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FCC PART 15.Subpart H White Spaces System

PART 1TEST REPORT

Fixed TVBD Device Part 1

Applicant	Meld Technology Inc.
Address	1645 Canary Drive
	Sunnyvale, CA 94087 USA
FCC ID	OKVMT300
Model Number	MT300
Product Description	White Space Fixed TVBD
Date Sample Received	7/6/2012
Date Tested	7/16/2012, 10/2/2012
Tested By	Sushant Kadimdivan
Approved By	Mario de Aranzeta
Report Number	S\SPECTRUM BRIDGE\2575UT12\2575UT12TestReport.doc
Test Results	☒ PASS ☐ FAIL

THE ATTACHED REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL OF TIMCO ENGINEERING, INC.

ACCREDITED

Testing Certificate # 0955-01

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GENERAL REMARKS

The attached report shall not be reproduced except in full without the written permission of Timco Engineering Inc.

The test results relate only to the items tested.

Summary
The device under test does:
☒ fulfill the general approval requirements as identified in this test report
☐ not fulfill the general approval requirements as identified in this test report

Attestations

The scope of this document is to report the results of the Fixed TVBD Part 1 Radio Frequency Certification Tests. There are three (3) components of the White Spaces technology;

- **TV Band devices (Fixed TVBD for Certification).**
- **TV Bands Database**
- **TV Band System,** Made up of Fixed TVBD's database, and layer of interaction between the devices and the databases.

To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report.

All instrumentation and accessories used to test products for compliance to the indicated standards are calibrated regularly in accordance with ISO 17025: 2005 requirements.

ACCREDITED
Testing Certificate # 0955-01

I attest that the necessary measurements were made, under my supervision, at:

Timco Engineering Inc.
849 NW State Road 45
Newberry, Fl 32669

Authorized Signatory Name:

TIMCO ENGINEERING INC

Mario de Aranzeta C.E.T.
Compliance Engineer/ Lab. Supervisor
Date: October 8, 2012

GENERAL INFORMATION

DUT Description

General:

The Equipment Under Test (EUT's), is Meld Technology, Inc. model MT300 radio intended for use as Fixed TV Bands devices for the purpose of testing and verifying compliance with Part 15 Subpart H of Title 47 of the Code of Federal Regulations. The MT300 operates as a fixed TVBD transmitter in the UHF band using a VSB modulator that is designed to provide low-power transmission of a DTV compatible signal over a limited area. The radios tested are factory pre-configured UHF radios with an operating frequency range of 512-596 MHz (TV channels 21-34) and 620-698 MHz (TV channels 39-51). The radios are designed to comply with the FCC CFR 47 Part 15 subpart H rules. Local and remote device management is provided through a webpage interface and all database transactions are accomplished using a secure shell (SSH) network connection.

DUT Specification

Applicable Standard	Part 15 Subpart H TV Band White Space Fixed Device		
DUT Description	simplex(one way), transmit only		
FCC ID	OKVMT300		
Application:	Low Power HD Digital TV transmission		
Operating Frequency	TX: 512-596 MHz, 620-698 MHz		
Number of channels	CH21 to CH34, CH39 to CH51		
Bridged Ethernet Port:	Ethernet Ports IP Subnets Bridge		
Transmit Power(dBm):	11.52 dBm		
DUT Power Source	☐ 110–120Vac/50– 60Hz		
	☒ DC Power Stontronics 3A-401WP12		
	☐ Battery Operated Exclusively		
Test Item	☐ Prototype	☐ Pre-Production	☒ Production
Type of Equipment	☒ Fixed - WGF	☐ Mobile – WG1	☐ Portable – WG2
	☐ Fixed - WSF	☐ Mobile – WS1	☐ Portable – WS2
Antenna Connector	75 ohm F-Connector		
Antenna	U Tek Technology Co. EA-79X-1		
Network Port	RJ 45		
Serial Port	Male RS 232		
Indicators	☒ Power Indicator		
	☐ Alarm Indicator		
	☒ Transmit Indicator		

Test Facility	Timco Engineering Inc. 849 NW State Road 45 Newberry, FL 32669 USA.
Test Conditions	Temperature: 26ºC Relative humidity: 50%
Test Exercise	The DUT was placed in manual mode allowing for power and frequency adjustments while in a continuous transmit mode of operation.

EMC EQUIPMENT LIST

Device	Manufacturer	Model	Serial Number	Cal/Char Date	Due Date
3-Meter Semi-Anechoic Chamber	Panashield	N/A	N/A	3/24/12	3/24/14
AC Voltmeter	HP	400FL	2213A14499	CAL 6/12/11	6/12/13
Frequency Counter	HP	5385A	2730A03025	CAL 8/17/11	8/17/13
Hygro-Thermometer	Extech	445703	0602	CAL 6/15/11	6/15/13
Modulation Analyzer	HP	8901A	3435A06868	CAL 7/18/11	7/18/13
Digital Multimeter	Fluke	FLUKE-77	35053830	CAL 9/9/11	9/9/13
Analyzer Tan Tower Preamplifier	HP	8449B-H02	3008A00372	CAL 10/28/11	10/28/13
Analyzer Tan Tower Quasi-Peak Adapter	HP	85650A	3303A01690	CAL 10/28/11	10/28/13
Analyzer Tan Tower RF Preselector	HP	85685A	3221A01400	CAL 10/28/11	10/28/13
Analyzer Tan Tower Spectrum Analyzer	HP	8566B Opt 462	3138A07786 3144A20661	CAL 10/28/11	10/28/13
Temperature Chamber	Tenney Engineering	TTRC	11717-7	CHAR 7/3/12	7/3/14
Antenna	ETS	3117	35923	12/7/2011	12/7/2014
Antenna	Electro metrics	LPA-25	1122	5/04/2011	5/04/2013
Antenna	Electro metrics	BIA-25	1171	6/13/2012	6/13/2014
Spectrum Analyzer	Rohde & Schwarz	ESIB40	100274	3/16/2012	3/16/2014

TEST PROCEDURES

RF Test: Certification Test Procedures for TV Band (White Spaces) Devices Authorized under Subpart H of the Part 15 Rules, 416721 DO1 White Space Test Procedures v02.

Power Line Conducted Interference: The procedure used was ANSI C63.4-2009 using a 50uH LISN. Both lines were observed. The bandwidth of the spectrum analyzer was 10 kHz with an appropriate sweep speed. The spectrum was scanned from 0.15 to 30 MHz.

Radiation Interference: ANSI C63.4-2009 using a spectrum analyzer, a preselector, a quasi-peak adapter, and an appropriate antenna. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The resolution bandwidth was 100 kHz with an appropriate sweep speed and the video bandwidth was 300 kHz up to 1 GHz and 1 MHz with a video BW of 3 MHz above 1 GHz. When an emission was found, the table was rotated to produce the maximum signal strength. The antenna was placed in both the horizontal and vertical planes and the worse case emissions were reported. The spectrum was searched to at least the tenth (10) harmonic of the fundamental.

Formula Of Conversion Factors: The field strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBµV) to the antenna correction factor supplied by the antenna manufacturer plus the coax loss. The antenna correction factors are stated in terms of dB. The gain of the preselector was accounted for in the spectrum analyzer meter reading.

Example:

Freq (MHz)	Meter Reading	+ ACF	+ CL = FS
33	20 dBµV	+ 10.36 dB	+ 0.5 = 30.86 dBµV/m @ 3m

Occupied Bandwidth: A small sample of the transmitter output was fed into the spectrum analyzer and the attached plot was printed. The vertical scale is set to -10 dBm per division.

Bandwidth 6.0dB: The measurements were made with the spectrum analyzer's resolution bandwidth (RBW)=1 MHz and the video bandwidth (VBW) =3 MHz and the span set as shown on plot.

Power Output: The RF power output was measured at the antenna feed point using a spectrum analyzer

Antenna Conducted Emissions: The RBW=100 kHz, VBW=300 kHz and the span set to 10 MHz and the spectrum was scanned from 30 MHz to the 10th Harmonic of the fundamental. Above 1 GHz the resolution bandwidth was 1 MHz and the VBW = 3 MHz and the span to 50 MHz.

ANSI C63.4-2009 10.1 Measurement Procedures: The DUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The DUT was placed in the center of the table (1.5m side). The table used for radiated measurements is capable of continuous rotation.

When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes. Emissions attenuated more than 20 dB below the permissible value are not reported.

§15.203 Antenna Requirements:

Requirement: A UNIQUE connector or the antenna must be permanently attached.

The device will be required to be professionally installed. It is not a consumer device.

§15.207 & §15.709(c)(5) POWER LINE CONDUCTED INTERFERENCE

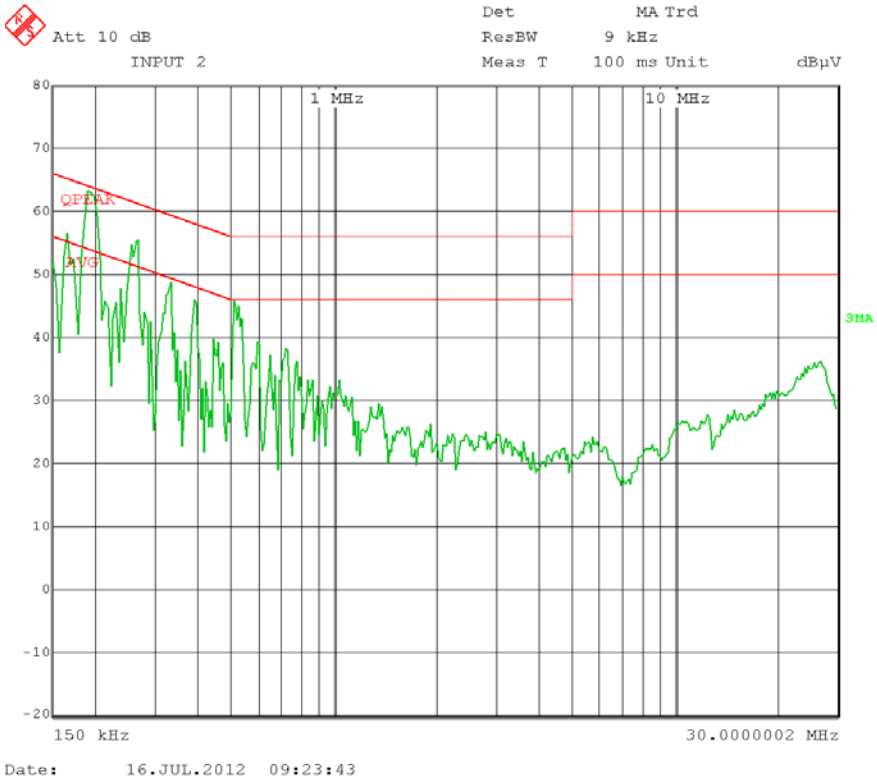
Rules Part No.: Part 15.207

Requirements:

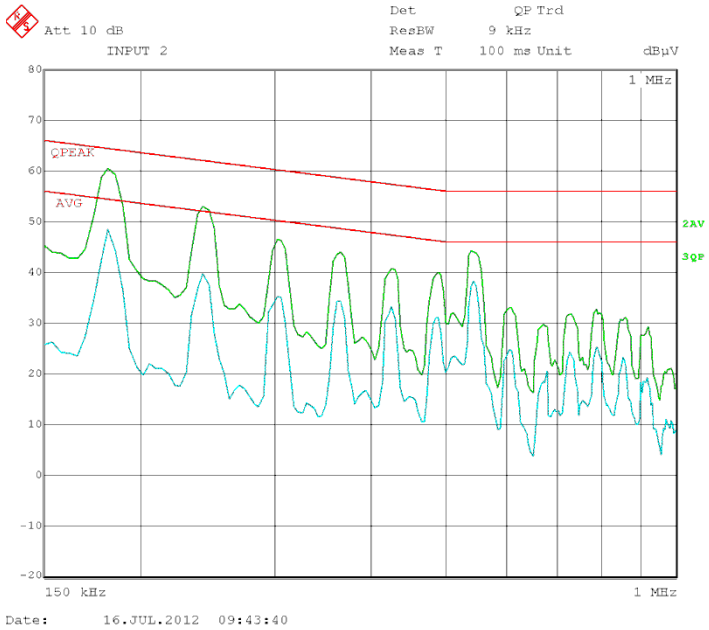
Frequency (MHz)	Quasi Peak Limits (dBµV)	Average Limits (dBµV)
0.15 – 0.5	66 – 56 *	56 – 46 *
0.5 – 5.0	56	46
5.0 – 30	60	50
* Decrease with logarithm of frequency		

Test Data: The following plots represent the emissions read for power line conducted. Both lines were observed.
The device was put in transmit mode.

POWERLINE CONDUCTED PLOTS

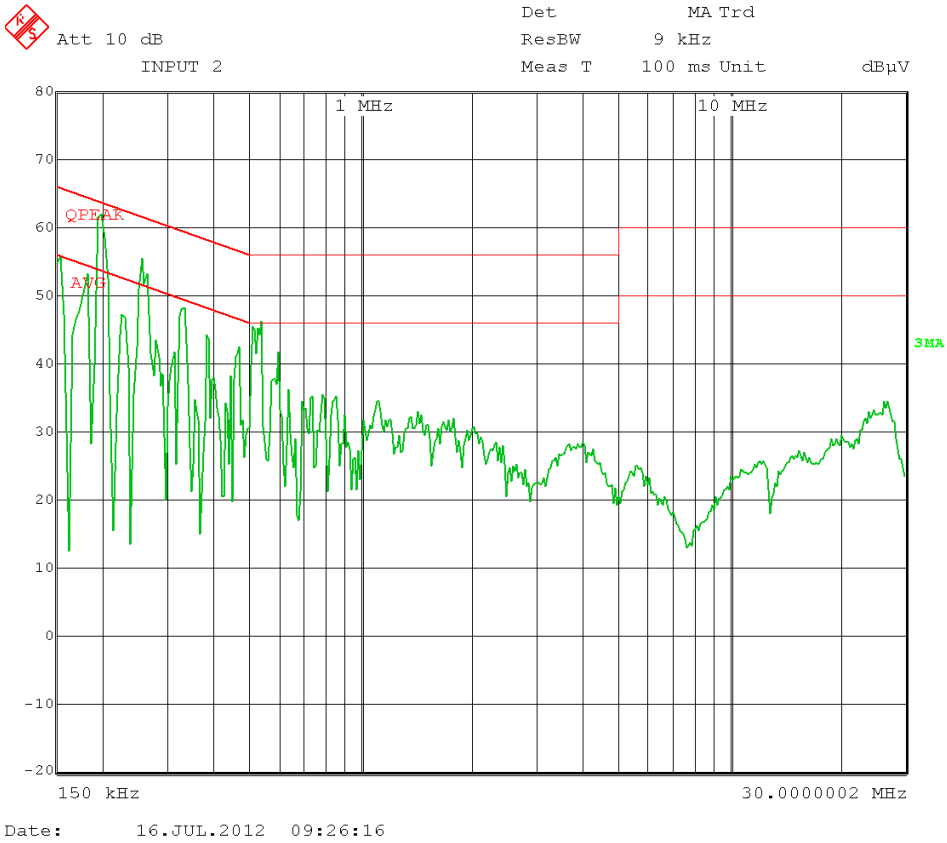


Peak Detector, Line 1

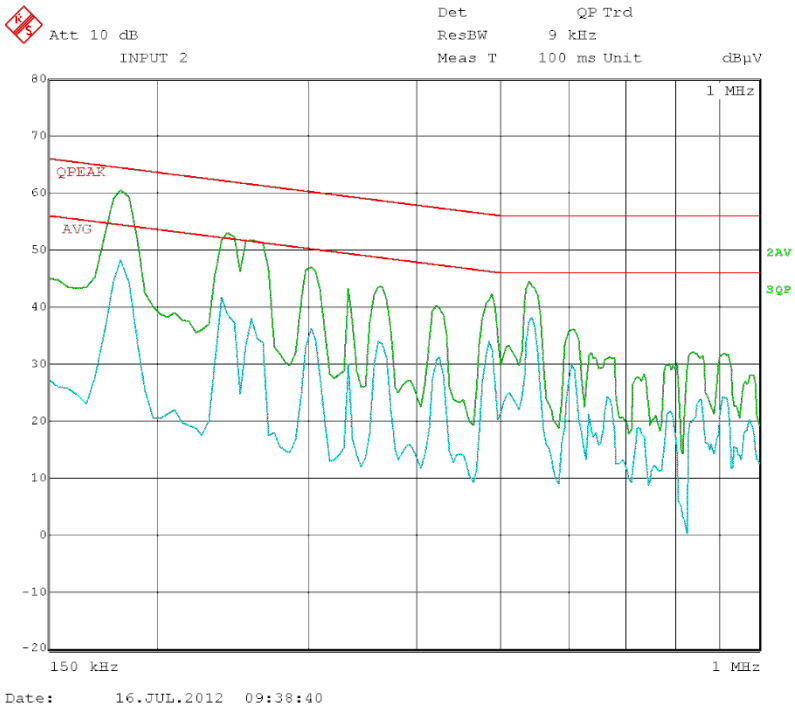


Quasi-Peak, Line 1 (150 kHz to 1MHz)

POWERLINE CONDUCTED PLOTS



Peak Detector, Line 2



Quasi-peak Detector, Line 2 (150 kHz to 1 MHz)

§15.209 RADIATION INTERFERENCE

Rules Part No.: 15.709(c)(3) Emission Limits for TVBD's, 15.209

Requirements:

Frequency	Limits
Part 15.209	
9 to 490 kHz	2400/F (kHz) µV/m @ 300 meters
490 to 1705 kHz	24000/F (kHz) µV/m @ 30 meters
1705 kHz to 30 MHz	29.54 dBµV/m @ 30 meters
30 – 88	40.0 dBµV/m @ 3 meters
80 – 216	43.5 dBµV/m @ 3 meters
216 – 960	46.0 dBµV/m @ 3 meters
Above 960	54.0 dBµV/m @ 3 meters

Any emissions that fall in the restricted bands (15.205) must be less than or equal to 54 dBµV/m. Spurious emissions not in a restricted band must be 20 dBc. Harmonics were checked through the 10th harmonic.

The whitespace TVBD must meet CLASS B requirements.

Test Data: All values are peak unless noted.
Items mark with an * designate a frequency in a restricted band.
Measurement Distance is 3m.

Unintentional Radiated Emissions

Emission Frequency MHz	Meter Reading dBuV	Ant. Polarity	Coax Loss dB	Correction Factor dB/m	Field Strength dBuV/m	Margin dB
40.12	15.0	V	0.45	13.48	28.93	11.07
57.08	5.1	H	0.52	8.90	14.52	25.48
76.30	16.8	V	0.59	7.02	24.41	15.59
80.50	4.9	H	0.60	8.32	13.82	26.18
95.38	16.7	V	0.64	10.62	27.96	15.54
96.90	7.2	H	0.64	10.68	18.52	24.98
133.50	12.3	V	0.68	13.68	26.66	16.84
143.02	5.4	V	0.69	15.46	21.55	21.95
171.60	7.0	V	0.79	15.45	23.24	20.26
248.00	7.5	H	1.00	12.76	21.26	24.74
248.00	14.6	V	1.00	12.76	28.36	17.64
381.00	11.2	V	1.18	15.65	28.03	17.97
448.20	8.2	H	1.25	17.52	26.97	19.03
486.00	10.3	V	1.29	18.14	29.73	16.27
543.00	9.3	V	1.43	18.73	29.46	16.54
562.70	10.2	V	1.49	19.13	30.82	15.18
672.00	10.0	V	1.67	21.54	33.21	12.79
672.00	10.4	H	1.67	21.54	33.61	12.39
868.20	8.5	V	1.93	23.18	33.61	12.39
1,296.00	6.1	V	2.34	27.86	36.30	17.70

Note: The transmitter on the product was turned off using control software.

Intentional Radiated Emissions

Emission Frequency MHz	Meter Reading dBuV	Ant. Polarity	Coax Loss dB	Correction Factor dB/m	Field Strength dBuV/m	Margin dB
76.26	16.7	V	0.59	7.00	24.29	15.71
95.32	16.6	V	0.64	10.61	27.85	15.65
133.40	12.3	V	0.68	13.65	26.63	16.87
160.00	6.2	H	0.74	16.70	23.64	19.86
171.50	7.0	V	0.79	15.47	23.26	20.24
248.00	14.4	V	1.00	12.76	28.16	17.84
381.40	11.8	V	1.18	15.67	28.65	17.35
486.00	9.6	V	1.29	18.14	29.03	16.97
534.00	9.7	V	1.40	18.64	29.74	16.26
624.00	7.5	H	1.62	20.08	29.20	16.80
1,029.00	25.4	V	2.12	27.53	55.05	-1.05
1,029.00	23.0(AVG)	V	2.12	27.53	52.65	1.35
1,029.00	22.5	H	2.12	27.53	52.15	1.85
1,029.00	13.0(AVG)	H	2.12	27.53	42.65	11.35
1,544.00	32.3	H	2.54	28.44	63.28	-9.28
1,544.00	20.2(AVG)	H	2.54	28.44	51.18	2.82
1,545.00	27.5	V	2.54	28.45	58.49	-4.49
1,545.00	21.0(AVG)	V	2.54	28.45	51.99	2.01
2,574.00	17.1	H	3.30	32.70	53.10	0.9
2,574.00	18.2	V	3.30	32.70	54.20	-0.2
2,574.00	17.0(AVG)	V	3.30	32.70	53.00	1
3,090.00	8.7	V	3.68	33.26	45.64	8.36
3,605.00	12.1	H	4.14	33.27	49.51	4.49
3,605.00	14.0	V	4.14	33.27	51.41	2.59
4,120.00	13.0	V	4.56	33.90	51.46	2.54
4,634.00	11.0	H	4.82	33.93	49.75	4.25
4,634.00	12.8	V	4.82	33.93	51.55	2.45

Tx on channel 21 (515 MHz) – Low Channel

Note: Frequencies (above 1000MHz) at which the emissions exceed the limits with peak detector, were re-measured with averaging turned on and found to be below the limit.
Emissions were checked from 9 kHz or the lowest frequency generated to the 10th Harmonic.

Emission Frequency MHz	Meter Reading dBuV	Ant. Polarity	Coax Loss dB	Correction Factor dB/m	Field Strength dBuV/m	Margin dB
41.04	18.1	V	0.46	13.33	31.89	8.11
76.26	16.8	V	0.59	7.00	24.39	15.61
95.30	15.9	V	0.64	10.61	27.15	16.35
124.00	5.2	H	0.67	11.30	17.17	26.33
133.40	12.7	V	0.68	13.65	27.03	16.47
171.50	7.0	V	0.79	15.47	23.26	20.24
247.90	14.4	V	1.00	12.75	28.15	17.85
346.00	5.7	H	1.15	15.00	21.85	24.15
467.30	7.5	V	1.27	17.67	26.44	19.56
562.65	9.8	V	1.49	19.13	30.42	15.58
1,246.00	14.7	H	2.30	27.80	44.80	9.2
1,246.00	18.2	V	2.30	27.80	48.30	5.7
1,868.00	15.7	V	2.79	30.97	49.46	4.54
1,868.00	16.6	H	2.79	30.97	50.36	3.64
2,492.00	15.1	V	3.24	32.59	50.93	3.07
3,115.00	10.2	V	3.70	33.25	47.15	6.85
3,738.00	12.1	H	4.26	33.48	49.84	4.16
3,738.00	12.5	V	4.26	33.48	50.24	3.76

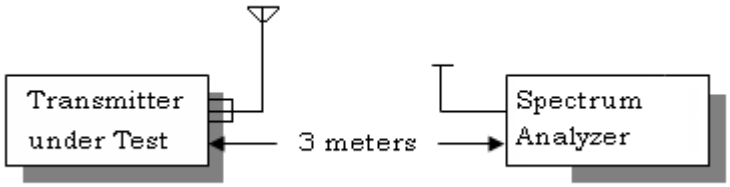
Tx on channel 39 (623 MHz) – Mid Channel

Emission Frequency MHz	Meter Reading dBuV	Ant. Polarity	Coax Loss dB	Correction Factor dB/m	Field Strength dBuV/m	Margin dB
64.02	6.9	H	0.55	6.05	13.50	26.5
76.24	16.2	V	0.59	7.00	23.79	16.21
95.30	15.9	V	0.64	10.61	27.15	16.35
133.00	13.2	V	0.68	13.54	27.42	16.08
171.50	7.0	V	0.79	15.47	23.26	20.24
248.00	14.6	V	1.00	11.52	27.12	18.88
381.40	12.9	V	1.18	14.78	28.86	17.14
562.60	10.3	V	1.49	18.07	29.86	16.14
729.60	6.7	H	1.76	21.63	30.09	15.91
827.50	15.6	V	1.91	21.48	38.99	7.01
1,389.00	17.7	V	2.41	27.97	48.08	5.92
1,390.00	17.0	H	2.41	27.97	47.38	6.62
2,084.00	18.1	H	2.96	32.10	53.16	0.84
2,085.00	15.5	V	2.96	32.10	50.56	3.44
3,474.00	11.2	V	4.03	33.11	48.34	5.66
3,475.00	12.0	H	4.03	33.11	49.14	4.86
4,864.00	11.5	V	4.93	33.97	50.40	3.6
4,865.00	10.3	H	4.93	33.97	49.20	4.8

Tx on channel 51 (695 MHz) – High Channel

Results: **PASS**

Method of Measuring Radiated Spurious Emissions



METHOD OF MEASUREMENT: The procedure used was ANSI standard C63.4-2009 & the FCC/OET Guidance on Measurements for Spread Spectrum Systems – KDB 558074 dated March 23, 2005.

§15.709(a) Power Limits Fixed TVBD

Test Procedure: 15.709(a)(2), 15.709(a)(5)(ii),
416721 D01 Whitespace Procedures v02

Requirements: 15.709(a)(2), 15.709(a)(5)(ii)

EIRP 40mw Power limit (6MHz) = 16dBm
EIRP 40mw PSD limit (100kHz) = -1.4dBm

Fixed Power limit (6MHz) = 30dBm
Fixed PSD limit (100kHz) = 12.6dBm

Test Data:

EIRP –Radiated measurements:

Low Band: 515 MHZ

		EIRP dBm	Ant Polarity
Inband	6MHZ	3.98	V
Inband	PSD	-13.41	H

Mid Band: 623 MHZ

		EIRP dBm	Ant Polarity
Inband	6MHZ	5.07	H
Inband	PSD	-7.3	H

High Band: 695 MHz

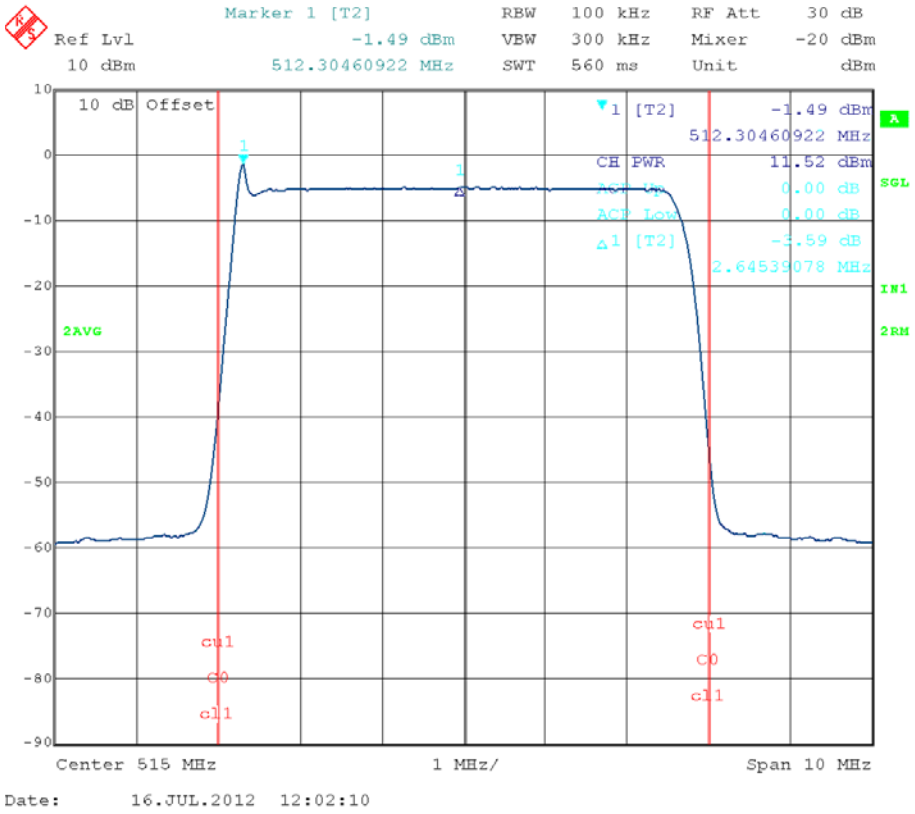
		EIRP dBm	Ant Polarity
Inband	6MHZ	3.69	V
Inband	PSD	-8.99	V

CONDUCTED RESULTS:

- **Test Results #1 Low of the Band:**

Channel Frequency: 515 MHz

Measured Channel Power: (Conducted) 11.52 dBm
Highest in-band PSD: (Conducted) -1.49 dBm



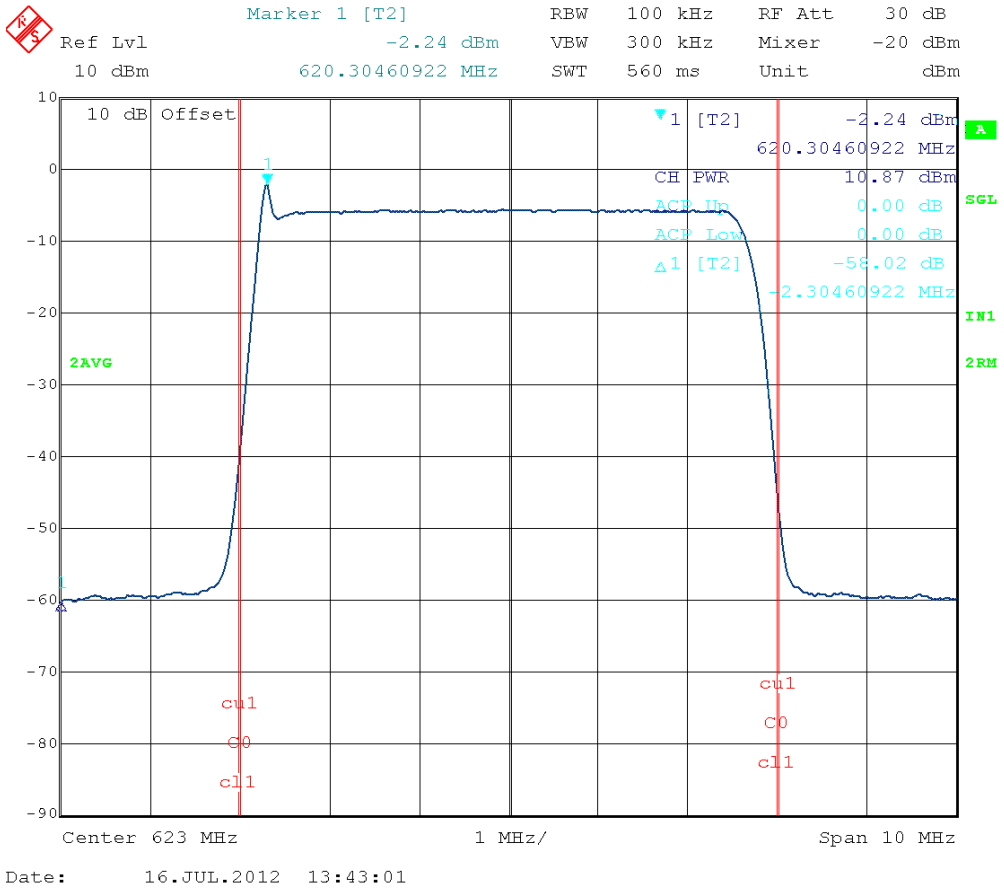
Channel 21

Results: **PASS, The maximum gain of the antenna is -5 dBi**

Test Results #2 Middle of the Band:

Channel Frequency: 623 MHz

Measured Channel Power: (Conducted) 10.87 dBm
Highest in-band PSD: (Conducted) -2.24 dBm

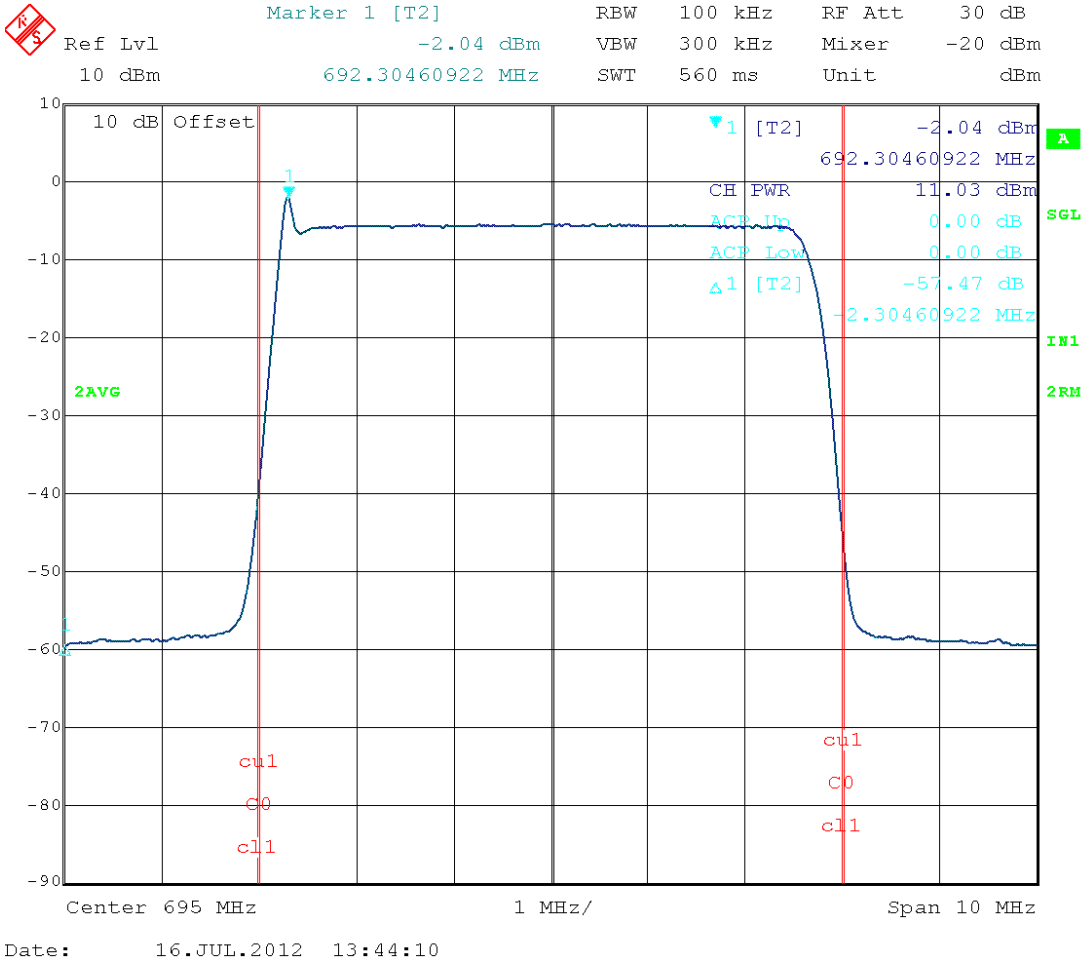


Results: **PASS, The maximum gain of the antenna is -5dBi**

o **Test Results #3 High End of the Band:**

Channel Frequency: 695 MHz

Measured Channel Power: (Conducted) 11.03 dBm
Highest in-band PSD: (Conducted) -2.04 dBm



Results: **PASS, The maximum gain of the antenna is -5dBi**

§15.709(a)(3)(i) Transmitter Power Control Fixed TVBD

The power setting for the product under test was set (11.5 dBm conducted) using the manufacturer's test tool software. The values programmed in the radio for this testing were as follows,

'g' = ab
'p' = 35

The 'g' and 'p' values are responsible for setting the device transmit power and the device will be limited to these values as the maximum allowable setting for transmit power. The values described represent the maximum transmit power values when the device was compliant with the transmit power limits described in 15.209.

§15.709(c)(1) Emission Limits at the band edge for TVBDs

Requirement: 15.709 (c) (ii), 15.709(c)(2) Emission Limits for TVBDs

Fixed device Limit = -42.8 dBm
Portable, 40mw device Limit (EIRP) = -56.8 dBm

Test Data:

The measurements were made with 10 kHz RBW at the band edges, up to 200 kHz, to avoid capturing in-band signals. Since 15.709(c)(2) specifically calls out for a 100 kHz RBW, the measurements performed using 10 kHz bandwidth were integrated to show total power over two 100 kHz blocks. Beyond 200 kHz displacement, an RBW of 100 kHz was used for measurements.

EIRP –Radiated measurements:

Low Band: 515 MHZ

Adjacent Ch.		EIRP dBm	Ant Polarity
511.9- 512.0	MHZ	-64.3	V
506.0-511.9	MHz	-64.47	H
518.0-518.1	MHz	-66.46	V
518.1-524.0	MHz	-61.31	V

Mid Band: 623 MHZ

		EIRP dBm	Ant Polarity
619.9-620.0	MHz	-60.24	V
619.8-619.9	MHz	-60.35	H
614.0-619.8	MHz	-57.43	H
626.0-626.1	MHz	-61.93	V
626.0-632.0	MHz	-58.85	H

High Band: 695 MHz

		EIRP dBm	Ant Polarity
691.9-692.0	MHz	-60.86	H
686.0-691.9	MHz	-57.63	H
698.0-698.1	MHz	-61.09	H
698.1-704.0	MHz	-57.44	H

Conducted measurements:

Low Band: 515 MHz

Bandwidth	PSD
fL-6MHz to fL-200 kHz	-57.49 dBm
fL-200kHz to fL-100 kHz	-61.90 dBm
fL-100kHz to fL	-59.26 dBm
fH to fH+100kHz	-59.43 dBm
fH+100kHz to fH+200 kHz	-61.35 dBm
fH+200kHz to fH+6MHz	-58.77 dBm

Mid Band: 623 MHz

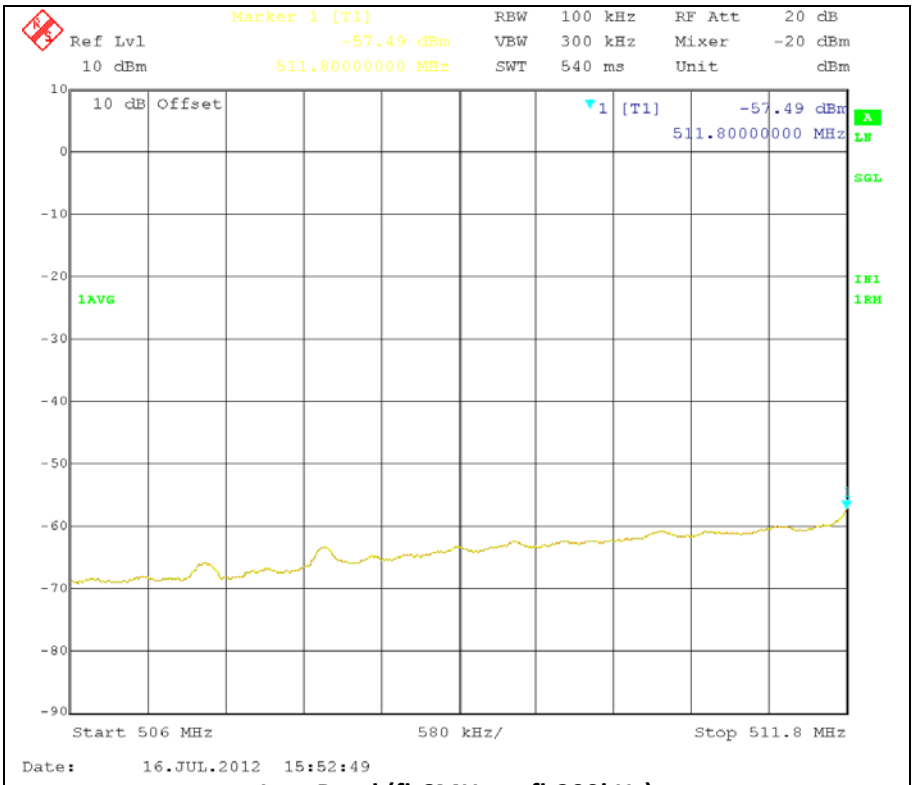
Bandwidth	PSD
fL-6MHz to fL-200kHz	-59.00 dBm
fL-200kHz to fL-100kHz	-64.47 dBm
fL-100kHz to fL	-61.24 dBm
fH to fH+100kHz	-61.64 dBm
fH+100kHz to fH+200kHz	-64.99 dBm
fH+200kHz to fH+6MHz	-60.89 dBm

Mid Band: 695 MHz

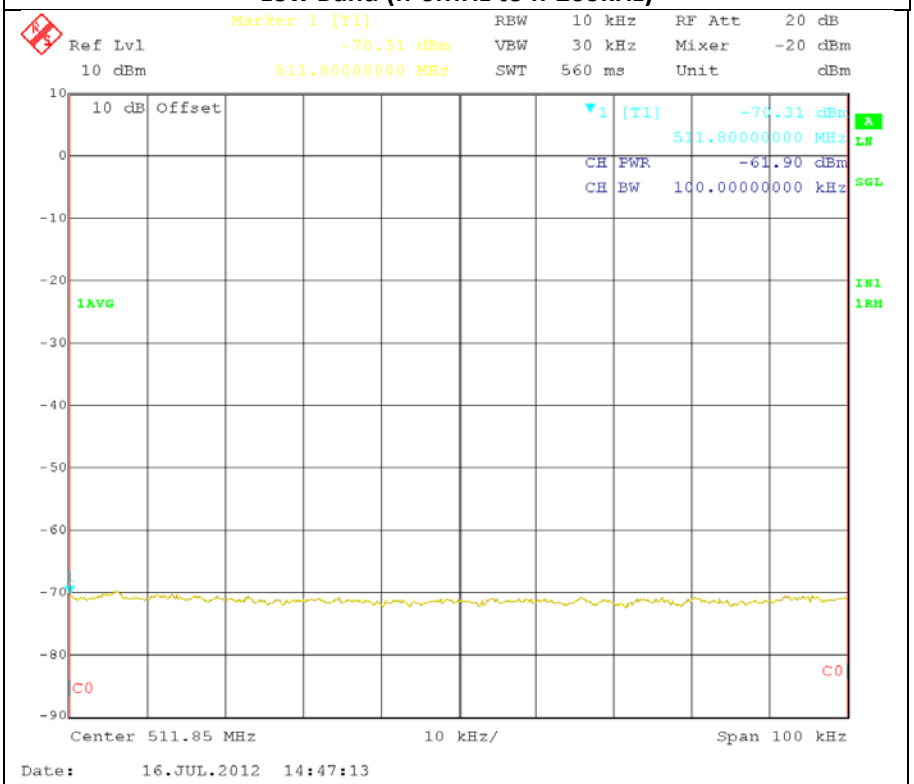
Bandwidth	PSD
fL-6MHz to fL-200kHz	-57.79 dBm
fL-200kHz to fL-100kHz	-62.16 dBm
fL-100kHz to fL	-59.71 dBm
fH to fH+100kHz	-60.51 dBm
fH+100kHz to fH+200kHz	-62.89 dBm
fH+200kHz to fH+6MHz	-59.53 dBm

Conducted Plots

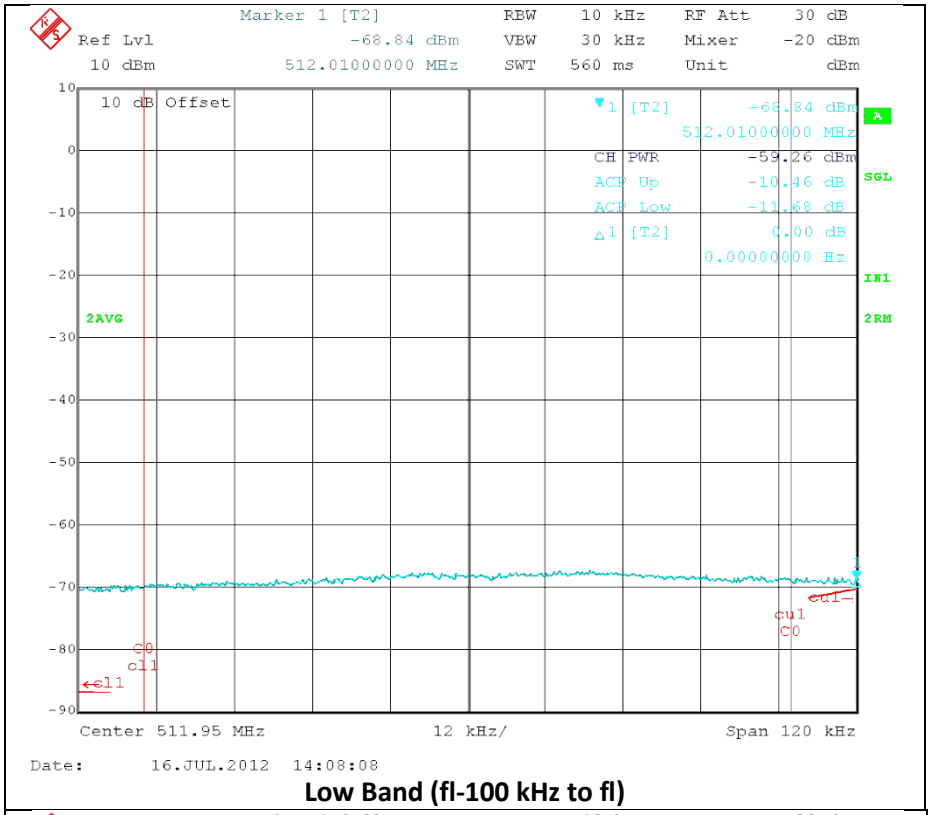
- **Test Results #1 Low of the Band:**



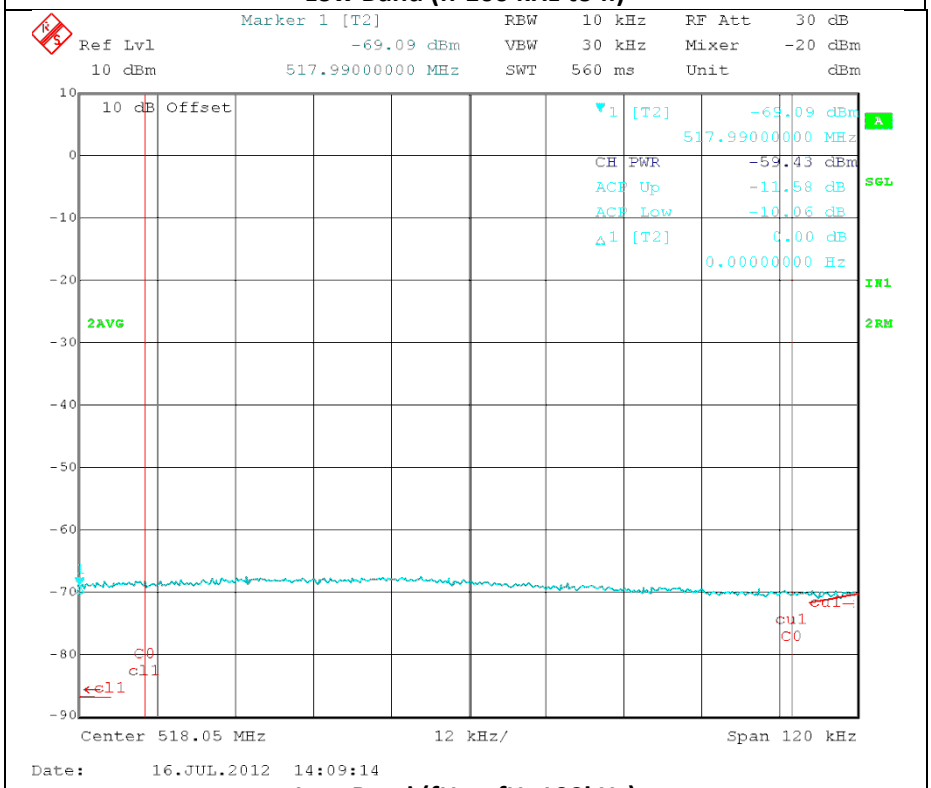
Low Band (fl-6MHz to fl-200kHz)



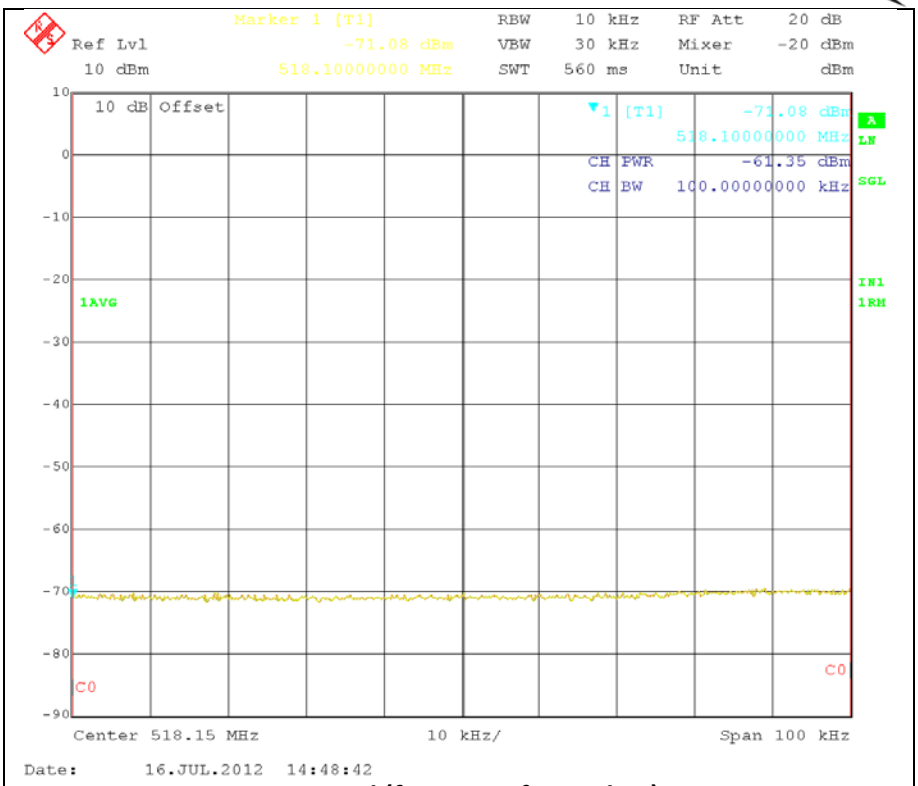
Low Band (fl-200 kHz to fl-100kHz)



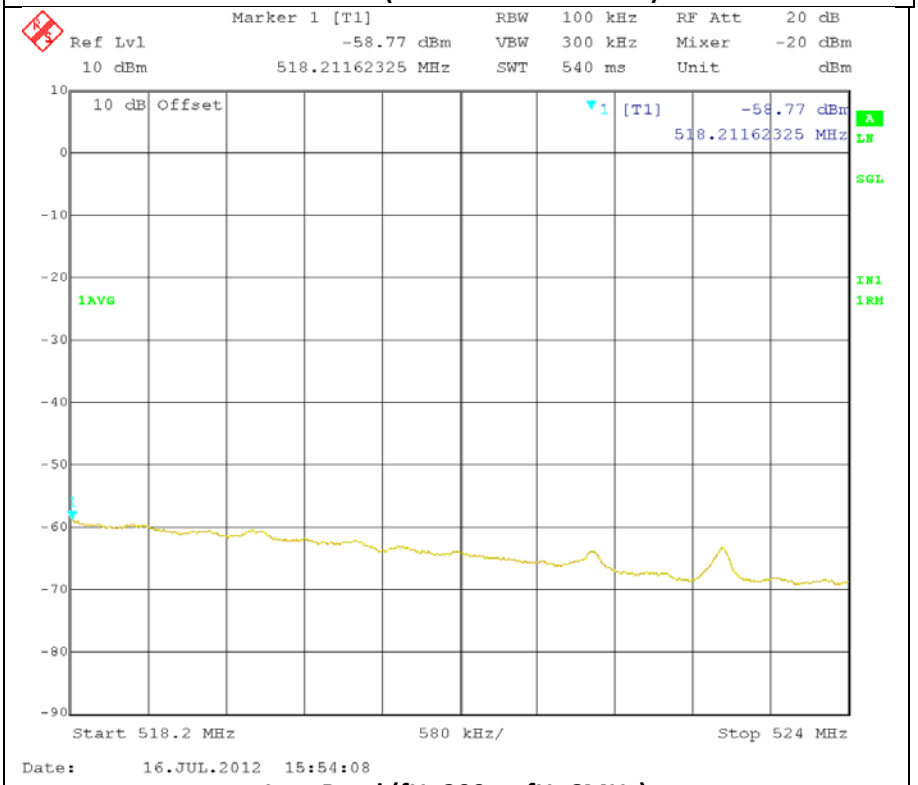
Low Band (fl-100 kHz to fl)



Low Band (fH to fH+100kHz)

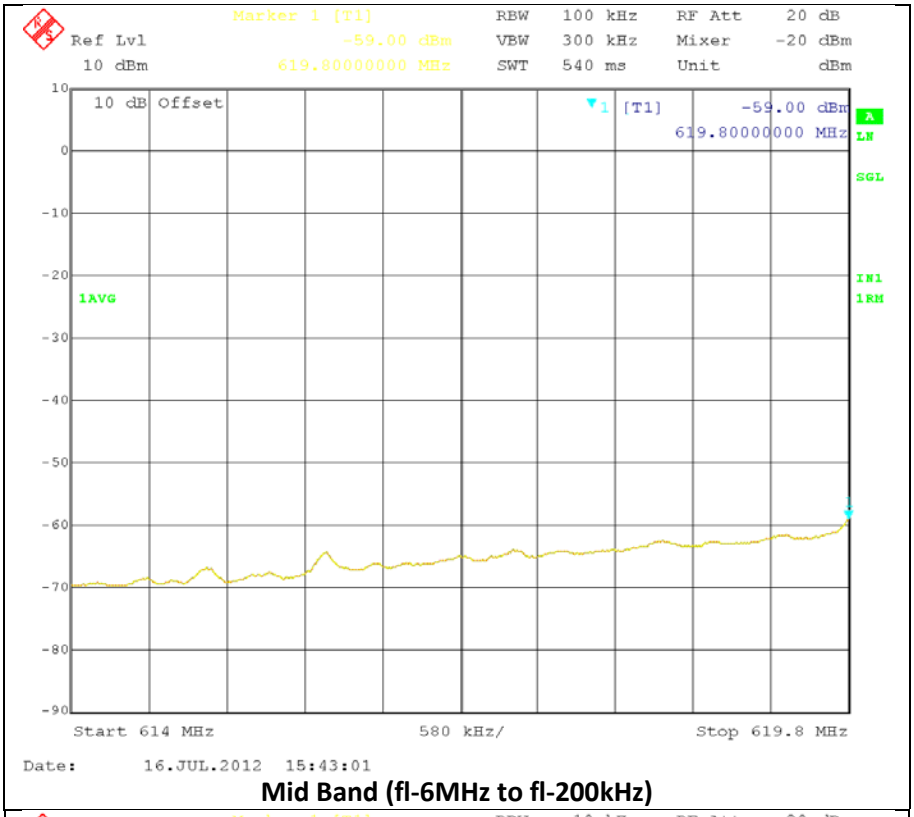


Low Band (fH+100 to fH+200kHz)

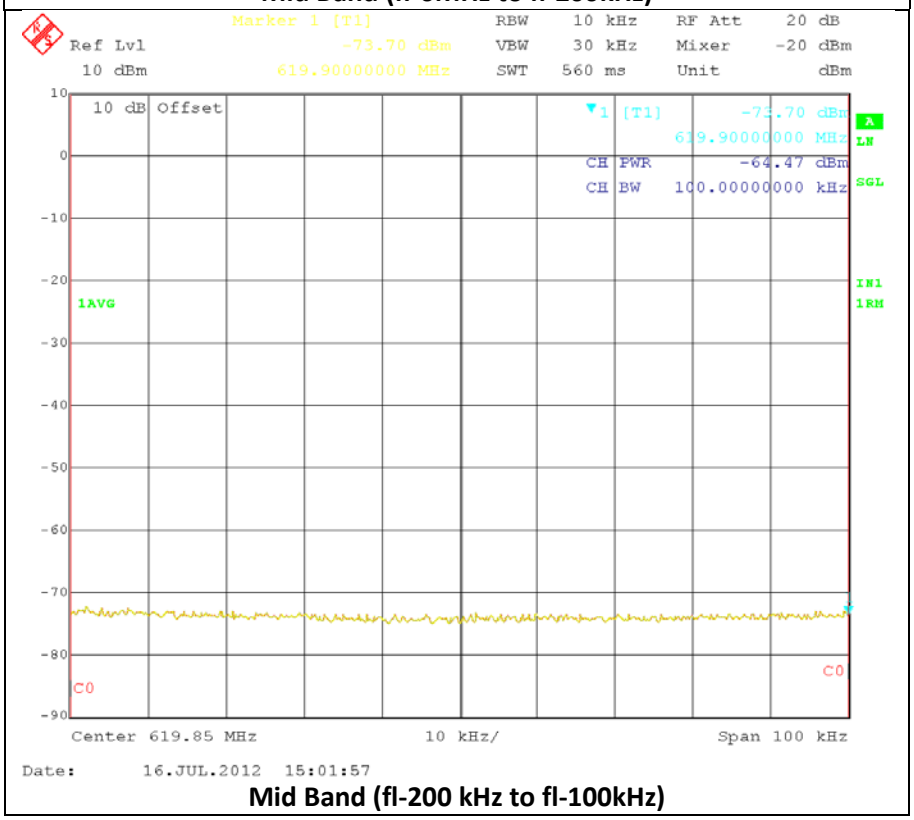


Low Band (fH+200 to fH+6MHz)

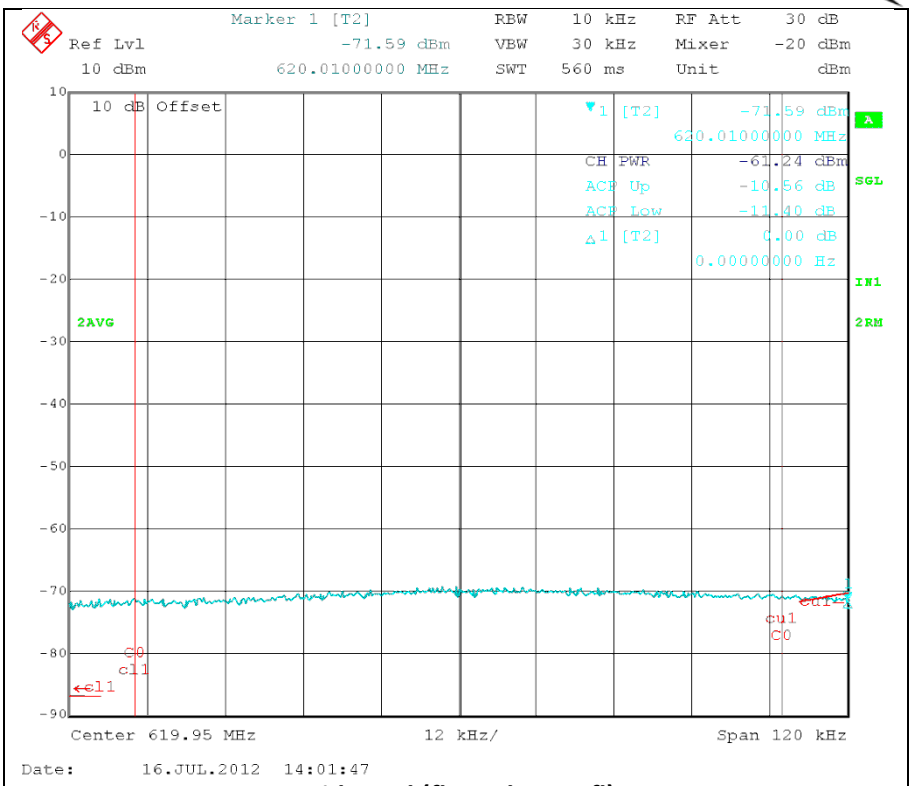
- **Test Results #2 Mid of the Band:**



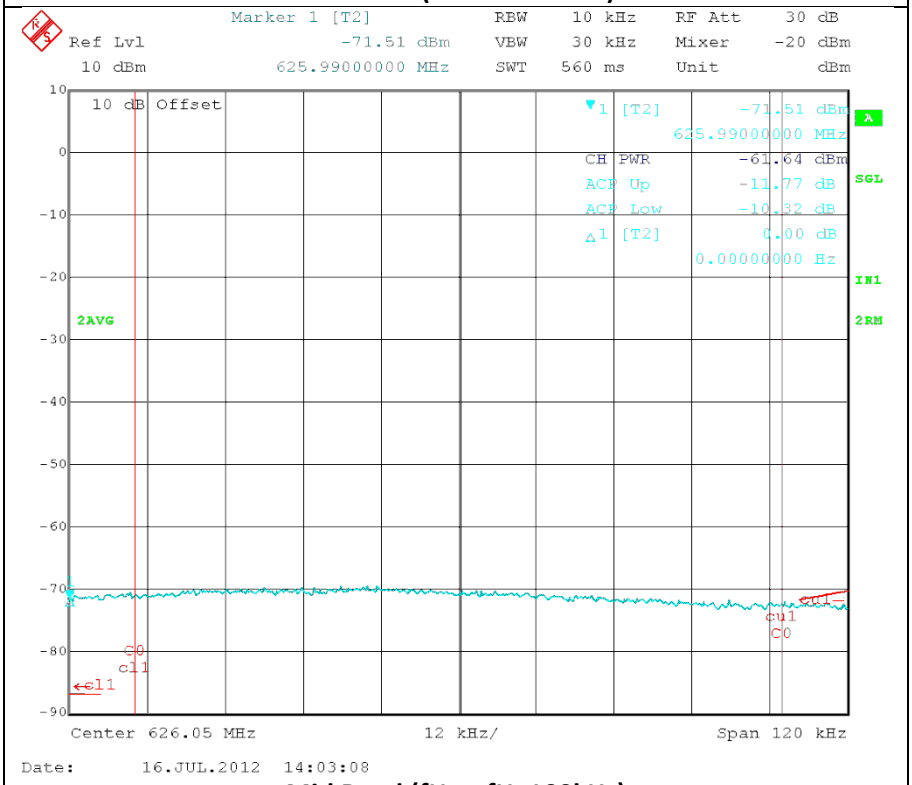
Mid Band (fl-6MHz to fl-200kHz)



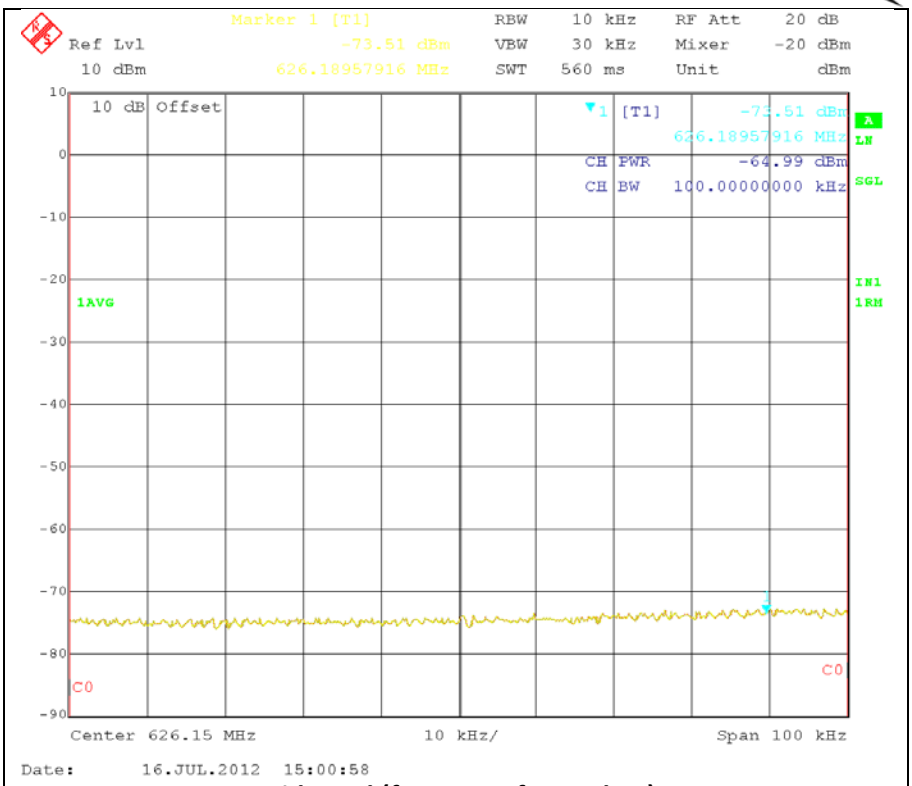
Mid Band (fl-200 kHz to fl-100kHz)



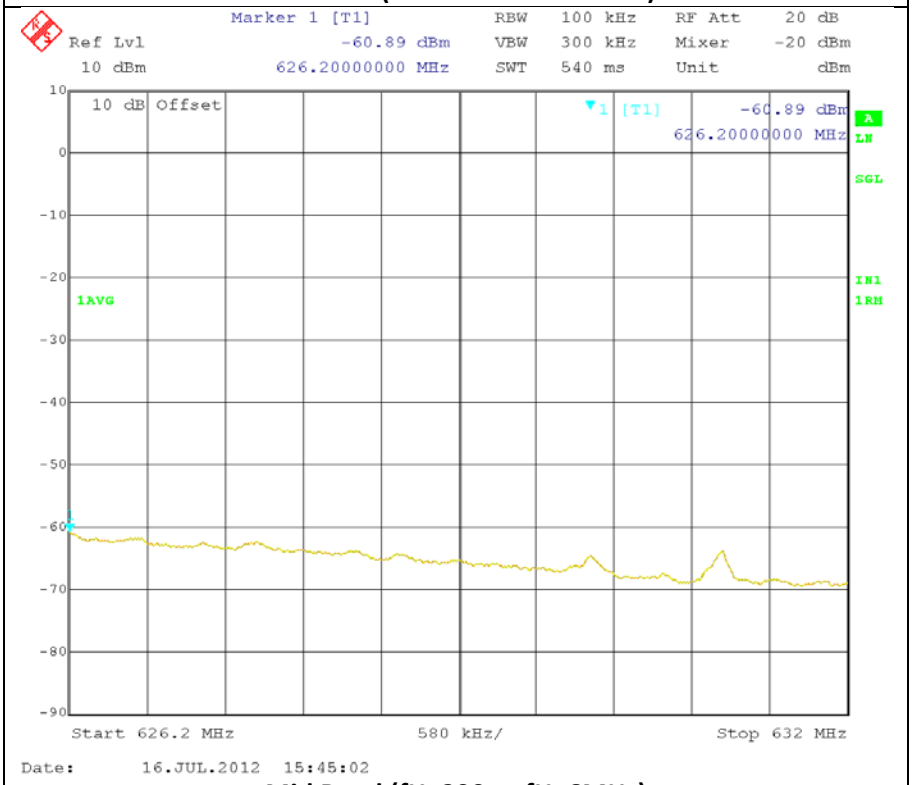
Mid Band (fl-100 kHz to fl)



Mid Band (fH to fH+100kHz)

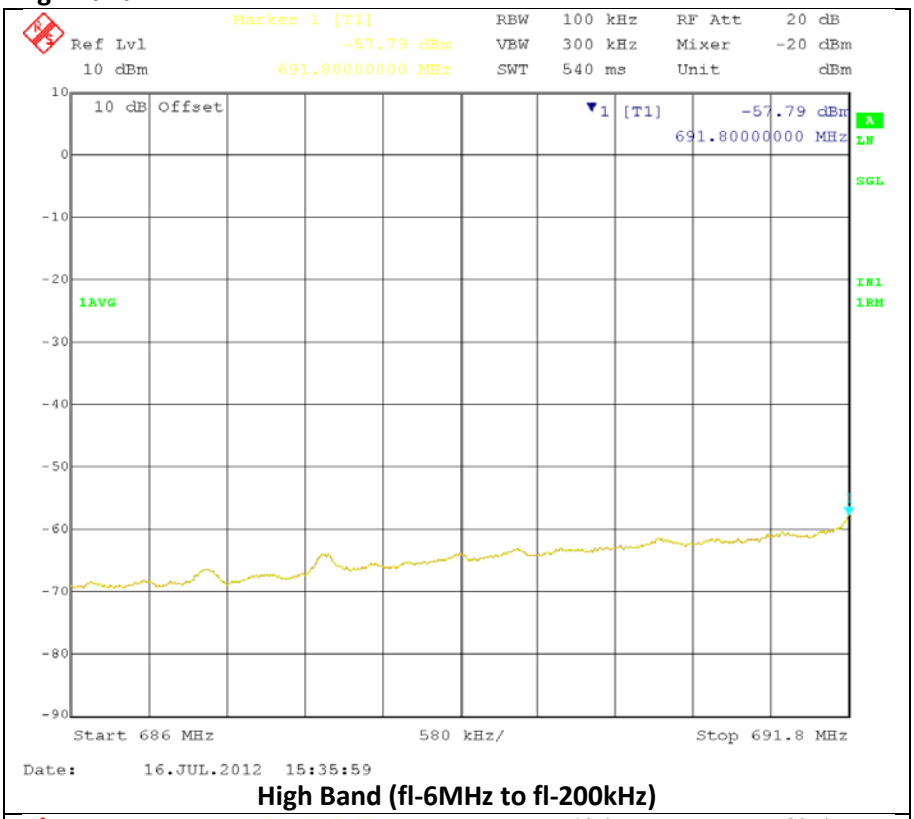


Mid Band (fH+100 to fH+200kHz)

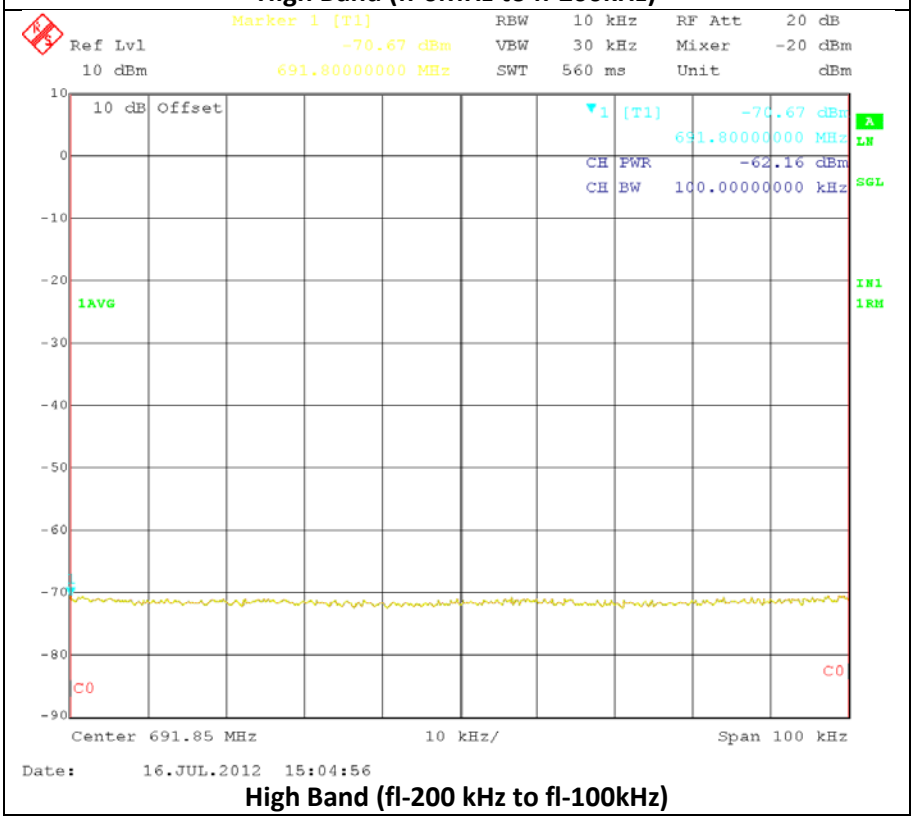


Mid Band (fH+200 to fH+6MHz)

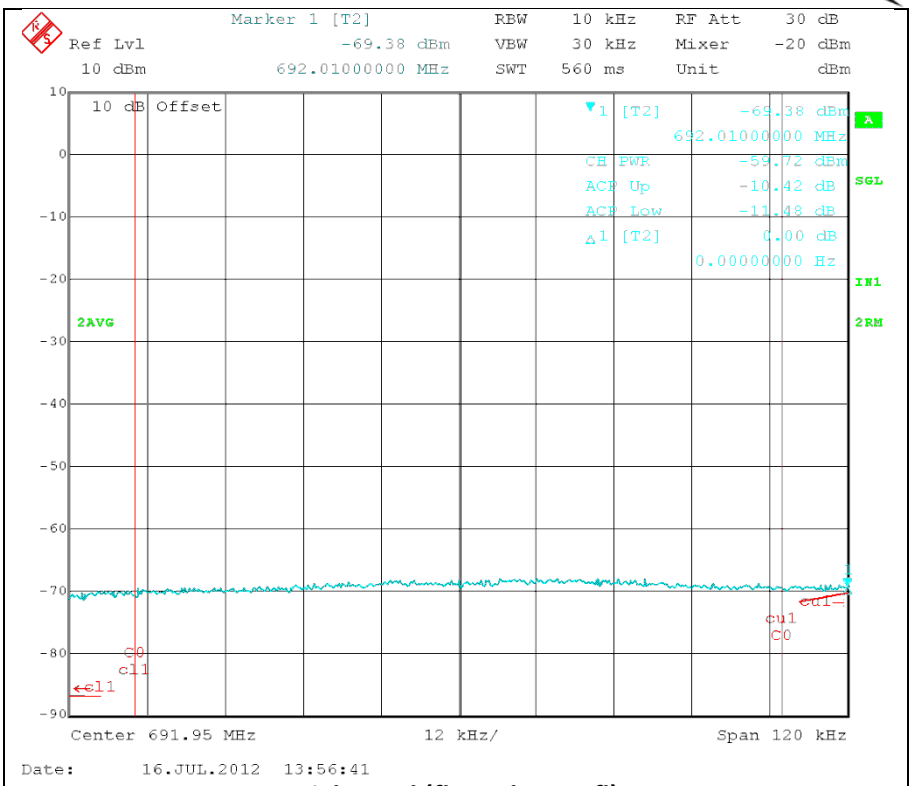
- **Test Results #2 High Band:**



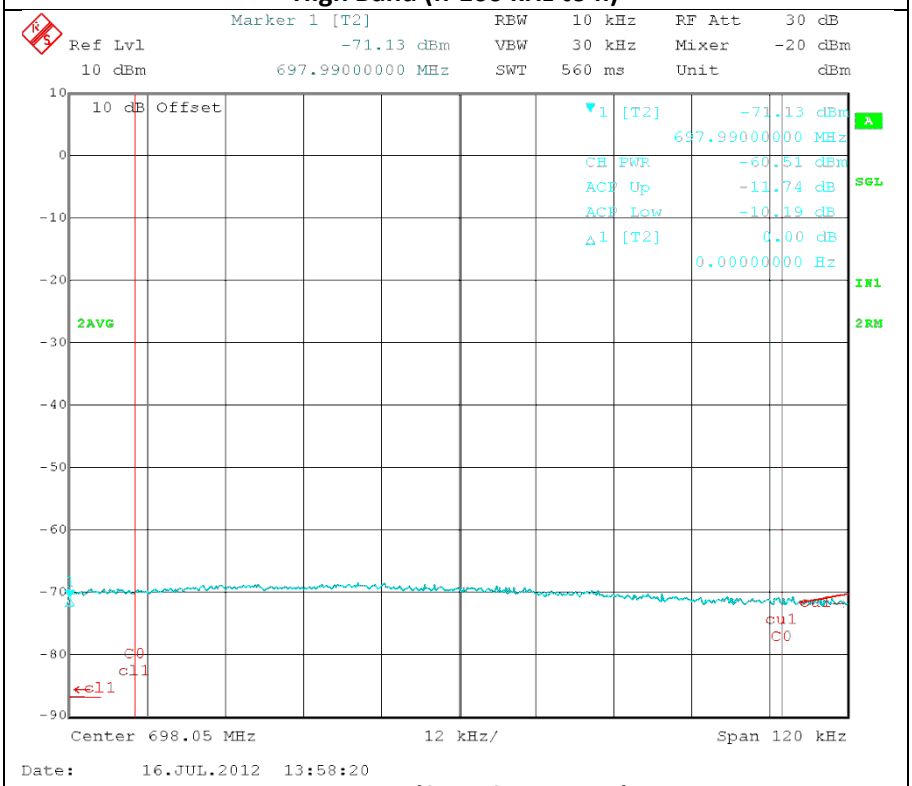
High Band (fl-6MHz to fl-200kHz)



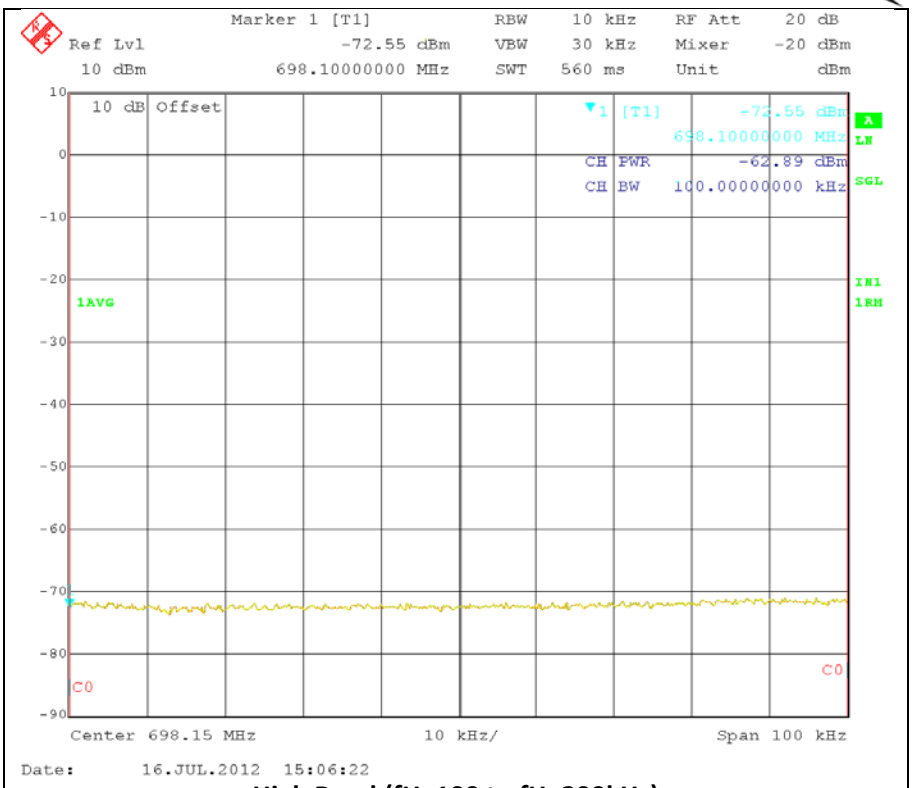
High Band (fl-200 kHz to fl-100kHz)



High Band (fl-100 kHz to fl)



High Band (fH to fH+100kHz)



High Band (fH+100 to fH+200kHz)

High Band (fH+200 to fH+6MHz)

§15.709(c)(4) Emission in the band of 602-620MHz Limits for TVBDs

Requirements:

Frequency MHz	Field Strength dBuV/m/120kHz
602-607	120-5[F(MHz)-602]
607-608	95
608-614	30
614-615	95
615-620	120-5[620-F(MHz)]

Worst case limits for the respective bands,

Frequency MHz	Field Strength dBuV/m/120kHz
602-607	95 (@607 MHz)
607-608	95
608-614	30
614-615	95
615-620	95 (@615 MHz)

Test Data:

Note:
The manufacturer restricts the transmission on Channel 35 in addition to Channels 36, 37 and 38 on the radio. The radio was tuned to transmit at the next adjacent channels (CH34 and CH39) during the emissions test at 602-620 MHz. The testing distance was 1m. Quasi-peak detector was used for measurement in the 608-614 MHz band.

- **602-620 MHz Emissions (with TX at CH 34)**

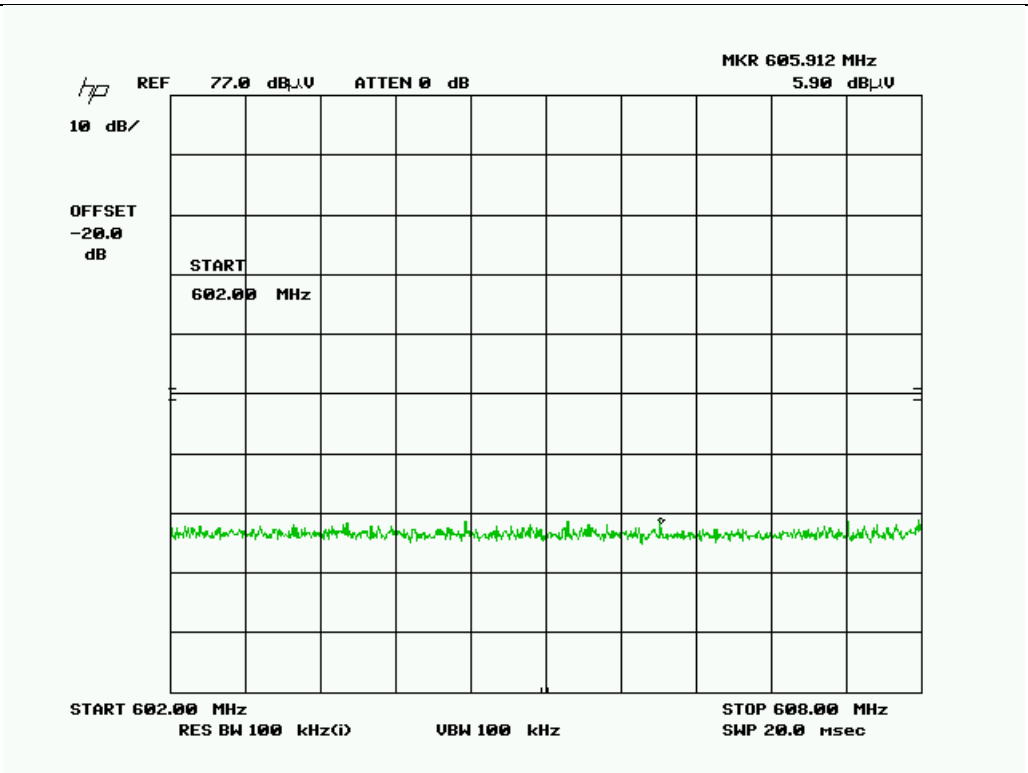
Emission Frequency MHz	Meter Reading dBuV	Det.	Ant. Pol.	Coax Loss dB	Correction Factor dB/m	Field Strength dBuV/m	Worst Case Limit dBuV/m
605.91	**5.9**	**PK**	**H**	**1.61**	**19.86**	**27.37**	**95**
607.98	**5.8**	**PK**	**V**	**1.61**	**19.88**	**27.29**	**95**
608.01	**1.6**	**QP**	**H**	**1.61**	**19.88**	**23.06**	**30**
608.02	**1.9**	**QP**	**V**	**1.61**	**19.88**	**23.42**	**30**
616.47	**5.0**	**PK**	**H**	**1.62**	**19.96**	**26.58**	**95**
616.76	**5.3**	**PK**	**V**	**1.62**	**19.97**	**26.89**	**95**

- **602-620 MHz Emissions (with TX at CH 39)**

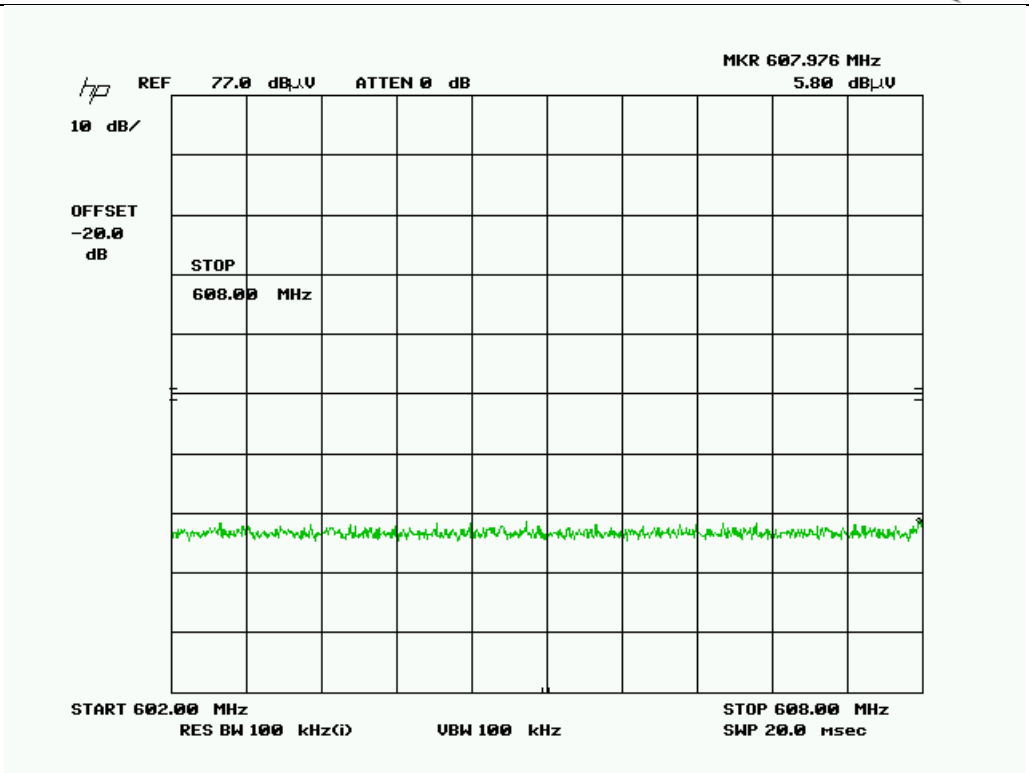
Emission Frequency MHz	Meter Reading dBuV	Det.	Ant. Pol.	Coax Loss dB	Correction Factor dB/m	Field Strength dBuV/m	Worst Case Limit dBuV/m
602.17	5.9	PK	H	1.60	19.82	27.32	95
603.15	5.7	PK	V	1.60	19.83	27.13	95
608.00	1.6	QP	H	1.61	19.88	23.11	30
608.01	1.9	QP	V	1.61	19.88	23.34	30
619.98	14.6	PK	V	1.62	20.00	36.22	95
620.00	19.5	PK	H	1.62	20.00	41.12	95

Plots:

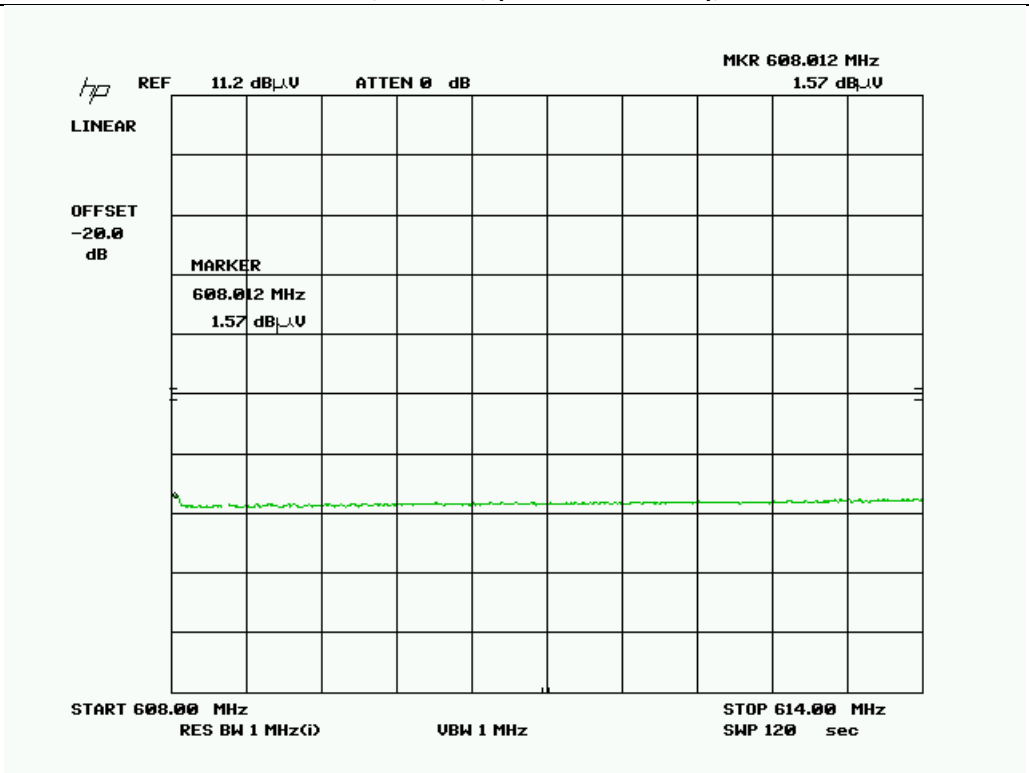
- **602-620 MHz Emissions (with TX at CH 34)**



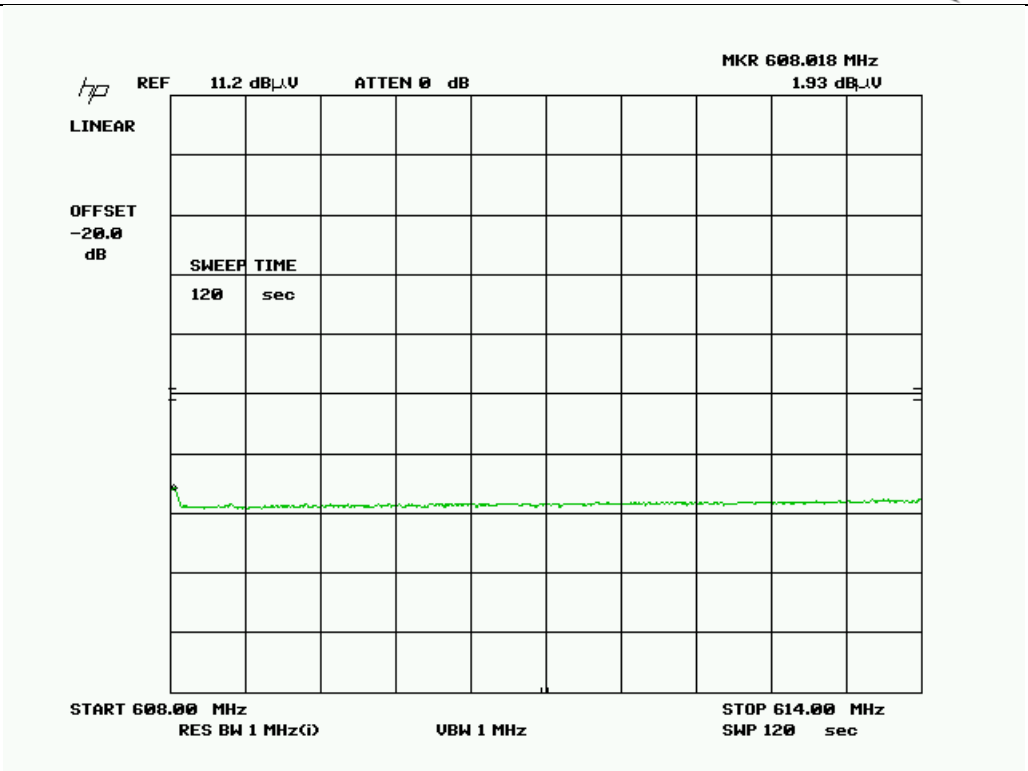
602-608 MHZ, Horizontal, (with TX at CH 34), PK Det.



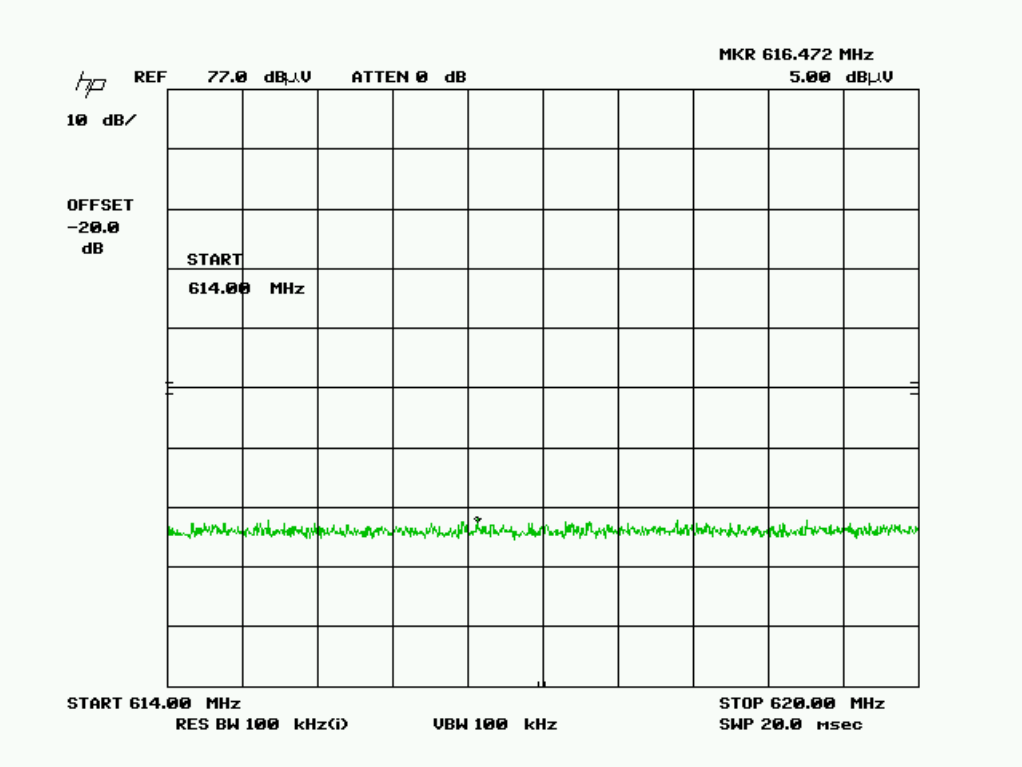
602-608 MHZ, Vertical, (with TX at CH 34), PK Det.



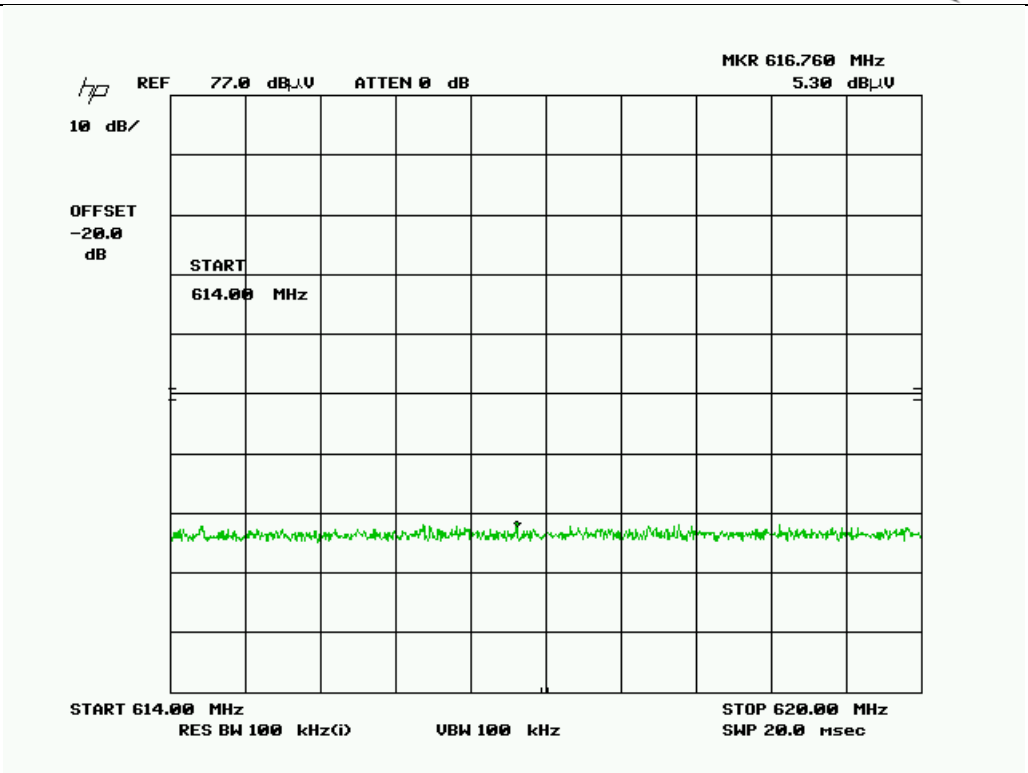
608-614 MHZ, Horizontal, (with TX at CH 34), QP Det.



608-614 MHZ, Horizontal, (with TX at CH 34), QP Det.

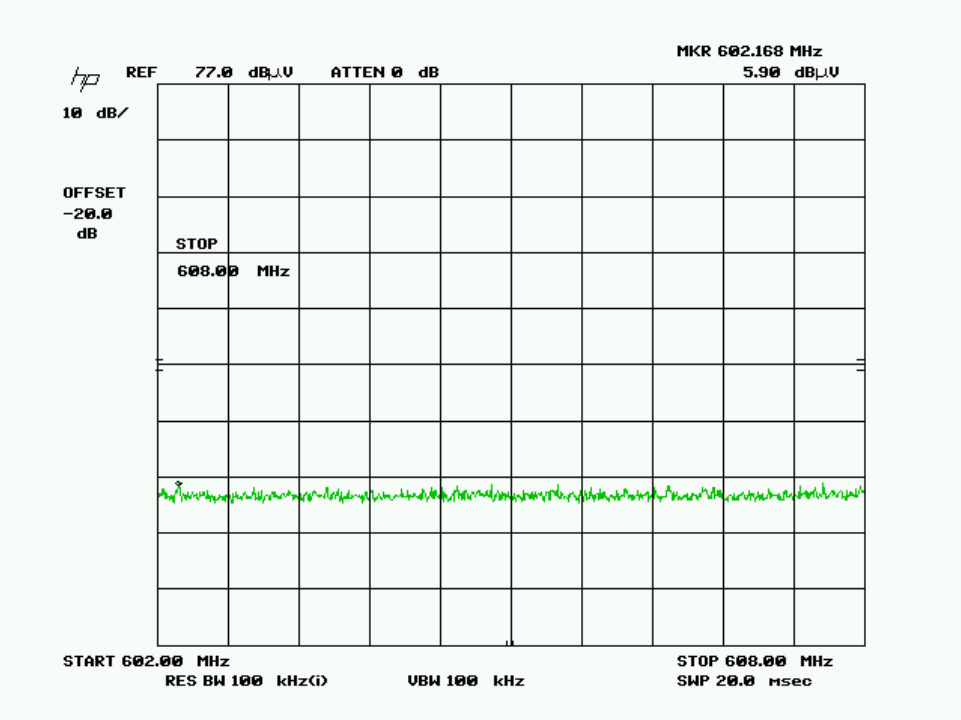


614-620 MHZ, Horizontal, (with TX at CH 34), PK Det.

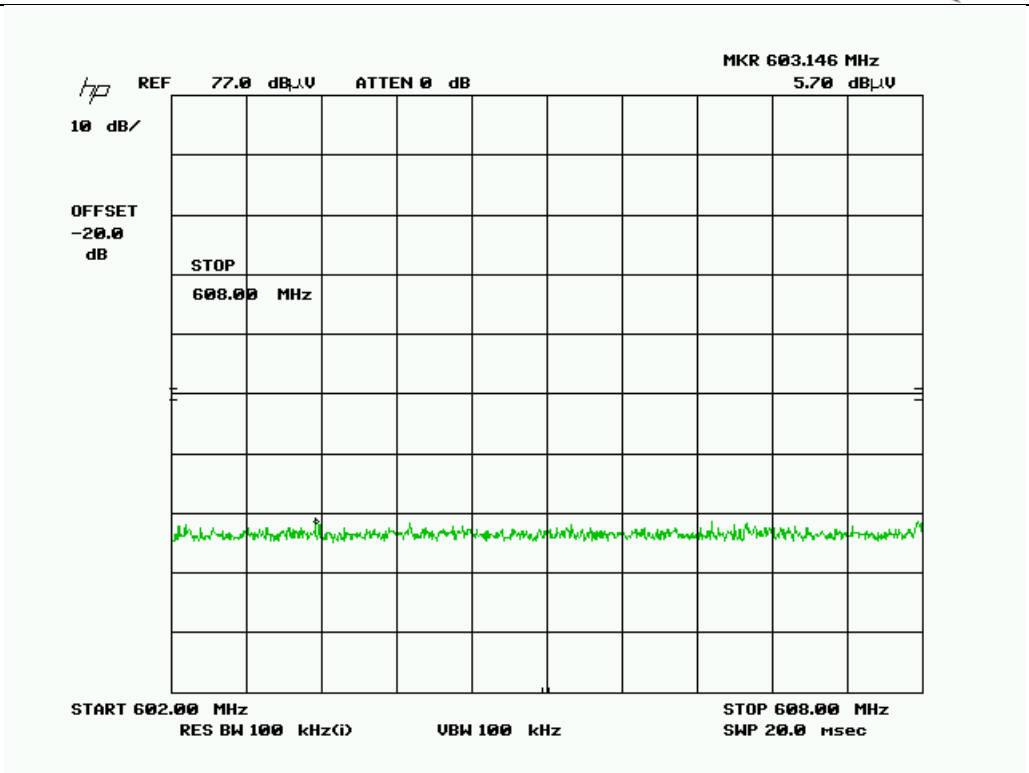


614-620 MHZ, Vertical, (with TX at CH 34), PK Det.

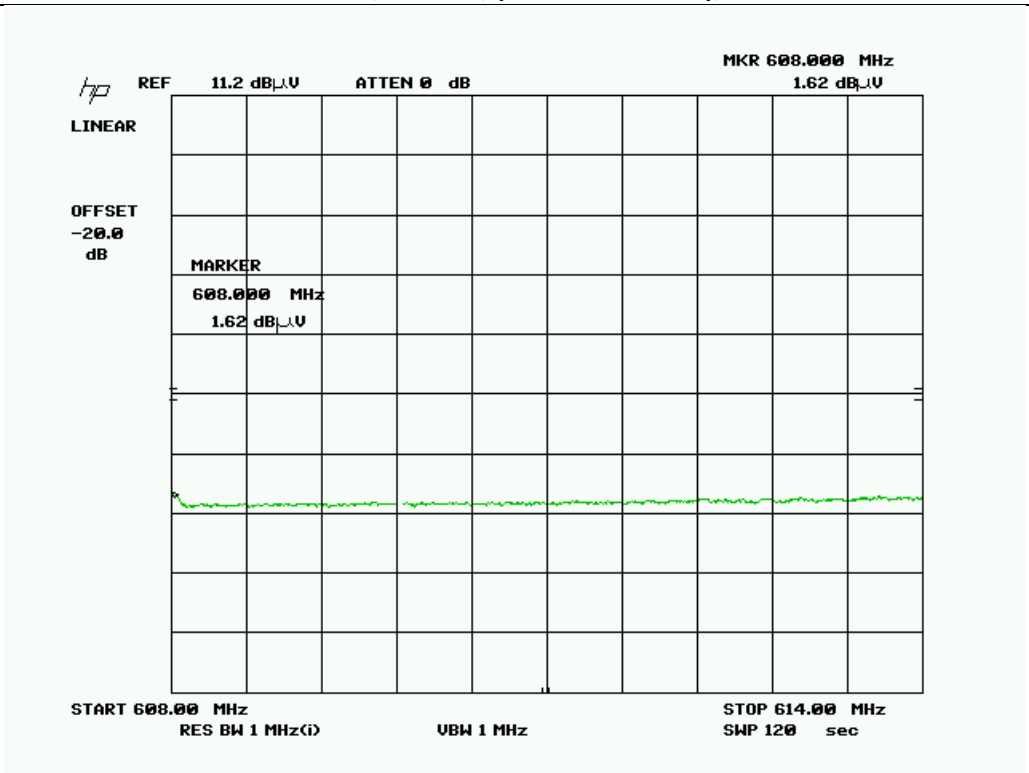
- **602-620 MHz Emissions (with TX at CH 39)**



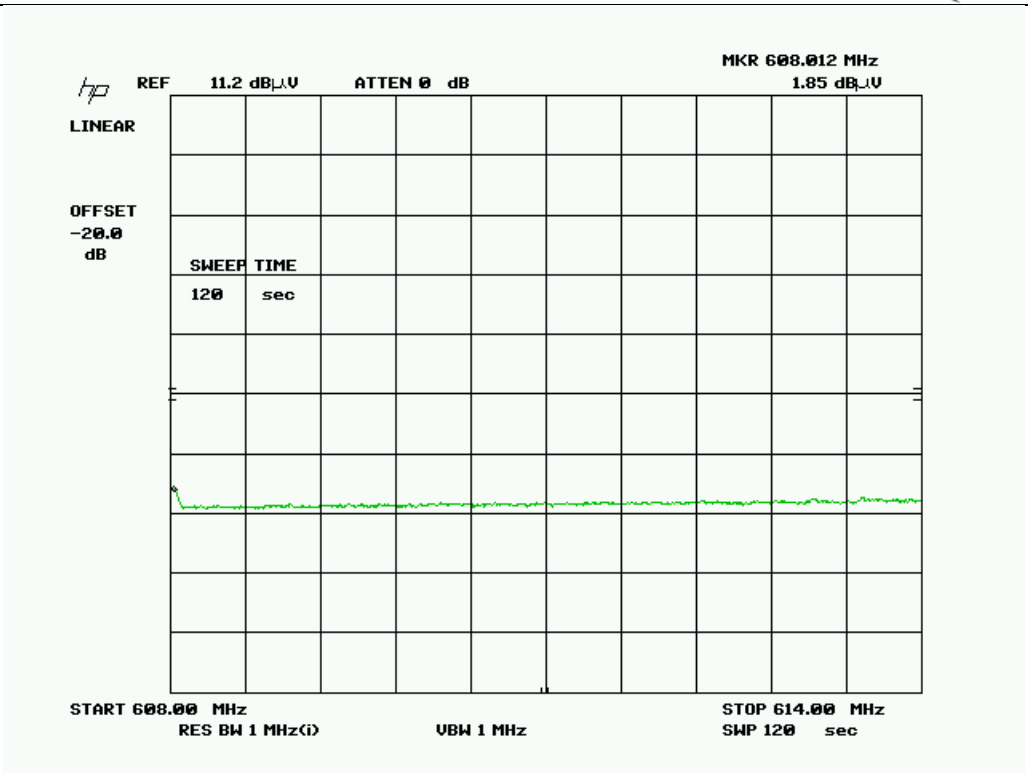
602-608 MHZ, Horizontal, (with TX at CH 39), PK Det.



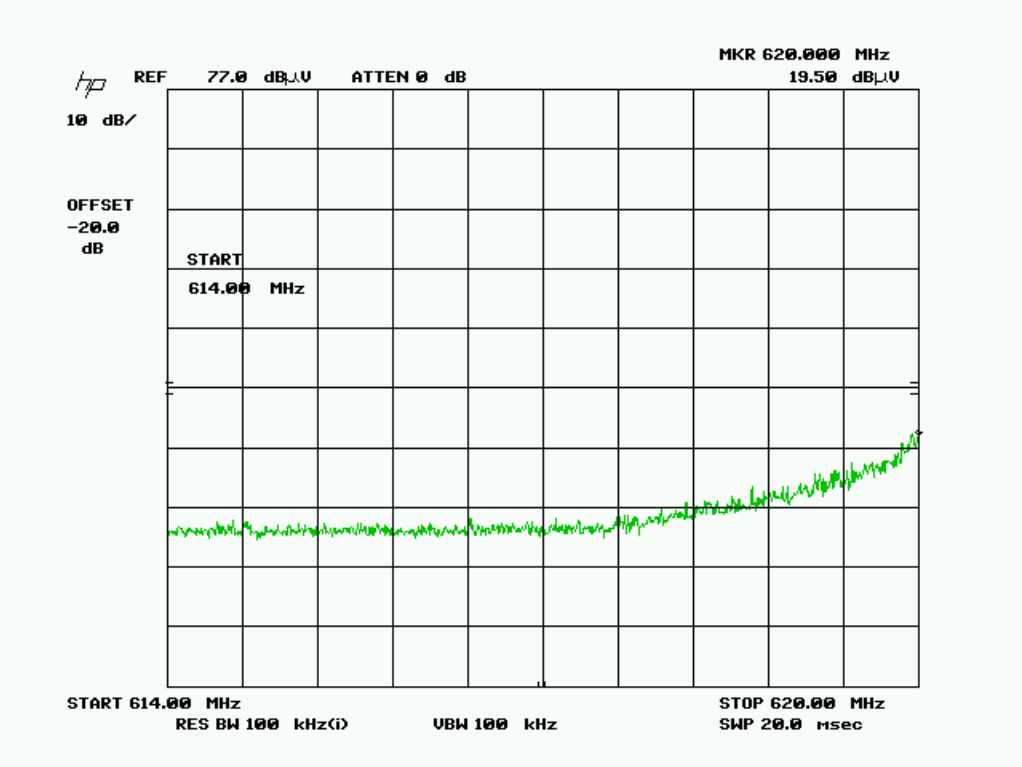
602-608 MHZ, Vertical, (with TX at CH 39), PK Det.



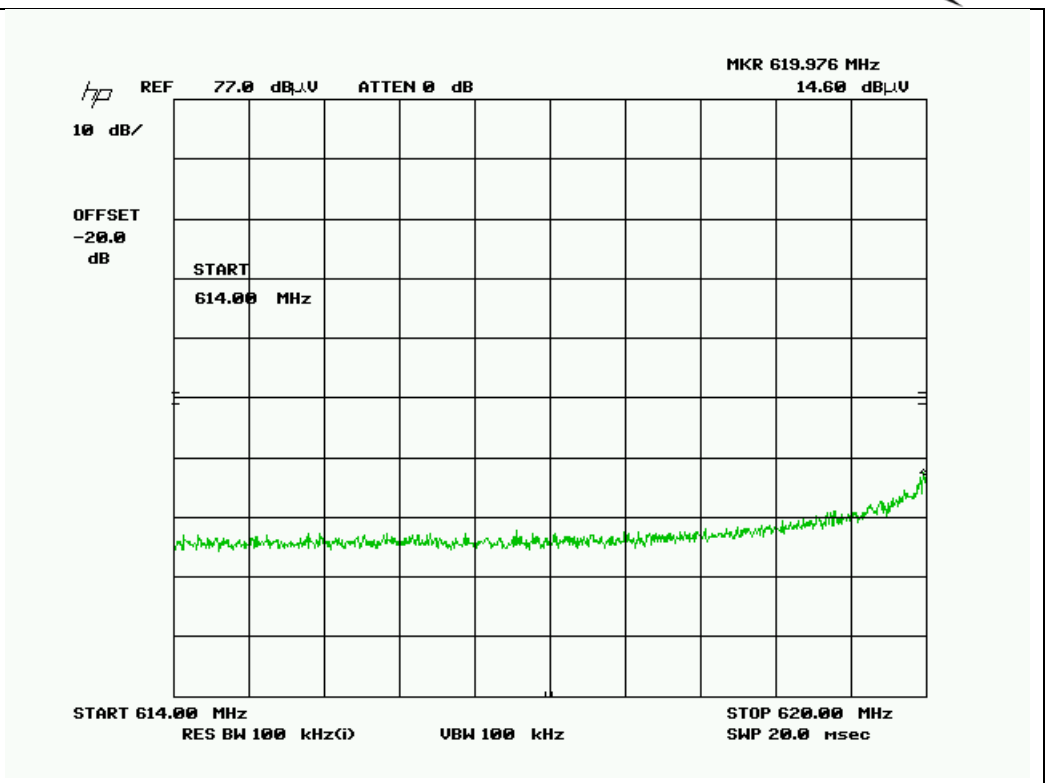
608-614 MHZ, Horizontal, (with TX at CH 39), QP Det.

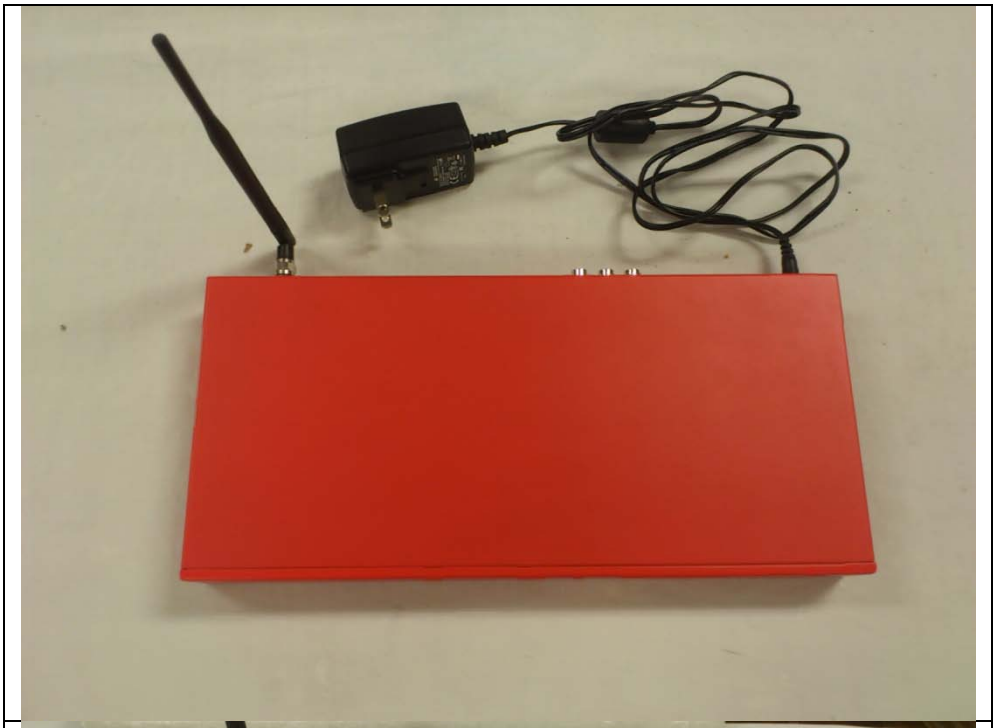


608-614 MHZ, Horizontal, (with TX at CH 39), QP Det.



614-620 MHZ, Horizontal, (with TX at CH 39), PK Det.



614-620 MHZ, Vertical, (with TX at CH 39), PK Det

Product Photos