



**FCC 47 CFR PART 15 SUBPART E
INDUSTRY CANADA RSS-210 ISSUE 8**

CLASS III PERMISSIVE CHANGE

CERTIFICATION TEST REPORT

FOR

Intelligent Backhaul Radio UNII 5.3GHz band

MODEL NUMBER: IBR-1B

FCC ID: 2AAEH-102

IC: 11158A-102

REPORT NUMBER: 14U18437-2 Revision A

ISSUE DATE: SEPTEMBER 24, 2014

Prepared for

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2460 N. FIRST STREET, SUITE 200
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	09/23/14	Initial Issue	F. de Anda
A	09/24/14	Updated section 5.2	F. de Anda

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: CBF NETWORKS, INC., DBA FASTBACK NETWORKS
2460 N. FIRST STREET, SUITE 200
SAN JOSE, CA 95131

EUT DESCRIPTION: Intelligent Backhaul Radio UNII 5.3GHz Band

MODEL: IBR-1B

SERIAL NUMBER: 40314120245 (Radiated), 40313490121 (Conducted)

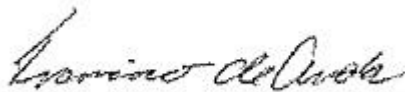
DATE TESTED: August 4- September 15, 2014

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart E	Pass
INDUSTRY CANADA RSS-210 Issue 8 Annex 9	Pass
INDUSTRY CANADA RSS-GEN Issue 3	Pass

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

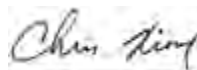
Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For
UL Verification Services Inc. By:



Francisco deAnda
PROJECT LEAD/ PROGRAM MANAGER
UL VERIFICATION SERVICES INC.

Tested By:



Chris Xiong
EMC ENGINEER
UL VERIFICATION SERVICES INC.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2003, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 3, and RSS-210 Issue 8.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
☐ Chamber A	☐ Chamber D
☐ Chamber B	☐ Chamber E
☐ Chamber C	☒ Chamber F
	☐ Chamber G
	☐ Chamber H

The above test sites and facilities are covered under FCC Test Firm Registration # 208313. Chambers A through H are covered under Industry Canada company address code 2324B with site numbers 2324B -1 through 2324B-8, respectively.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://ts.nist.gov/standards/scopes/2000650.htm>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\begin{aligned}\text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamp Gain (dB)} \\ 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} &= 28.9 \text{ dBuV/m}\end{aligned}$$

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	± 3.52 dB
Radiated Disturbance, 30 to 1000 MHz	± 4.94 dB
Radiated Disturbance, 1 to 6 GHz	± 3.86 dB
Radiated Disturbance, 6 to 18 GHz	± 4.23 dB
Radiated Disturbance, 18 to 26 GHz	± 5.30 dB
Radiated Disturbance, 26 to 40 GHz	± 5.23 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

P-P outdoor radio in 5GHz unlicensed with a proprietary communication management interface Intelligent Backhaul Radio.

Overview:

IBR combines a Carrier Ethernet switch and an AnyLOS™ radio that can simultaneously operate in non-, near-, and clear line of sight radio conditions. It is designed for small cell deployment in dense urban environments where line of sight between radios is difficult or impossible to achieve.

IBR is small, passively-cooled, and environmentally protected for use mainly in macro-cellular backhaul, commercial services fiber fill-in, and small cell backhaul applications. It can be mounted on masts, poles, walls, cell towers, or in other such locations and requires little or no alignment when the radios are pointed in the general direction of one another.

Transmit & Receive Frequencies:

There are two versions of IBR that operate together to form the two ends of a link.

IBR-1A, a 5.8 GHz radio, transmits in the band from 5.725 GHz to 5.85 GHz and receives in the band from 5.25 GHz to 5.35 GHz.

IBR-1B, a 5.3 GHz radio, transmits in the band from 5.25 GHz to 5.35 GHz and receives in the band from 5.725 GHz to 5.85 GHz.

Radio Features:

IBR uses adaptive rate modulation, proprietary interference avoidance and cancellation techniques, and antenna array signal processing to deliver reliable and secure high speed data transmission over links where line-of-sight between radios is difficult or impossible to achieve.

This device uses 10MHz, 20MHz and 40MHz bandwidths with QPSK, QAM16, QAM64, QAM256 modulation. It transmits either single stream (SISO) or dual stream uncorrelated (MIMO).

The 5.3 TX the unit examines the band on a continual basis, and responds to interference by switching channel to avoid it. If there is no interference, random results of the measured noise floor will cause the operating channel to be selected in different locations across the band. Because the interference or noise is random, and over time is uniformly spread across the band, the unit also selects channels, on average, uniformly across the band.

Note: Client identifies the two antenna ports as J48 and J49 identified as Chain 0 and Chain 1 in this report respectively.

5.2. DESCRIPTION OF CLASS III PERMISSIVE CHANGE

The change filed under this application is for the bandwidth (BW) support. The original filing was for 9, 18 and 35 MHz BW support. The update increases the BW to 10, 20 and 40 MHz bandwidth.

Changes in bandwidth are done by using only software modifications. No hardware modifications were made. No changes were made to the Software Distribution and Security mechanisms.

5.3. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Bandwidth (MHz)	Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
5.3 GHz Band, CH 0 SISO				
10	5257 - 5341	FDD	14.71	29.58
20	5261 - 5333	FDD	17.69	58.75
40	5269 - 5324	FDD	19.17	82.60
5.3 GHz Band, CH 1 SISO				
10	5257 - 5341	FDD	14.64	29.11
20	5261 - 5333	FDD	17.60	57.54
40	5269 - 5324	FDD	19.31	85.31
5.3 GHz Band, MIMO				
10	5257 - 5343	FDD	14.61	28.91
20	5261 - 5337	FDD	17.52	56.49
40	5269 - 5327	FDD	19.20	83.18

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a dipole array antenna, with a maximum gain of 10.5 dBi.

5.5. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was Build SVN Revision: 4486

The test utility software used during testing was Micro monitor 1.18.0.

5.6. WORST-CASE CONFIGURATION AND MODE

Radiated emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

The fundamental of the EUT was investigated in three orthogonal orientations X, Y, Z, it was determined that X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X orientation.

Based on the baseline scan, the worst-case data rates were:

40MHz bandwidth QAM 4
20MHz bandwidth QAM 4
10MHz bandwidth QAM 4
Data rate is 30 Msamples/s for all bandwidths

Radiated emissions for EUT with antenna was performed and passed; therefore, antenna port spurious was not performed.

5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Lenovo	Think pad	R9-D497T 11/04	QDS-BRCM1046
POE	PHIHONG	POE 36U-1AT-R	P30300375D1	N/A
AC/DC Adapter	Lenovo	N/A	11S45N0113Z1ZH819P0FN	N/A

I/O CABLES

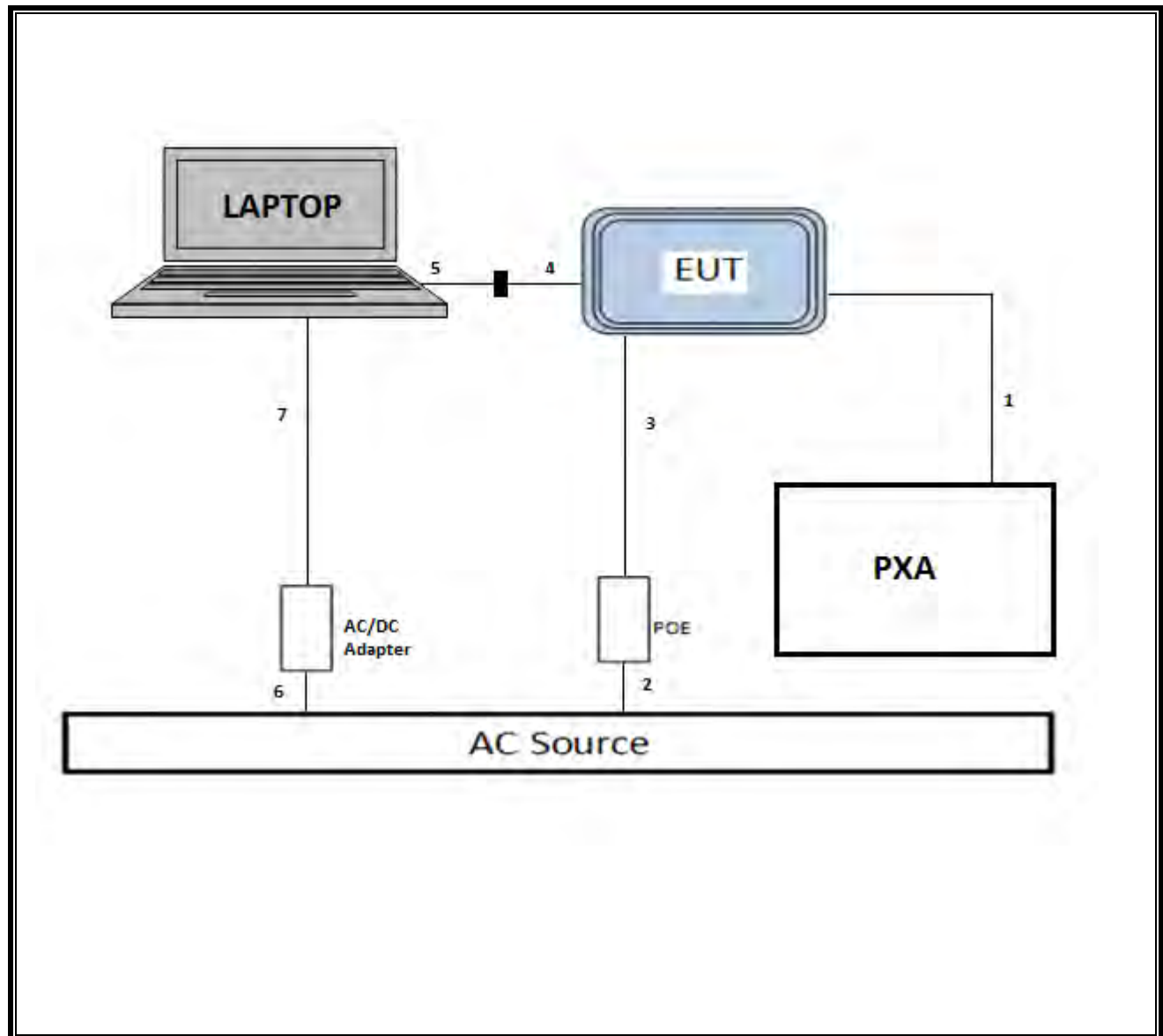
I/O Cable List						
Cable No	Port	# of identical	Connector Type	Cable Type	Cable Length (m)	Remarks
1	Antenna	1	U.FL	Sheilded	0.3	N/A
2	AC	2	3 Prong	Un-Sheilded	1	N/A
3	POE/LAN	1	RJ45	Sheilded	1	N/A
4	USB	1	USB	Sheilded	0.3	N/A
5	Serial	1	9 Pin Sub D	Sheilded	1	N/A
6	AC	2	3 Prong	Un-Sheilded	1	N/A
7	DC	1	Barrel	Un-Sheilded	1	N/A

TEST SETUP

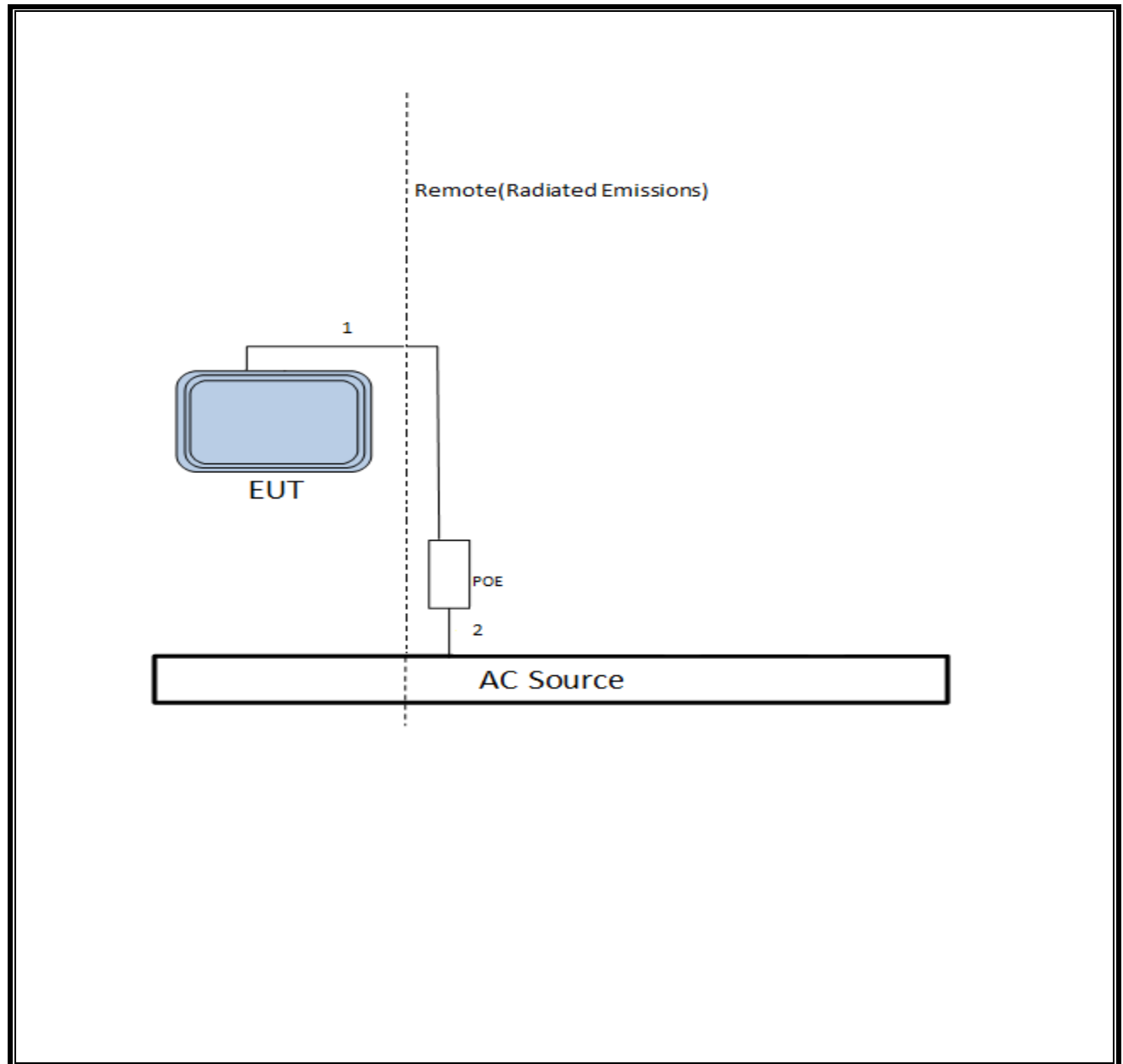
The EUT is a P-P outdoor radio used as a stand-alone device. Test software exercised the radio module

SETUP DIAGRAM FOR TESTS

Conducted



Radiated



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment List					
Description	Manufacturer	Model	Asset	Cal Date	Cal Due
Antenna, Horn, 18 GHz	ETS Lindgren	3117	C01005	3/20/2014	3/20/2015
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	C01011	4/22/2014	4/22/2015
High Pass Filter, fc: 3.0GHz, 50 Ohms	Micro-Tronics	HPM17543	F00181	1/20/2014	1/20/2015
Low Pass Filter, fc: 5GHz, 50 Ohms	Micro-Tronics	LPS17541	F00175	1/20/2014	1/20/2015
High Pass Filter, fc: 6GHz, 50 Ohms	Micro-Tronics	HPS17542	F00179	1/20/2014	1/20/2015
RF PreAmplifier, 1-18GHz	Miteq	AFS42-00101800-25-S-42	F00354	1/20/2014	1/20/2015
Preamp, 1000MHz	Sonoma	310N	N02891	12/30/2013	12/30/2014
Spectrum Analyzer	Agilent	N9030A	F00128	2/12/2014	2/12/2015
Spectrum Analyzer, 40 GHz	Agilent	8564E	C00951	8/6/2014	8/6/2015
PreAmplifier, 1-26.5GHz	Agilent	8449B	F00167	3/25/2014	3/25/2015
Preamplifier, 40 GHz	Miteq	NSP4000-SP2	C00990	9/3/2014	9/3/2015
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	C00980	11/26/2013	11/26/2014
Antenna, Horn, 40 GHz	ARA	MWH-2640/B	C00981	7/15/2014	7/15/2015
Single Channel Power Meter	Agilent	N1911A	F00024	3/7/2014	3/7/2015
Peak and Average Power Sensor	Agilent	E9323A	F00159	5/2/2014	5/2/2015

7. MEASUREMENT METHODS

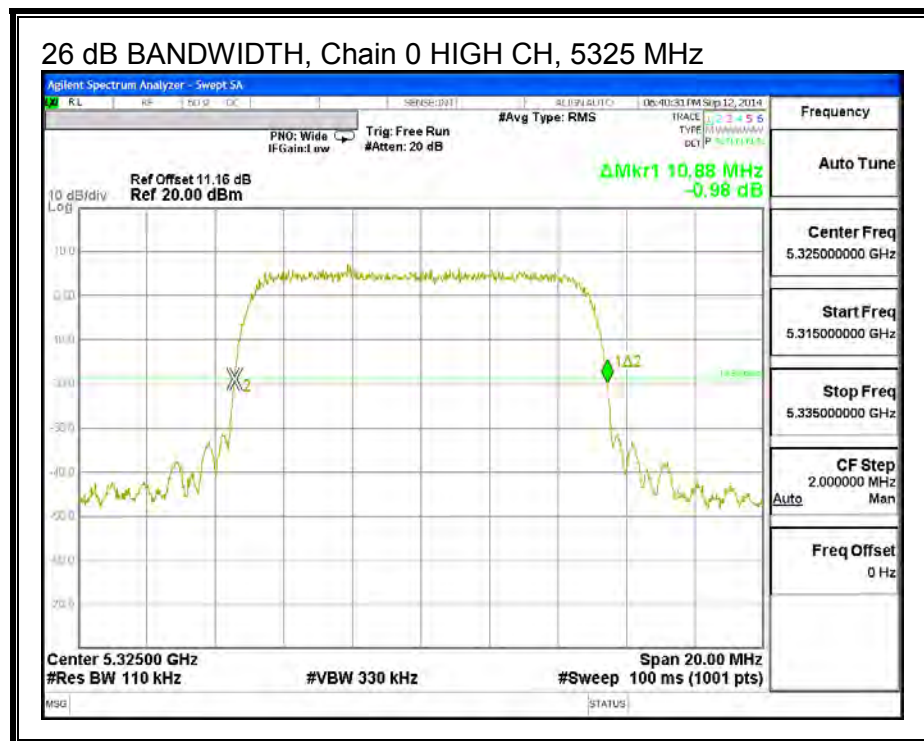
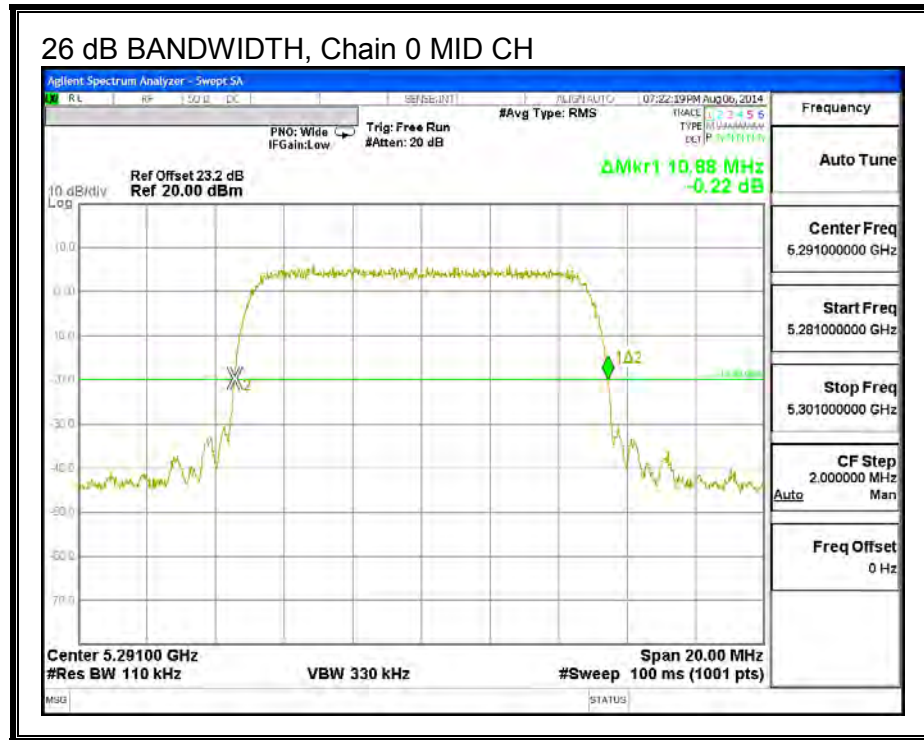
26 dB Emission BW: KDB 789033 D01 v01r03, Section C.

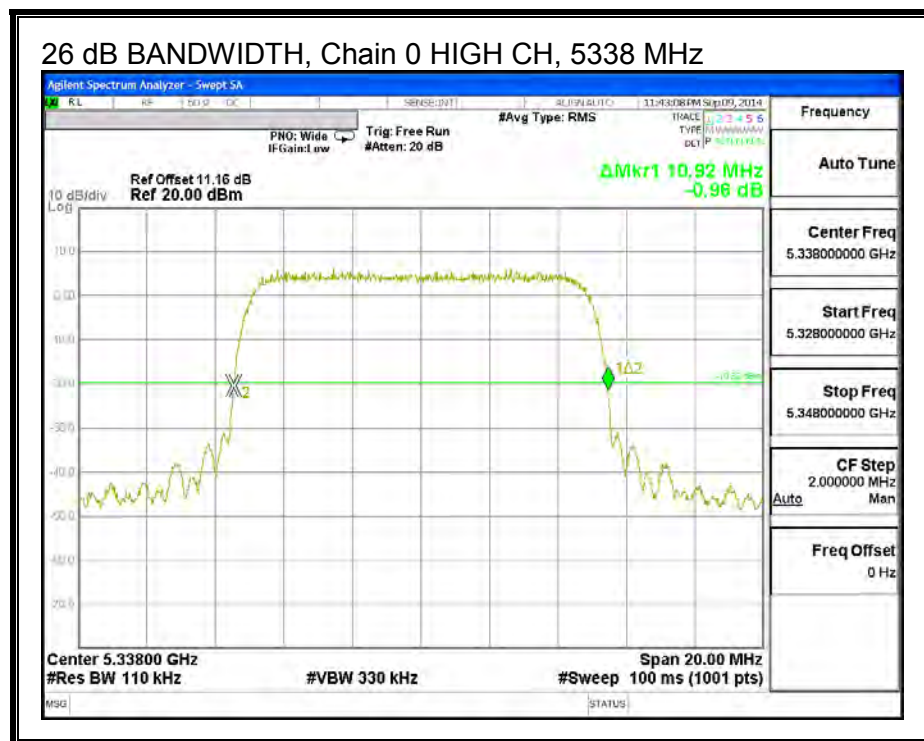
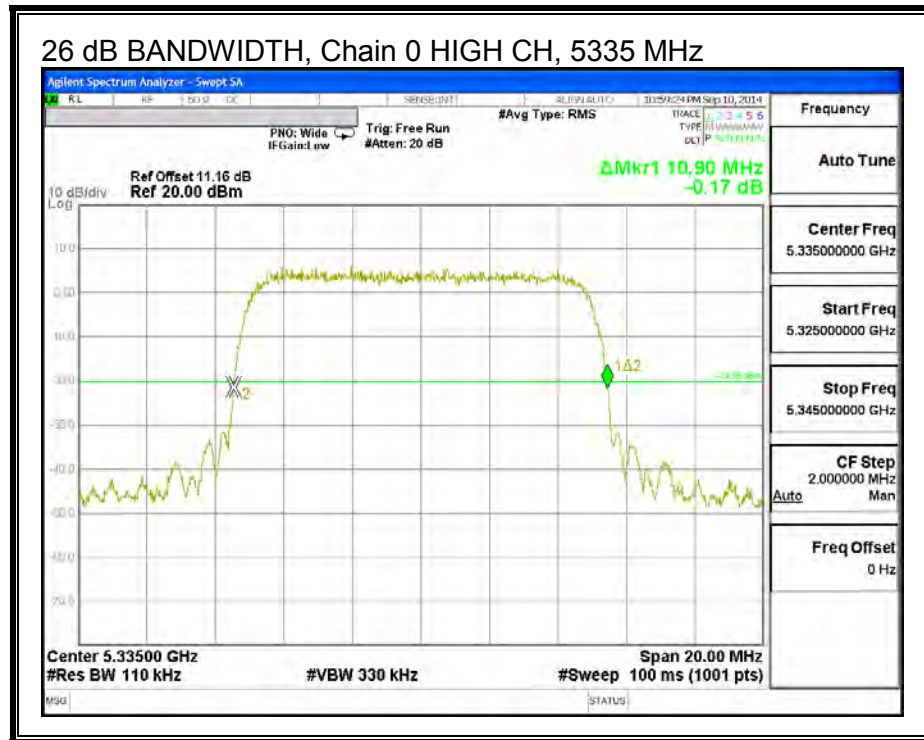
Conducted Output Power: KDB 789033 D01 v01r03, Section E.2.b (Method SA-1).

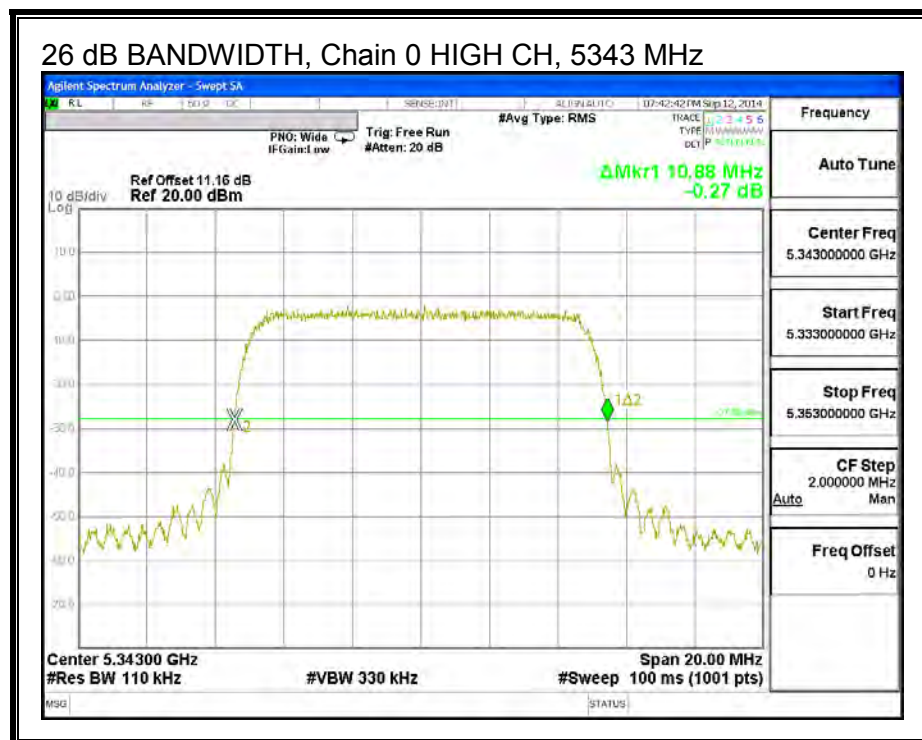
Peak Excursion: KDB 789033 D01 v01r03, Section G.

Unwanted emissions in restricted bands: KDB 789033 D01 v01r03, Sections H.3, H.4, H.5, and H.6.

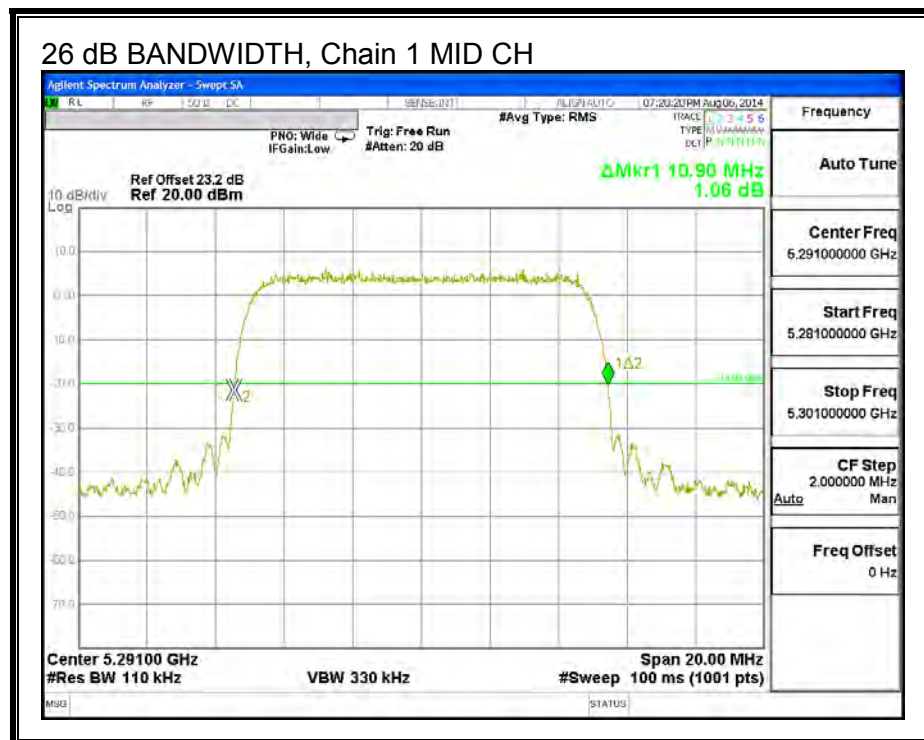
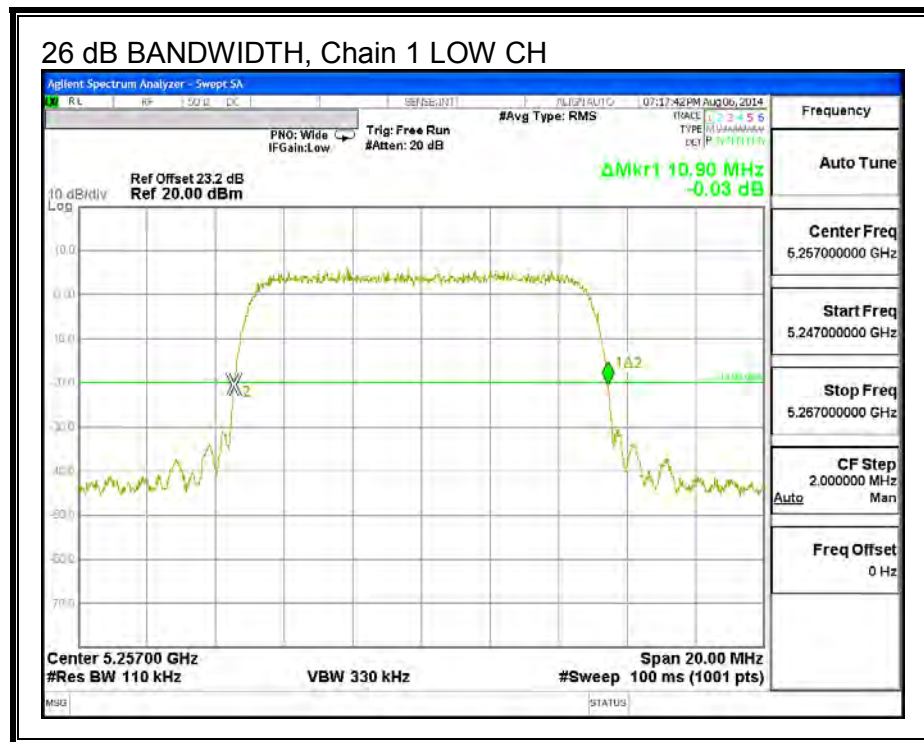
Unwanted emissions in non-restricted bands: KDB 789033 D01 v01r03, Sections H.3, H.4, and H.5.

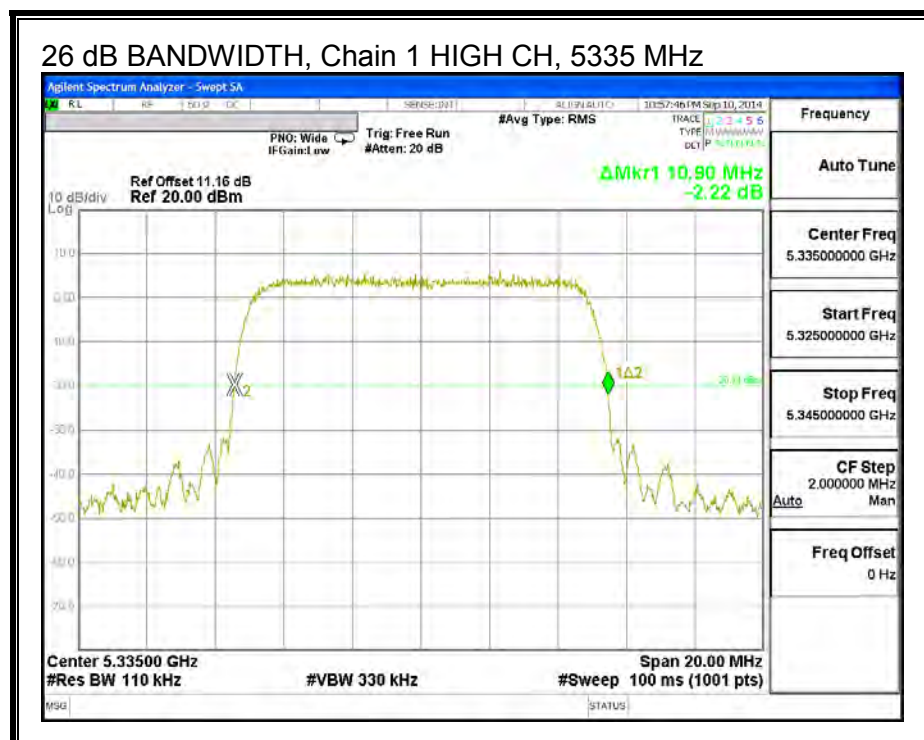


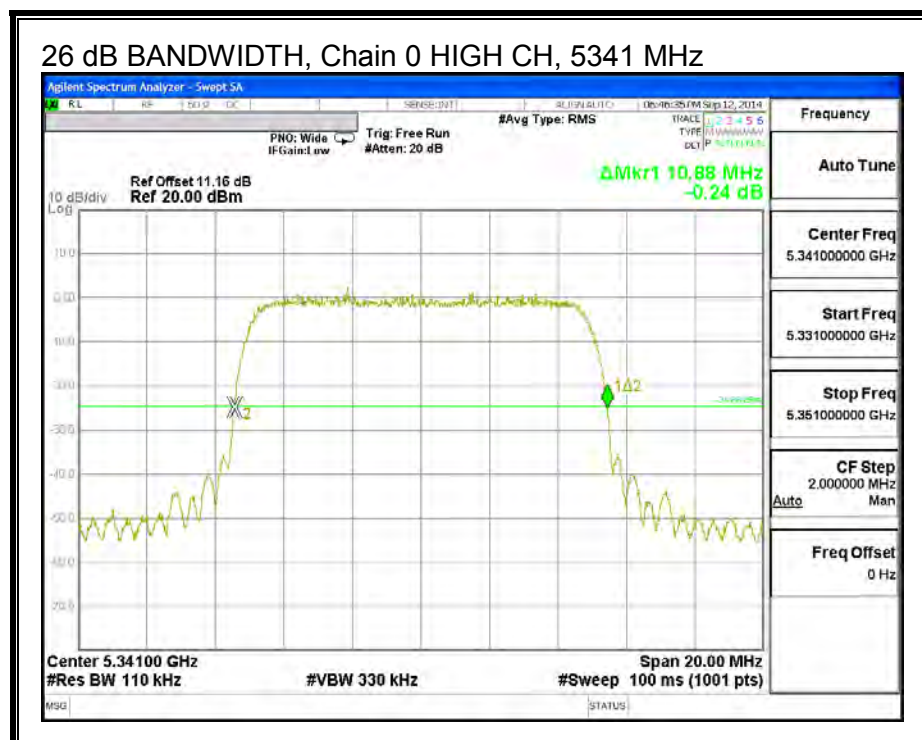


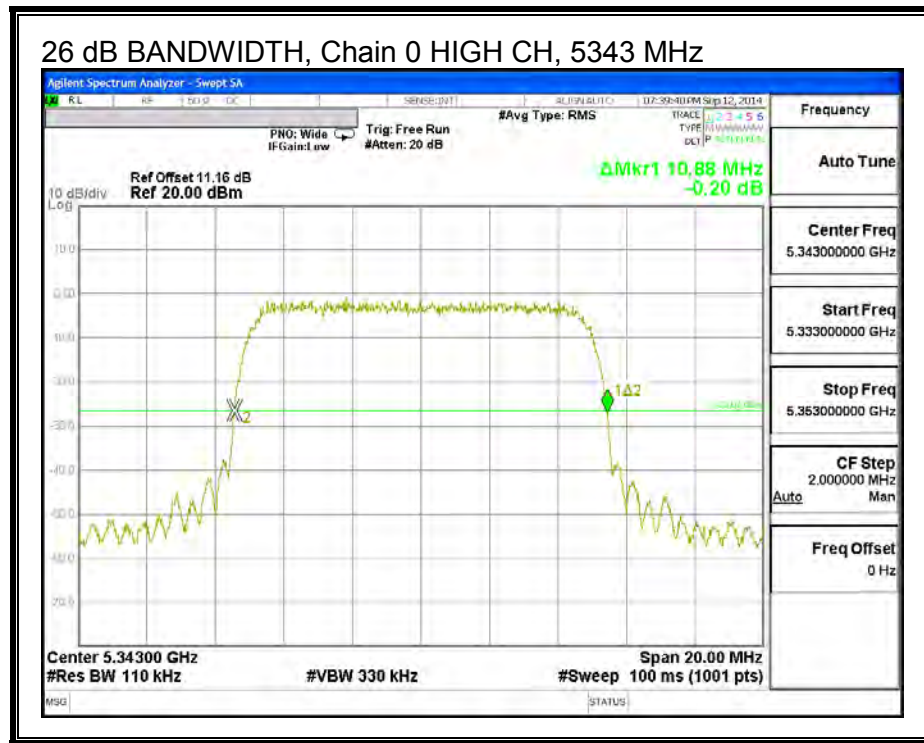


26 dB BANDWIDTH, Chain 1

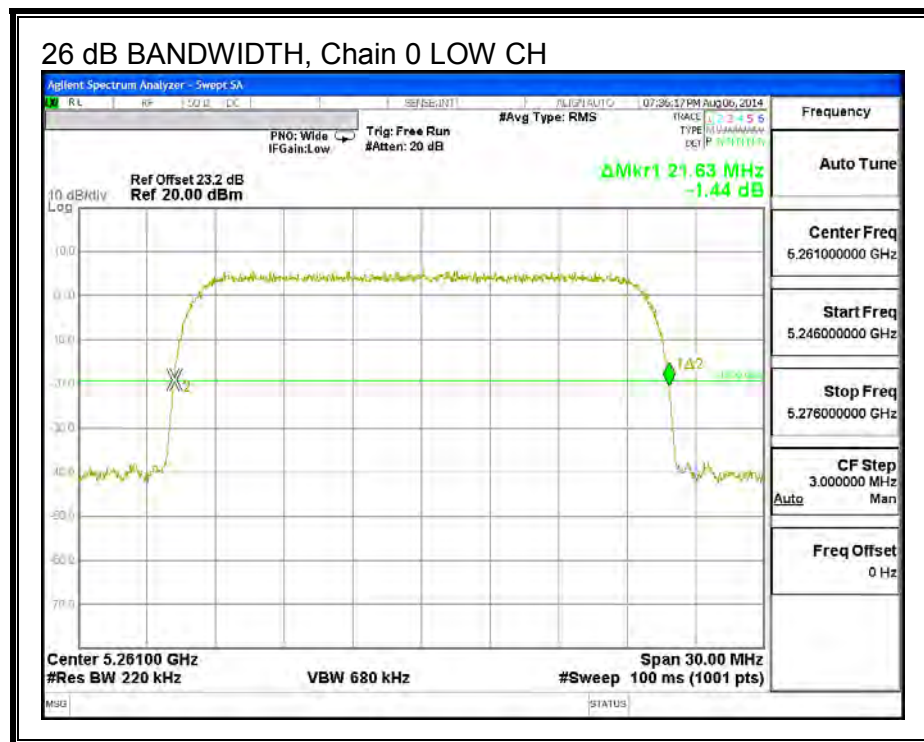


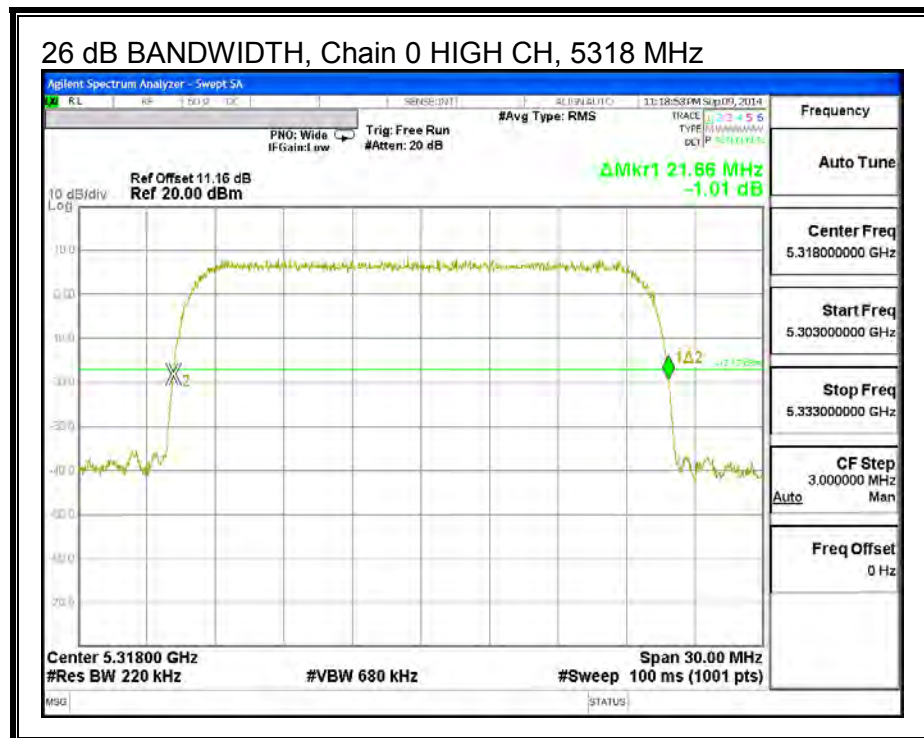
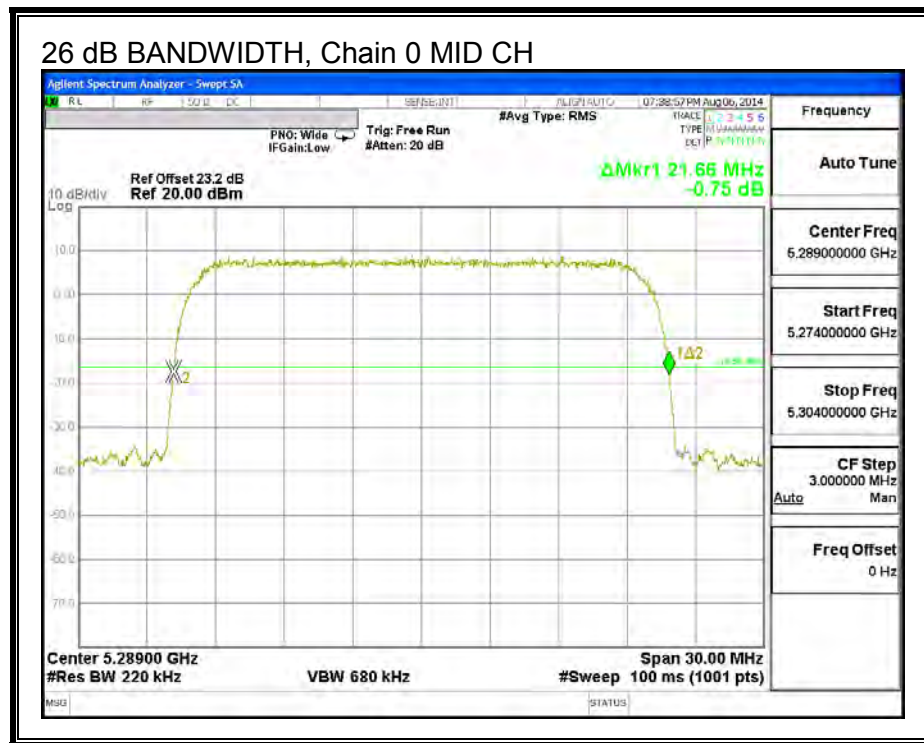


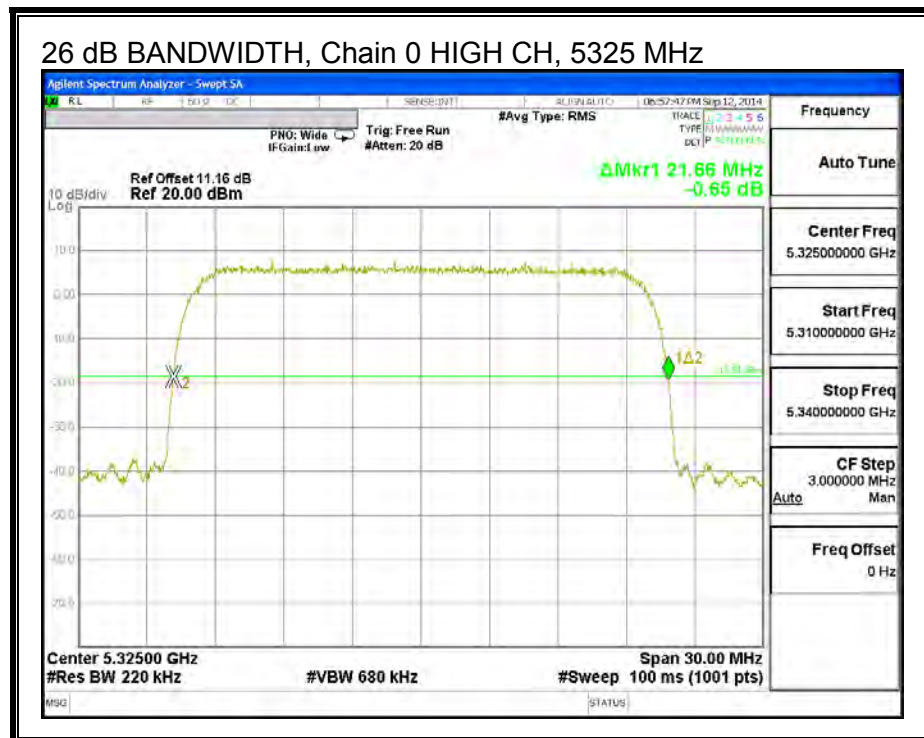
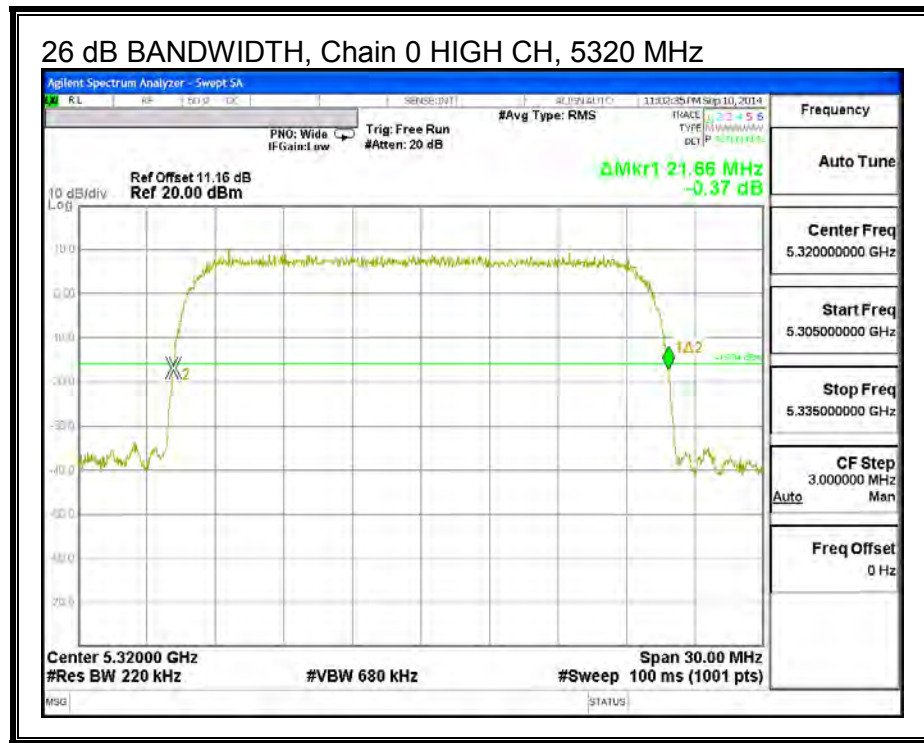


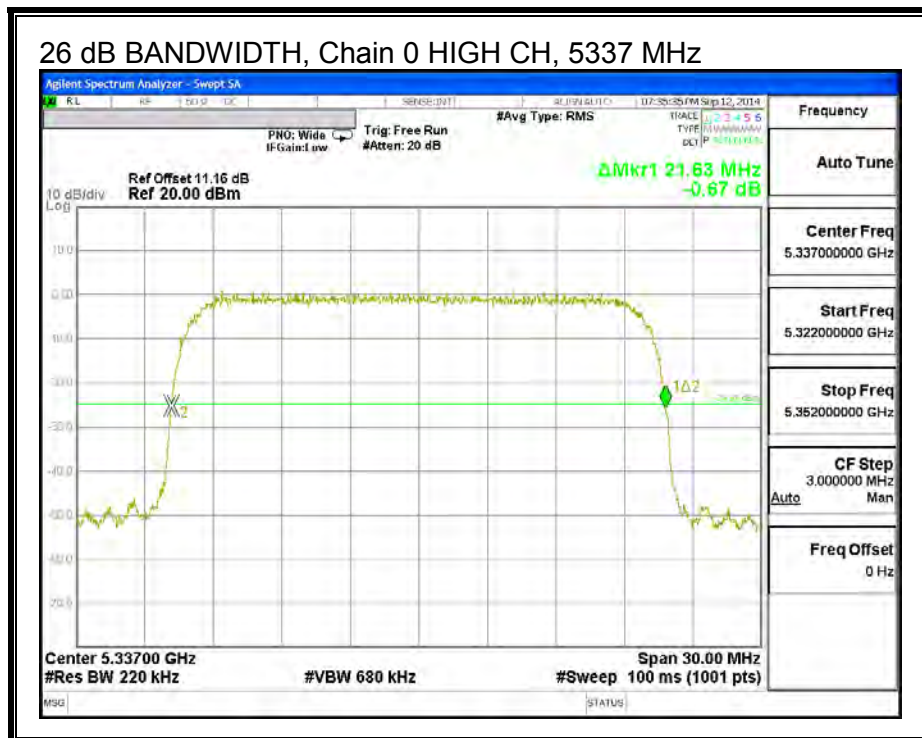
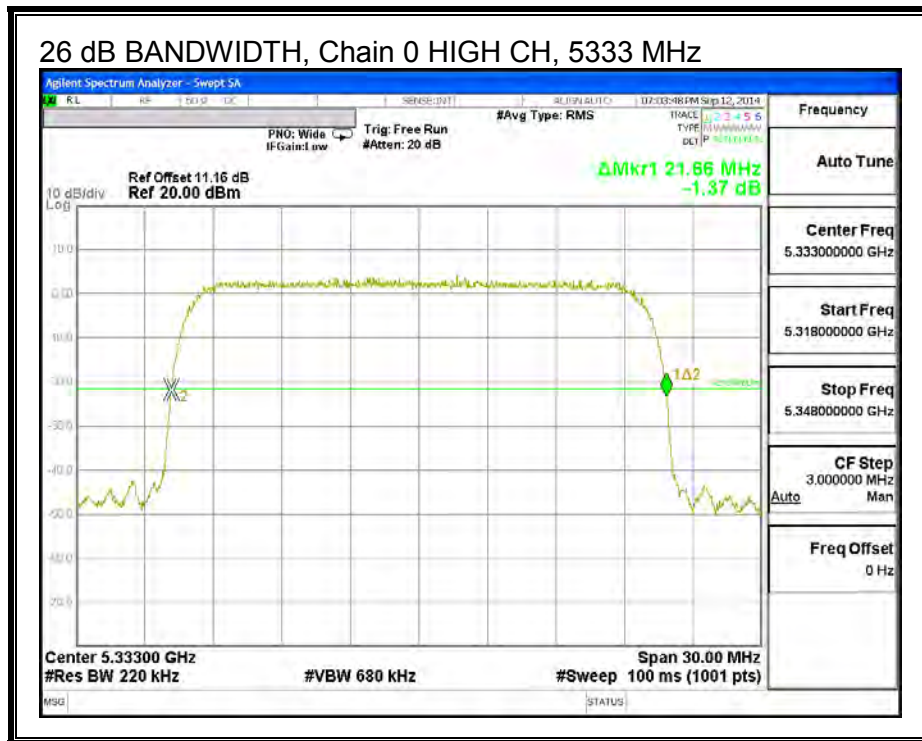


Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5261	21.63	21.66
Mid	5289	21.66	21.63
High	5318	21.66	21.66
High	5320	21.66	21.63
High	5325	21.66	21.66
High	5333	21.66	21.66
High	5337	21.66	21.66

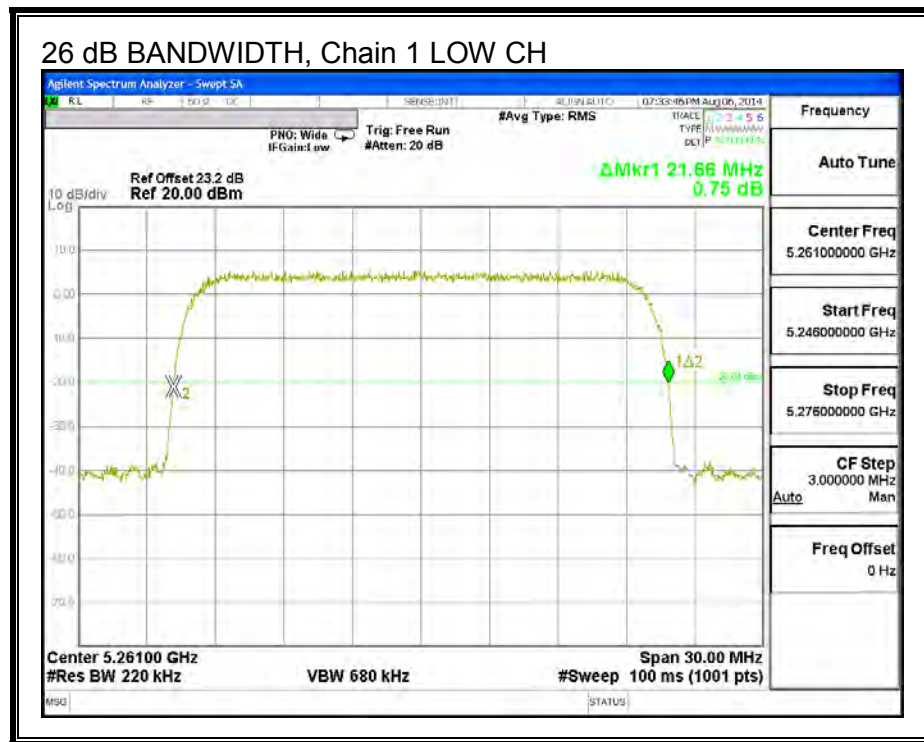


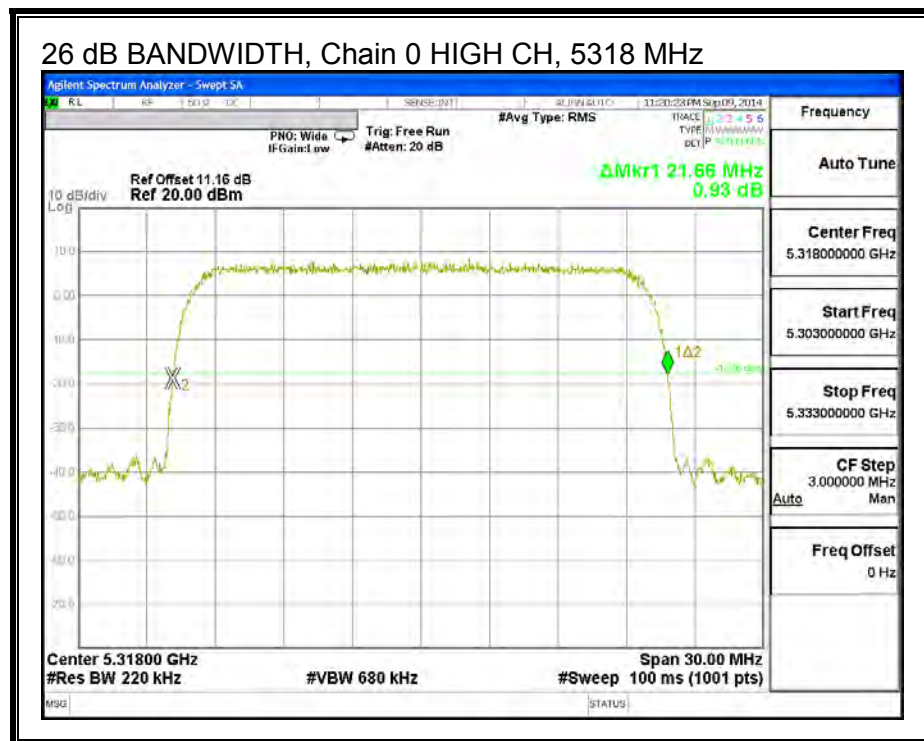
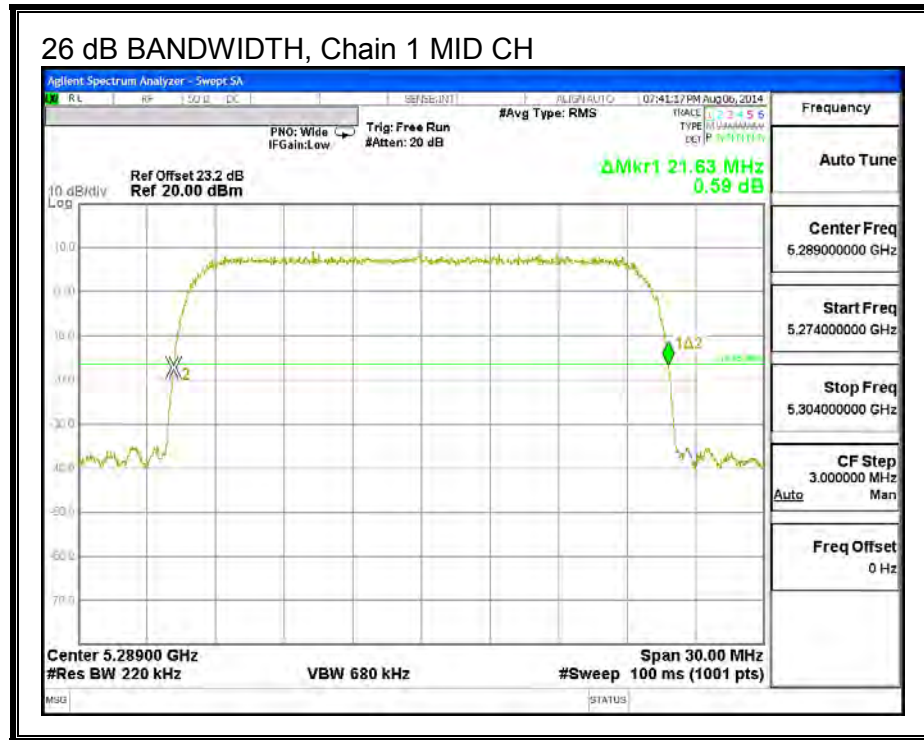


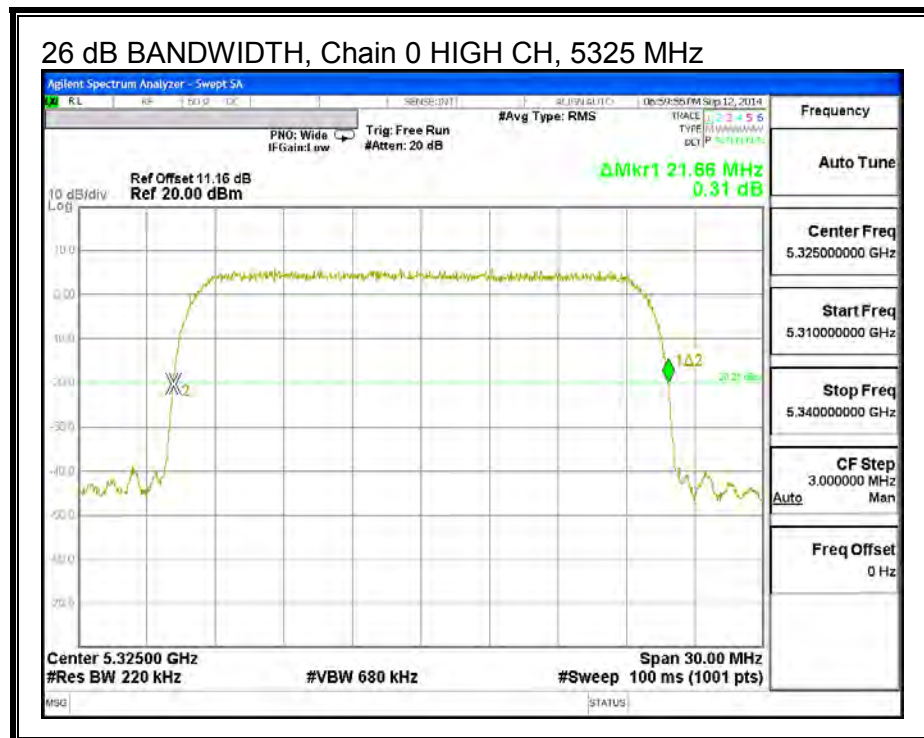
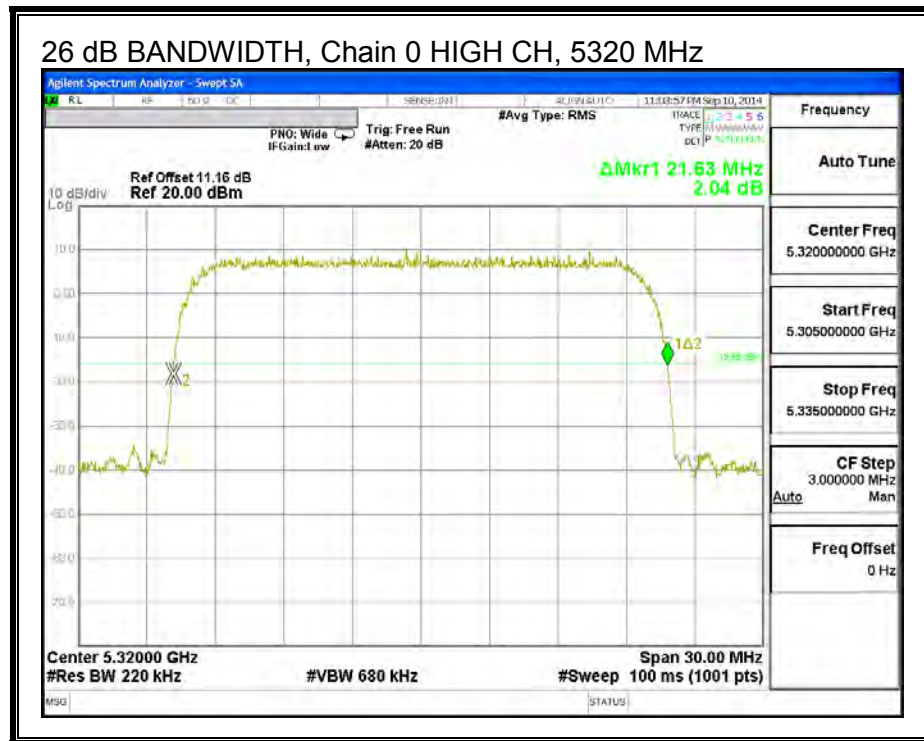


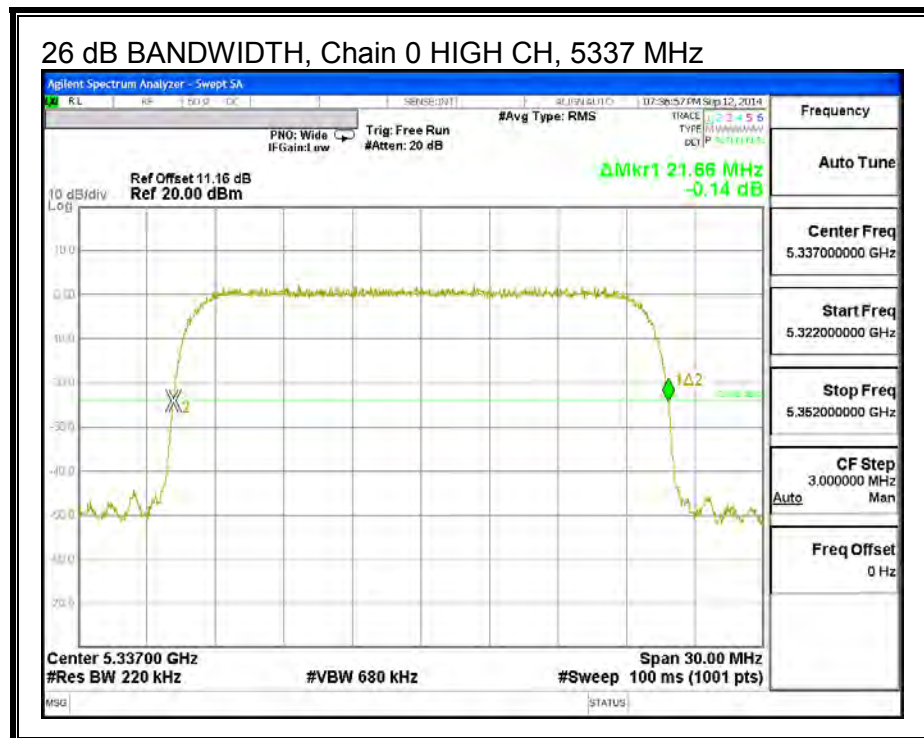
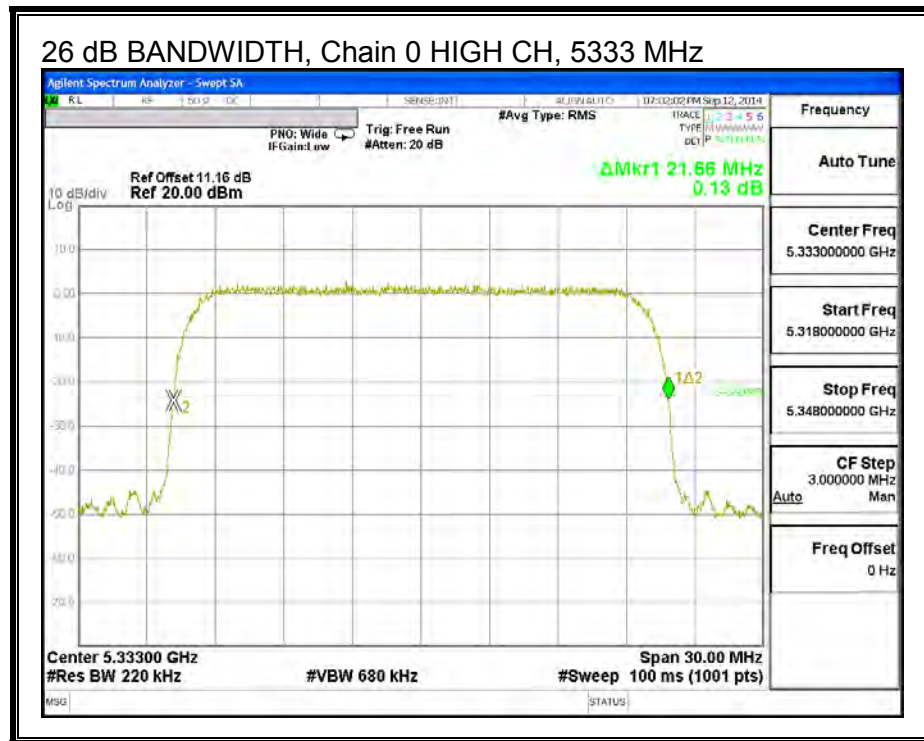


26 dB BANDWIDTH, Chain 1





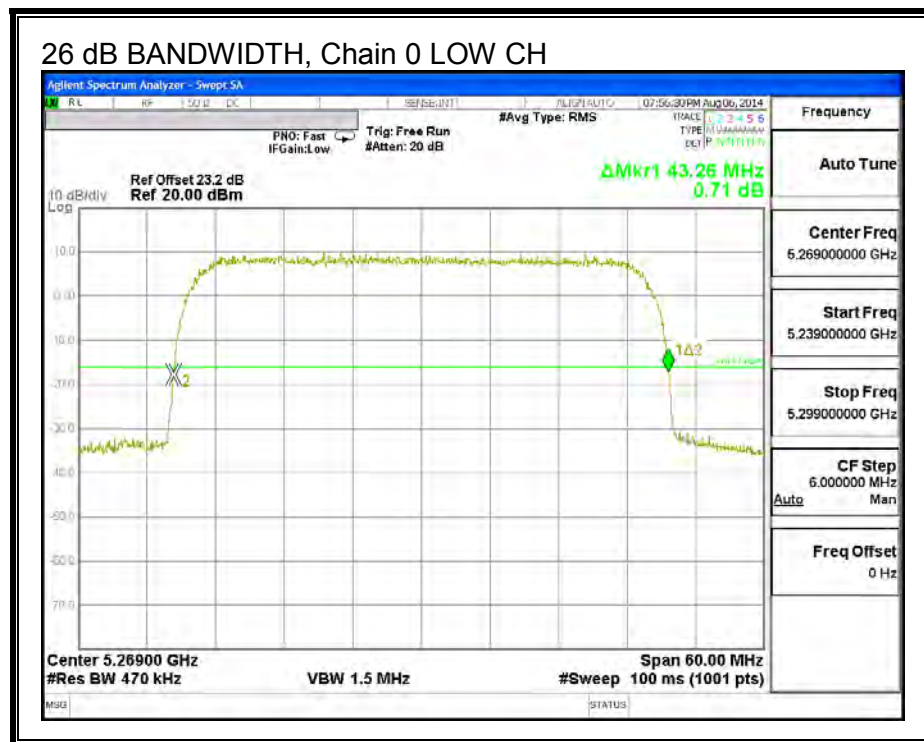


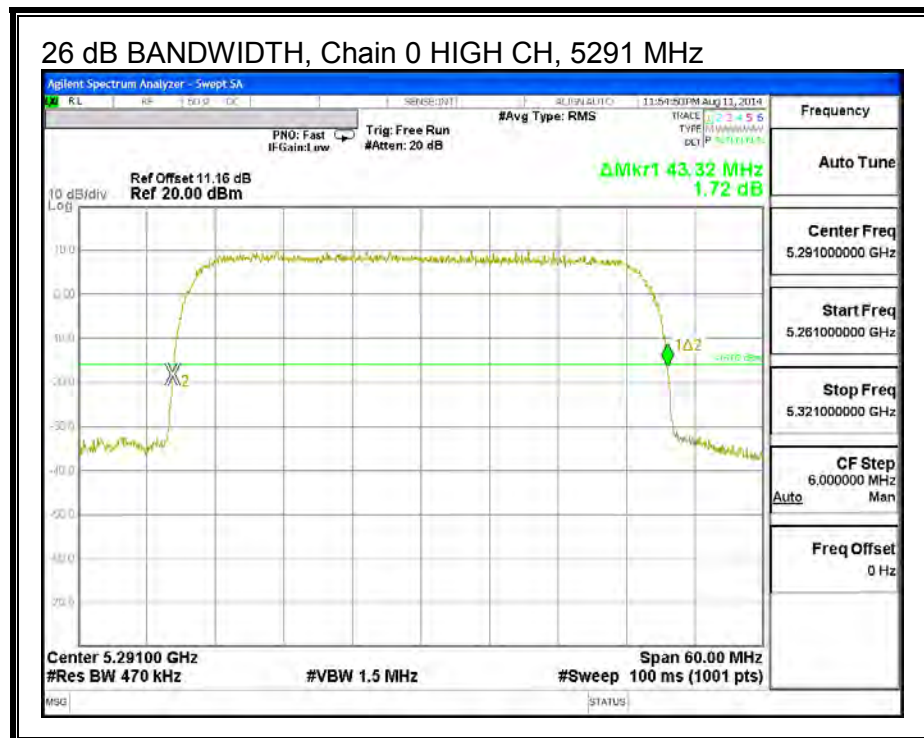
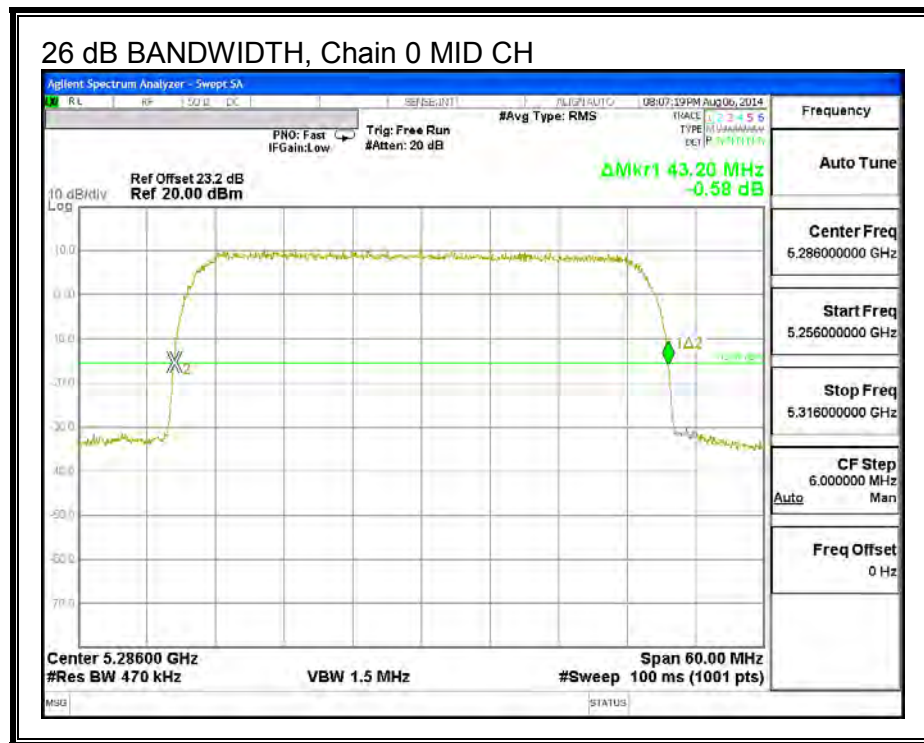


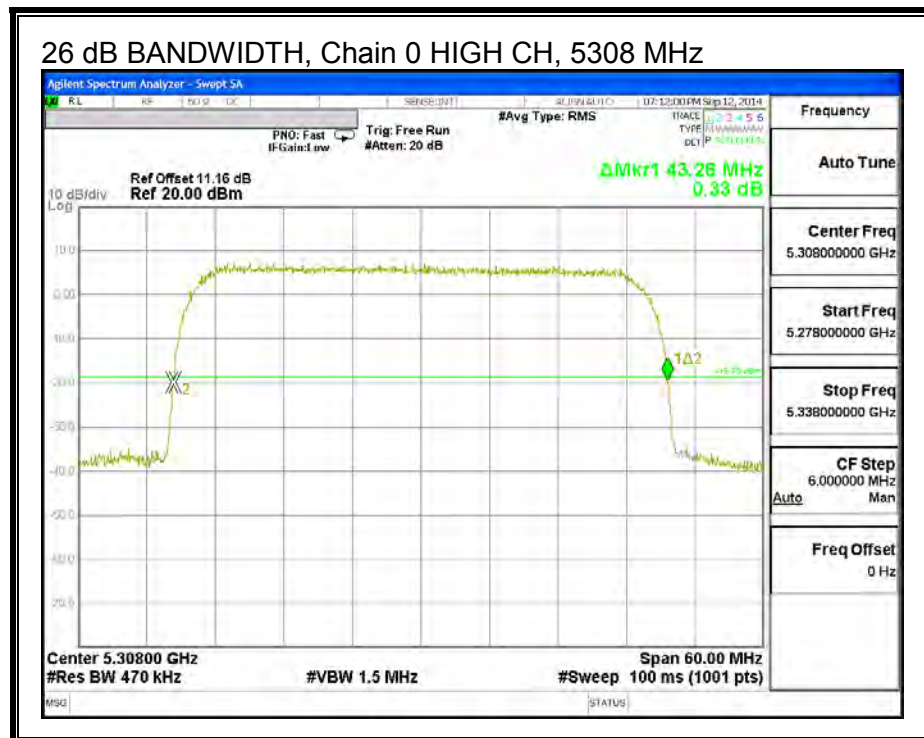
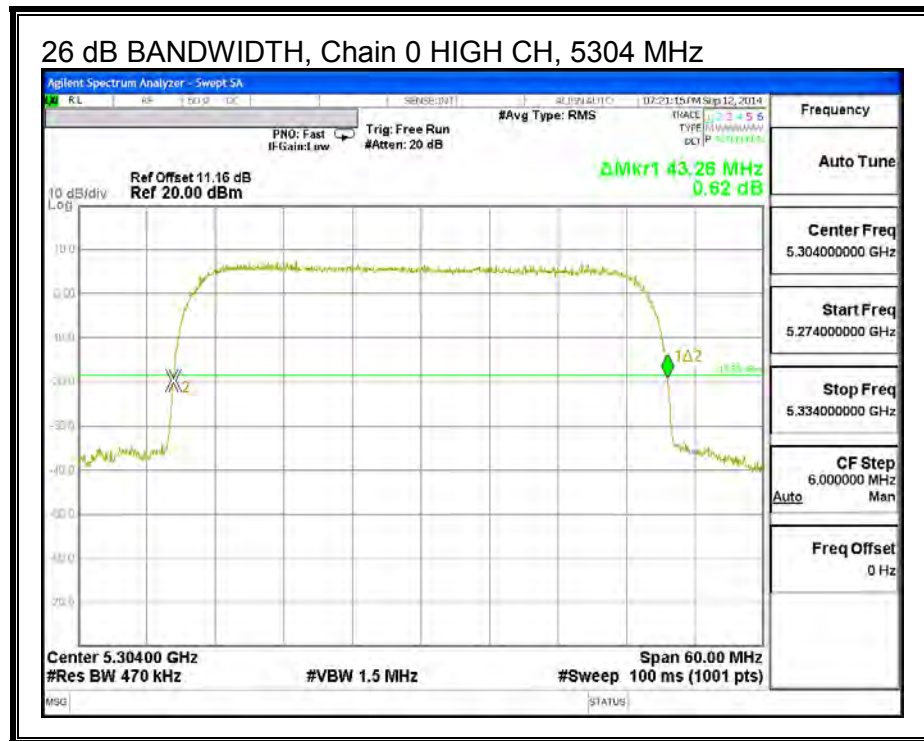
40MHz BW

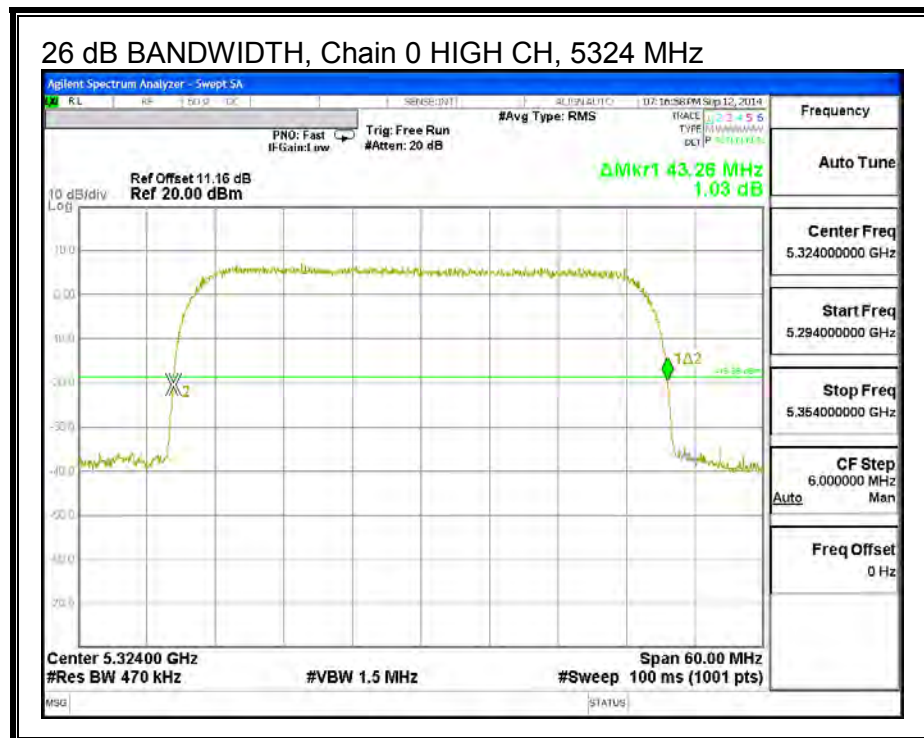
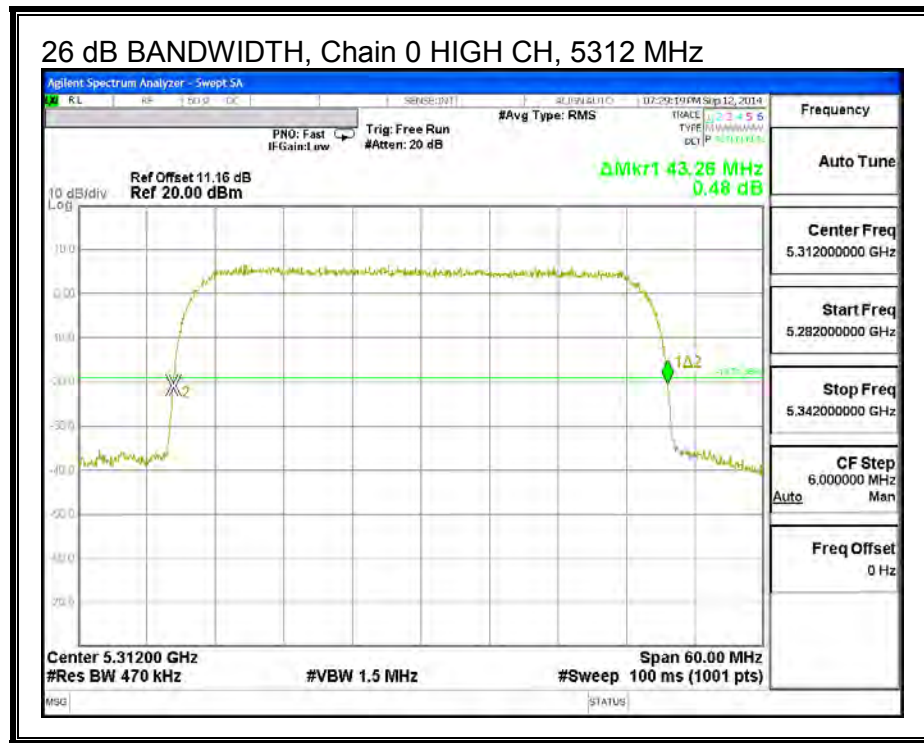
Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5269	43.26	43.20
Mid	5286	43.20	43.26
High	5291	43.32	43.20
High	5304	43.26	43.26
High	5308	43.26	43.26
High	5312	43.26	43.26
High	5324	43.26	43.26
High	5327	43.26	43.26

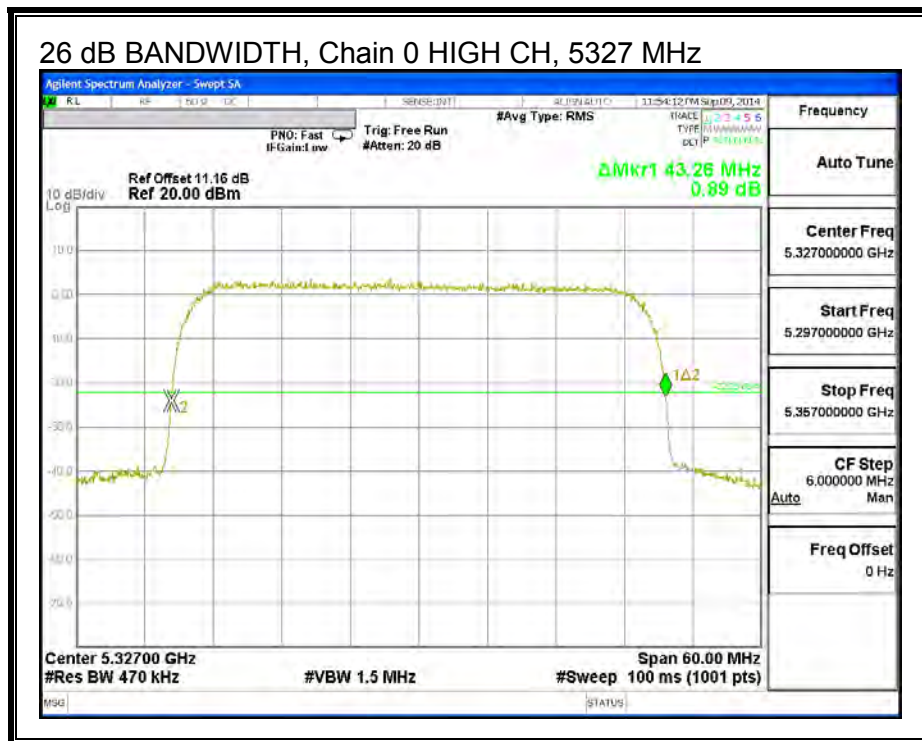
26 dB BANDWIDTH, Chain 0



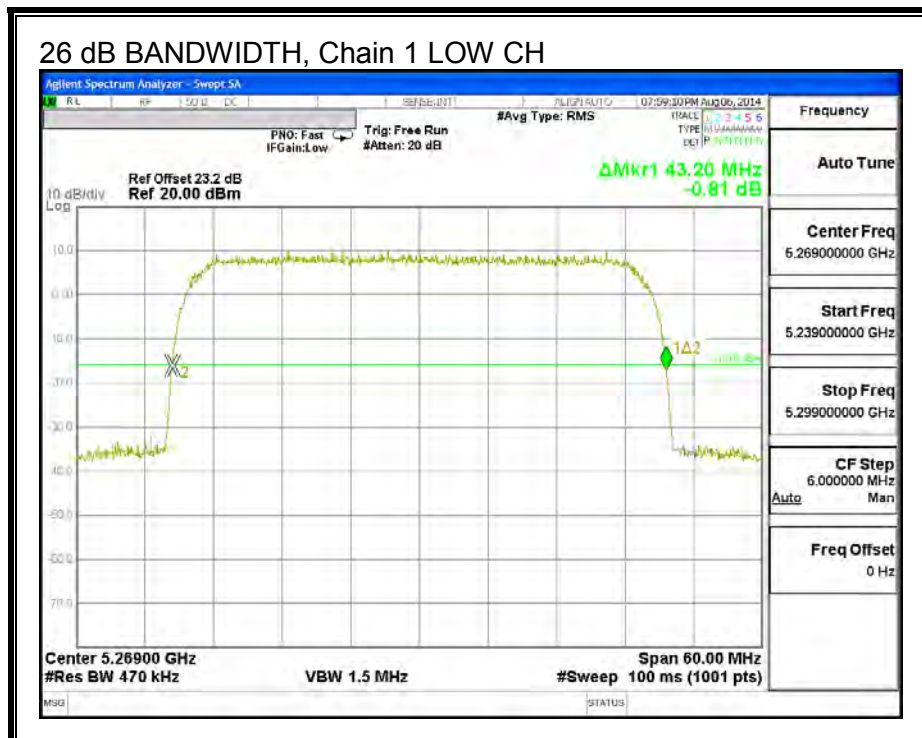


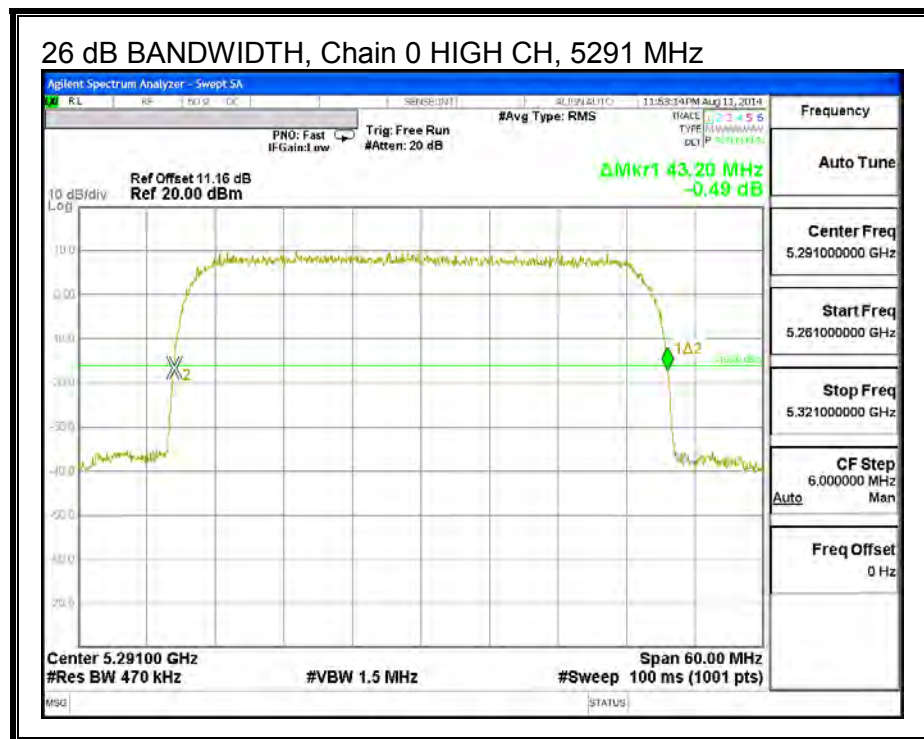
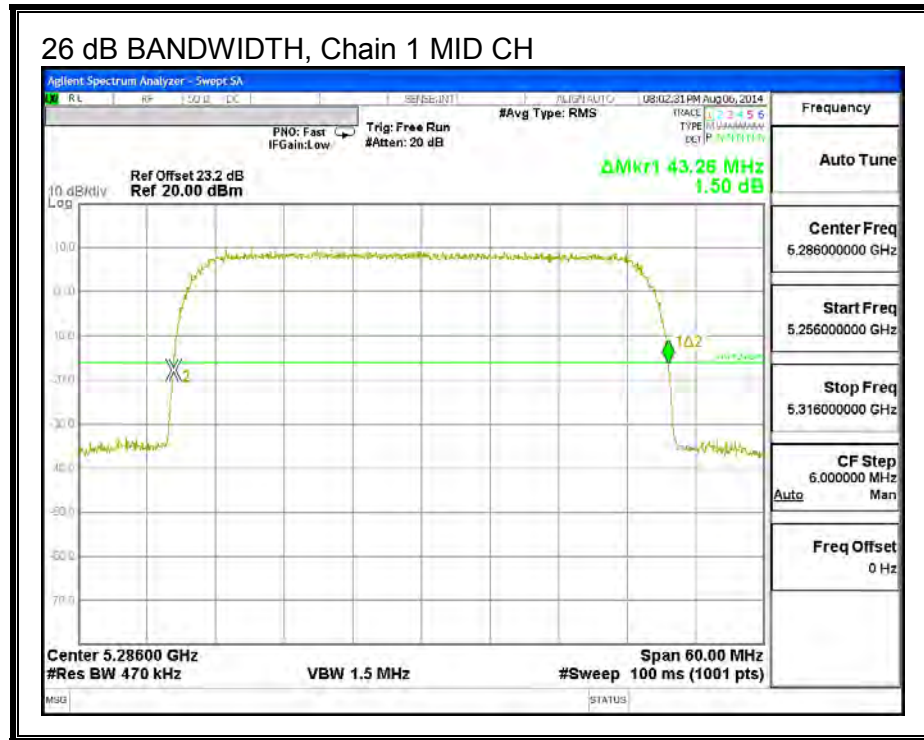


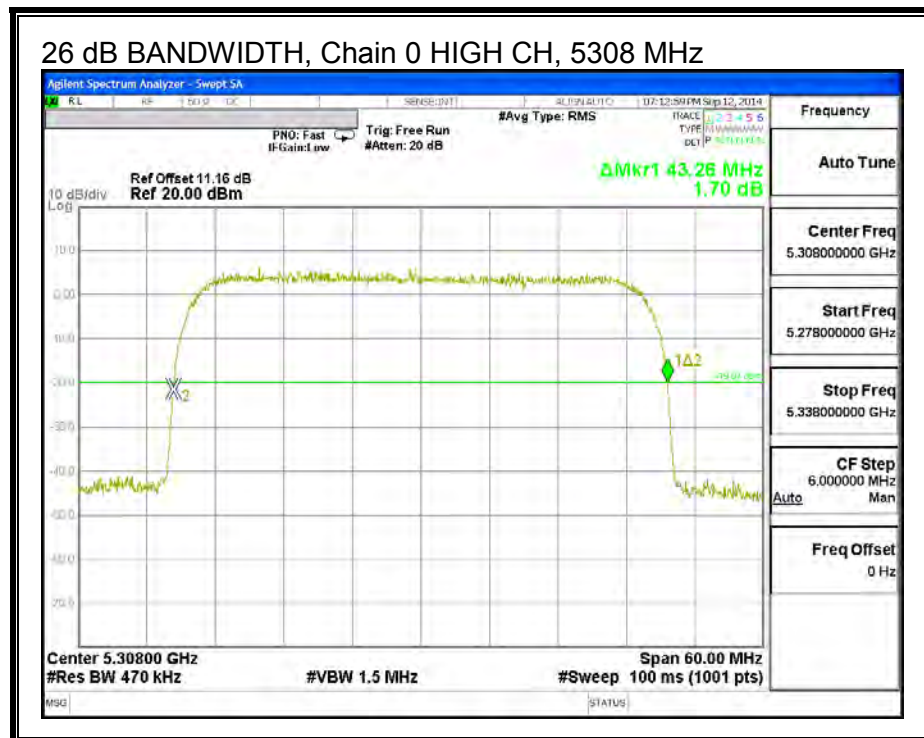
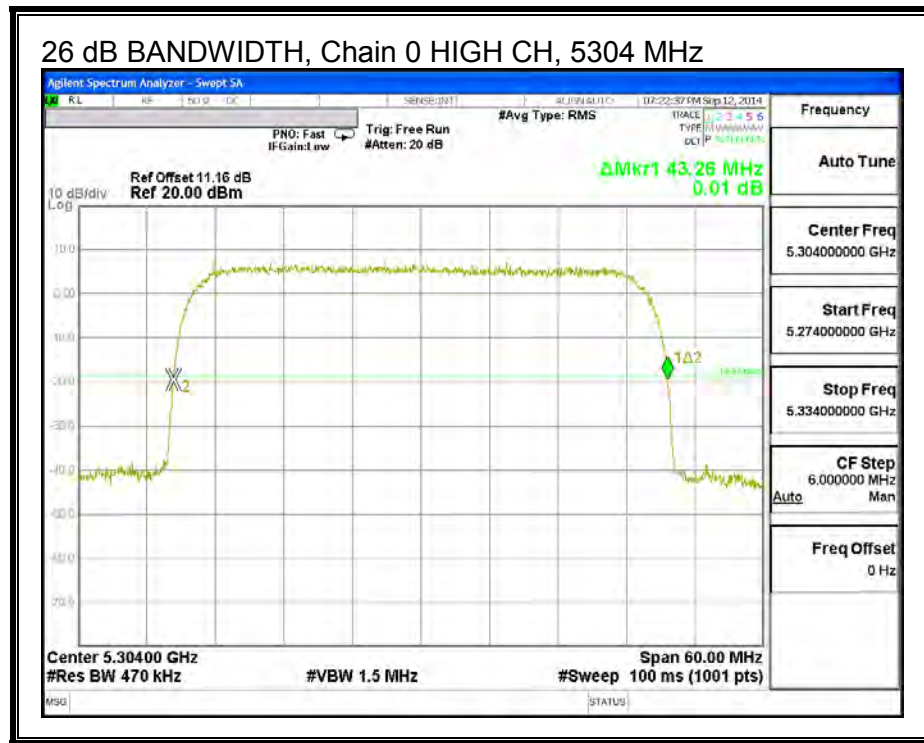


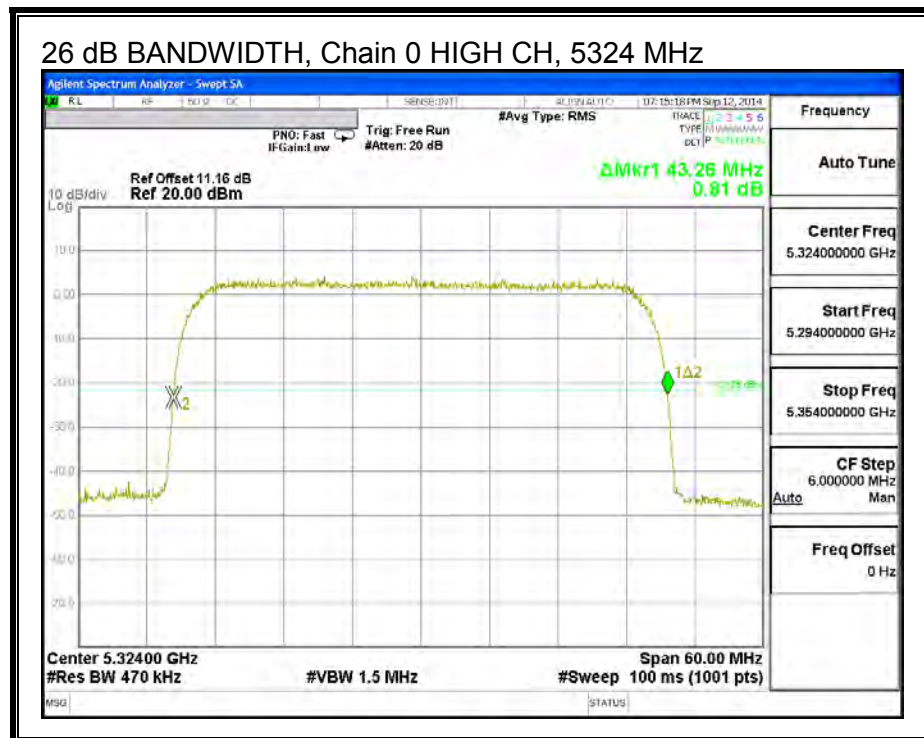
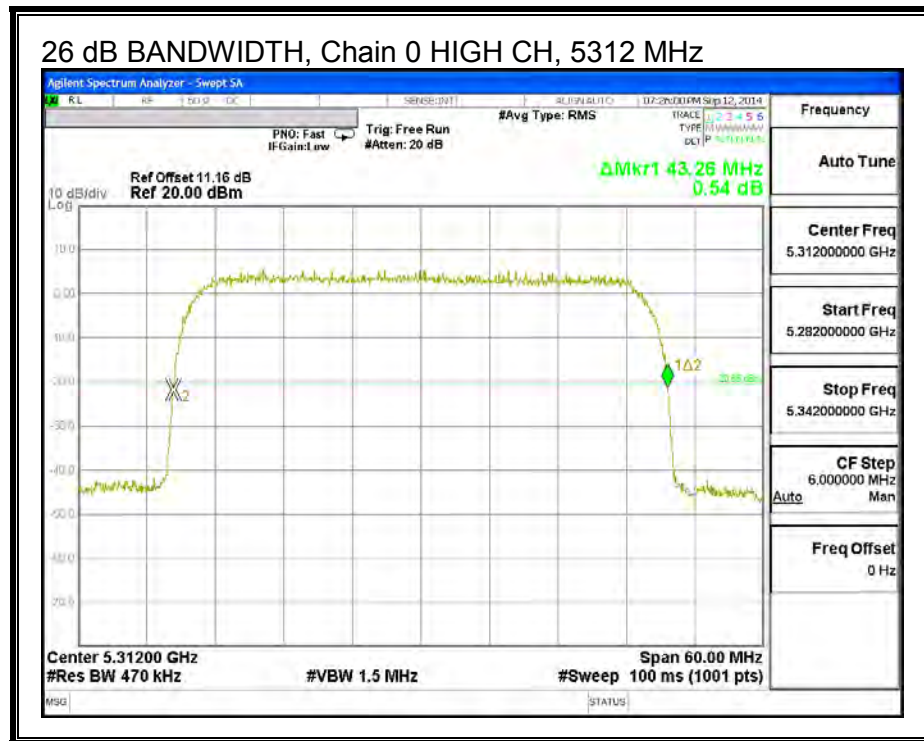


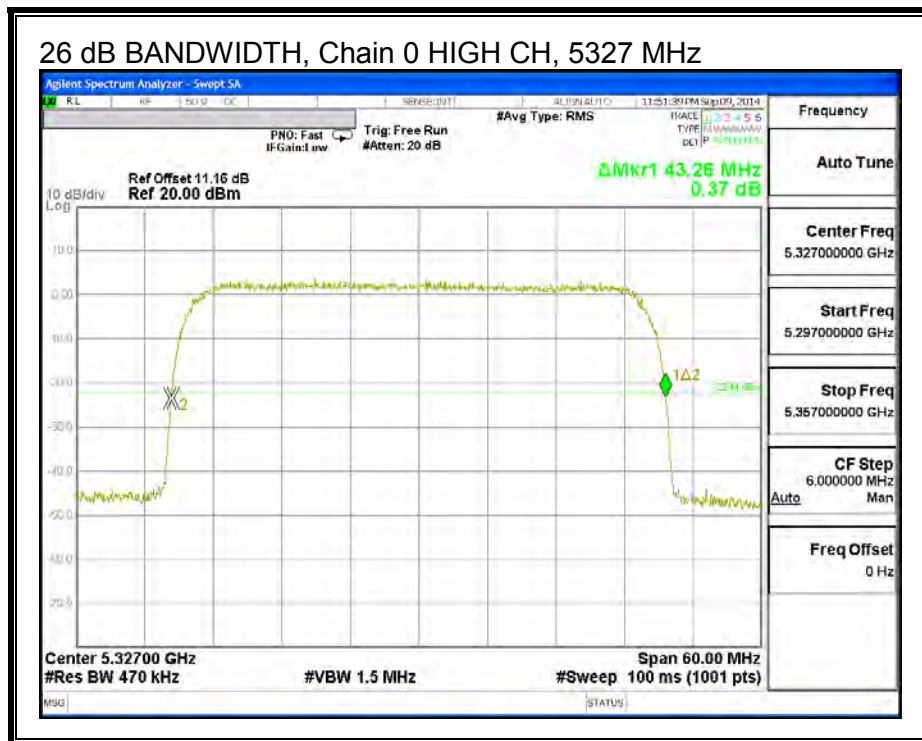
26 dB BANDWIDTH, Chain 1











8.1.2. AVERAGE POWER

LIMITS

None; for reporting purposes only.

RESULTS

10MHz BW - SISO

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)
Low	5257	14.43	14.32
Mid	5291	14.04	14.07
High	5325	14.03	14.07
High	5335	13.86	13.73
High	5341	9.99	10.06

20MHz BW - SISO

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)
Low	5261	17.48	17.33
Mid	5289	17.20	17.15
High	5320	17.04	17.22
High	5325	14.61	14.82
High	5333	11.51	11.44

40MHz BW - SISO

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)
Low	5269	18.97	19.10
Mid	5286	18.78	18.95
High	5291	18.71	18.81
High	5308	14.52	14.55
High	5324	12.39	12.53

10MHz BW – MIMO

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5257	10.43	11.46	13.99
Mid	5291	10.32	11.22	13.80
High	5325	10.84	11.61	14.25
High	5338	10.24	11.13	13.72
High	5343	6.32	7.29	9.84

20MHz BW - MIMO

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5261	14.09	13.94	17.03
Mid	5289	13.99	14.05	17.03
High	5318	13.80	13.59	16.71
High	5325	11.63	11.17	14.42
High	5337	9.22	10.37	12.84

40MHz BW - MIMO

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5269	15.88	16.08	18.99
Mid	5286	16.68	13.78	18.48
High	5304	14.02	14.61	17.34
High	5312	13.42	12.40	15.95
High	5327	10.51	10.74	13.64

8.1.3. OUTPUT POWER (SISO)

LIMITS

FCC §15.407 (a) (2)

For the band 5.25–5.35 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS - CH 0

10MHz BW

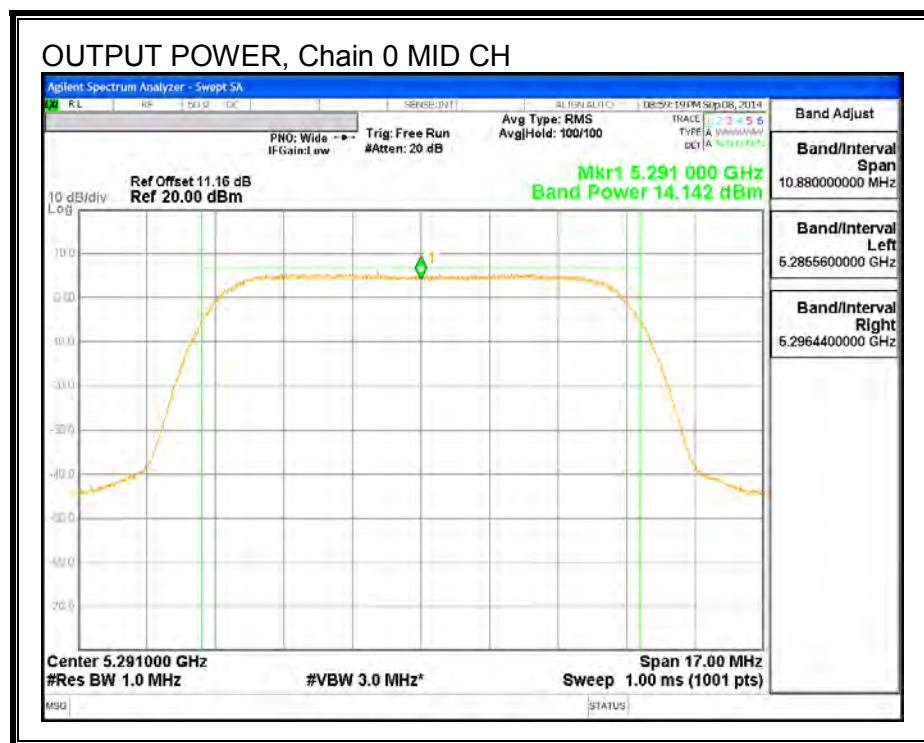
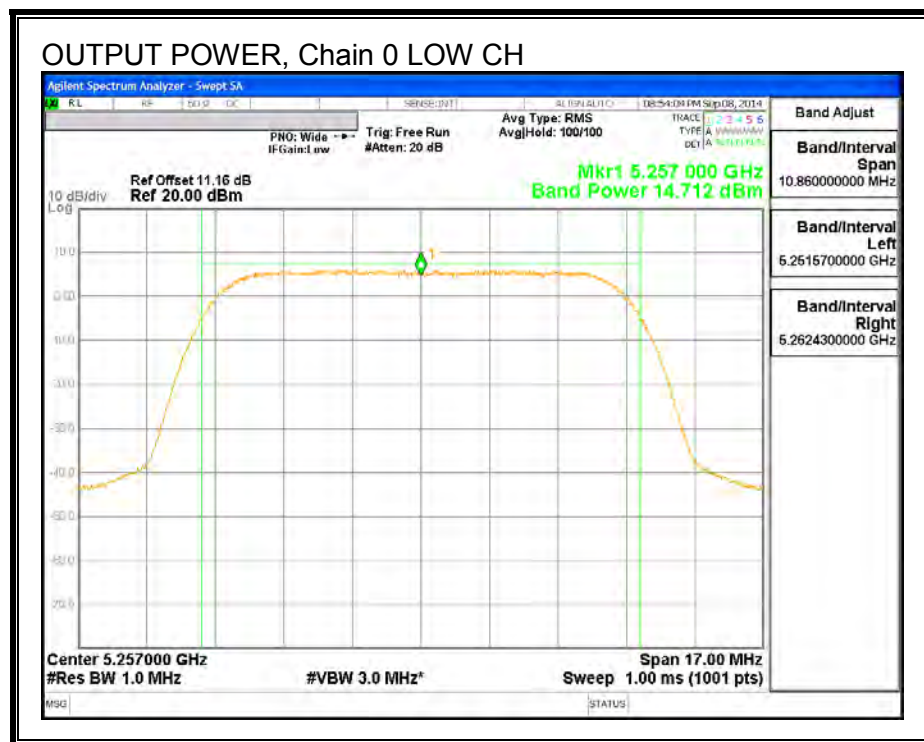
Bandwidth, Antenna Gain, and Limits

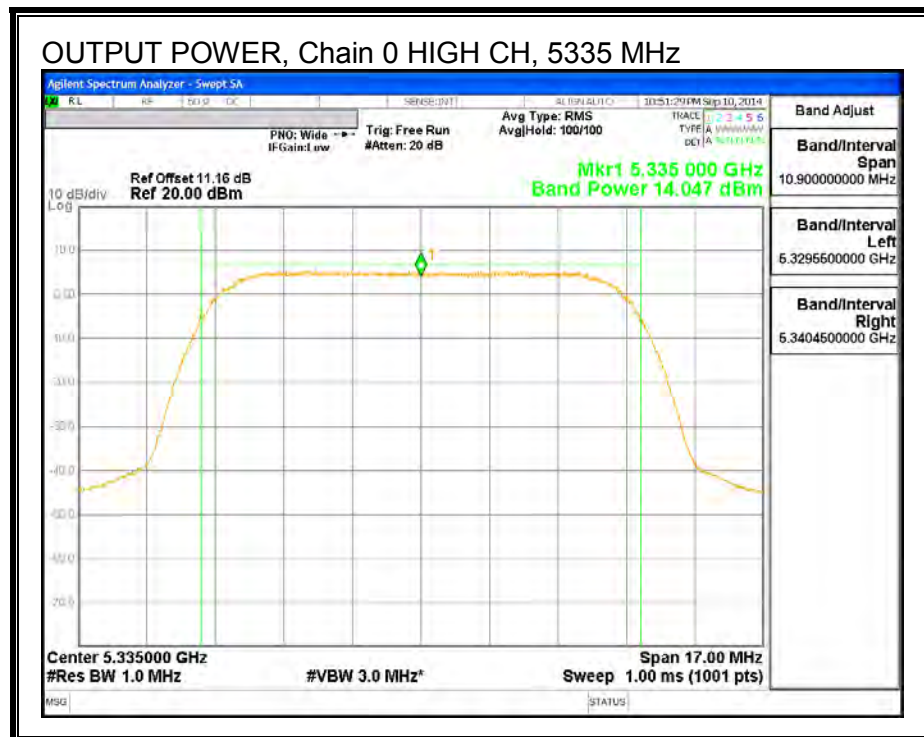
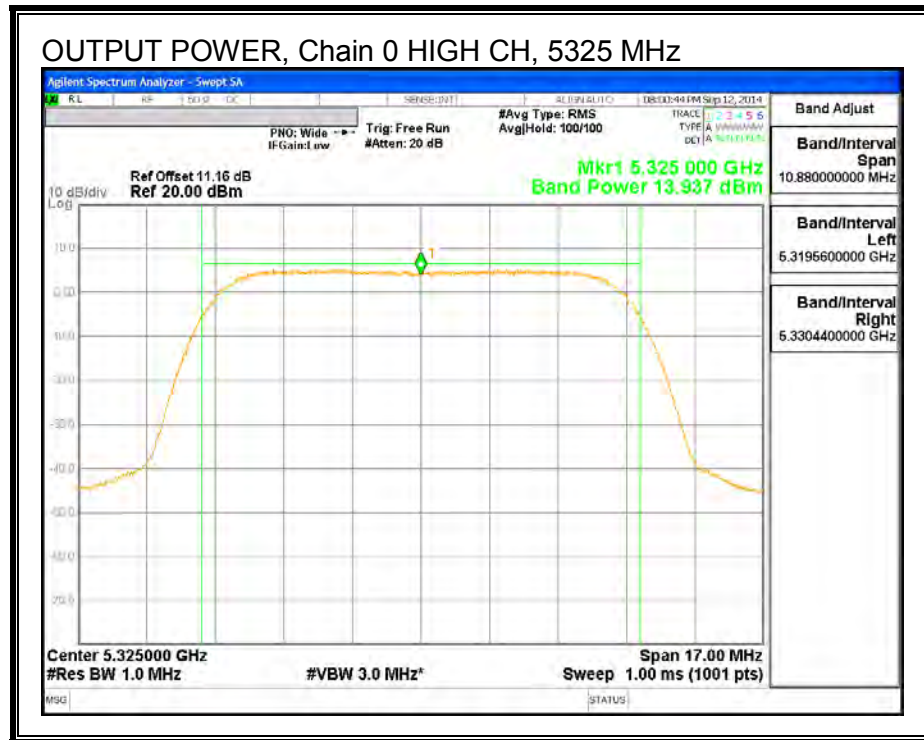
Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Low	5257	10.90	10.50	16.87
Mid	5291	10.90	10.50	16.87
High	5325	10.88	10.50	16.87
High	5335	10.90	10.50	16.87
High	5341	10.90	10.50	16.87

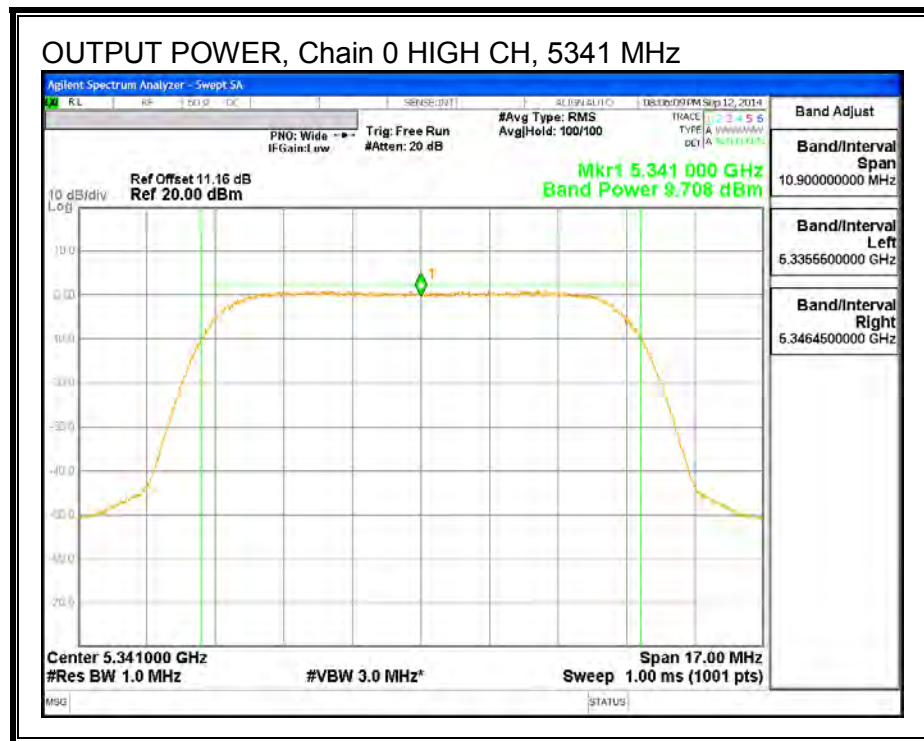
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5257	14.71	14.71	16.87	-2.16
Mid	5291	14.14	14.14	16.87	-2.73
High	5325	13.94	13.94	16.87	-2.93
High	5335	14.05	14.05	16.87	-2.82
High	5341	9.71	9.71	16.87	-7.17







20MHz BW

Bandwidth, Antenna Gain, and Limits

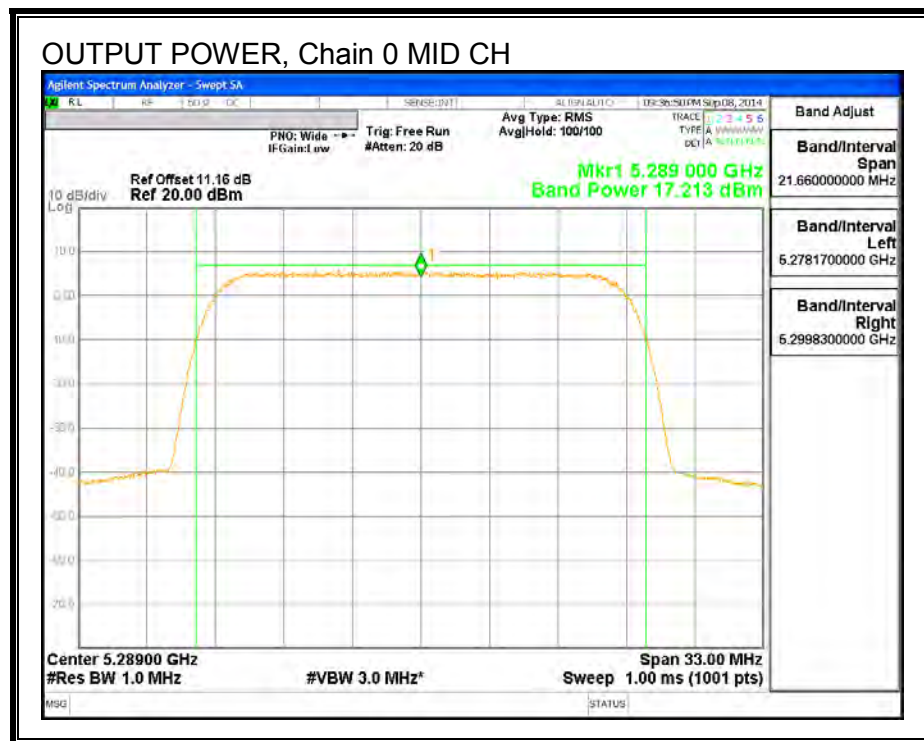
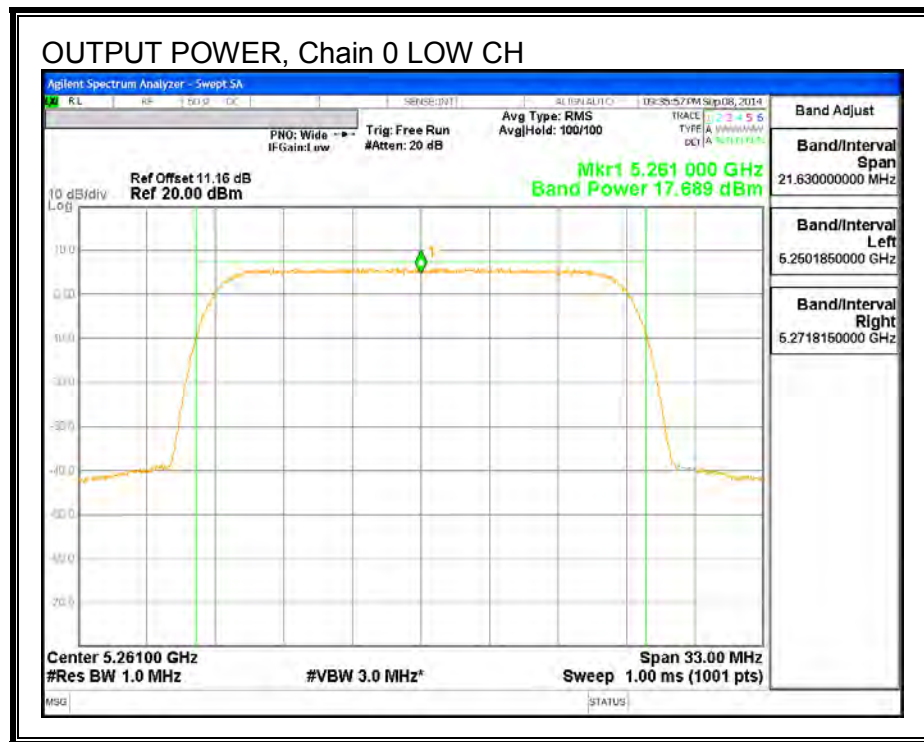
Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Low	5261	21.63	10.50	19.50
Mid	5289	21.66	10.50	19.50
High	5320	21.66	10.50	19.50
High	5325	21.66	10.50	19.50
High	5333	21.66	10.50	19.50

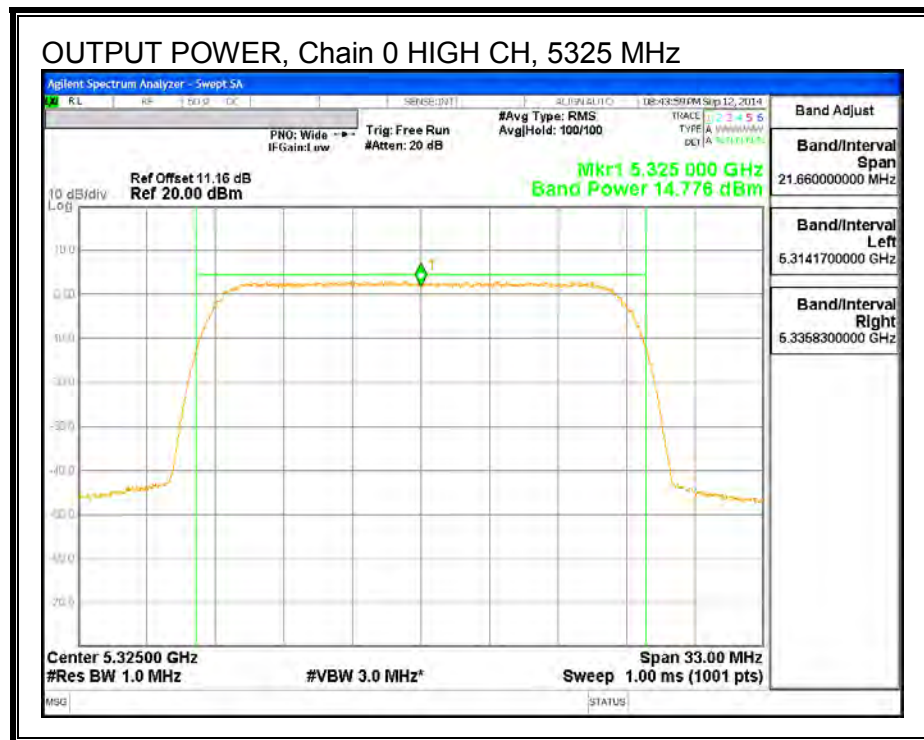
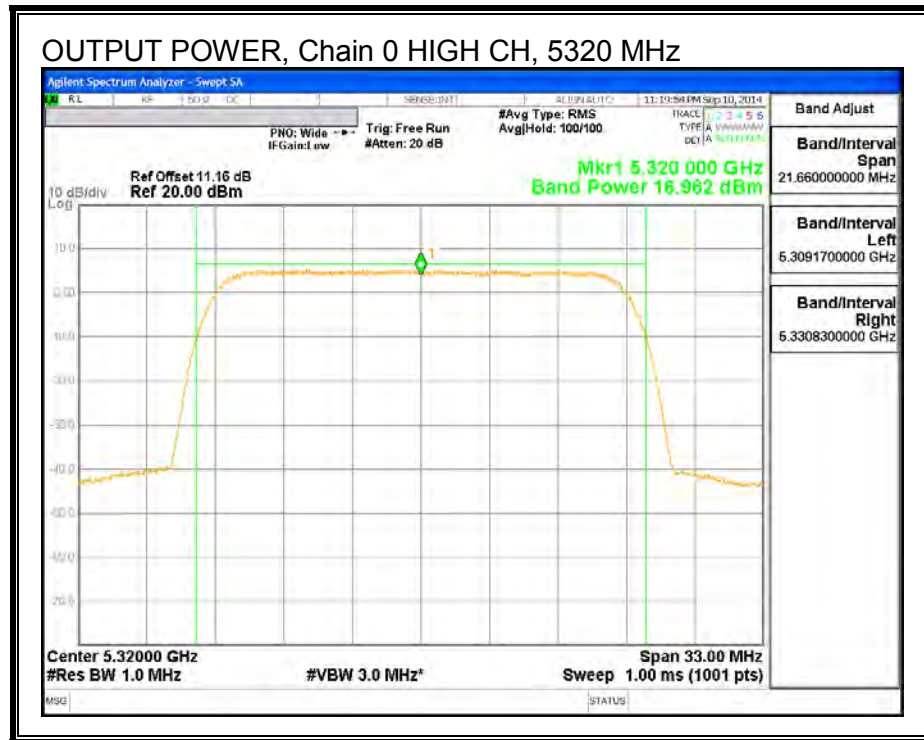
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power
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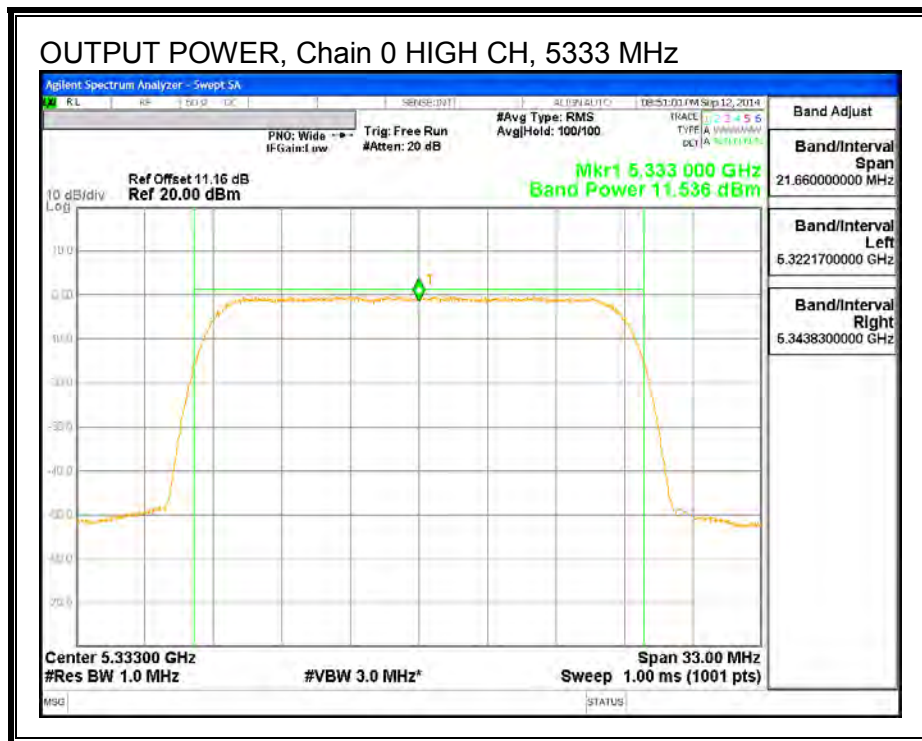
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5261	17.69	17.69	19.50	-1.81
Mid	5289	17.21	17.21	19.50	-2.29
High	5320	16.96	16.96	19.50	-2.54
High	5325	14.78	14.78	19.50	-4.72
High	5333	11.54	11.54	19.50	-7.96

OUTPUT POWER, Chain 0







40MHz BW

Bandwidth, Antenna Gain, and Limits

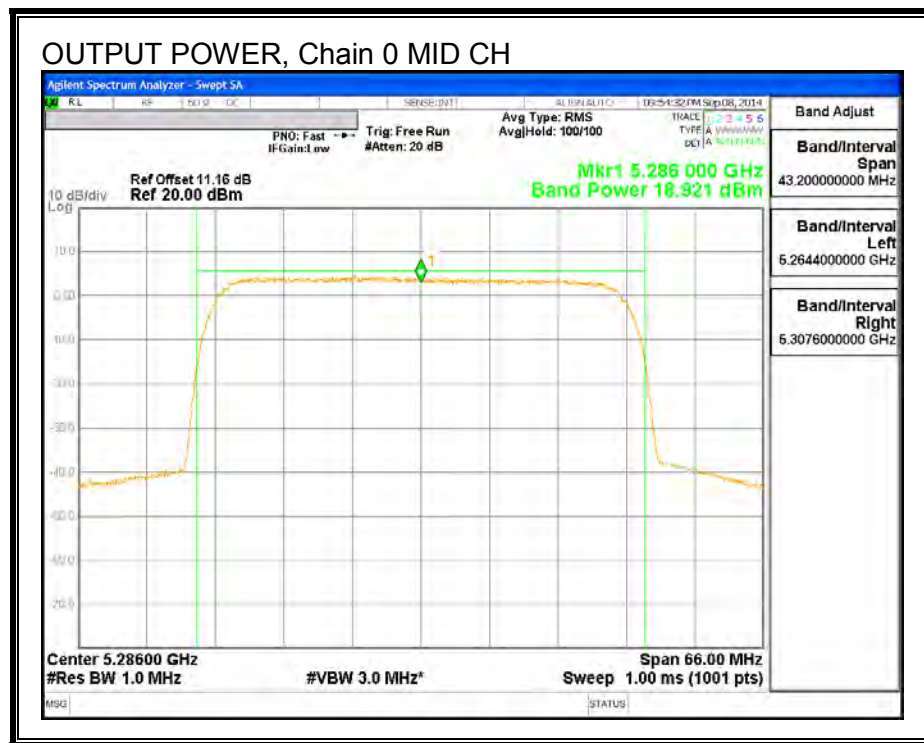
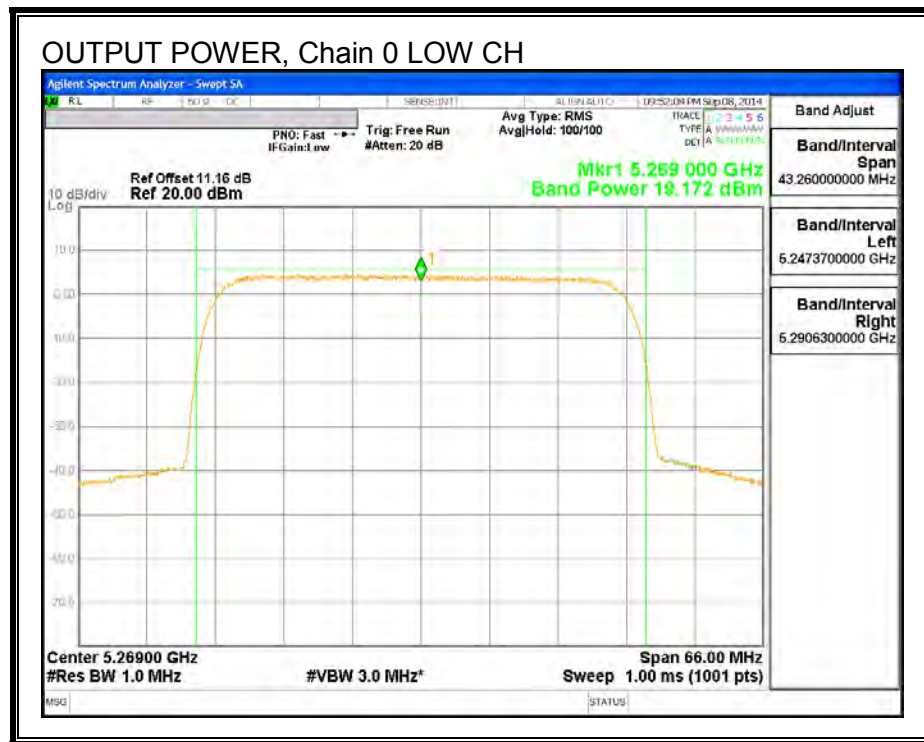
Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Low	5269	43.20	10.50	19.50
Mid	5286	43.20	10.50	19.50
High	5291	43.32	10.50	19.50
High	5308	43.26	10.50	19.50
High	5324	43.26	10.50	19.50

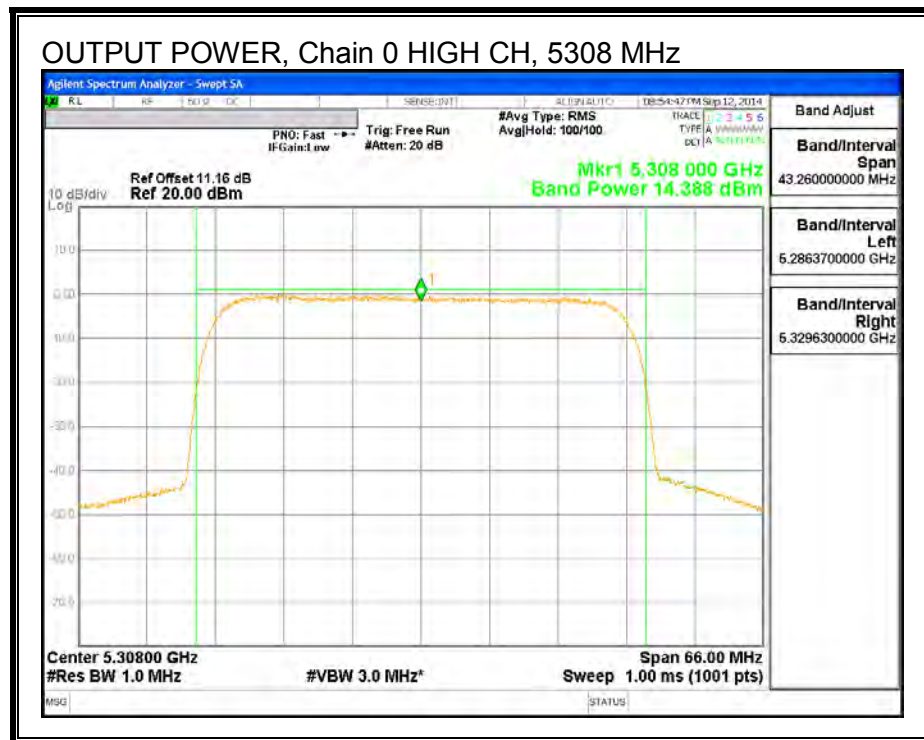
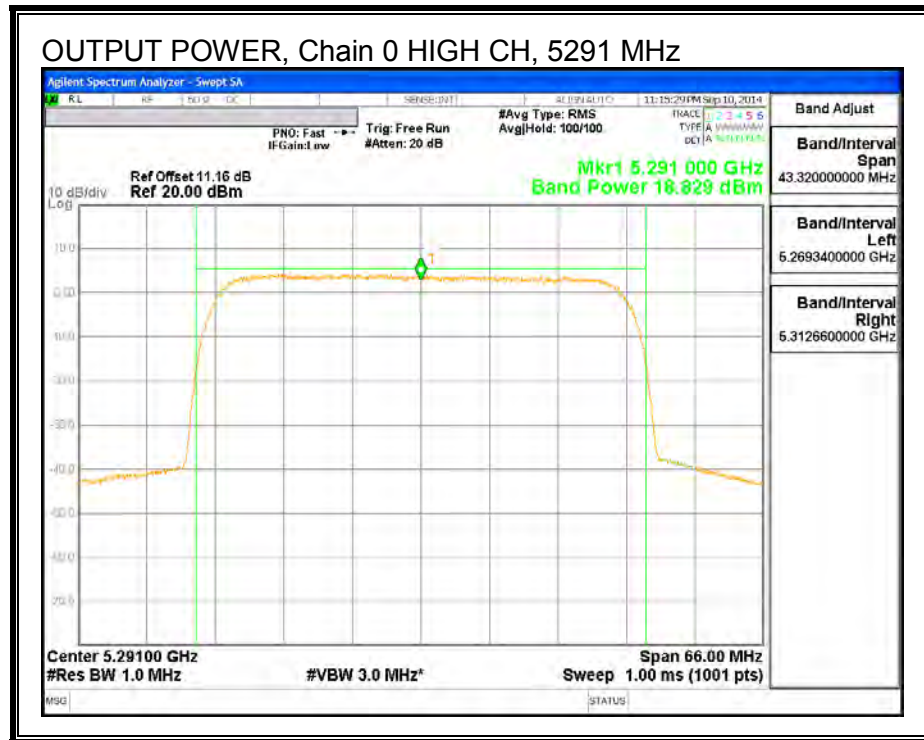
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power
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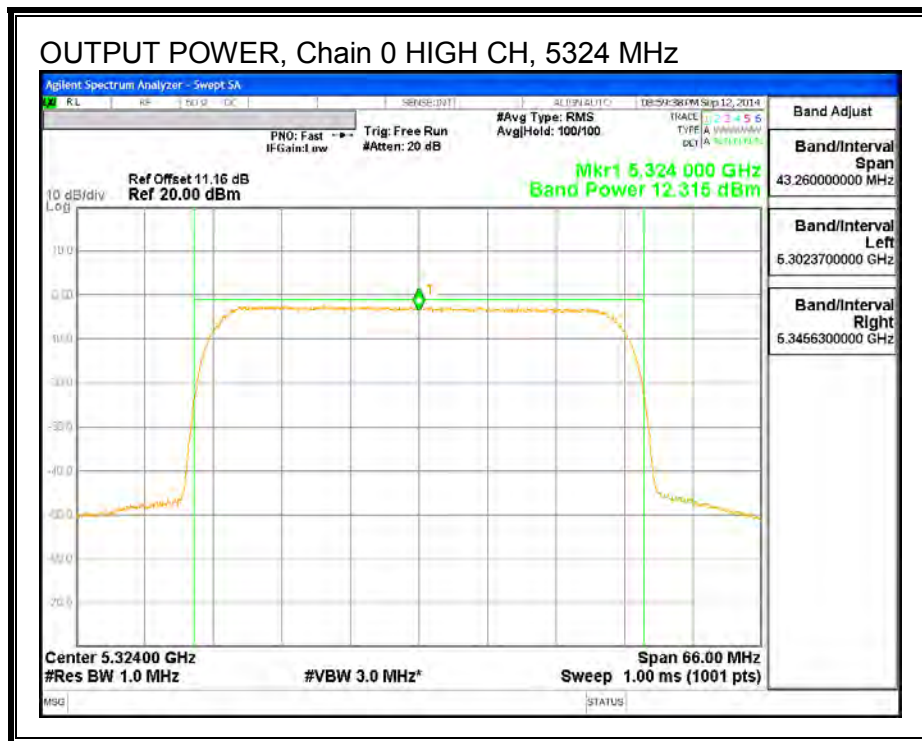
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5269	19.17	19.17	19.50	-0.33
Mid	5286	18.92	18.92	19.50	-0.58
High	5291	18.83	18.83	19.50	-0.67
High	5308	14.39	14.39	19.50	-5.11
High	5324	12.32	12.32	19.50	-7.19

OUTPUT POWER, Chain 0







RESULTS - CH 1

10MHz BW

Bandwidth, Antenna Gain, and Limits

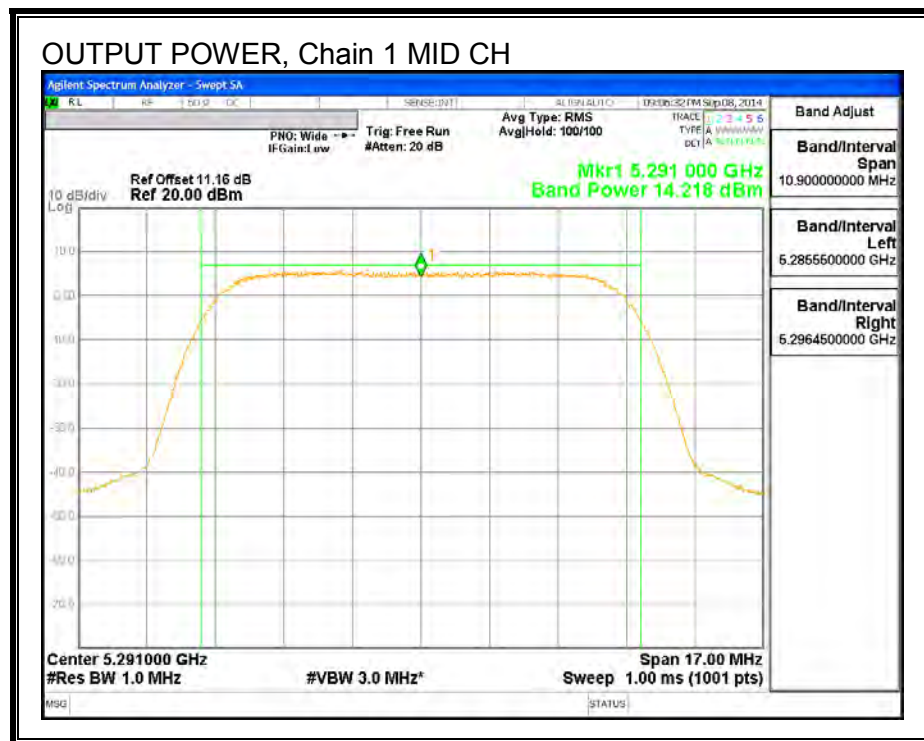
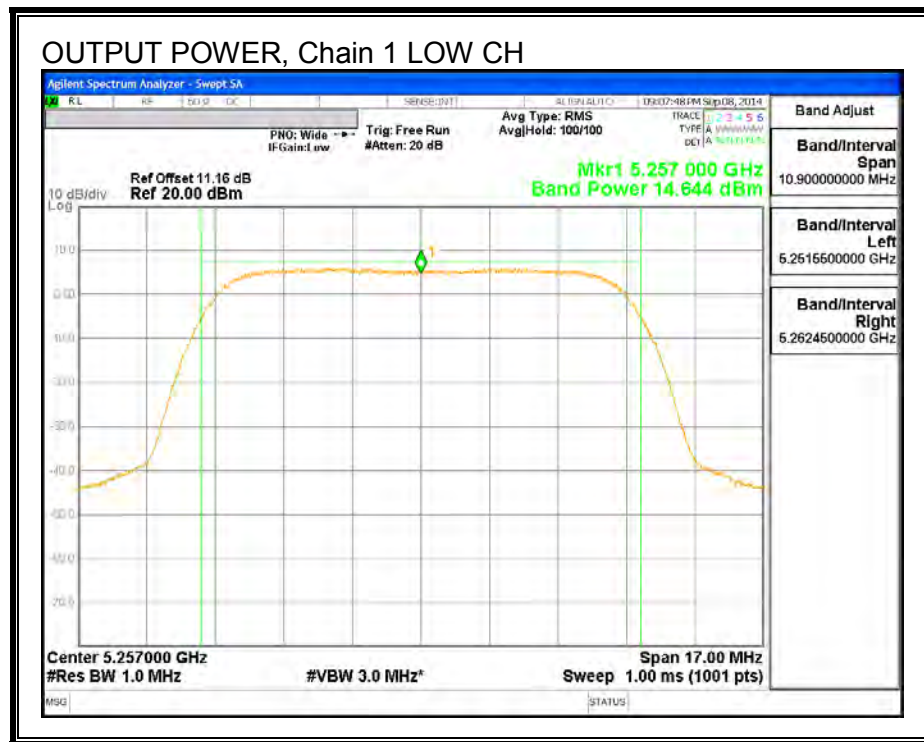
Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Low	5257	10.90	10.50	16.87
Mid	5291	10.90	10.50	16.87
High	5325	10.90	10.50	16.87
High	5335	10.90	10.50	16.87
High	5341	10.88	10.50	16.87

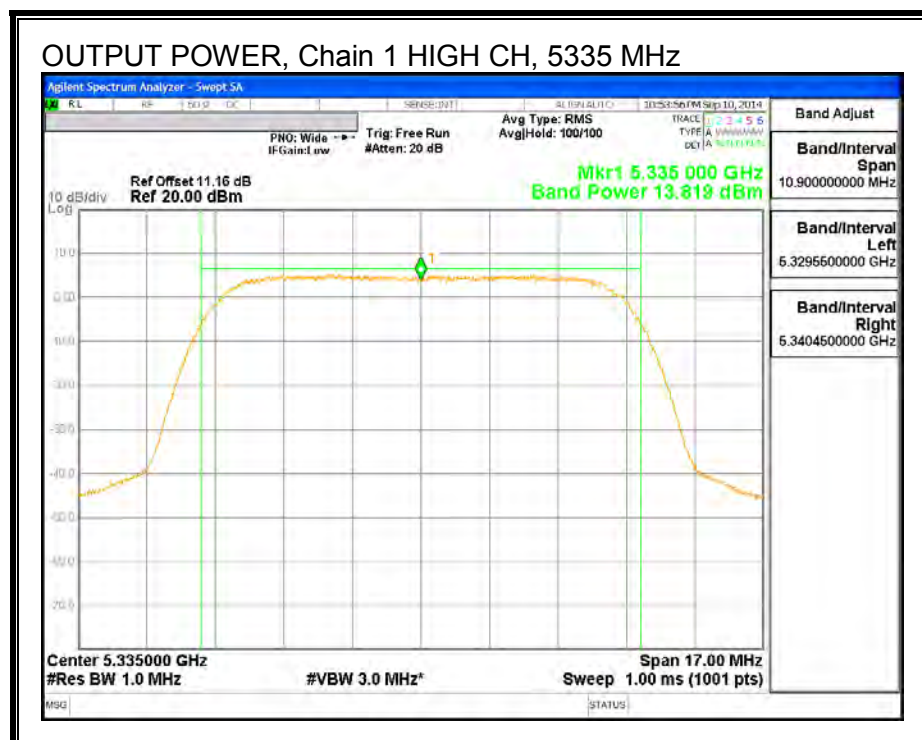
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power
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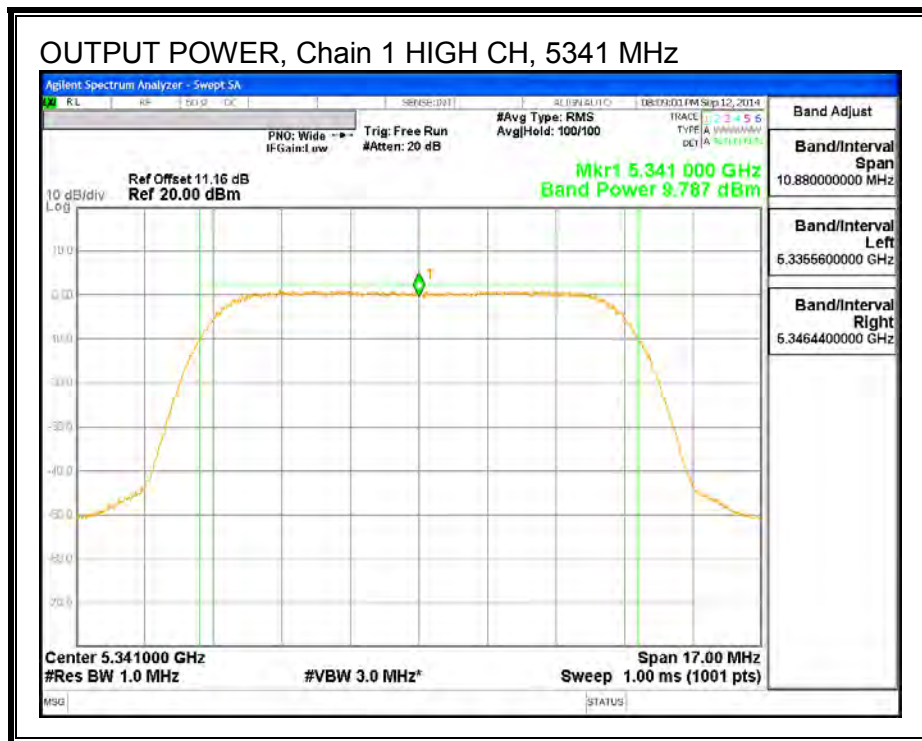
Output Power Results

Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5257	14.64	14.64	16.87	-2.23
Mid	5291	14.22	14.22	16.87	-2.65
High	5325	14.03	14.03	16.87	-2.85
High	5335	13.82	13.82	16.87	-3.05
High	5341	9.79	9.79	16.87	-7.08

OUTPUT POWER, Chain 1







20MHz BW

Bandwidth, Antenna Gain, and Limits

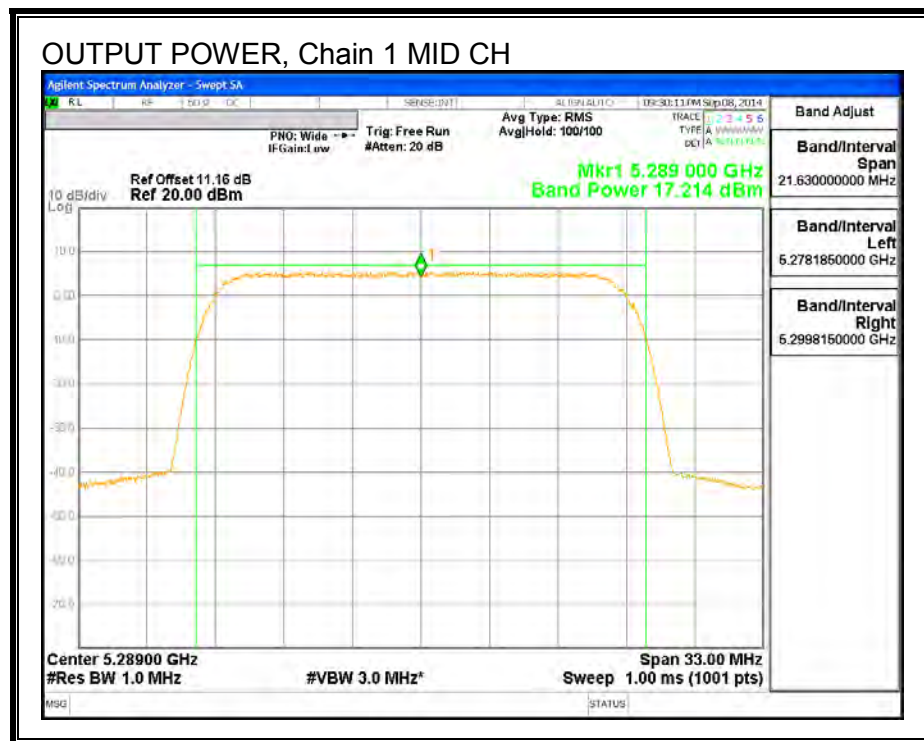
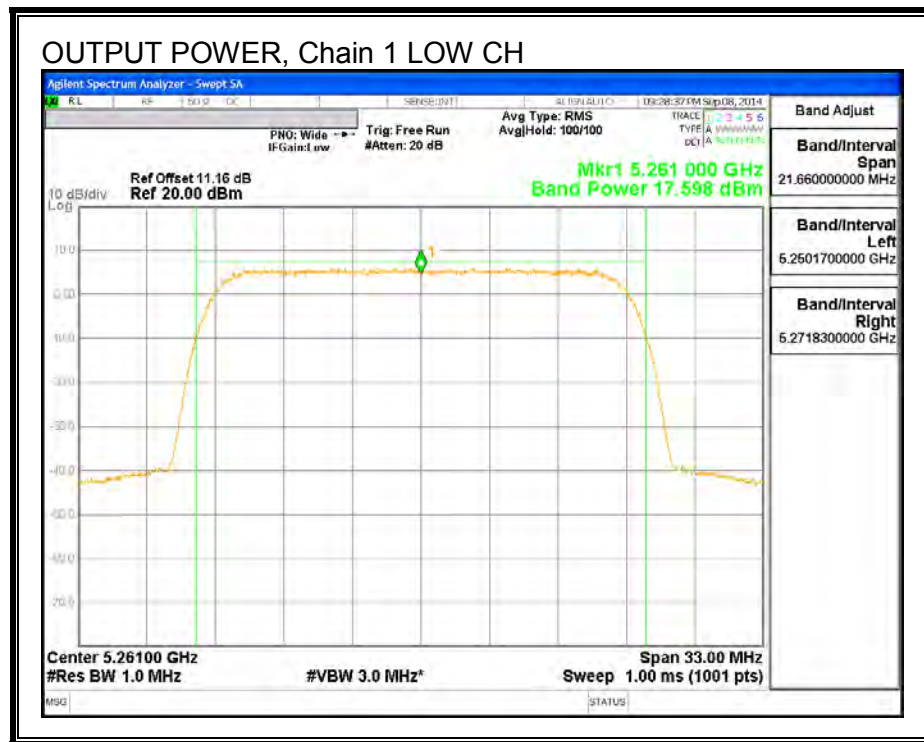
Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Low	5261	21.63	10.50	19.50
Mid	5289	21.66	10.50	19.50
High	5320	21.63	10.50	19.50
High	5325	21.66	10.50	19.50
High	5333	21.66	10.50	19.50

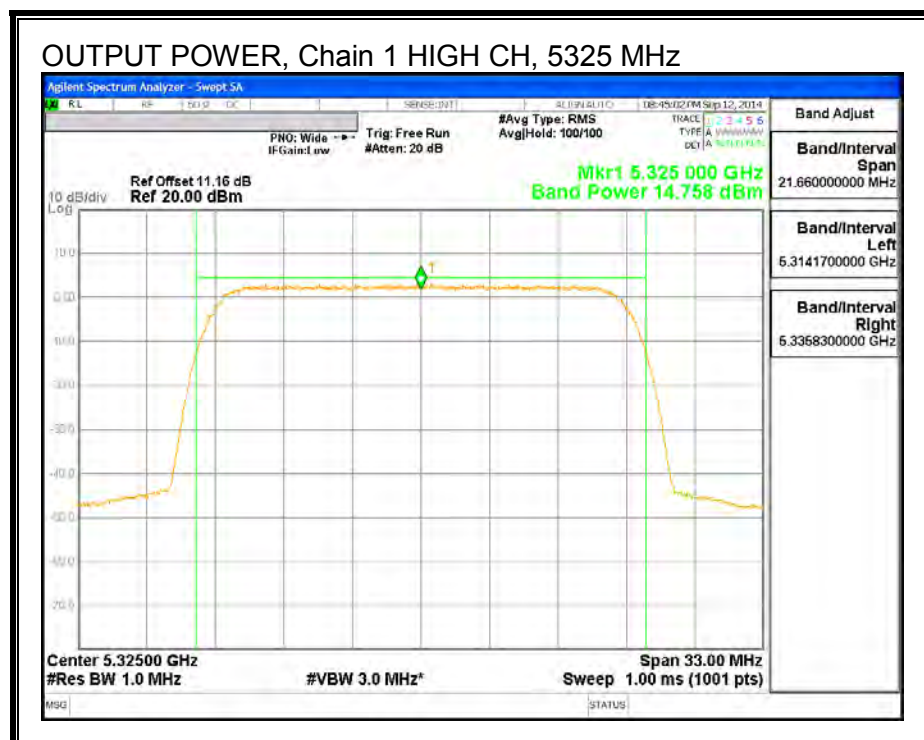
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power
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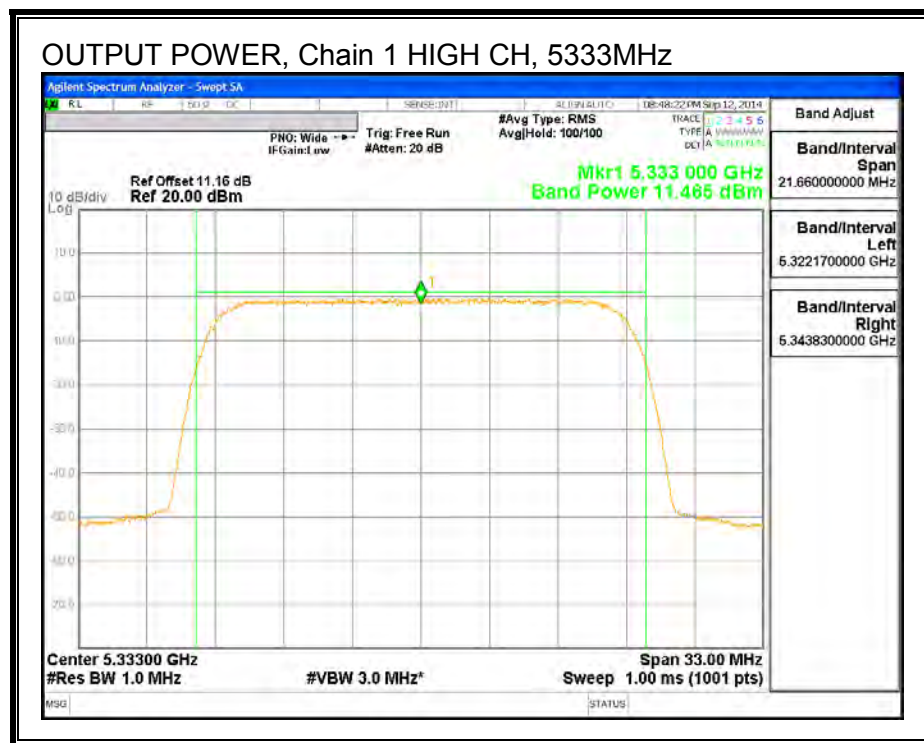
Output Power Results

Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5261	17.60	17.60	19.50	-1.90
Mid	5289	17.21	17.21	19.50	-2.29
High	5320	17.11	17.11	19.50	-2.39
High	5325	14.76	14.76	19.50	-4.74
High	5333	11.47	11.47	19.50	-8.04

OUTPUT POWER, Chain 1







40MHz BW

Bandwidth, Antenna Gain, and Limits

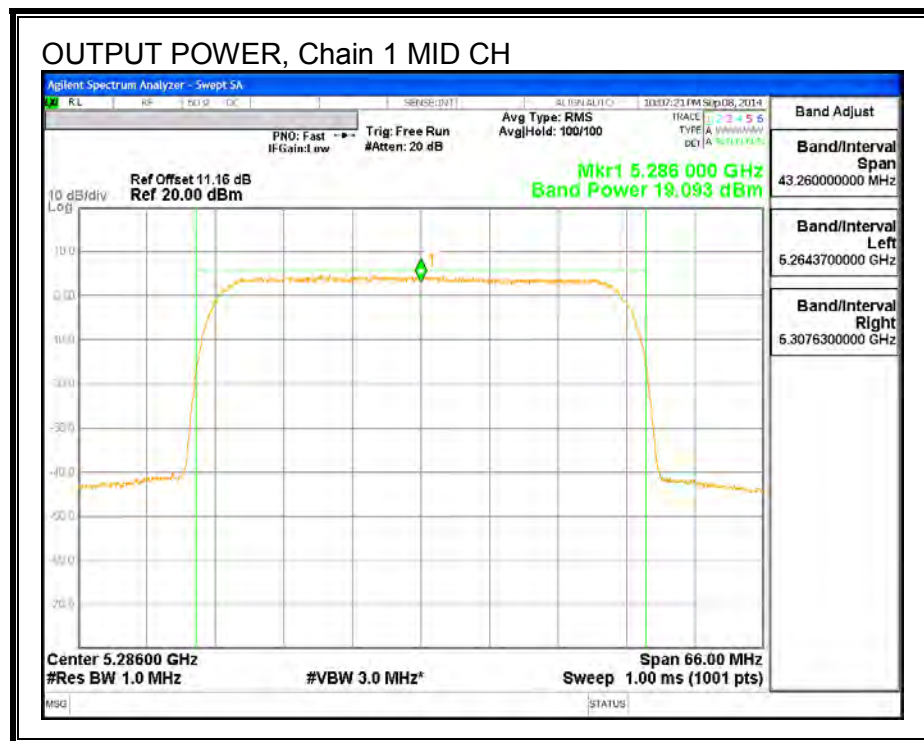
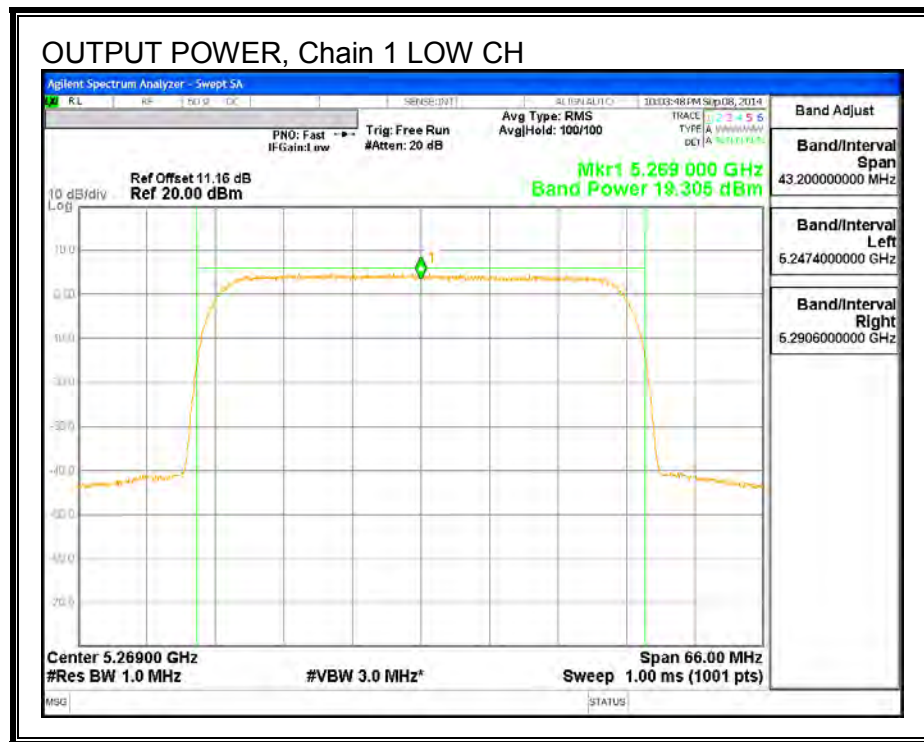
Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Low	5269	43.20	10.50	19.50
Mid	5286	43.20	10.50	19.50
High	5291	43.20	10.50	19.50
High	5308	43.26	10.50	19.50
High	5324	43.26	10.50	19.50

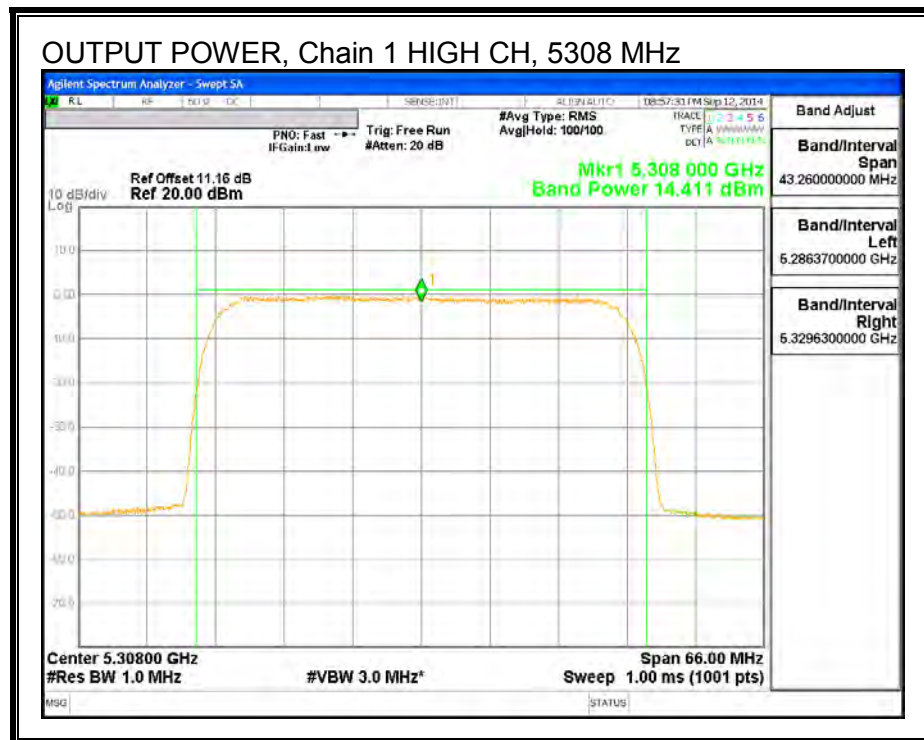
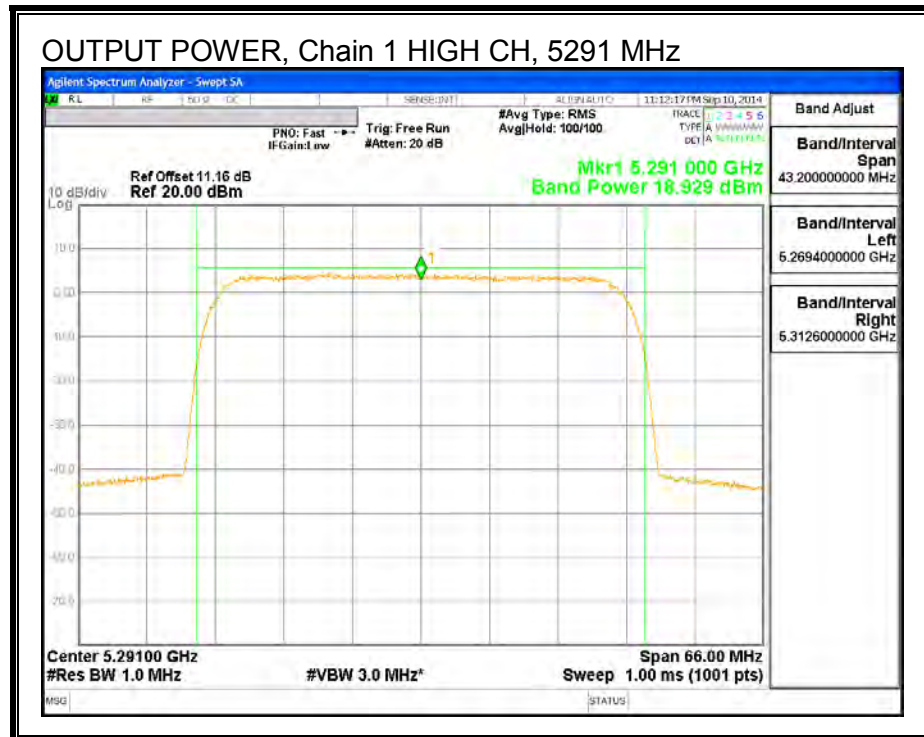
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power
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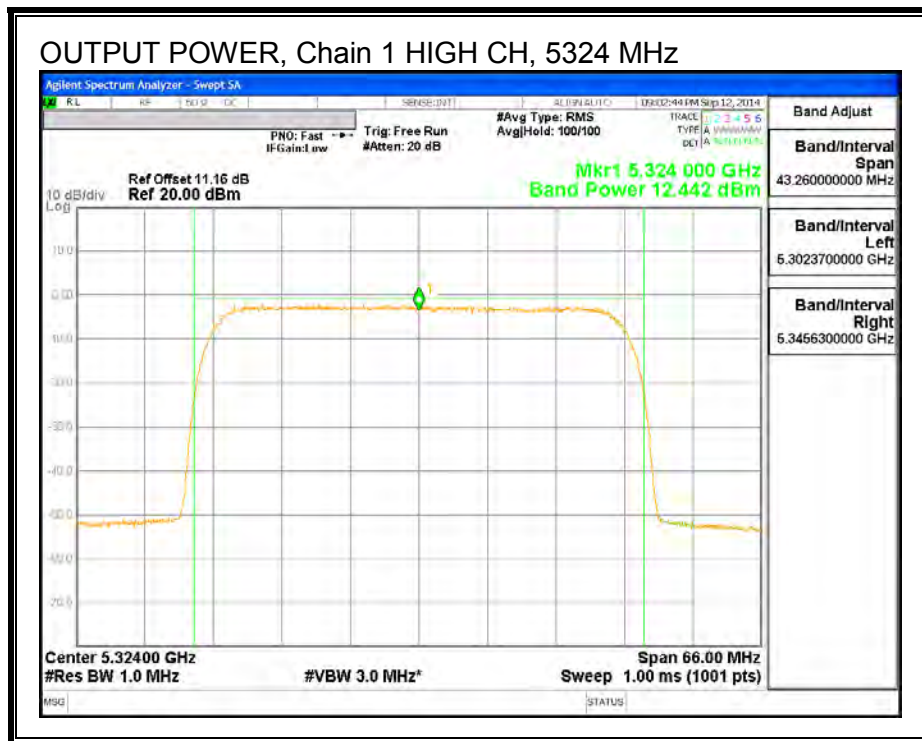
Output Power Results

Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5269	19.31	19.31	19.50	-0.19
Mid	5286	19.09	19.09	19.50	-0.41
High	5291	18.93	18.93	19.50	-0.57
High	5308	14.41	14.41	19.50	-5.09
High	5324	12.44	12.44	19.50	-7.06

OUTPUT POWER, Chain 1







8.1.4. OUTPUT POWER (MIMO)

LIMITS

FCC §15.407 (a) (2)

For the band 5.25–5.35 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26–dB emission bandwidth in MHz. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

RESULTS

10MHz BW

Bandwidth, Antenna Gain and Limits

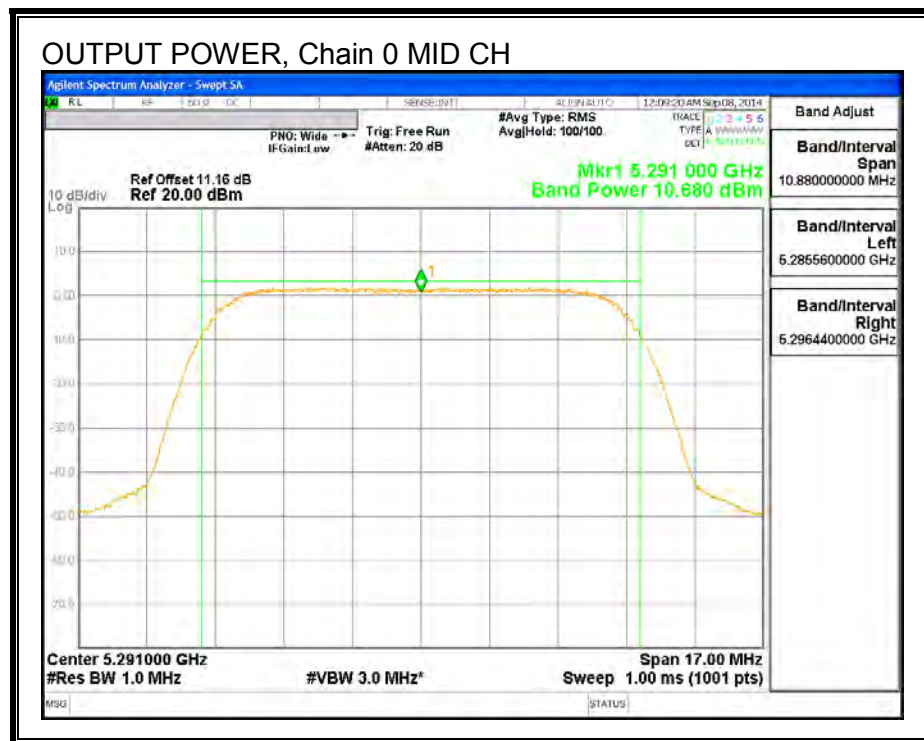
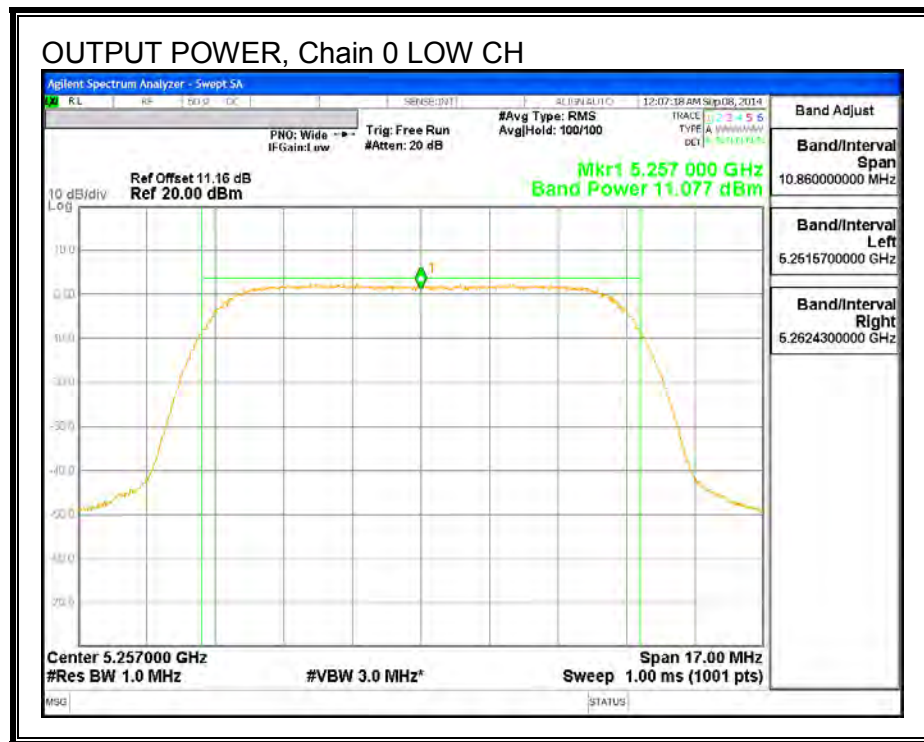
Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Power Limit (dBm)
Low	5257	10.86	10.50	16.86
Mid	5291	10.88	10.50	16.87
High	5325	10.90	10.50	16.87
High	5338	10.92	10.50	16.88
High	5343	10.88	10.50	16.87

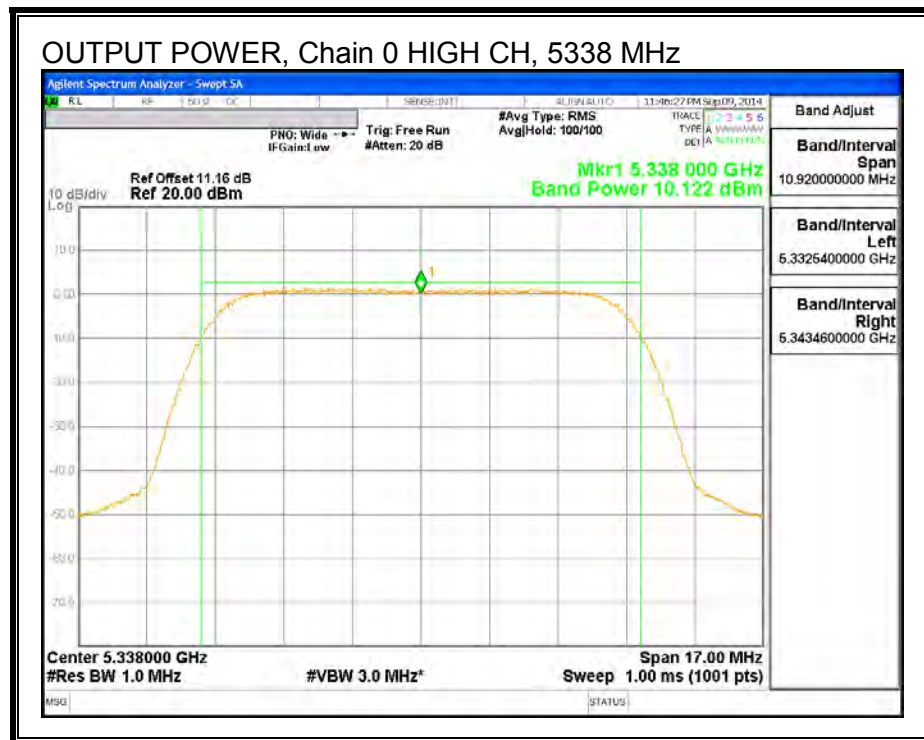
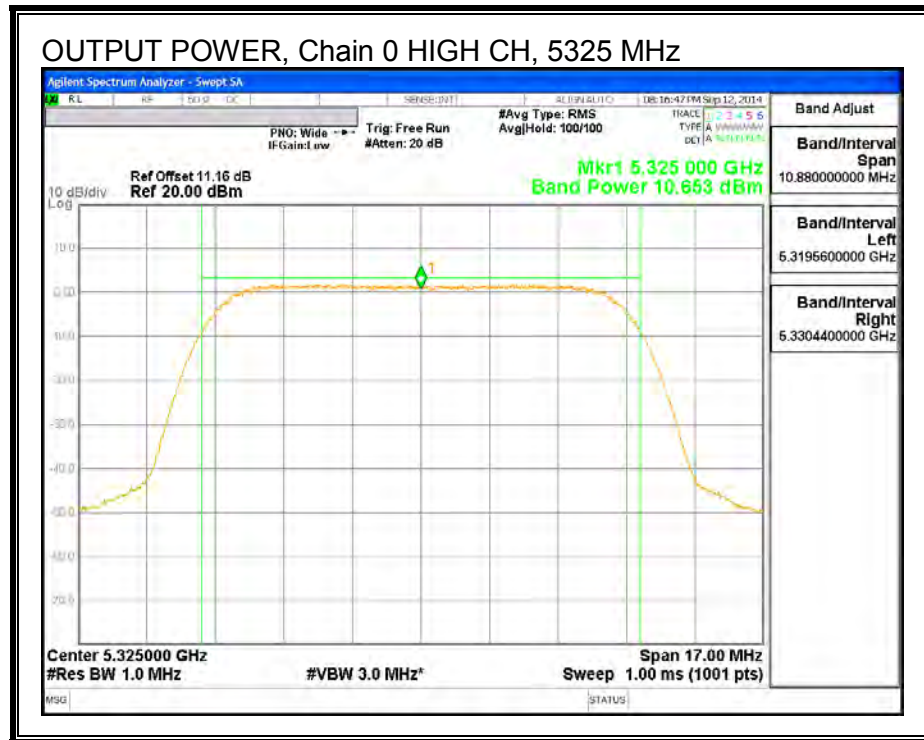
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power
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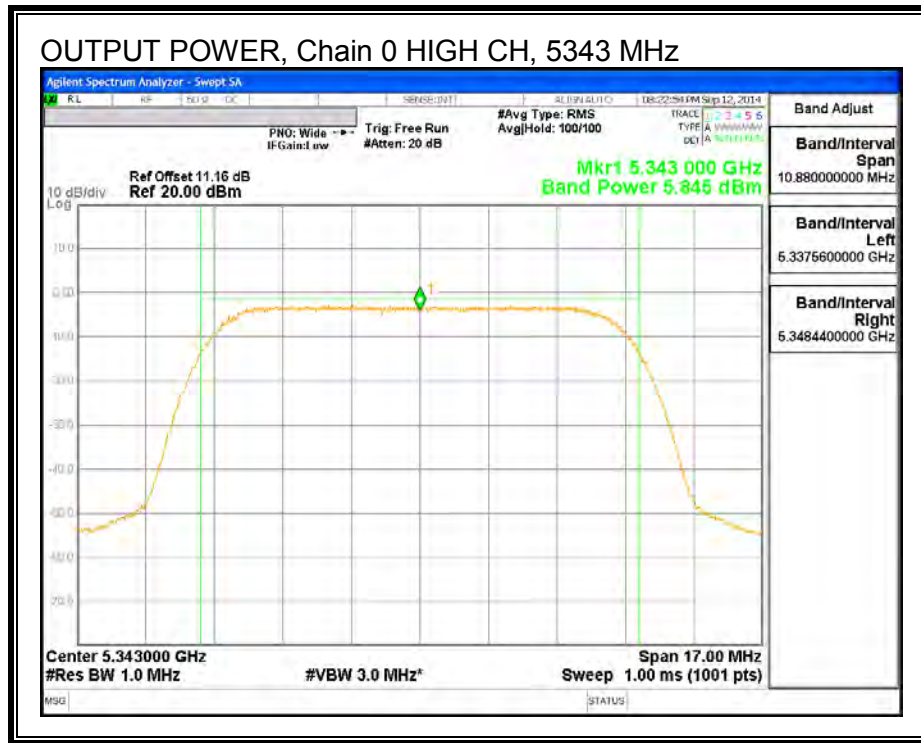
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5257	11.08	12.06	14.61	16.86	-2.25
Mid	5291	10.68	11.78	14.28	16.87	-2.59
High	5325	10.65	11.53	14.13	16.87	-2.75
High	5338	10.12	11.06	13.63	16.88	-3.26
High	5343	5.85	7.01	9.48	16.87	-7.39

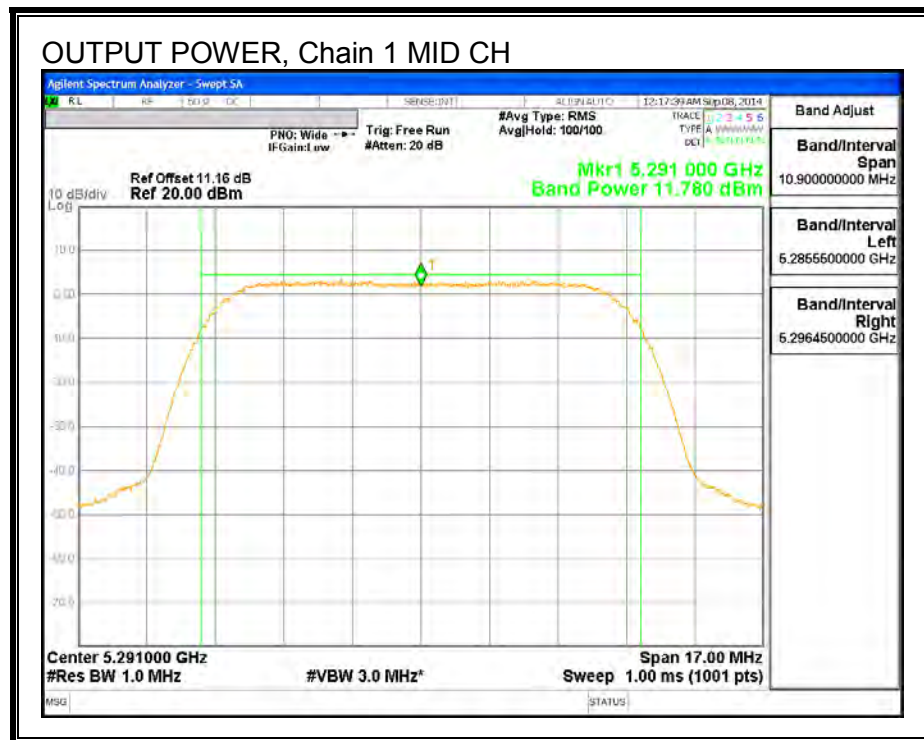
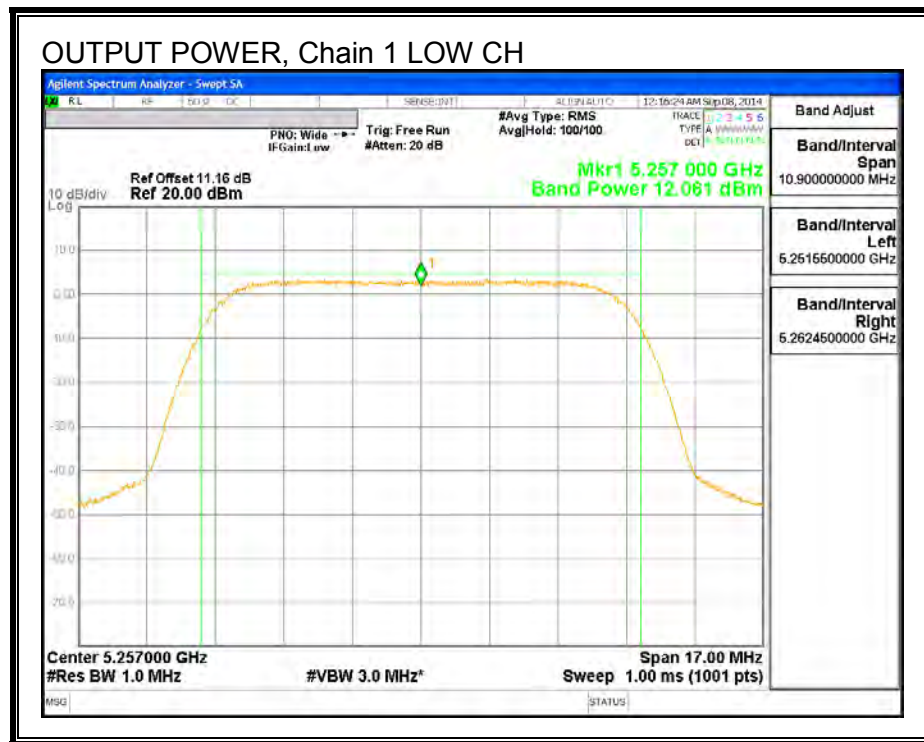
OUTPUT POWER, Chain 0

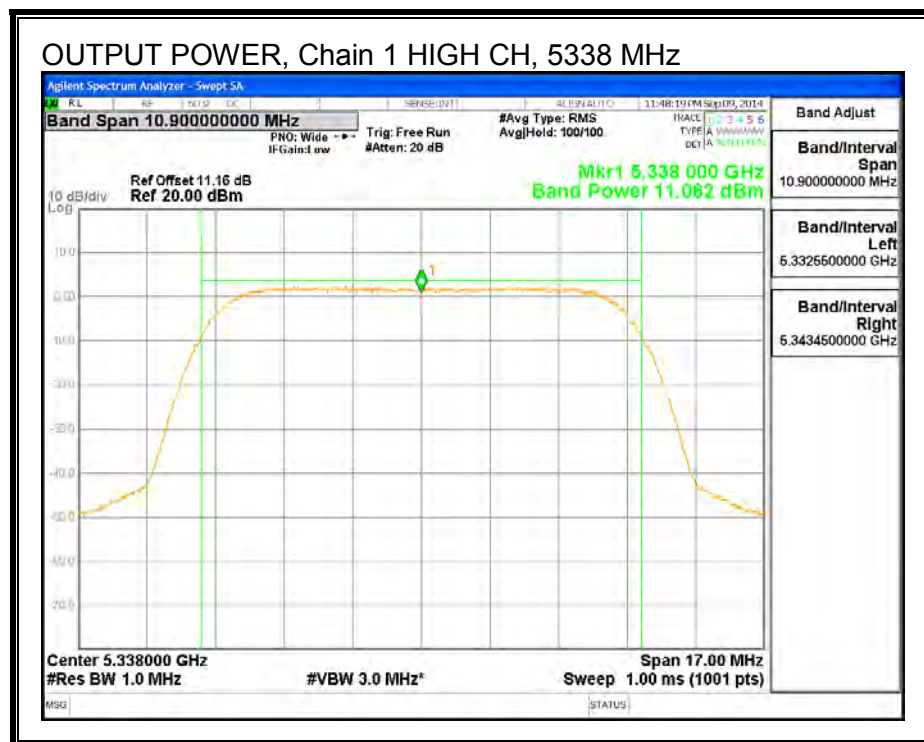
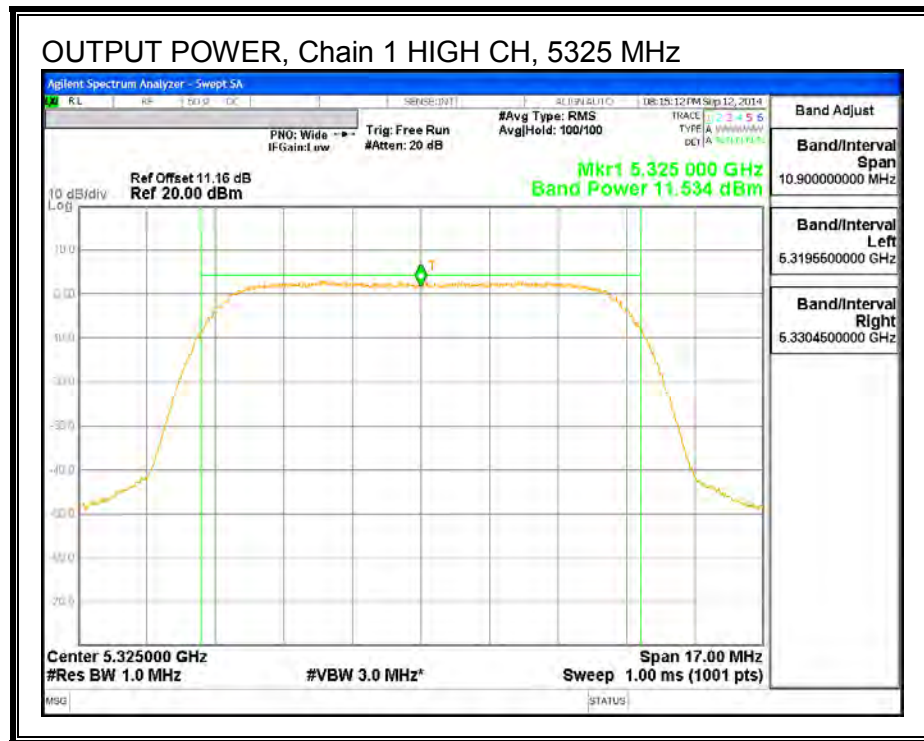


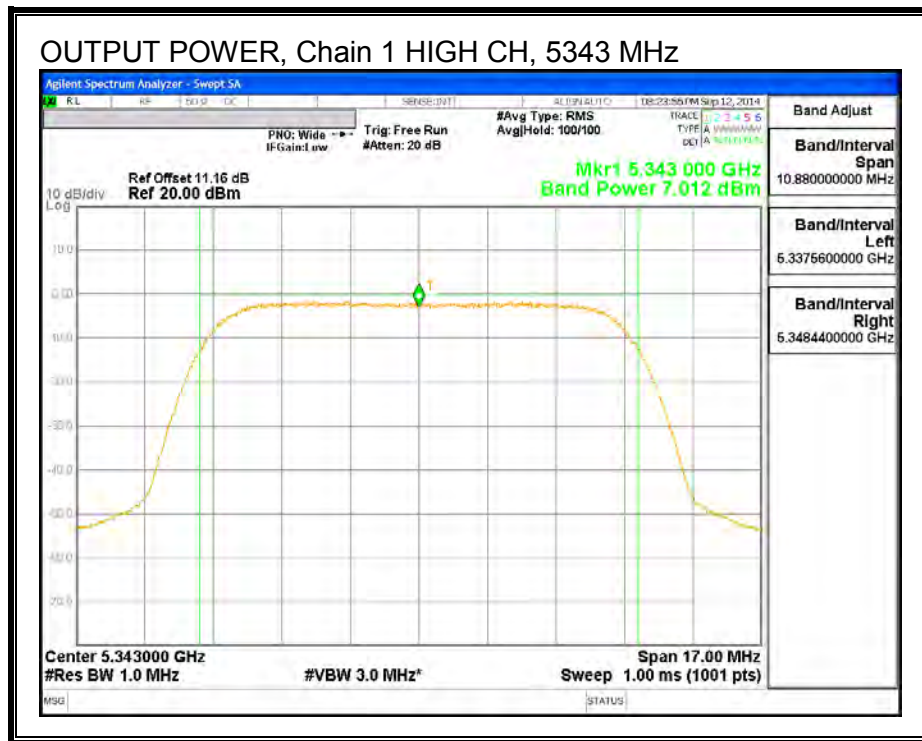




OUTPUT POWER, Chain 1







20MHz BW

Bandwidth, Antenna Gain and Limits

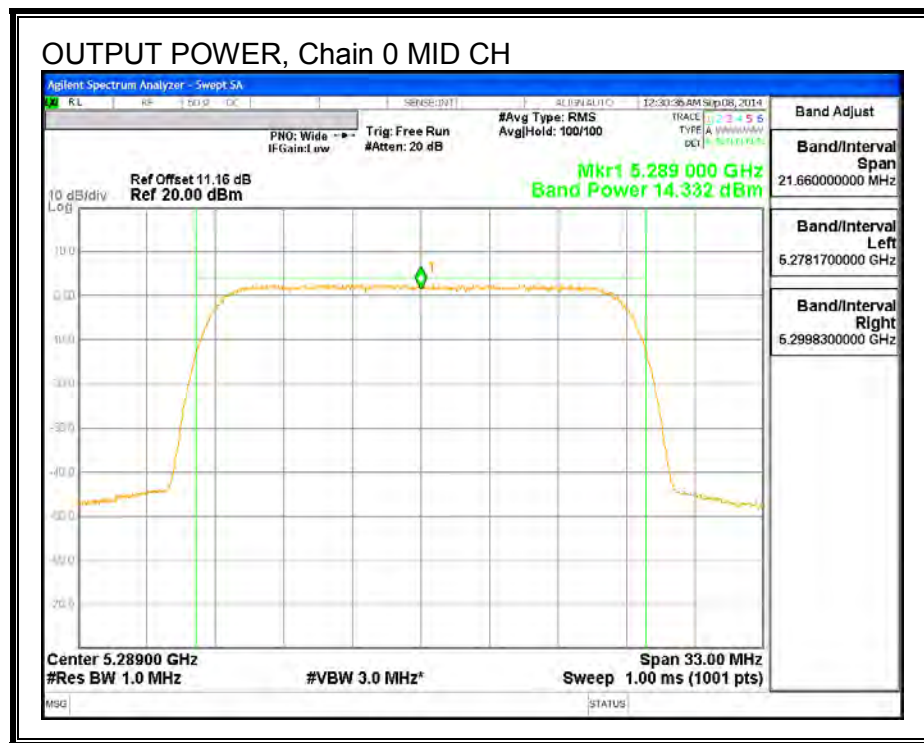
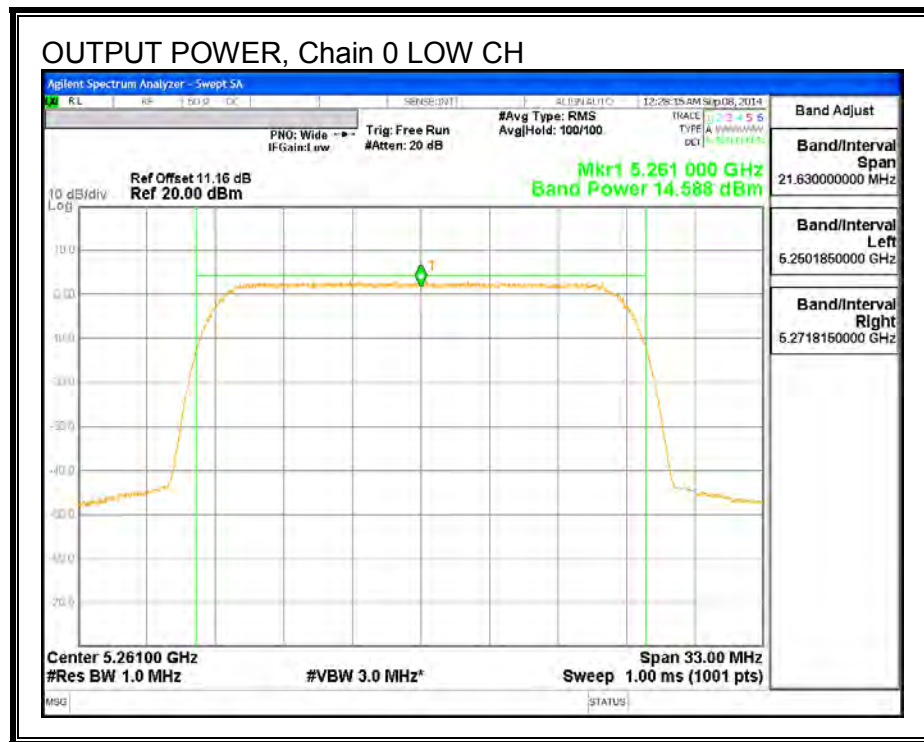
Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Power Limit (dBm)
Low	5261	21.63	10.50	19.50
Mid	5289	21.63	10.50	19.50
High	5318	21.66	10.50	19.50
High	5325	21.66	10.50	19.50
High	5337	21.66	10.50	19.50

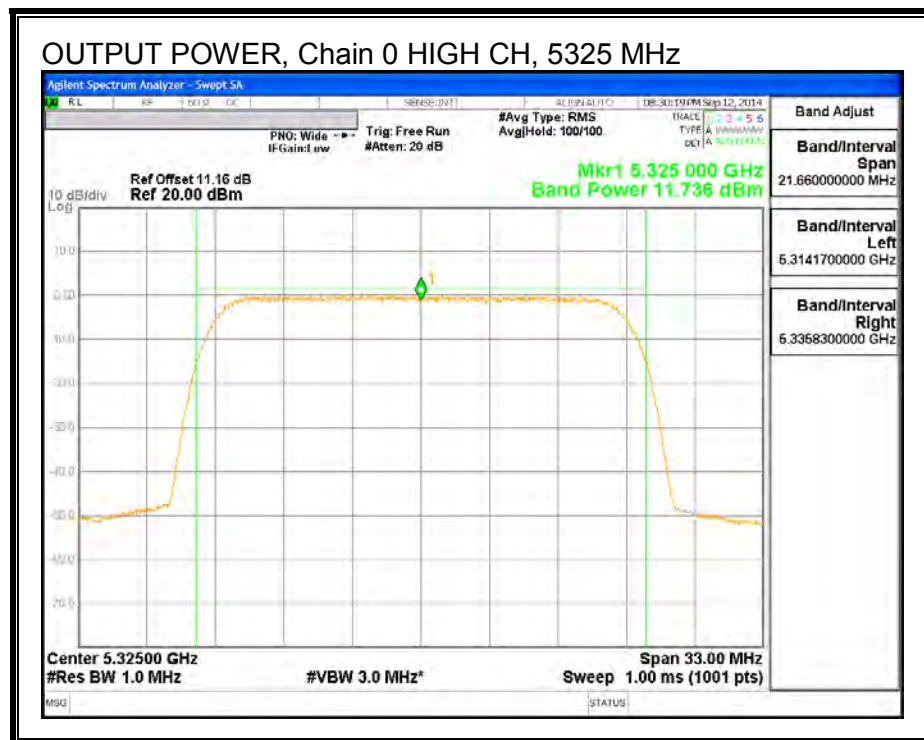
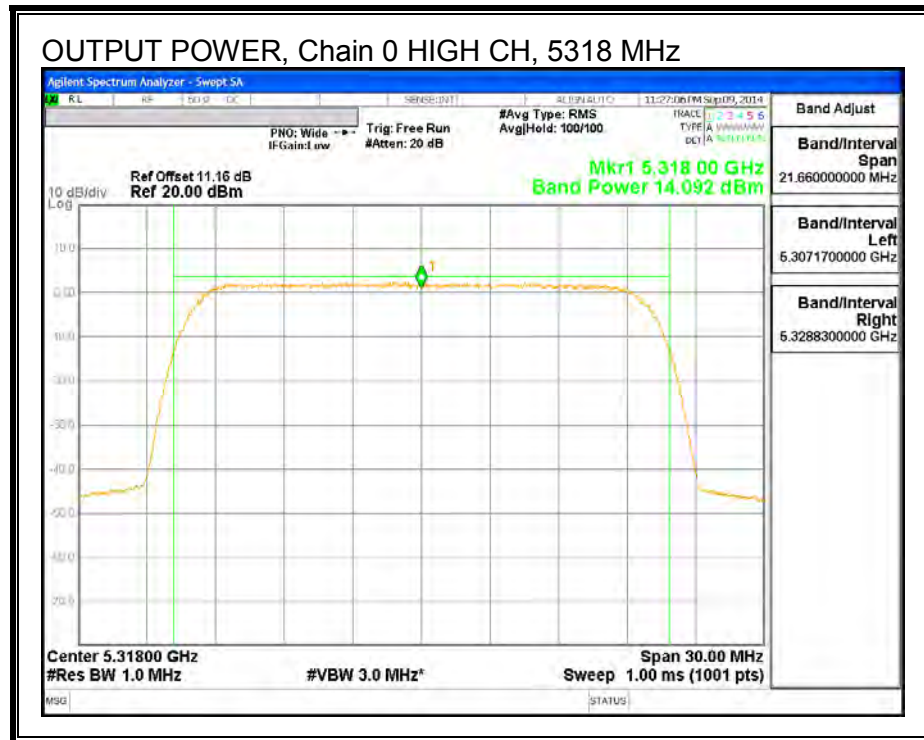
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power
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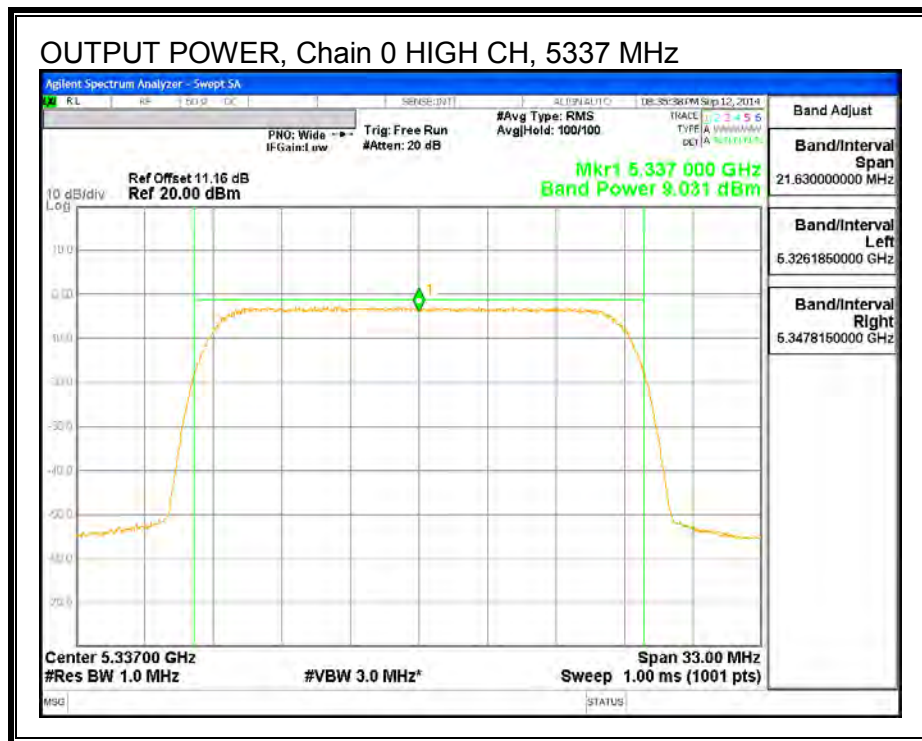
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5261	14.59	14.43	17.52	19.50	-1.98
Mid	5289	14.33	14.29	17.32	19.50	-2.18
High	5318	14.09	13.90	17.01	19.50	-2.49
High	5325	11.74	11.48	14.62	19.50	-4.88
High	5337	9.03	10.24	12.69	19.50	-6.81

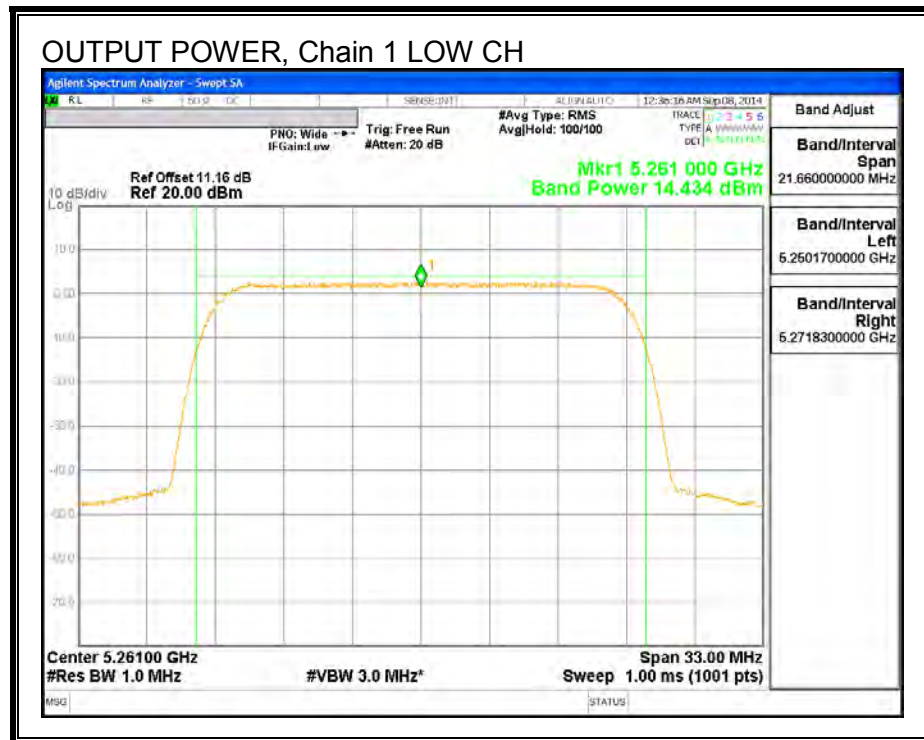
OUTPUT POWER, Chain 0



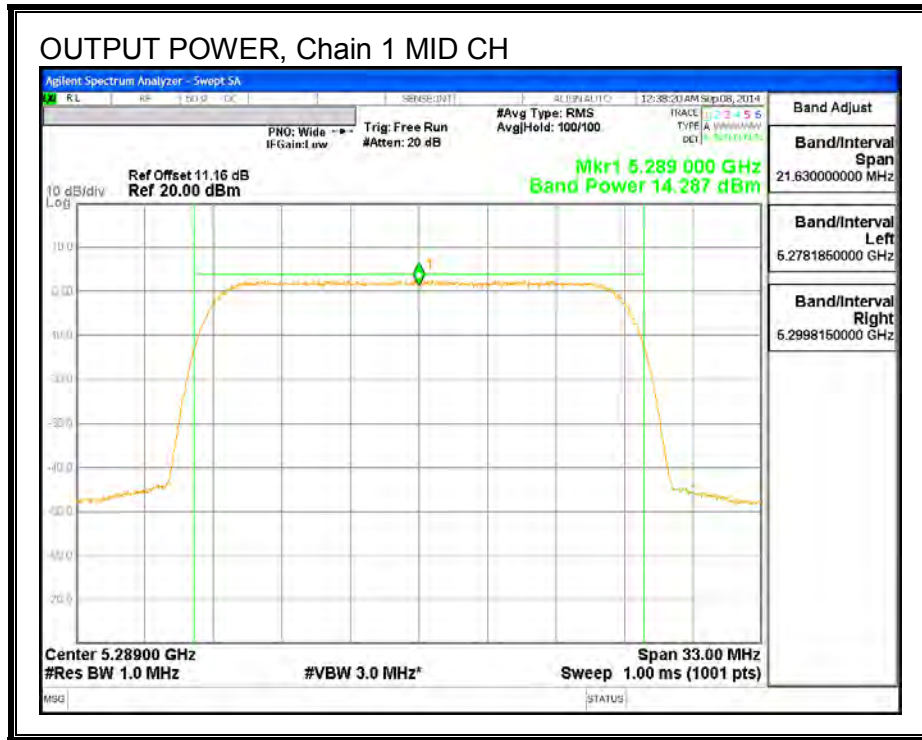




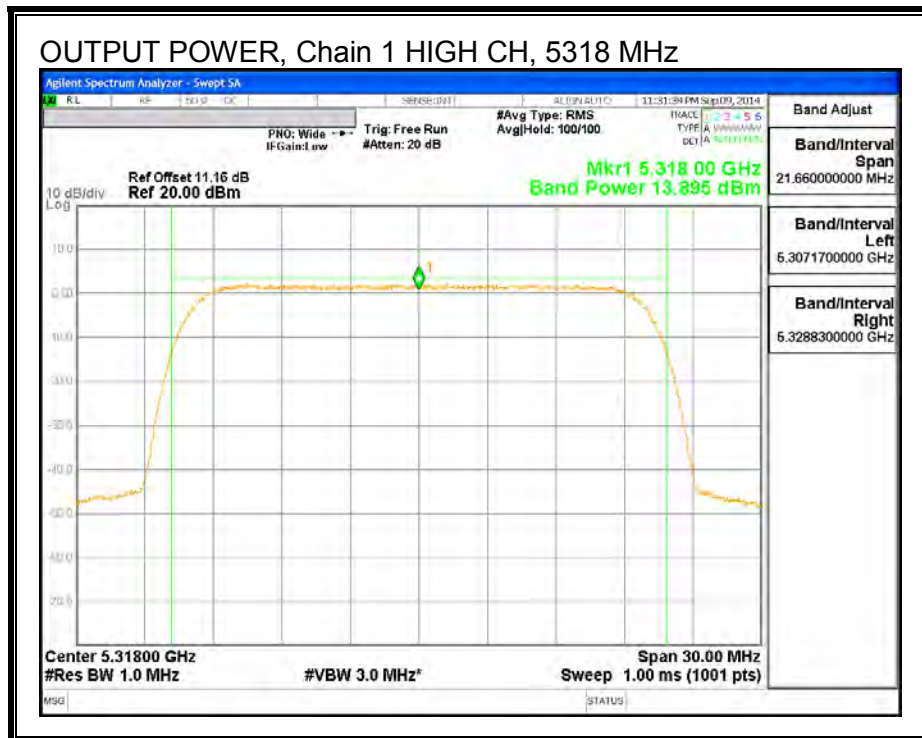
OUTPUT POWER, Chain 1

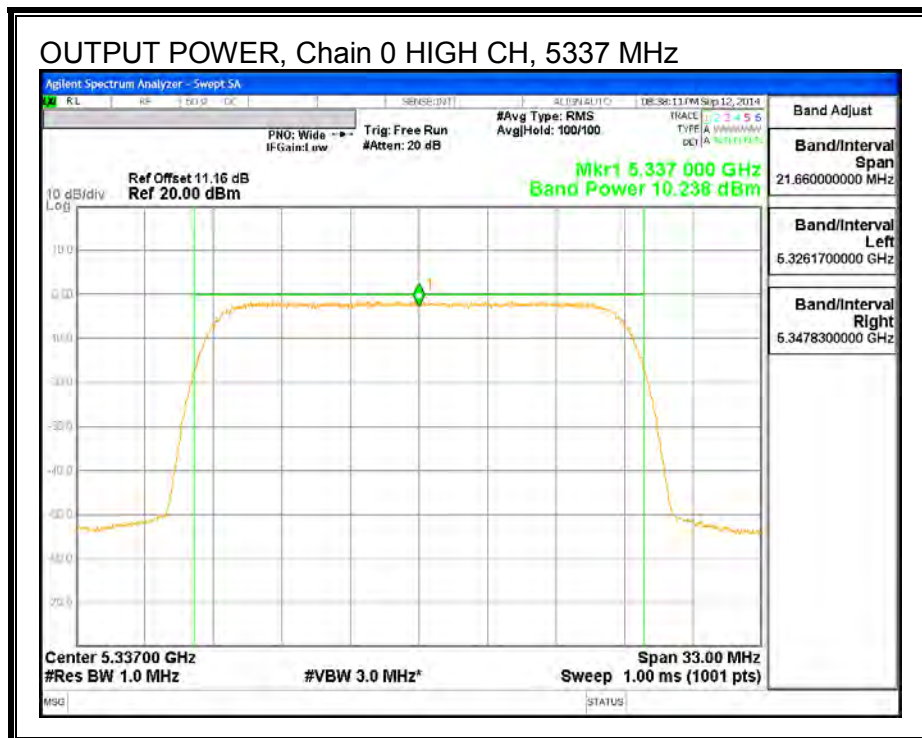
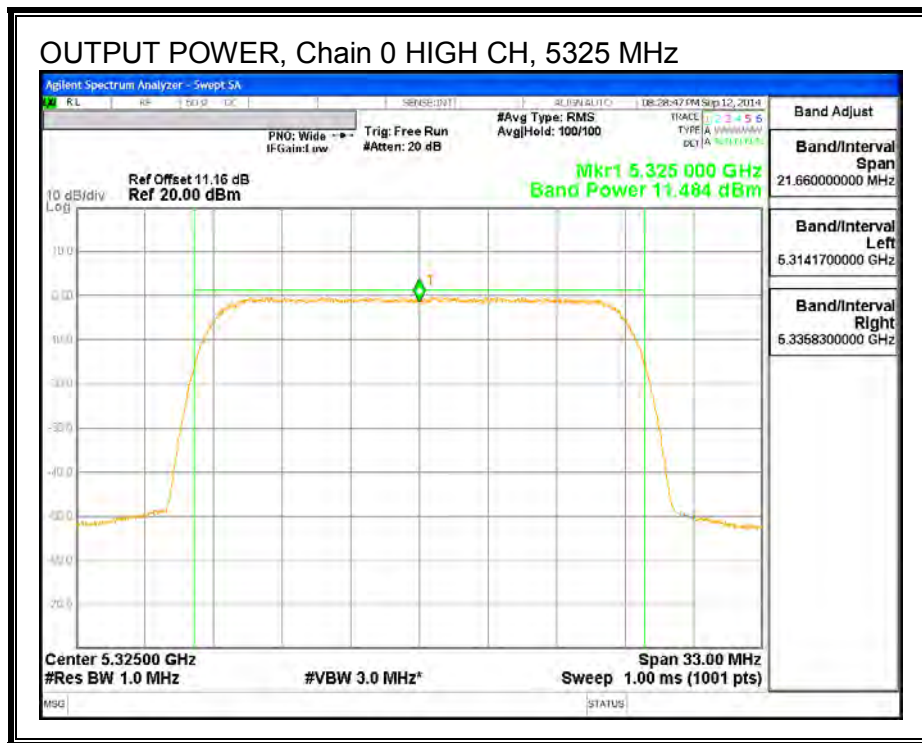


OUTPUT POWER, Chain 1 MID CH



OUTPUT POWER, Chain 1 HIGH CH, 5318 MHz





40MHz BW

Bandwidth, Antenna Gain and Limits

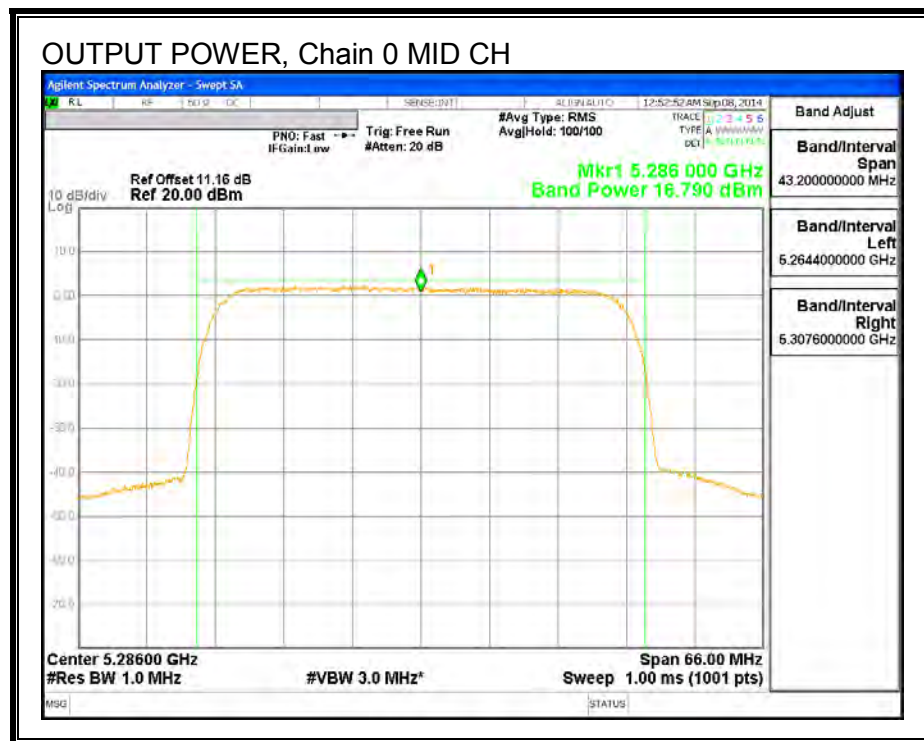
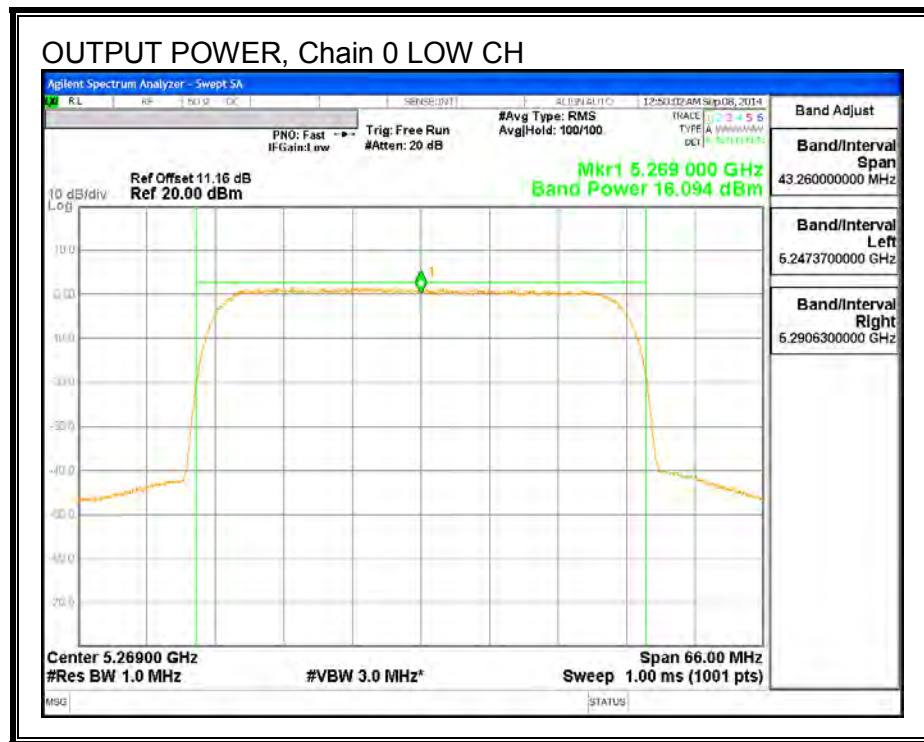
Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Power Limit (dBm)
Low	5269	43.20	10.50	19.50
Mid	5286	43.20	10.50	19.50
High	5304	43.26	10.50	19.50
High	5312	43.26	10.50	19.50
High	5327	43.26	10.50	19.50

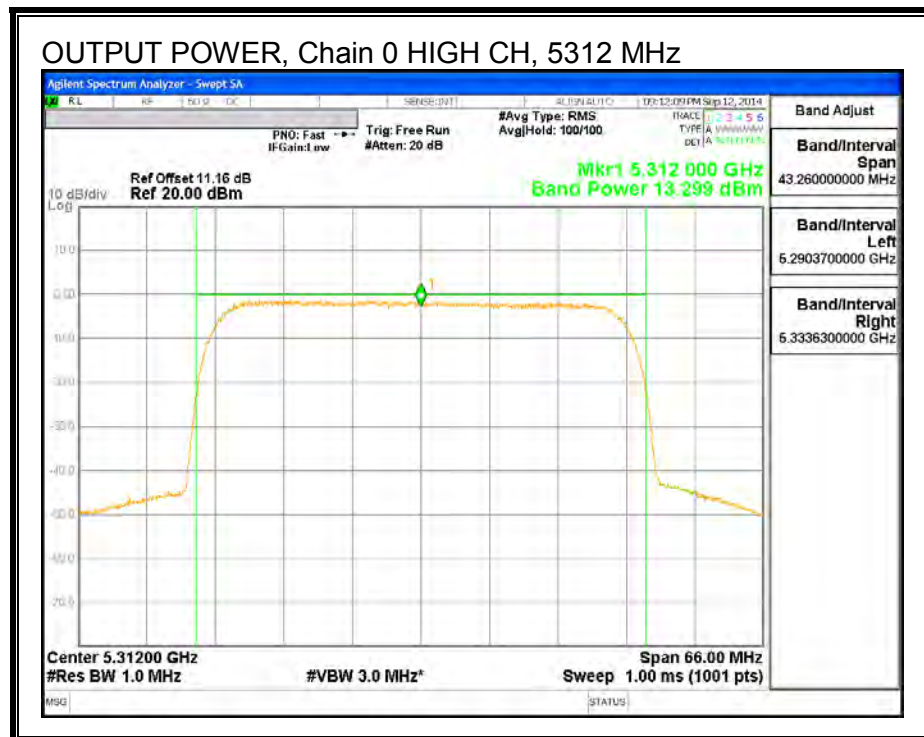
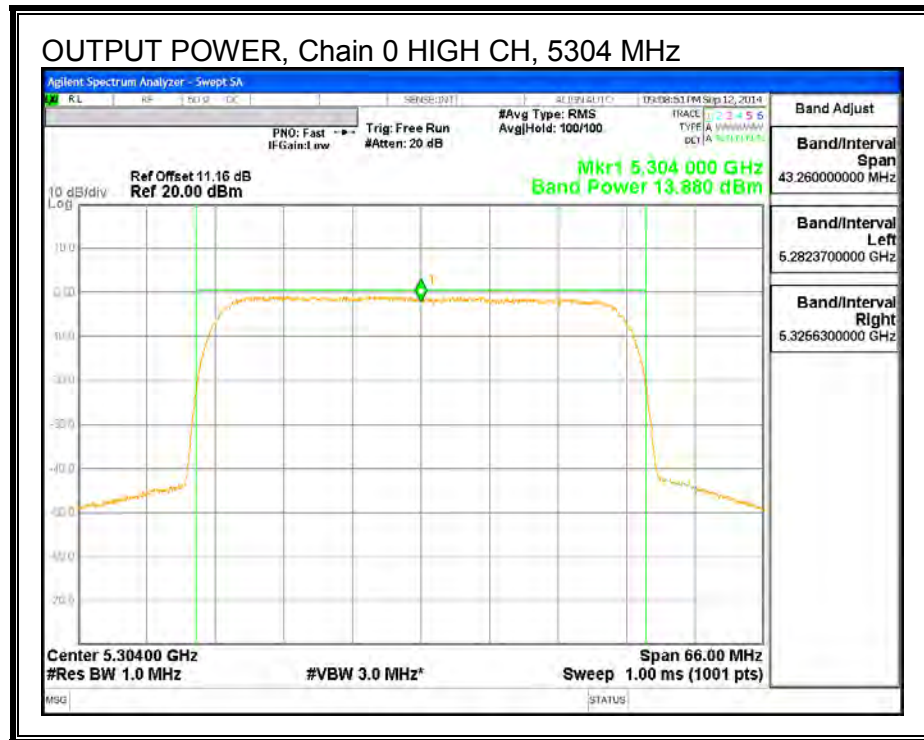
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power
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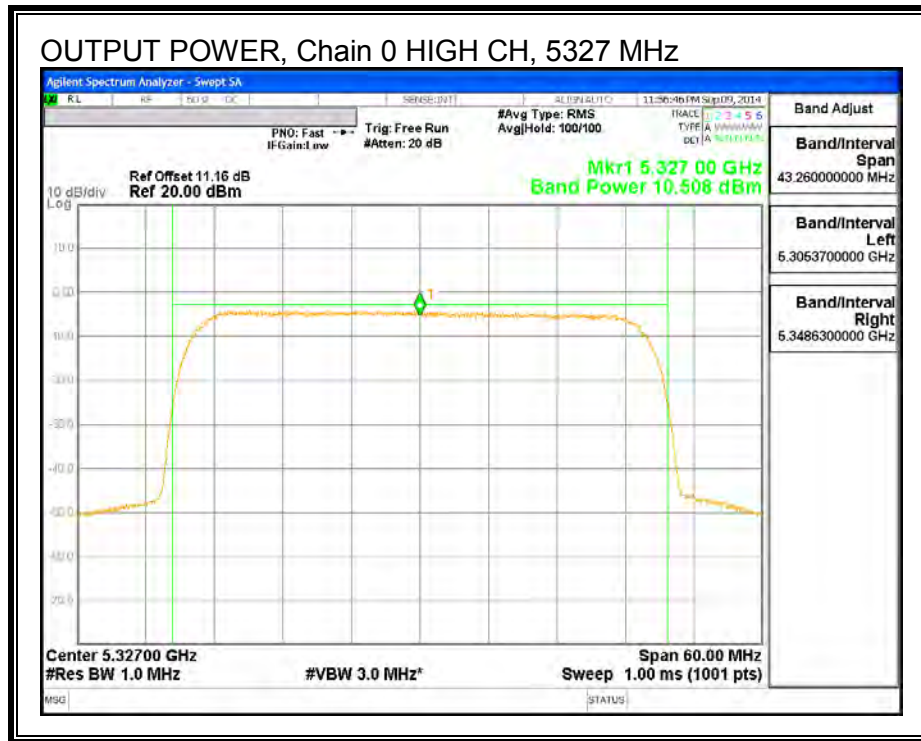
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5269	16.09	16.29	19.20	19.50	-0.30
Mid	5286	16.79	13.88	18.58	19.50	-0.92
High	5304	13.88	14.48	17.20	19.50	-2.30
High	5312	13.30	12.42	15.89	19.50	-3.61
High	5327	10.51	10.74	13.64	19.50	-5.86

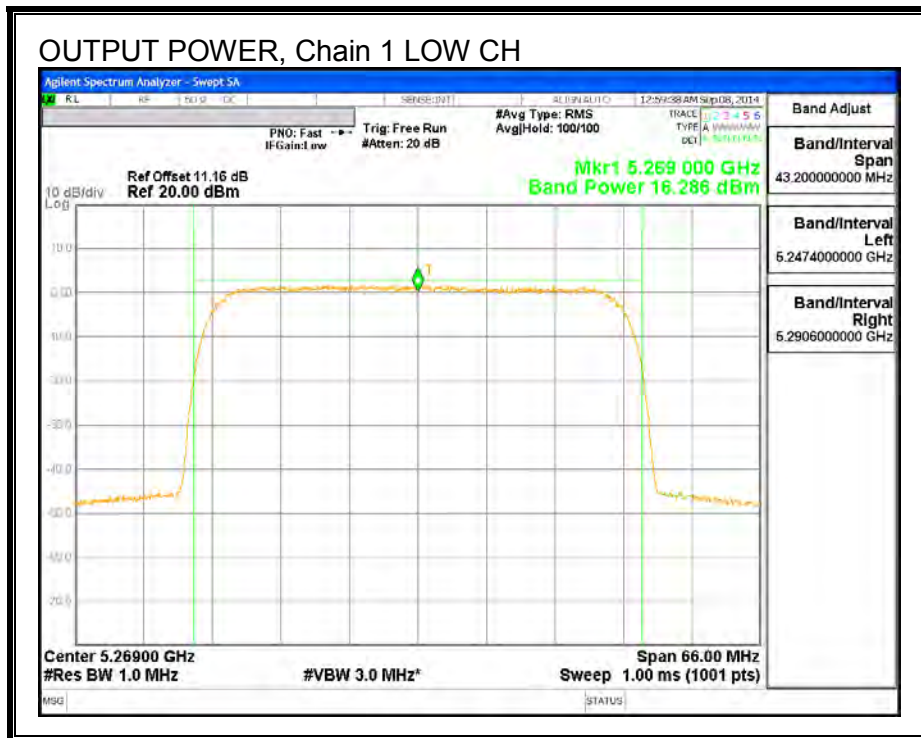
OUTPUT POWER, Chain 0

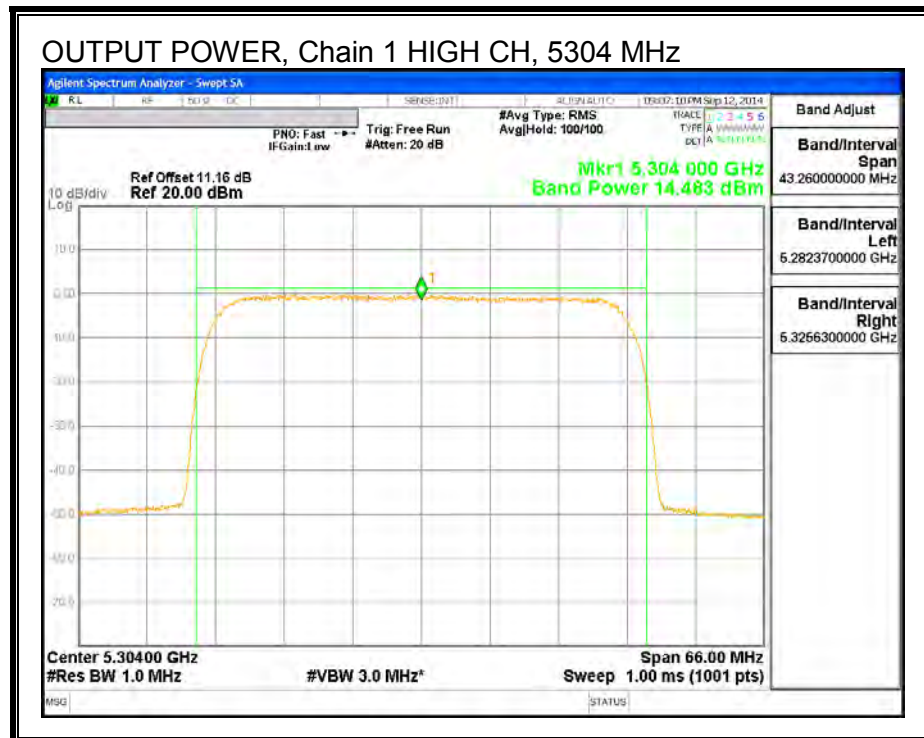
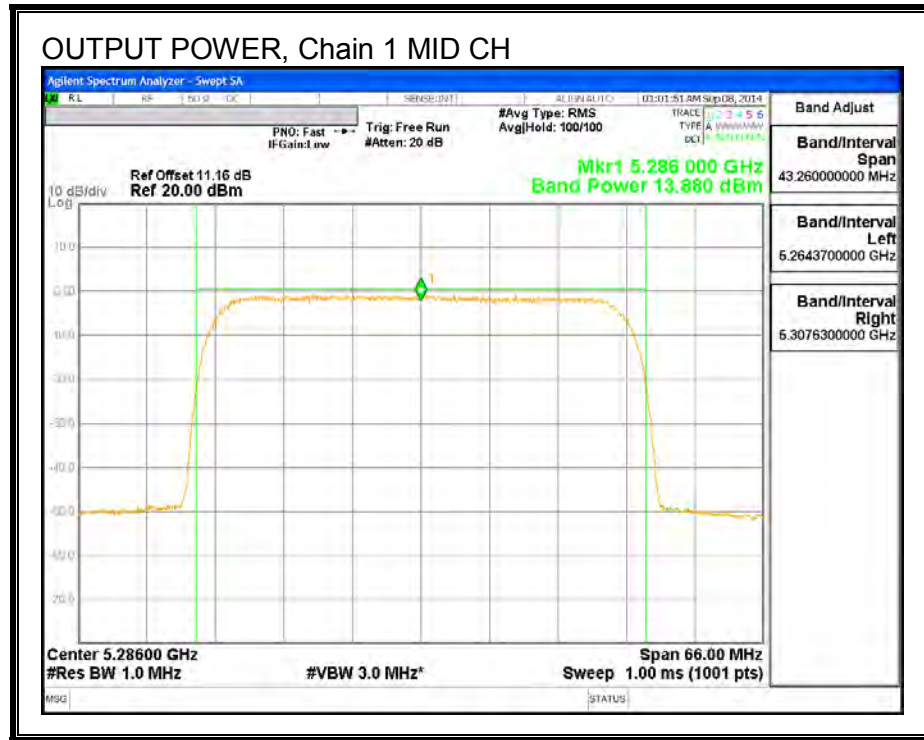


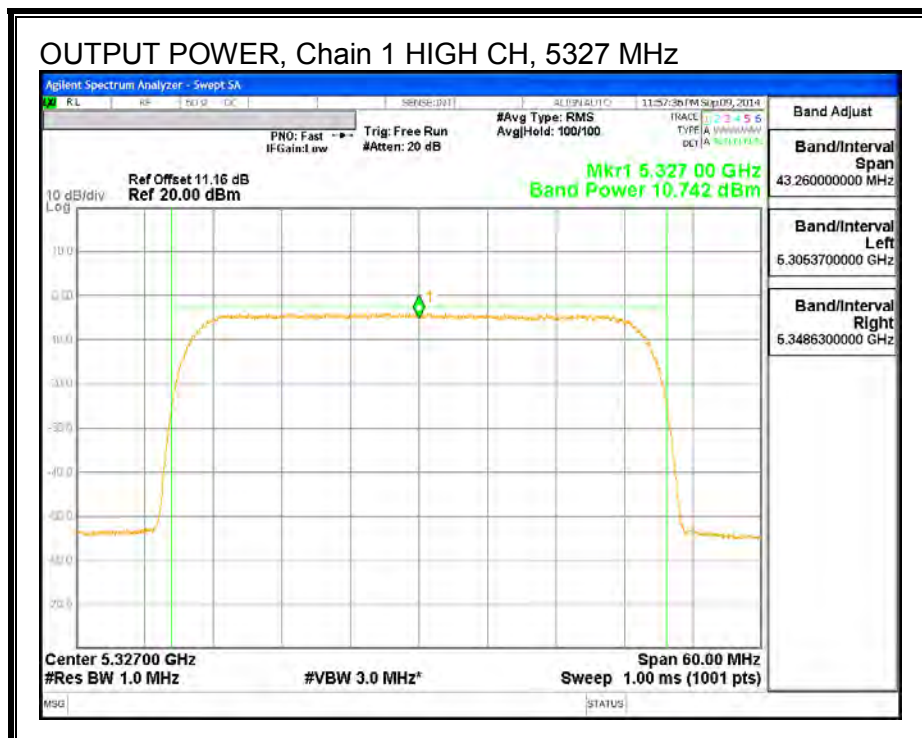
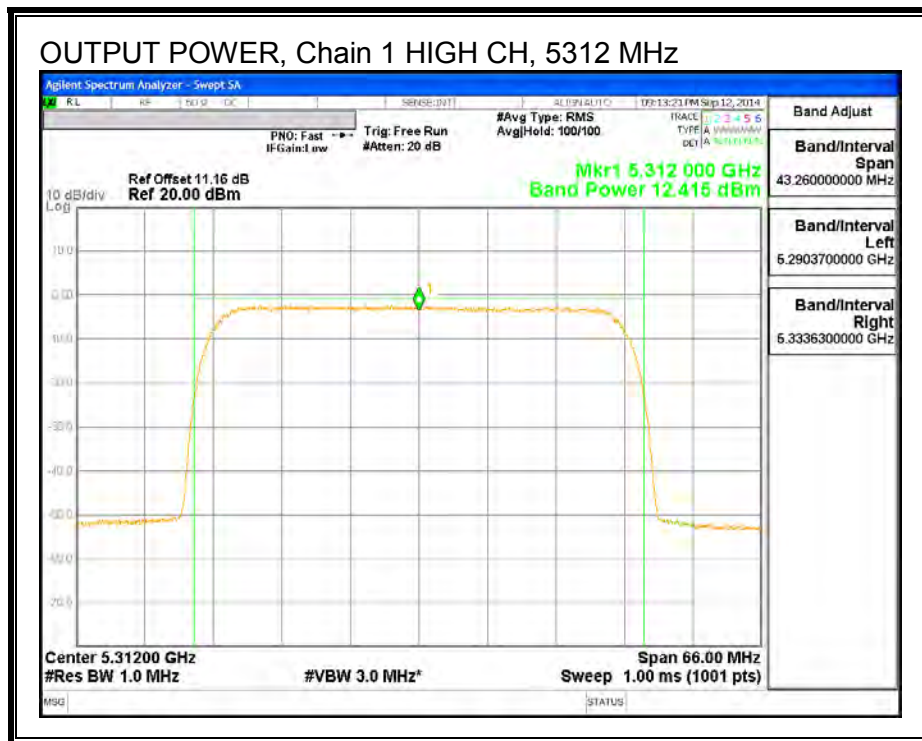




OUTPUT POWER , Chain 1







8.1.5. PEAK EXCURSION

LIMITS

FCC §15.407 (a) (6)

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified below) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

RESULTS

10MHz BW

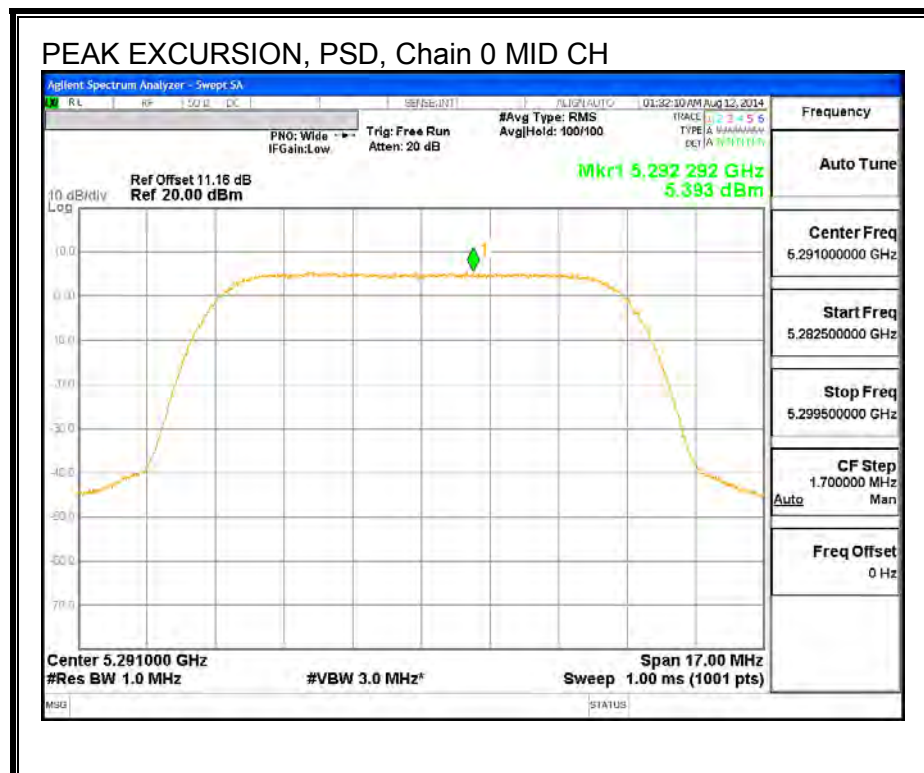
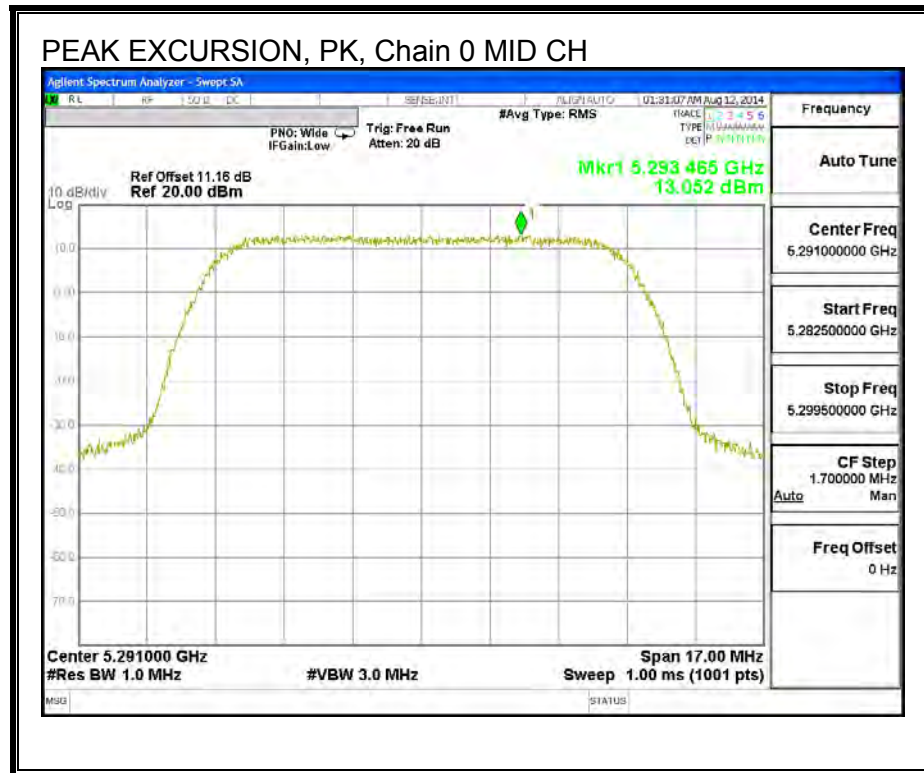
Chain 0

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5291	13.05	5.39	0.00	7.66	13	-5.34

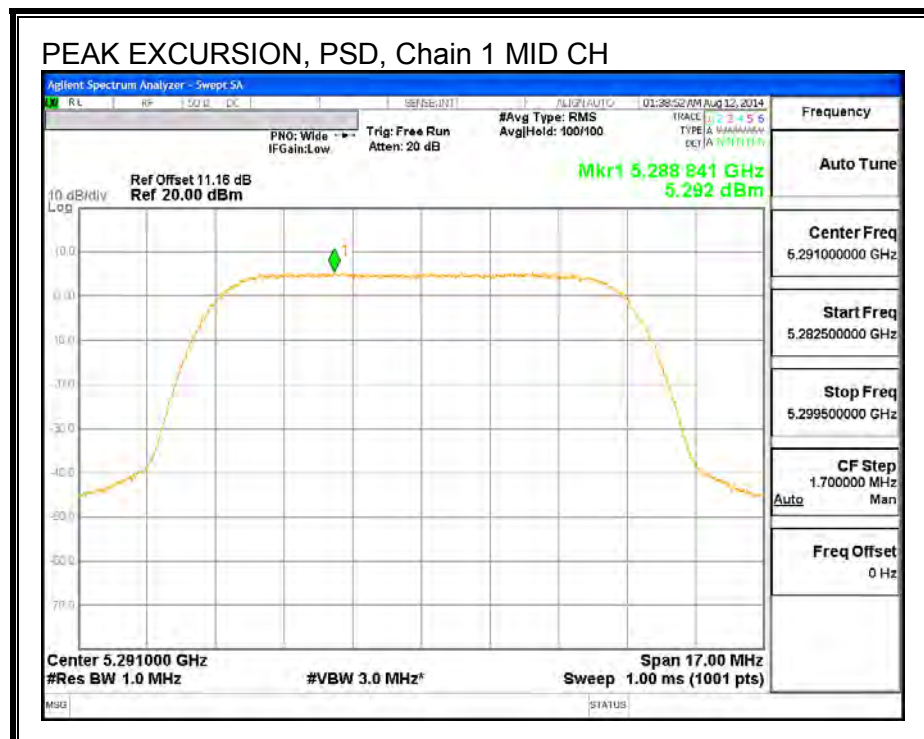
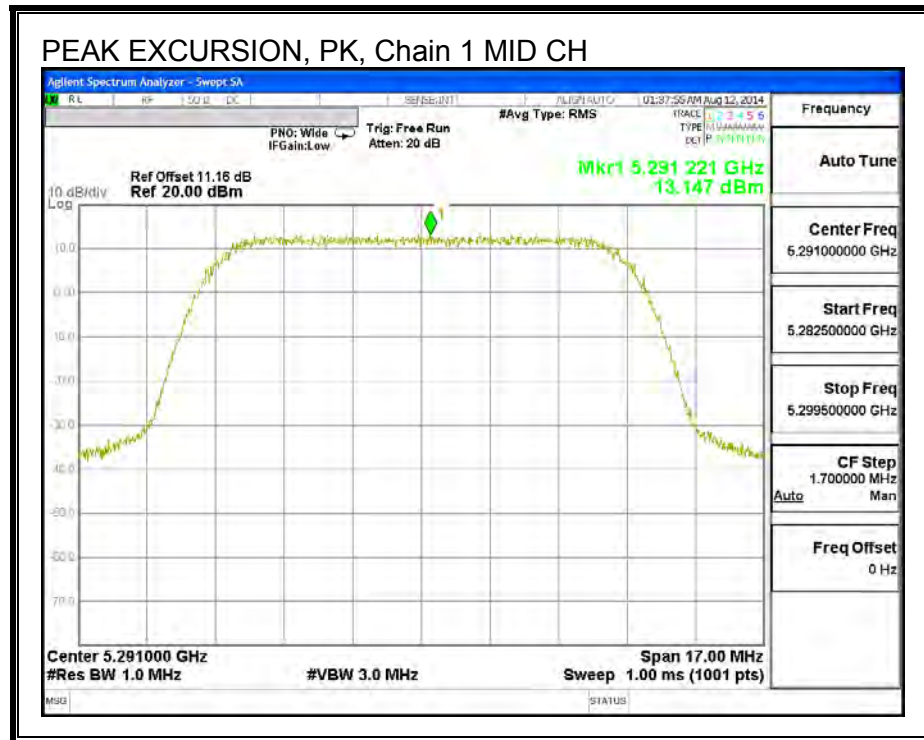
Chain 1

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5291	13.15	5.29	0.00	7.86	13	-5.15

PEAK EXCURSION, Chain 0



PEAK EXCURSION, Chain 1



20MHz BW

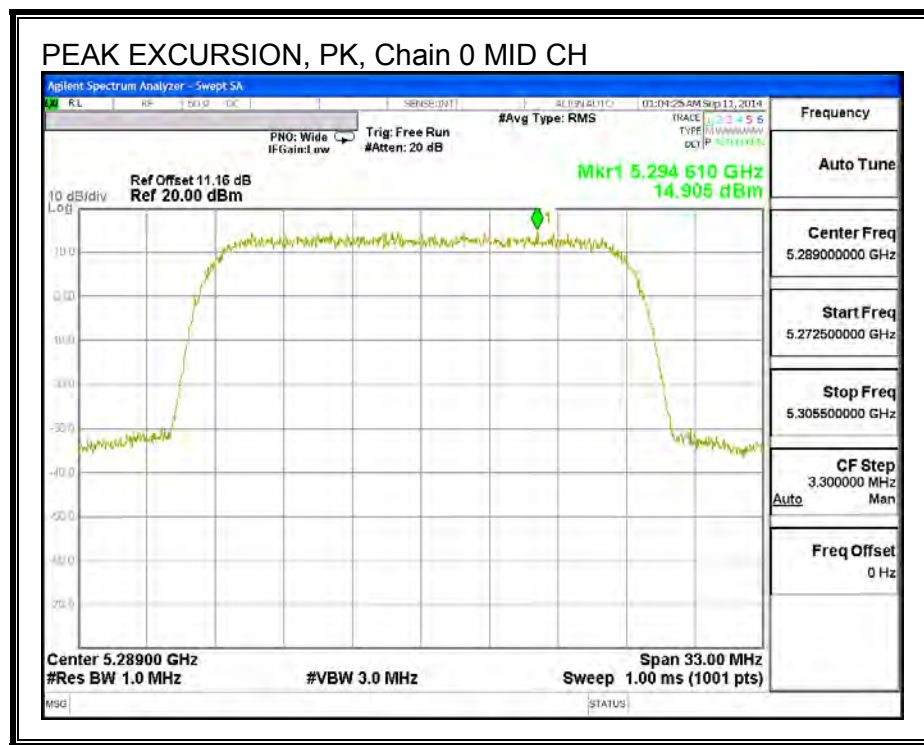
Chain 0

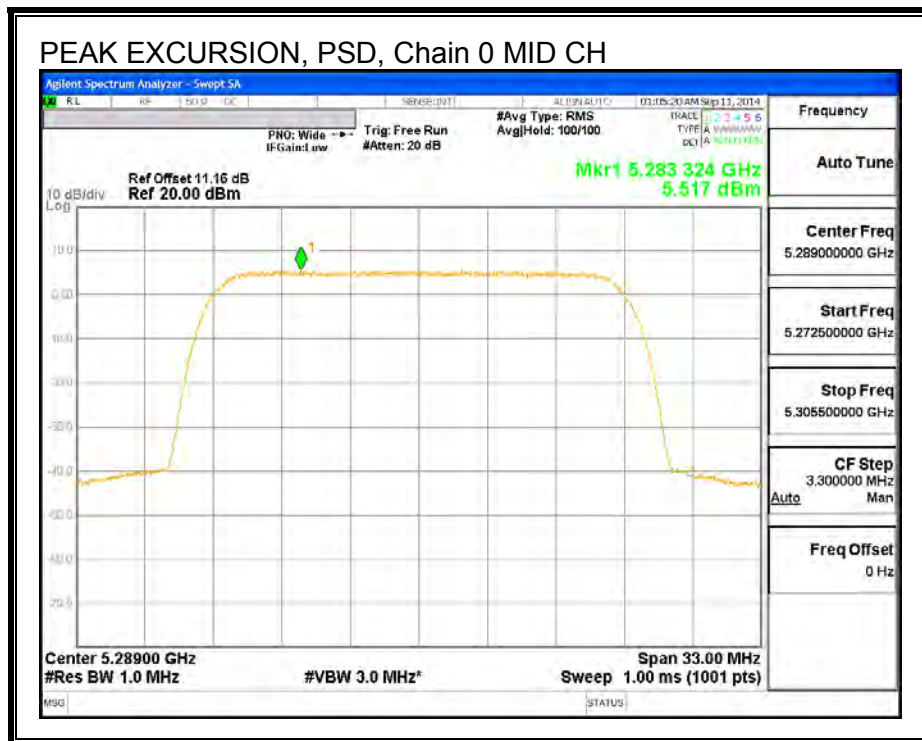
Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5289	14.91	5.52	0.00	9.39	13	-3.61

Chain 1

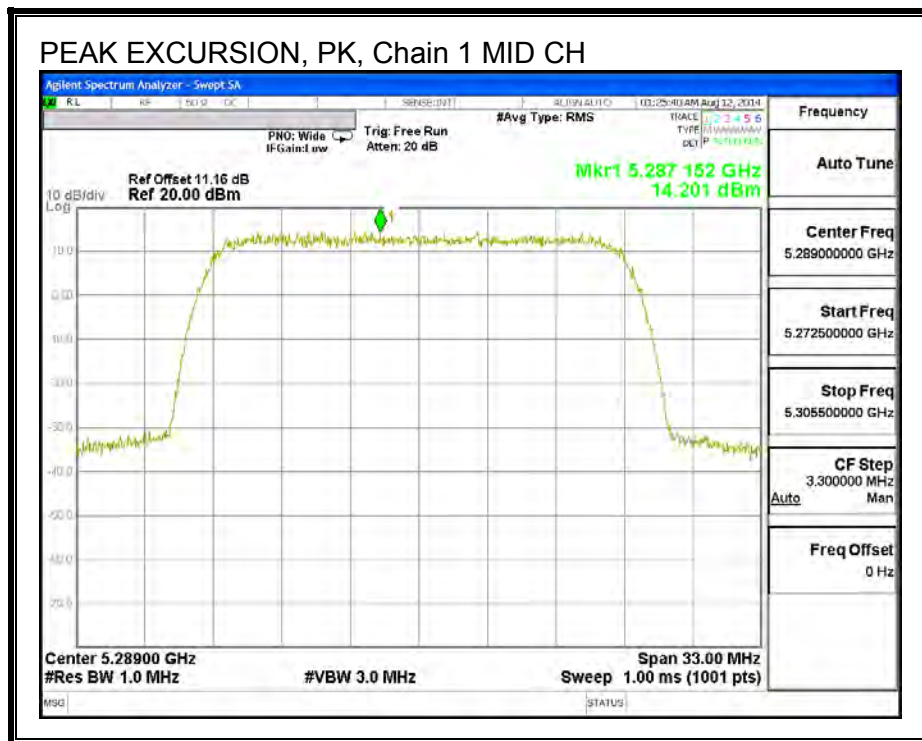
Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5289	14.20	5.24	0.00	8.96	13	-4.04

PEAK EXCURSION, Chain 0

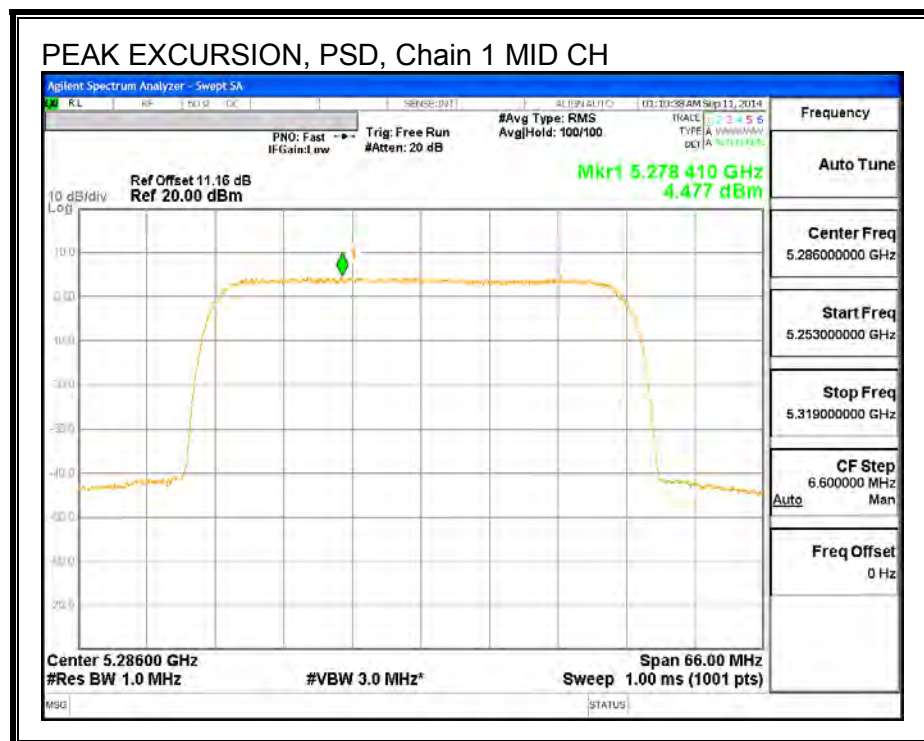
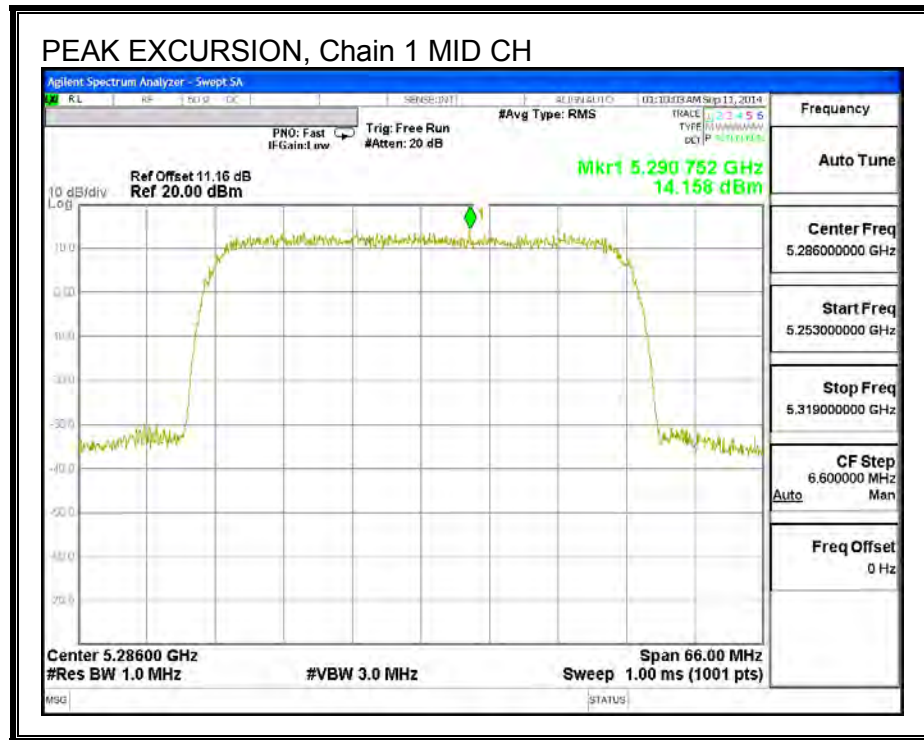




PEAK EXCURSION, Chain 1



PEAK EXCURSION, Chain 1



9. RADIATED TEST RESULTS

9.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-210 Clause 2.6 (Transmitter)

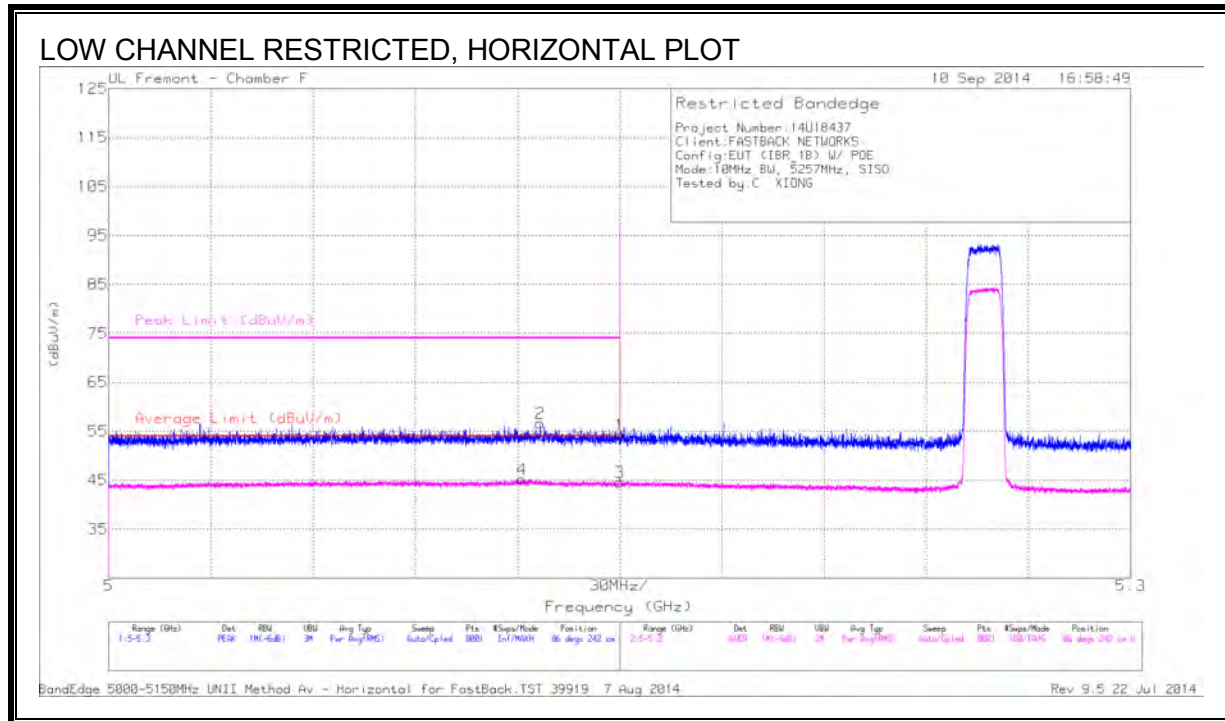
Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

9.2. TRANSMITTER ABOVE 1 GHz

9.3. TX ABOVE 1 GHz SISO MODE IN THE 5.3 GHz BAND

10MHz BW

RESTRICTED BANDEDGE (LOW CHANNEL)

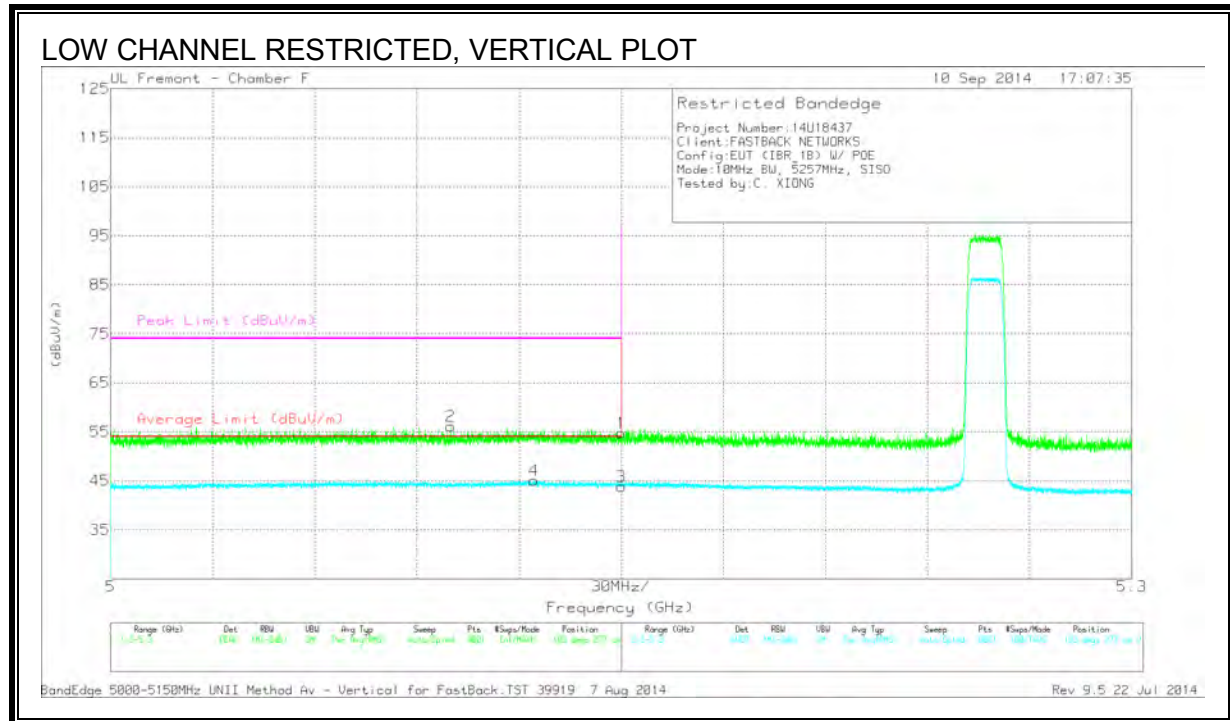


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	39.14	PK	34.4	-19.3	54.24	-	-	74	-19.76	86	242	H
2	* 5.127	41.47	PK	34.4	-19.3	56.57	-	-	74	-17.43	86	242	H
3	* 5.15	29.53	RMS	34.4	-19.3	44.63	54	-9.37	-	-	86	242	H
4	* 5.121	30.08	RMS	34.4	-19.3	45.18	54	-8.82	-	-	86	242	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	39.61	PK	34.4	-19.3	54.71	-	-	74	-19.29	103	277	V
2	* 5.1	41.54	PK	34.3	-19.7	56.14	-	-	74	-17.86	103	277	V
3	* 5.15	28.69	RMS	34.4	-19.3	43.79	54	-10.21	-	-	103	277	V
4	* 5.124	29.98	RMS	34.4	-19.3	45.08	54	-8.92	-	-	103	277	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, 5325 MHz)

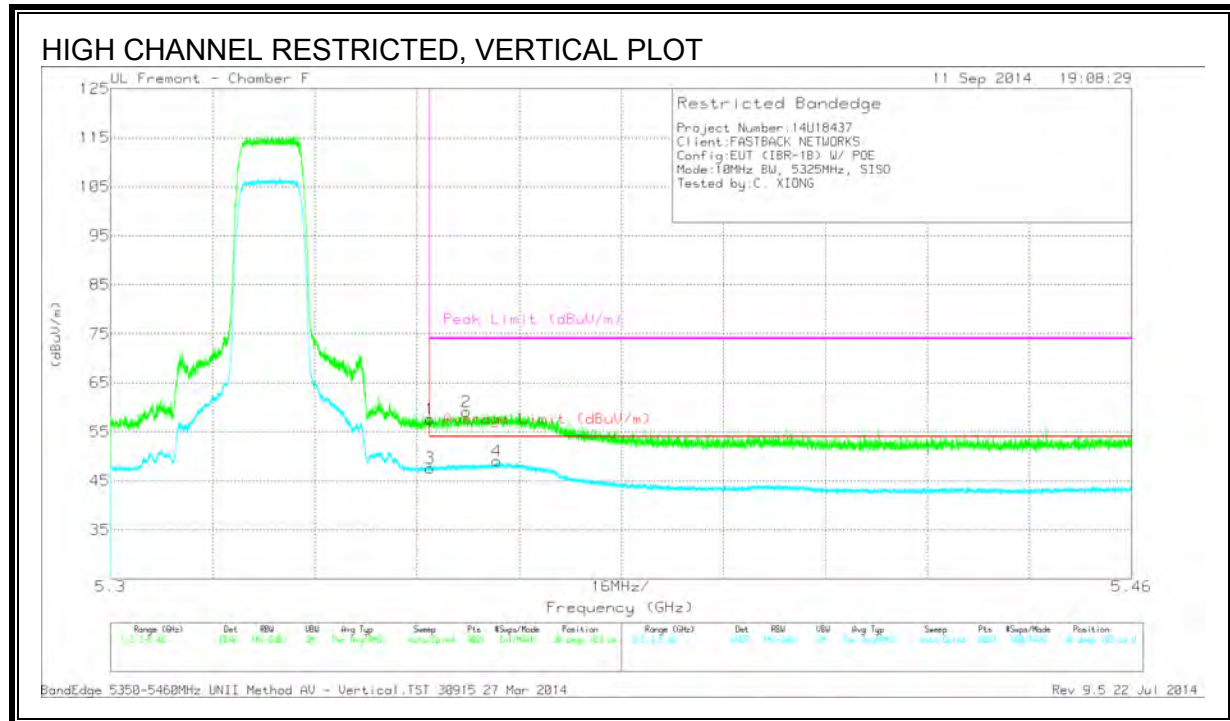


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	37.45	PK	34.5	-19.2	52.75	-	-	74	-21.25	279	115	H
2	* 5.399	39.96	PK	34.6	-19.4	55.16	-	-	74	-18.84	279	115	H
3	* 5.35	27.47	RMS	34.5	-19.2	42.77	54	-11.23	-	-	279	115	H
4	* 5.457	29.06	RMS	34.6	-19.9	43.76	54	-10.24	-	-	279	115	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



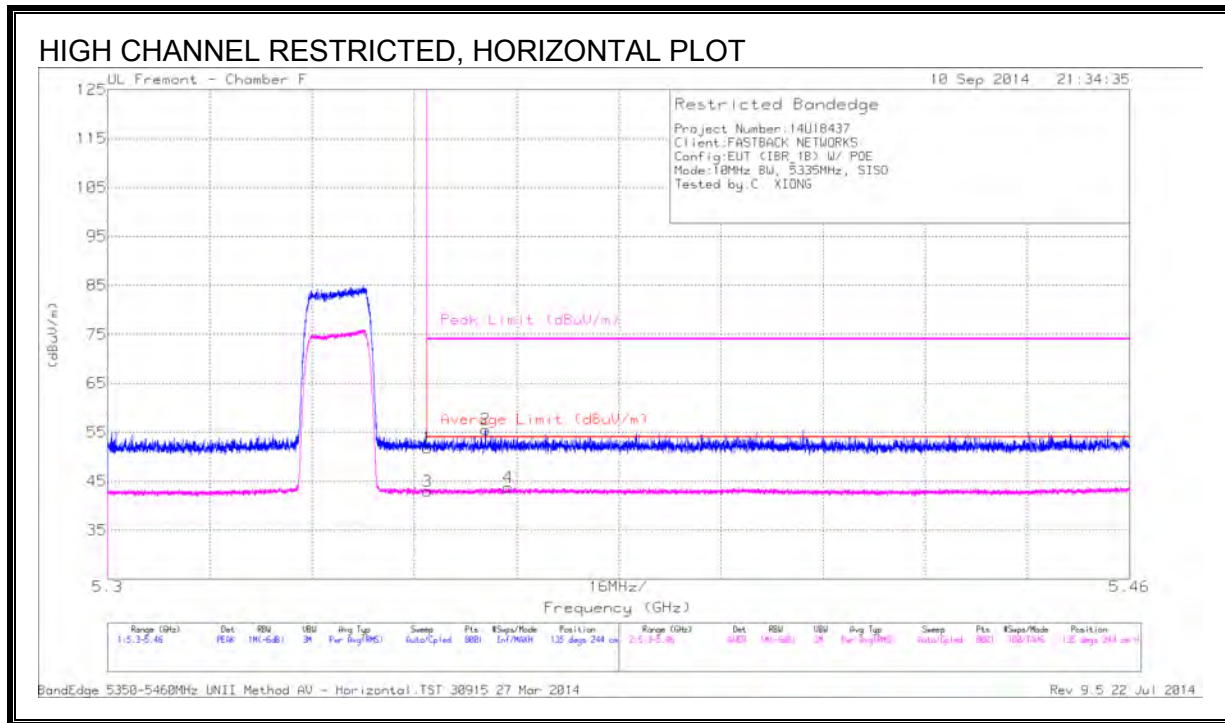
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	42.26	PK	34.5	-19.2	57.56	-	-	74	-16.44	38	103	V
2	* 5.356	43.77	PK	34.5	-19.2	59.07	-	-	74	-14.93	38	103	V
3	* 5.35	32.32	RMS	34.5	-19.2	47.62	54	-6.38	-	-	38	103	V
4	* 5.361	33.72	RMS	34.5	-19.2	49.02	54	-4.98	-	-	38	103	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, 5335 MHz)

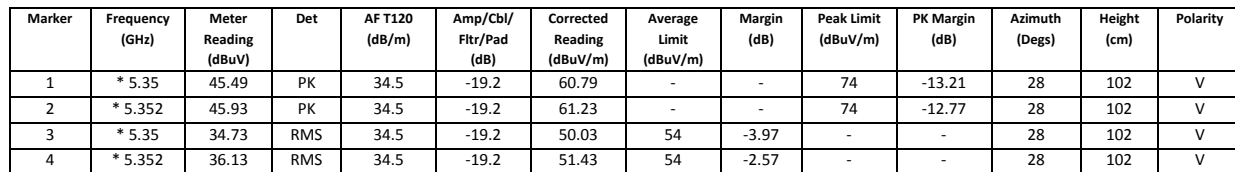


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	36.54	PK	34.5	-19.2	51.84	-	-	74	-22.16	135	244	H
2	* 5.359	40.27	PK	34.5	-19.2	55.57	-	-	74	-18.43	135	244	H
3	* 5.35	27.61	RMS	34.5	-19.2	42.91	54	-11.09	-	-	135	244	H
4	* 5.363	28.47	RMS	34.5	-19.2	43.77	54	-10.23	-	-	135	244	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



PK - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, 5341 MHz)

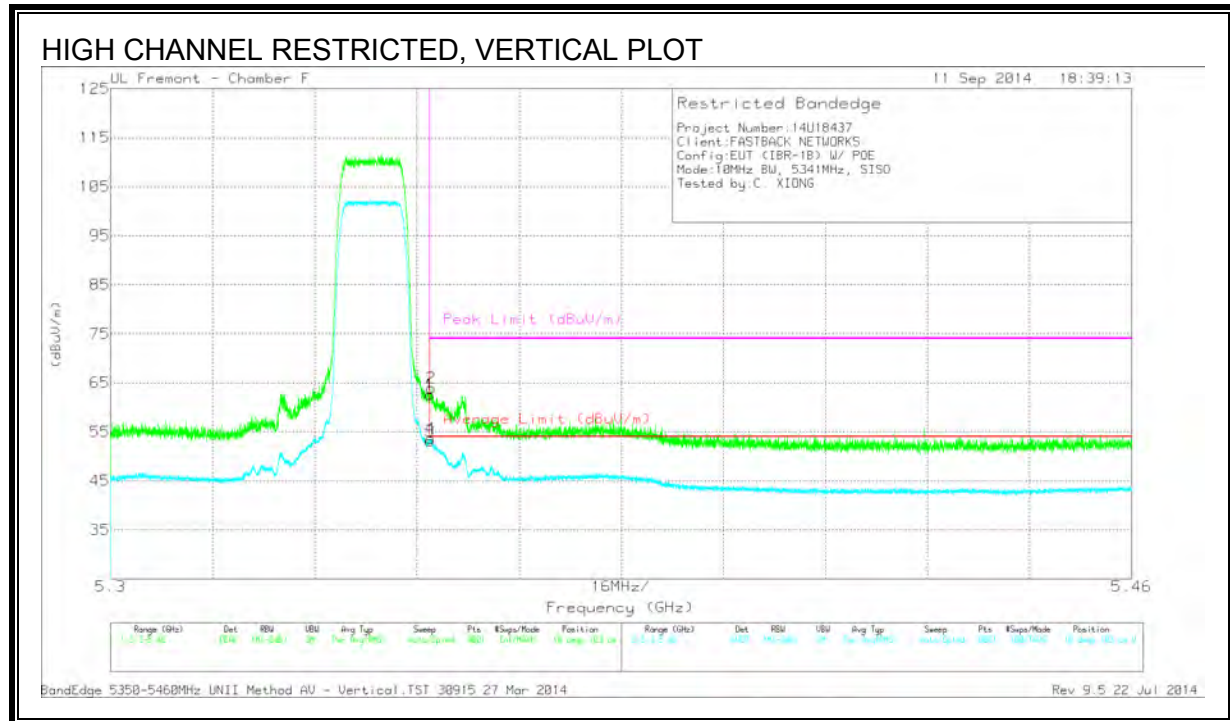


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	35.68	PK	34.5	-19.2	50.98	-	-	74	-23.02	343	113	H
2	* 5.402	39.65	PK	34.6	-19.5	54.75	-	-	74	-19.25	343	113	H
3	* 5.35	26.6	RMS	34.5	-19.2	41.9	54	-12.1	-	-	343	113	H
4	* 5.458	28.93	RMS	34.6	-19.9	43.63	54	-10.37	-	-	343	113	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



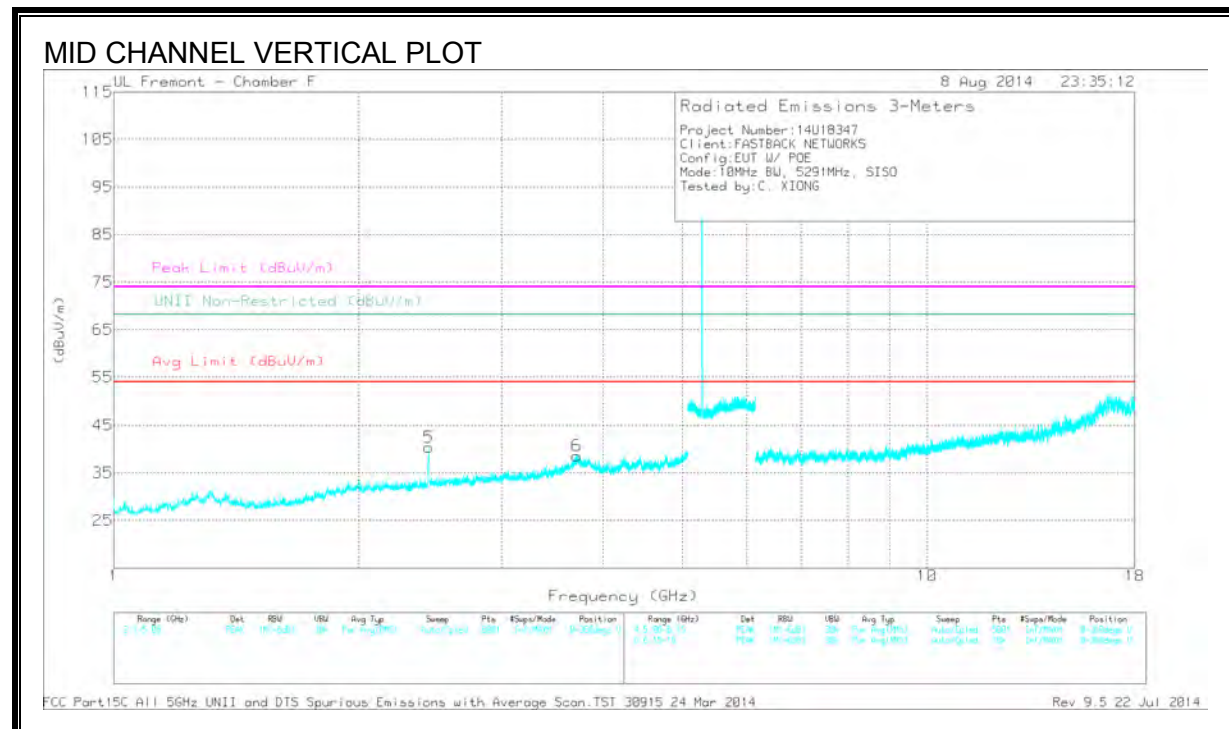
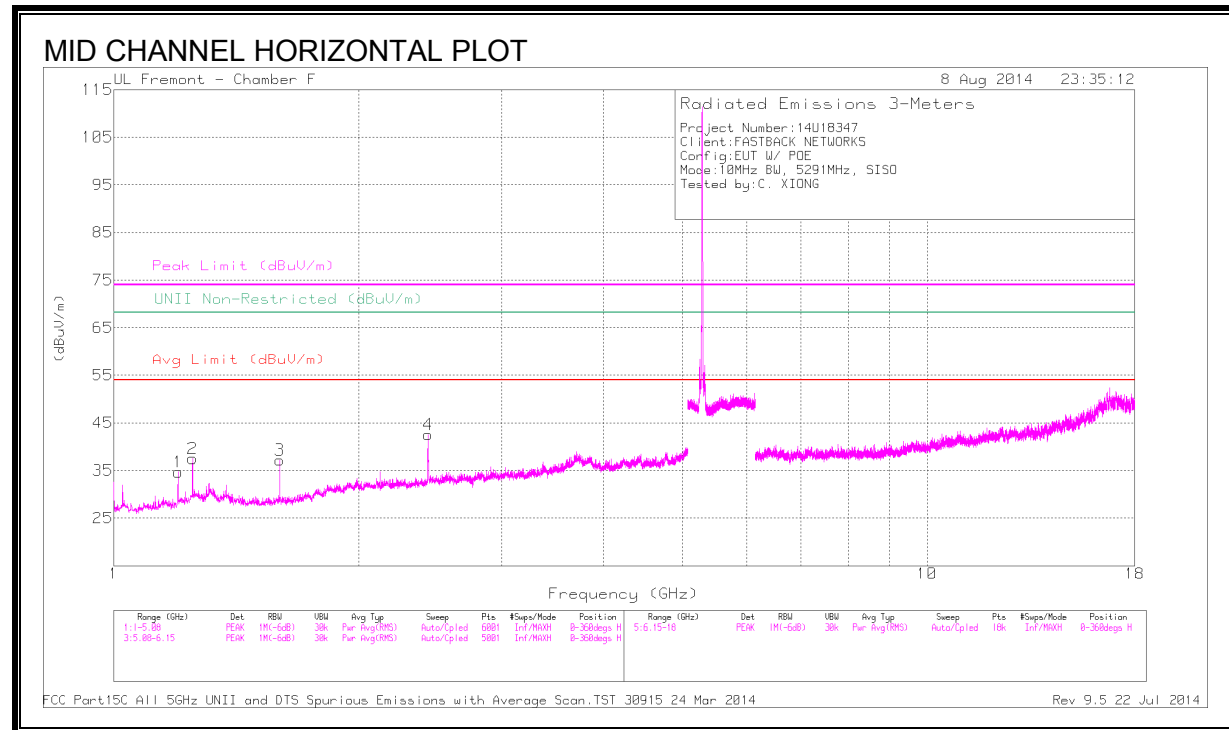
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	47.29	PK	34.5	-19.2	62.59	-	-	74	-11.41	18	103	V
2	* 5.35	48.62	PK	34.5	-19.2	63.92	-	-	74	-10.08	18	103	V
3	* 5.35	37.84	RMS	34.5	-19.2	53.14	54	-86	-	-	18	103	V
4	* 5.35	38.29	RMS	34.5	-19.2	53.59	54	-41	-	-	18	103	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS



DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/FI tr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.2	43.87	PK1	29	-32.5	40.37	-	-	74	-33.63	-	-	29	164	H
* 1.2	36.22	AD1	29	-32.5	32.72	54	-21.28	-	-	-	-	29	164	H
* 1.25	47.35	PK1	29.5	-32.2	44.65	-	-	74	-29.35	-	-	50	197	H
* 1.25	39.06	AD1	29.5	-32.2	36.36	54	-17.64	-	-	-	-	50	197	H
* 1.6	45.19	PK1	28.5	-31.7	41.99	-	-	74	-32.01	-	-	88	188	H
* 1.6	38.65	AD1	28.5	-31.7	35.45	54	-18.55	-	-	-	-	88	188	H
2.433	43.49	PK1	32.4	-30.9	44.99	-	-	-	-	68.2	-23.21	111	220	H
2.438	44.39	PK1	32.4	-30.9	45.89	-	-	-	-	68.2	-22.31	282	228	V

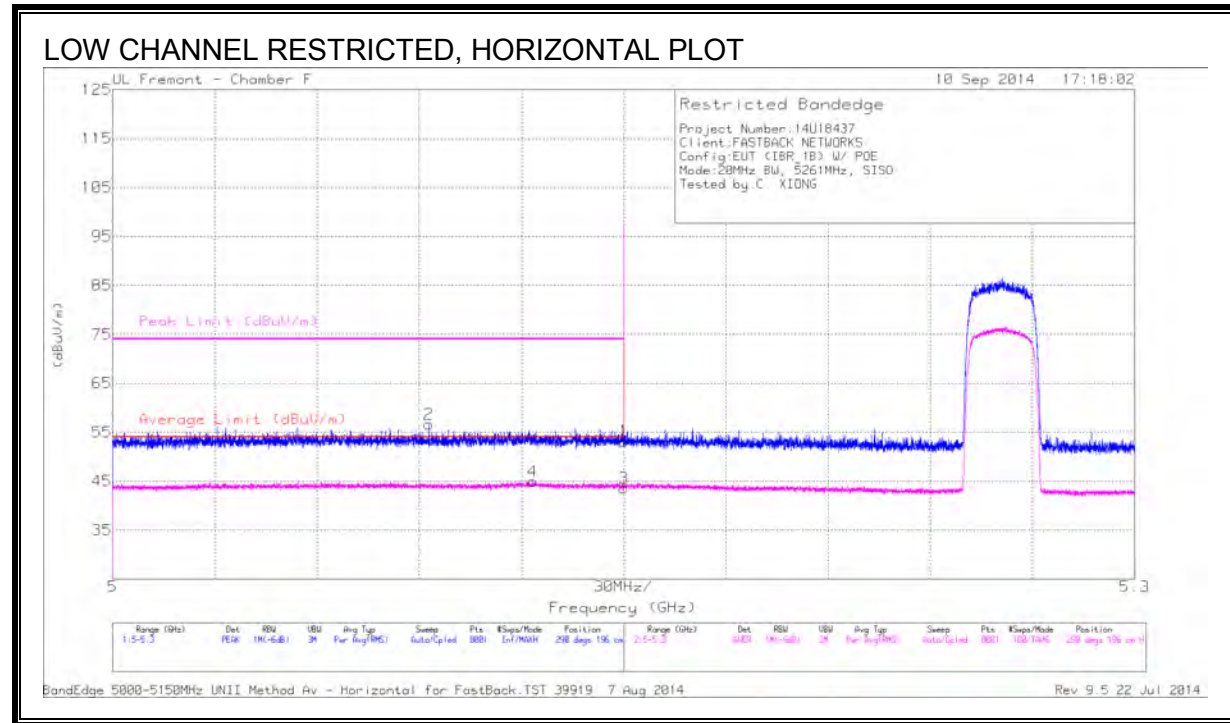
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

20MHz BW

RESTRICTED BANDEDGE (LOW CHANNEL)

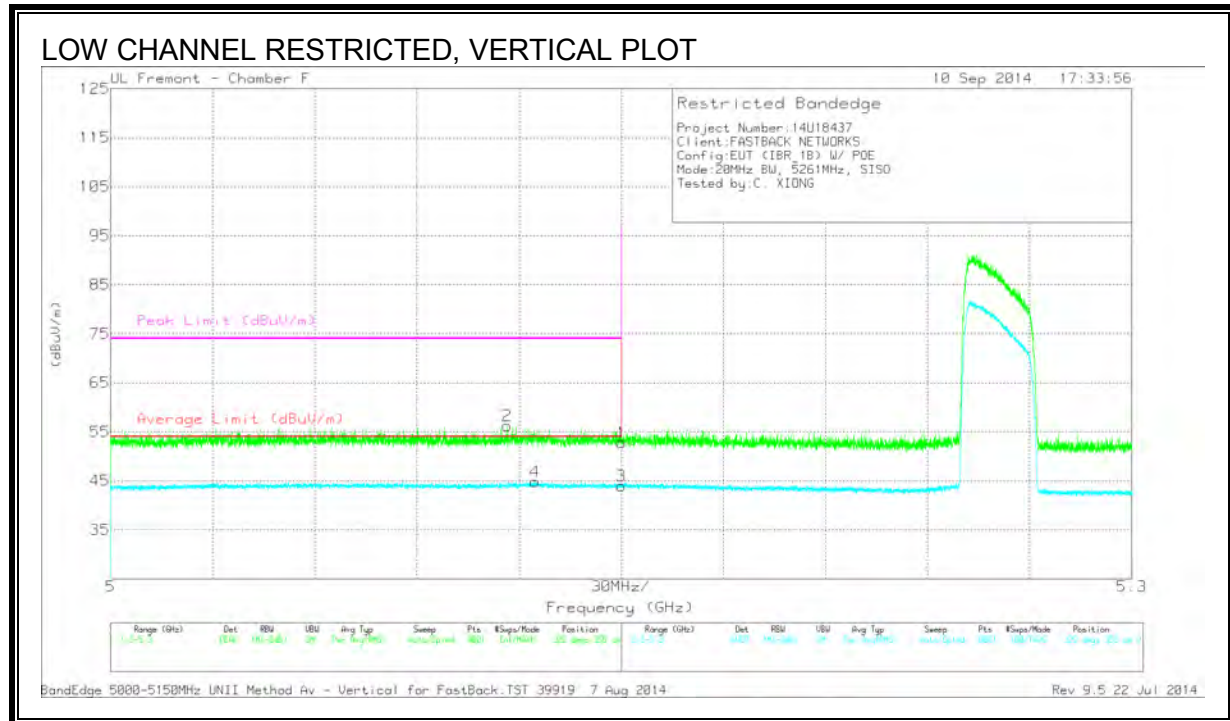


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	38.11	PK	34.4	-19.3	53.21	-	-	74	-20.79	290	196	H
2	* 5.093	42.03	PK	34.3	-19.7	56.63	-	-	74	-17.37	290	196	H
3	* 5.15	28.48	RMS	34.4	-19.3	43.58	54	-10.42	-	-	290	196	H
4	* 5.123	29.88	RMS	34.4	-19.3	44.98	54	-9.02	-	-	290	196	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



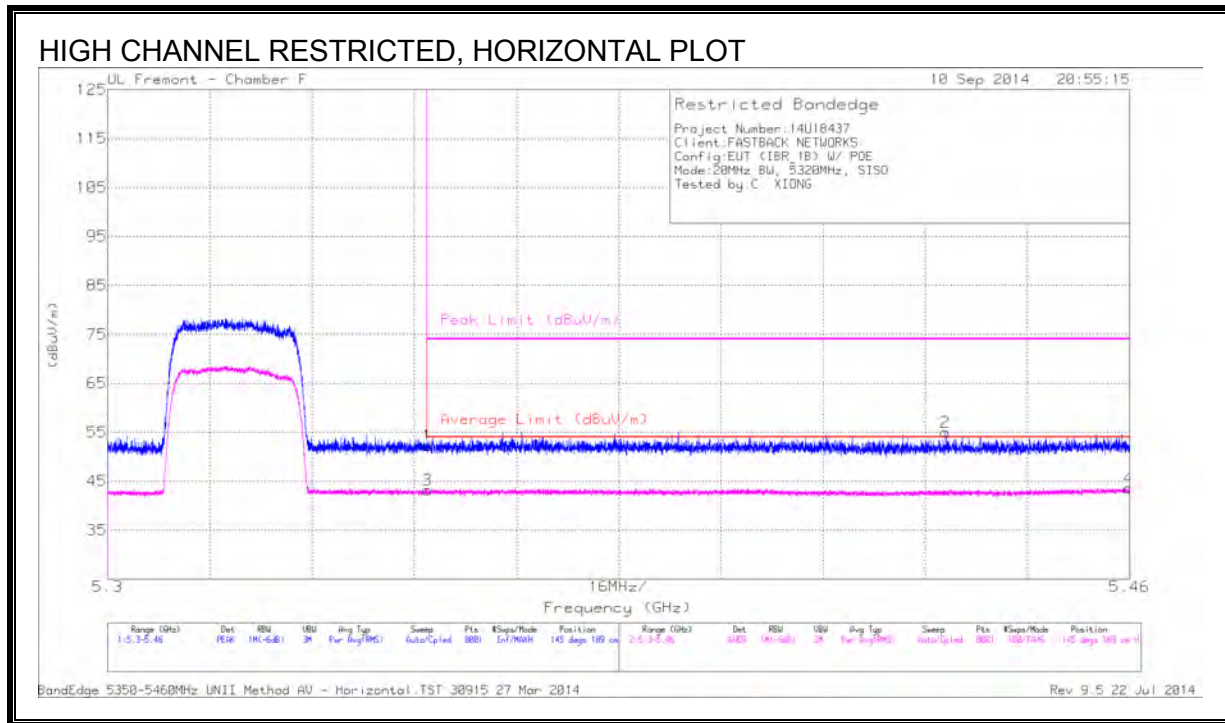
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	37.7	PK	34.4	-19.3	52.8	-	-	74	-21.2	322	355	V
2	* 5.117	41.33	PK	34.3	-19.4	56.23	-	-	74	-17.77	322	355	V
3	* 5.15	28.84	RMS	34.4	-19.3	43.94	54	-10.06	-	-	322	355	V
4	* 5.125	29.78	RMS	34.4	-19.3	44.88	54	-9.12	-	-	322	355	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, 5320 MHz)

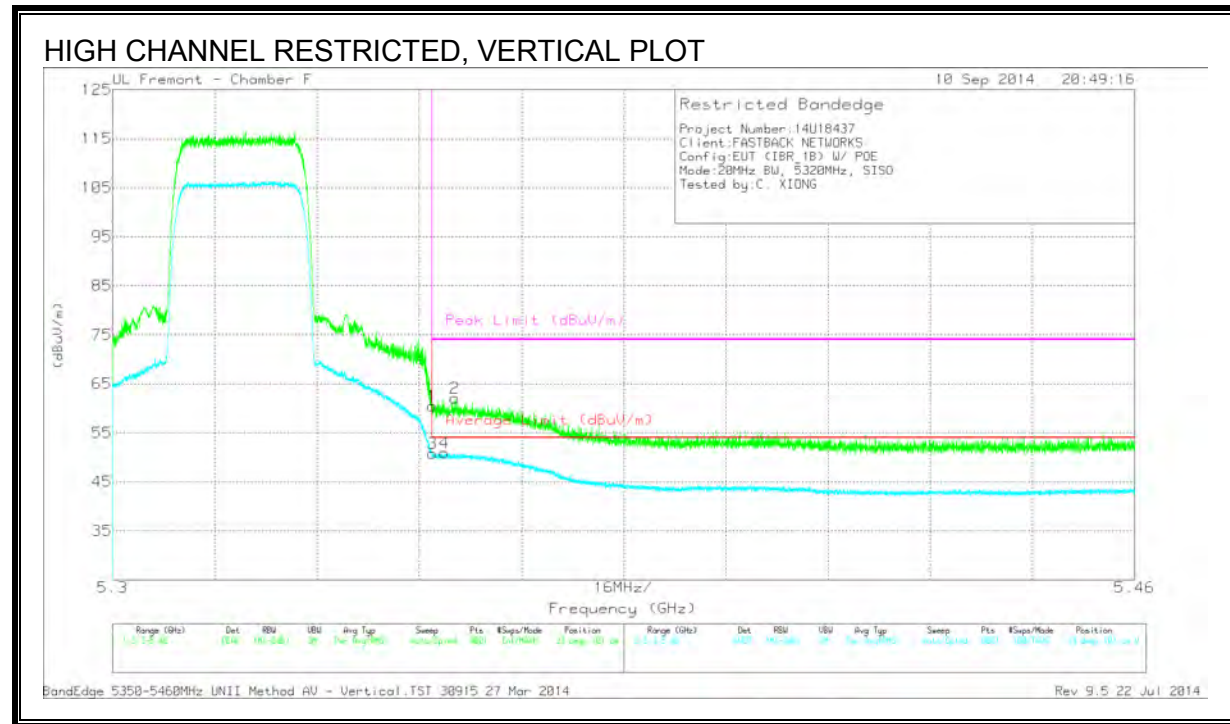


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	37.01	PK	34.5	-19.2	52.31	-	-	74	-21.69	145	189	H
2	* 5.431	40.36	PK	34.6	-19.9	55.06	-	-	74	-18.94	145	189	H
3	* 5.35	27.89	RMS	34.5	-19.2	43.19	54	-10.81	-	-	145	189	H
4	* 5.46	28.82	RMS	34.6	-19.8	43.62	54	-10.38	-	-	145	189	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



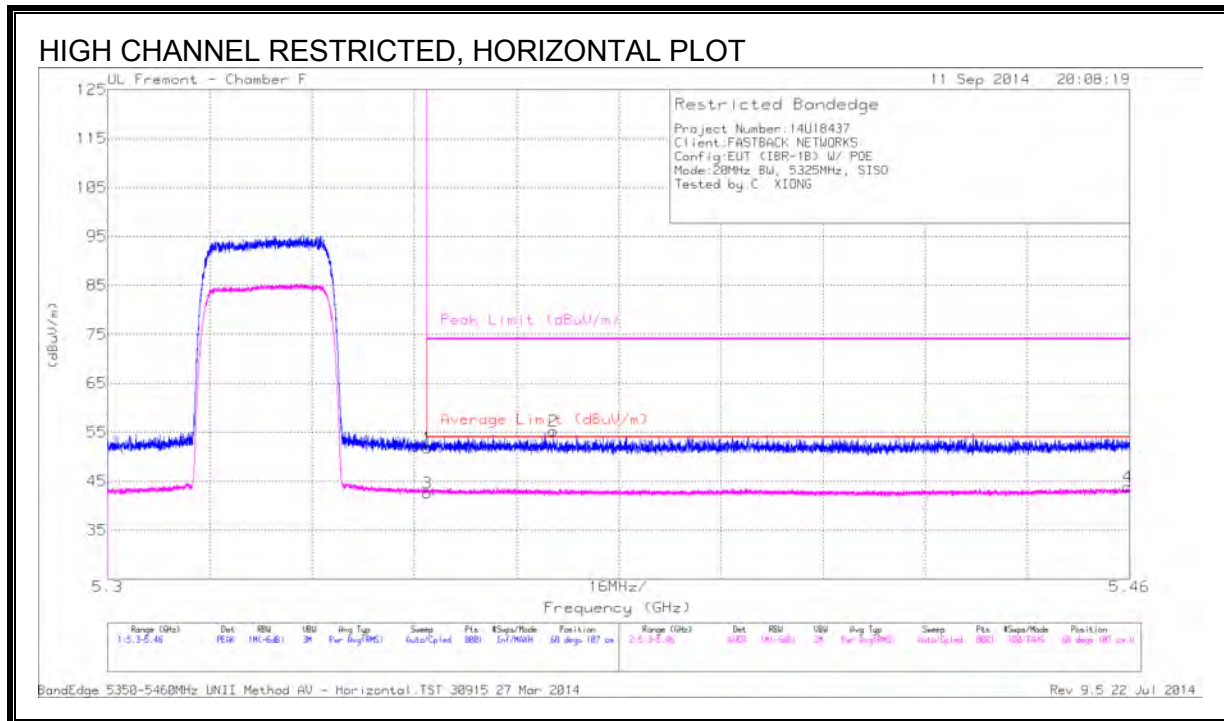
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	45.12	PK	34.5	-19.2	60.42	-	-	74	-13.58	33	101	V
2	* 5.354	46.77	PK	34.5	-19.2	62.07	-	-	74	-11.93	33	101	V
3	* 5.35	35.47	RMS	34.5	-19.2	50.77	54	-3.23	-	-	33	101	V
4	* 5.352	35.59	RMS	34.5	-19.2	50.89	54	-3.11	-	-	33	101	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, 5325 MHz)

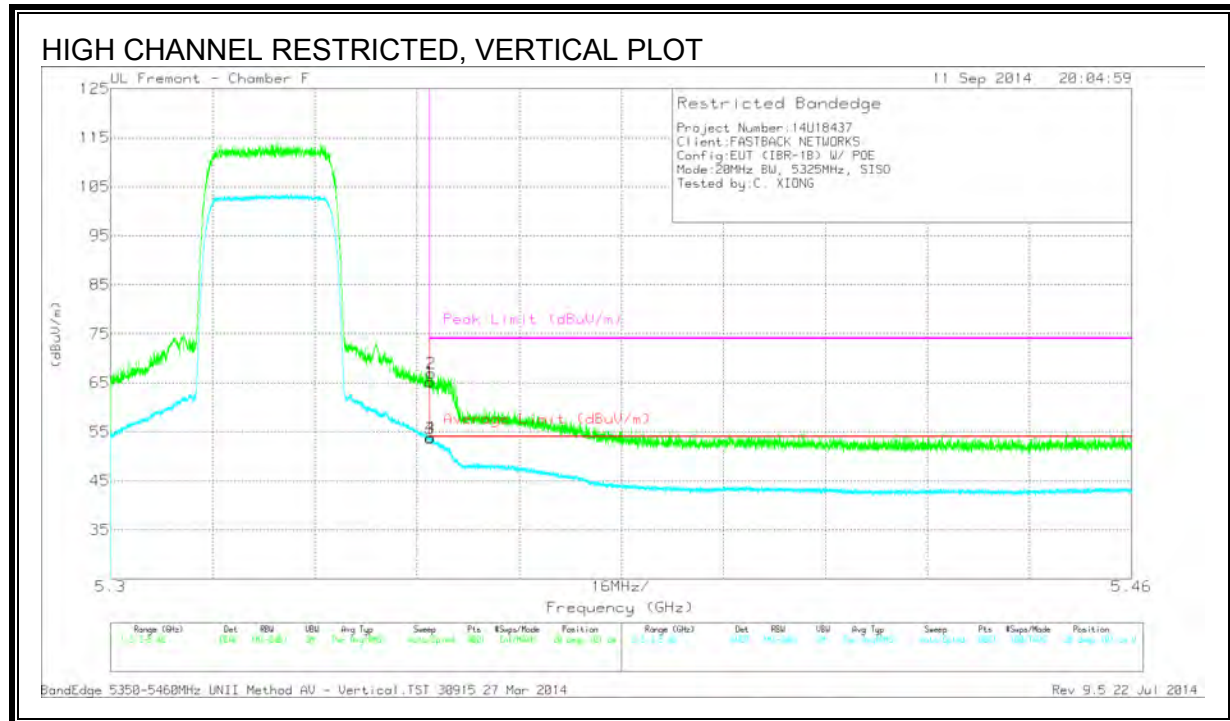


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	36.43	PK	34.5	-19.2	51.73	-	-	74	-22.27	68	107	H
2	* 5.37	39.99	PK	34.5	-19.2	55.29	-	-	74	-18.71	68	107	H
3	* 5.35	27.34	RMS	34.5	-19.2	42.64	54	-11.36	-	-	68	107	H
4	* 5.46	28.99	RMS	34.6	-19.8	43.79	54	-10.21	-	-	68	107	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



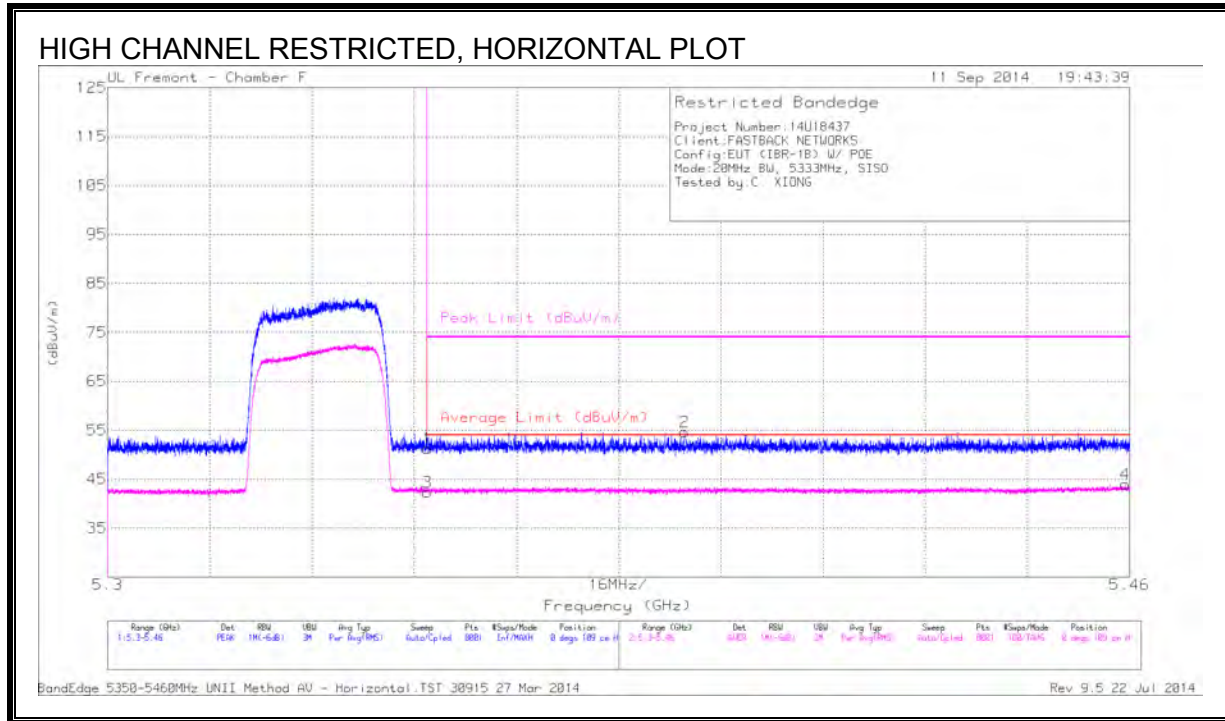
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	49.93	PK	34.5	-19.2	65.23	-	-	74	-8.77	28	101	V
2	* 5.35	51.58	PK	34.5	-19.2	66.88	-	-	74	-7.12	28	101	V
3	* 5.35	38.3	RMS	34.5	-19.2	53.6	54	-4	-	-	28	101	V
4	* 5.35	38.58	RMS	34.5	-19.2	53.88	54	-12	-	-	28	101	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, 5333 MHz)

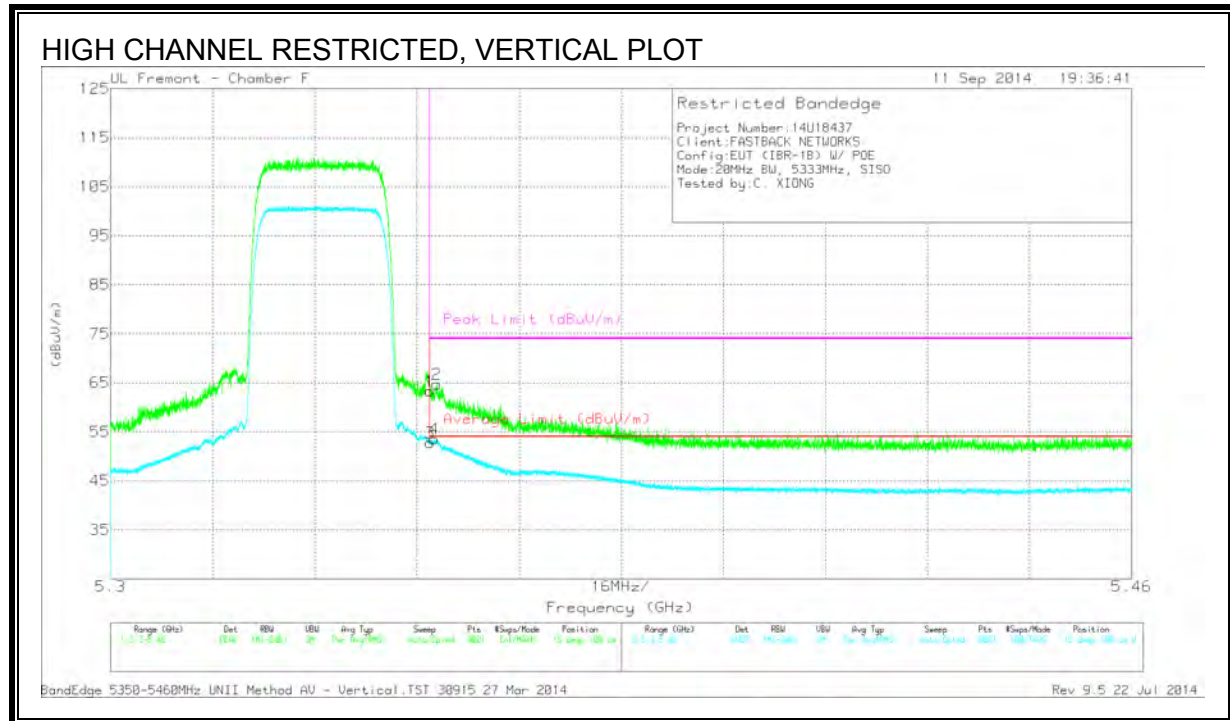


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	35.96	PK	34.5	-19.2	51.26	-	-	74	-22.74	0	109	H
2	* 5.39	39.58	PK	34.6	-19.5	54.68	-	-	74	-19.32	0	109	H
3	* 5.35	27.01	RMS	34.5	-19.2	42.31	54	-11.69	-	-	0	109	H
4	* 5.459	29.15	RMS	34.6	-19.8	43.95	54	-10.05	-	-	0	109	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



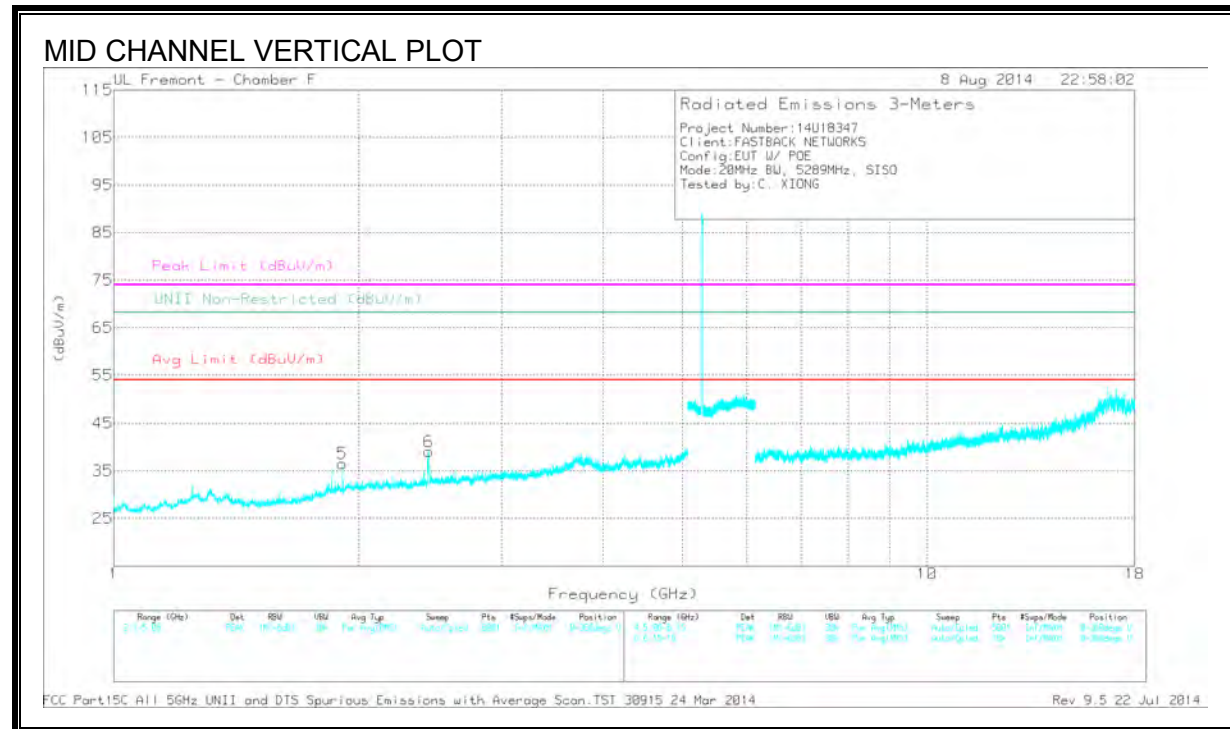
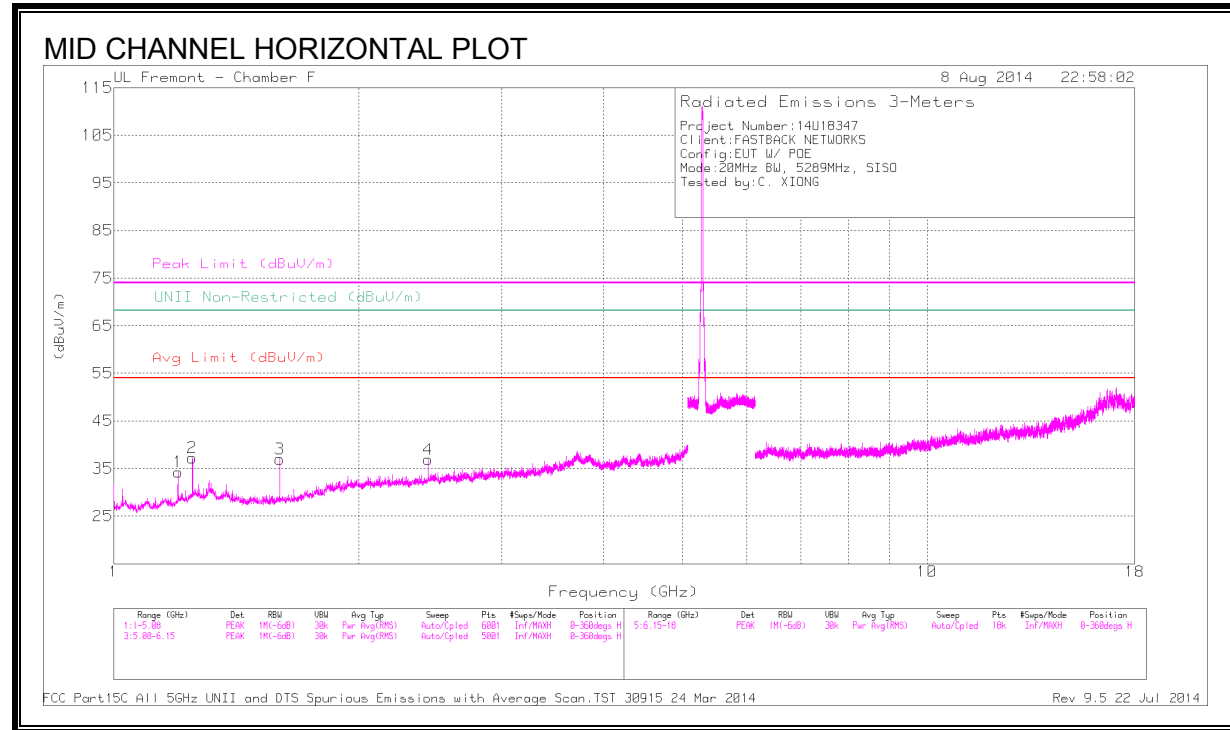
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	48.07	PK	34.5	-19.2	63.37	-	-	74	-10.63	15	100	V
2	* 5.351	49.38	PK	34.5	-19.2	64.68	-	-	74	-9.32	15	100	V
3	* 5.35	37.47	RMS	34.5	-19.2	52.77	54	-1.23	-	-	15	100	V
4	* 5.351	38.21	RMS	34.5	-19.2	53.51	54	-.49	-	-	15	100	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS



DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cb/FI tr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.2	43.77	PK1	29	-32.5	40.27	-	-	74	-33.73	-	-	36	155	H
* 1.2	36.13	AD1	29	-32.5	32.63	54	-21.37	-	-	-	-	36	155	H
* 1.25	46.01	PK1	29.5	-32.2	43.31	-	-	74	-30.69	-	-	45	195	H
* 1.25	38.27	AD1	29.5	-32.2	35.57	54	-18.43	-	-	-	-	45	195	H
* 1.6	45.94	PK1	28.5	-31.7	42.74	-	-	74	-31.26	-	-	86	184	H
* 1.6	39.6	AD1	28.5	-31.7	36.4	54	-17.6	-	-	-	-	86	184	H
2.436	44.92	PK1	32.4	-30.9	46.42	-	-	-	-	68.2	-21.78	233	384	H
1.91	39.32	PK1	31.4	-31.4	39.32	-	-	-	-	68.2	-28.88	224	184	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

40MHz BW

RESTRICTED BANDEDGE (LOW CHANNEL)

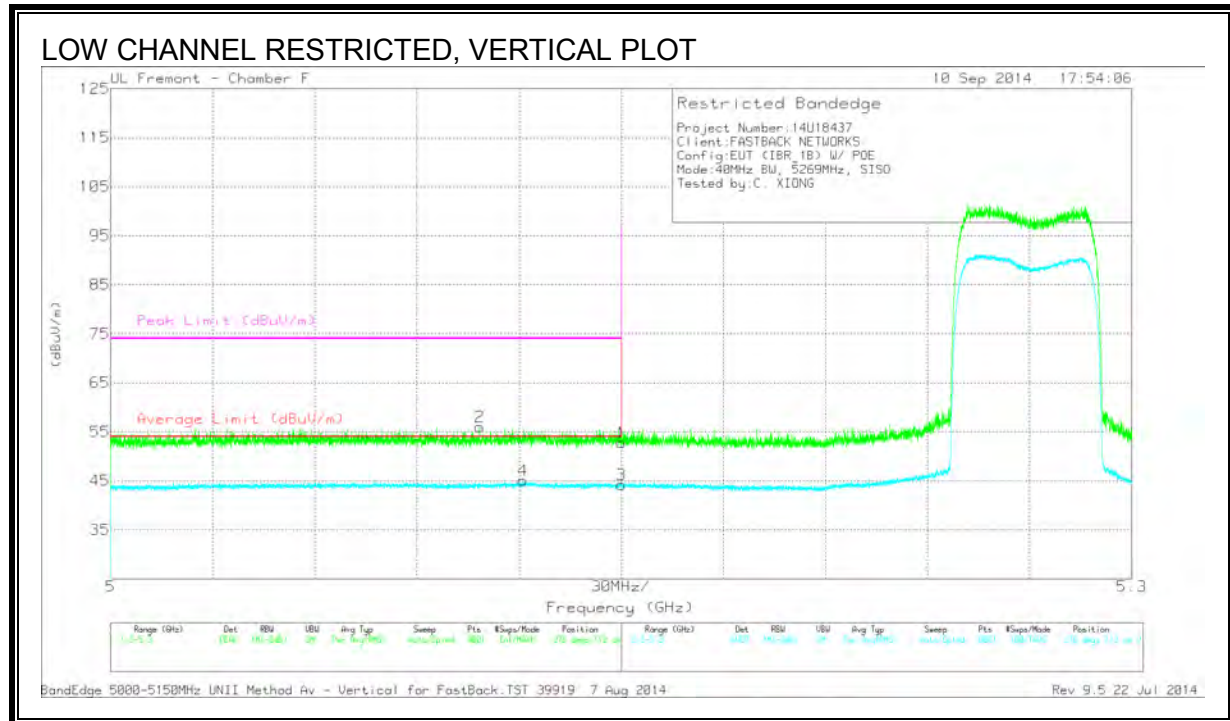


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	37.81	PK	34.4	-19.3	52.91	-	-	74	-21.09	105	398	H
2	* 5.067	41.57	PK	34.3	-19.9	55.97	-	-	74	-18.03	105	398	H
3	* 5.15	29.18	RMS	34.4	-19.3	44.28	54	-9.72	-	-	105	398	H
4	* 5.127	29.81	RMS	34.4	-19.3	44.91	54	-9.09	-	-	105	398	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	37.71	PK	34.4	-19.3	52.81	-	-	74	-21.19	276	112	V
2	* 5.108	41.31	PK	34.3	-19.6	56.01	-	-	74	-17.99	276	112	V
3	* 5.15	29.11	RMS	34.4	-19.3	44.21	54	-9.79	-	-	276	112	V
4	* 5.121	30.03	RMS	34.4	-19.3	45.13	54	-8.87	-	-	276	112	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, 5291 MHz)

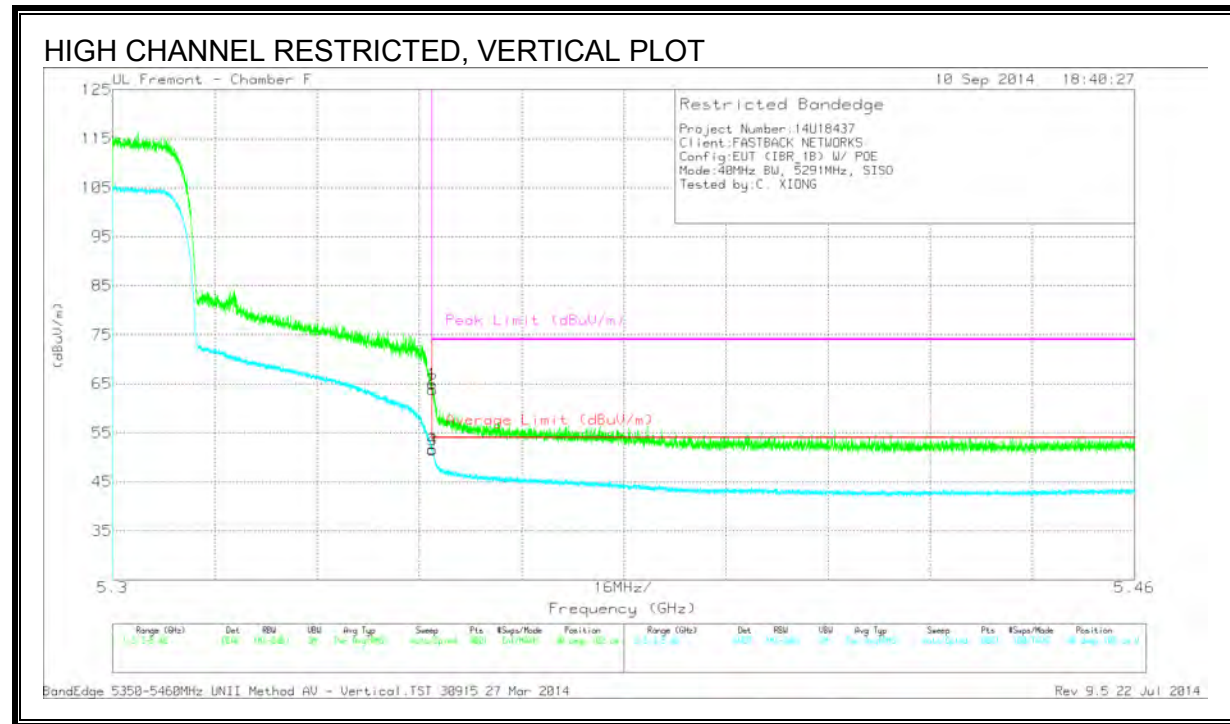


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	37.09	PK	34.5	-19.2	52.39	-	-	74	-21.61	131	313	H
2	* 5.396	40.07	PK	34.6	-19.4	55.27	-	-	74	-18.73	131	313	H
3	* 5.35	27.34	RMS	34.5	-19.2	42.64	54	-11.36	-	-	131	313	H
4	* 5.356	28.35	RMS	34.5	-19.2	43.65	54	-10.35	-	-	131	313	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



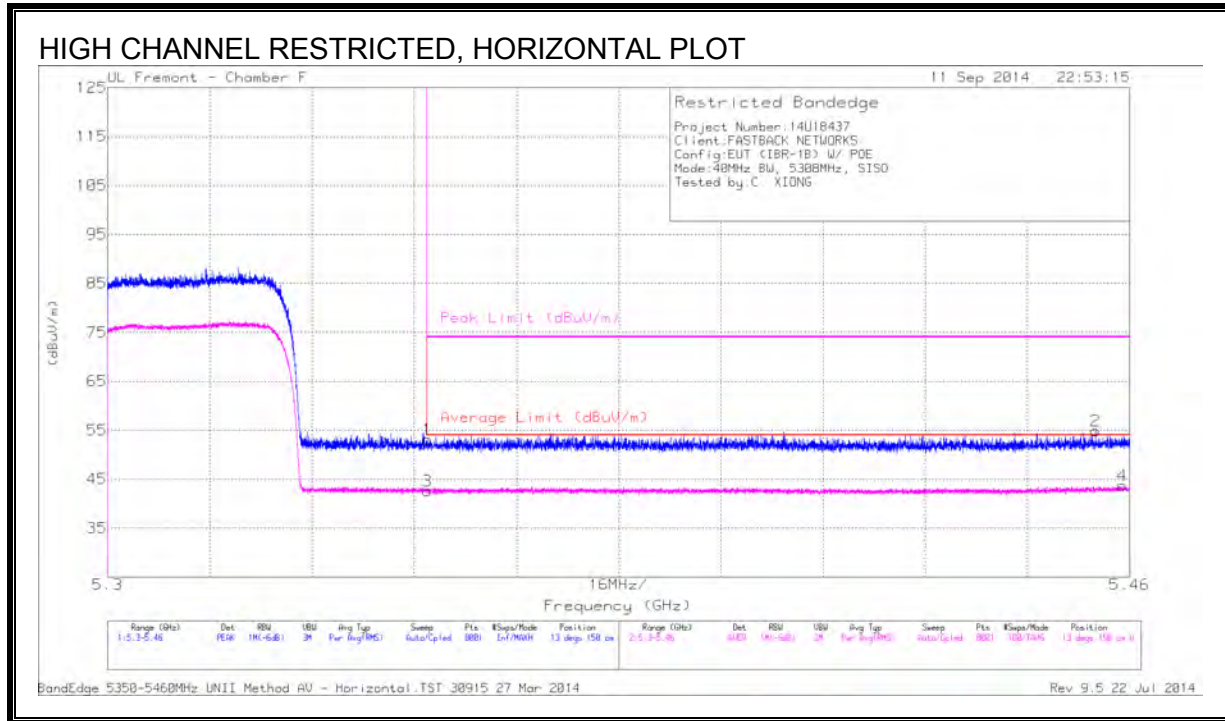
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	49.6	PK	34.5	-19.2	64.9	-	-	74	-9.1	40	102	V
2	* 5.35	48.55	PK	34.5	-19.2	63.85	-	-	74	-10.15	40	102	V
3	* 5.35	36.26	RMS	34.5	-19.2	51.56	54	-2.44	-	-	40	102	V
4	* 5.35	36.32	RMS	34.5	-19.2	51.62	54	-2.38	-	-	40	102	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, 5308 MHz)

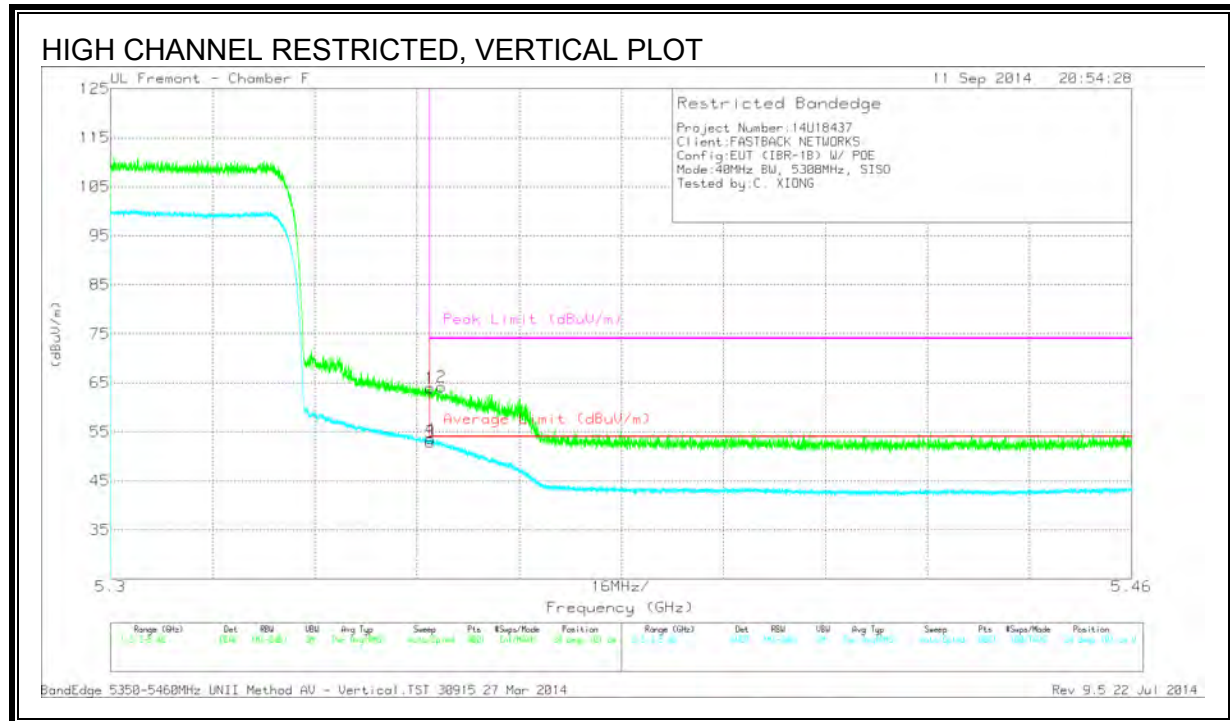


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	37.9	PK	34.5	-19.2	53.2	-	-	74	-20.8	13	150	H
2	* 5.455	40.19	PK	34.6	-19.9	54.89	-	-	74	-19.11	13	150	H
3	* 5.35	27.3	RMS	34.5	-19.2	42.6	54	-11.4	-	-	13	150	H
4	* 5.459	29.04	RMS	34.6	-19.9	43.74	54	-10.26	-	-	13	150	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



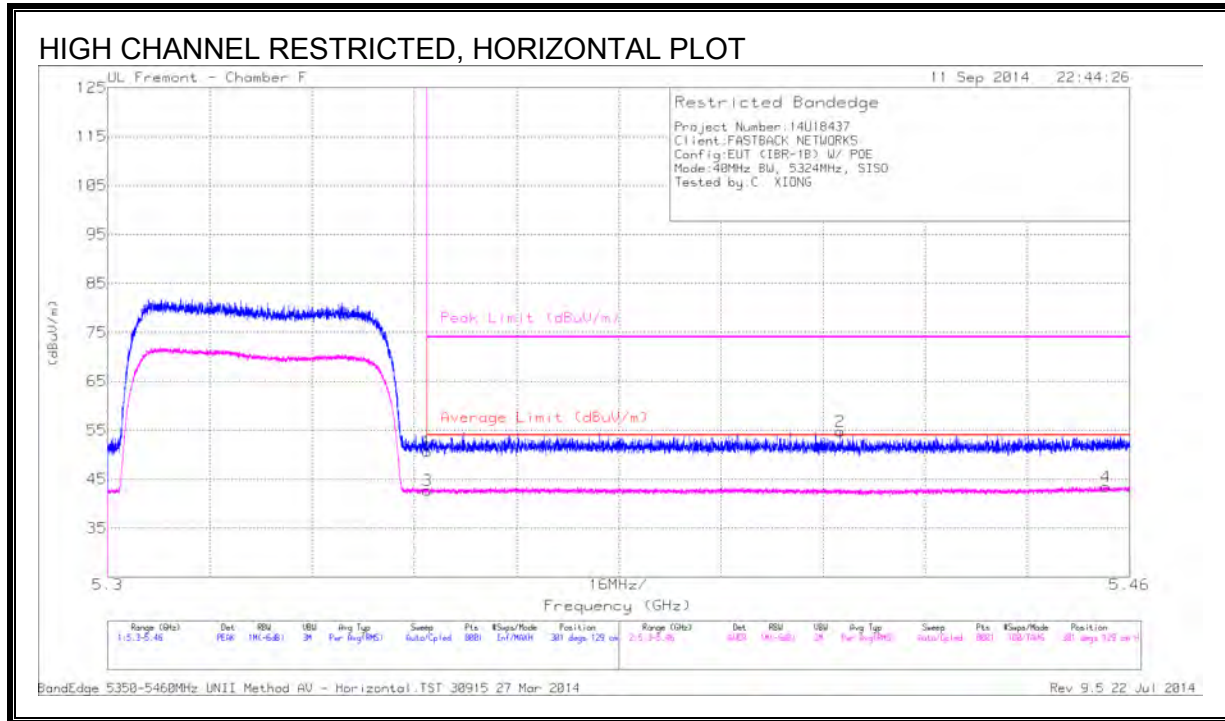
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	48.68	PK	34.5	-19.2	63.98	-	-	74	-10.02	24	101	V
2	* 5.352	48.94	PK	34.5	-19.2	64.24	-	-	74	-9.76	24	101	V
3	* 5.35	37.66	RMS	34.5	-19.2	52.96	54	-1.04	-	-	24	101	V
4	* 5.35	38.27	RMS	34.5	-19.2	53.57	54	-.43	-	-	24	101	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, 5324 MHz)

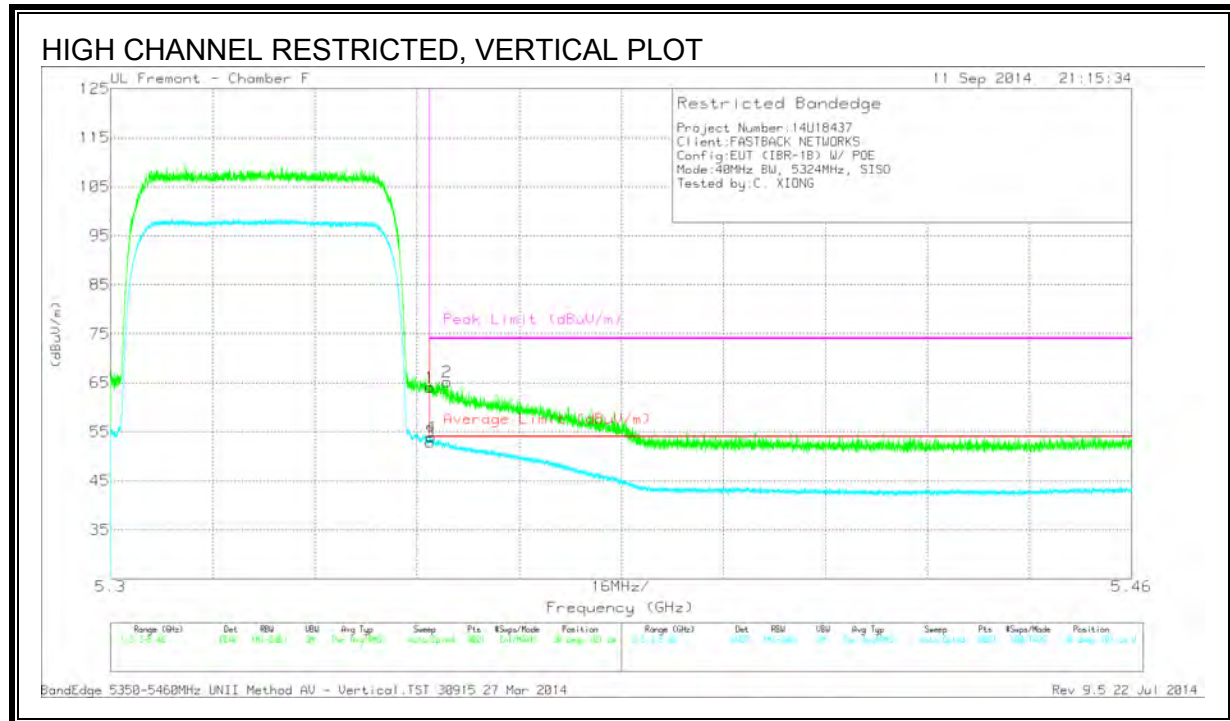


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	35.41	PK	34.5	-19.2	50.71	-	-	74	-23.29	301	129	H
2	* 5.415	40.02	PK	34.6	-19.9	54.72	-	-	74	-19.28	301	129	H
3	* 5.35	27.43	RMS	34.5	-19.2	42.73	54	-11.27	-	-	301	129	H
4	* 5.456	28.81	RMS	34.6	-19.9	43.51	54	-10.49	-	-	301	129	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



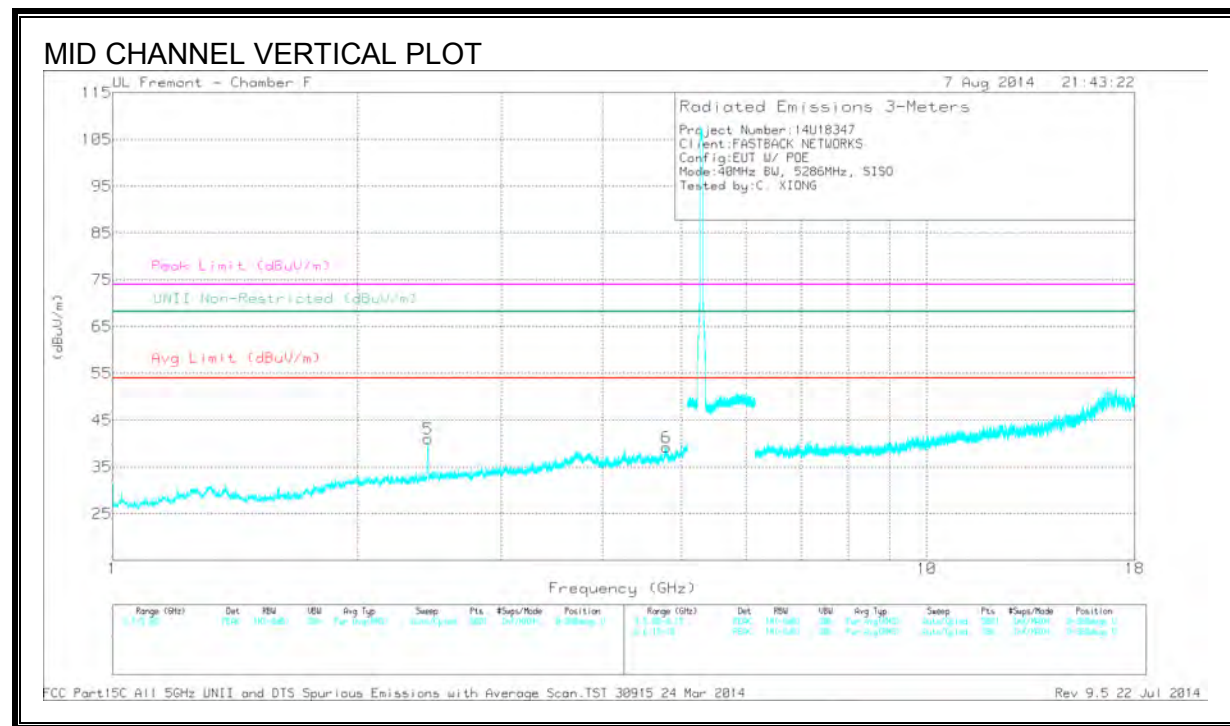
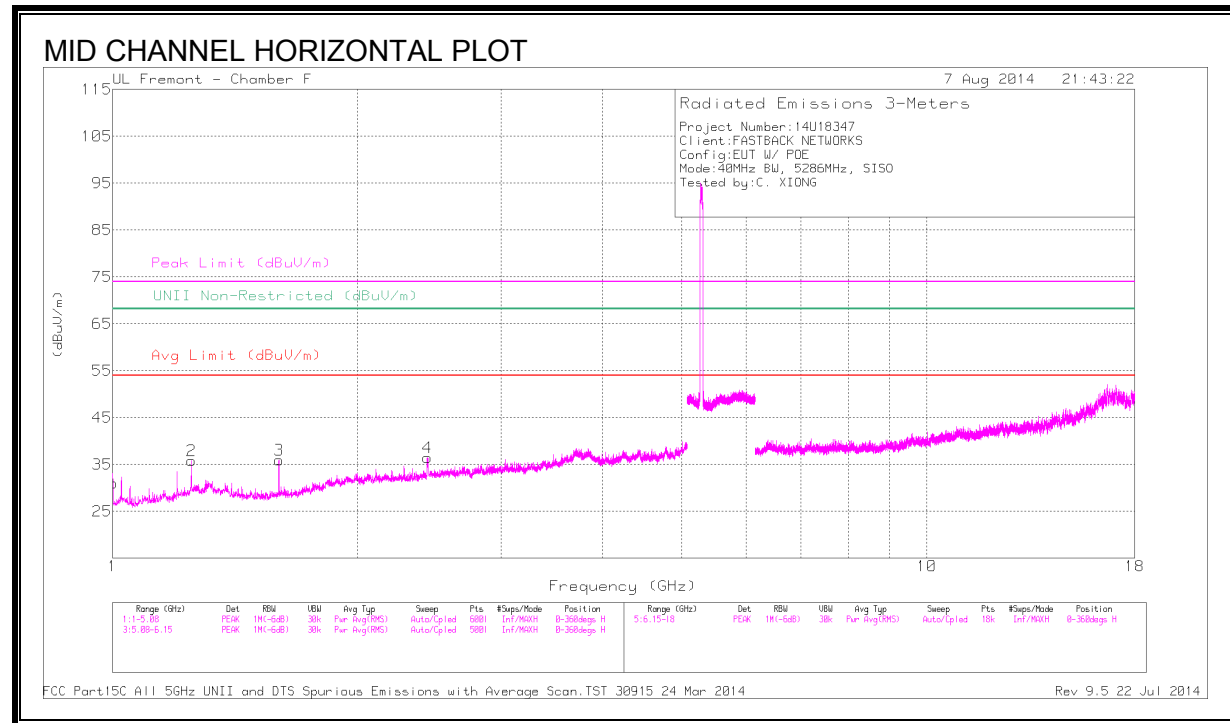
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	48.75	PK	34.5	-19.2	64.05	-	-	74	-9.95	38	101	V
2	* 5.353	49.88	PK	34.5	-19.2	65.18	-	-	74	-8.82	38	101	V
3	* 5.35	37.58	RMS	34.5	-19.2	52.88	54	-1.12	-	-	38	101	V
4	* 5.35	38.63	RMS	34.5	-19.2	53.93	54	-.07	-	-	38	101	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS



DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cb/Fl tr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1	44.42	PK1	27.6	-32.6	39.42	-	-	74	-34.58	-	-	354	133	H
* 1	35.63	AD1	27.6	-32.6	30.63	54	-23.37	-	-	-	-	354	133	H
* 1.249	45.41	PK1	29.5	-32.2	42.71	-	-	74	-31.29	-	-	43	198	H
* 1.25	37.04	AD1	29.5	-32.2	34.34	54	-19.66	-	-	-	-	43	198	H
* 1.6	45.62	PK1	28.5	-31.7	42.42	-	-	74	-31.58	-	-	85	186	H
* 1.6	39.21	AD1	28.5	-31.7	36.01	54	-17.99	-	-	-	-	85	186	H
2.436	44.45	PK1	32.4	-30.9	45.95	-	-	-	-	68.2	-22.25	303	175	H
2.438	45.99	PK1	32.4	-30.9	47.49	-	-	-	-	68.2	-20.71	211	158	V
* 4.788	39.35	PK1	34.1	-27.6	45.85	-	-	74	-28.15	-	-	193	163	V
* 4.788	27.42	AD1	34.1	-27.6	33.92	54	-20.08	-	-	-	-	193	163	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

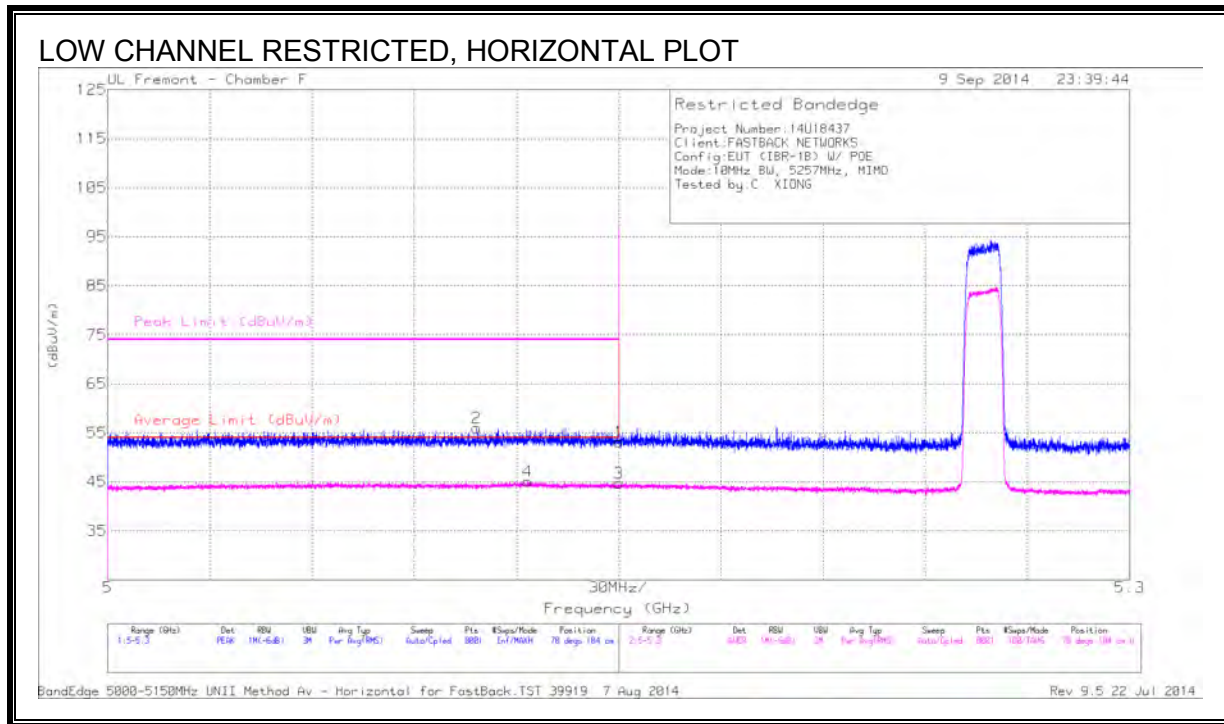
PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

9.4. TX ABOVE 1 GHz MIMO MODE IN THE 5.3 GHz BAND

10MHz BW

RESTRICTED BANDEDGE (LOW CHANNEL)

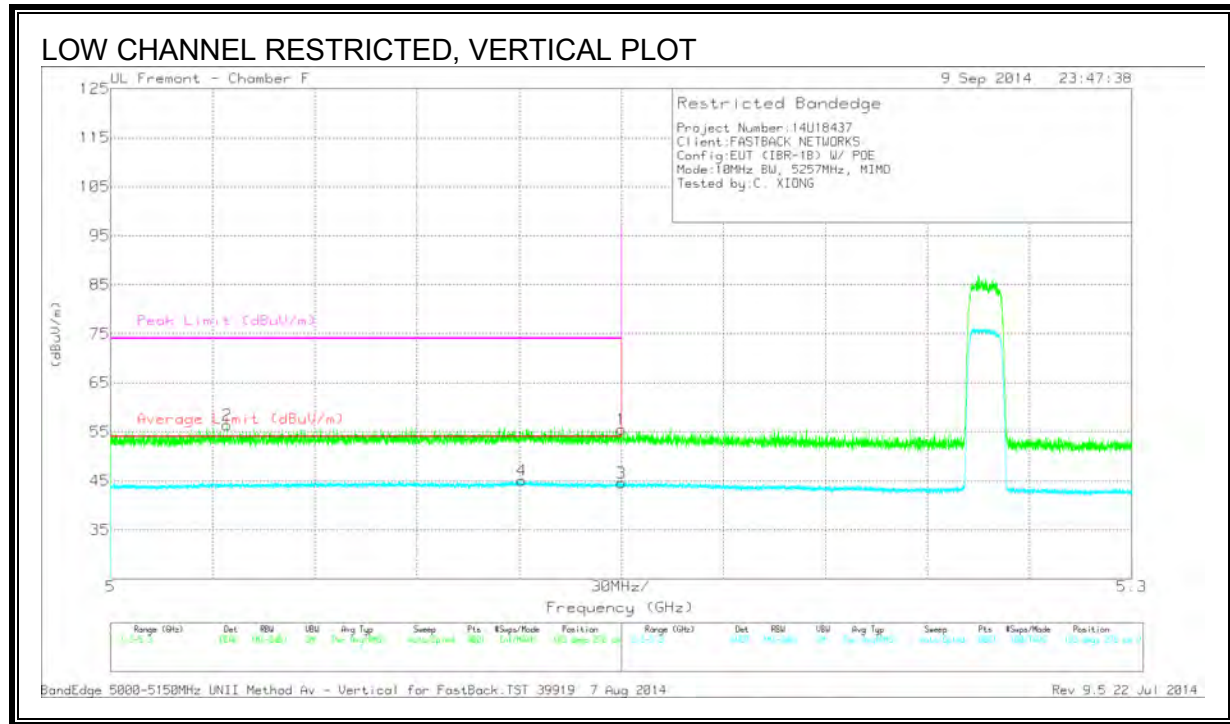


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	38.03	PK	34.4	-19.3	53.13	-	-	74	-20.87	78	184	H
2	* 5.108	41.31	PK	34.3	-19.6	56.01	-	-	74	-17.99	78	184	H
3	* 5.15	29.55	RMS	34.4	-19.3	44.65	54	-9.35	-	-	78	184	H
4	* 5.123	29.92	RMS	34.4	-19.3	45.02	54	-8.98	-	-	78	184	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



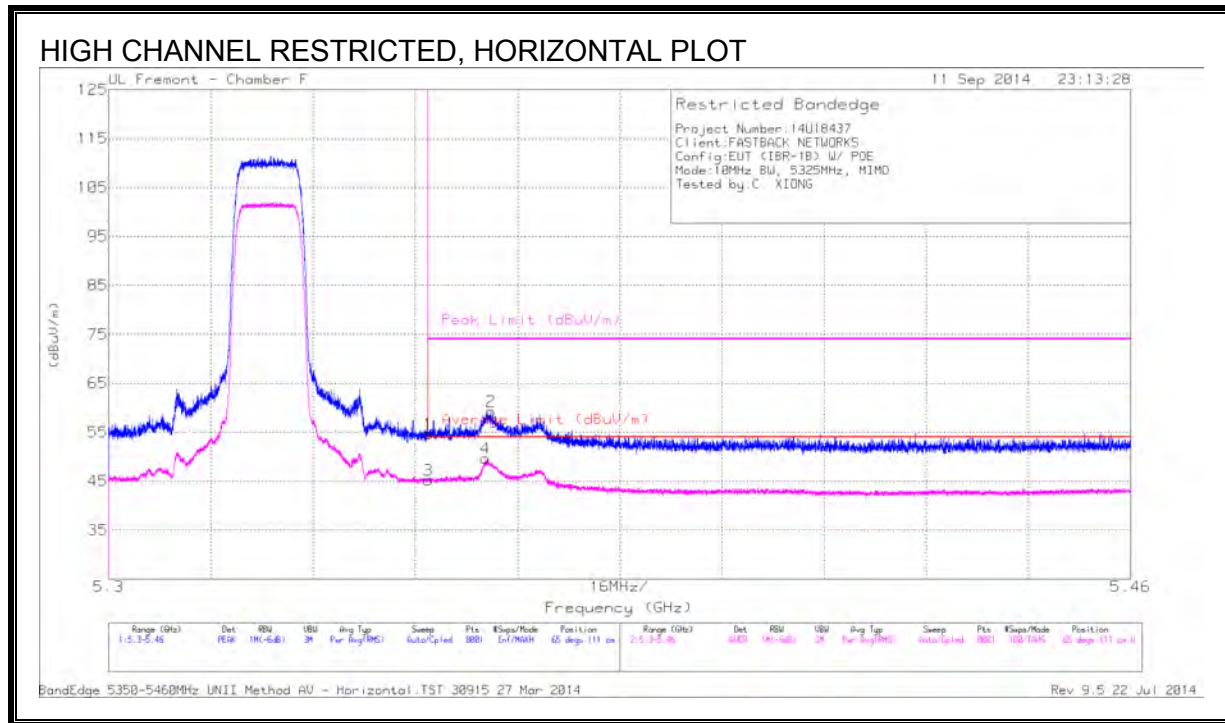
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	40.42	PK	34.4	-19.3	55.52	-	-	74	-18.48	183	276	V
2	* 5.034	42.22	PK	34.3	-20.2	56.32	-	-	74	-17.68	183	276	V
3	* 5.15	29.47	RMS	34.4	-19.3	44.57	54	-9.43	-	-	183	276	V
4	* 5.121	29.92	RMS	34.4	-19.3	45.02	54	-8.98	-	-	183	276	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, 5325 MHz)

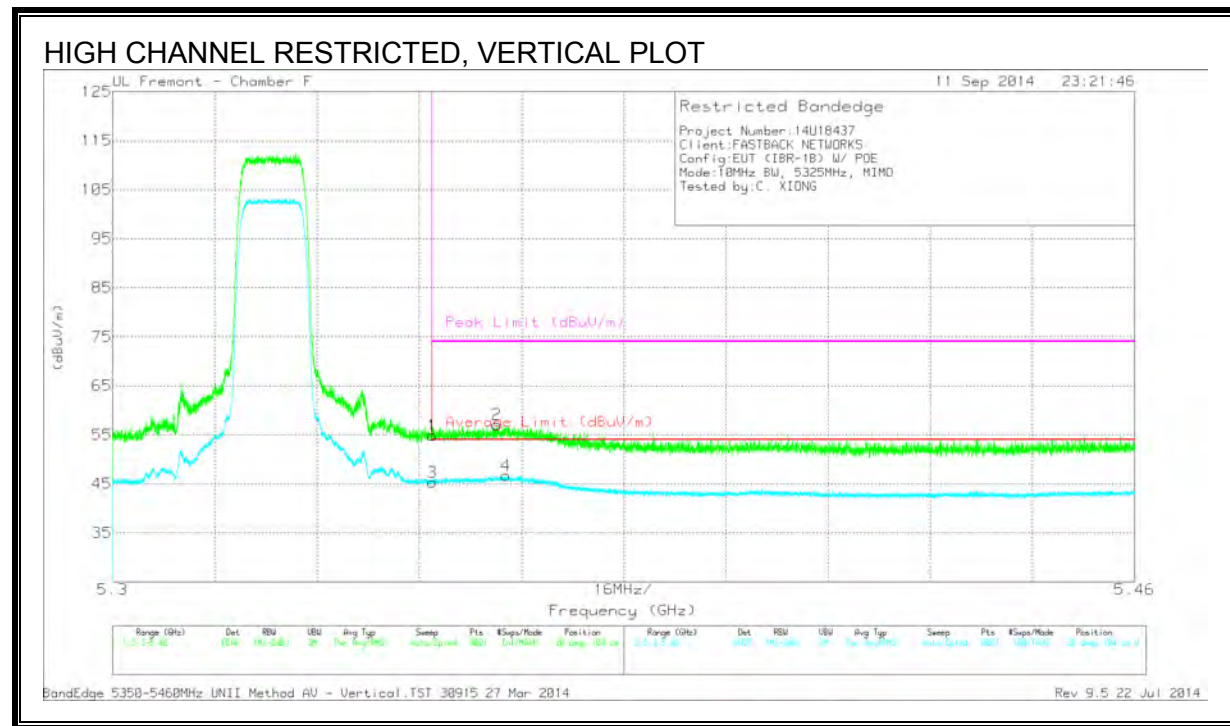


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	39.38	PK	34.5	-19.2	54.68	-	-	74	-19.32	65	111	H
2	* 5.36	43.97	PK	34.5	-19.2	59.27	-	-	74	-14.73	65	111	H
3	* 5.35	29.93	RMS	34.5	-19.2	45.23	54	-8.77	-	-	65	111	H
4	* 5.359	34.33	RMS	34.5	-19.2	49.63	54	-4.37	-	-	65	111	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



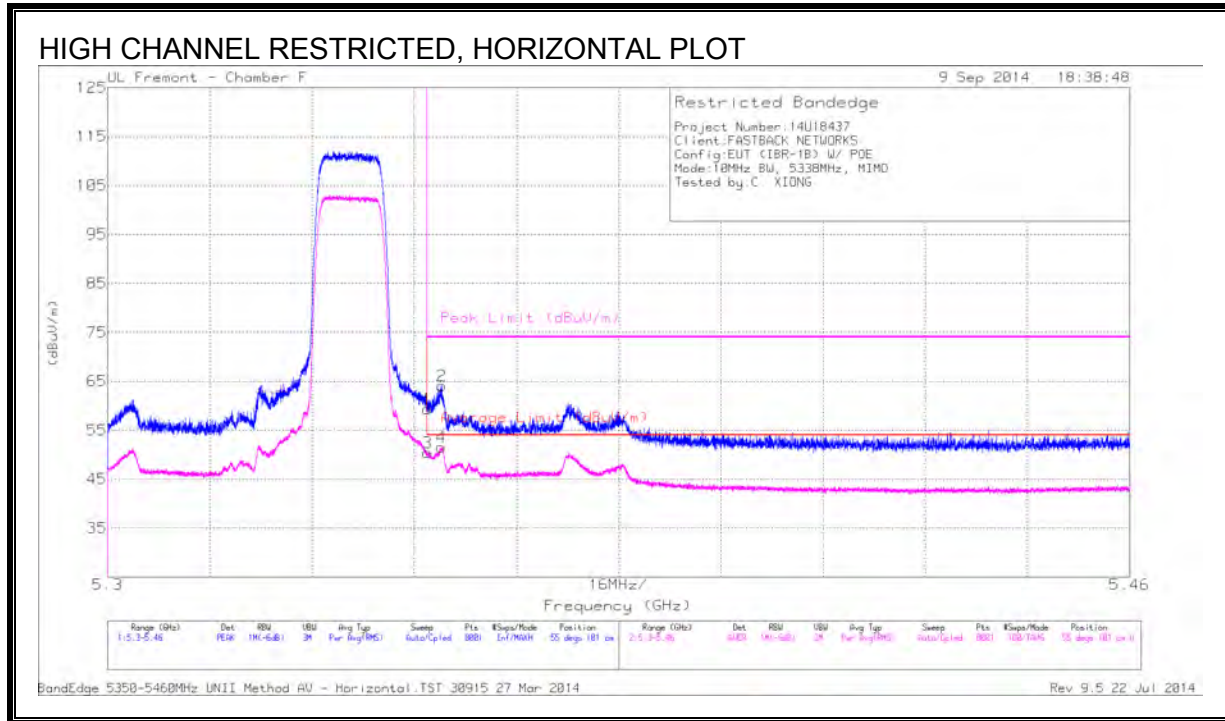
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	39.59	PK	34.5	-19.2	54.89	-	-	74	-19.11	20	104	V
2	* 5.36	41.8	PK	34.5	-19.2	57.1	-	-	74	-16.9	20	104	V
3	* 5.35	30.05	RMS	34.5	-19.2	45.35	54	-8.65	-	-	20	104	V
4	* 5.362	31.36	RMS	34.5	-19.2	46.66	54	-7.34	-	-	20	104	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, 5338 MHz)

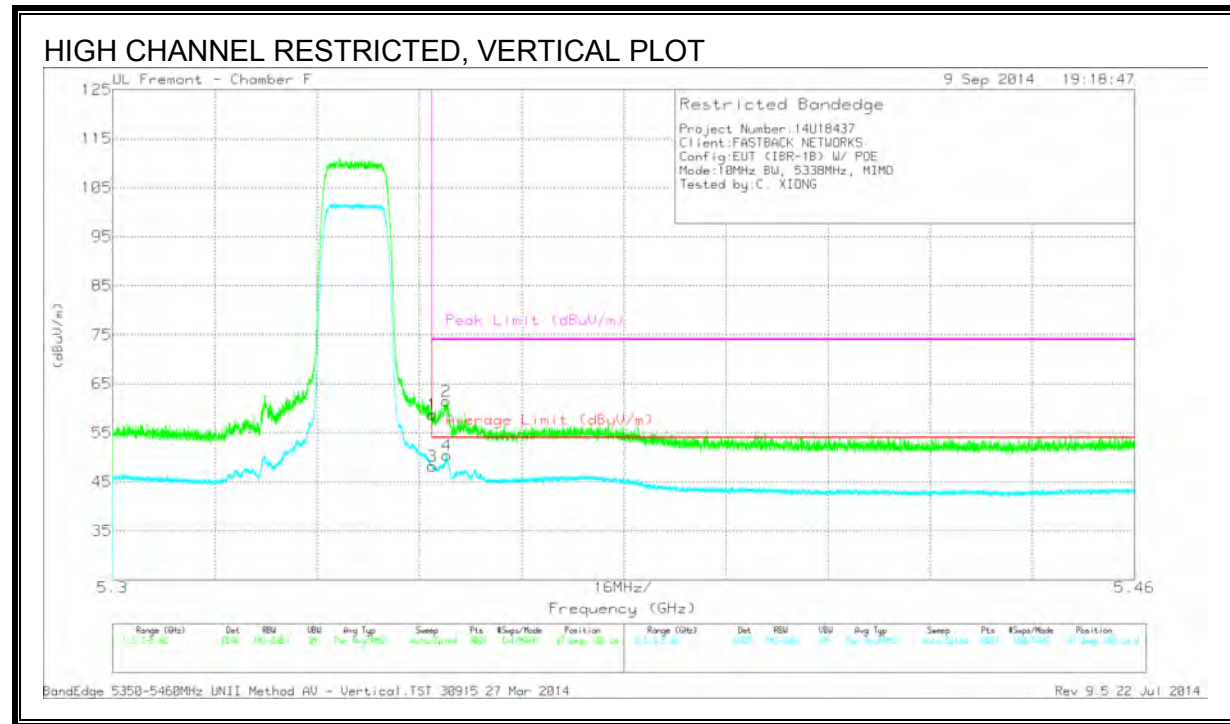


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	44.03	PK	34.5	-19.2	59.33	-	-	74	-14.67	55	101	H
2	* 5.352	48.82	PK	34.5	-19.2	64.12	-	-	74	-9.88	55	101	H
3	* 5.35	35.08	RMS	34.5	-19.2	50.38	54	-3.62	-	-	55	101	H
4	* 5.352	36.27	RMS	34.5	-19.2	51.57	54	-2.43	-	-	55	101	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



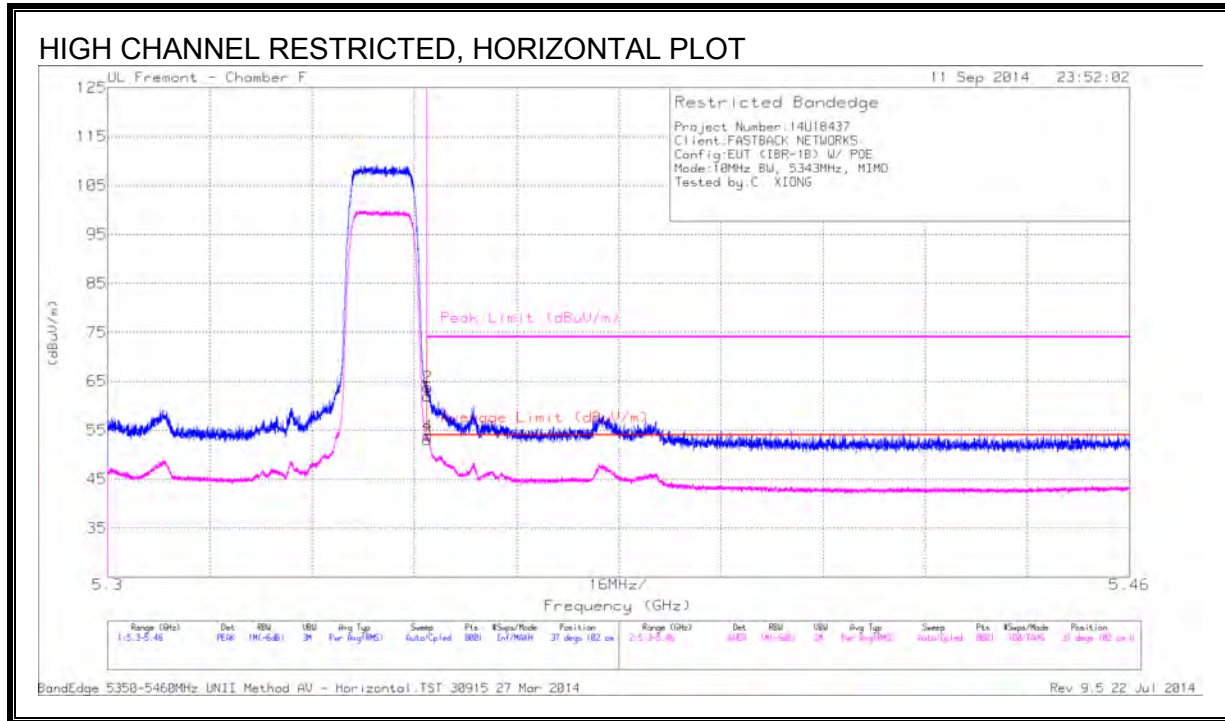
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	43.45	PK	34.5	-19.2	58.75	-	-	74	-15.25	47	106	V
2	* 5.352	46.16	PK	34.5	-19.2	61.46	-	-	74	-12.54	47	106	V
3	* 5.35	32.85	RMS	34.5	-19.2	48.15	54	-5.85	-	-	47	106	V
4	* 5.352	35.13	RMS	34.5	-19.2	50.43	54	-3.57	-	-	47	106	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, 5343 MHz)

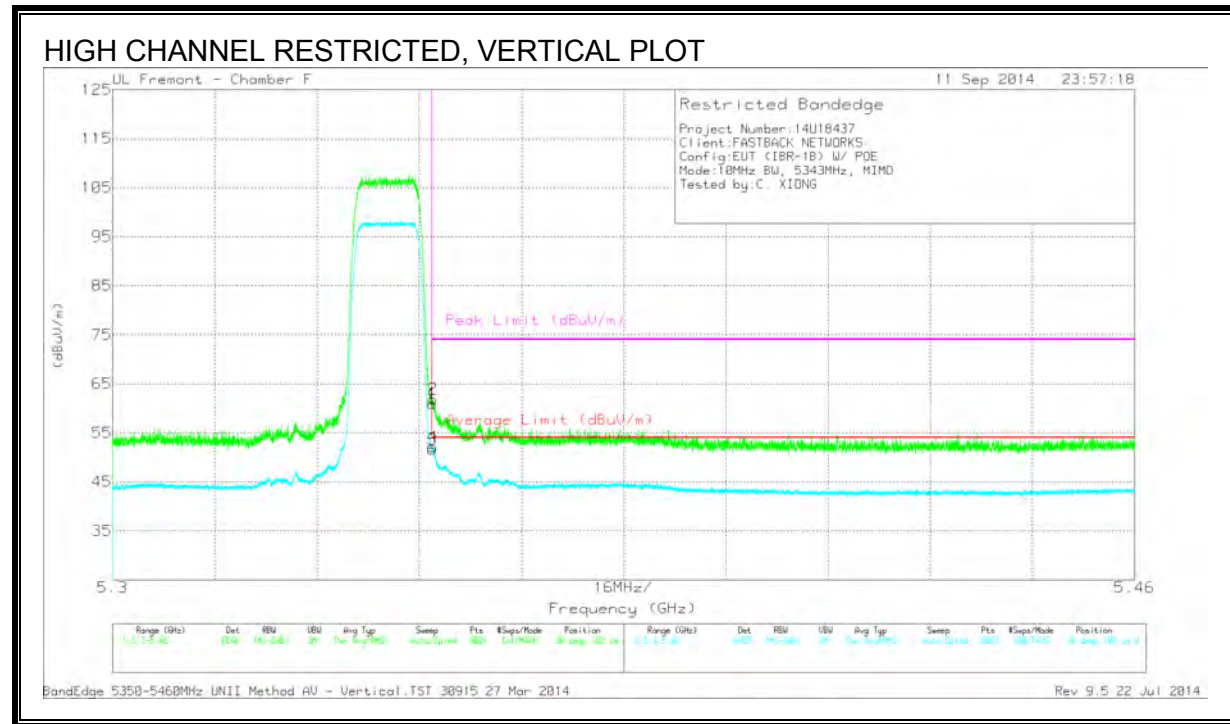


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	46.67	PK	34.5	-19.2	61.97	-	-	74	-12.03	37	102	H
2	* 5.35	48.5	PK	34.5	-19.2	63.8	-	-	74	-10.2	37	102	H
3	* 5.35	37.76	RMS	34.5	-19.2	53.06	54	-.94	-	-	37	102	H
4	* 5.35	38.58	RMS	34.5	-19.2	53.88	54	-.12	-	-	37	102	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



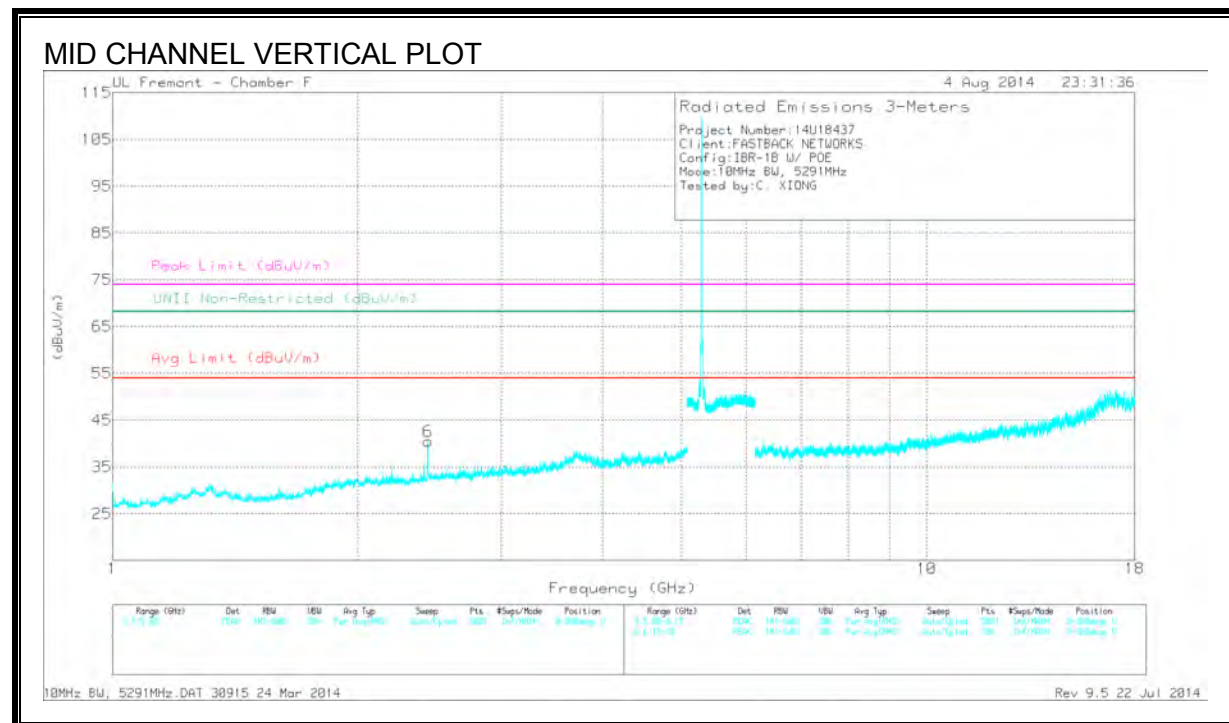
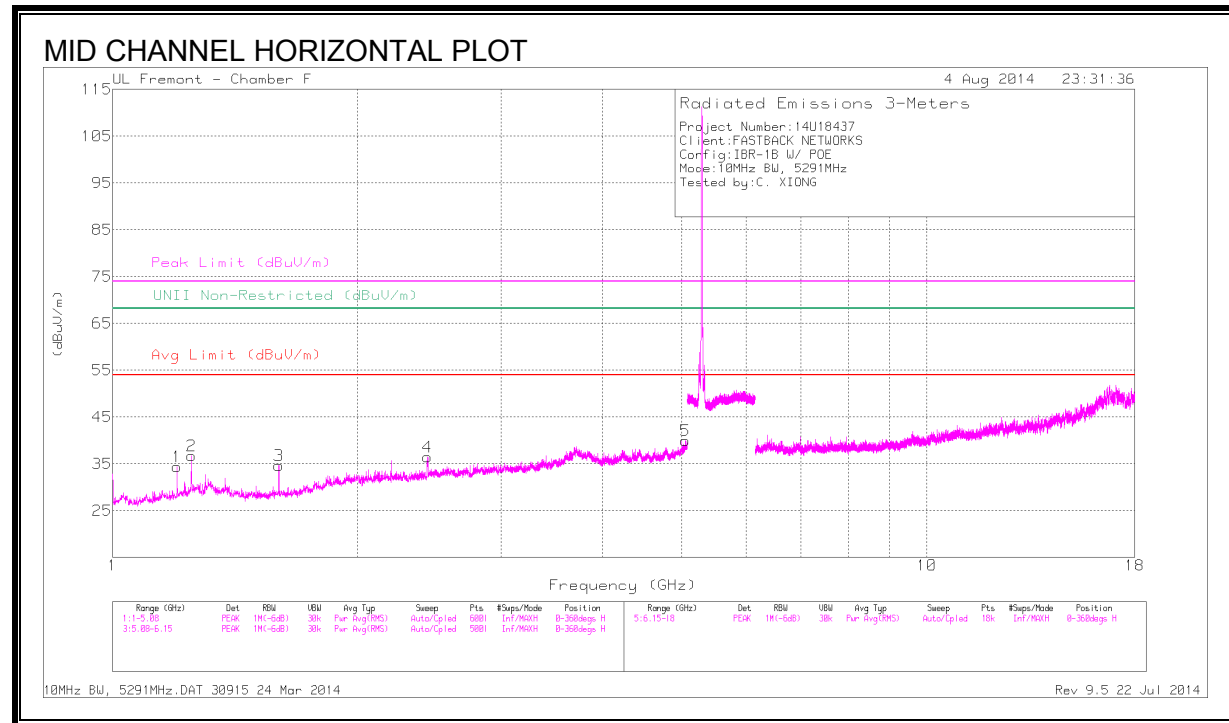
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	45.63	PK	34.5	-19.2	60.93	-	-	74	-13.07	38	102	V
2	* 5.35	46.6	PK	34.5	-19.2	61.9	-	-	74	-12.1	38	102	V
3	* 5.35	36.39	RMS	34.5	-19.2	51.69	54	-2.31	-	-	38	102	V
4	* 5.35	36.81	RMS	34.5	-19.2	52.11	54	-1.89	-	-	38	102	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS



DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cb/Fl tr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.2	44.53	PK1	29	-32.5	41.03	-	-	74	-32.97	-	-	28	219	H
* 1.2	35.97	AD1	29	-32.5	32.47	54	-21.53	-	-	-	-	28	219	H
* 1.252	47.82	PK1	29.5	-32.2	45.12	-	-	74	-28.88	-	-	46	195	H
* 1.25	38.52	AD1	29.5	-32.2	35.82	54	-18.18	-	-	-	-	46	195	H
* 1.6	44.58	PK1	28.5	-31.7	41.38	-	-	74	-32.62	-	-	89	190	H
* 1.6	36.99	AD1	28.5	-31.7	33.79	54	-20.21	-	-	-	-	89	190	H
2.435	45.99	PK1	32.4	-30.9	47.49	-	-	-	-	68.2	-20.71	221	149	H
* 5.051	38.67	PK1	34.3	-27	45.97	-	-	74	-28.03	-	-	95	191	H
* 5.051	27.55	AD1	34.3	-27	34.85	54	-19.15	-	-	-	-	95	191	H
2.439	48.48	PK1	32.4	-30.9	49.98	-	-	-	-	68.2	-18.22	264	216	V

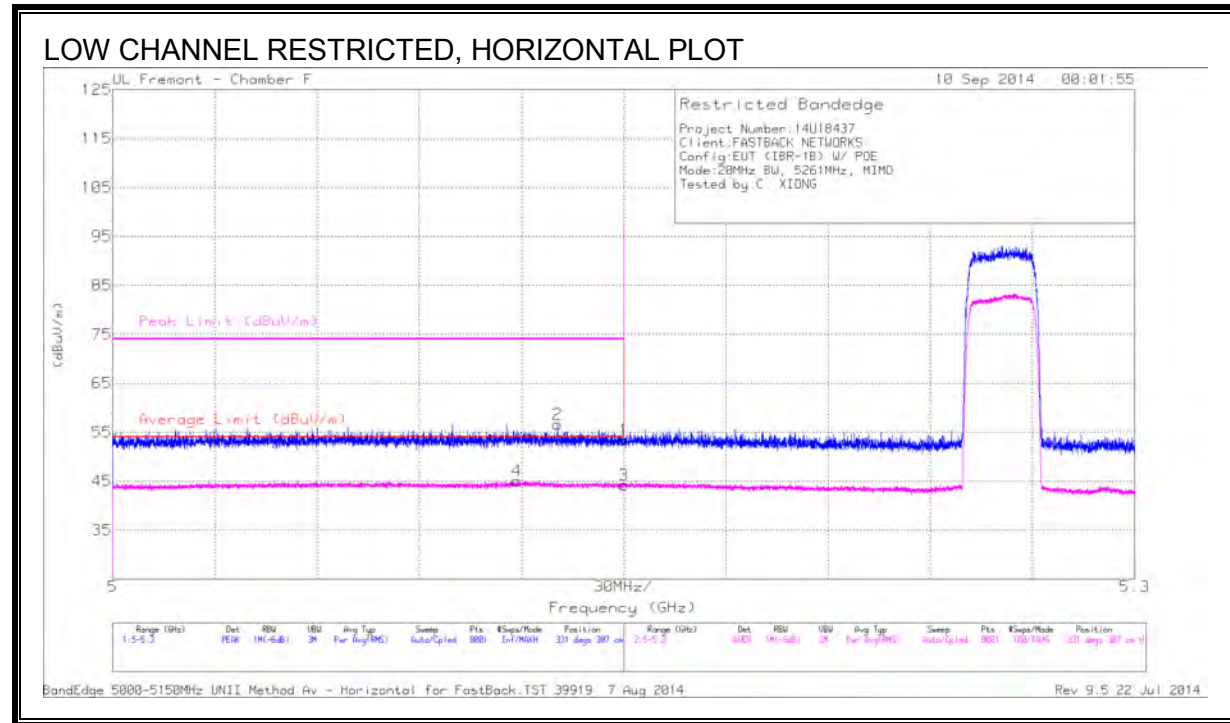
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

20MHz BW

RESTRICTED BANDEGE (LOW CHANNEL)

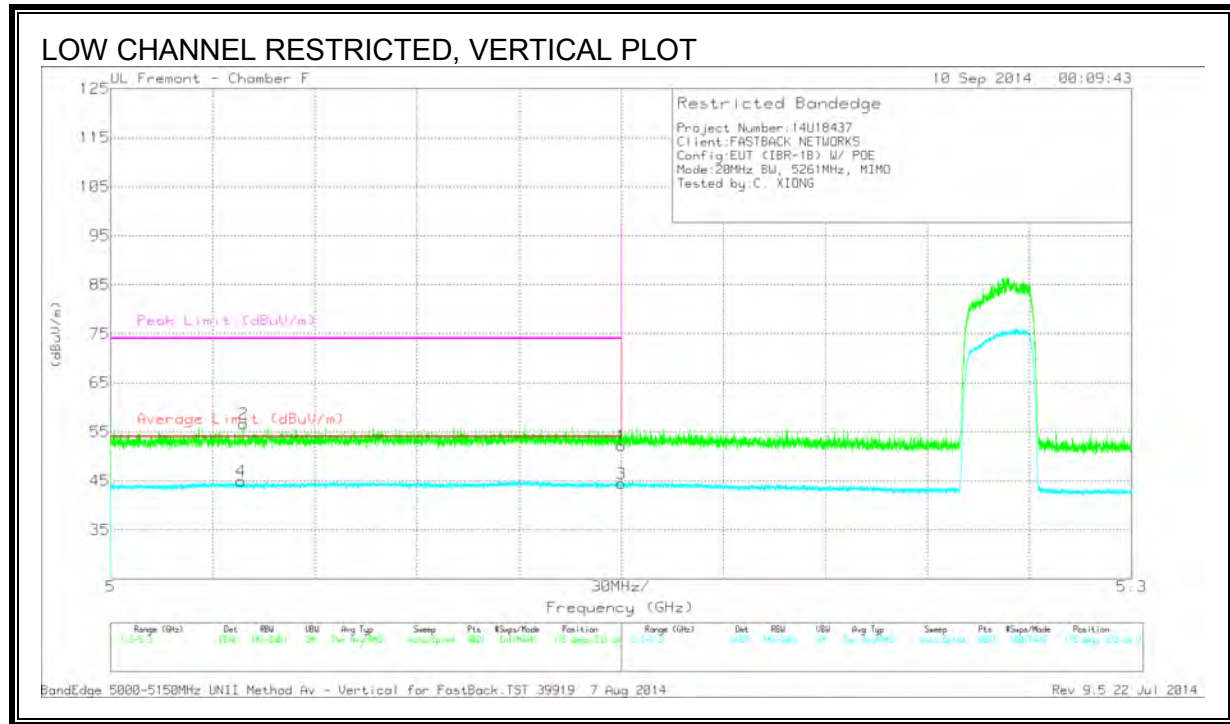


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	38.35	PK	34.4	-19.3	53.45	-	-	74	-20.55	331	307	H
2	* 5.131	41.63	PK	34.4	-19.4	56.63	-	-	74	-17.37	331	307	H
3	* 5.15	29.13	RMS	34.4	-19.3	44.23	54	-9.77	-	-	331	307	H
4	* 5.119	30.09	RMS	34.4	-19.4	45.09	54	-8.91	-	-	331	307	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



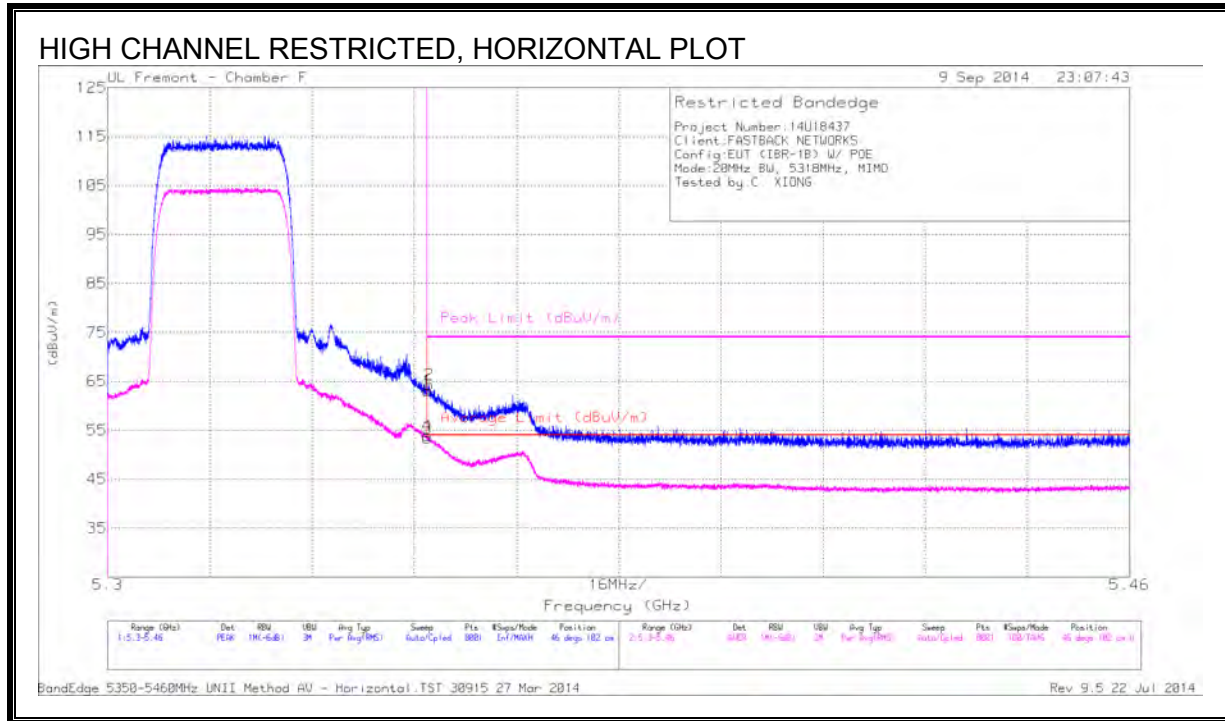
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	37.06	PK	34.4	-19.3	52.16	-	-	74	-21.84	175	333	V
2	* 5.039	42.47	PK	34.3	-20.2	56.57	-	-	74	-17.43	175	333	V
3	* 5.15	29.31	RMS	34.4	-19.3	44.41	54	-9.59	-	-	175	333	V
4	* 5.038	30.87	RMS	34.3	-20.2	44.97	54	-9.03	-	-	175	333	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, 5318 MHz)

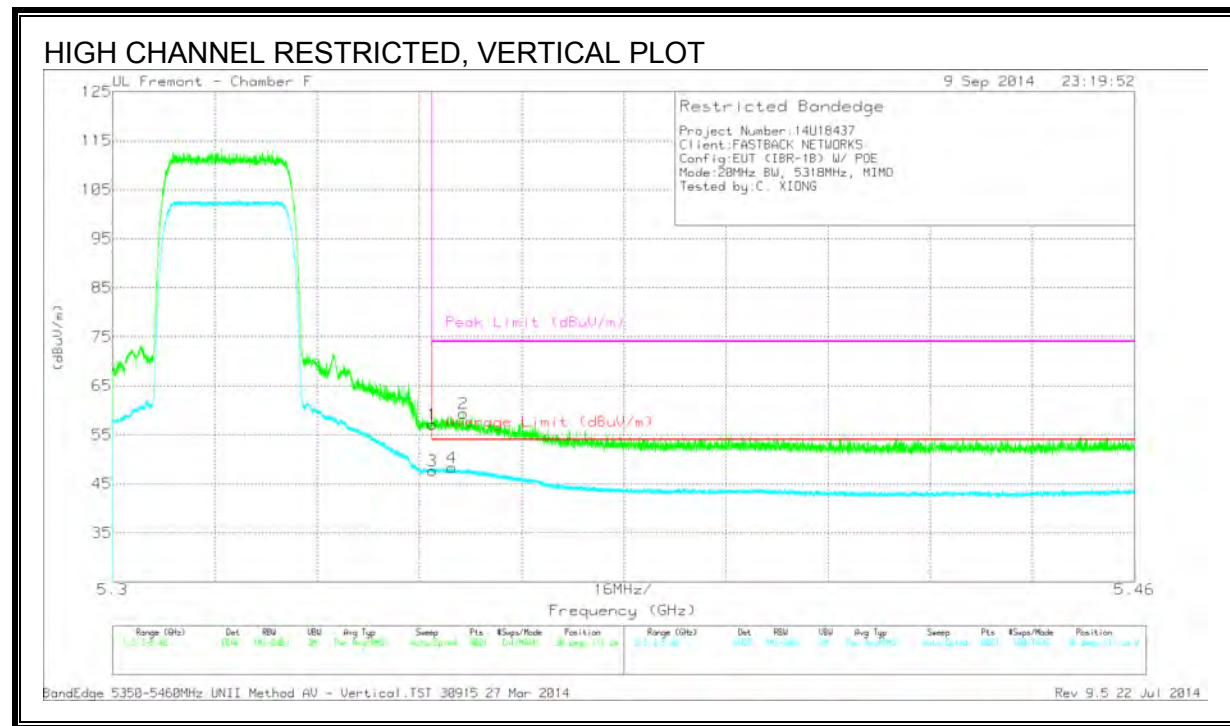


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	47.76	PK	34.5	-19.2	63.06	-	-	74	-10.94	46	102	H
2	* 5.35	49.01	PK	34.5	-19.2	64.31	-	-	74	-9.69	46	102	H
3	* 5.35	38.06	RMS	34.5	-19.2	53.36	54	-.64	-	-	46	102	H
4	* 5.35	38.57	RMS	34.5	-19.2	53.87	54	-.13	-	-	46	102	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



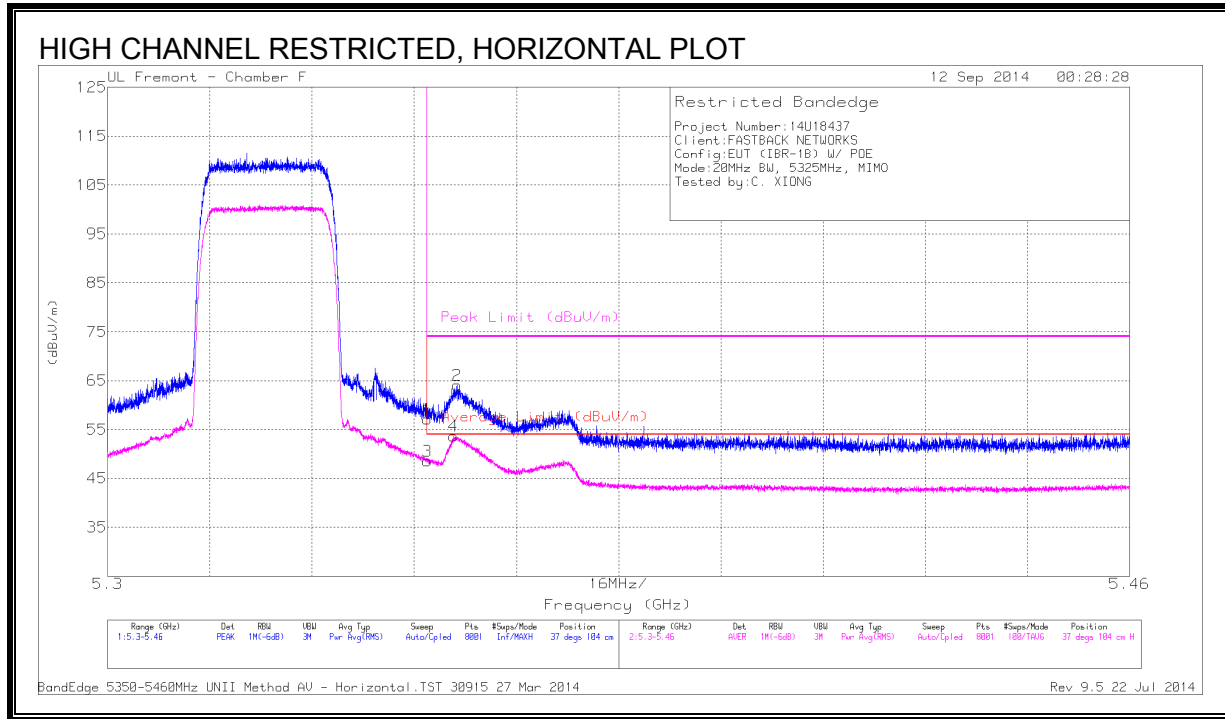
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	41.87	PK	34.5	-19.2	57.17	-	-	74	-16.83	38	111	V
2	* 5.355	44.08	PK	34.5	-19.2	59.38	-	-	74	-14.62	38	111	V
3	* 5.35	32.42	RMS	34.5	-19.2	47.72	54	-6.28	-	-	38	111	V
4	* 5.353	33.05	RMS	34.5	-19.2	48.35	54	-5.65	-	-	38	111	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, 5325 MHz)

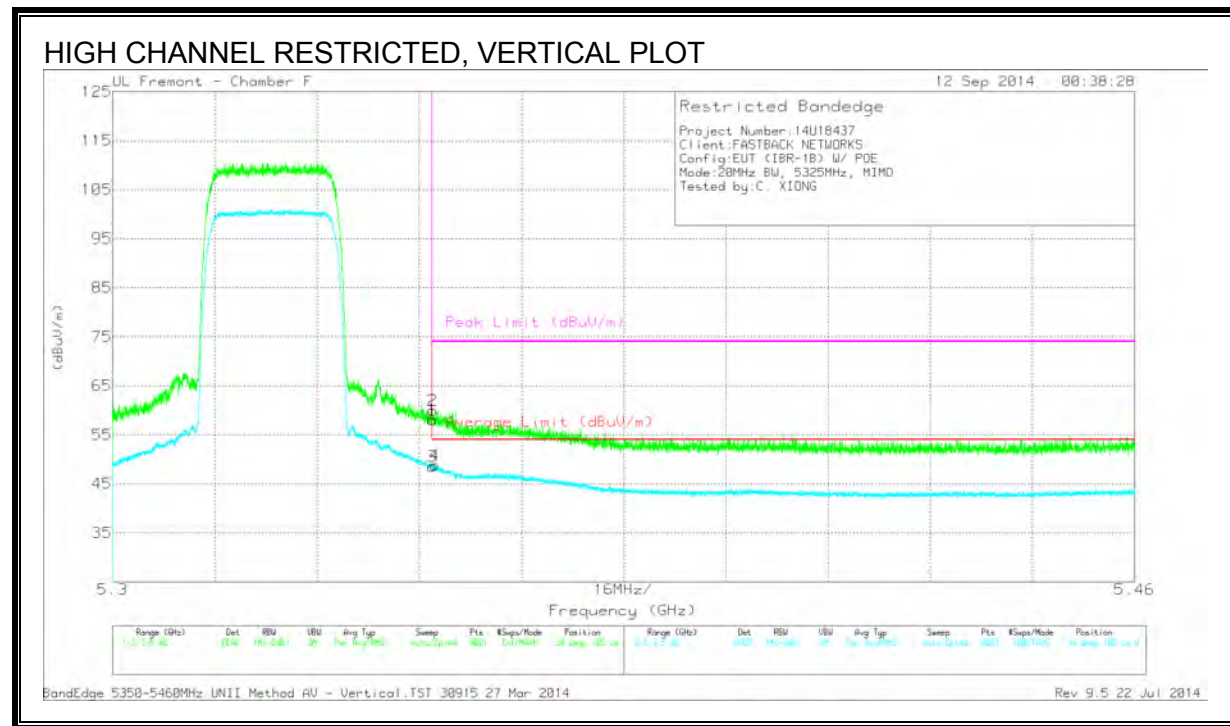


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	41.86	PK	34.5	-19.2	57.16	-	-	74	-16.84	37	104	H
2	* 5.355	48.72	PK	34.5	-19.2	64.02	-	-	74	-9.98	37	104	H
3	* 5.35	33.24	RMS	34.5	-19.2	48.54	54	-5.46	-	-	37	104	H
4	* 5.354	38.39	RMS	34.5	-19.2	53.69	54	-.31	-	-	37	104	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



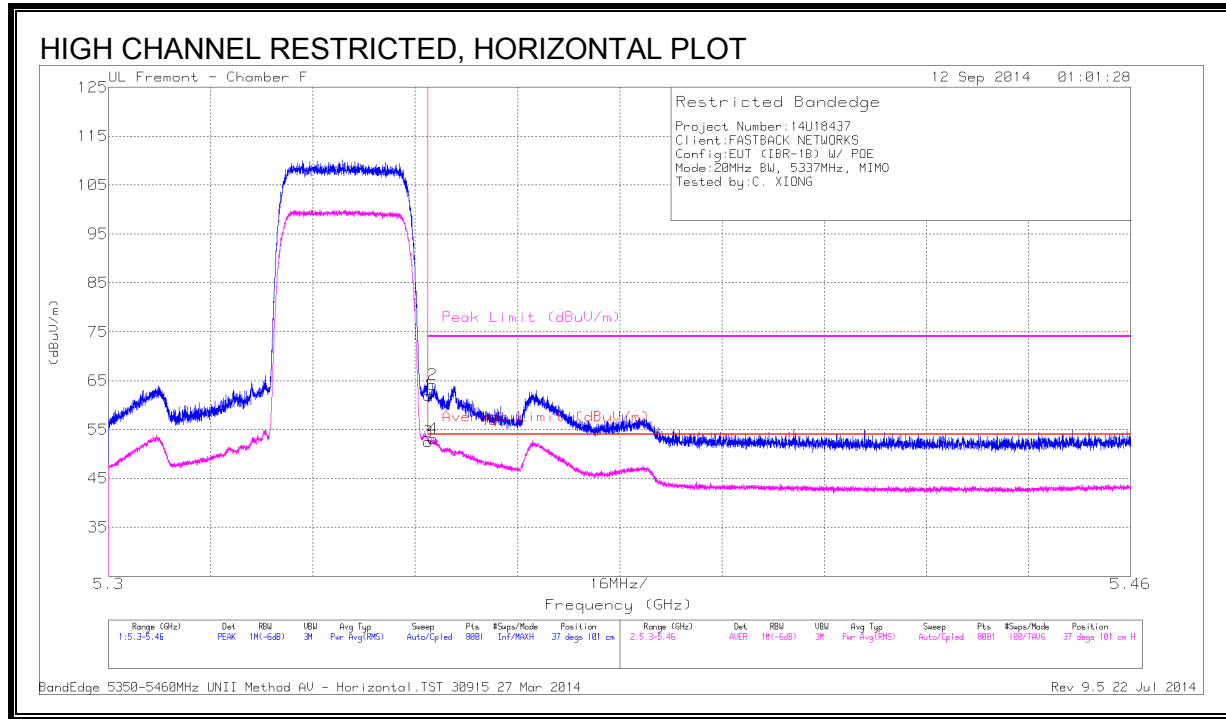
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	42.78	PK	34.5	-19.2	58.08	-	-	74	-15.92	34	105	V
2	* 5.35	44.65	PK	34.5	-19.2	59.95	-	-	74	-14.05	34	105	V
3	* 5.35	33.24	RMS	34.5	-19.2	48.54	54	-5.46	-	-	34	105	V
4	* 5.35	33.55	RMS	34.5	-19.2	48.85	54	-5.15	-	-	34	105	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, 5337 MHz)

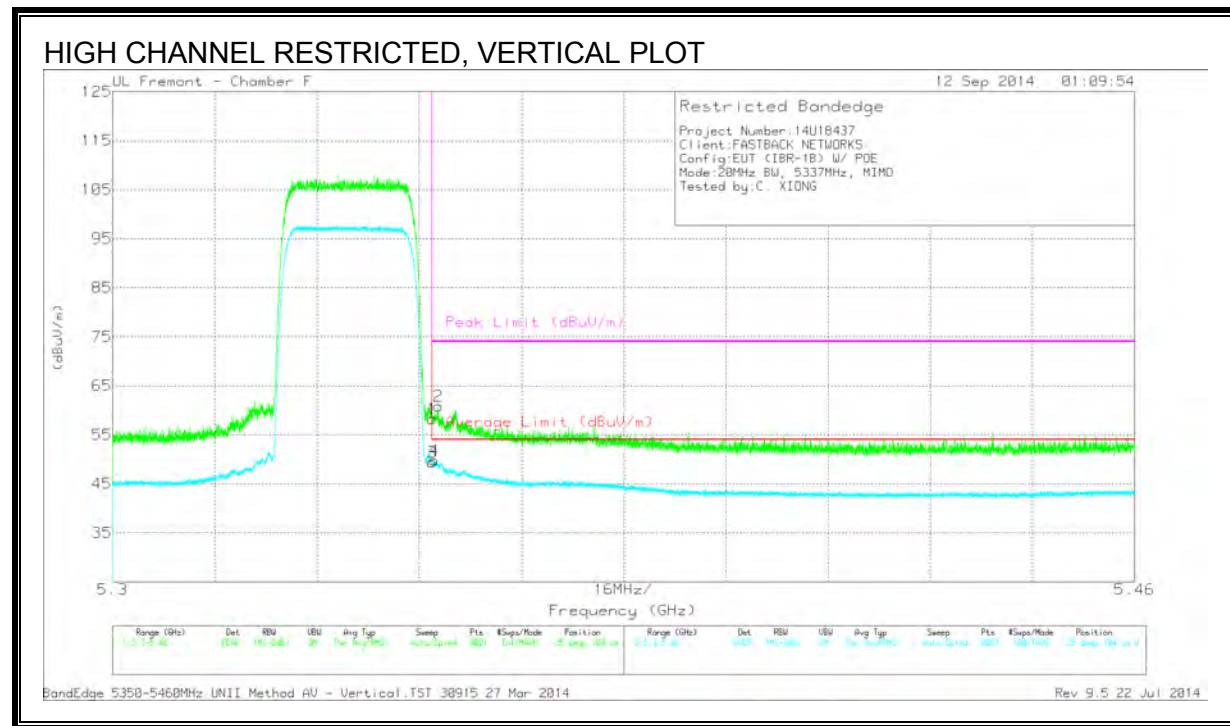


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	46.61	PK	34.5	-19.2	61.91	-	-	74	-12.09	37	101	H
2	* 5.351	48.87	PK	34.5	-19.2	64.17	-	-	74	-9.83	37	101	H
3	* 5.35	37.26	RMS	34.5	-19.2	52.56	54	-1.44	-	-	37	101	H
4	* 5.351	37.88	RMS	34.5	-19.2	53.18	54	-.82	-	-	37	101	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



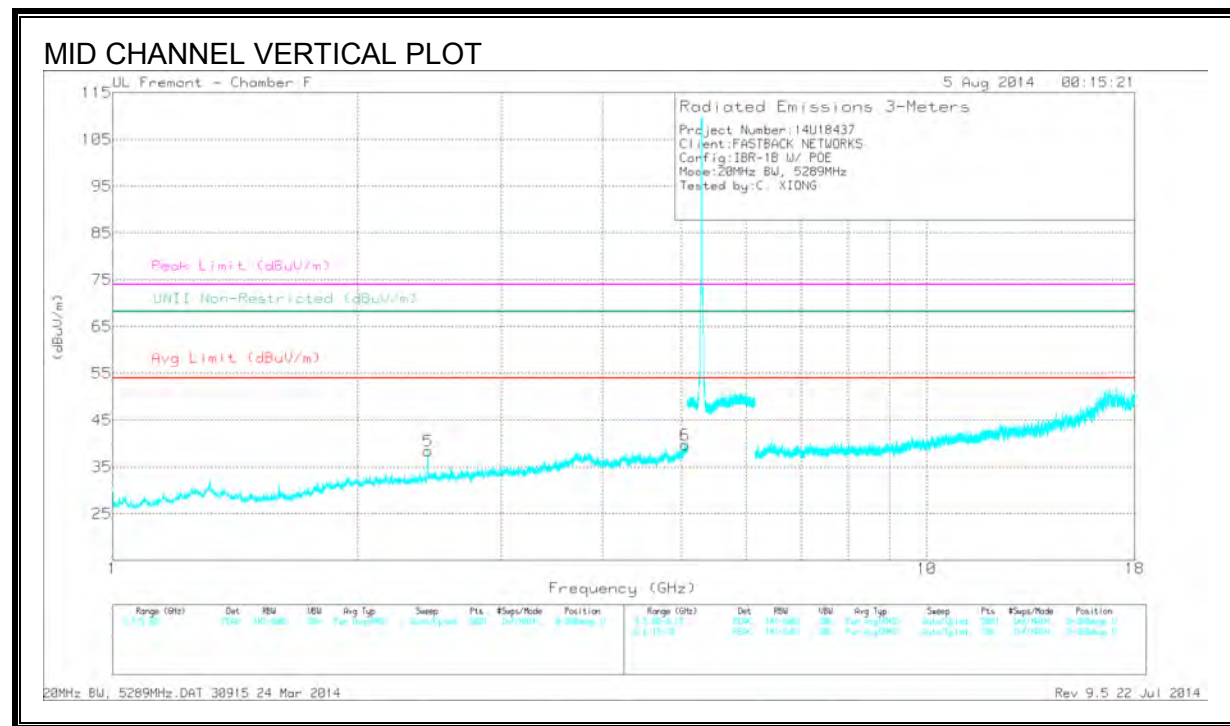
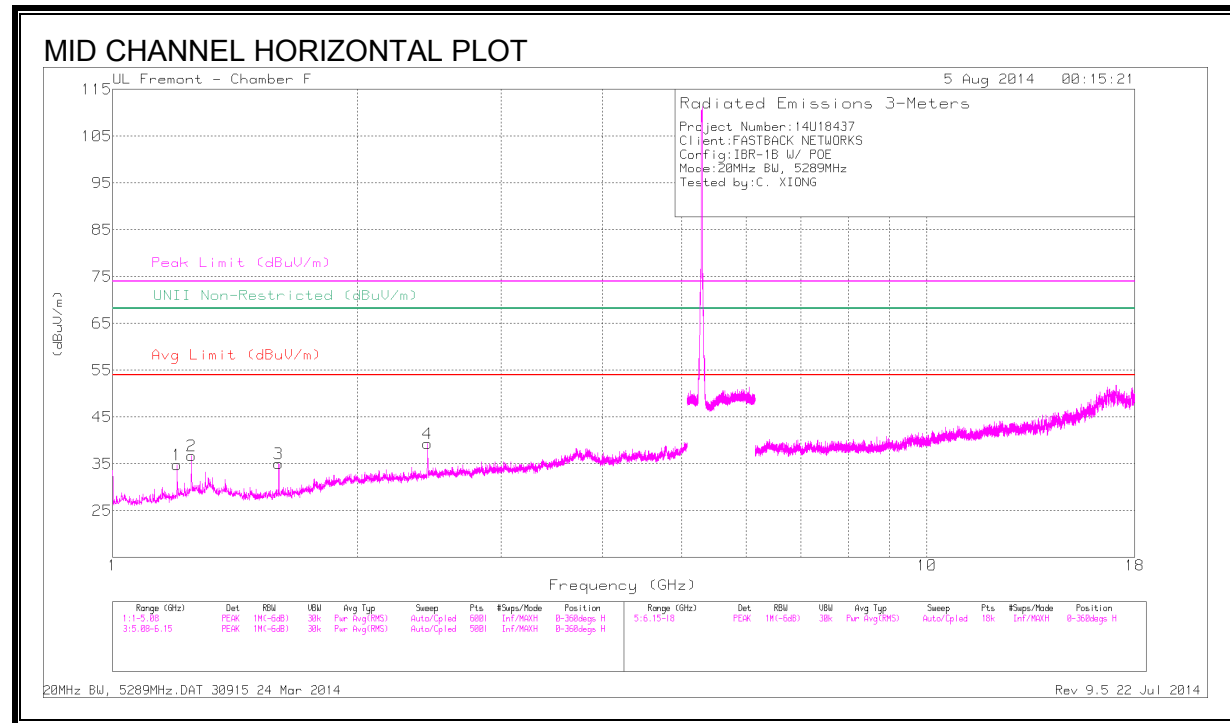
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	42.99	PK	34.5	-19.2	58.29	-	-	74	-15.71	25	104	V
2	* 5.351	45.55	PK	34.5	-19.2	60.85	-	-	74	-13.15	25	104	V
3	* 5.35	34.08	RMS	34.5	-19.2	49.38	54	-4.62	-	-	25	104	V
4	* 5.35	34.51	RMS	34.5	-19.2	49.81	54	-4.19	-	-	25	104	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS



DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cb/Fl tr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.2	43.96	PK1	29	-32.6	40.36	-	-	74	-33.64	-	-	31	172	H
* 1.2	36.53	AD1	29	-32.5	33.03	54	-20.97	-	-	-	-	31	172	H
* 1.25	46.57	PK1	29.5	-32.2	43.87	-	-	74	-30.13	-	-	51	198	H
* 1.25	37.6	AD1	29.5	-32.2	34.9	54	-19.1	-	-	-	-	51	198	H
* 1.6	44.85	PK1	28.5	-31.7	41.65	-	-	74	-32.35	-	-	80	173	H
* 1.6	37.64	AD1	28.5	-31.7	34.44	54	-19.56	-	-	-	-	80	173	H
2.437	44.82	PK1	32.4	-30.9	46.32	-	-	-	-	68.2	-21.88	69	201	H
2.44	46.49	PK1	32.4	-30.9	47.99	-	-	-	-	68.2	-20.21	77	158	V
* 5.052	38.73	PK1	34.3	-27	46.03	-	-	74	-27.97	-	-	73	184	V
* 5.051	27.65	AD1	34.3	-27	34.95	54	-19.05	-	-	-	-	73	184	V

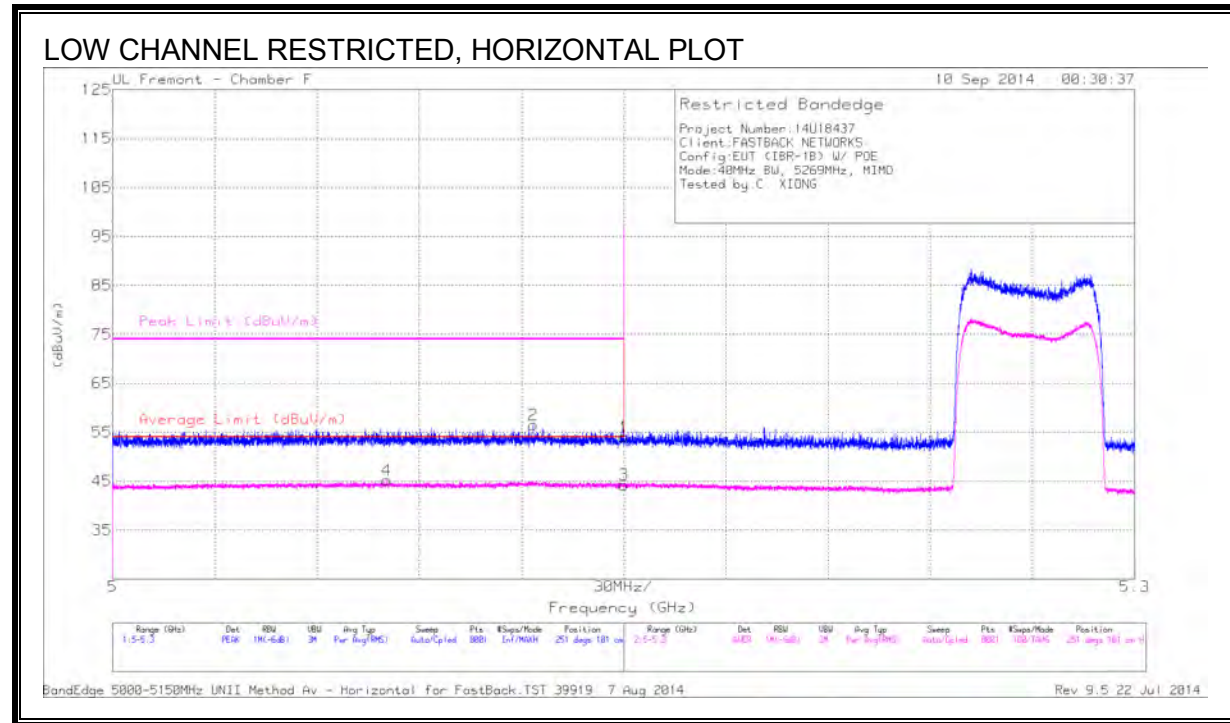
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

40MHz BW

RESTRICTED BANDEDGE (LOW CHANNEL)

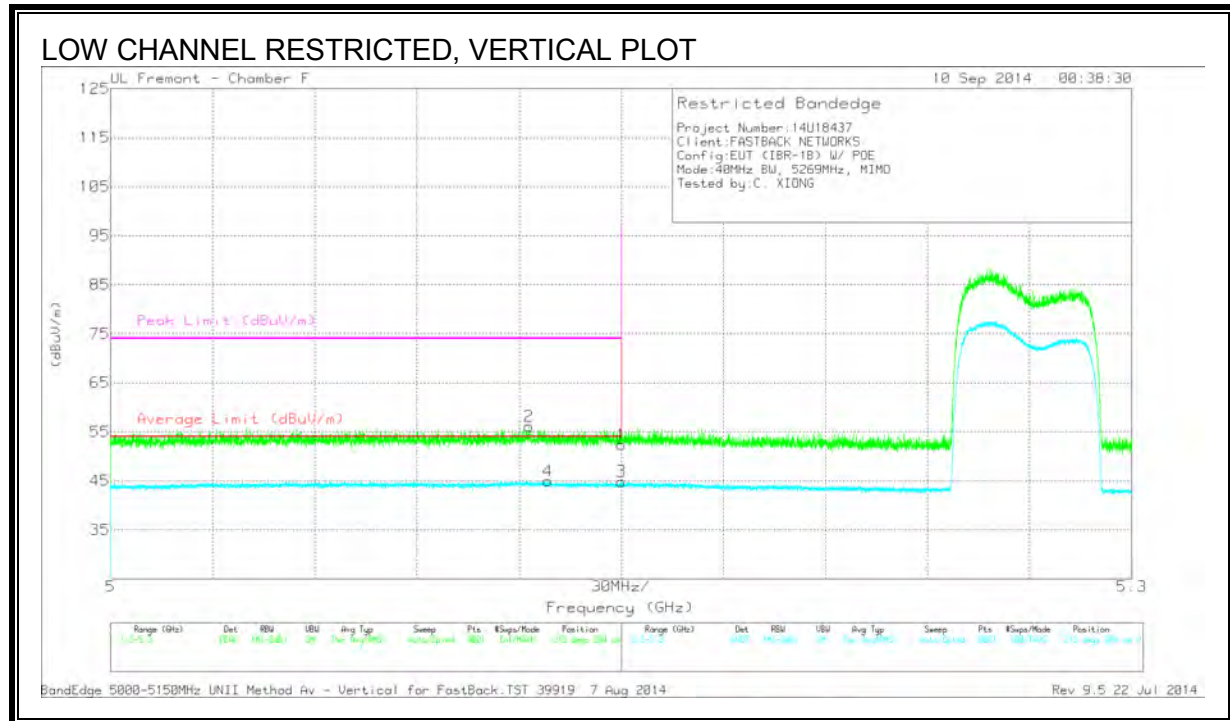


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	38.96	PK	34.4	-19.3	54.06	-	-	74	-19.94	251	101	H
2	* 5.123	41.43	PK	34.4	-19.3	56.53	-	-	74	-17.47	251	101	H
3	* 5.15	29.17	RMS	34.4	-19.3	44.27	54	-9.73	-	-	251	101	H
4	* 5.081	30.55	RMS	34.3	-19.7	45.15	54	-8.85	-	-	251	101	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



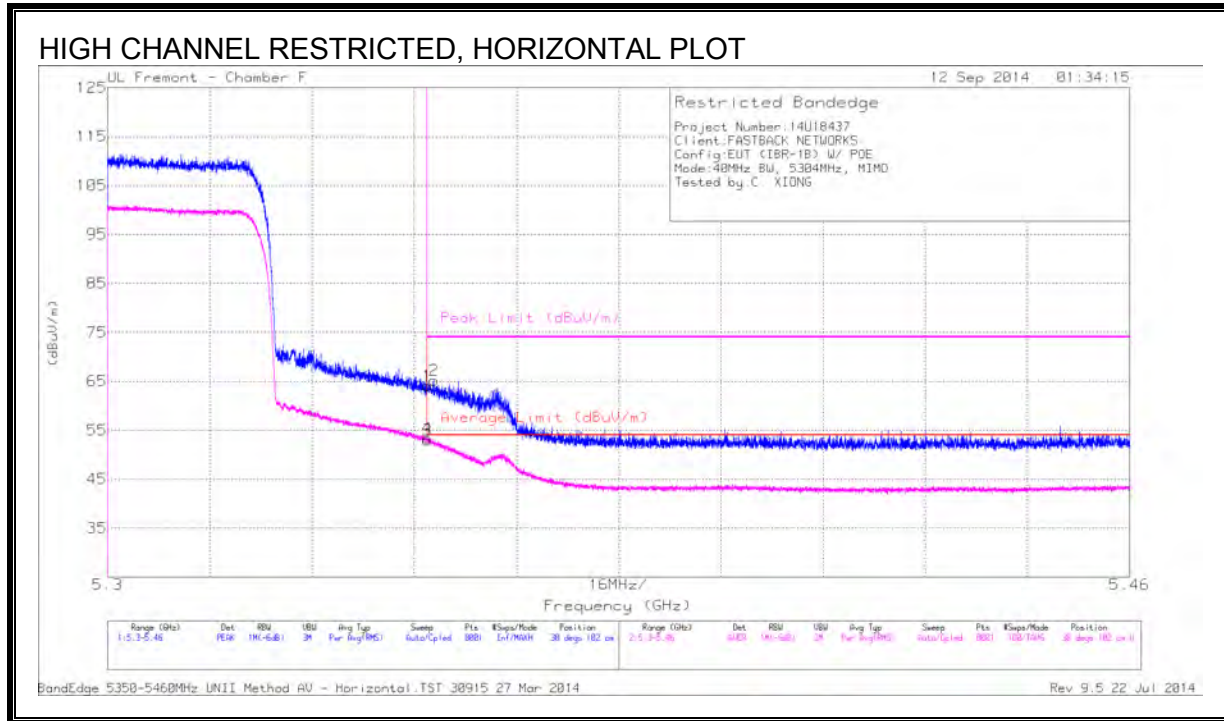
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	37.27	PK	34.4	-19.3	52.37	-	-	74	-21.63	213	204	V
2	* 5.123	41.05	PK	34.4	-19.3	56.15	-	-	74	-17.85	213	204	V
3	* 5.15	29.79	RMS	34.4	-19.3	44.89	54	-9.11	-	-	213	204	V
4	* 5.129	29.99	RMS	34.4	-19.4	44.99	54	-9.01	-	-	213	204	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, 5304 MHz)

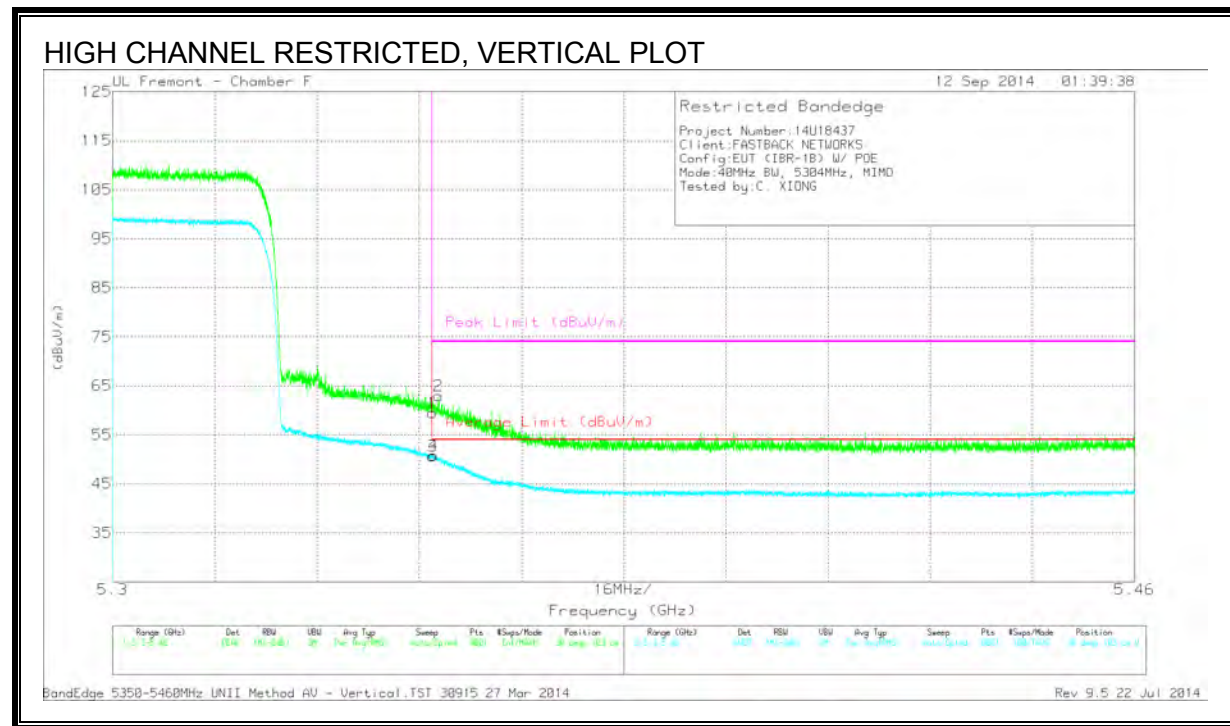


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	48.78	PK	34.5	-19.2	64.08	-	-	74	-9.92	38	102	H
2	* 5.351	49.87	PK	34.5	-19.2	65.17	-	-	74	-8.83	38	102	H
3	* 5.35	37.75	RMS	34.5	-19.2	53.05	54	-95	-	-	38	102	H
4	* 5.35	38.08	RMS	34.5	-19.2	53.38	54	-62	-	-	38	102	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



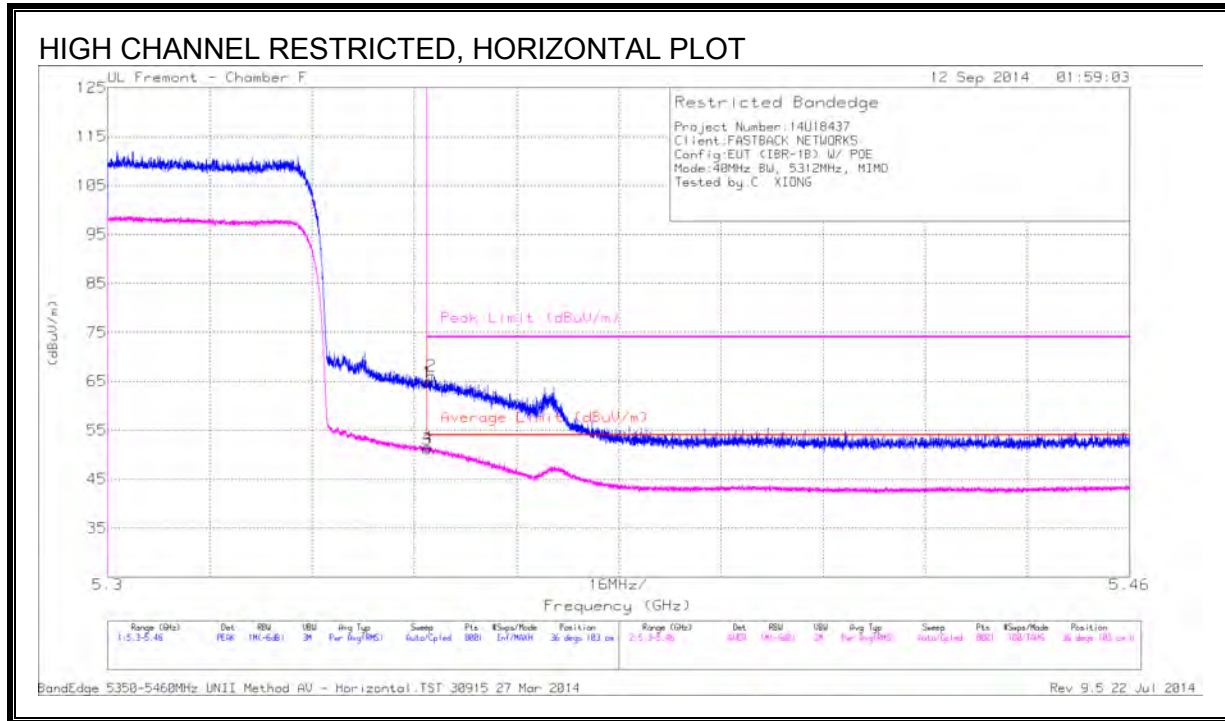
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	44.22	PK	34.5	-19.2	59.52	-	-	74	-14.48	38	103	V
2	* 5.351	47.66	PK	34.5	-19.2	62.96	-	-	74	-11.04	38	103	V
3	* 5.35	35.36	RMS	34.5	-19.2	50.66	54	-3.34	-	-	38	103	V
4	* 5.35	35.47	RMS	34.5	-19.2	50.77	54	-3.23	-	-	38	103	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, 5312 MHz)

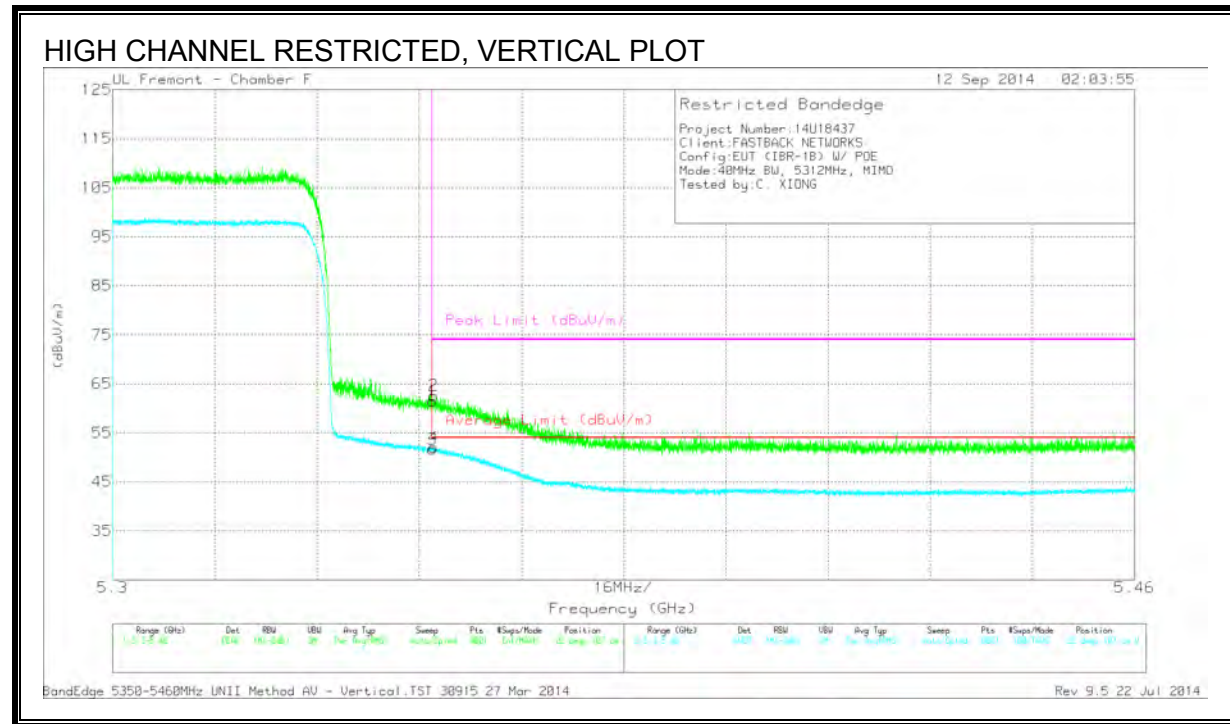


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	49.5	PK	34.5	-19.2	64.8	-	-	74	-9.2	36	103	H
2	* 5.351	50.82	PK	34.5	-19.2	66.12	-	-	74	-7.88	36	103	H
3	* 5.35	35.83	RMS	34.5	-19.2	51.13	54	-2.87	-	-	36	103	H
4	* 5.35	36.2	RMS	34.5	-19.2	51.5	54	-2.5	-	-	36	103	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



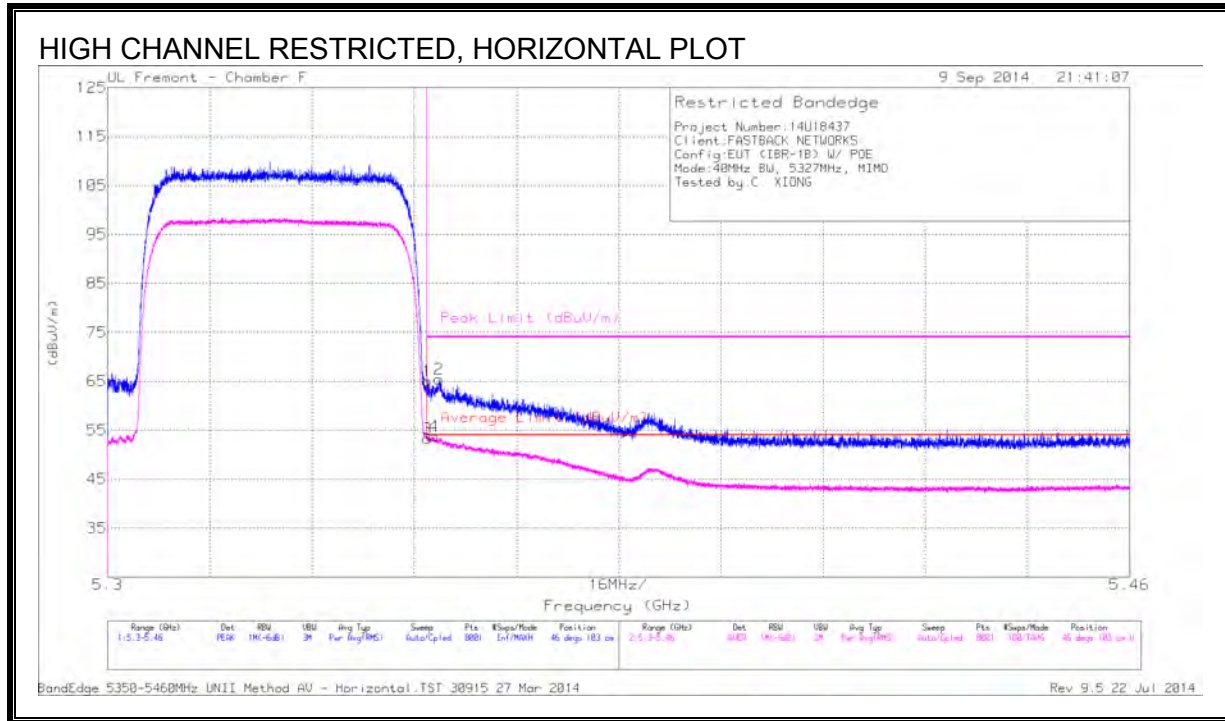
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	46.15	PK	34.5	-19.2	61.45	-	-	74	-12.55	22	107	V
2	* 5.35	47.34	PK	34.5	-19.2	62.64	-	-	74	-11.36	22	107	V
3	* 5.35	36.36	RMS	34.5	-19.2	51.66	54	-2.34	-	-	22	107	V
4	* 5.35	36.74	RMS	34.5	-19.2	52.04	54	-1.96	-	-	22	107	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, 5327 MHz)

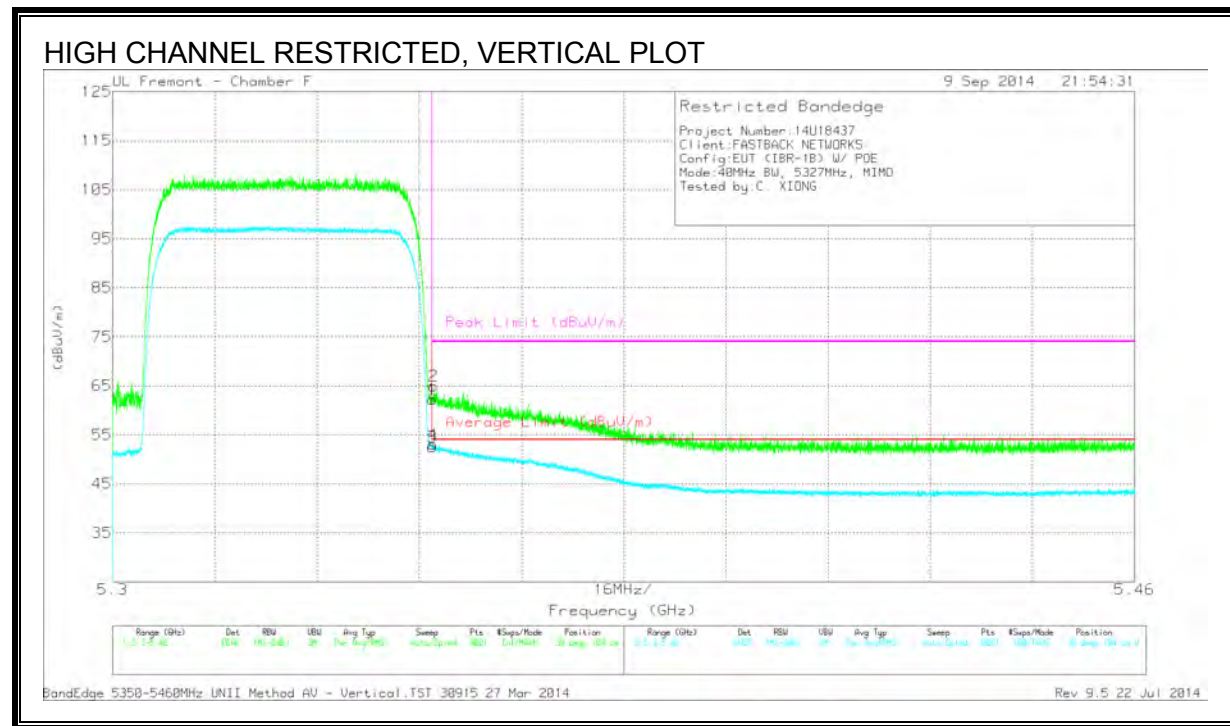


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	49.79	PK	34.5	-19.2	65.09	-	-	74	-8.91	46	103	H
2	* 5.352	50.18	PK	34.5	-19.2	65.48	-	-	74	-8.52	46	103	H
3	* 5.35	37.96	RMS	34.5	-19.2	53.26	54	-.74	-	-	46	103	H
4	* 5.351	38.43	RMS	34.5	-19.2	53.73	54	-.27	-	-	46	103	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection



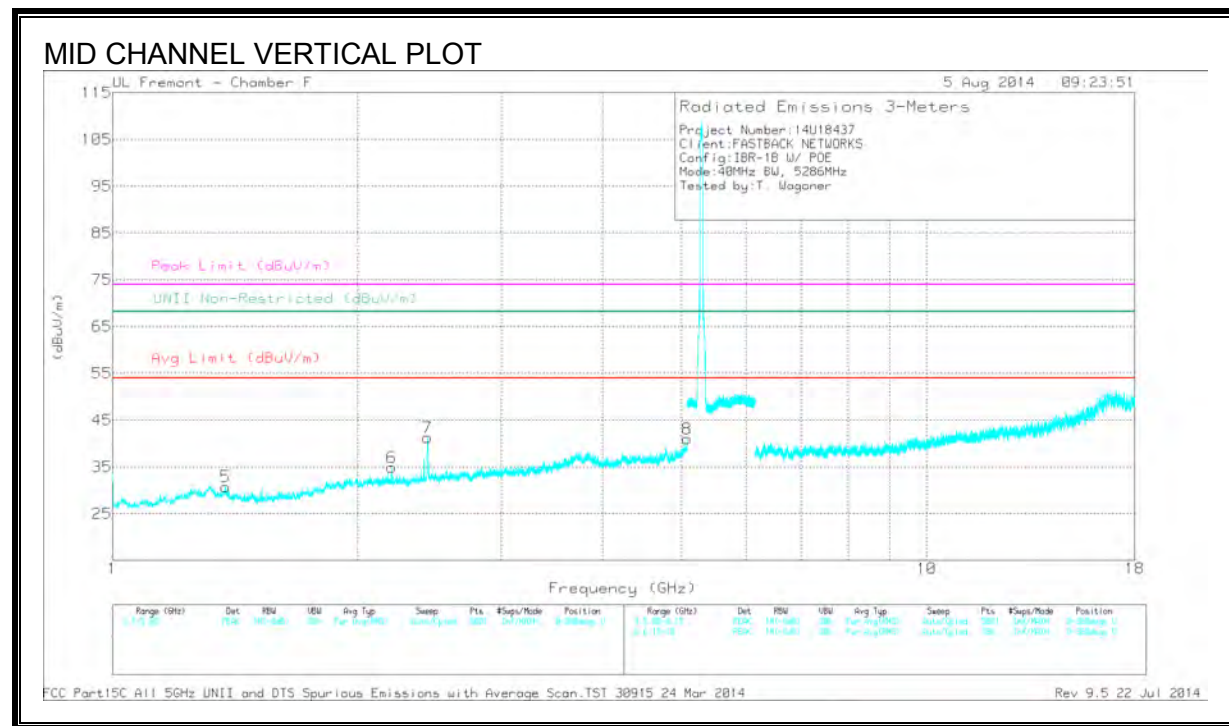
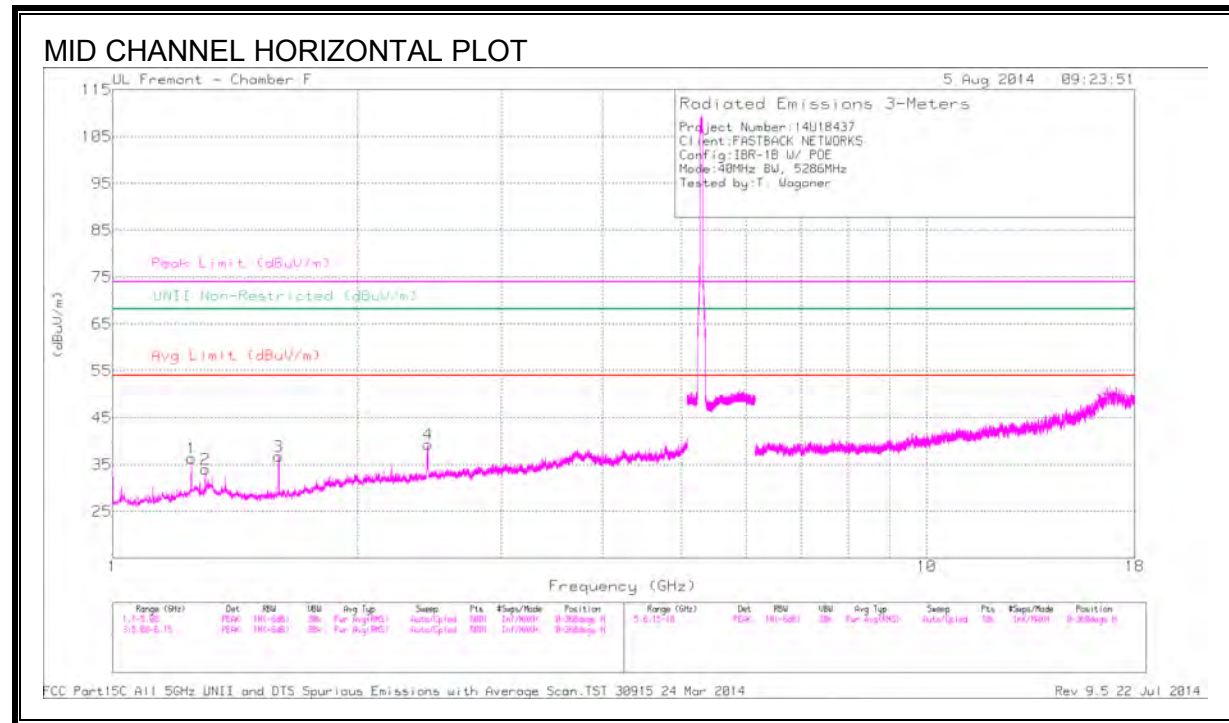
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	46.96	PK	34.5	-19.2	62.26	-	-	74	-11.74	39	104	V
2	* 5.35	49.59	PK	34.5	-19.2	64.89	-	-	74	-9.11	39	104	V
3	* 5.35	37.2	RMS	34.5	-19.2	52.5	54	-1.5	-	-	39	104	V
4	* 5.35	37.71	RMS	34.5	-19.2	53.01	54	-99	-	-	39	104	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS



DATA

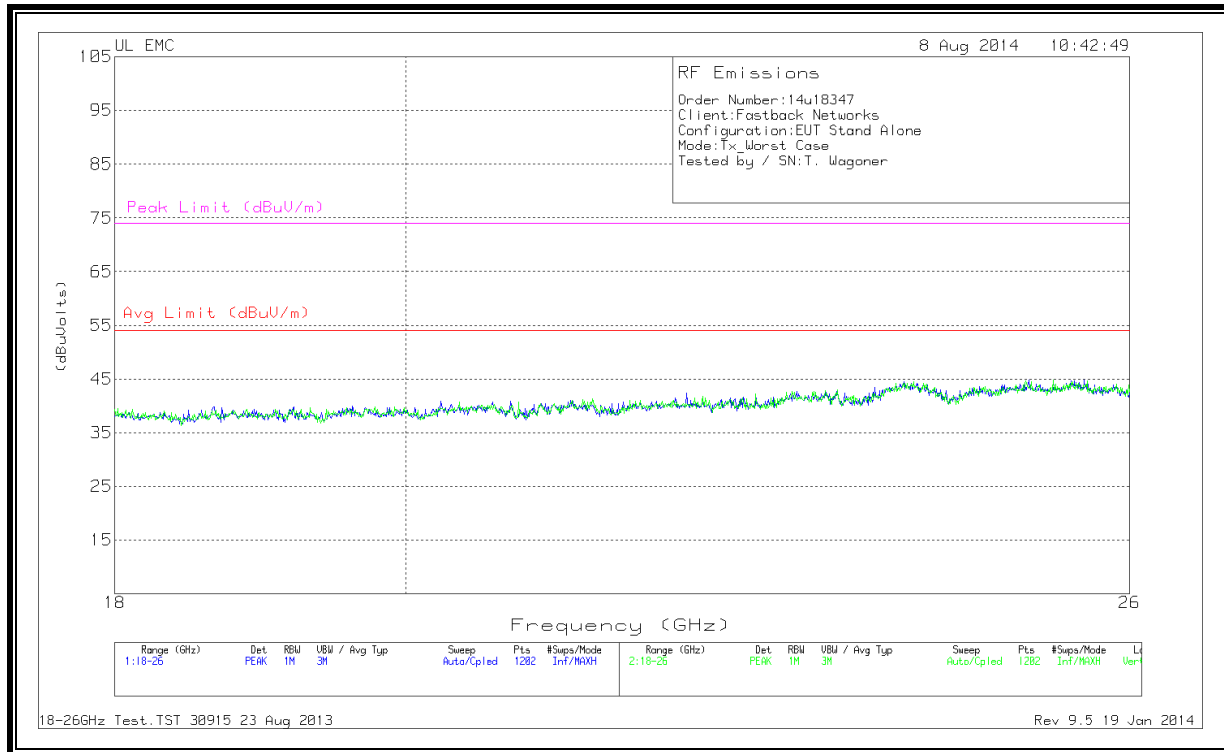
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cb/FI tr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.25	40.83	PK1	29.5	-32.2	38.13	-	-	74	-35.87	-	-	40	196	H
* 1.25	36.31	AD1	29.5	-32.2	33.61	54	-20.39	-	-	-	-	40	196	H
* 1.3	37.32	PK1	30.1	-31.7	35.72	-	-	74	-38.28	-	-	59	166	H
* 1.3	31.88	AD1	30.1	-31.7	30.28	54	-23.72	-	-	-	-	59	166	H
* 1.6	40.85	PK1	28.5	-31.7	37.65	-	-	74	-36.35	-	-	75	193	H
* 1.6	37.09	AD1	28.5	-31.7	33.89	54	-20.11	-	-	-	-	75	193	H
* 1.375	37.59	PK1	29.4	-31.9	35.09	-	-	74	-38.91	-	-	358	221	V
* 1.375	31.54	AD1	29.4	-31.9	29.04	54	-24.96	-	-	-	-	358	221	V
2.194	34.97	PK1	31.8	-31	35.77	-	-	-	-	68.2	-32.43	37	400	V
2.196	28.34	AD1	31.8	-31	29.14	-	-	-	-	-	-	37	400	V
* 5.069	33.63	PK1	34.3	-26.5	41.43	-	-	74	-32.57	-	-	95	228	V
* 5.068	26.66	AD1	34.3	-26.5	34.46	54	-19.54	-	-	-	-	95	228	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

9.5. TX 18-26 GHz MIMO MODE IN THE 5.3 GHz BAND

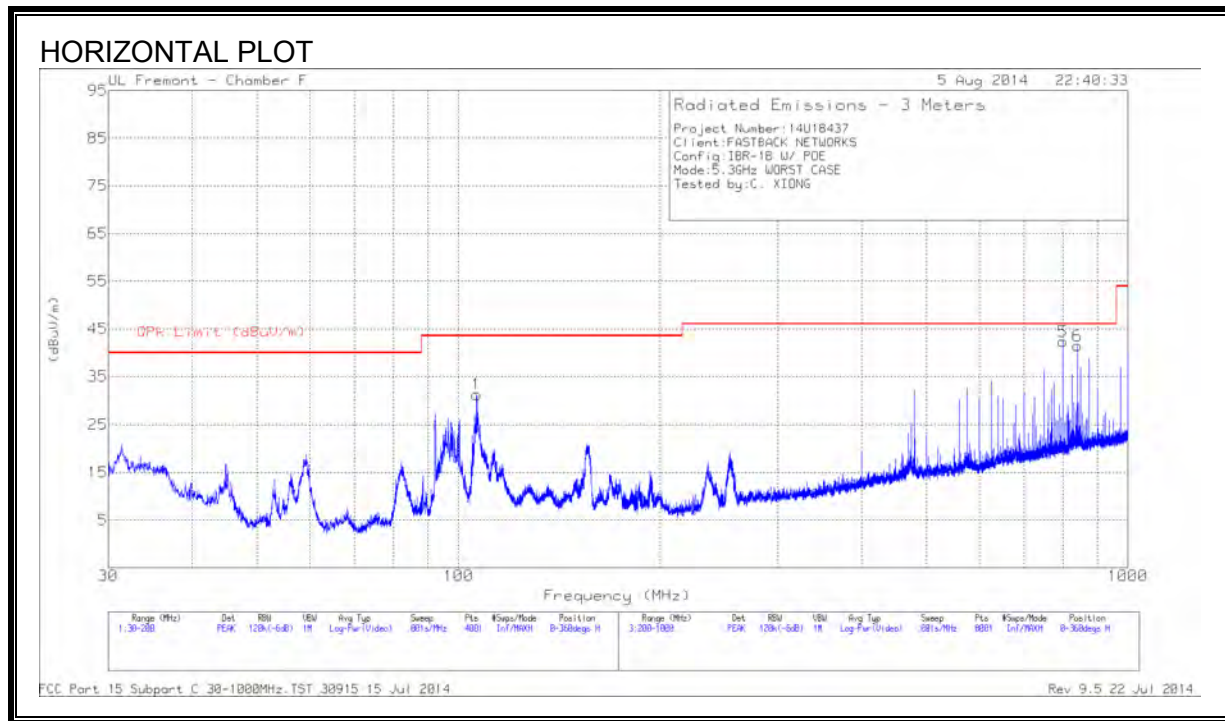


9.6. TX 26-40 GHz MIMO MODE IN THE 5.3 GHz BAND

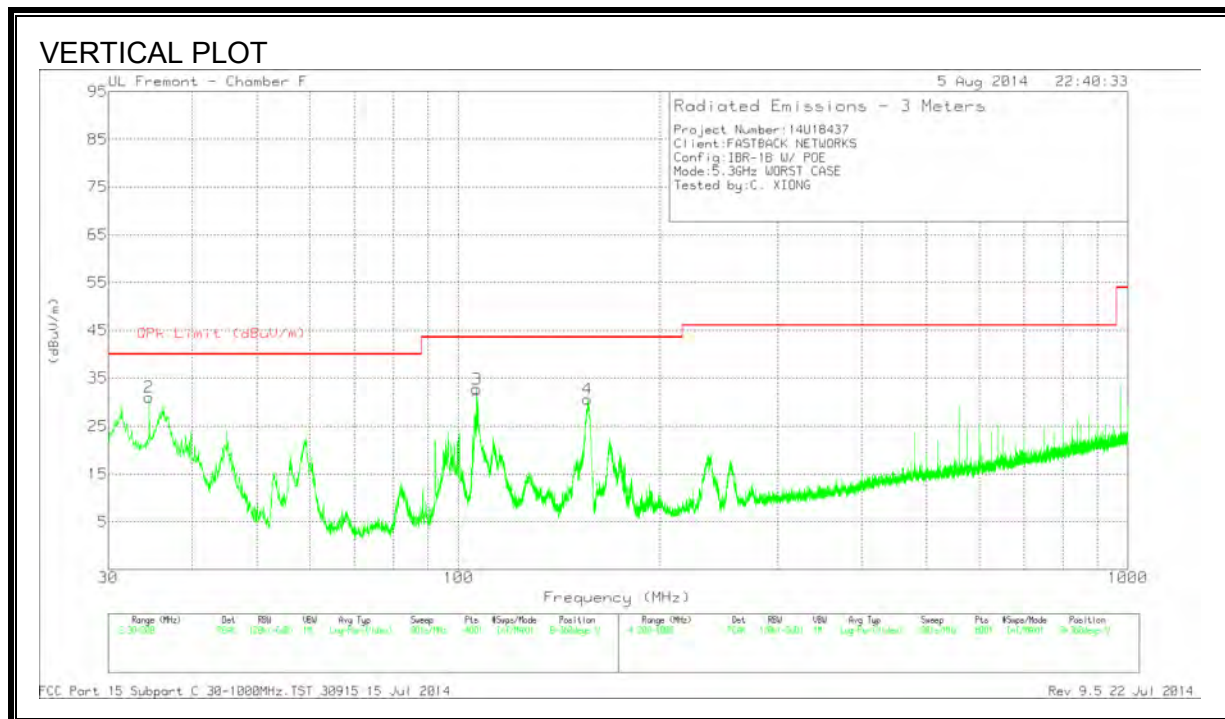


9.7. WORST-CASE BELOW 1 GHz

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)



SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T122 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	106.5	50.85	PK	12	-31.5	31.35	43.52	-12.17	0-360	201	H
2	34.505	45.03	PK	18	-32	31.03	40	-8.97	0-360	101	V
3	106.5	52.18	PK	12	-31.5	32.68	43.52	-10.84	0-360	101	V
4	155.885	49.47	PK	12.5	-31.3	30.67	43.52	-12.85	0-360	101	V
5	800	50.33	PK	21.4	-29.4	42.33	46.02	-3.69	0-360	101	H
	800	49.26	QP	21.4	-29.4	41.26	46.02	-4.76	344	157	H
6	840	49.82	QP	21.8	-29.1	42.52	46.02	-3.5	345	152	H

PK - Peak detector

QP - Quasi-Peak detector