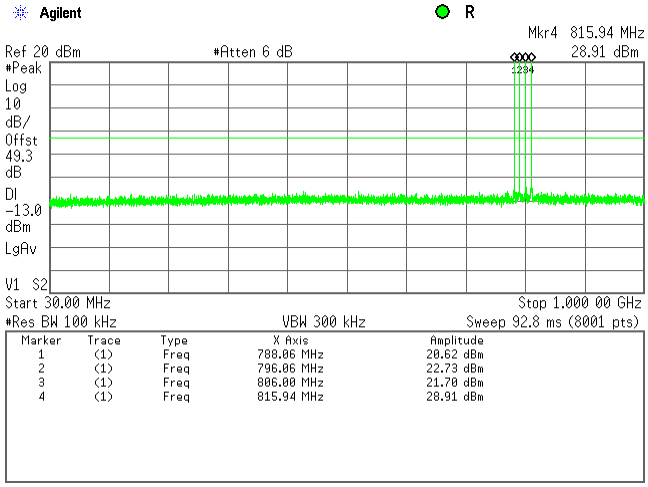
CARRIER FREQUENCY: High



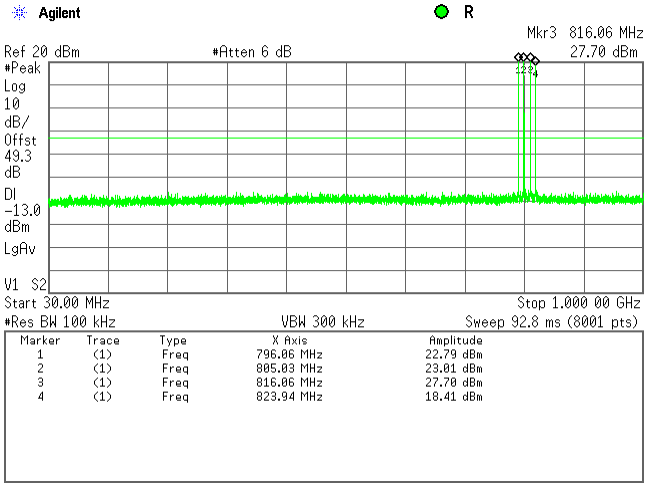
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.47 Spurious emission measurements in 30.0 - 1000 MHz range

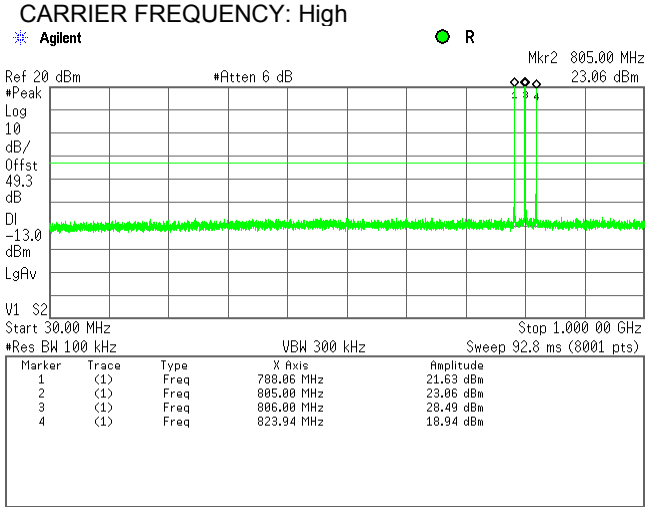
FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



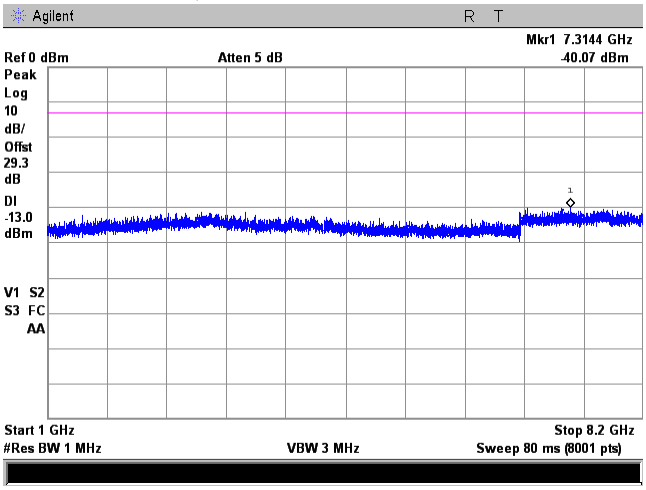
CARRIER FREQUENCY: High



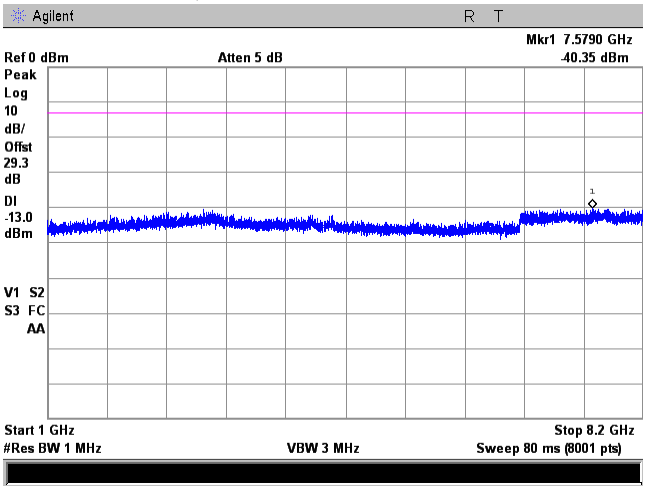
Test specification:	Section 90.219(e)(3), Conducted spurious emissions		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	22-Jul-15 - 08-Sep-15		
Temperature: 24.8 ºC	Air Pressure: 1006 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Plot 7.5.48 Spurious emission measurements in 1000 - 8200 MHz range

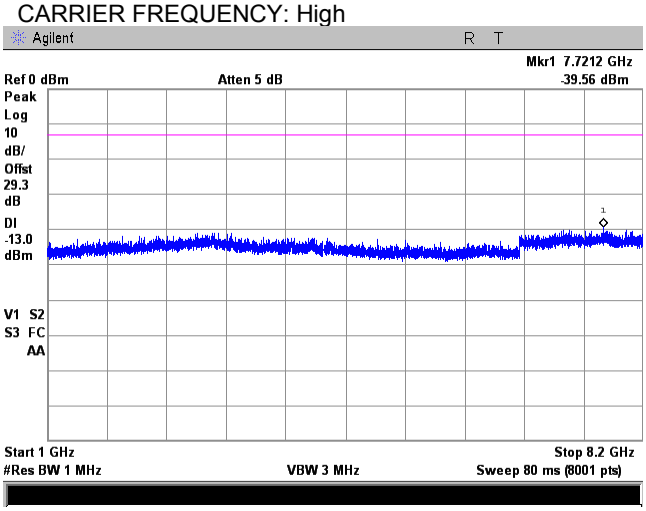
FREQUENCY RANGE: 788 – 805 MHz
806 – 824 MHz
OPERATIONAL MODE: Analog FM uplink transmit
INPUT PORT: Mobile
CONFIGURATION: Dual Band Dual Channel
COMPOSITE INPUT POWER: -51 dBm
CARRIER FREQUENCY: Low



CARRIER FREQUENCY: Mid



CARRIER FREQUENCY: High



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 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	28-Jul-15 - 20-Sep-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 demonstrate compliance with 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 Intermodulation product limit, dBm
758 – 775 / 788 - 805	-13.0
851 – 869 / 806 - 824	-13.0

7.6.2 Test procedure

7.6.2.1 The EUT was set up as shown in Figure 7.6.1, 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.

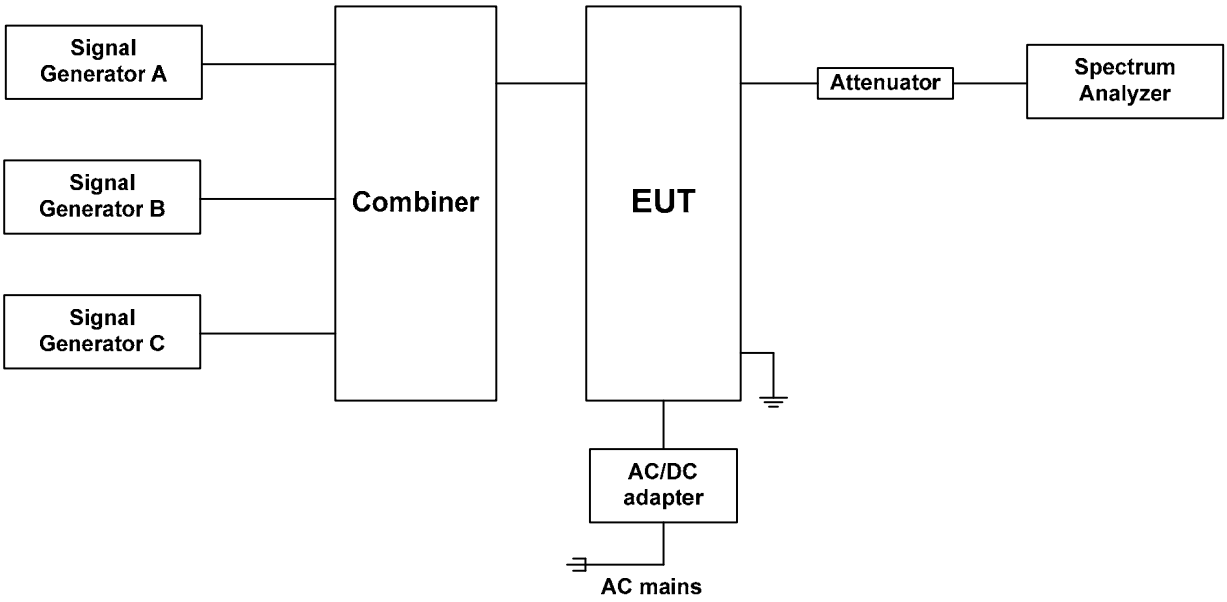
7.6.2.7 The intermodulation products were measured with spectrum analyzer as provided in the associated plots.

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 were recorded in Table 7.6.2.

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 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	28-Jul-15 - 20-Sep-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 v02, Appendix D		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	28-Jul-15 - 20-Sep-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: 1 MHz
VIDEO BANDWIDTH: 3 MHz
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					
774.857645	-13.62	-13.62	-13.0	-0.62	Pass
Frequency range, 788 – 805 MHz Uplink					
No intermodulation products were found					Pass

OPERATING FREQUENCY RANGE: 851 - 869 MHz (downlink)
806 - 824 MHz (uplink)
CONFIGURATION: Single Band Multi Channel

Frequency, MHz	SA reading, dBm/10kHz	ERP**, dBm/10kHz	ERP Limit, dBm/10kHz	Margin, dB*	Verdict
Frequency range, 851 – 869 MHz Downlink					
850.947424	-14.22	-14.22	-13.0	-1.22	Pass
851.128148	-15.02	-15.02	-13.0	-2.02	Pass
860.859443	-17.51	-17.51	-13.0	-4.51	Pass
861.067113	-17.45	-17.45	-13.0	-4.45	Pass
868.859610	-17.85	-17.85	-13.0	-4.85	Pass
869.866030	-17.53	-17.53	-13.0	-4.53	Pass
Frequency range, 806 –824 MHz Uplink					
823.928009	-26.50	-26.50	-13.0	-13.50	Pass
824.067331	-25.67	-25.67	-13.0	-12.67	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

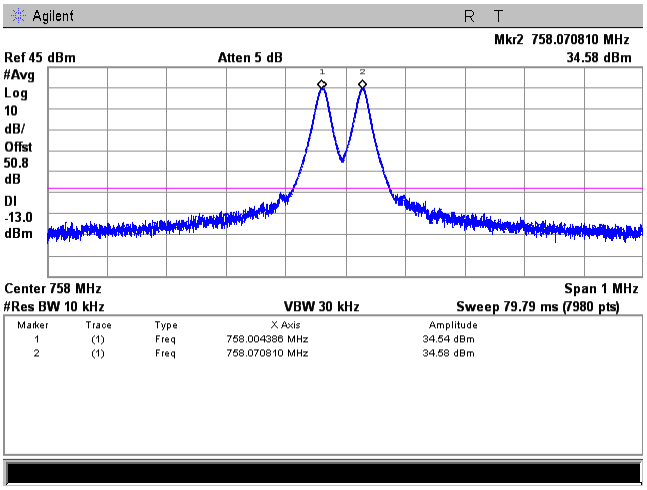
HL 0539	HL 1908	HL 2667	HL 2909	HL 3174	HL 3434	HL 3787	HL 3788
HL 3818	HL 3903	HL 4068	HL 4273	HL 4274	HL 4275	HL 4354	HL 4368

Full description is given in Appendix A.

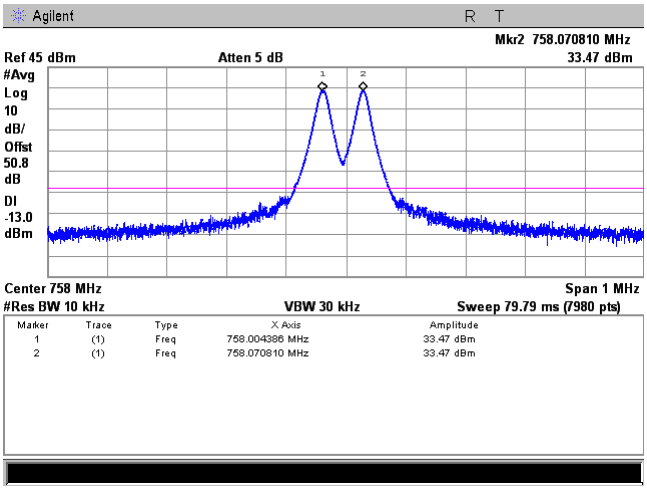
Test specification:	Section 90.210(b), Intermodulation product test		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b); KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	28-Jul-15 - 20-Sep-15		
Temperature: 24.2 °C	Air Pressure: 1004 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

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

OPERATING FREQUENCY RANGE: 758 – 775 MHz
DETECTOR USED: Average
CONFIGURATION: Downlink
POWER SETTING: 37 dBm
OPERATION FREQUENCES: F_{low}, F_{high}
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm

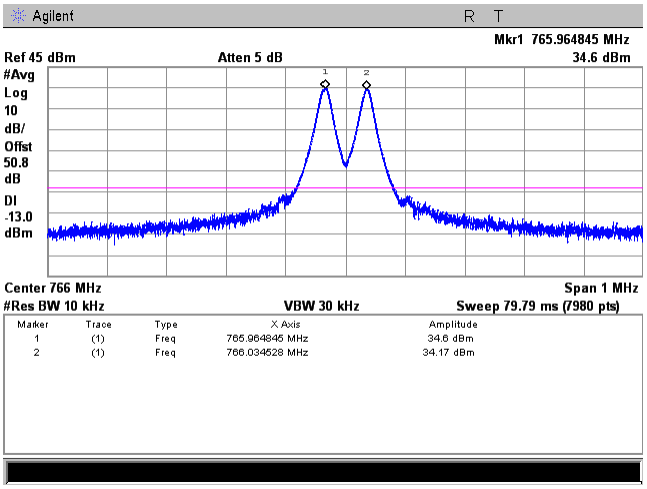


INPUT POWER: -46 dBm

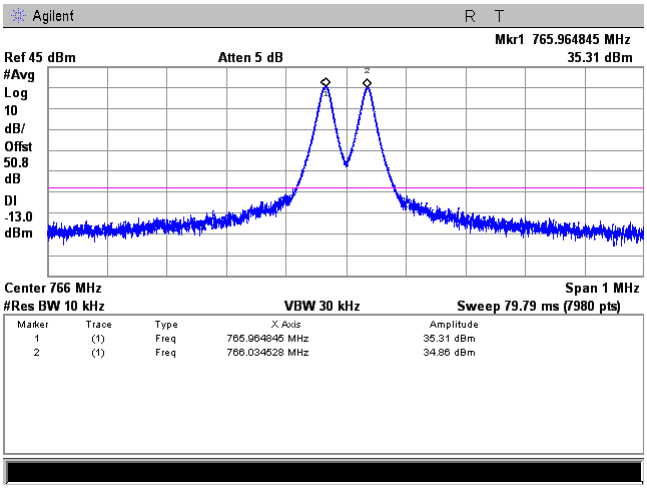


Plot 7.6.2 Intermodulation test results in the 758 - 775 MHz frequency range at mid frequency carrier

OPERATING FREQUENCY RANGE: 758 – 775 MHz
DETECTOR USED: Average
CONFIGURATION: Downlink
POWER SETTING: 37 dBm
OPERATION FREQUENCES: F_{low}, F_{high}
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm



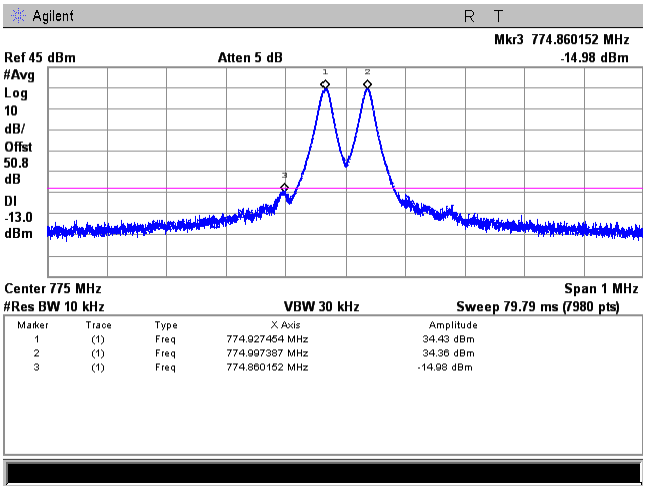
INPUT POWER: -46 dBm



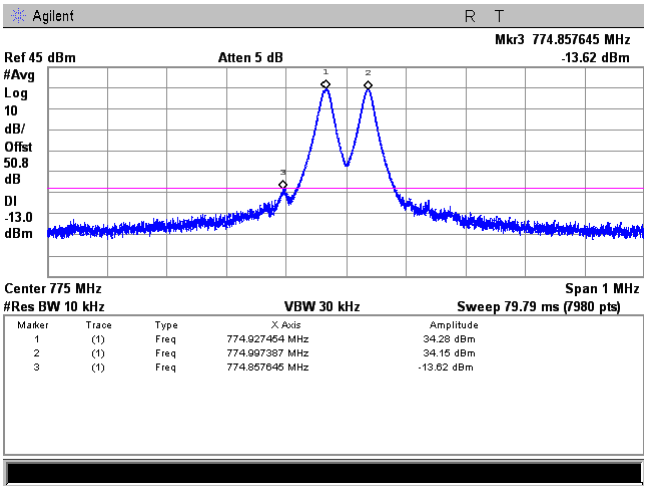
Test specification:	Section 90.210(b), Intermodulation product test		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b); KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	28-Jul-15 - 20-Sep-15		
Temperature: 24.2 °C	Air Pressure: 1004 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.6.3 Intermodulation test results in the 758 - 775 MHz frequency range at high frequency carrier

OPERATING FREQUENCY RANGE: 758 – 775 MHz
DETECTOR USED: Average
CONFIGURATION: Downlink
POWER SETTING: 37 dBm
OPERATION FREQUENCES: F_{low}, F_{high}
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm

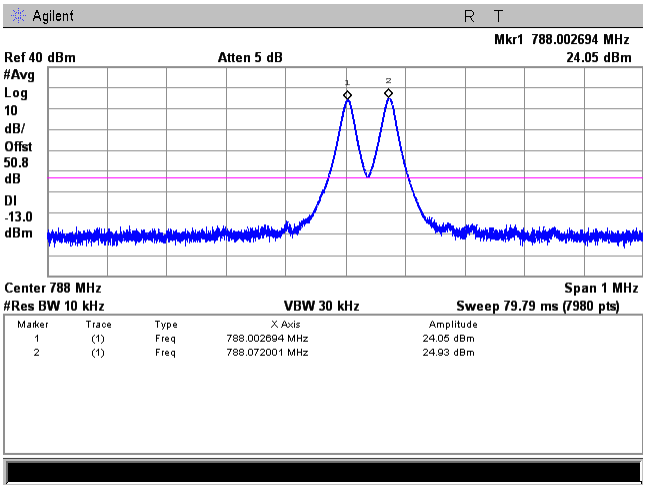


INPUT POWER: -46 dBm

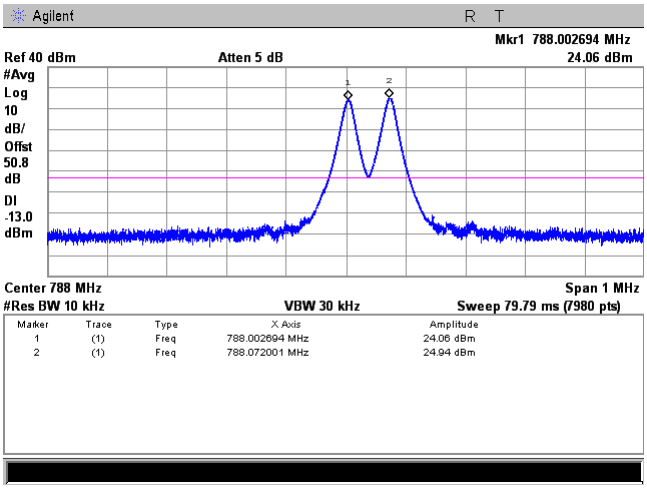


Plot 7.6.4 Intermodulation test results in the 788 - 805 MHz frequency range at low frequency carrier

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



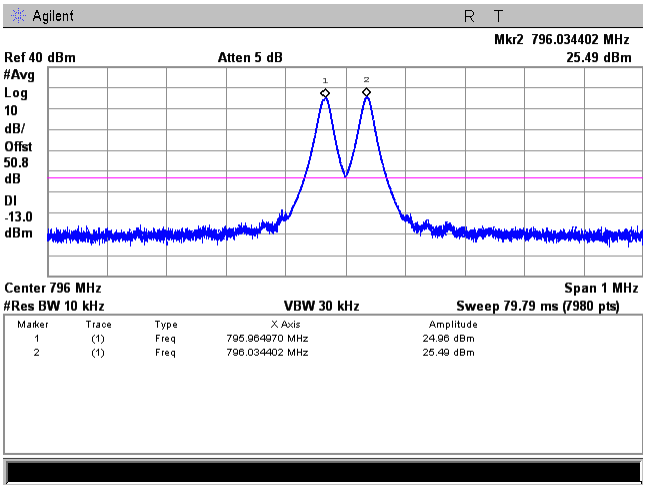
INPUT POWER: -46 dBm



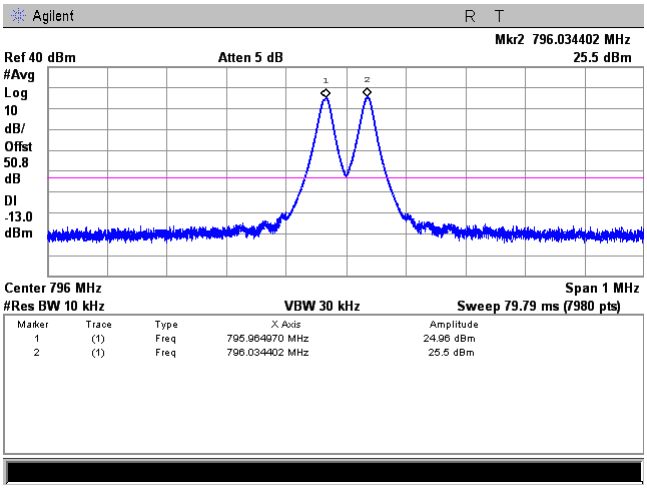
Test specification:	Section 90.210(b), Intermodulation product test		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b); KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	28-Jul-15 - 20-Sep-15		
Temperature: 24.2 °C	Air Pressure: 1004 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.6.5 Intermodulation test results in the 788 - 805 MHz frequency range at mid frequency carrier

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

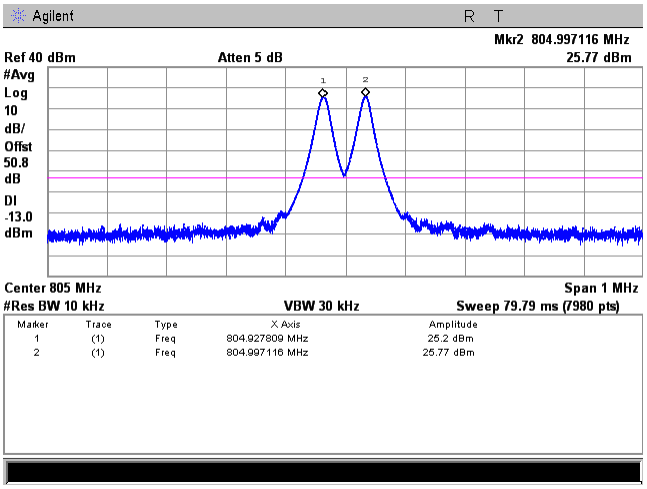


INPUT POWER: -46 dBm

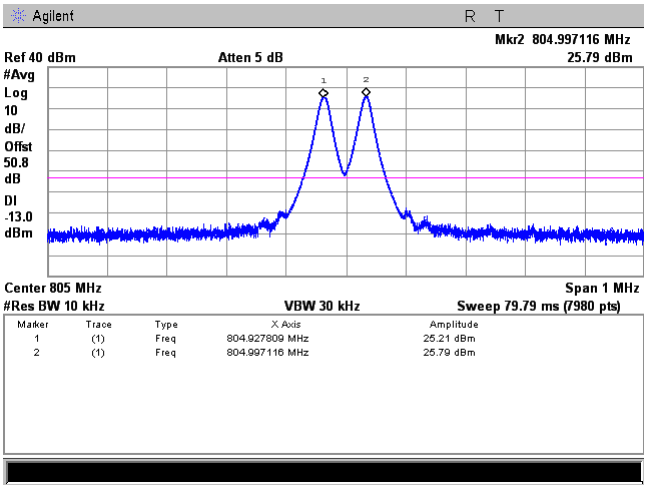


Plot 7.6.6 Intermodulation test results in the 788 - 805 MHz frequency range at high frequency carrier

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



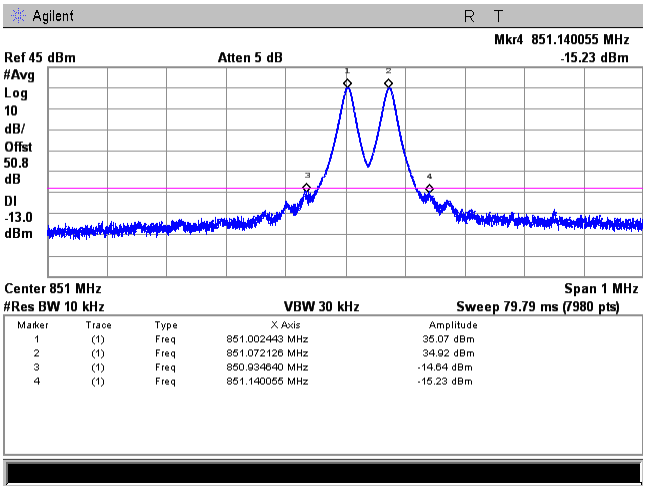
INPUT POWER: -46 dBm

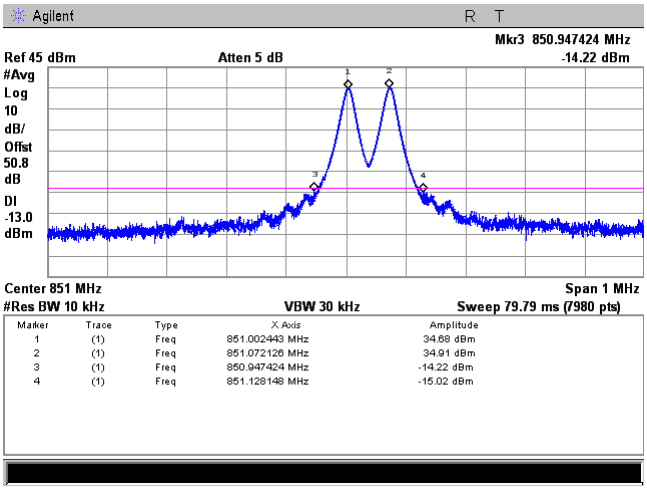


Test specification:	Section 90.210(b), Intermodulation product test		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b); KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	28-Jul-15 - 20-Sep-15		
Temperature: 24.2 °C	Air Pressure: 1004 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.6.7 Intermodulation results in the 851 - 869 MHz frequency range at low frequency carrier

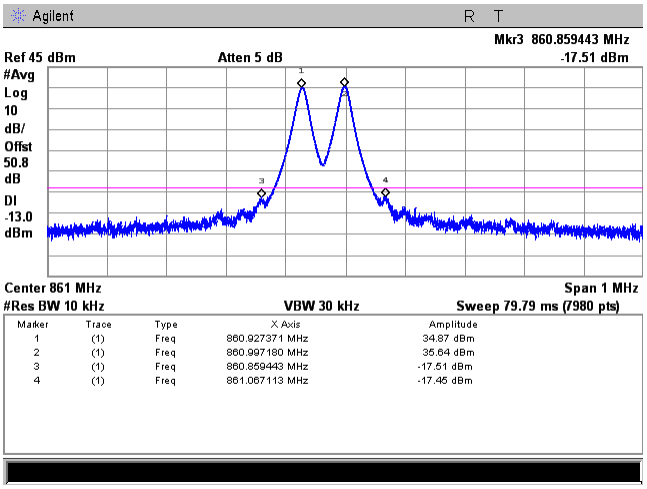
OPERATING FREQUENCY RANGE: 851 – 869 MHz
DETECTOR USED: Average
CONFIGURATION: Downlink
POWER SETTING: 37dBm
OPERATION FREQUENCES: F_{low}, F_{high}
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm
INPUT POWER: -46 dBm

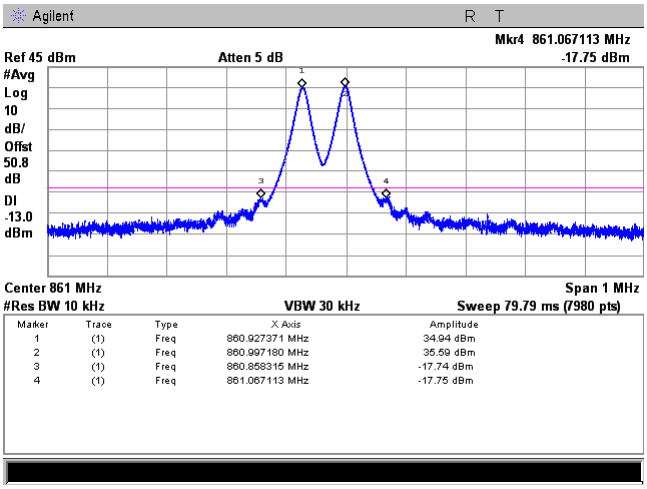




Plot 7.6.8 Intermodulation results in the 851 - 869 MHz frequency range at high frequency carrier

OPERATING FREQUENCY RANGE: 851 – 869 MHz
DETECTOR USED: Average
CONFIGURATION: Downlink
POWER SETTING: 37dBm
OPERATION FREQUENCES: F_{low}, F_{high}
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm
INPUT POWER: -46 dBm

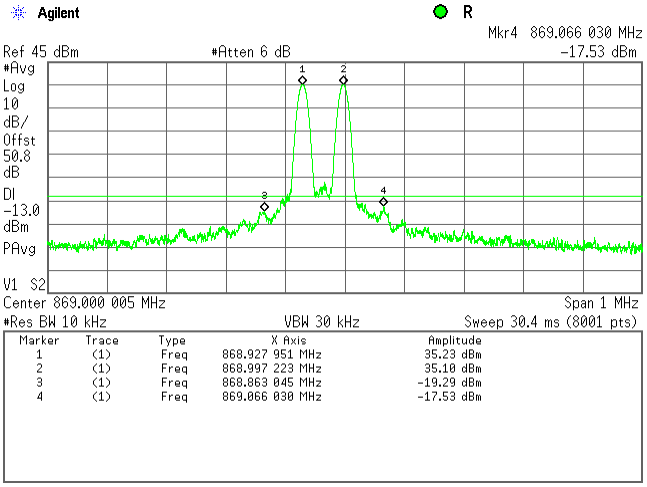




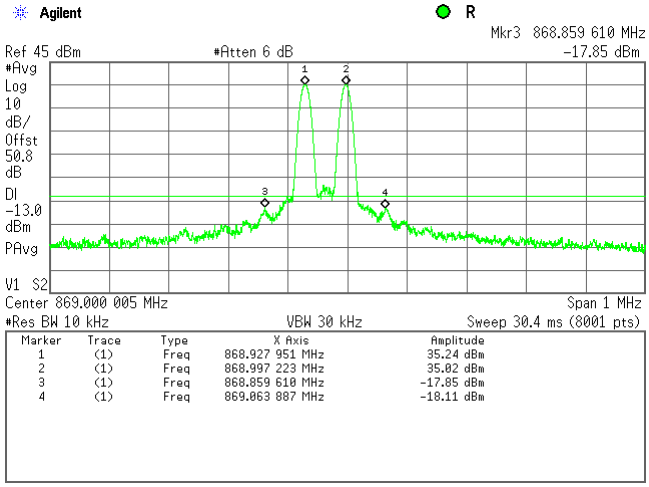
Test specification:	Section 90.210(b), Intermodulation product test		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b); KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	28-Jul-15 - 20-Sep-15		
Temperature: 24.2 °C	Air Pressure: 1004 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.6.9 Intermodulation results in the 851 - 869 MHz frequency range at high frequency carrier

OPERATING FREQUENCY RANGE: 851 – 869 MHz
DETECTOR USED: Average
CONFIGURATION: Downlink
POWER SETTING: 37dBm
OPERATION FREQUENCES: F_{low}, F_{high}
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm

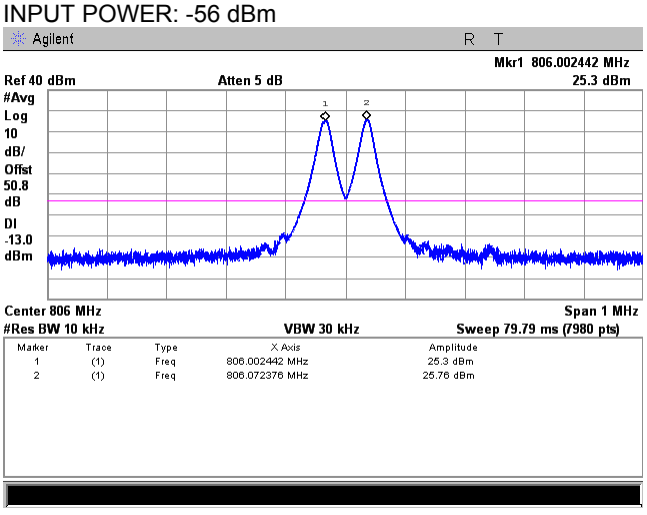


INPUT POWER: -46 dBm

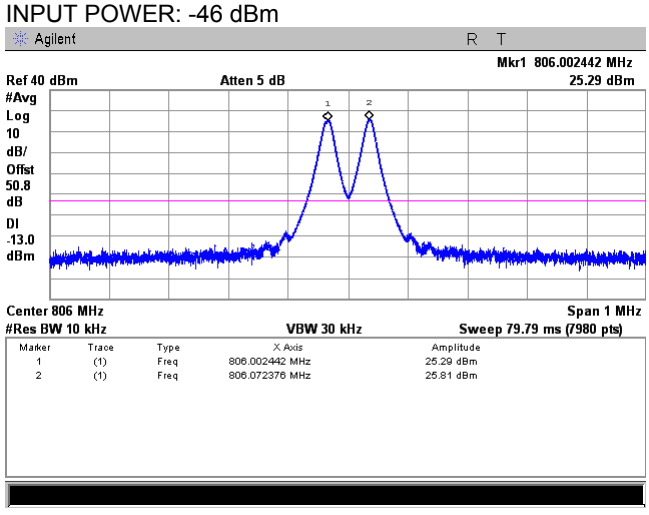


Plot 7.6.10 Intermodulation test results in the 806 - 824 MHz frequency range at low frequency carrier

OPERATING FREQUENCY RANGE: 806 – 824 MHz
DETECTOR USED: Average
CONFIGURATION: Uplink
OPERATION FREQUENCES: F_{low}, F_{high}
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm



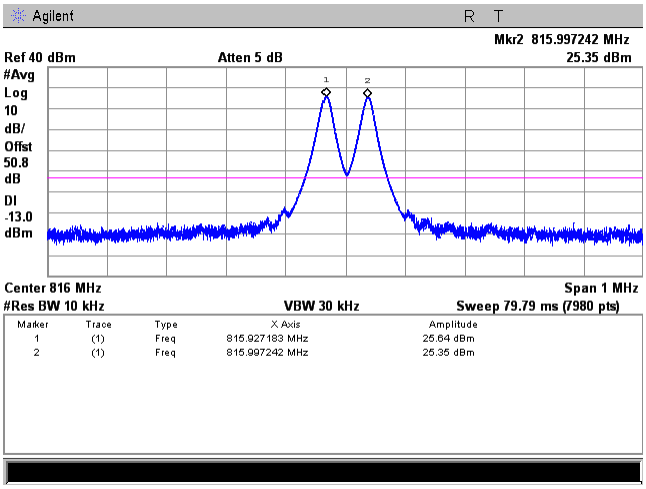
INPUT POWER: -46 dBm

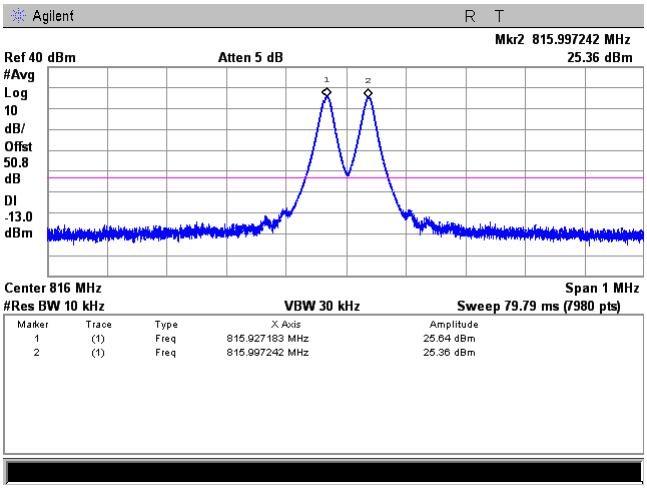


Test specification:	Section 90.210(b), Intermodulation product test		
Test procedure:	47 CFR, Sections 2.1051, 2.1047 and 90.210(b); KDB 935210 D02 v02, Appendix D		
Test mode:	Compliance	Verdict:	PASS
Date(s):	28-Jul-15 - 20-Sep-15		
Temperature: 24.2 °C	Air Pressure: 1004 hPa	Relative Humidity: 48 %	Power Supply: 120 VAC
Remarks:			

Plot 7.6.11 Intermodulation test results in the 806 - 824 MHz frequency range at high frequency carrier

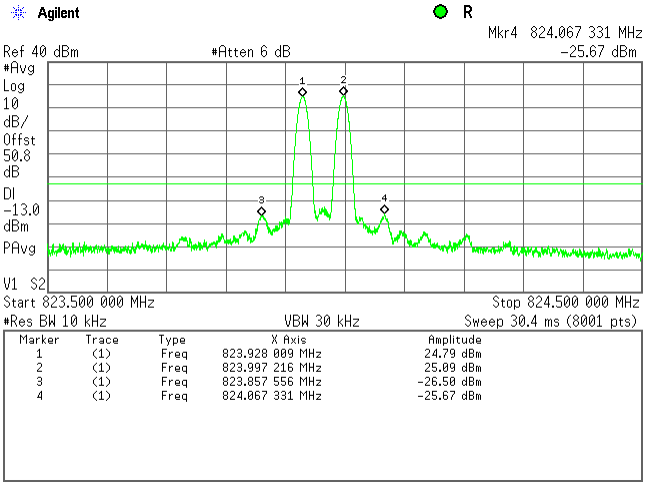
OPERATING FREQUENCY RANGE: 806 – 824 MHz
DETECTOR USED: Average
CONFIGURATION: Uplink
OPERATION FREQUENCES: F_{low}, F_{high}
CONFIGURATION: Single Band Single Channel
INPUT POWER: -56 dBm
INPUT POWER: -46 dBm

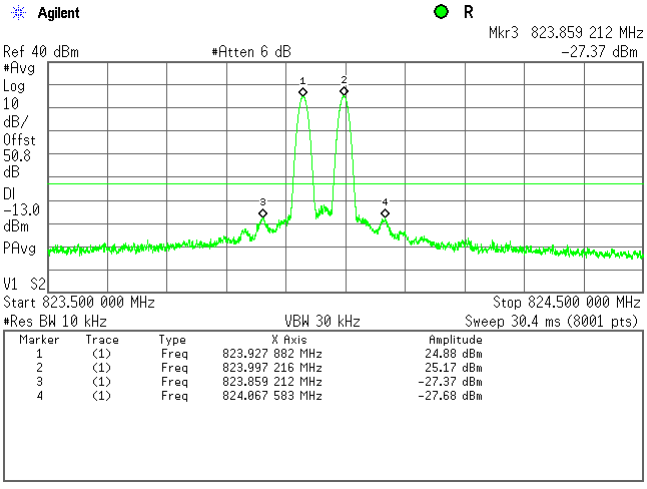




Plot 7.6.12 Intermodulation test results in the 806 - 824 MHz frequency range at high frequency carrier

OPERATING FREQUENCY RANGE: 806 – 824 MHz
DETECTOR USED: Average
CONFIGURATION: Uplink
OPERATION FREQUENCES: F_{low}, F_{high}
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 v02, Appendix D		
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 7.7.1.

Table 7.7.1 Noise figure limits

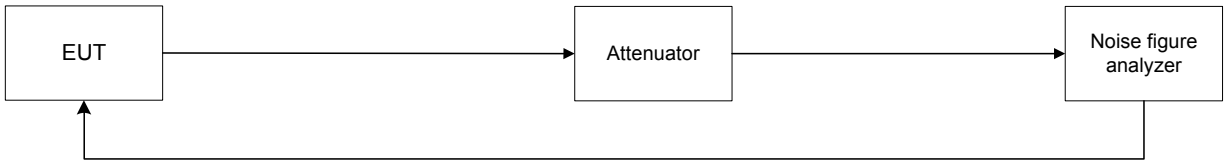
Frequency range	Noise figure limit, dB
Class A Booster	
758.0 – 775.0 / 788.0 – 805.0	9.0
851.0 – 869.0 / 806.0 – 824.0	

7.7.2 Test procedure

7.7.2.1 The EUT was set up as shown in Figure 7.7.1, 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 v02, Appendix D		
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				
758.04	8.13	9.0	-0.87	Pass
766.01	7.99	9.0	-1.01	Pass
774.97	8.25	9.0	-0.75	Pass
Frequency range, 788 – 805 MHz Uplink				
788.04	5.25	9.0	-3.75	Pass
796.03	4.59	9.0	-4.41	Pass
804.96	3.80	9.0	-5.20	Pass
Frequency range, 851 – 869 MHz Downlink				
851.04	6.66	9.0	-2.34	Pass
860.93	5.48	9.0	-3.52	Pass
868.96	5.55	9.0	-3.45	Pass
Frequency range, 806 –824 MHz Uplink				
806.01	4.08	9.0	-4.92	Pass
815.97	3.92	9.0	-5.08	Pass
823.95	3.89	9.0	-5.11	Pass

Reference numbers of test equipment used

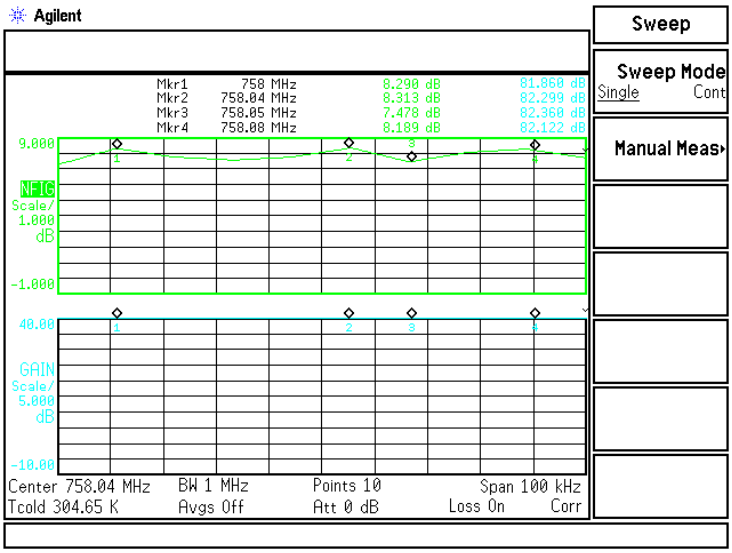
HL 3174	HL 3434	HL 3768	HL 4068				

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 v02, Appendix D		
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:			

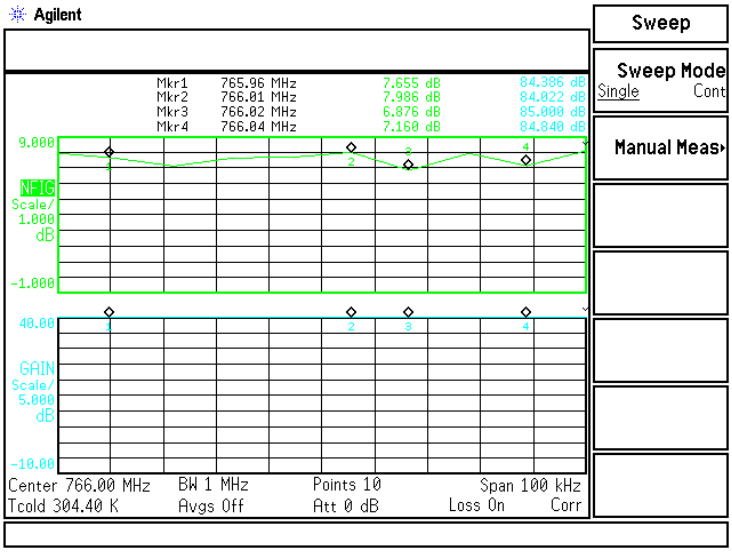
Plot 7.7.1 Noise figure test results at low frequency

OPERATING FREQUENCY RANGE:	758 – 775 MHz
DETECTOR USED:	Average
NOISE FIGURE:	Within the passband
CONFIGURATION:	Downlink
POWER SETTING:	37 dBm



Plot 7.7.2 Noise figure test results at mid frequency

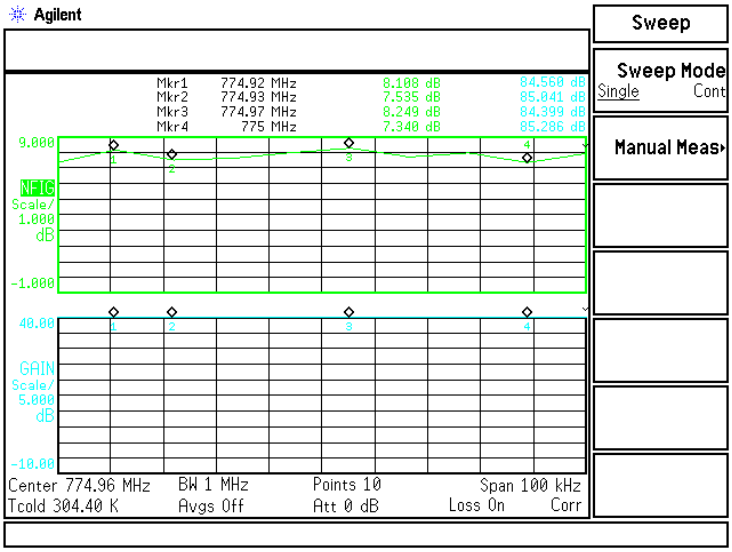
OPERATING FREQUENCY RANGE:	758 – 775 MHz
DETECTOR USED:	Average
NOISE FIGURE:	Within the passband
CONFIGURATION:	Downlink
POWER SETTING:	37 dBm



Test specification:	Section 90.219(e)(2), Noise figure		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
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:			

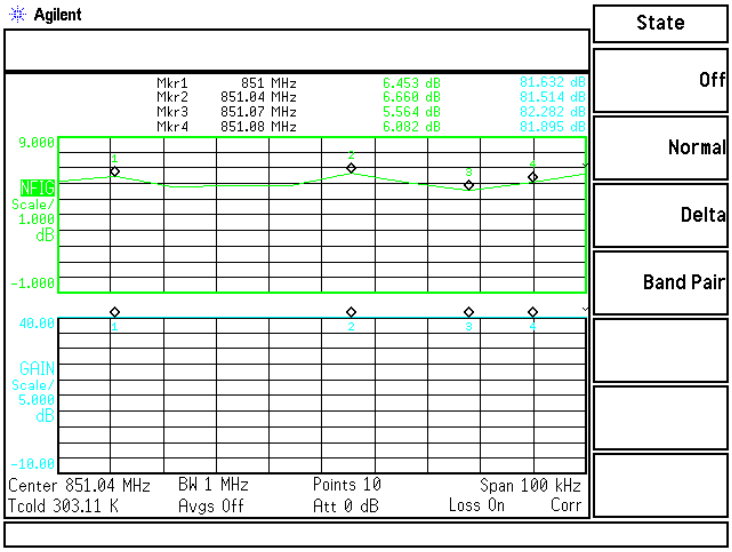
Plot 7.7.3 Noise figure test results at high frequency

OPERATING FREQUENCY RANGE:	758 – 775 MHz
DETECTOR USED:	Average
NOISE FIGURE:	Within the passband
CONFIGURATION:	Downlink
POWER SETTING:	37 dBm



Plot 7.7.4 Noise figure test results at low frequency

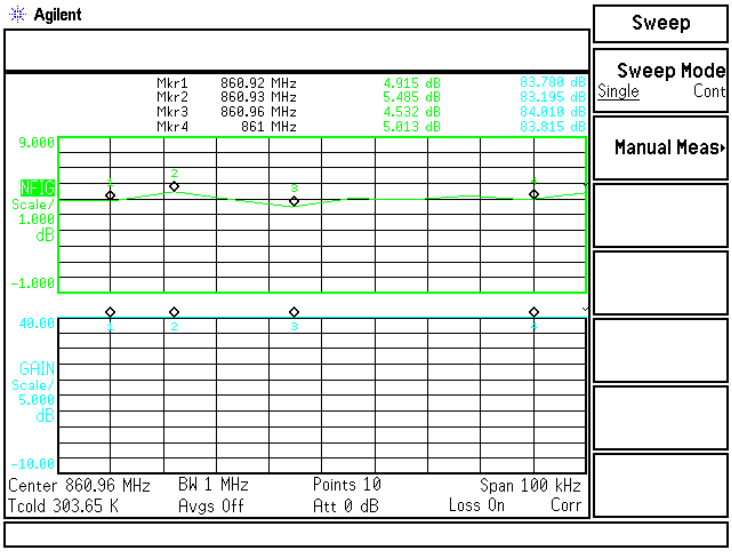
OPERATING FREQUENCY RANGE:	851 – 869 MHz
DETECTOR USED:	Average
NOISE FIGURE:	Within the passband
CONFIGURATION:	Downlink
POWER SETTING:	37 dBm



Test specification:	Section 90.219(e)(2), Noise figure		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
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:			

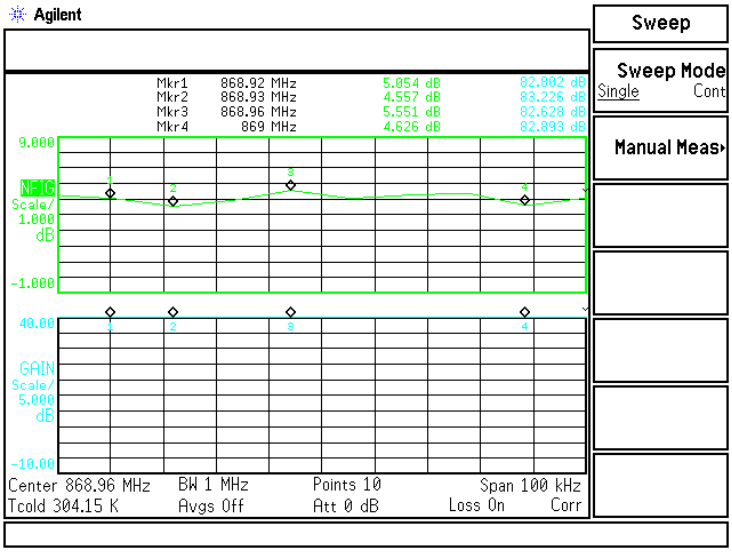
Plot 7.7.5 Noise figure test results at mid frequency

OPERATING FREQUENCY RANGE:	851 – 869 MHz
DETECTOR USED:	Average
NOISE FIGURE:	Within the passband
CONFIGURATION:	Downlink
POWER SETTING:	37 dBm



Plot 7.7.6 Noise figure test results at high frequency

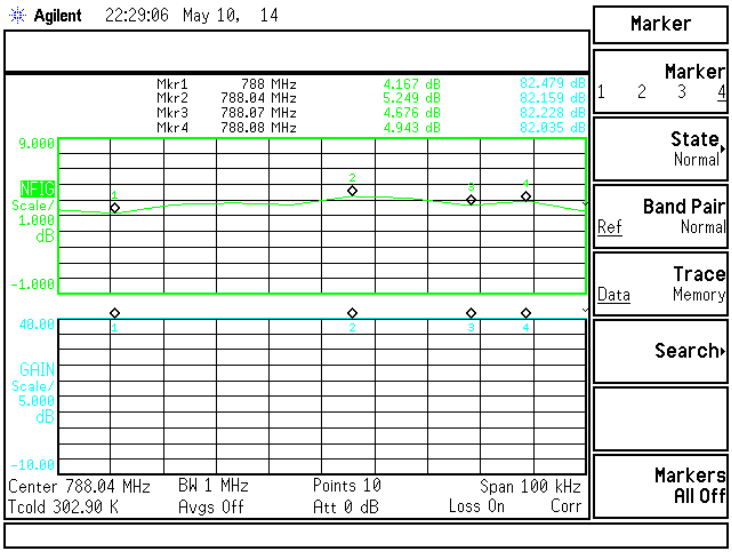
OPERATING FREQUENCY RANGE:	851 – 869 MHz
DETECTOR USED:	Average
NOISE FIGURE:	Within the passband
CONFIGURATION:	Downlink
POWER SETTING:	37 dBm



Test specification:	Section 90.219(e)(2), Noise figure		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
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:			

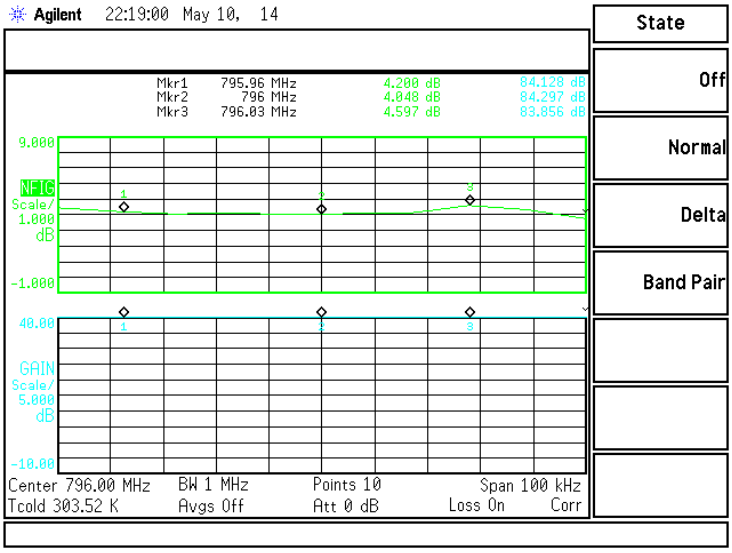
Plot 7.7.7 Noise figure test results at low frequency

OPERATING FREQUENCY RANGE:	788 – 805 MHz
DETECTOR USED:	Average
NOISE FIGURE:	Within the passband
CONFIGURATION:	Uplink
POWER SETTING:	28 dBm



Plot 7.7.8 Noise figure test results at mid frequency

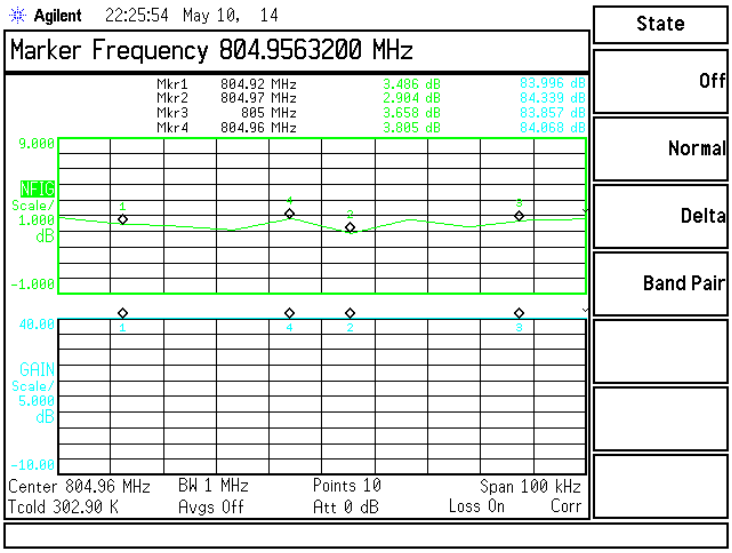
OPERATING FREQUENCY RANGE:	788 – 805 MHz
DETECTOR USED:	Average
NOISE FIGURE:	Within the passband
CONFIGURATION:	Uplink
POWER SETTING:	28 dBm



Test specification:	Section 90.219(e)(2), Noise figure		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
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:			

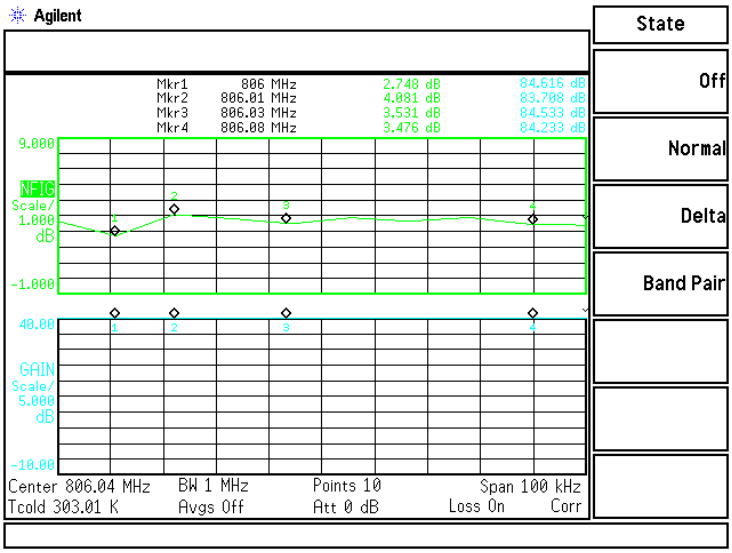
Plot 7.7.9 Noise figure test results at high frequency

OPERATING FREQUENCY RANGE:	788 – 805 MHz
DETECTOR USED:	Average
NOISE FIGURE:	Within the passband
CONFIGURATION:	Uplink
POWER SETTING:	28 dBm



Plot 7.7.10 Noise figure test results at low frequency

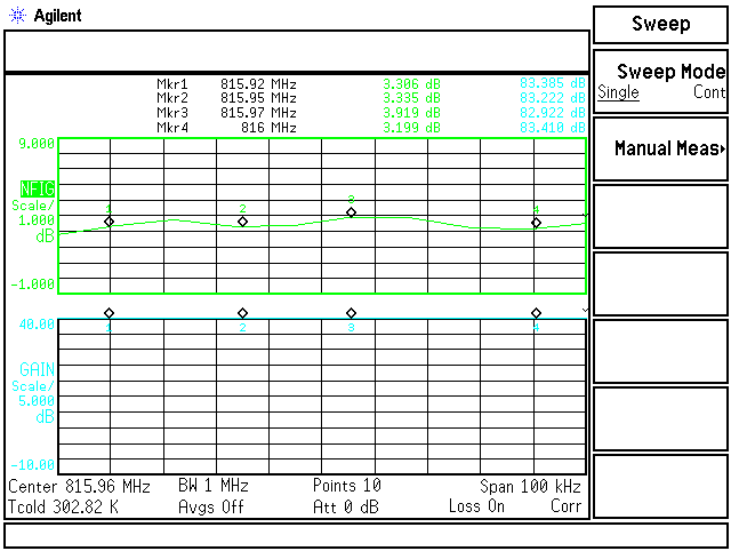
OPERATING FREQUENCY RANGE:	806 – 824 MHz
DETECTOR USED:	Average
NOISE FIGURE:	Within the passband
CONFIGURATION:	Uplink
POWER SETTING:	28 dBm



Test specification:	Section 90.219(e)(2), Noise figure		
Test procedure:	47 CFR, Sections 2.1051; KDB 935210 D02 v02, Appendix D		
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:			

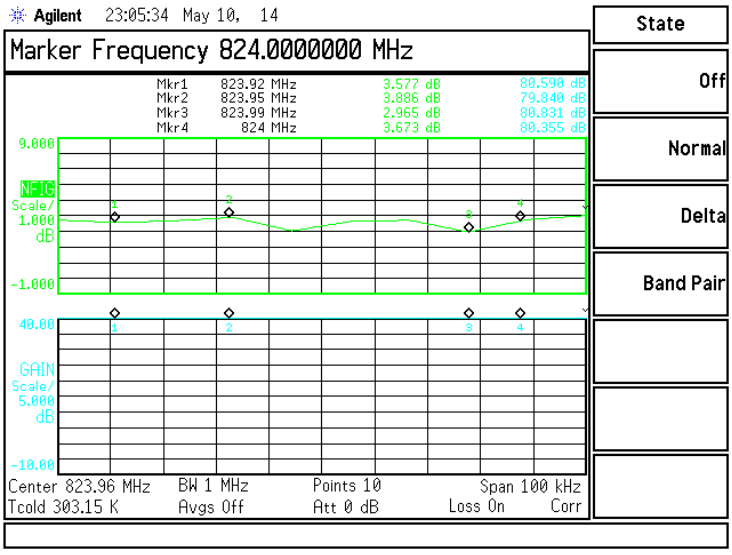
Plot 7.7.11 Noise figure test results at mid frequency

OPERATING FREQUENCY RANGE: 806 – 824 MHz
DETECTOR USED: Average
NOISE FIGURE: Within the passband
CONFIGURATION: Uplink
POWER SETTING: 28 dBm



Plot 7.7.12 Noise figure test results at high frequency

OPERATING FREQUENCY RANGE: 806 – 824 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-15	31-Aug-16
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 to 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	08-Sep-15	08-Sep-16
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
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	09-Sep-15	09-Sep-16
3768	Attenuator, N-type, 20 dB, DC to 18 GHz, 5 W	Mini-Circuits	BW-N20W5+	NA	18-Aug-15	18-Aug-16
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
3779	Attenuator, N-type, 10 dB, DC to 18 GHz, 5 W	Mini-Circuits	BW-N10W5+	NA	31-May-15	31-May-16

HL No	Description	Manufacturer	Model	Ser. No.	Last Cal./ Check	Due Cal./ Check
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
3818	PSA Series Spectrum Analyzer, 3 Hz- 44 GHz	Agilent Technologies	E4446A	MY48250288	29-Apr-15	29-Apr-16
3903	Microwave Cable Assembly, 40.0 GHz, 1.5 m, SMA/SMA	Huber-Suhner	SUCOFLEX 102A	1226/2A	10-Feb-15	10-Feb-16
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	31-Aug-15	31-Aug-16
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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Person for contact: Mr. Alex Usoskin, CEO.

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 v02:4.04.2014	Signal BoostersCertification

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
Test Cable, Mini-Circuits, CBL-5FT-SMSM+, SMA-SMA, 18 GHz, 1.5 m, S/N 25683
Mini-Circuits, HL 3434

Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB
10.0	0.06	9000	1.96
100	0.16	9500	2.01
500	0.40	10000	2.01
1000	0.57	10500	2.14
1500	0.72	11000	2.21
2000	0.85	11500	2.24
2500	0.95	12000	2.36
3000	1.03	12500	2.47
3500	1.11	13000	2.46
4000	1.21	13500	2.50
4500	1.29	14000	2.53
5000	1.39	14500	2.53
5500	1.46	15000	2.62
6000	1.52	15500	2.70
6500	1.60	16000	2.80
7000	1.68	16500	2.86
7500	1.75	17000	2.88
8000	1.83	17500	2.94
8500	1.88	18000	3.00

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
Microwave Cable Assembly, Huber-Suhner, 40 GHz, 1.5 m, SMA-SMA, S/N 1226/2A
HL 3903

Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB
10	-0.02	9500	1.84	21000	2.98
100	0.15	10000	1.86	22000	3.07
500	0.38	10500	1.93	23000	3.13
1000	0.56	11000	1.99	24000	3.21
1500	0.69	11500	2.04	25000	3.26
2000	0.82	12000	2.10	26000	3.48
2500	0.90	12500	2.15	27000	3.44
3000	0.98	13000	2.21	28000	3.53
3500	1.06	13500	2.25	29000	3.59
4000	1.11	14000	2.29	30000	3.66
4500	1.17	14500	2.34	31000	3.70
5000	1.24	15000	2.36	32000	3.79
5500	1.32	15500	2.40	33000	3.88
6000	1.40	16000	2.45	34000	3.94
6500	1.50	16500	2.48	35000	3.91
7000	1.56	17000	2.56	36000	4.05
7500	1.62	17500	2.58	37000	4.22
8000	1.68	18000	2.60	38000	4.25
8500	1.74	19000	2.84	39000	4.27
9000	1.78	20000	2.88	40000	4.33

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

END OF DOCUMENT