FCC CFR47 PART 15 SUBPART E

CERTIFICATION TEST REPORT

FOR

DUAL BAND PHONE WITH BT & WLAN

MODEL NUMBER: LG-P769, LGP769, P769

FCC ID: ZNFP769

REPORT NUMBER: 12U14516

ISSUE DATE: 2012-08-08

Prepared for
LG ELECTRONICS USA
1000 SYLVAN AVENUE
ENGLEWOOD CLIFFS
NJ, 07632, USA

Prepared by
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Revision History

Rev.	Issue Date	Revisions	Revised By
--	08/08/12	Initial Issue	M. Antola

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	LG ELECTRONICS USA 1000 SYLVAN AVENUE ENGLEWOOD, NJ 07632, USA
EUT DESCRIPTION:	DUAL BAND PHONE WITH BT & WLAN
MODEL:	LG-P769, LGP769, P769
SERIAL NUMBER:	205KPYR203330 & 205KPCA203331
DATE TESTED:	2012-07-26 to 2012-08-03

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart E	Pass

UL LLC tested the above equipment in accordance with the requirements set forth in the above standards, using test results reported in the test report documents referenced below and/or documentation furnished by the applicant. All indications of Pass/Fail in this report are opinions expressed by UL LLC based on interpretations of these calculations. The results show that the equipment 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 by the referenced documents. This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC 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 By:

Bob DeLisi
WiSE Principal Engineer
UL LLC

Tested By:

Mike Antola
WiSE Project Lead
UL LLC

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, FCC 06-96, FCC KDB 789033, ANSI C63.4-2003.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 1285 Walt Whitman Rd. Melville, NY 11747, USA.

UL Melville is accredited by NVLAP, Laboratory Code 100255-0. The full scope of accreditation can be viewed at http://ts.nist.gov/standards/scopes/1002550.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:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

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	± 3.3 dB
Radiated Disturbance, 30 to 1000 MHz	± 4.00 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is an 802.11 a/n transceiver in the 5GHz band.

The radio module is manufactured by Broadcom utilizing WLAN chipset: BCM4330X.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
5180 - 5240	802.11a	13.5	22.39
5180 - 5240	802.11n	12.4	17.38
5260 - 5320	802.11a	13.4	21.88
5260 - 5320	802.11n	12.4	17.38
5500 - 5700	802.11a	14	25.12

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PIFA antenna, with a maximum gain of -2.75 dBi.

5.4. SOFTWARE AND FIRMWARE

The Baseband version was LGP769AT-00-V08_RevC-310-260-JUN-16-2012+0. The Kernel version was 3.0.21. The HW version was Rev.C.

The firmware installed in the EUT during testing was Version 4.0.4.

The EUT software version installed during testing LGP769-V08e.

The test utility software used during testing was WLAN Test.

5.5. WORST-CASE CONFIGURATION AND MODE

Radiated emission and power line conducted 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 the X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in the X orientation.

Worst-case data rates were determined to be:

802.11a mode: 6 Mbps
802.11n mode: MCS0 (6.5Mbps)

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

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Travel Adapter	LG Electronics	MCS-02WR	RA250126368	N/A
Headphones	LG Electronics	N/A	N/A	N/A

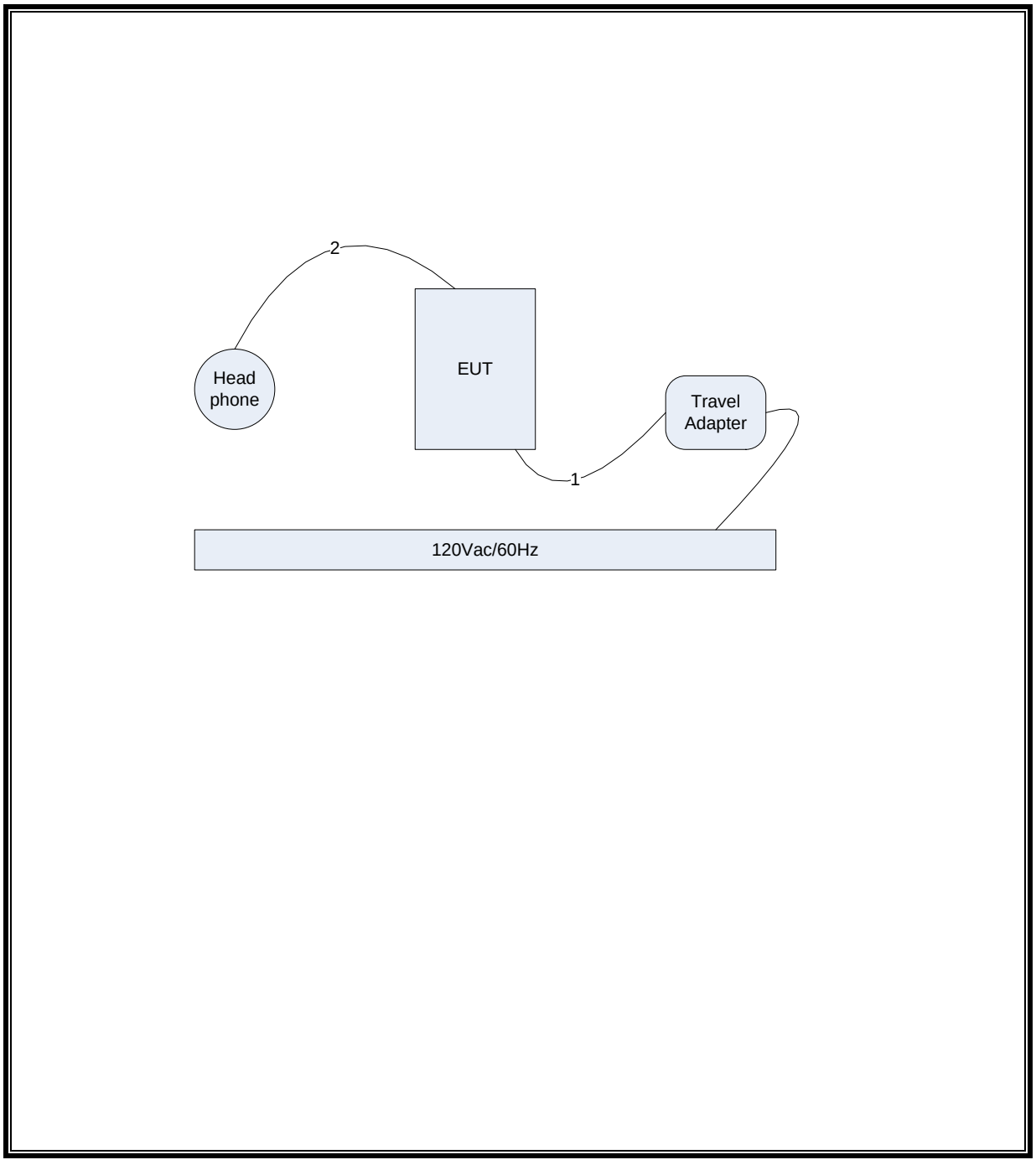
I/O CABLES

I/O CABLE LIST						
Cable No.	**Port**	**# of Identica Ports**	**Connector Type**	**Cable Type**	**Cable Length**	**Remarks**
1	USB	1	USB	Shielded	<3M	
2	Headphone	1	Audio	Unshielded	<3M	

TEST SETUP

The EUT is a stand-alone device.

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

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

Radiated Emissions					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
30-1000MHz					
EMI Receiver	Rohde & Schwarz	ESIB26	ME5B-081	2012-01-30	2013-01-30
Bicon Antenna	Schaffner	VBA6106A	54	2012-04-10	2013-04-10
Log-P Antenna	Schaffner	UPA6109	44067	2012-05-16	2013-05-16
Switch Driver	HP	11713A	ME7A-627	N/A	N/A
System Controller	Sunol Sciences	SC99V	44396	N/A	N/A
Camera Controller	Panasonic	WV-CU254	44395	N/A	N/A
RF Switch Box	UL	1	44398	N/A	N/A
Measurement Software	UL	Version 9.5	44740	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	4268	2010-12-07	2012-12-07
Multimeter	Fluke	83III	ME5B-305	2012-02-01	2013-02-28
Above 1GHz (Band Optimized System)					
EMI Receiver	Rohde & Schwarz	ESIB40	34968	2012-03-06	2013-03-06
Horn Antenna (1-2 GHz)	ETS	3161-01	51442	2008-03-28	See * below
Horn Antenna (2-4 GHz)	ETS	3161-02	48107	2007-09-27	See * below
Horn Antenna (4-8 GHz)	ETS	3161-03	48106	2007-09-27	See * below
Horn Antenna (8-12 GHz)	ETS	3160-07	8933	2008-11-24	See * below
Horn Antenna (12-18 GHz)	ETS	3160-08	8932	2007-09-27	See * below
Horn Antenna (18-26.5 GHz)	ETS	3160-09	8947	2007-09-26	See * below
Horn Antenna (26.5-40 GHz)	ETS	3160-10	73004	2007-09-26	See * below
Signal Path Controller	HP	11713A	50250	N/A	N/A
Gain Controller	HP	11713A	50251	N/A	N/A
RF Switch / Preamp Fixture	UL	BOMS1	50249	N/A	N/A
System Controller	UL	BOMS2	50252	N/A	N/A
Measurement Software	UL	Version 9.5	44740	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	4268	2010-12-07	2012-12-07
Multimeter	Fluke	83III	ME5B-305	2012-02-01	2013-02-28

* - Note: As allowed by the calibration standard ANSI C63.4 Section 4.4.2, standard gain horns need only a one-time calibration. Only if physical damage occurs will the horn antenna require re-calibration.
* Gain standard horn antennas (sometimes called standard gain horn antennas) need not be calibrated beyond that which is provided by the manufacturer unless they are damaged or deterioration is suspected, or they are used at a distance closer than $2D^2/\lambda$. Gain standard horn antennas have gains that are fixed by their dimensions and dimensional tolerances.

Conducted Antenna Port Tests					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
Spectrum Analyzer	Agilent	E4446A	72822	2012-01-31	2013-02-28
Power Sensor	Rohde & Schwarz	NRP-Z81	73137	2011-09-27	2012-09-27
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	43733	2012-03-13	2014-03-13
Multimeter	Fluke	83III	ME5B-305	2012-02-01	2013-02-28

Conducted Emissions - Mains					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
Conducted Emissions – GP 1					
EMI Receiver	Rohde & Schwarz	ESCI7	75141	2012-01-05	2013-01-05
LISN	Solar	9252-50-R-24-BNC	ME5A-636	2012-02-03	2013-02-28
Switch Driver	HP	11713A	44397	N/A	N/A
RF Switch Box	UL	4	44404	N/A	N/A
Measurement Software	UL	Version 9.5	44736	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	43734	2012-03-13	2014-03-13
Multimeter	Fluke	83III	ME5B-305	2012-02-01	2013-02-28

7. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 789033 Zero-Span Spectrum Analyzer Method.

7.1.1. ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
802.11a	2.067	2.166	0.954	95.4%	0.20	0.484
802.11n	1.920	2.019	0.951	95.1%	0.22	0.521

7.1.2. MEASUREMENT METHOD FOR POWER AND PPSD

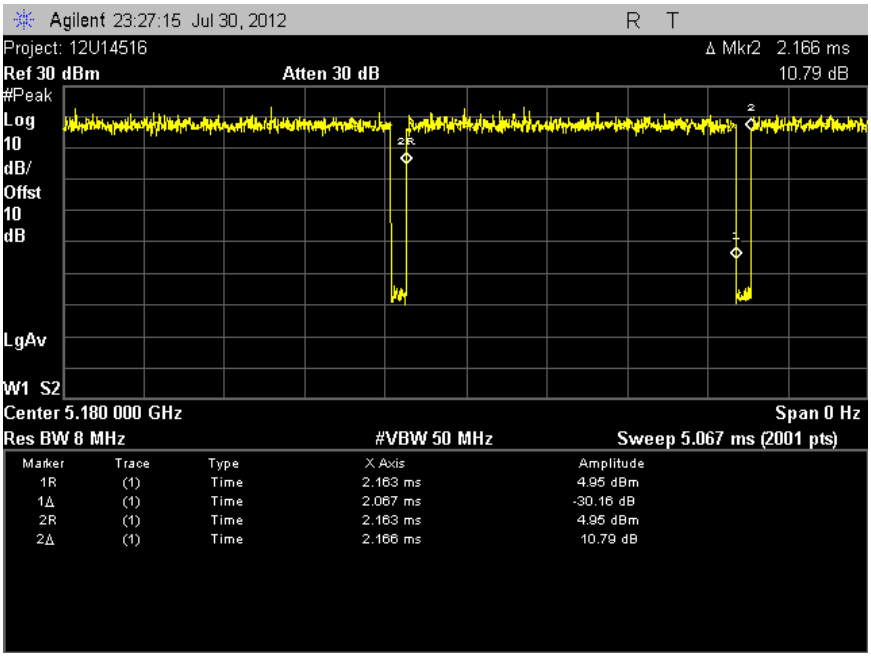
The Duty Cycle is less than 98% and consistent therefore KDB 789033 Method SA-2 is used.

7.1.3. MEASUREMENT METHOD FOR AVERAGE SPURIOUS EMISSIONS ABOVE 1 GHz

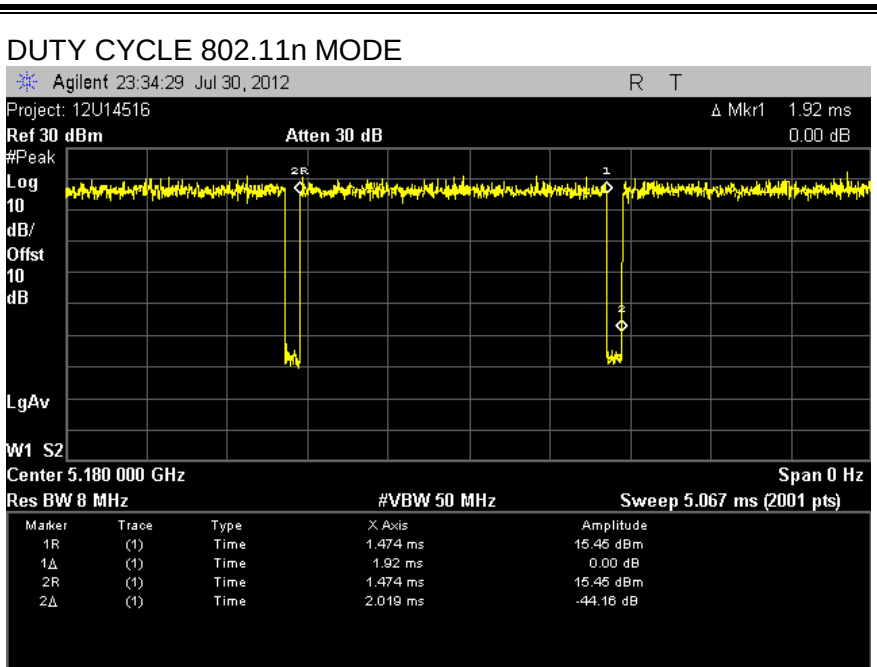
The Duty Cycle is less than 98% and consistent, KDB 789033 Method AD with Power RMS Averaging and duty cycle correction is used.

7.1.4. DUTY CYCLE PLOTS

DUTY CYCLE 802.11a MODE



DUTY CYCLE 802.11n MODE



8. ANTENNA PORT TEST RESULTS

8.1. 802.11a MODE IN THE 5.2 GHz BAND

8.1.1. 26 dB BANDWIDTH

LIMITS

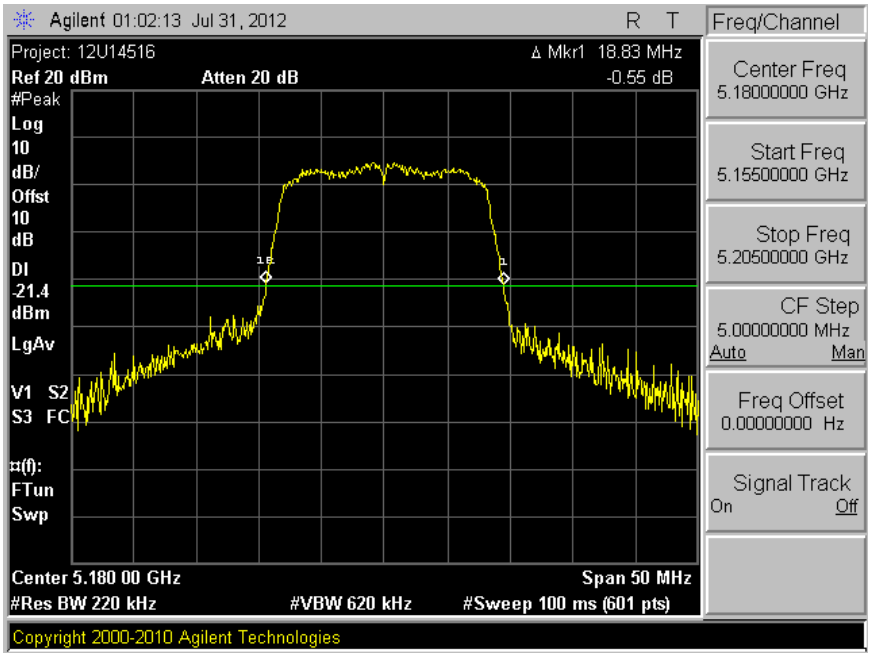
None; for reporting purposes only.

RESULTS

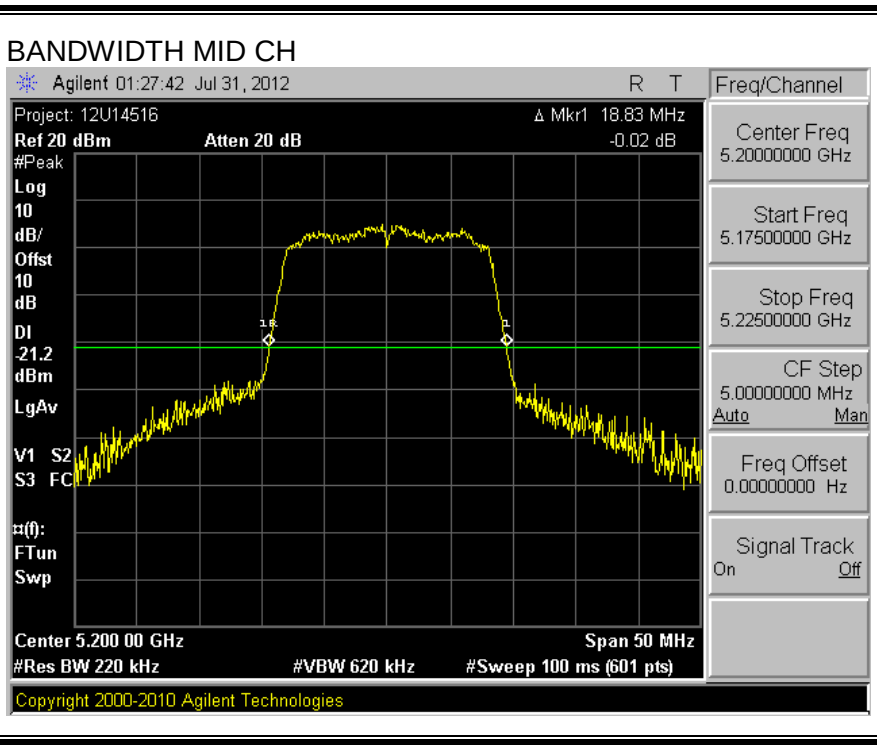
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5180	18.83
Mid	5200	18.83
High	5240	18.92

26 dB BANDWIDTH

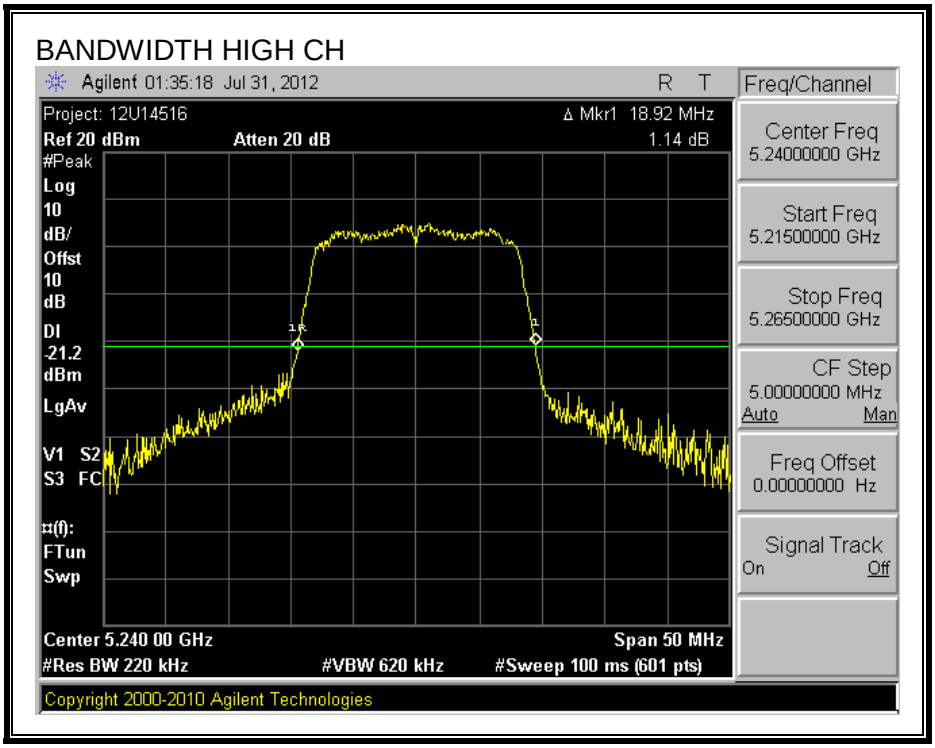
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



8.1.2. 99% BANDWIDTH

LIMITS

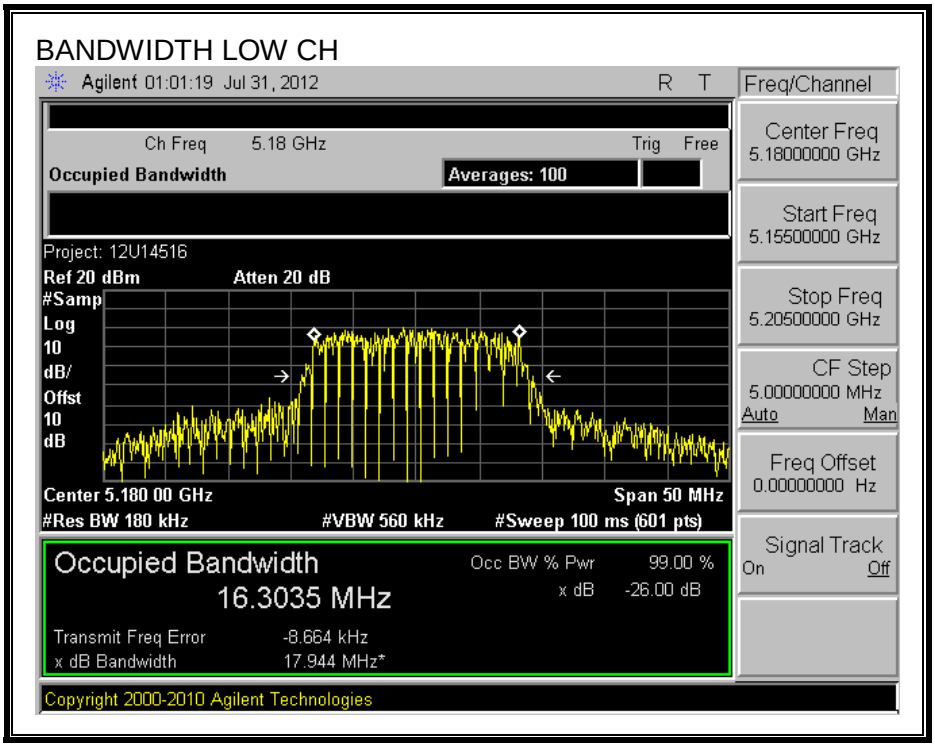
None; for reporting purposes only.

RESULTS

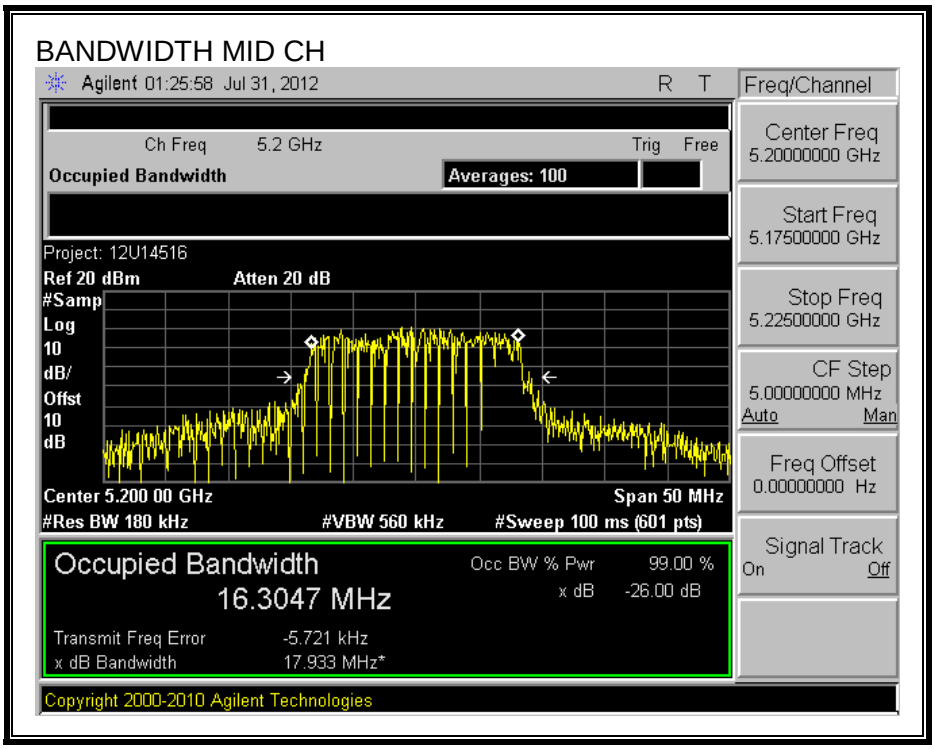
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	16.30
Mid	5200	16.31
High	5240	16.32

99% BANDWIDTH

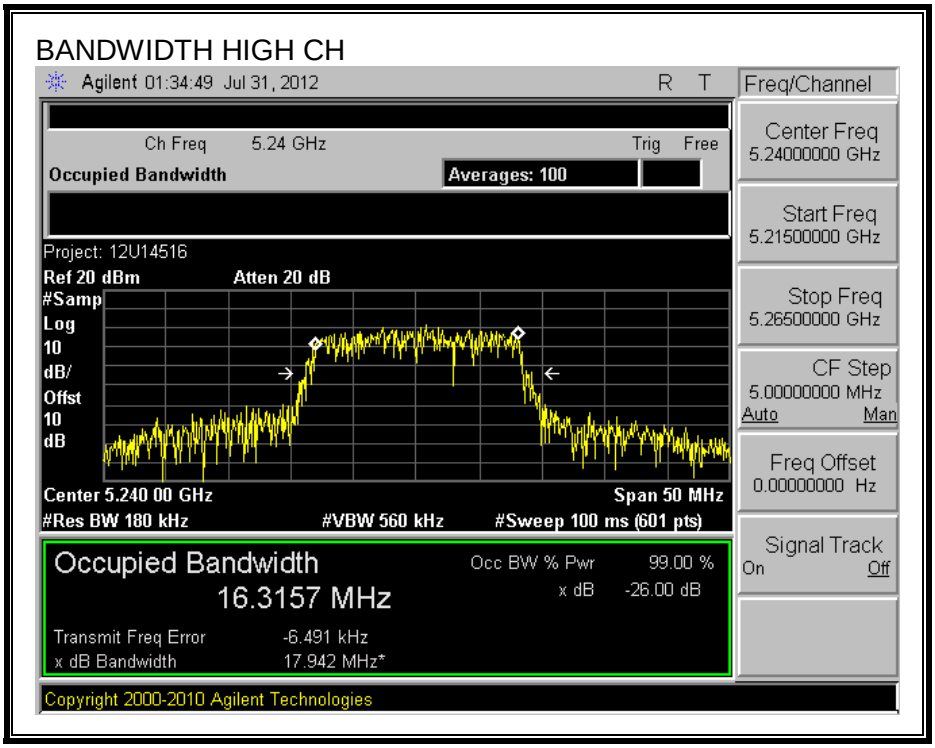
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



8.1.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 10 dB (including 10 dB pad and 0 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Channel	Frequency (MHz)	Power (dBm)
Low	5180	13.5
Mid	5200	13.4
High	5240	13.4

8.1.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1)

IC RSS-210 A9.2 (1)

For the band 5.15–5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or 4 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 4 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density 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

Limits

Channel	Frequency (MHz)	Fixed Limit (dBm)	B (MHz)	4 + 10 Log B Limit (dBm)	Directional Gain (dBi)	Power Limit (dBm)	PPSD Limit (dBm)
Low	5180	17	18.83	16.75	-2.75	16.75	4.00
Mid	5200	17	18.83	16.75	-2.75	16.75	4.00
High	5240	17	18.92	16.77	-2.75	16.77	4.00

Duty Cycle CF (dB)	0.20	Included in Calculations of Corr'd Power & PPSD

Output Power Results

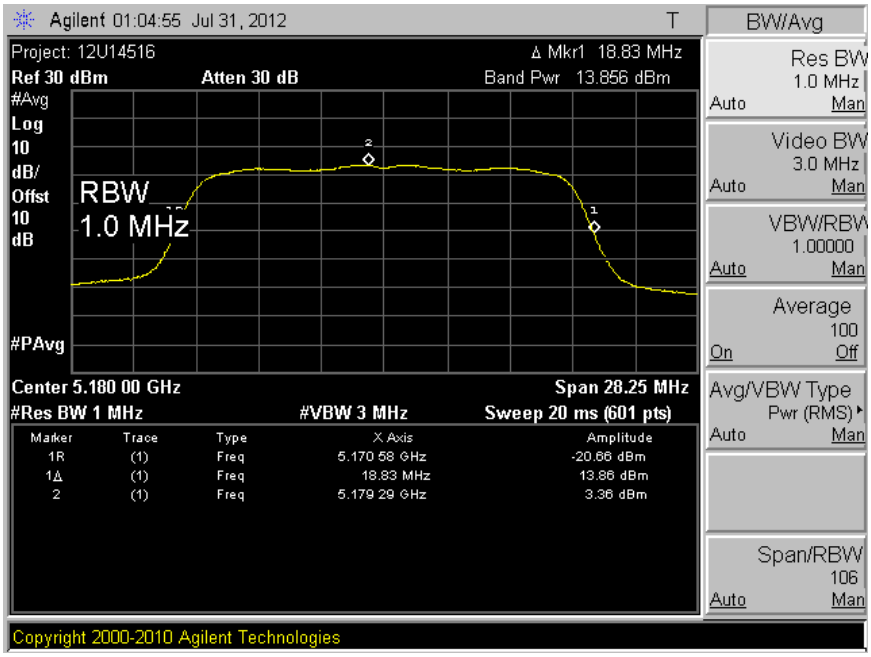
Channel	Frequency (MHz)	Meas Power (dBm)	Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	13.86	14.06	16.75	-2.69
Mid	5200	13.53	13.73	16.75	-3.02
High	5240	13.70	13.90	16.77	-2.87

PPSD Results

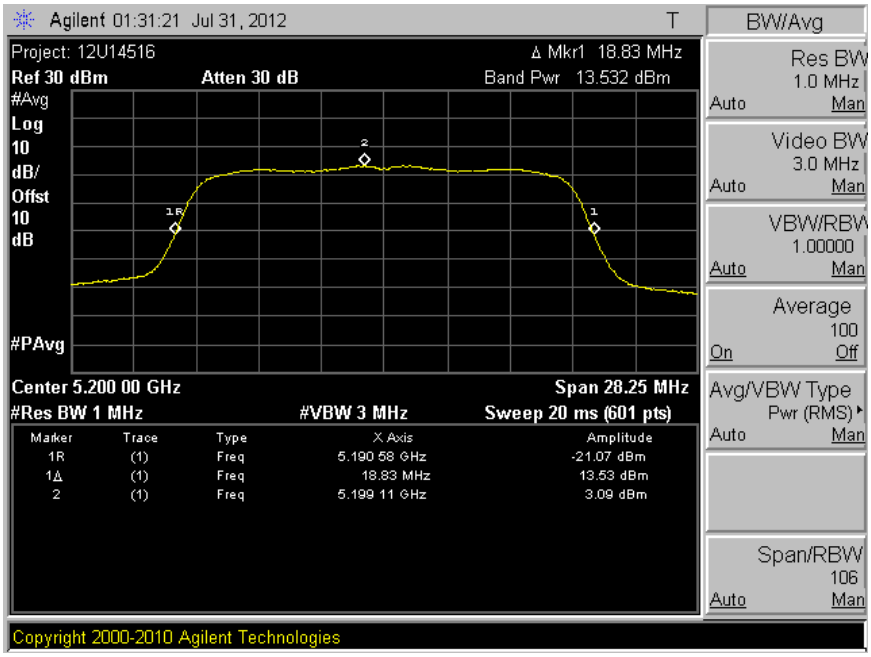
Channel	Frequency (MHz)	Meas PPSD (dBm)	Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	3.36	3.56	4.00	-0.44
Mid	5200	3.09	3.29	4.00	-0.71
High	5240	3.35	3.55	4.00	-0.45

OUTPUT POWER AND PPSD

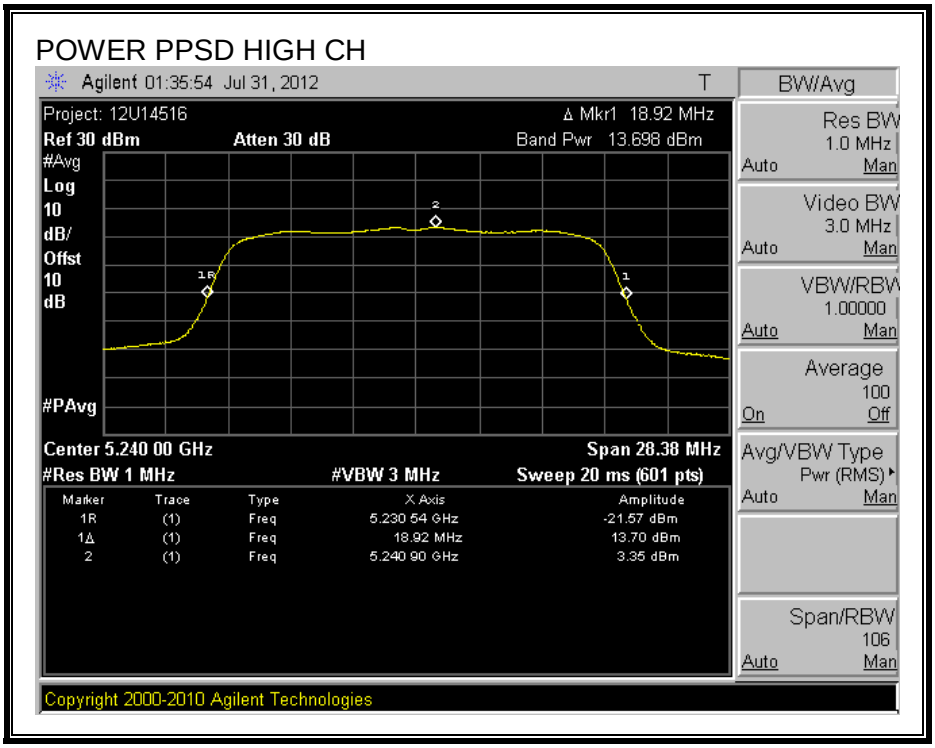
POWER PPSD LOW CH



POWER PPSD MID CH



POWER PPSD HIGH CH



8.1.5. PEAK EXCURSION

LIMITS

FCC §15.407 (a) (6)

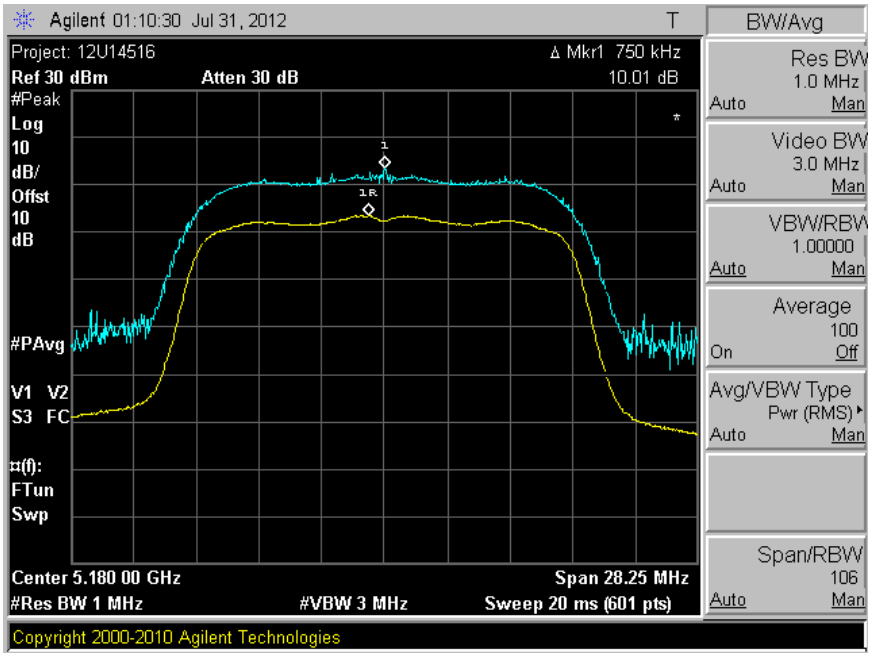
The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

RESULTS

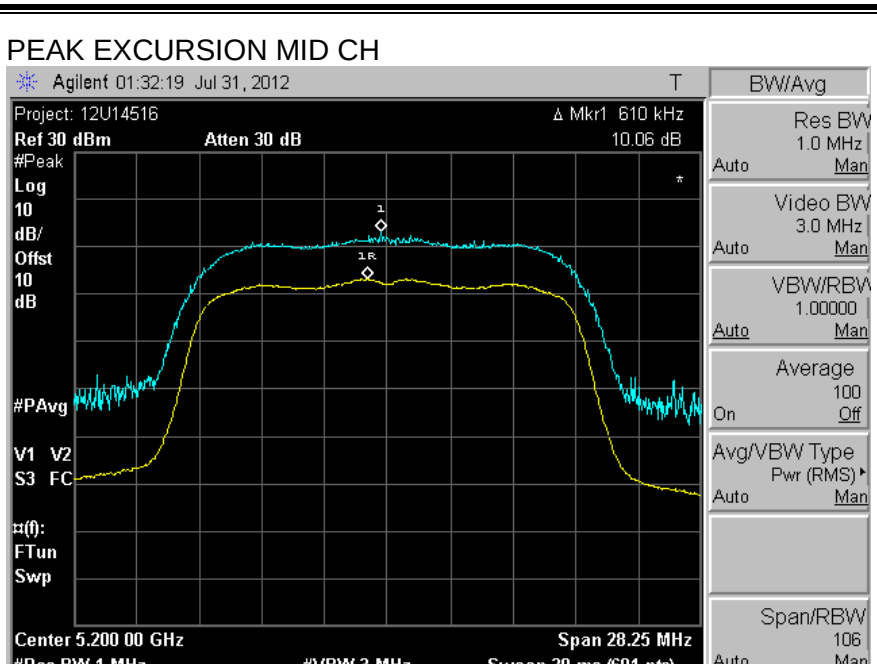
Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Low	5180	10.01	13	-2.99
Mid	5200	10.06	13	-2.94
High	5240	10.21	13	-2.79

PEAK EXCURSION

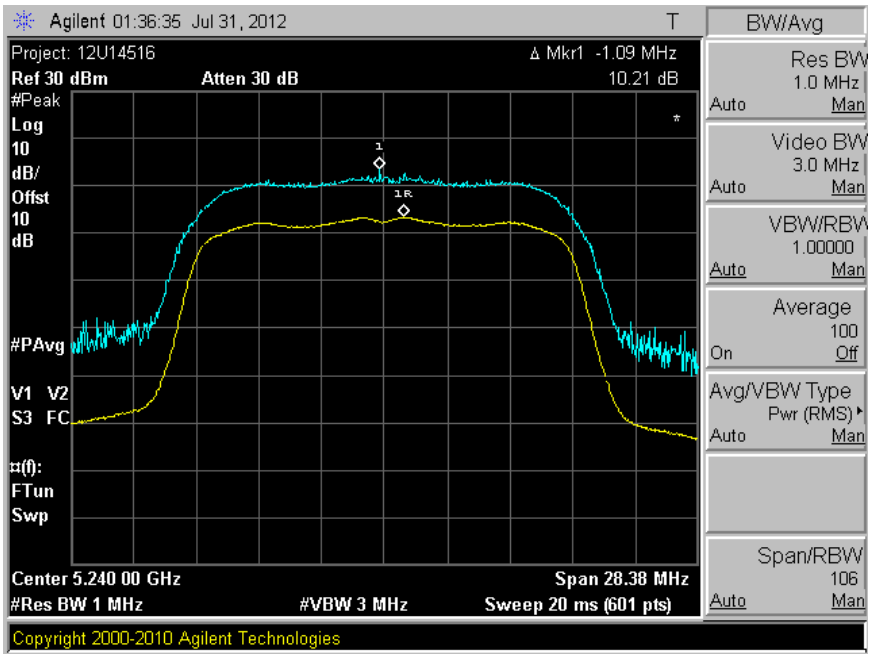
PEAK EXCURSION LOW CH



PEAK EXCURSION MID CH



PEAK EXCURSION HIGH CH



8.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

8.2.1. 26 dB BANDWIDTH

LIMITS

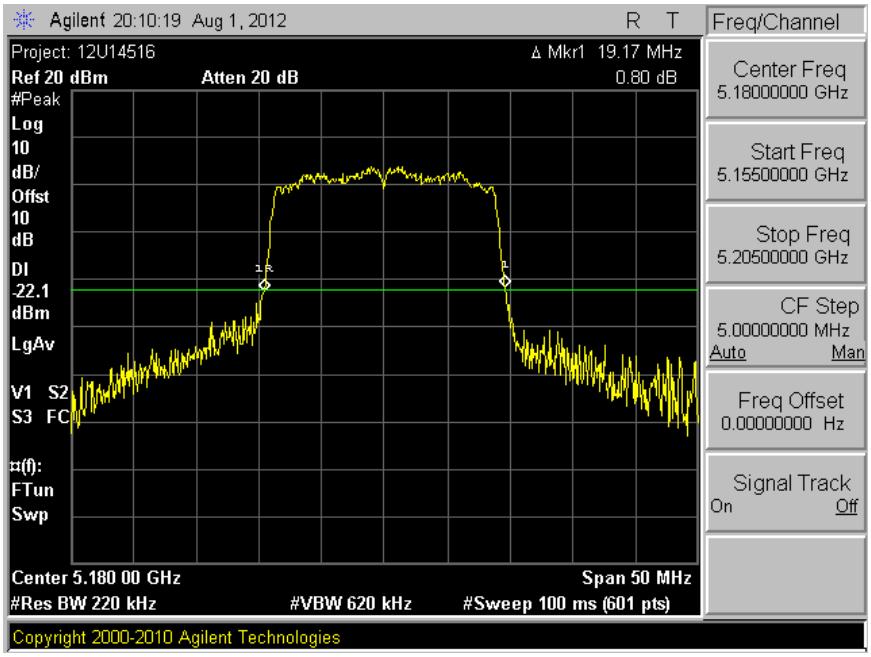
None; for reporting purposes only.

RESULTS

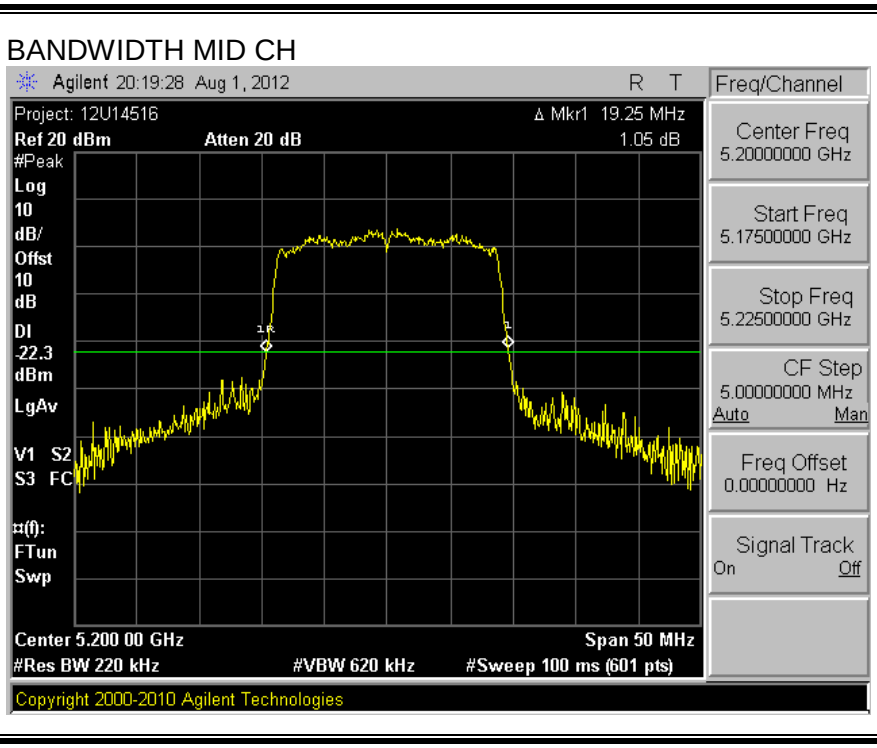
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5180	19.17
Mid	5200	19.25
High	5240	19.25

26 dB BANDWIDTH

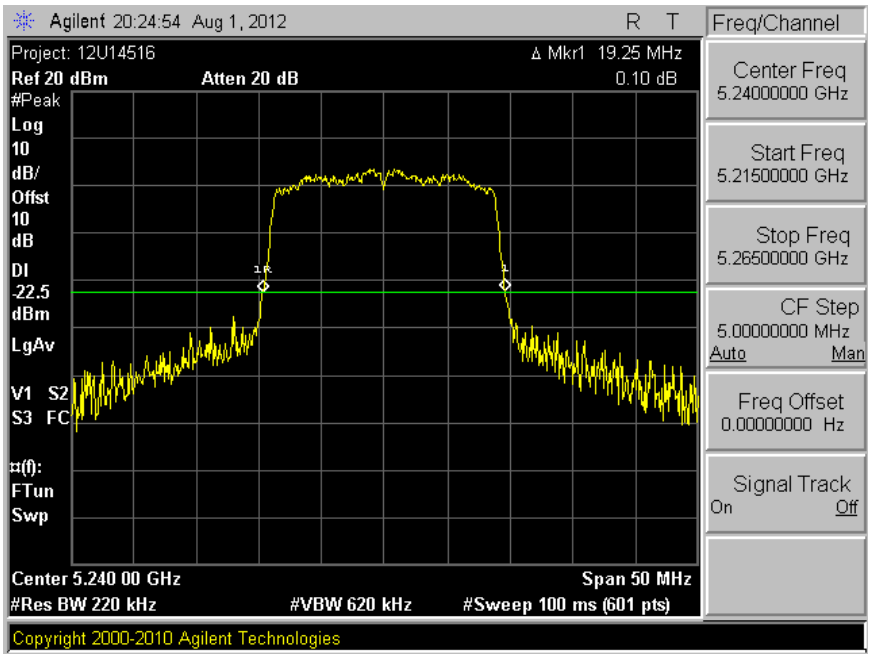
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



8.2.2. 99% BANDWIDTH

LIMITS

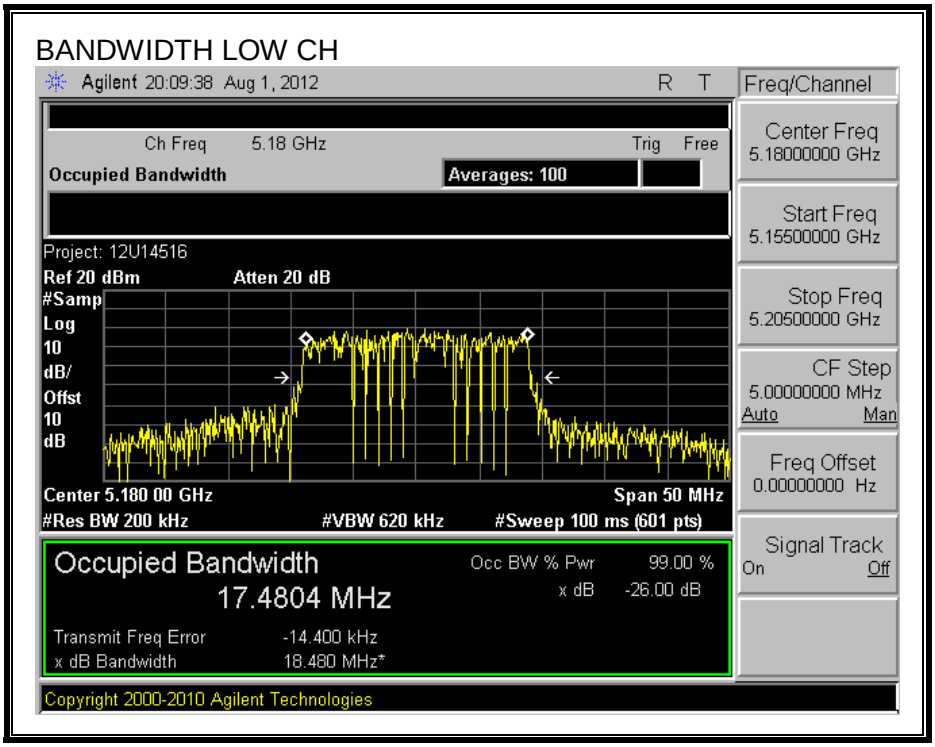
None; for reporting purposes only.

RESULTS

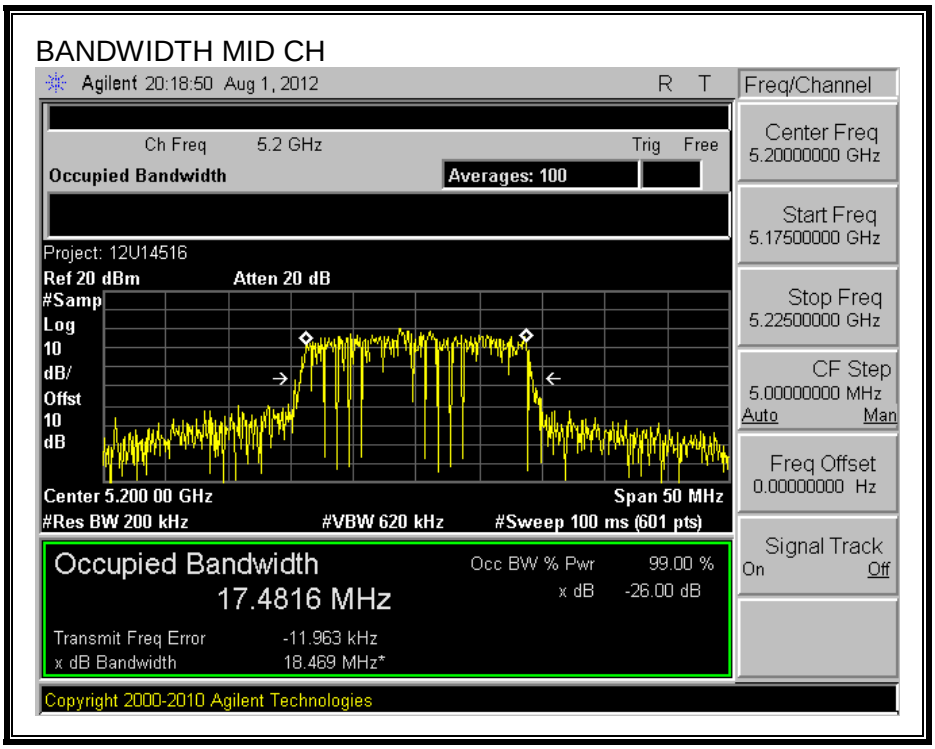
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	17.48
Mid	5200	17.48
High	5240	17.48

99% BANDWIDTH

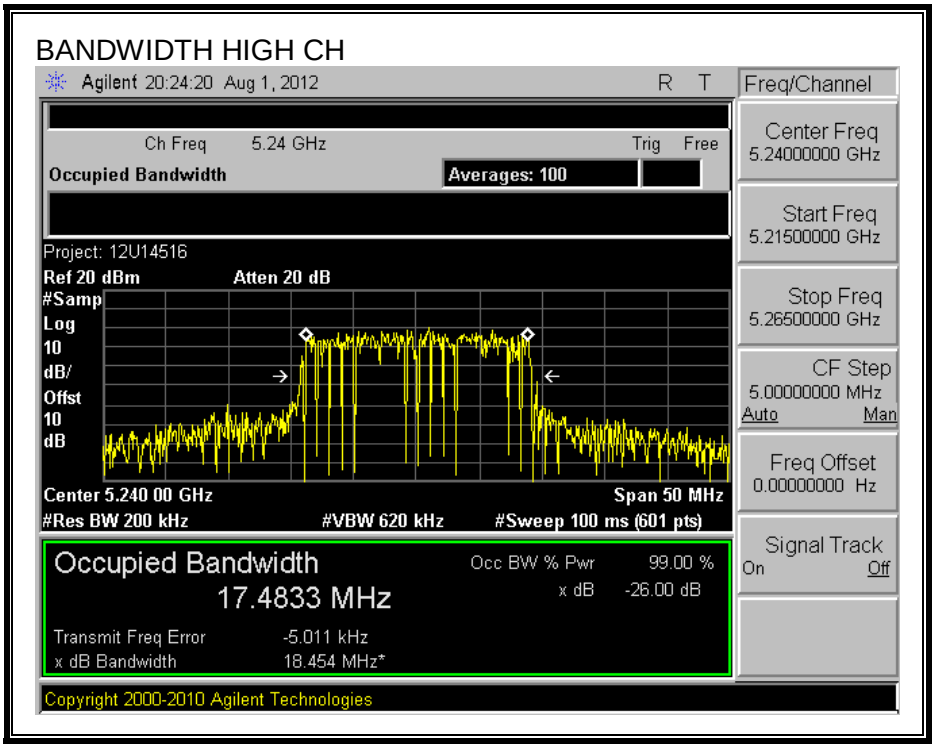
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



8.2.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 10 dB (including 10 dB pad and 0 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Channel	Frequency (MHz)	Power (dBm)
Low	5180	12.3
Mid	5200	12.3
High	5240	12.3

8.2.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1)

IC RSS-210 A9.2 (1)

For the band 5.15–5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or 4 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 4 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density 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

Limits

Channel	Frequency (MHz)	Fixed Limit (dBm)	B (MHz)	4 + 10 Log B Limit (dBm)	Directional Gain (dBi)	Power Limit (dBm)	PPSD Limit (dBm)
Low	5180	17	19.17	16.83	-2.75	16.83	4.00
Mid	5200	17	19.25	16.84	-2.75	16.84	4.00
High	5240	17	19.25	16.84	-2.75	16.84	4.00

Duty Cycle CF (dB)	0.20	Included in Calculations of Corr'd Power & PPSD

Output Power Results

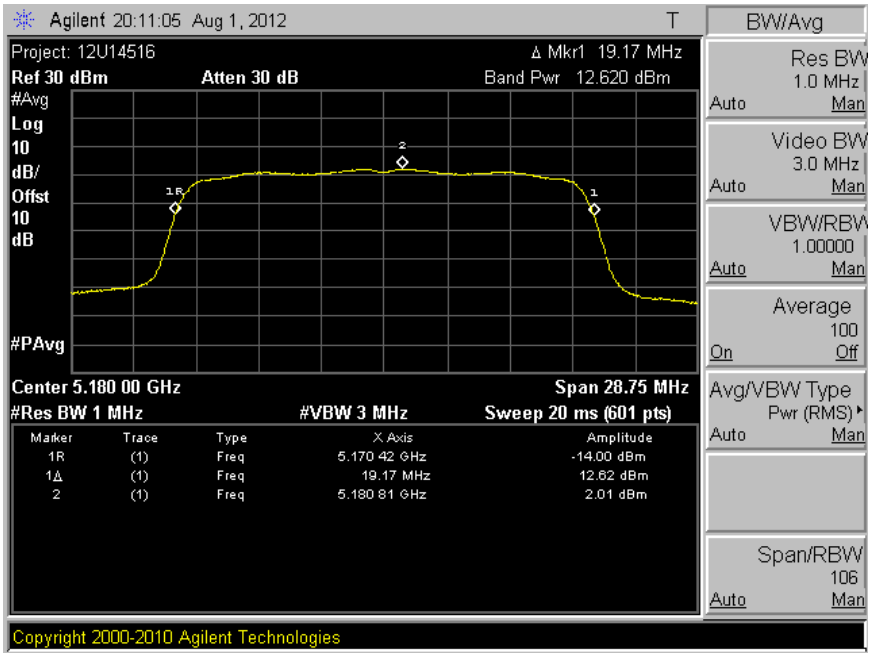
Channel	Frequency (MHz)	Meas Power (dBm)	Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	12.62	12.82	16.83	-4.01
Mid	5200	12.54	12.74	16.84	-4.10
High	5240	12.55	12.75	16.84	-4.09

PPSD Results

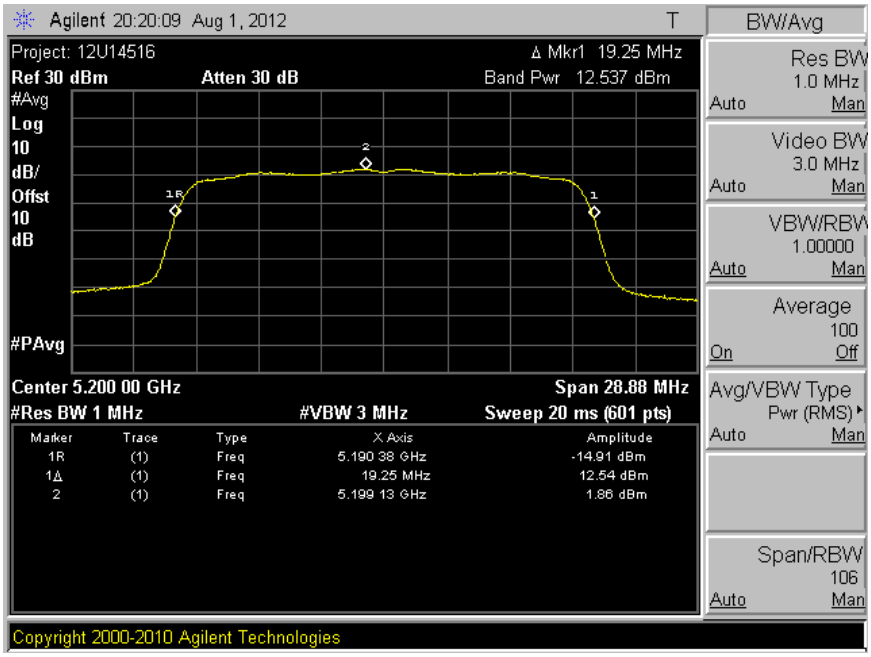
Channel	Frequency (MHz)	Meas PPSD (dBm)	Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	2.01	2.21	4.00	-1.79
Mid	5200	1.86	2.06	4.00	-1.94
High	5240	1.97	2.17	4.00	-1.83

OUTPUT POWER AND PPSD

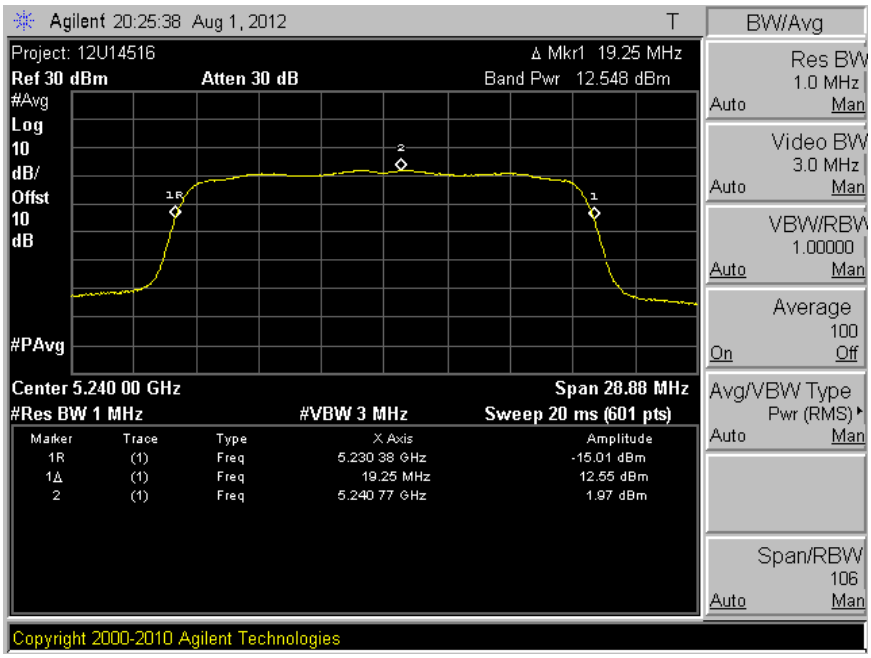
POWER PPSD LOW CH



POWER PPSD MID CH



POWER PPSD HIGH CH



8.2.5. PEAK EXCURSION

LIMITS

FCC §15.407 (a) (6)

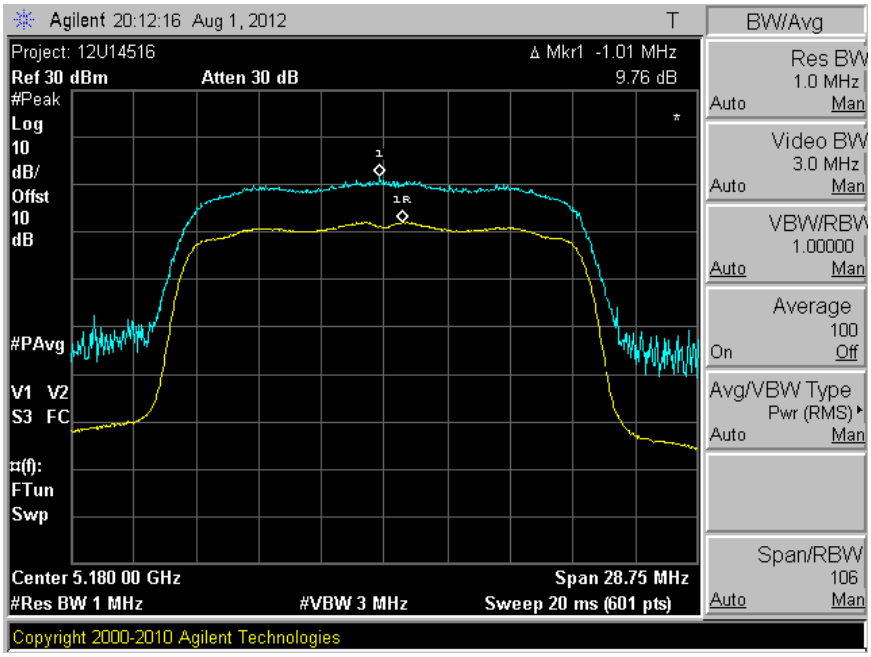
The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

RESULTS

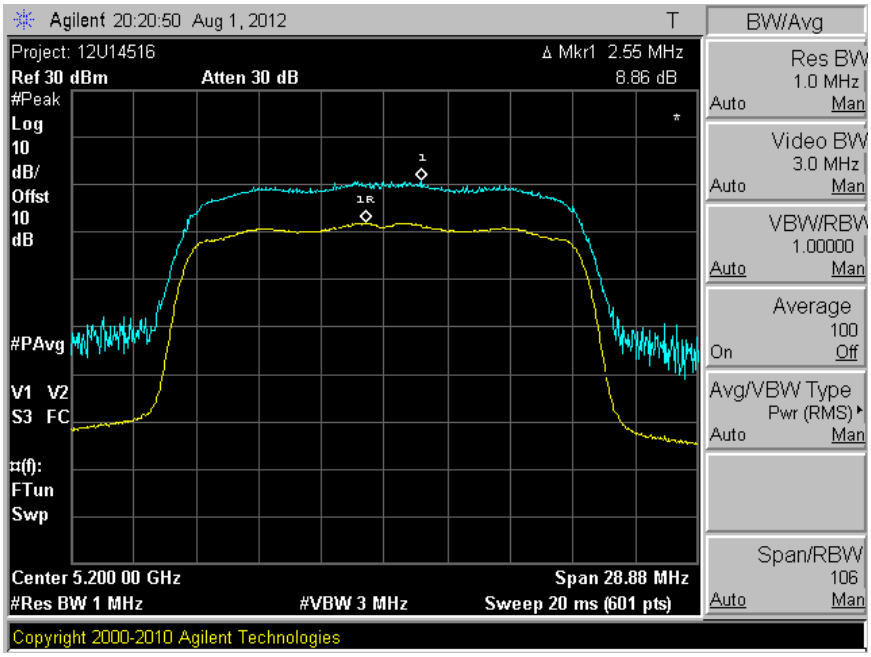
Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Low	5180	9.76	13	-3.24
Mid	5200	8.86	13	-4.14
High	5240	9.17	13	-3.83

PEAK EXCURSION

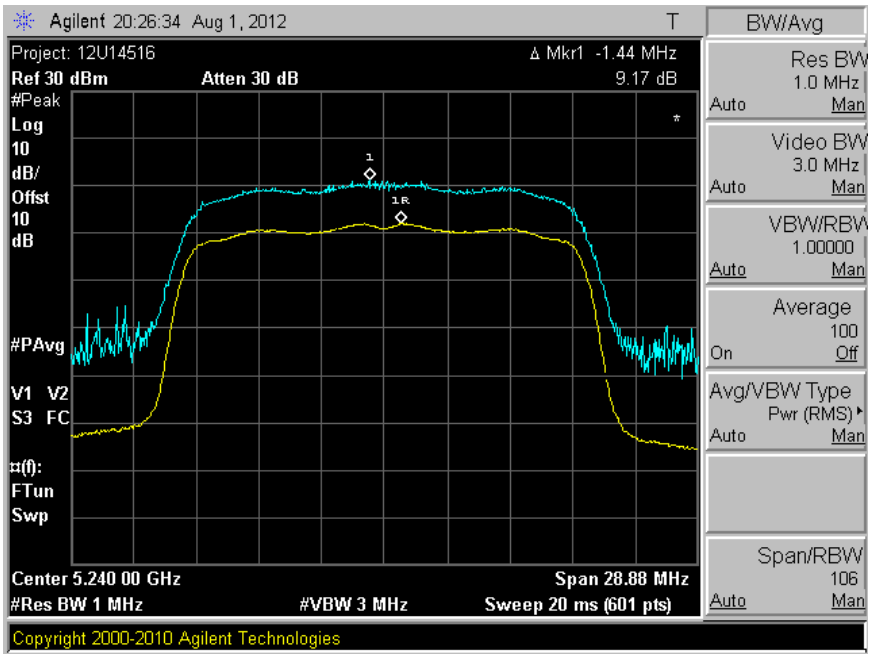
PEAK EXCURSION LOW CH



PEAK EXCURSION MID CH



PEAK EXCURSION HIGH CH



8.3. 802.11a MODE IN THE 5.3 GHz BAND

8.3.1. 26 dB BANDWIDTH

LIMITS

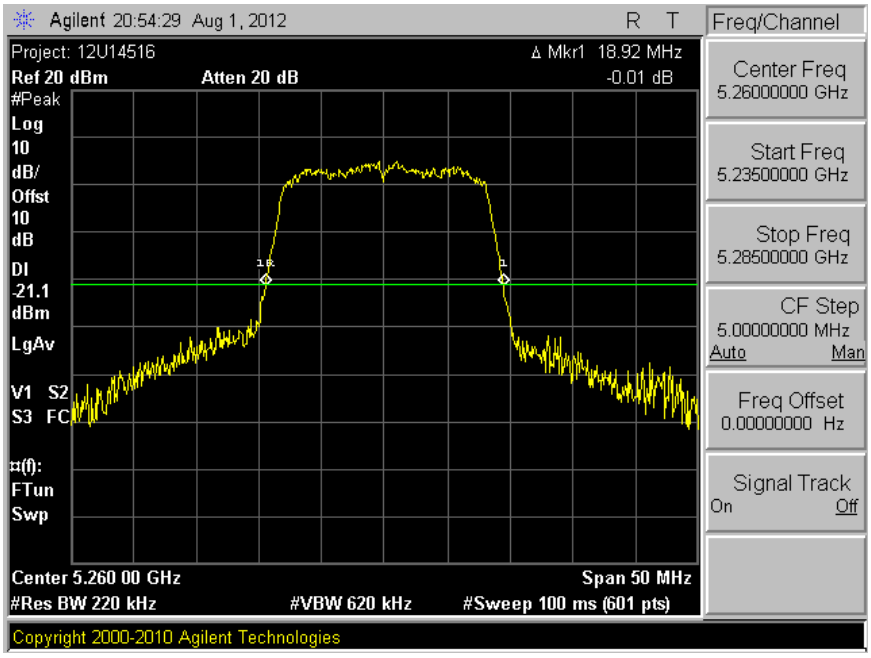
None; for reporting purposes only.

RESULTS

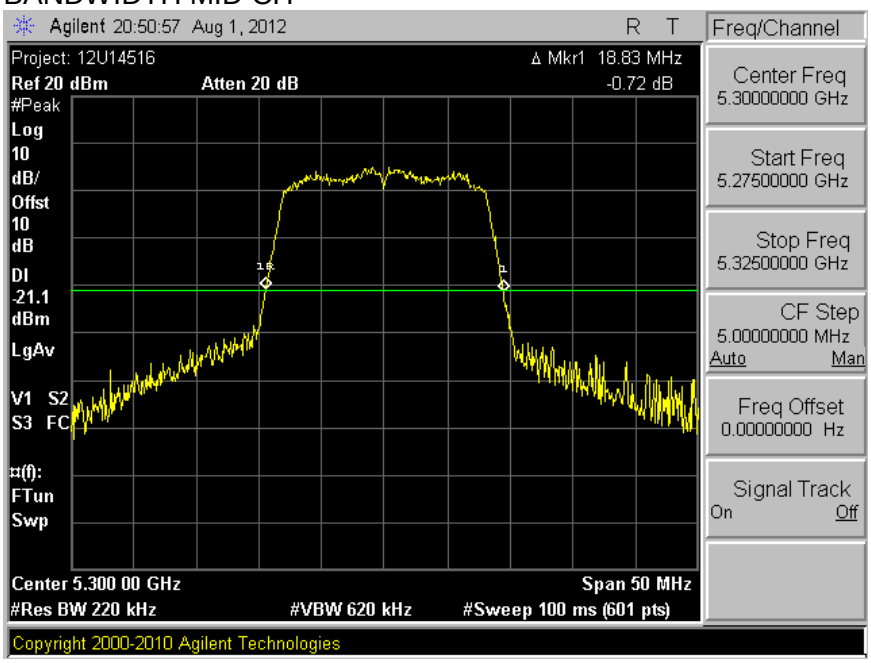
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	18.92
Mid	5300	18.83
High	5320	18.83

26 dB BANDWIDTH

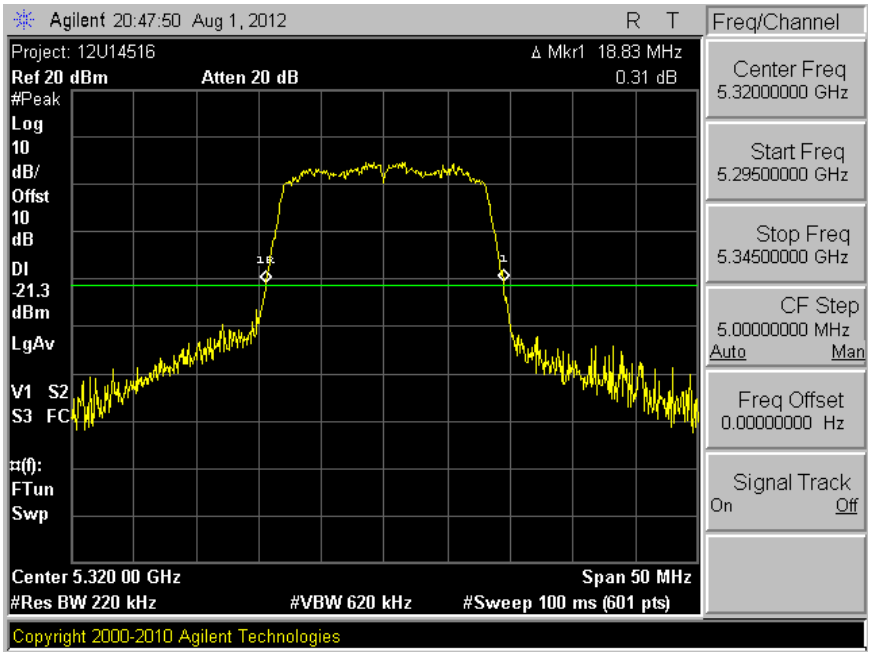
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



8.3.2. 99% BANDWIDTH

LIMITS

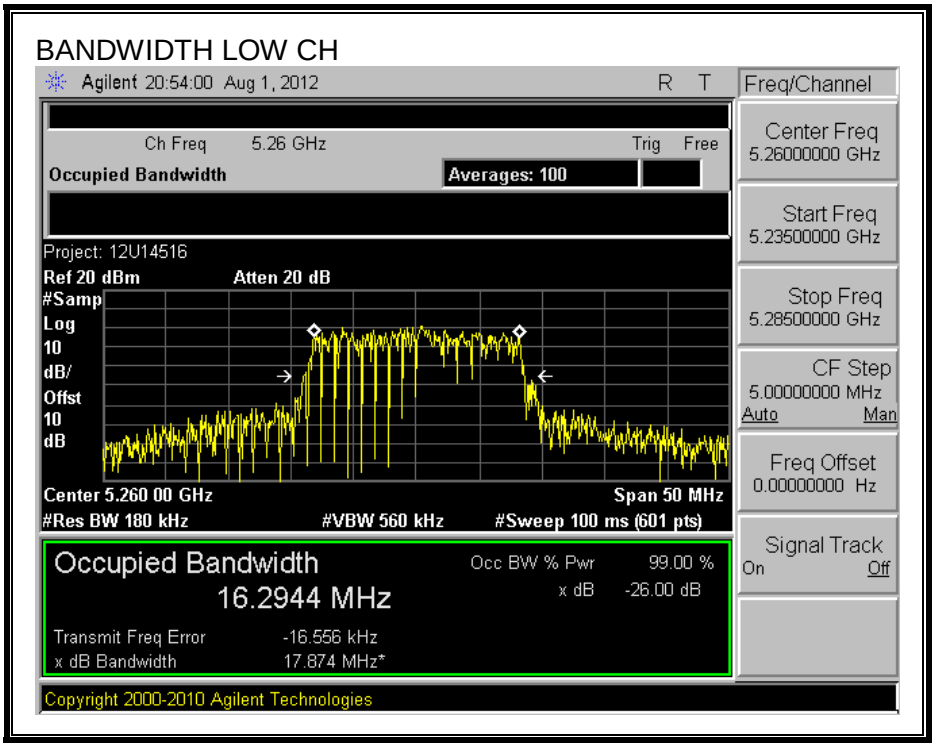
None; for reporting purposes only.

RESULTS

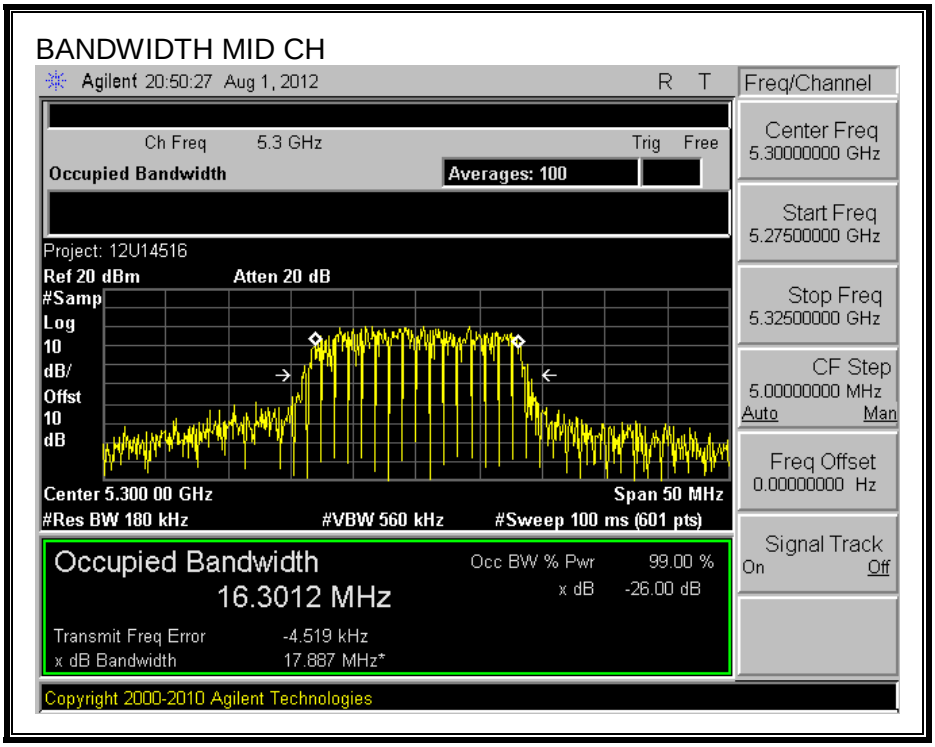
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	16.3
Mid	5300	16.3
High	5320	16.3

99% BANDWIDTH

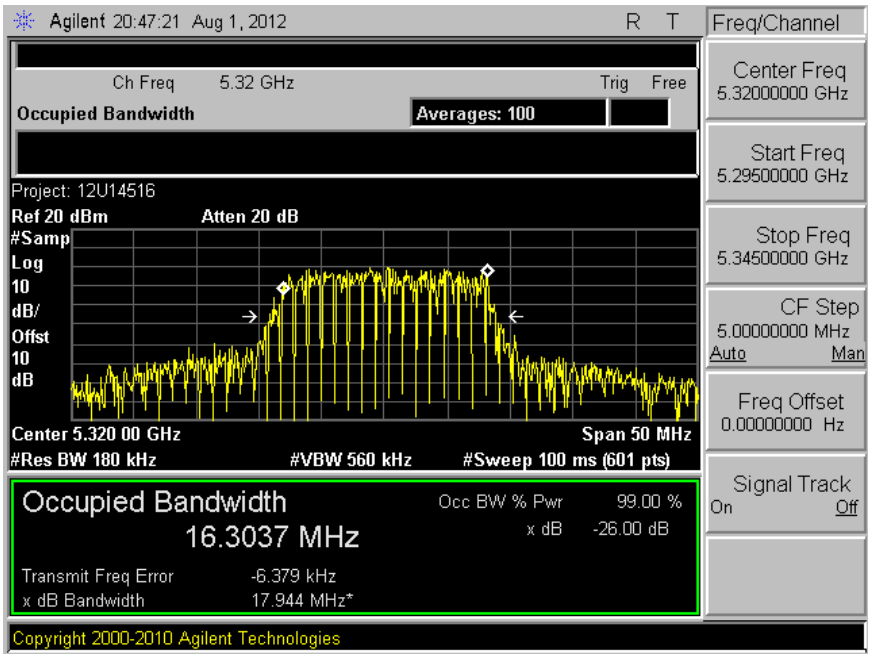
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



8.3.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 10 dB (including 10 dB pad and 0 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Channel	Frequency (MHz)	Power (dBm)
Low	5260	13.4
Mid	5300	13.4
High	5320	13.4

8.3.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (2)

IC RSS-210 A9.2 (2)

For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands 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 megahertz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density 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

Limits

Channel	Frequency (MHz)	Fixed Limit (dBm)	B (MHz)	11 + 10 Log B Limit (dBm)	Directional Gain (dBi)	Power Limit (dBm)	PPSD Limit (dBm)
Low	5260	24	18.92	23.77	-2.75	23.77	11.00
Mid	5300	24	18.83	23.75	-2.75	23.75	11.00
High	5320	24	18.83	23.75	-2.75	23.75	11.00

Duty Cycle CF (dB)	0.20	Included in Calculations of Corr'd Power & PPSD

Output Power Results

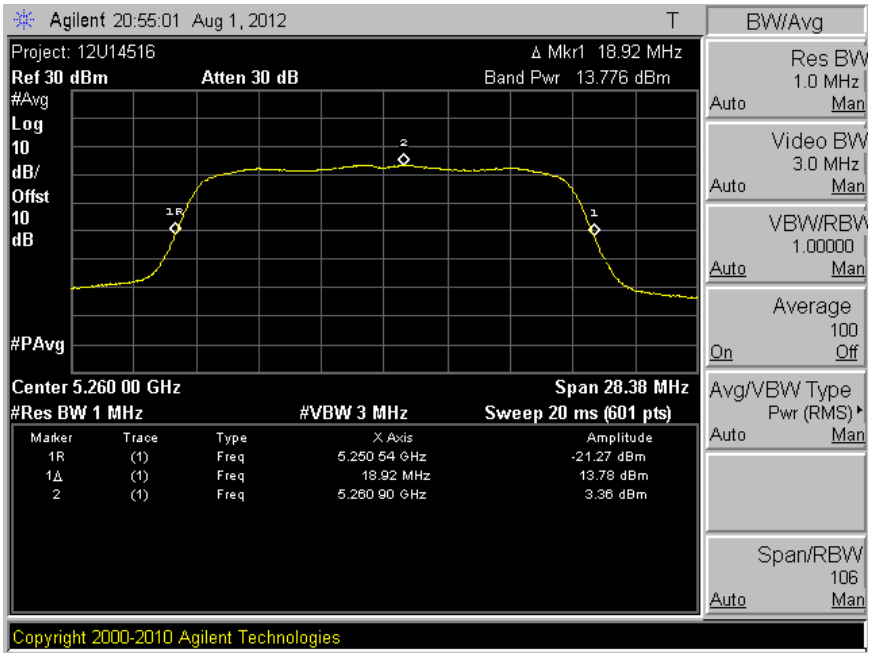
Channel	Frequency (MHz)	Meas Power (dBm)	Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	13.78	13.98	23.77	-9.79
Mid	5300	13.73	13.93	23.75	-9.82
High	5320	13.64	13.84	23.75	-9.91

PPSD Results

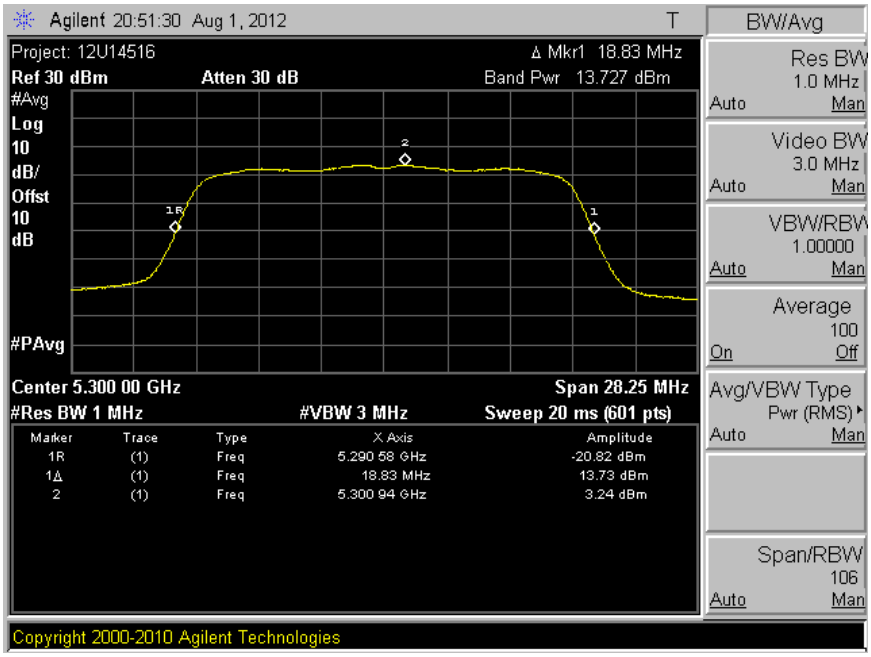
Channel	Frequency (MHz)	Meas PPSD (dBm)	Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	3.36	3.56	11.00	-7.44
Mid	5300	3.24	3.44	11.00	-7.56
High	5320	3.18	3.38	11.00	-7.62

OUTPUT POWER AND PPSD

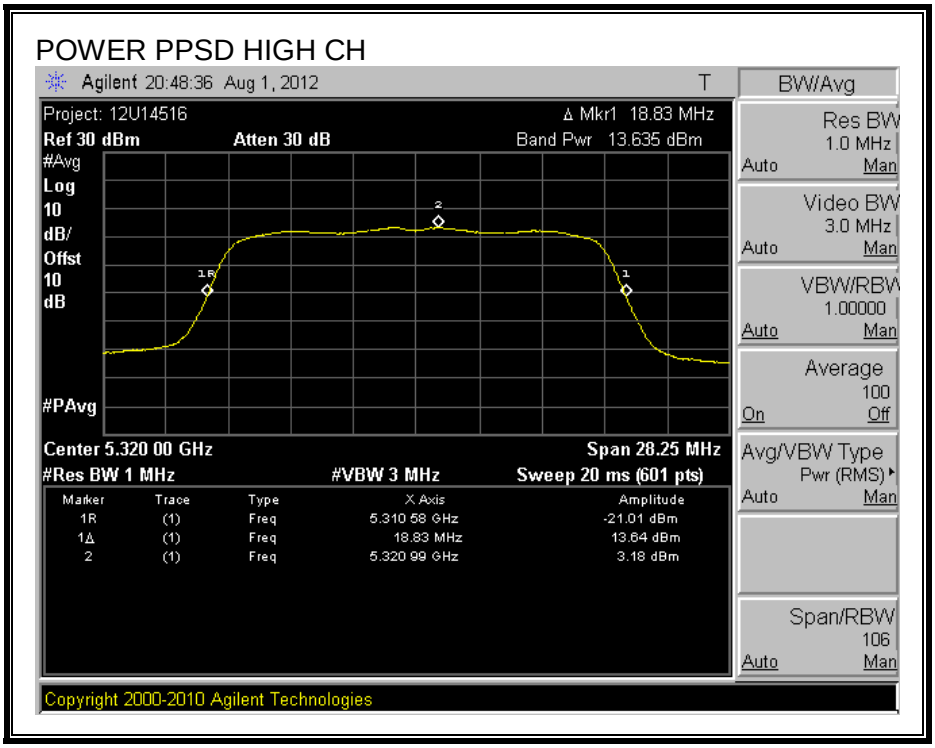
POWER PPSD LOW CH



POWER PPSD MID CH



POWER PPSD HIGH CH



8.3.5. PEAK EXCURSION

LIMITS

FCC §15.407 (a) (6)

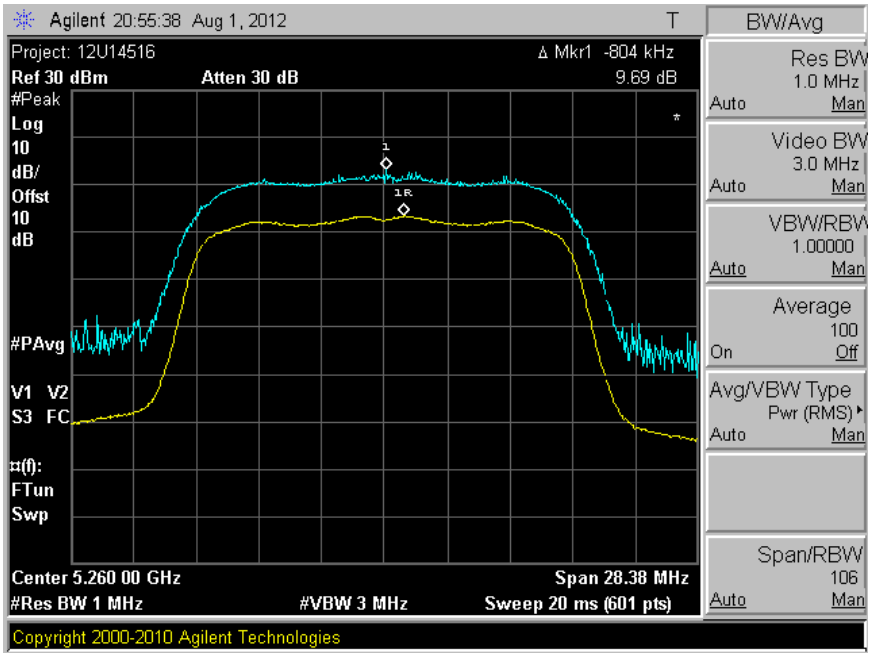
The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

RESULTS

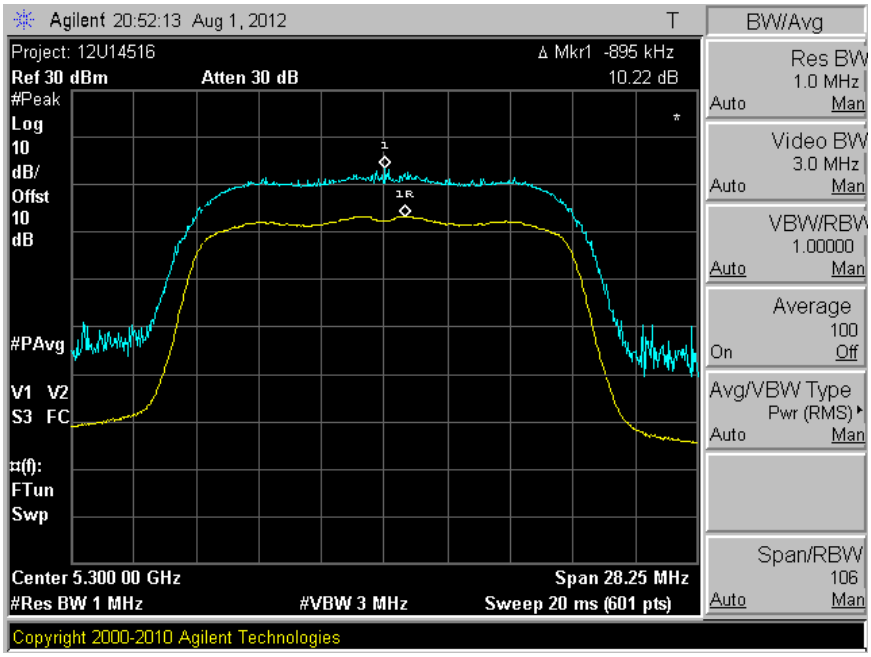
Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Low	5260	9.69	13	-3.31
Mid	5300	10.22	13	-2.78
High	5320	10.06	13	-2.94

PEAK EXCURSION

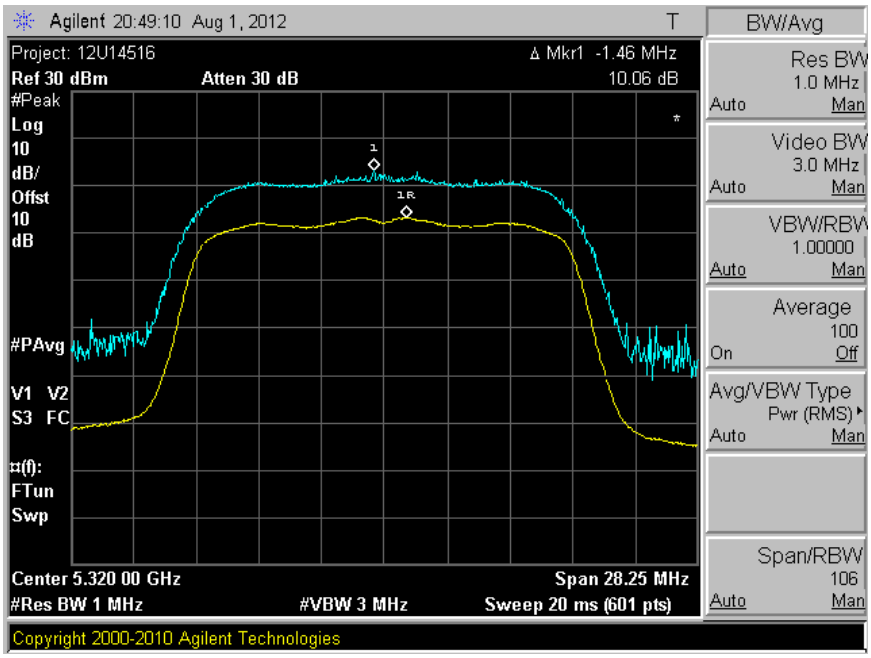
PEAK EXCURSION LOW CH



PEAK EXCURSION MID CH



PEAK EXCURSION HIGH CH



8.4. 802.11n HT20 MODE IN THE 5.3 GHz BAND

8.4.1. 26 dB BANDWIDTH

LIMITS

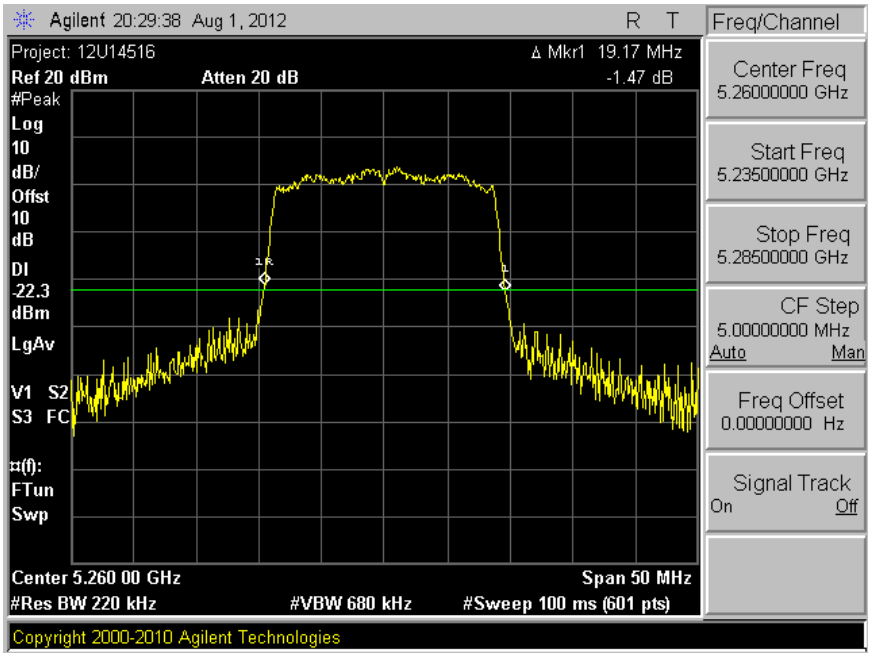
None; for reporting purposes only.

RESULTS

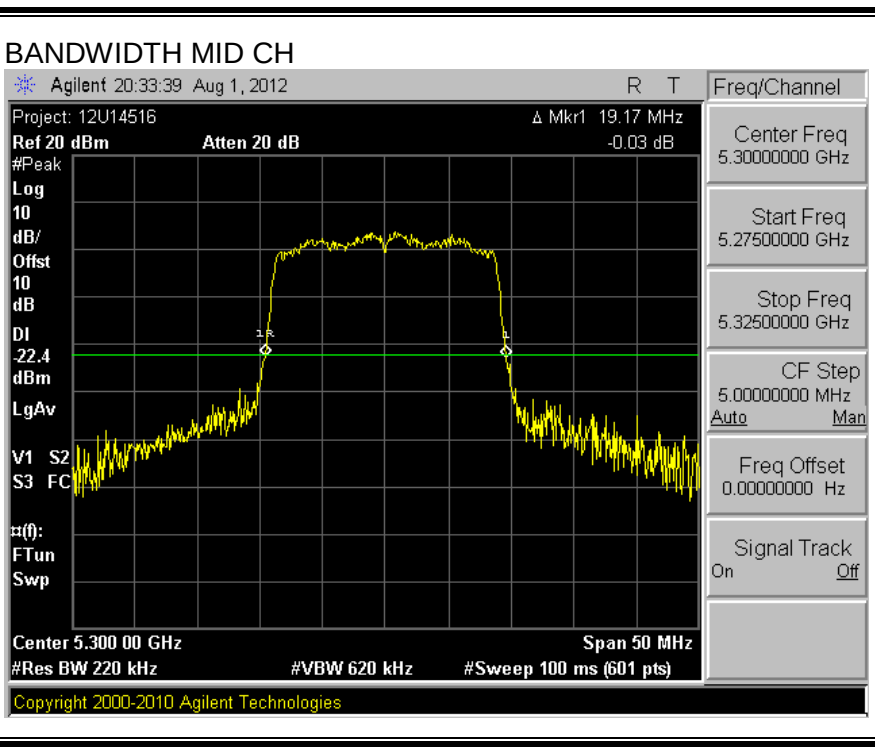
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	19.17
Mid	5300	19.17
High	5320	19.25

26 dB BANDWIDTH

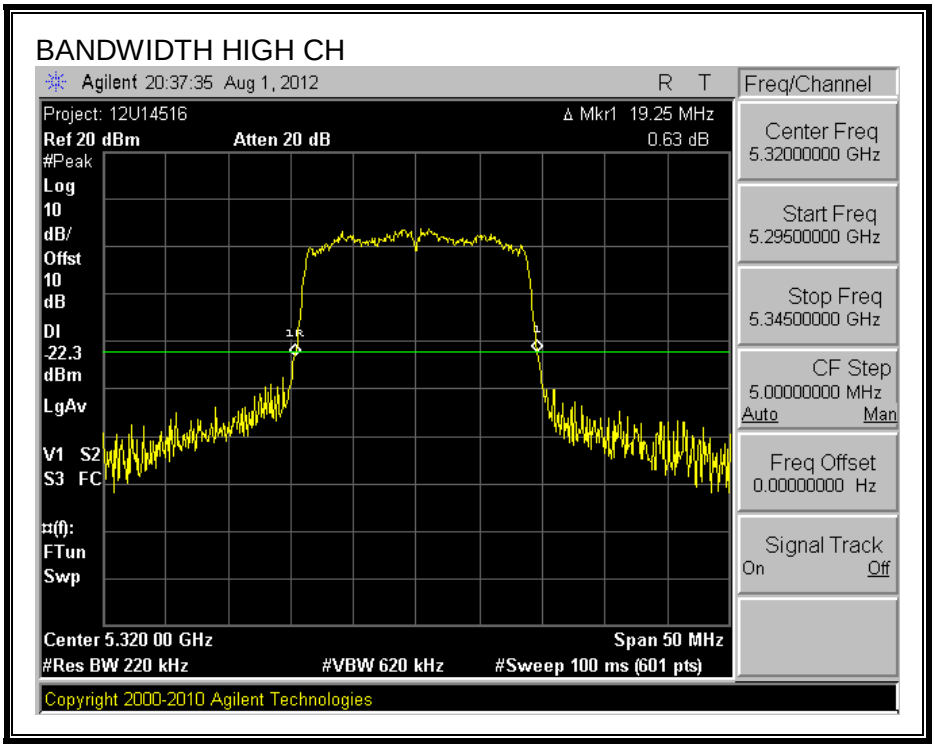
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



8.4.2. 99% BANDWIDTH

LIMITS

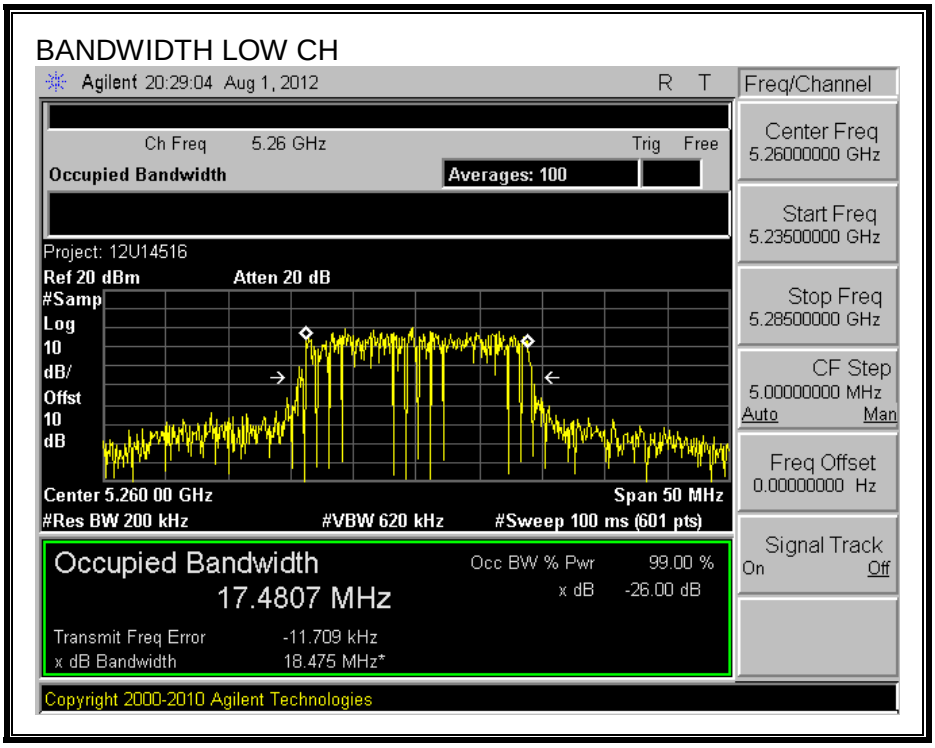
None; for reporting purposes only.

RESULTS

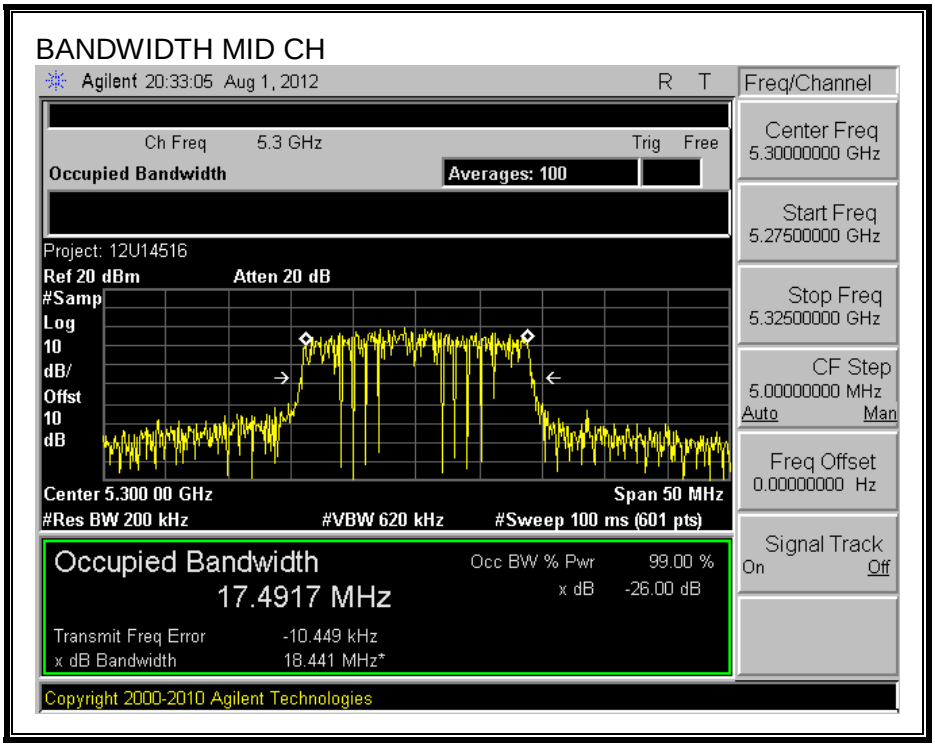
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	17.48
Mid	5300	17.49
High	5320	17.49

99% BANDWIDTH

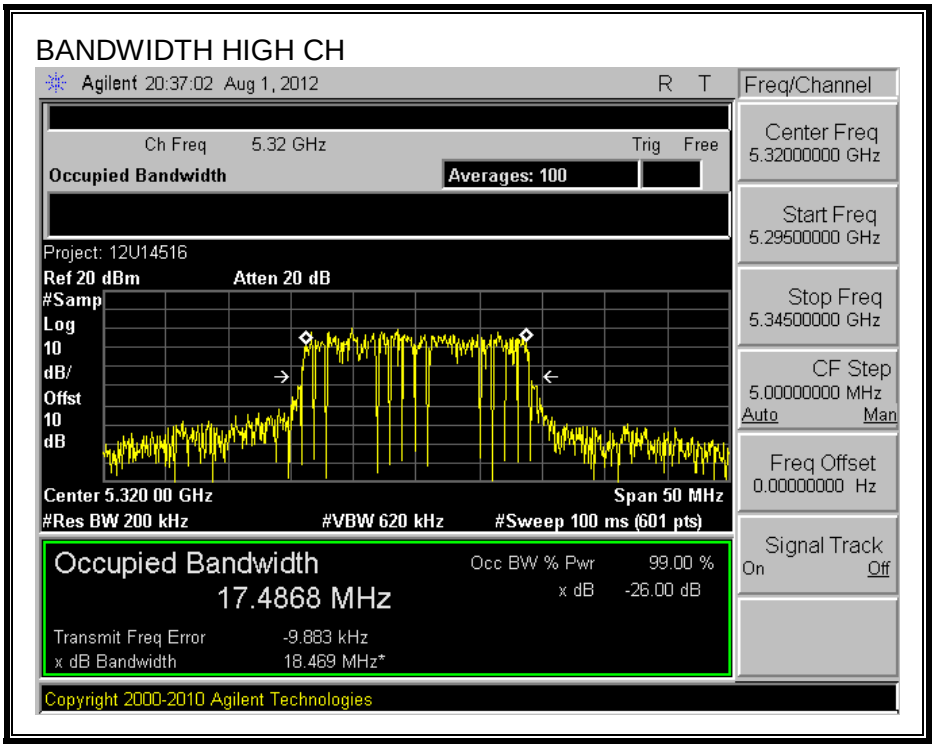
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



8.4.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 10 dB (including 10 dB pad and 0 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Channel	Frequency (MHz)	Power (dBm)
Low	5260	12.4
Mid	5300	12.3
High	5320	12.3

8.4.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (2)

IC RSS-210 A9.2 (2)

For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands 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 megahertz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density 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

Limits

Channel	Frequency (MHz)	Fixed Limit (dBm)	B (MHz)	11 + 10 Log B Limit (dBm)	Directional Gain (dBi)	Power Limit (dBm)	PPSD Limit (dBm)
Low	5260	24	19.17	23.83	-2.75	23.83	11.00
Mid	5300	24	19.17	23.83	-2.75	23.83	11.00
High	5320	24	19.25	23.84	-2.75	23.84	11.00

Duty Cycle CF (dB)	0.20	Included in Calculations of Corr'd Power & PPSD

Output Power Results

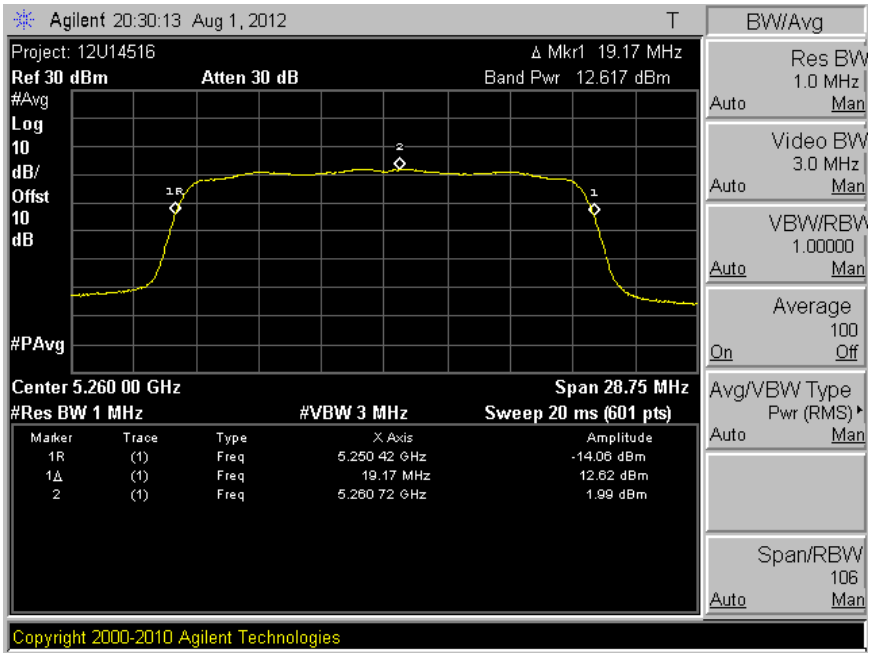
Channel	Frequency (MHz)	Meas Power (dBm)	Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	12.62	12.82	23.83	-11.01
Mid	5300	12.64	12.84	23.83	-10.99
High	5320	12.64	12.84	23.84	-11.00

PPSD Results

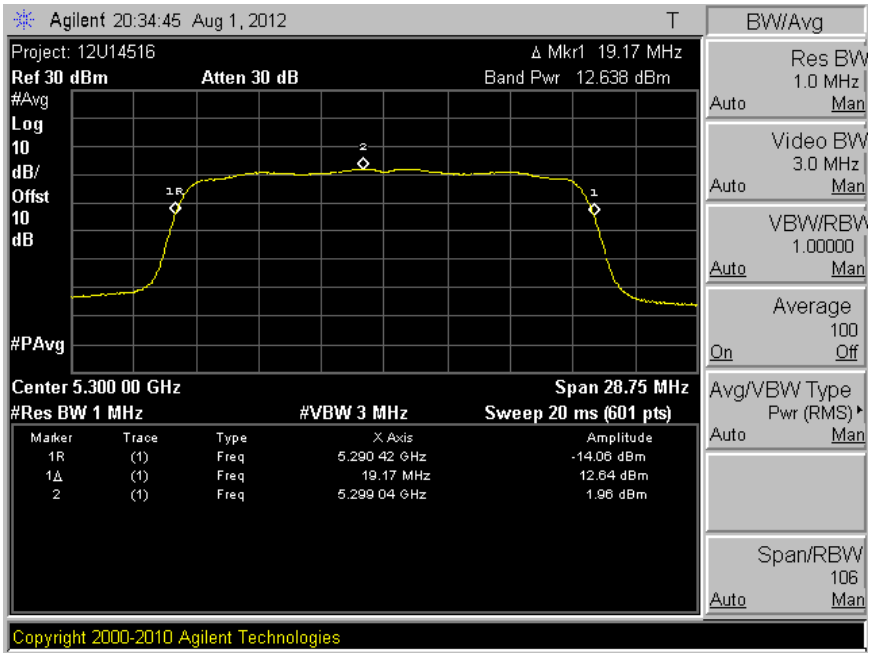
Channel	Frequency (MHz)	Meas PPSD (dBm)	Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	1.99	2.19	11.00	-8.81
Mid	5300	1.96	2.16	11.00	-8.84
High	5320	1.99	2.19	11.00	-8.81

OUTPUT POWER AND PPSD

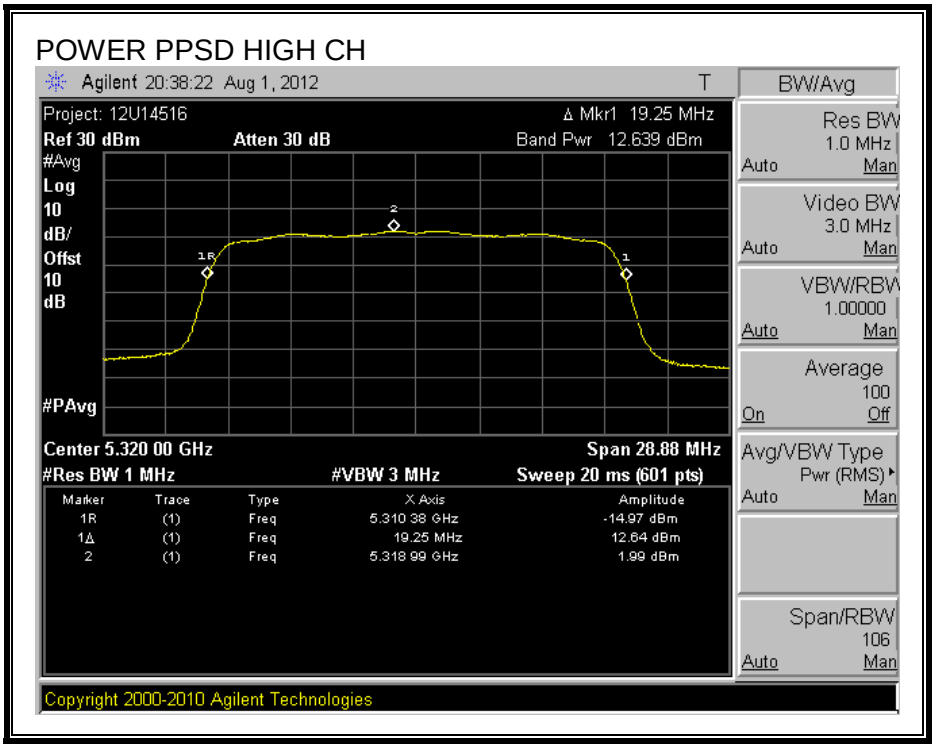
POWER PPSD LOW CH



POWER PPSD MID CH



POWER PPSD HIGH CH



8.4.5. PEAK EXCURSION

LIMITS

FCC §15.407 (a) (6)

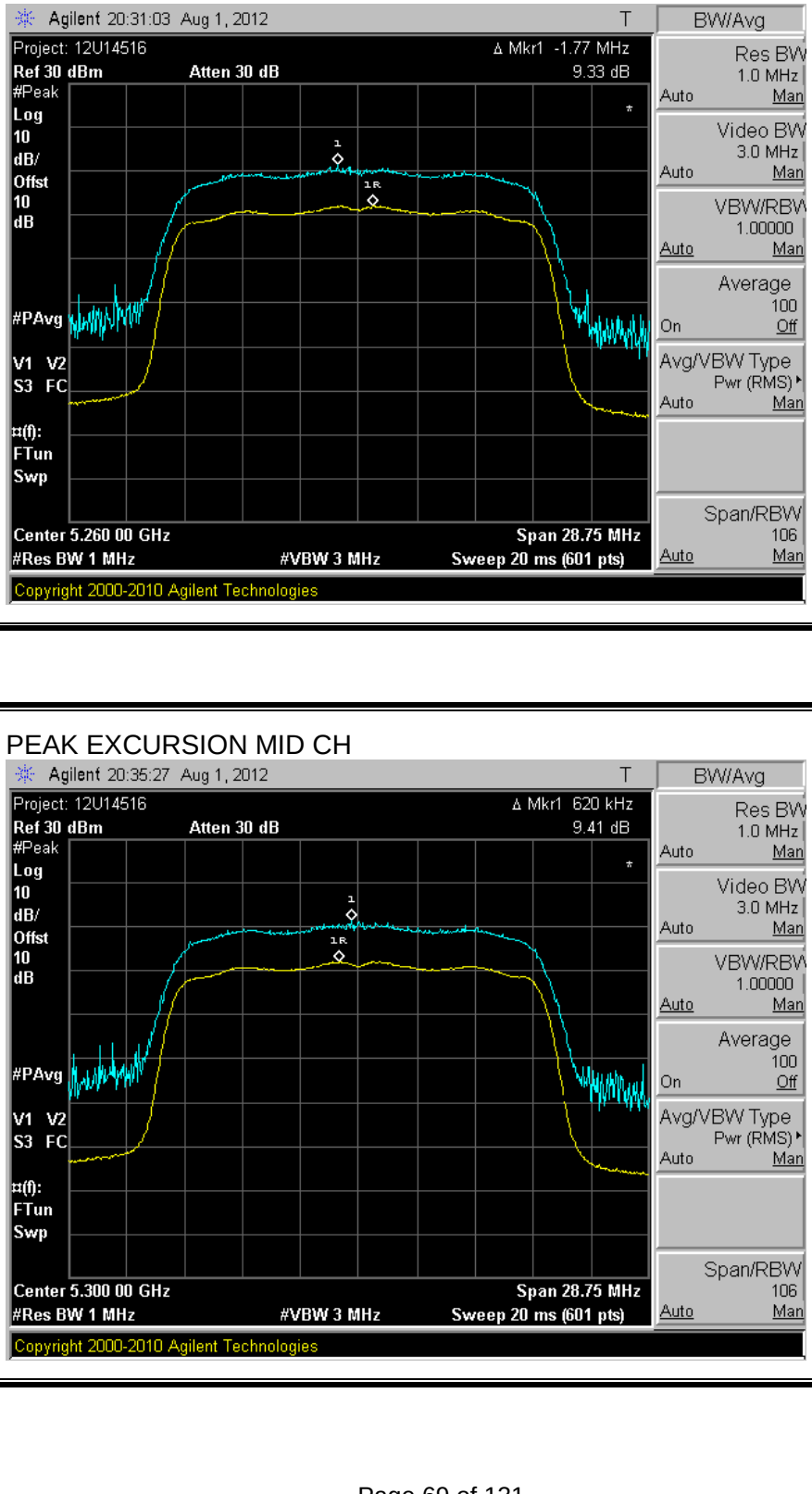
The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

RESULTS

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Low	5260	9.33	13	-3.67
Mid	5300	9.41	13	-3.59
High	5320	9.62	13	-3.38

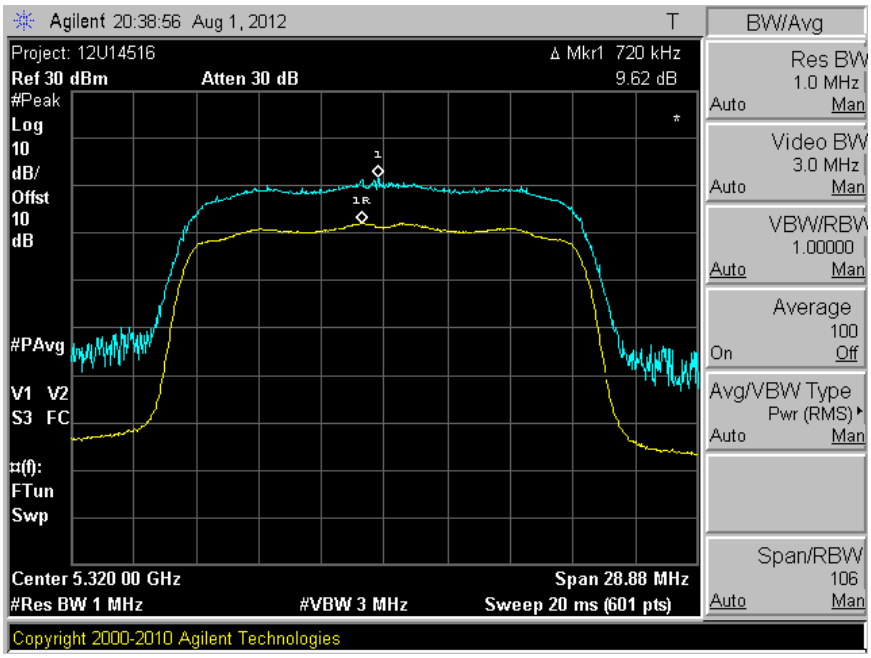
PEAK EXCURSION

PEAK EXCURSION LOW CH



PEAK EXCURSION MID CH

PEAK EXCURSION HIGH CH



8.5. 802.11a MODE IN THE 5.6 GHz BAND

8.5.1. 26 dB BANDWIDTH

LIMITS

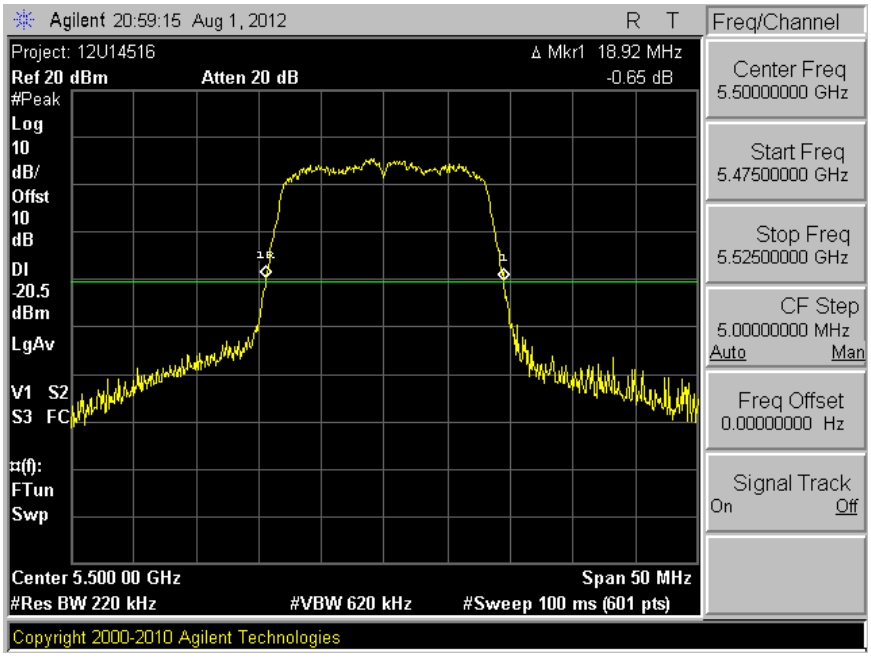
None; for reporting purposes only.

RESULTS

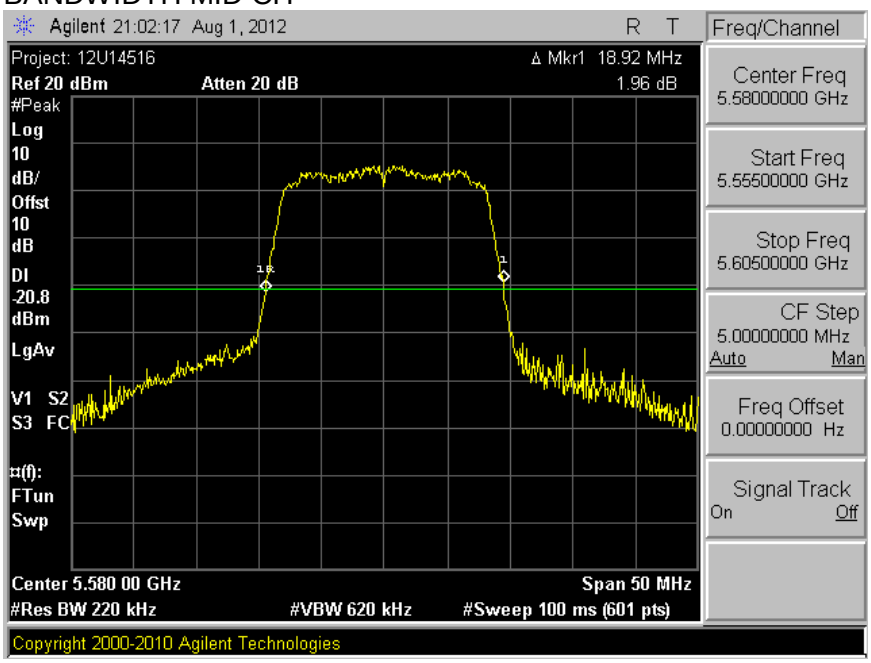
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	18.92
Mid	5580	18.92
High	5700	19.00

26 dB BANDWIDTH

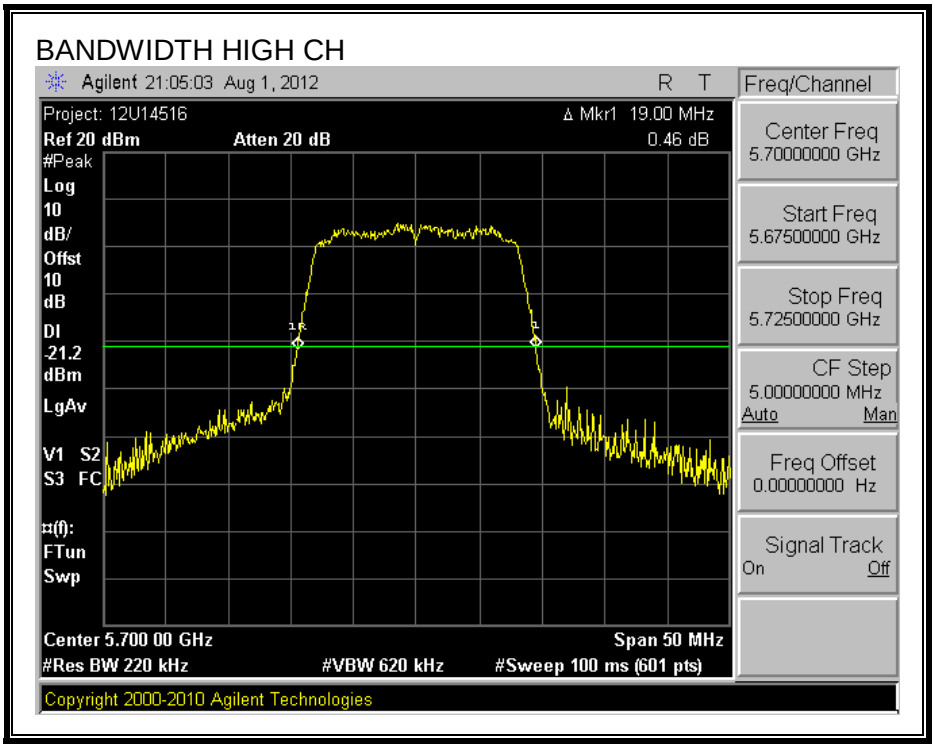
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



8.5.2. 99% BANDWIDTH

LIMITS

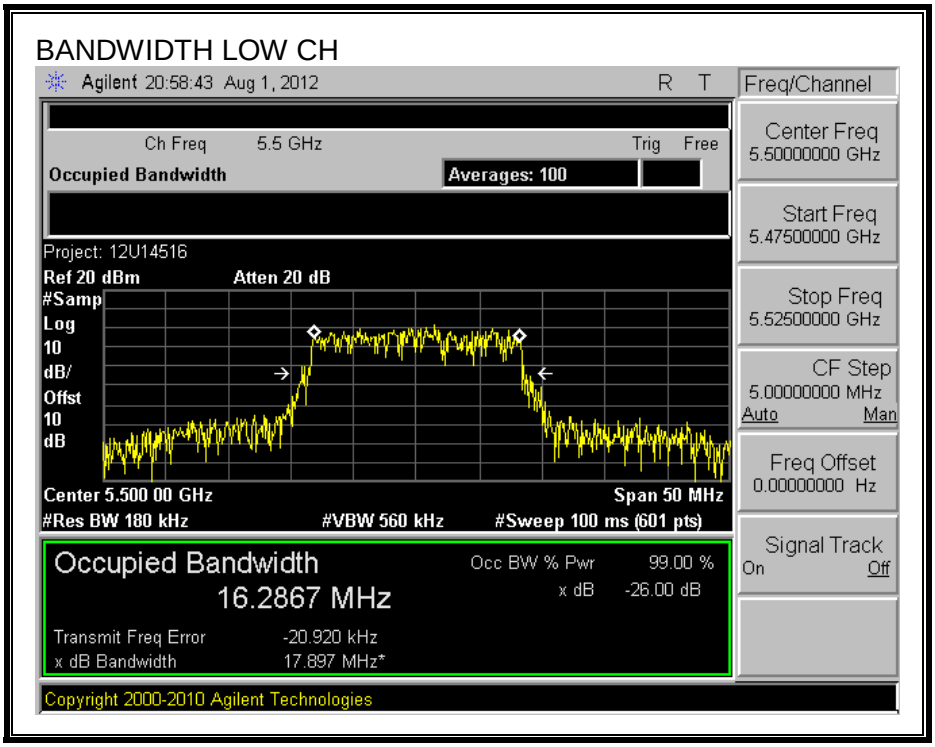
None; for reporting purposes only.

RESULTS

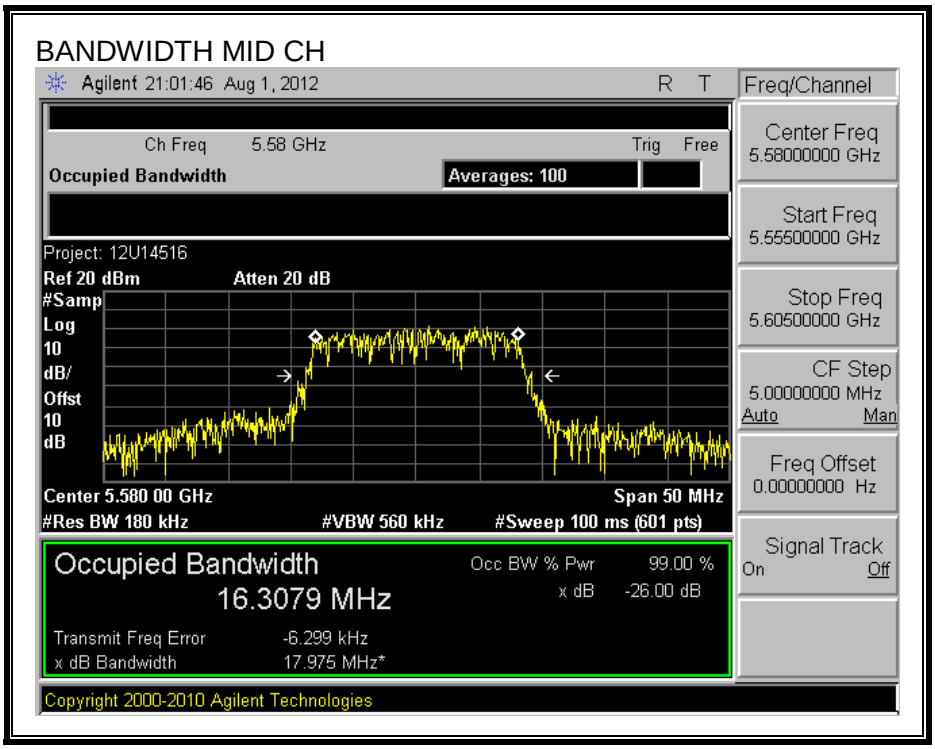
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	16.29
Mid	5580	16.31
High	5700	16.33

99% BANDWIDTH

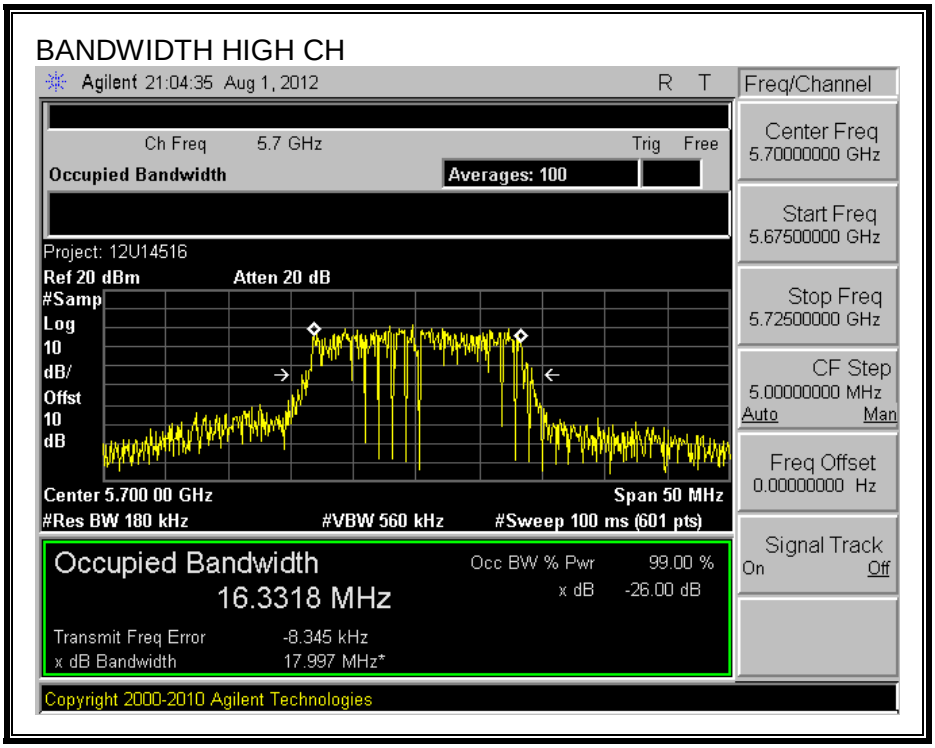
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



8.5.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 10 dB (including 10 dB pad and 0 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Channel	Frequency (MHz)	Power (dBm)
Low	5500	14.0
Mid	5580	13.9
High	5700	13.7

8.5.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (2)

IC RSS-210 A9.2 (3)

For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands 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 megahertz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density 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

Limits

Channel	Frequency (MHz)	Fixed Limit (dBm)	B (MHz)	11 + 10 Log B Limit (dBm)	Directional Gain (dBi)	Power Limit (dBm)	PPSD Limit (dBm)
Low	5500	24	18.92	23.77	-2.75	23.77	11.00
Mid	5580	24	18.92	23.77	-2.75	23.77	11.00
High	5700	24	19.00	23.79	-2.75	23.79	11.00

Duty Cycle CF (dB)	0.20	Included in Calculations of Corr'd Power & PPSD

Output Power Results

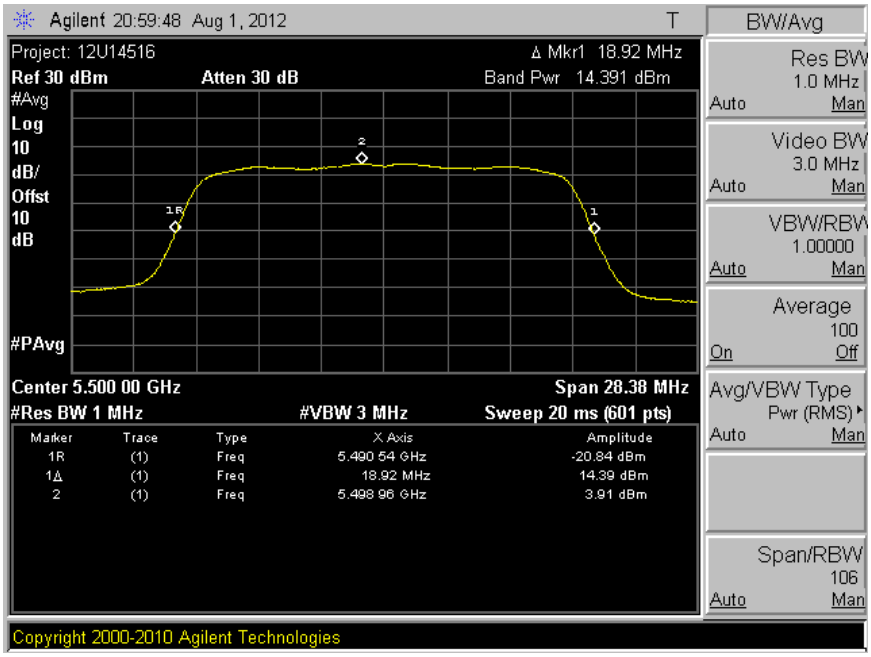
Channel	Frequency (MHz)	Meas Power (dBm)	Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	14.39	14.59	23.77	-9.18
Mid	5580	14.19	14.39	23.77	-9.38
High	5700	13.87	14.07	23.79	-9.72

PPSD Results

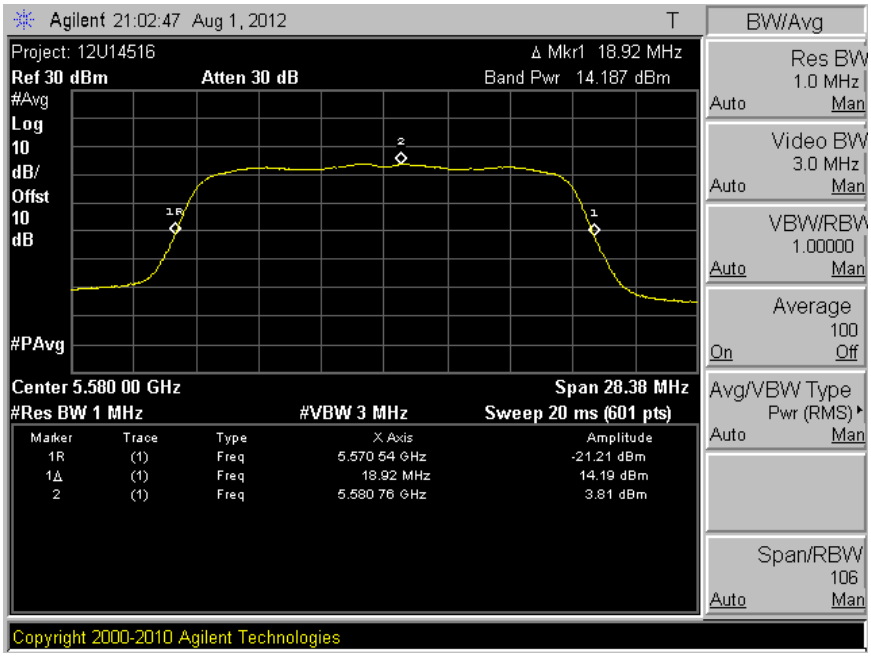
Channel	Frequency (MHz)	Meas PPSD (dBm)	Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	3.91	4.11	11.00	-6.89
Mid	5580	3.81	4.01	11.00	-6.99
High	5700	3.41	3.61	11.00	-7.39

OUTPUT POWER AND PPSD

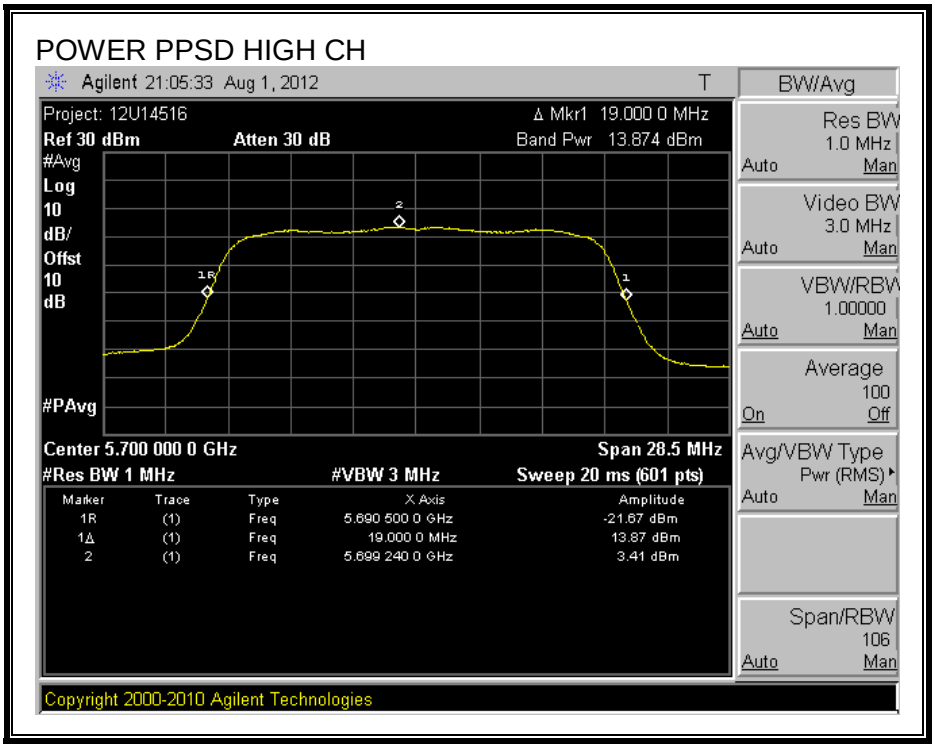
POWER PPSD LOW CH



POWER PPSD MID CH



POWER PPSD HIGH CH



8.5.5. PEAK EXCURSION

LIMITS

FCC §15.407 (a) (6)

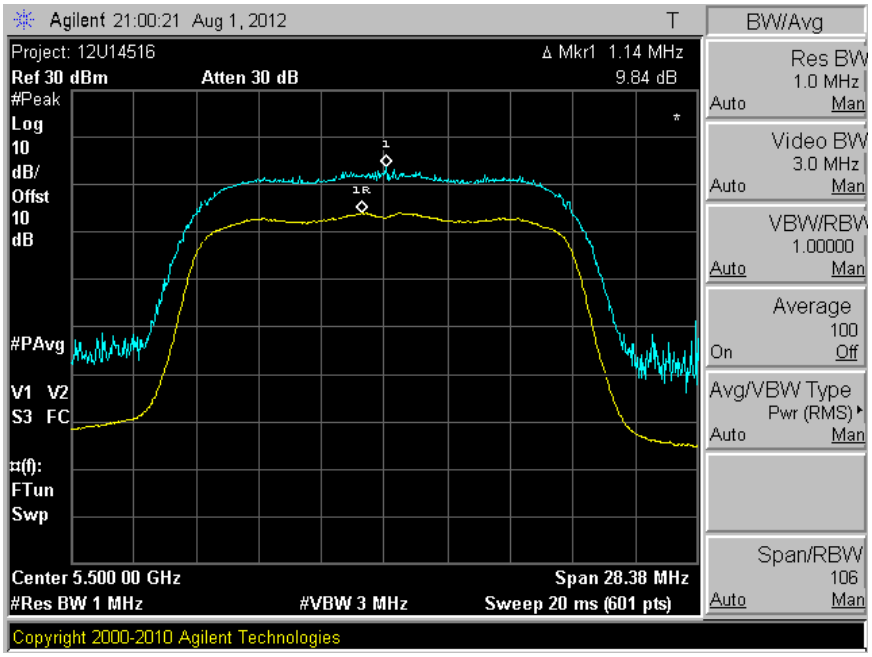
The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

RESULTS

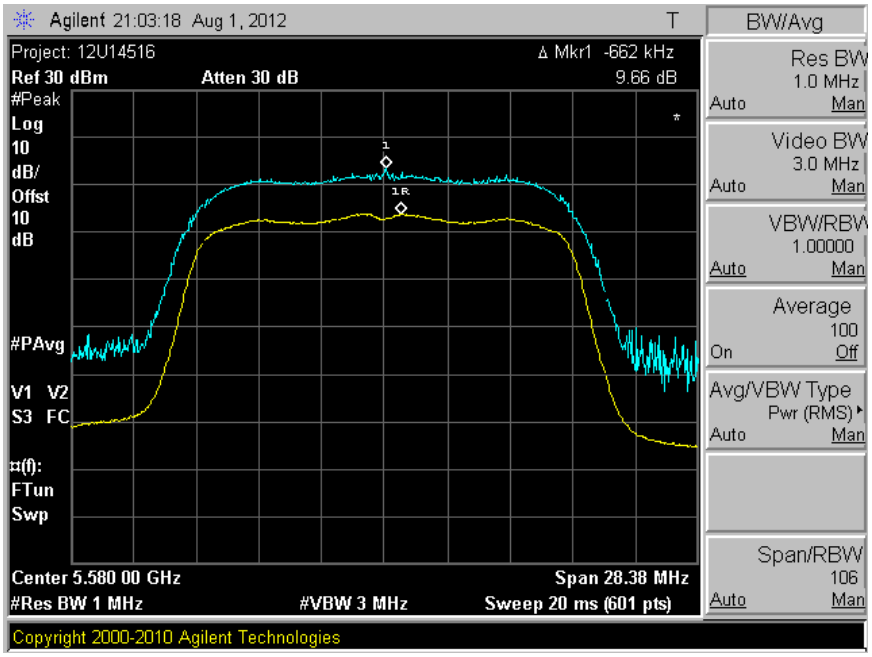
Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Low	5500	9.84	13	-3.16
Mid	5580	9.66	13	-3.34
High	5700	9.21	13	-3.79

PEAK EXCURSION

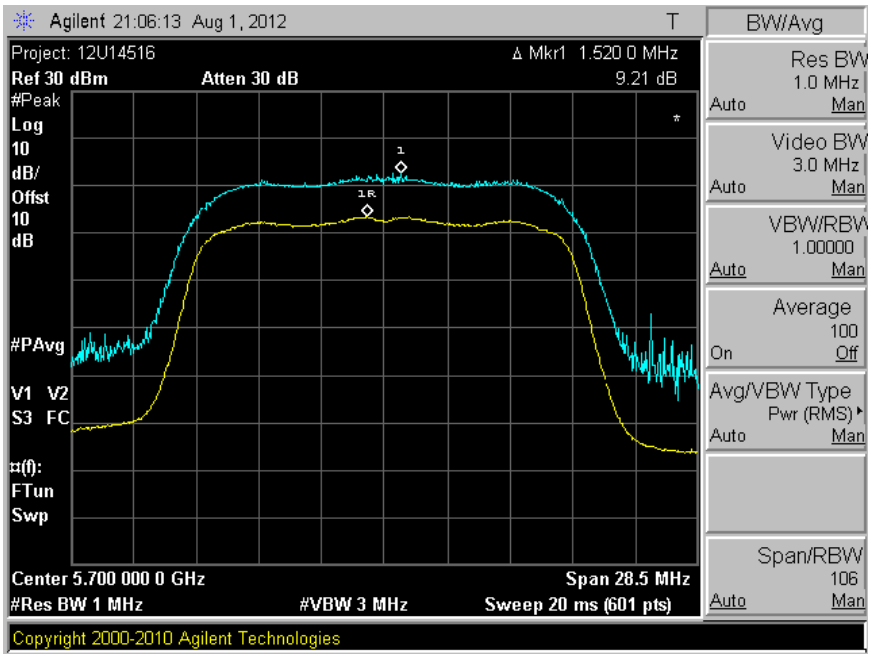
PEAK EXCURSION LOW CH



PEAK EXCURSION MID CH



PEAK EXCURSION HIGH CH



8.6. 802.11n HT20 MODE IN THE 5.6 GHz BAND

8.6.1. 26 dB BANDWIDTH

LIMITS

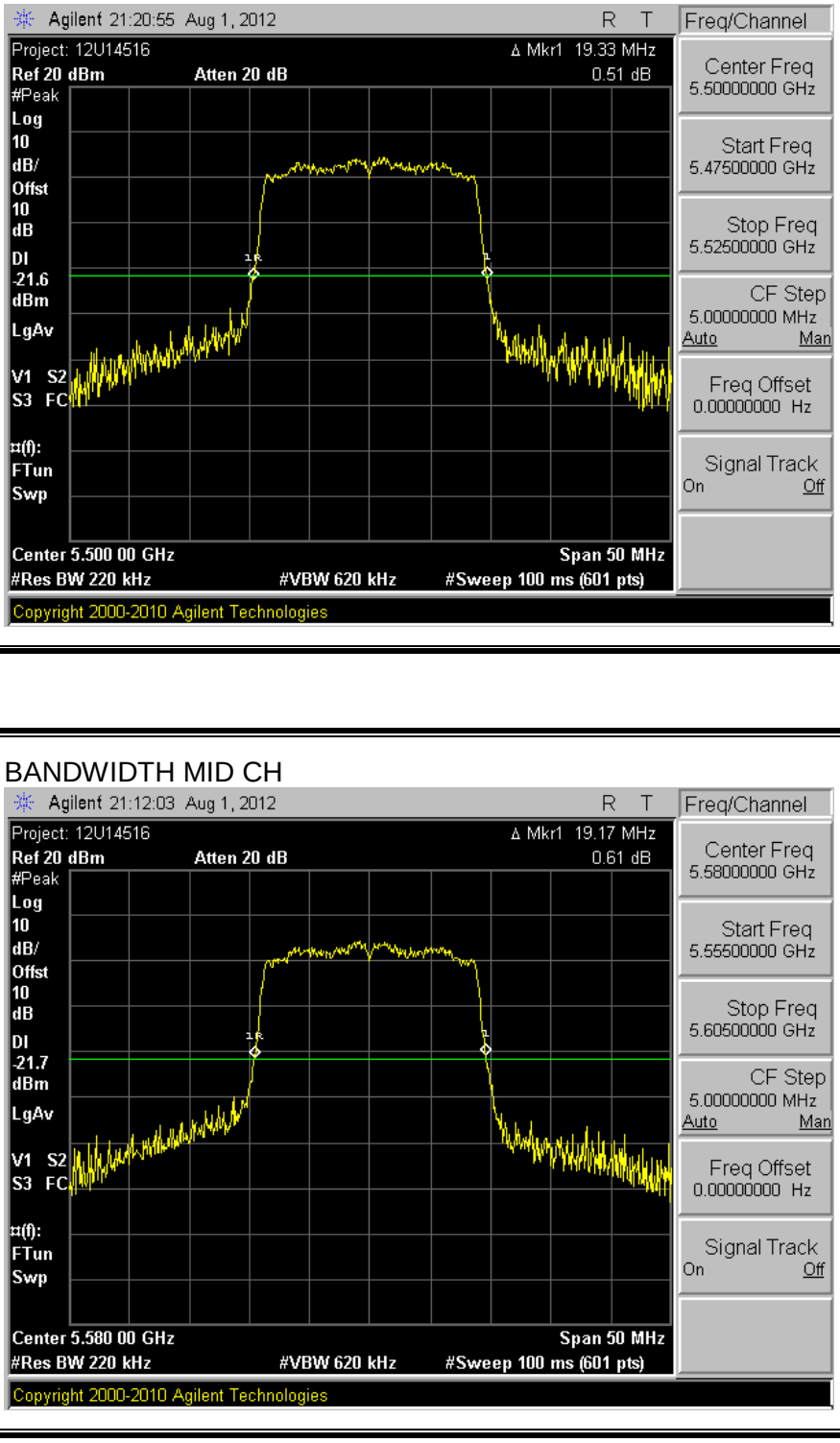
None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	19.33
Mid	5580	19.17
High	5700	19.17

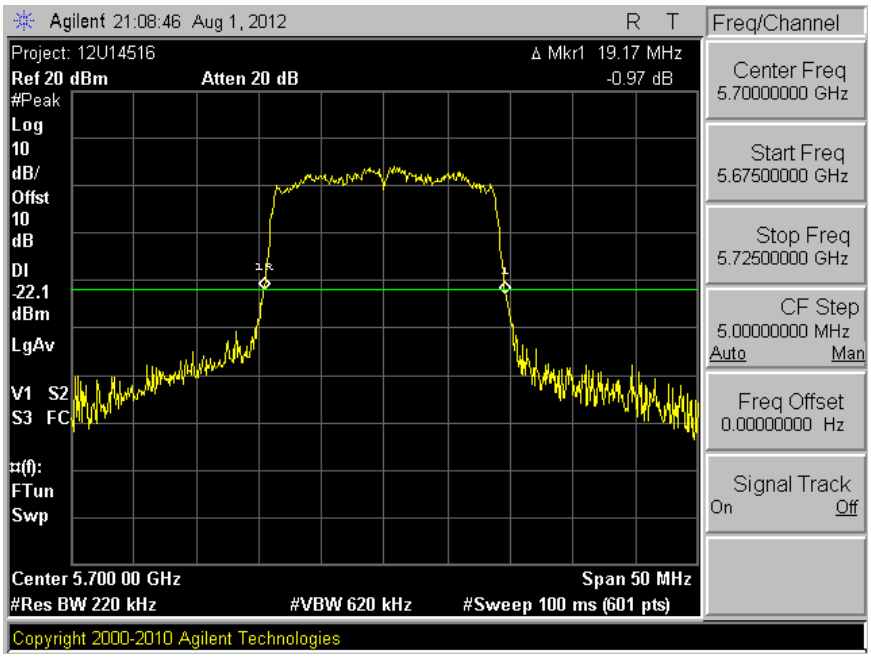
26 dB BANDWIDTH

BANDWIDTH LOW CH



BANDWIDTH MID CH

BANDWIDTH HIGH CH



8.6.2. 99% BANDWIDTH

LIMITS

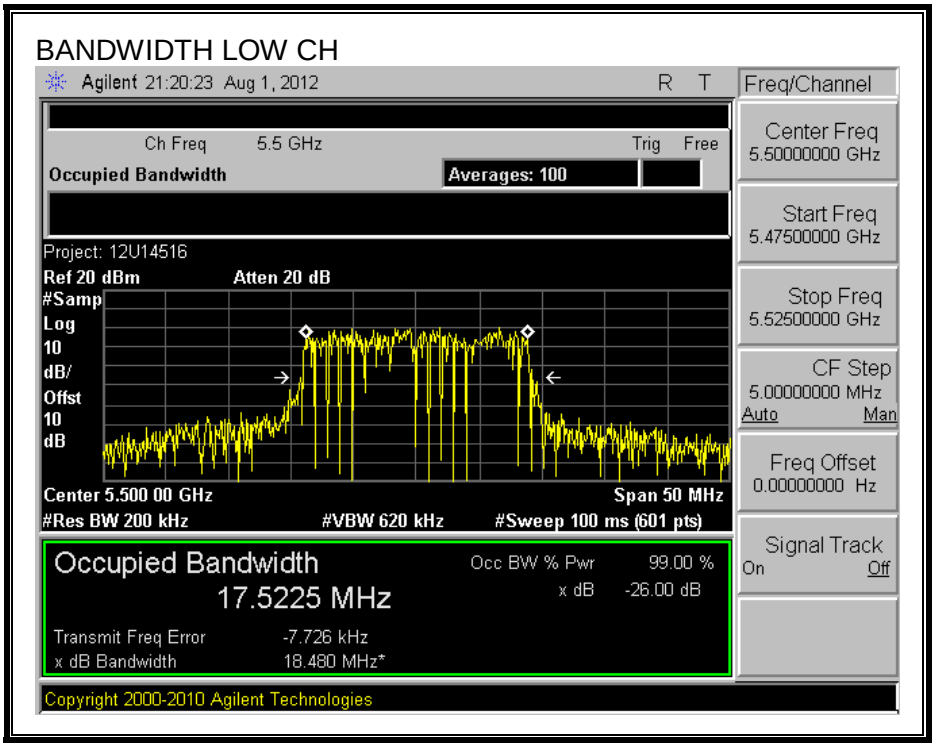
None; for reporting purposes only.

RESULTS

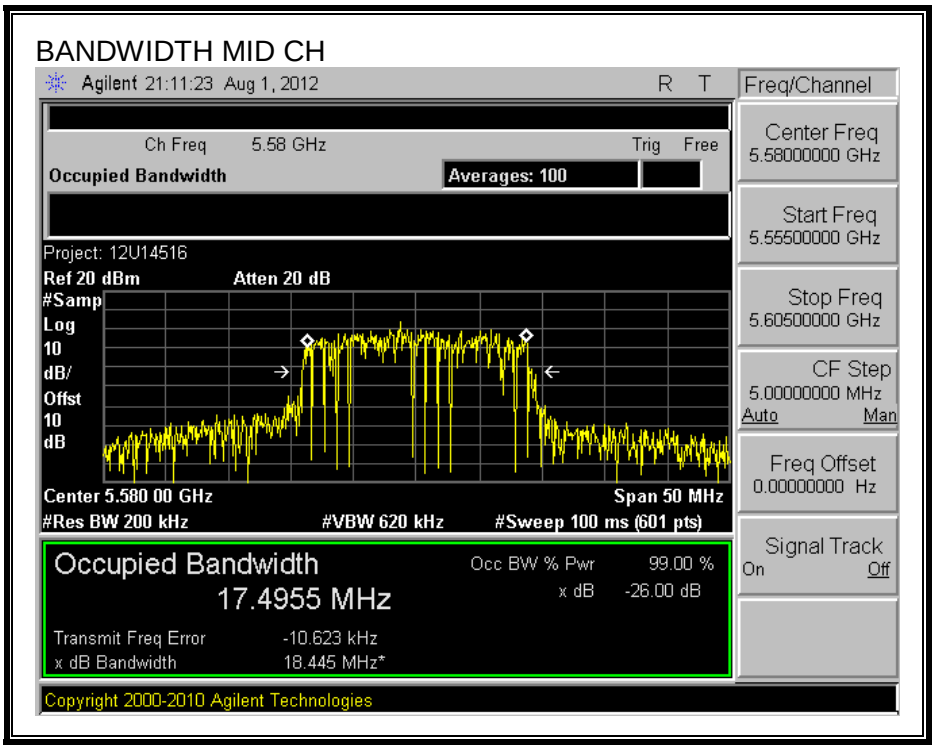
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	17.52
Mid	5580	17.50
High	5700	17.49

99% BANDWIDTH

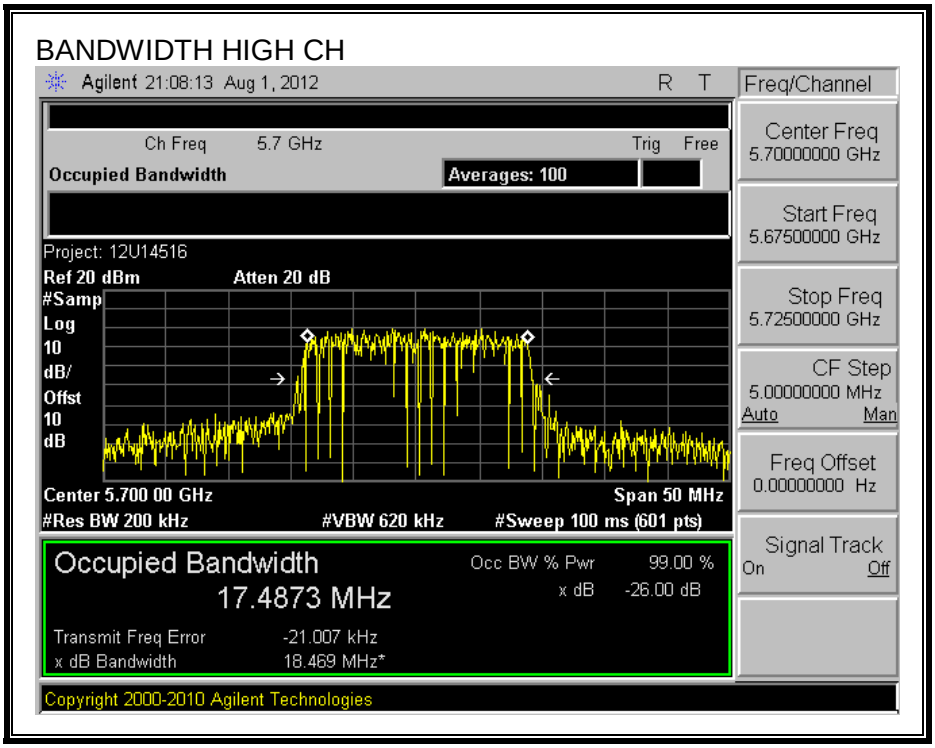
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



8.6.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 10 dB (including 10 dB pad and 0 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Channel	Frequency (MHz)	Power (dBm)
Low	5500	12.9
Mid	5580	12.8
High	5700	12.6

8.6.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (2)

IC RSS-210 A9.2 (3)

For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands 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 megahertz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density 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

Limits

Channel	Frequency (MHz)	Fixed Limit (dBm)	B (MHz)	11 + 10 Log B Limit (dBm)	Directional Gain (dBi)	Power Limit (dBm)	PPSD Limit (dBm)
Low	5500	24	19.33	23.86	-2.75	23.86	11.00
Mid	5580	24	19.17	23.83	-2.75	23.83	11.00
High	5700	24	19.17	23.83	-2.75	23.83	11.00

Duty Cycle CF (dB)	0.20	Included in Calculations of Corr'd Power & PPSD

Output Power Results

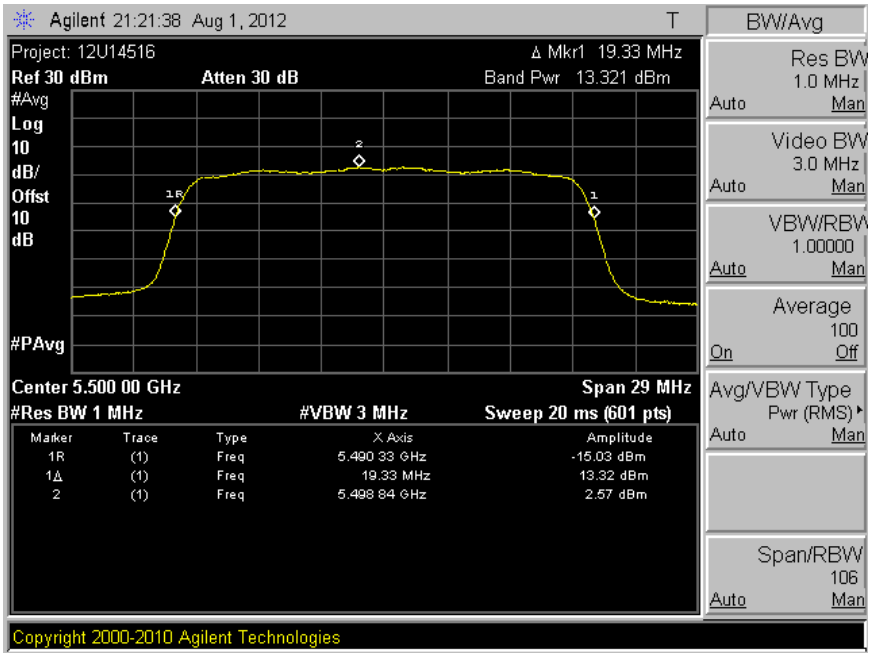
Channel	Frequency (MHz)	Meas Power (dBm)	Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	13.32	13.52	23.86	-10.34
Mid	5580	13.16	13.36	23.83	-10.47
High	5700	12.96	13.16	23.83	-10.67

PPSD Results

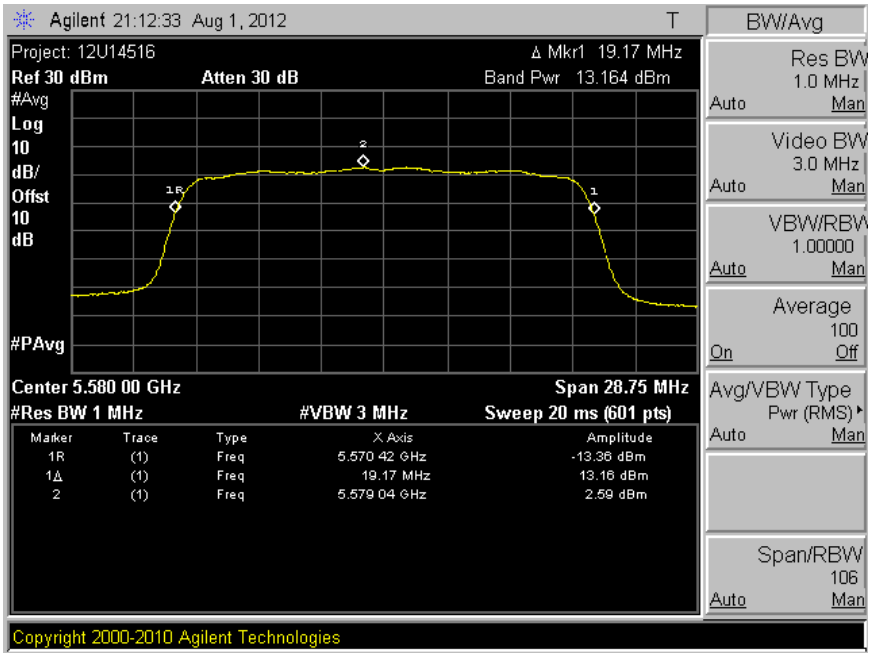
Channel	Frequency (MHz)	Meas PPSD (dBm)	Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	2.57	2.77	11.00	-8.23
Mid	5580	2.59	2.79	11.00	-8.21
High	5700	2.33	2.53	11.00	-8.47

OUTPUT POWER AND PPSD

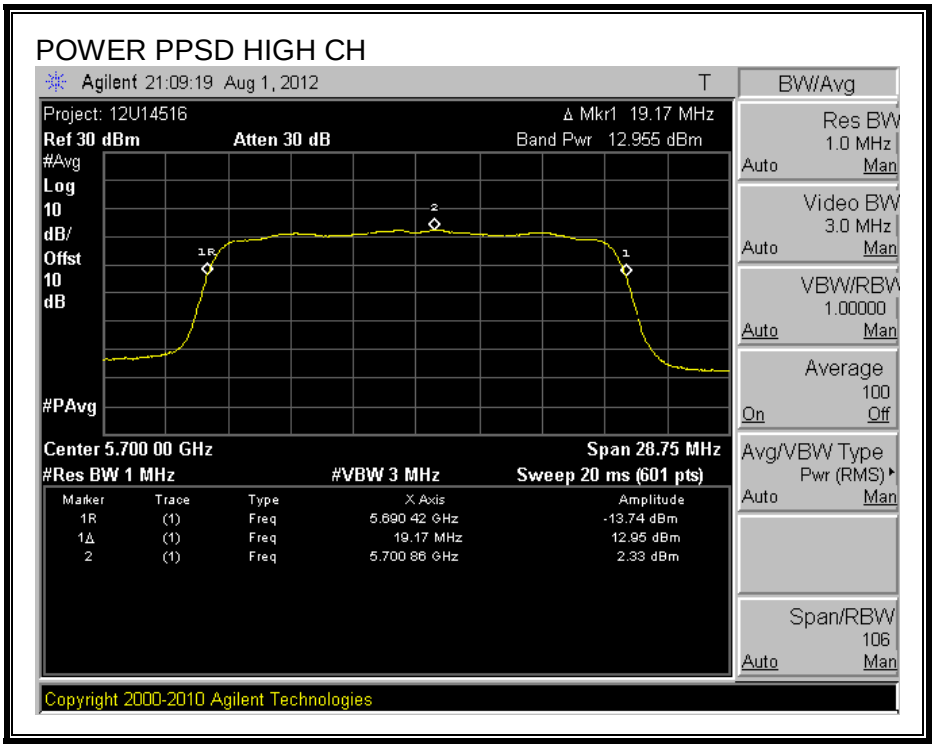
POWER PPSD LOW CH



POWER PPSD MID CH



POWER PPSD HIGH CH



8.6.5. PEAK EXCURSION

LIMITS

FCC §15.407 (a) (6)

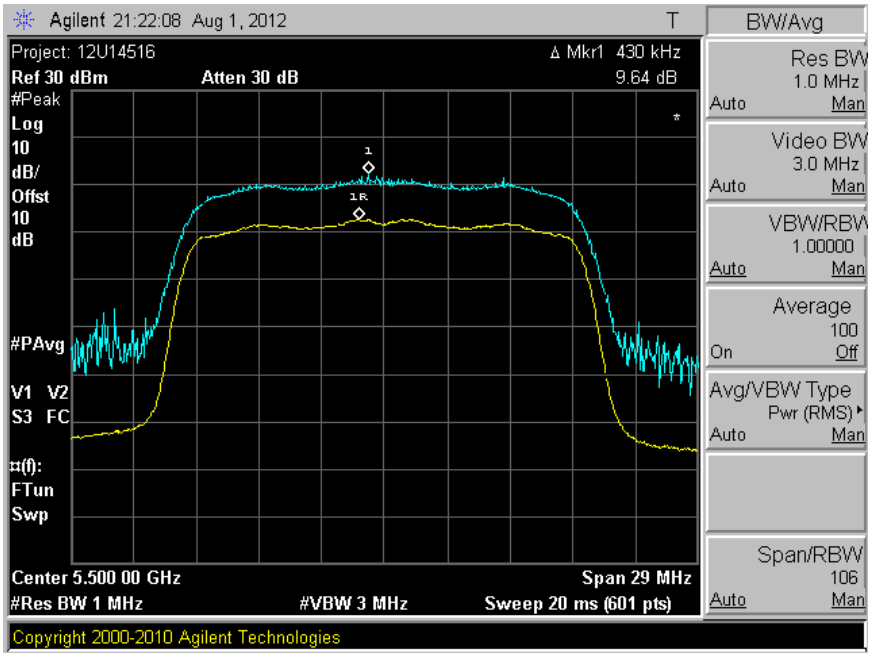
The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

RESULTS

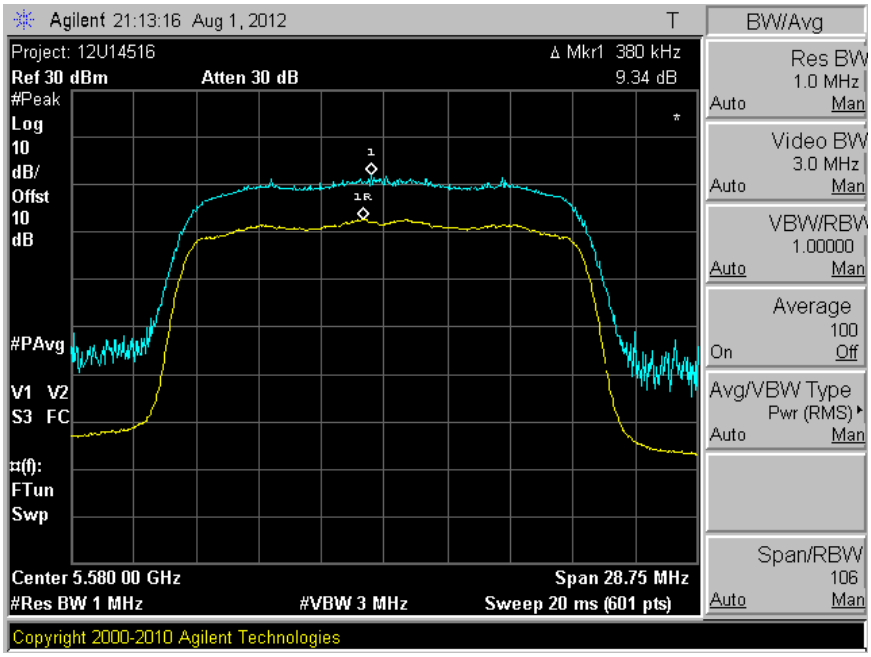
Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Low	5500	9.64	13	-3.36
Mid	5580	9.34	13	-3.66
High	5700	9.54	13	-3.46

PEAK EXCURSION

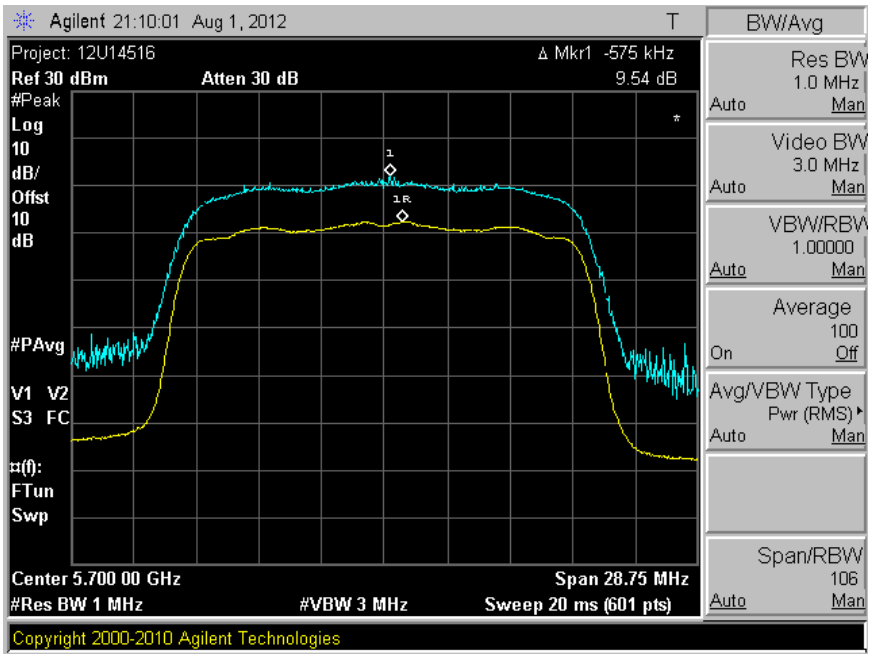
PEAK EXCURSION LOW CH



PEAK EXCURSION MID CH



PEAK EXCURSION HIGH CH



9. RADIATED TEST RESULTS

9.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-210 Clause 2.6 (Transmitter)

IC RSS-GEN Clause 6 (Receiver)

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

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 1 MHz for peak measurements and as applicable for average measurements.

The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

A Duty Cycle correction factor of 0.2dB was calculated and applied to all measurements.

9.2. TRANSMITTER ABOVE 1 GHz

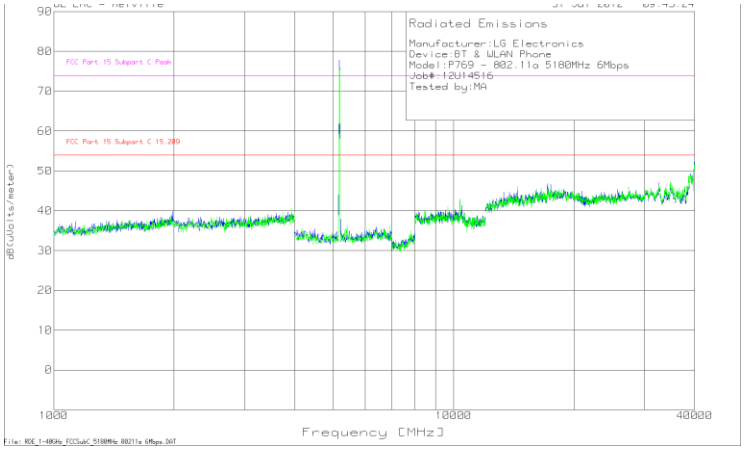
9.3. TX ABOVE 1 GHz 802.11a MODE IN THE 5.2 GHz BAND

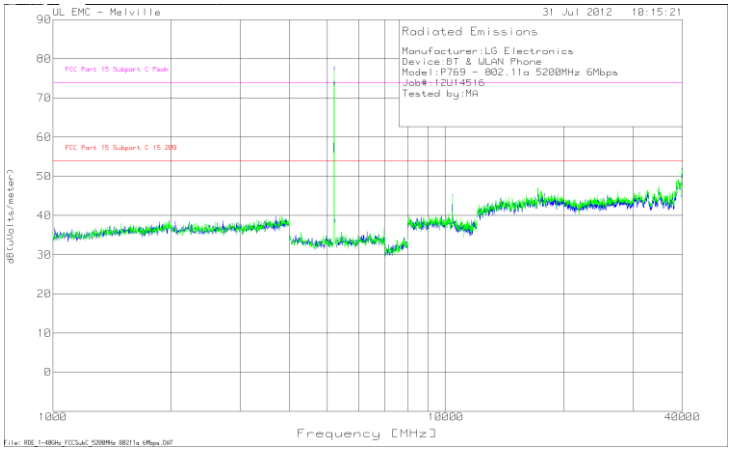
RESTRICTED BANDEDGE (LOW CHANNEL)

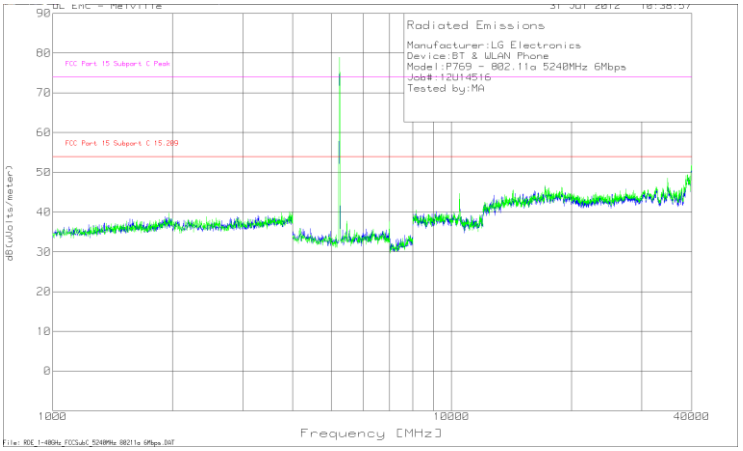
LOW CHANNEL RESTRICTED, PEAK & AVG, HORIZ

LOW CHANNEL RESTRICTED, PEAK & AVG, VERT

HARMONICS AND SPURIOUS EMISSIONS





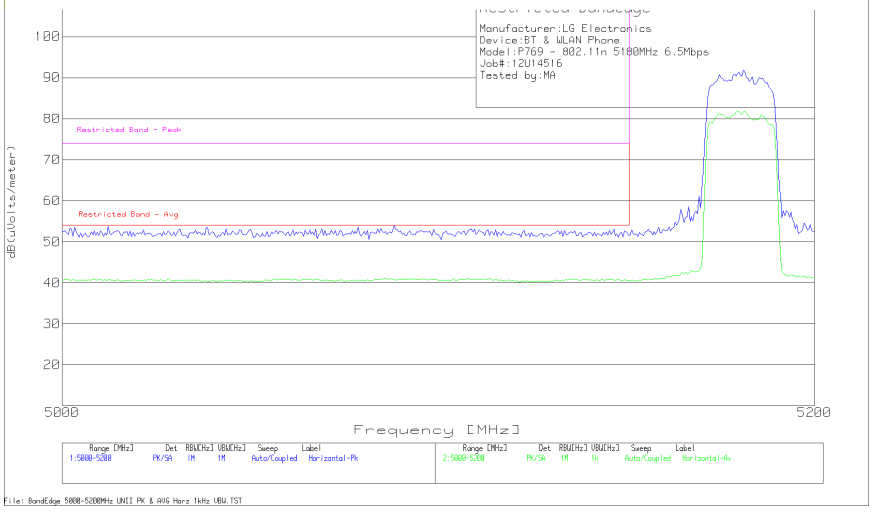


Note: No emissions were detected above the system noise floor.

9.4. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND

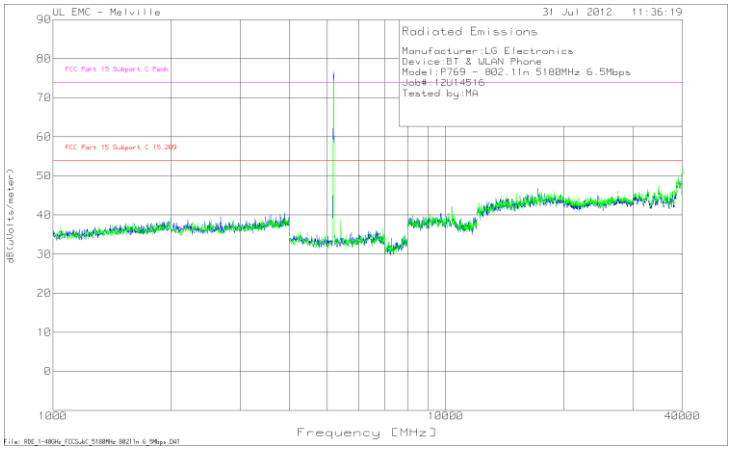
RESTRICTED BANDEDGE (LOW CHANNEL)

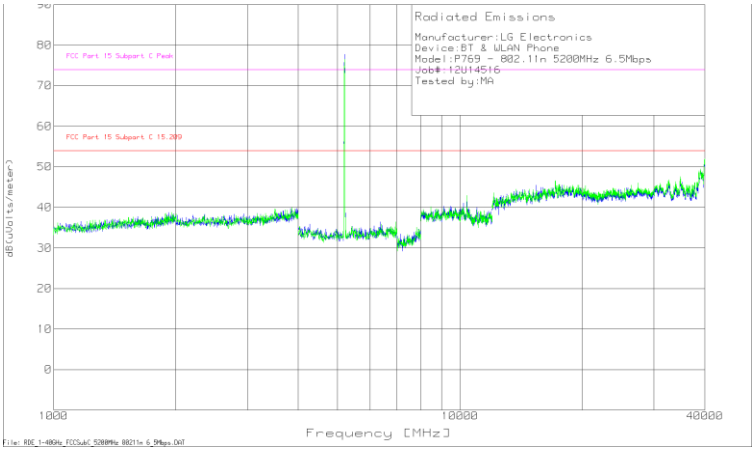
LOW CHANNEL RESTRICTED, PEAK & AVG, HORIZ

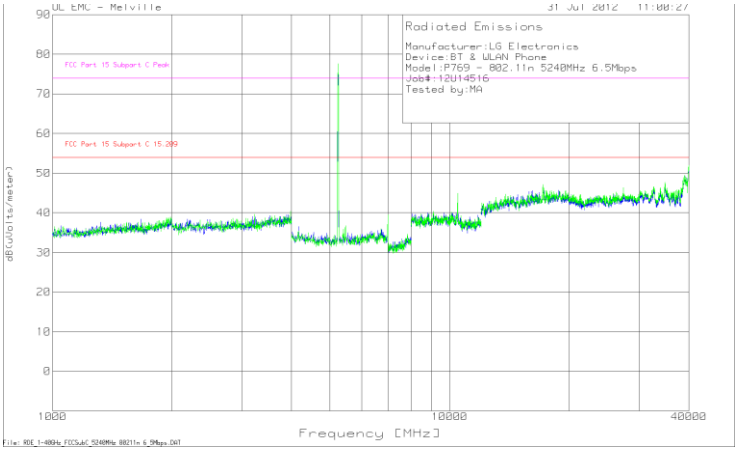


LOW CHANNEL RESTRICTED, PEAK & AVG, VERT

HARMONICS AND SPURIOUS EMISSIONS





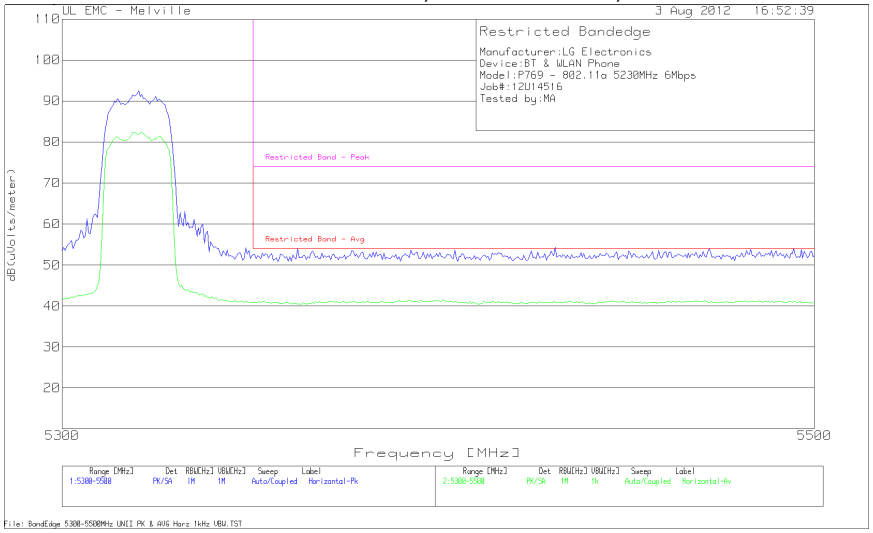


Note: No emissions were detected above the system noise floor.

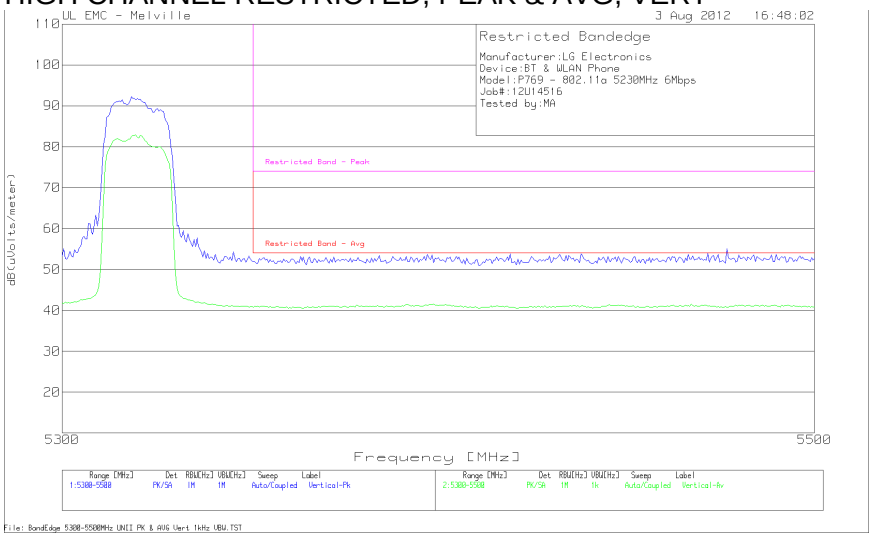
9.5. TX ABOVE 1 GHz 802.11a MODE IN THE 5.3 GHz BAND

RESTRICTED BANDEDGE (HIGH CHANNEL)

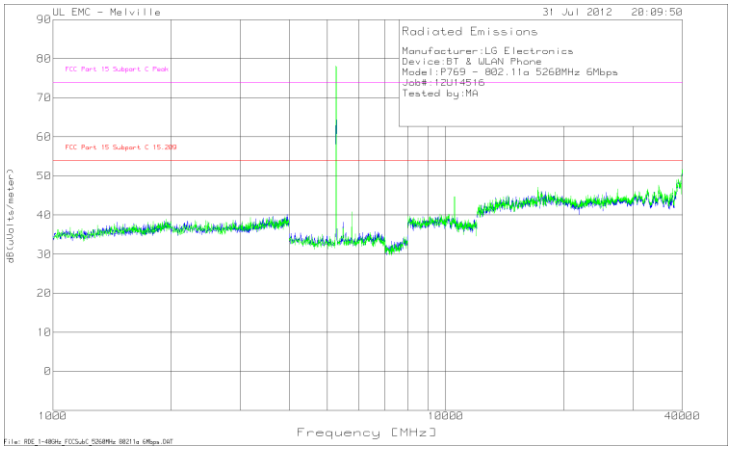
HIGH CHANNEL RESTRICTED, PEAK & AVG, HORIZ

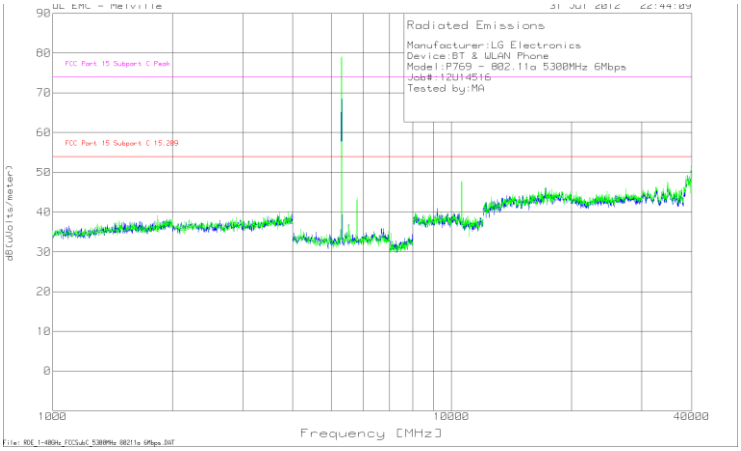


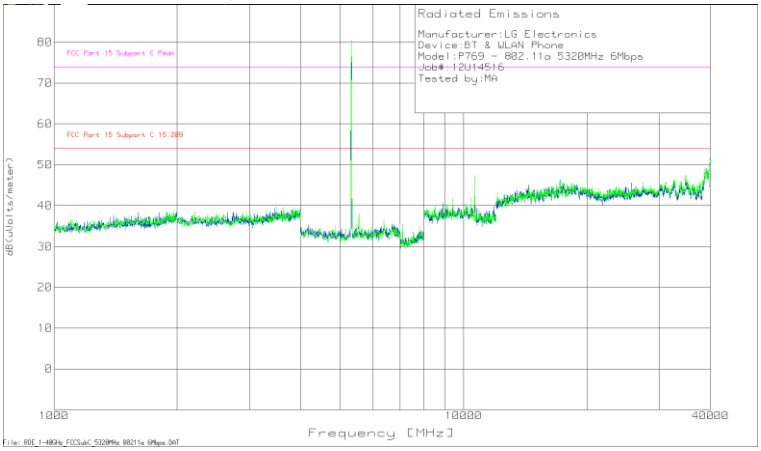
HIGH CHANNEL RESTRICTED, PEAK & AVG, VERT



HARMONICS AND SPURIOUS EMISSIONS







HARMONICS AND SPURIOUS EMISSIONS

Manufacturer:LG Electronics
Device:BT & WLAN Phone
Model:P769 - 802.11a Mode 6Mbps
Job#:12U14516
Tested by:MA

Mid Channel - 5300MHz

Test Frequency	Meter Reading	Detector	AF-8933 [dB]	BOMS Factor [dB]	DCF [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C Peak	Margin	Azimuth [Degs]	Height [cm]	Polarity
10600.922	71.13	PK	33.2	-49.93	-0.2	54.2	54	0.2	74	-19.8	171	107	Horz
10600.922	56.53	Av	33.2	-49.93	-0.2	39.6	54	-14.4	74	-34.4	171	107	Horz
10600.922	70.64	PK	33.2	-49.93	-0.2	53.71	54	-0.29	74	-20.29	99	134	Vert
10600.922	55.66	Av	33.2	-49.93	-0.2	38.73	54	-15.27	74	-35.27	99	134	Vert

High Channel - 5320MHz

Test Frequency	Meter Reading	Detector	AF-8933 [dB]	BOMS Factor [dB]	DCF [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C Peak	Margin	Azimuth [Degs]	Height [cm]	Polarity
10641.122	71.09	PK	33.2	-49.52	-0.2	54.57	54	0.57	74	-19.43	170	107	Horz
10641.122	56.73	Av	33.2	-49.52	-0.2	40.21	54	-13.79	74	-33.79	170	107	Horz
10641.122	69.37	PK	33.2	-49.52	-0.2	52.85	54	-1.15	74	-21.15	99	120	Vert
10641.122	54.65	Av	33.2	-49.52	-0.2	38.13	54	-15.87	74	-35.87	99	120	Vert

PK - Peak detector
Av - Average detector

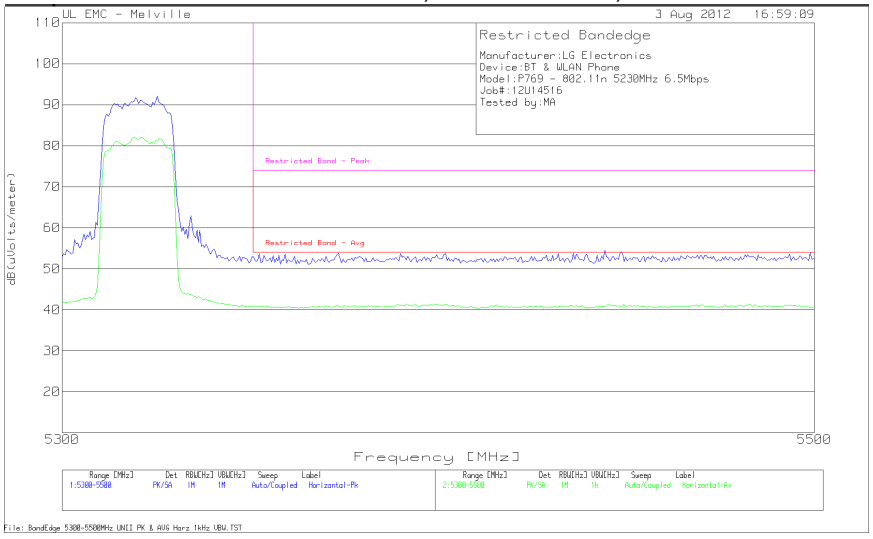
Note: No other emissions were detected above the system noise floor.

A 1kHz VBW was used during Average detection measurements.

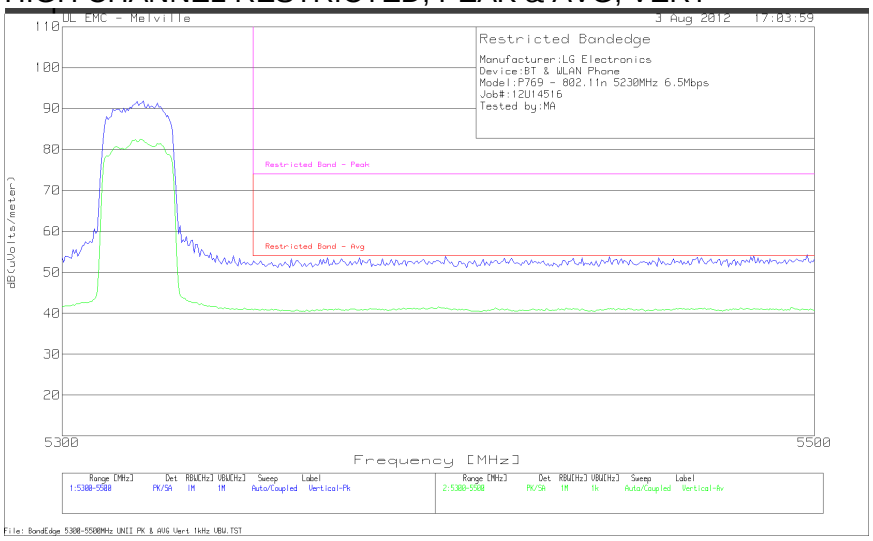
9.6. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND

RESTRICTED BANDEDGE (HIGH CHANNEL)

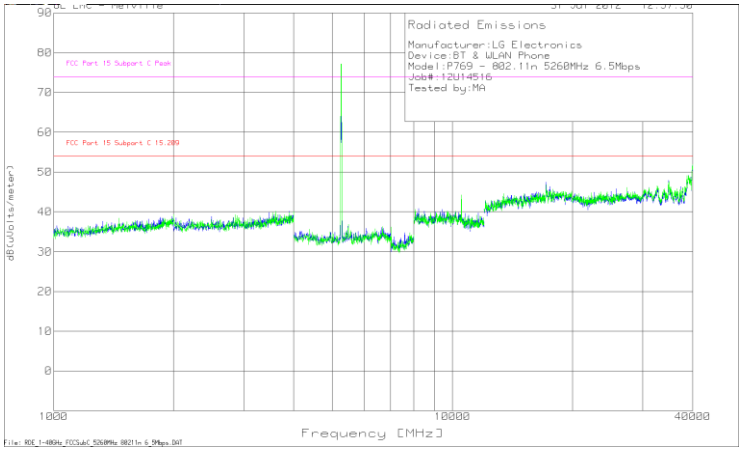
HIGH CHANNEL RESTRICTED, PEAK & AVG, HORIZ

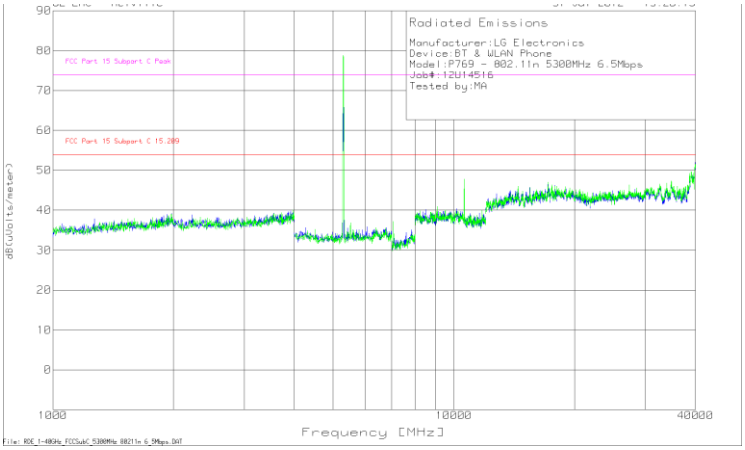


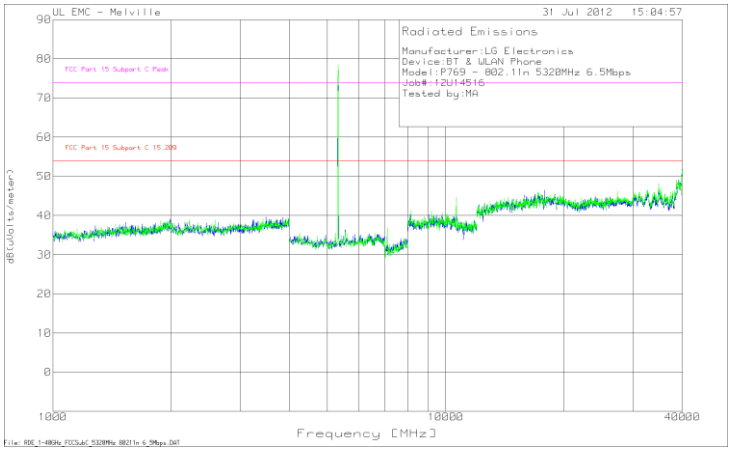
HIGH CHANNEL RESTRICTED, PEAK & AVG, VERT



HARMONICS AND SPURIOUS EMISSIONS







HARMONICS AND SPURIOUS EMISSIONS

Manufacturer:LG Electronics
Device:BT & WLAN Phone
Model:P769 - 802.11n Mode 6Mbps
Job#:12U14516
Tested by:MA

Mid Channel - 5300MHz

Test Frequency	Meter Reading	Detector	AF-8933 [dB]	BOMS Factor [dB]	DCF [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C Peak	Margin	Azimuth [Degs]	Height [cm]	Polarity
10600.922	71.13	PK	33.2	-49.93	-0.2	54.2	54	0.2	74	-19.8	171	107	Horz
10599.309	54.31	Av	33.2	-49.94	-0.2	37.37	54	-16.63	74	-36.63	230	320	Horz
10600.922	70.64	PK	33.2	-49.93	-0.2	53.71	54	-0.29	74	-20.29	99	134	Vert
10602.194	55.36	Av	33.2	-49.96	-0.2	38.4	54	-15.6	74	-35.6	198	382	Vert

High Channel - 5320MHz

Test Frequency	Meter Reading	Detector	AF-8933 [dB]	BOMS Factor [dB]	DCF [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C Peak	Margin	Azimuth [Degs]	Height [cm]	Polarity
10641.122	71.09	PK	33.2	-49.52	-0.2	54.57	54	0.57	74	-19.43	170	107	Horz
10640.922	54.11	Av	33.2	-49.51	-0.2	37.6	54	-16.4	74	-36.4	176	119	Horz
10641.122	69.37	PK	33.2	-49.52	-0.2	52.85	54	-1.15	74	-21.15	99	120	Vert
10641.162	54.12	Av	33.2	-49.52	-0.2	37.6	54	-16.4	74	-36.4	105	167	Vert

PK - Peak detector
Av - Average detector

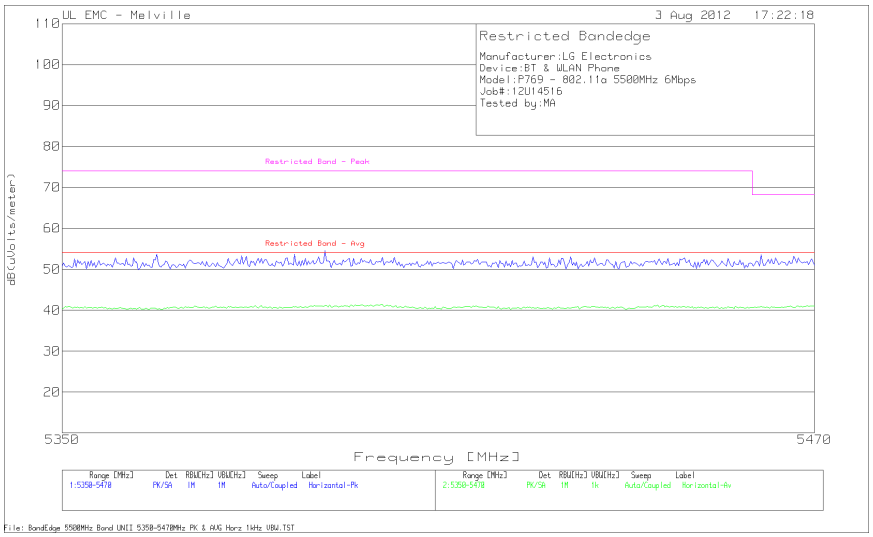
Note: No other emissions were detected above the system noise floor.

A 1kHz VBW was used during Average detection measurements.

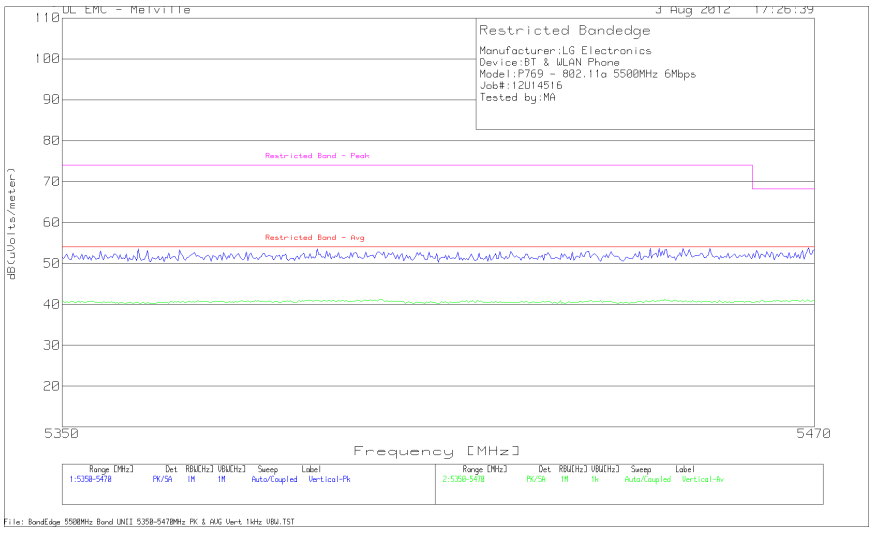
9.7. TX ABOVE 1 GHz 802.11a MODE IN THE 5.6 GHz BAND

RESTRICTED & AUTHORIZED BANDEDGE (LOW CHANNEL)

LOW CHANNEL RESTRICTED & AUTHORIZED, PEAK & AVG, HORIZ

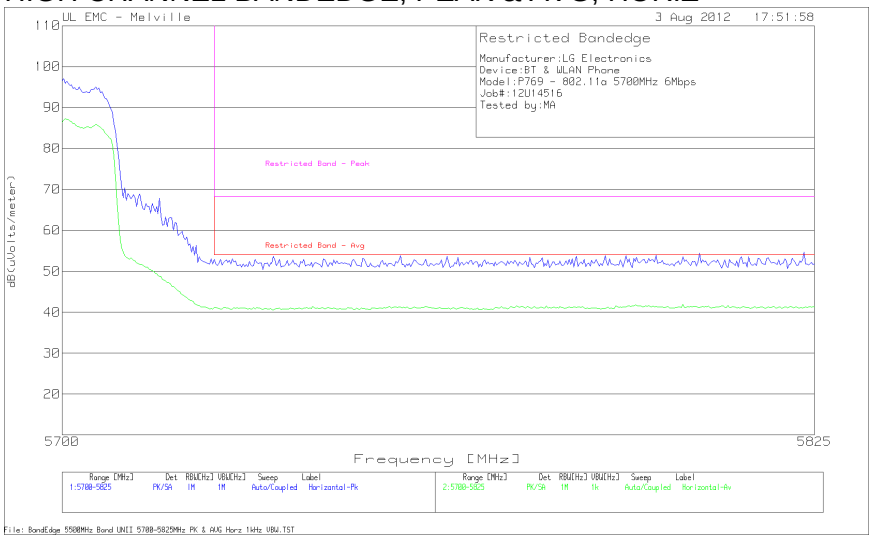


LOW CHANNEL RESTRICTED & AUTHORIZED, PEAK & AVG, VERT

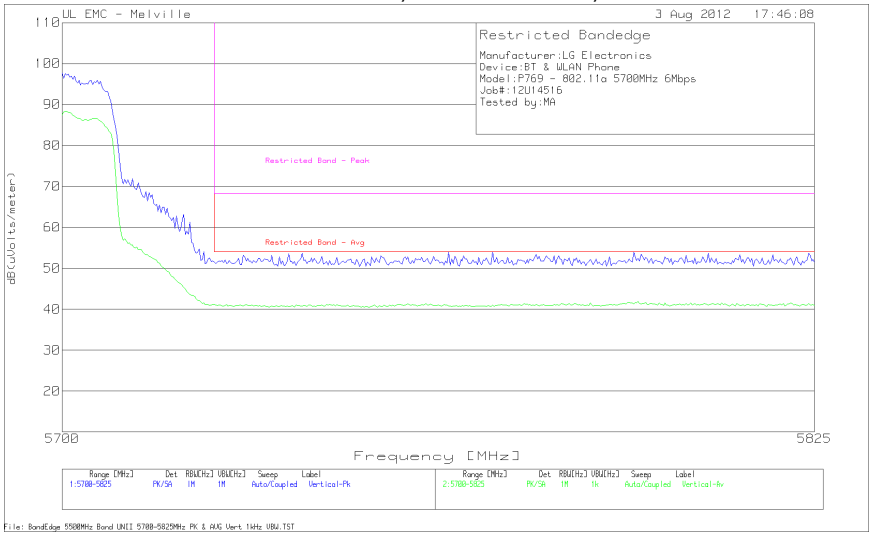


AUTHORIZED BANDEDGE (HIGH CHANNEL)

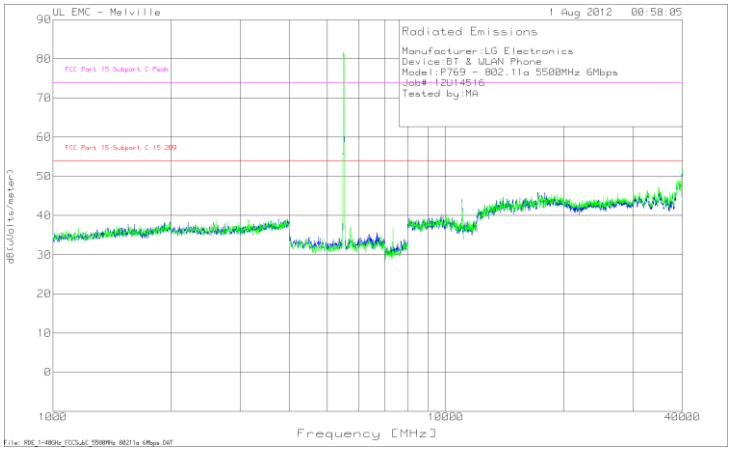
HIGH CHANNEL BANDEDGE, PEAK & AVG, HORIZ

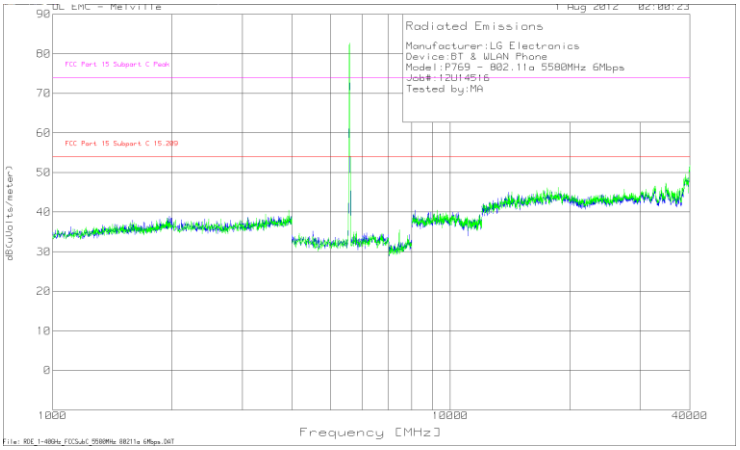


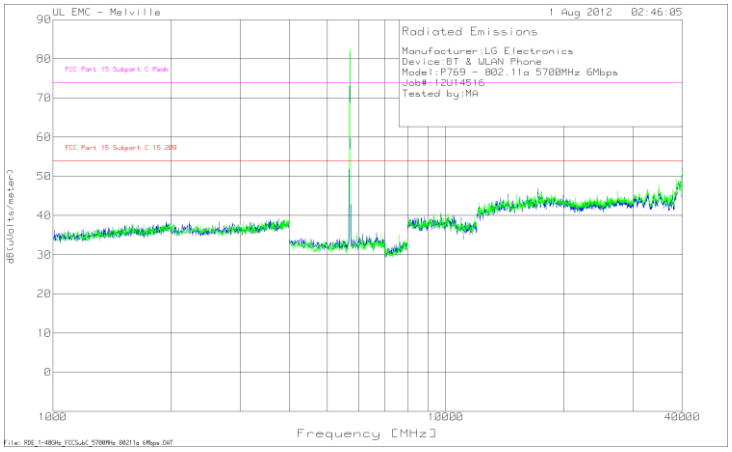
HIGH CHANNEL BANDEDGE, PEAK & AVG, VERT



HARMONICS AND SPURIOUS EMISSIONS







HARMONICS AND SPURIOUS EMISSIONS

Manufacturer:LG Electronics													
Device:BT & WLAN Phone													
Model:P769 - 802.11a 5500MHz Band 6Mbps													
Job#:12U14516													
Tested by:MA													
Low Channel - 5500MHz													
Test Frequency	Meter Reading	Detector	AF-8933 [dB]	BOMS Factor [dB]	DCF [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C Peak	Margin	Azimuth [Degs]	Height [cm]	Polarity
10999.92	71.56	PK	33.4	-49.79	-0.2	54.97	54	0.97	74	-19.03	194	329	Horz
10999.92	53.47	Av	33.4	-49.79	-0.2	36.88	54	-17.12	74	-37.12	194	329	Horz
10999.92	68.77	PK	33.4	-49.79	-0.2	52.18	54	-1.82	74	-21.82	70	390	Vert
10999.92	50.47	Av	33.4	-49.79	-0.2	33.88	54	-20.12	74	-40.12	70	390	Vert
PK - Peak detector													
Av - Average detector													

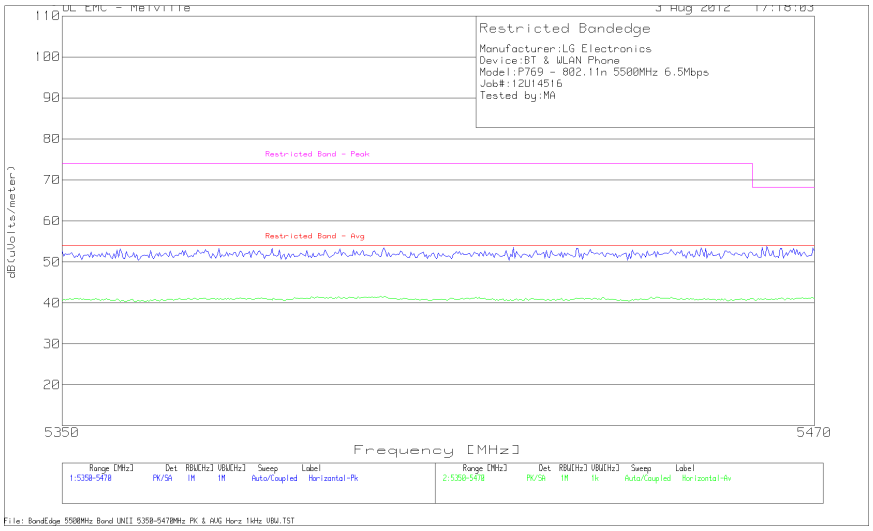
Note: No other emissions were detected above the system noise floor.

A 1kHz VBW was used during Average detection measurements.

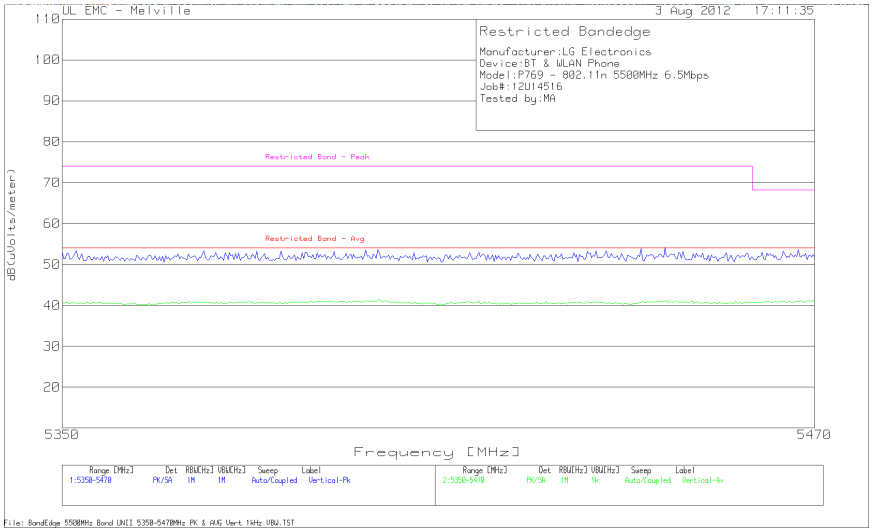
9.8. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.6 GHz BAND

RESTRICTED & AUTHORIZED BANDEDGE (LOW CHANNEL)

LOW CHANNEL RESTRICTED & AUTHORIZED, PEAK & AVG, HORIZ

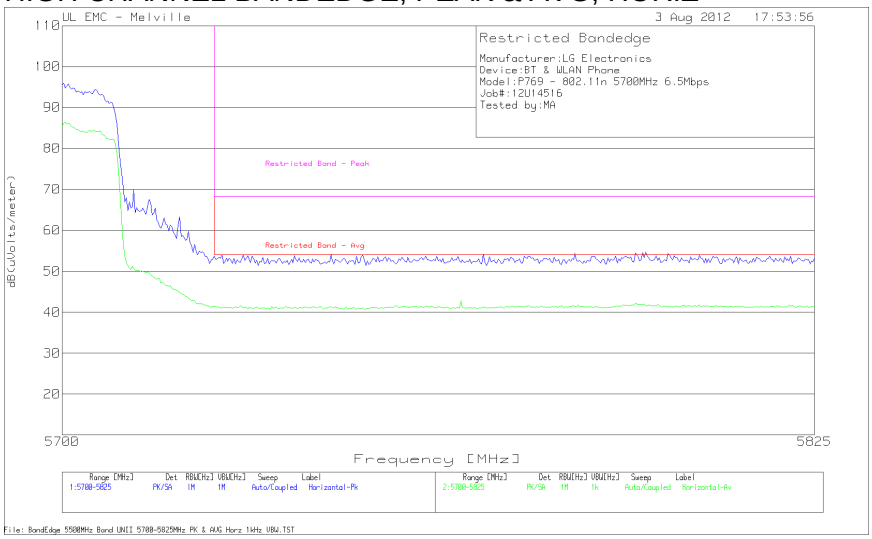


LOW CHANNEL RESTRICTED & AUTHORIZED, PEAK & AVG, VERT

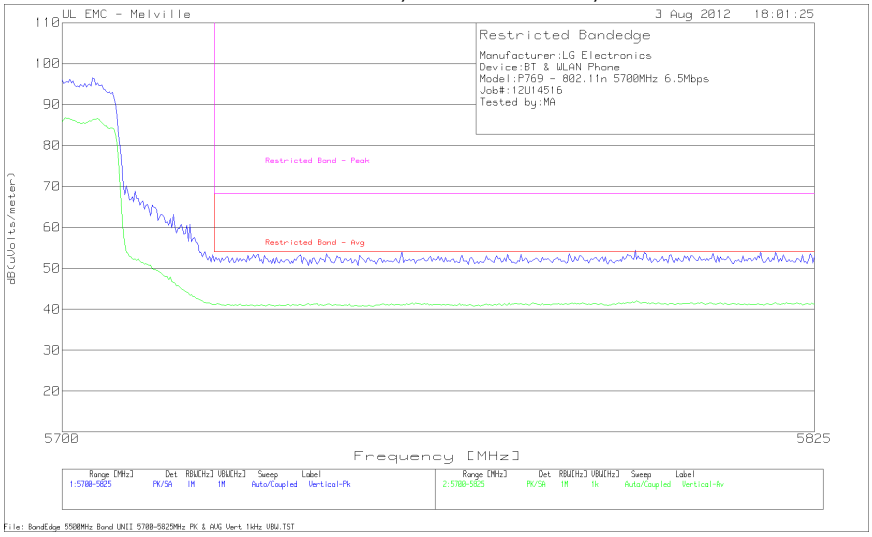


AUTHORIZED BANDEDGE (HIGH CHANNEL)

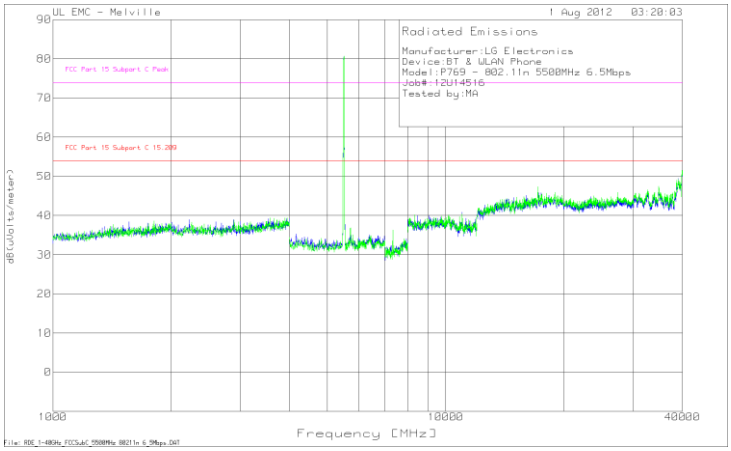
HIGH CHANNEL BANDEDGE, PEAK & AVG, HORIZ

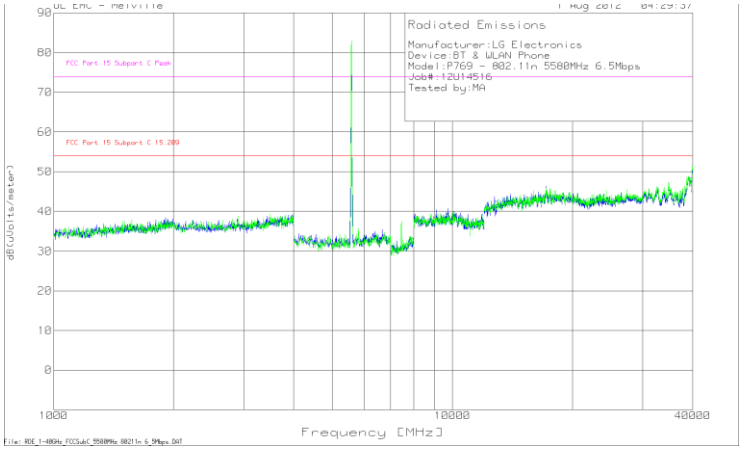


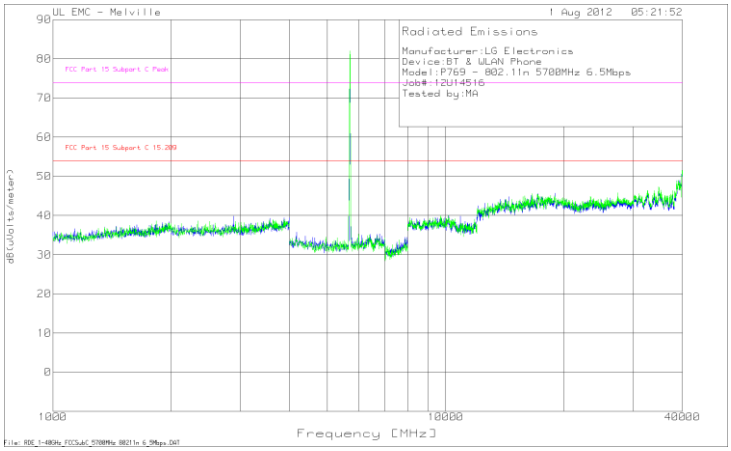
HIGH CHANNEL BANDEDGE, PEAK & AVG, VERT



HARMONICS AND SPURIOUS EMISSIONS







HARMONICS AND SPURIOUS EMISSIONS

Manufacturer:LG Electronics
Device:BT & WLAN Phone
Model:P769 - 802.11n 5500MHz Band 6Mbps
Job#:12U14516
Tested by:MA

Low Channel - 5500MHz

Test Frequency	Meter Reading	Detector	AF-8933 [dB]	BOMS Factor [dB]	DCF [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C Peak	Margin	Azimuth [Degs]	Height [cm]	Polarity
11000.982	67.96	PK	33.4	-49.76	-0.2	51.4	54	-2.6	74	-22.6	178	167	Horz
11000.982	50.75	Av	33.4	-49.76	-0.2	34.19	54	-19.81	74	-39.81	178	167	Horz
11000.982	66.46	PK	33.4	-49.76	-0.2	49.9	54	-4.1	74	-24.1	20	119	Vert
11000.982	49.78	Av	33.4	-49.76	-0.2	33.22	54	-20.78	74	-40.78	20	119	Vert

PK - Peak detector
Av - Average detector

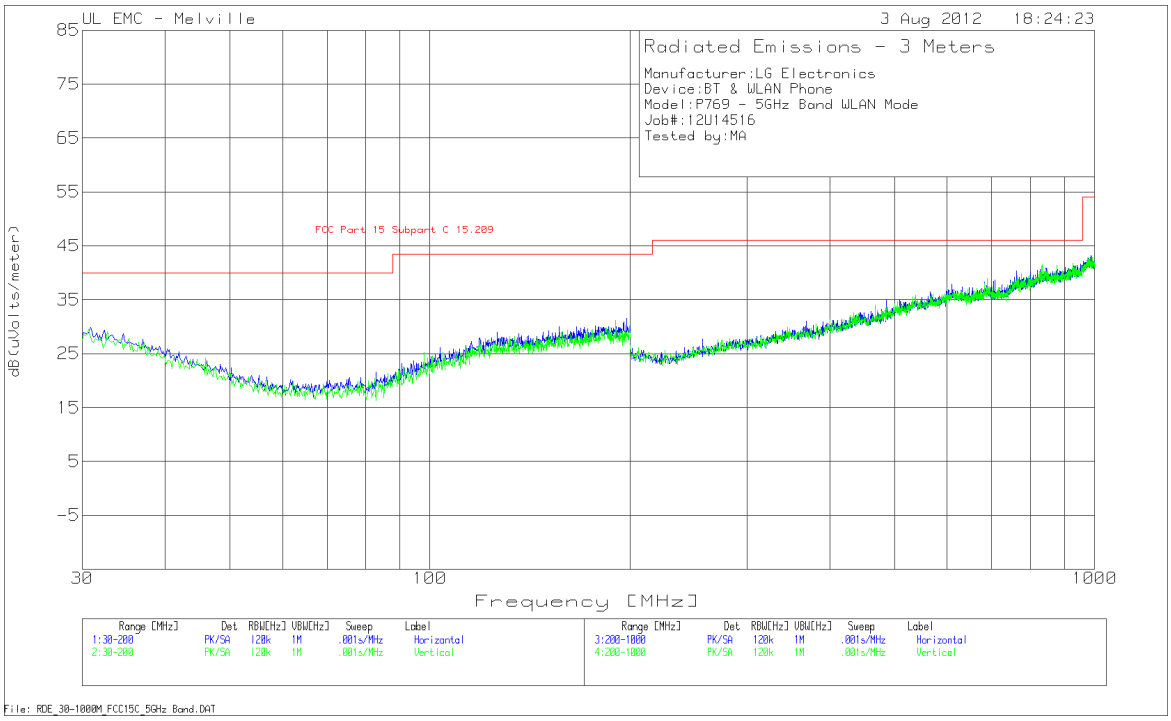
Note: No other emissions were detected above the system noise floor.

A 1kHz VBW was used during Average detection measurements.

9.9. WORST-CASE BELOW 1 GHz

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORZ & VERT)

HORZ & VERT PLOT



HORZ & VERT DATA

Manufacturer:LG Electronics
Device:BT & WLAN Phone
Model:P769 - 5GHz Band WLAN Mode
Job#:12U14516
Tested by:MA

Horizontal 30 - 200MHz

Marker No.	Test Frequency	Meter Reading	Detector	AF-54 (dB)	GL-3M (dB)	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	Azimuth [Degs]	Height [cm]	Polarity
1	126.3163	14.03	PK	13.8	1.2	29.03	43.5	-14.47	2	400	Horz
2	195.2352	13.66	PK	15.5	1.5	30.66	43.5	-12.84	8	200	Horz

Horizontal 200 - 1000MHz

Marker No.	Test Frequency	Meter Reading	Detector	AF-44067 (dB)	GL-3M (dB)	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	Azimuth [Degs]	Height [cm]	Polarity
3	486.1431	15.3	PK	17.4	2.4	35.1	46	-10.9	335	300	Horz
4	612.2061	13.21	PK	20.2	2.8	36.21	46	-9.79	357	200	Horz
5	707.8539	15.5	PK	20.2	3	38.7	46	-7.3	301	100	Horz

Vertical 200 - 1000MHz

Marker No.	Test Frequency	Meter Reading	Detector	AF-44067 (dB)	GL-3M (dB)	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	Azimuth [Degs]	Height [cm]	Polarity
6	980.7904	14.37	PK	24.8	3.7	42.87	54	-11.13	272	400	Vert

PK - Peak detector

10. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.2

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.4.

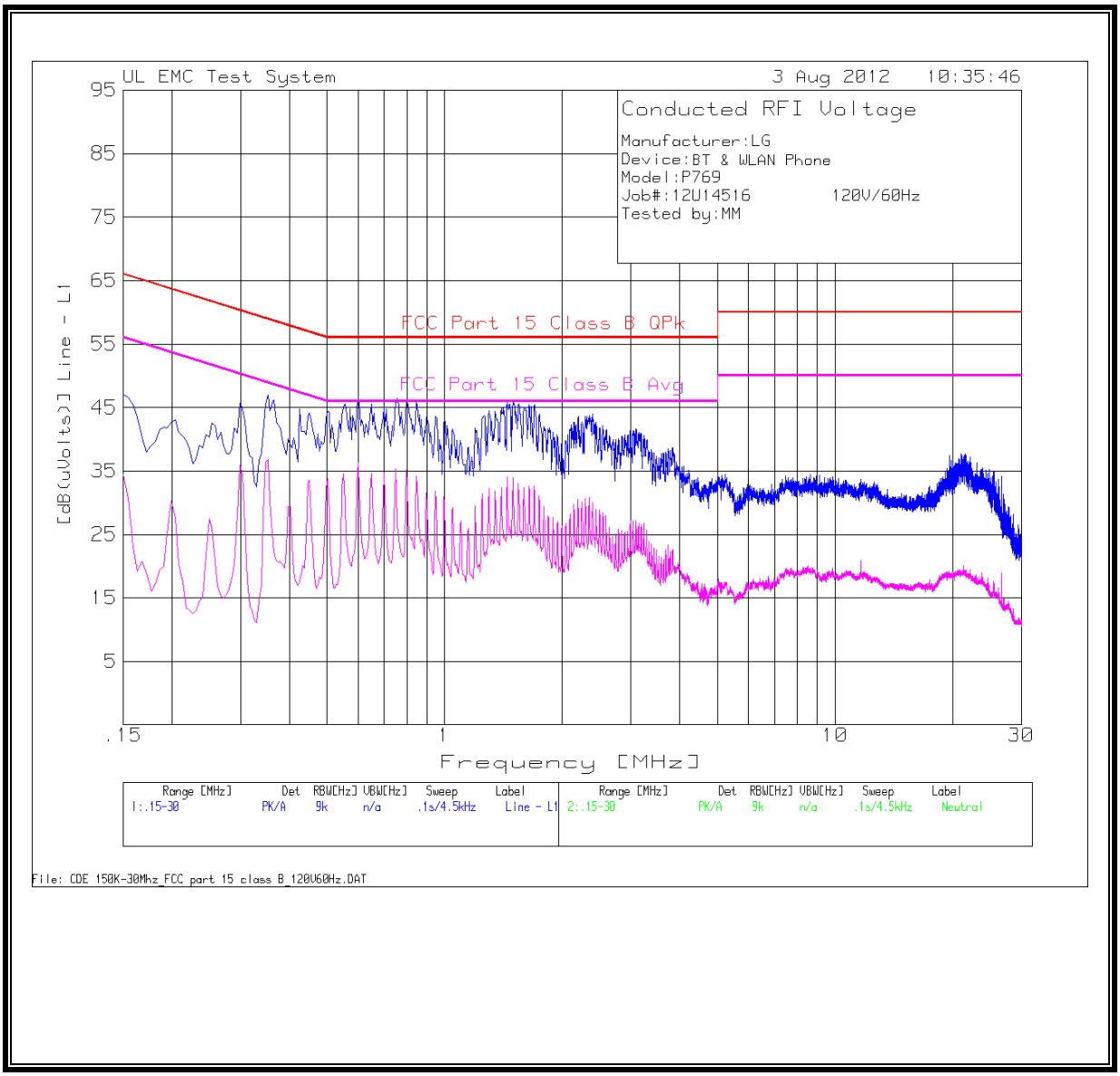
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

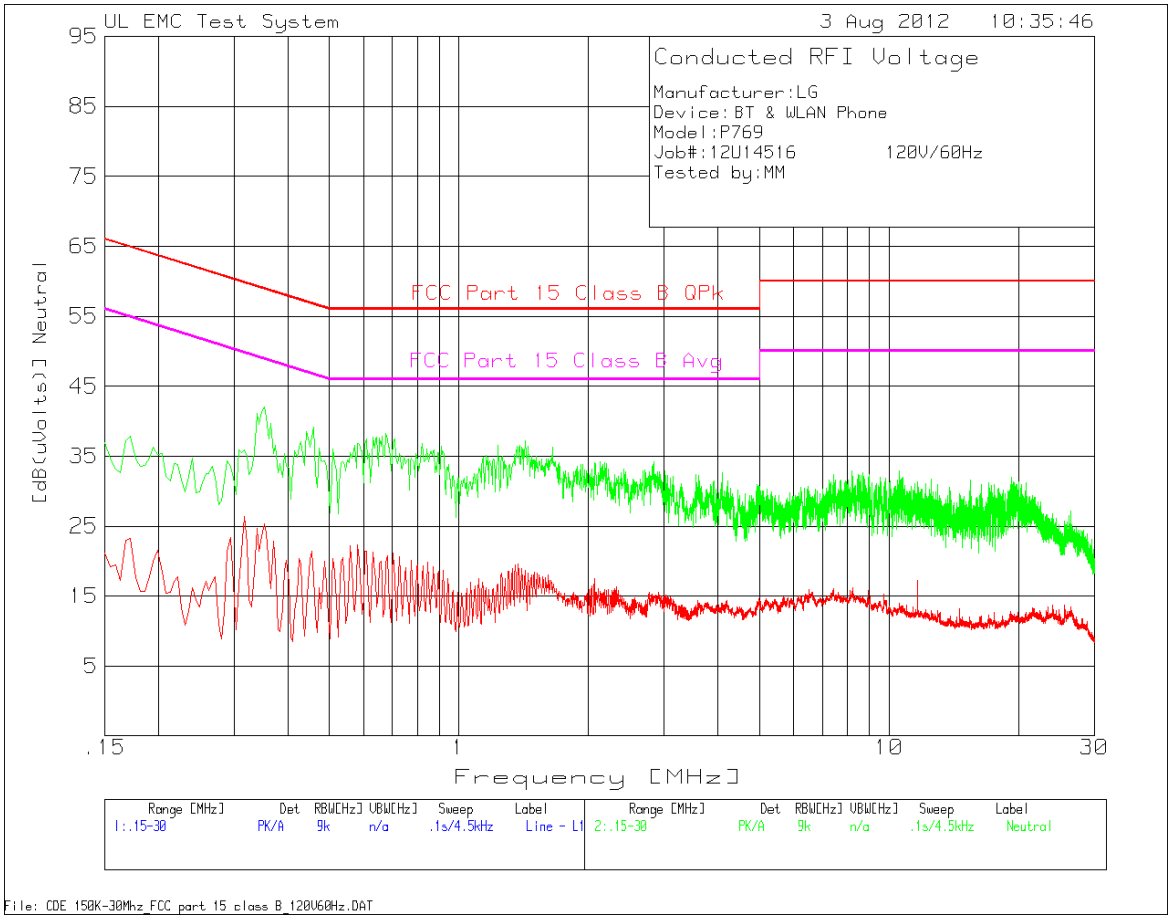
RESULTS

6 WORST EMISSIONS

LINE 1 RESULTS



LINE 2 RESULTS



NUMERICAL RESULTS

Manufacturer:LG								
Device: Phone with BT & WLAN								
Model:P769								
Job#:12U14516 120V/60Hz								
Tested by:MM								
Line - L1 .15 - 30MHz								
Test Frequency	Meter Reading	Detector	LISN 5A636 L1 [dB]	[dB(uVolts)]	FCC Part 15 Class B QPk	Margin	FCC Part 15 Class B Avg	Margin
0.2985	35.65	PK	10	45.65	60.3	-14.65	50.3	-4.65
0.2985	25.88	Av	10	35.88	60.3	-24.42	50.3	-14.42
0.3525	36.95	PK	10	46.95	58.9	-11.95	48.9	-1.95
0.3525	26.81	Av	10	36.81	58.9	-22.09	48.9	-12.09
0.555	35.5	PK	10.1	45.6	56	-10.4	46	-0.4
0.555	19.87	Av	10.1	29.97	56	-26.03	46	-16.03
0.6495	35.51	PK	10.1	45.61	56	-10.39	46	-0.39
0.6495	24.51	Av	10.1	34.61	56	-21.39	46	-11.39
0.7575	36.3	PK	10.1	46.4	56	-9.6	46	0.4
0.7575	16.4	Av	10.1	26.5	56	-29.5	46	-19.5
0.8475	35.78	PK	10.1	45.88	56	-10.12	46	-0.12
0.8475	24.14	Av	10.1	34.24	56	-21.76	46	-11.76
1.446	35.8	PK	10.1	45.9	56	-10.1	46	-0.1
1.446	23.97	Av	10.1	34.07	56	-21.93	46	-11.93
1.698	35.35	PK	10.1	45.45	56	-10.55	46	-0.55
1.698	21.3	Av	10.1	31.4	56	-24.6	46	-14.6
Neutral .15 - 30MHz								
Test Frequency	Meter Reading	Detector	LISN 5A636 L2 [dB]	[dB(uVolts)]	FCC Part 15 Class B QPk	Margin	FCC Part 15 Class B Avg	Margin
0.3525	32.07	PK	10	42.07	58.9	-16.83	48.9	-6.83
0.3525	15.32	Av	10	25.32	58.9	-33.58	48.9	-23.58
0.4605	29.06	PK	10.1	39.16	56.7	-17.54	46.7	-7.54
0.4605	7.54	Av	10.1	17.64	56.7	-39.06	46.7	-29.06
0.6765	28.2	PK	10.1	38.3	56	-17.7	46	-7.7
0.6765	9.72	Av	10.1	19.82	56	-36.18	46	-26.18
0.8205	26.7	PK	10.1	36.8	56	-19.2	46	-9.2
0.8205	7.85	Av	10.1	17.95	56	-38.05	46	-28.05
1.167	24.77	PK	10.1	34.87	56	-21.13	46	-11.13
1.167	2.8	Av	10.1	12.9	56	-43.1	46	-33.1
1.4235	27.06	PK	10.1	37.16	56	-18.84	46	-8.84
1.4235	8.55	Av	10.1	18.65	56	-37.35	46	-27.35
PK - Peak detector								
Av - Average detector								