FCC 47 CFR PART 15 SUBPART E

CERTIFICATION TEST REPORT

FOR

GSM/CDMA/WCDMA + LTE Phone Bluetooth, WLAN (2.4GHz & 5GHz) and NFC

MODEL NUMBER: VS980, LGVS980 and LG-VS980

FCC ID: ZNFVS980

REPORT NUMBER: 13U15118-2, Revision F

ISSUE DATE: JULY 19, 2013

Prepared for
LG ELECTRONICS MOBILECOMM U.S.A., INC.
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
	07/08/13	Initial Issue	P. Kim
A	07/09/13	Move 802.11ac to UNI Band report rather than DTS.	P. Kim
B	07/15/13	Update accessory information, Section 5.6 Description of Test Set Up - Support Equipment and Section 5.2 Maximum Output Power	P. Kim
C	07/16/13	Update max power summary table with correct values Section 5.2 Maximum Output Power	P. Kim
D	7/17/13	Update test methodology description and radiated harmonic data.	P. Kim
E	7/18/13	Update administrative information and comments from TCB	P. Kim
F	7/19/13	Update frequency range table from section 5.2, minor typos and missing data inserted. Duty cycle factor also included under 802.11ac 5.8GHz section under power measurement.	P. Kim

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	LG ELECTRONICS MOBILECOMM USA,INC. 1000 SYLVAN AVENUE ENGLEWOOD, NJ 07632, USA
EUT DESCRIPTION:	Tri-Band Phone with WLAN, Bluetooth, BLE, and NFC
MODEL:	VS980, LGVS980 and LG-VS980
SERIAL NUMBER:	99000250000211(CONDUCTED) AND 256691464000002160 (RADIATED)
DATE TESTED:	JANUARY 7 TO 25 AND MARCH 14 TO 25, 2013

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

PHILIP KIM
WiSE PROGRAM MANAGER
UL Verification Services Inc.

Tested By:

STEVEN TRAN
Wise LAB TECHNICIAN
UL Verification Services Inc.

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 C63.10-2009, RSS-GEN Issue 3, FCC KDB 644545 D01, FCC KDB 644545 D02(Alternative Guidance for 802 11ac V01) and RSS-210 Issue 8.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://www.ccsemc.com.

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	3.52 dB
Radiated Disturbance, 30 to 1000 MHz	4.94 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a Dual Band phone that also supports BLUETOOTH, WLAN and NFC.

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)
5170-5250	802.11a	12.39	17.34
5170-5250	802.11n HT20	11.78	15.07
5170-5250	802.11n HT40	11.62	14.52
5170-5250	802.11ac HT20	10.44	11.07
5170-5250	802.11ac HT40	10.72	11.80
5170-5250	802.11ac HT80	10.52	11.27
5250-5330	802.11a	12.5	17.78
5250-5330	802.11n HT20	11.61	14.49
5250-5330	802.11n HT40	12.23	16.71
5250-5330	802.11ac HT20	10.65	11.61
5250-5330	802.11ac HT40	10.86	12.19
5250-5330	802.11ac HT80	10.65	11.61
5490-5730	802.11a	12.16	16.44
5490-5730	802.11n HT20	11.4	13.80
5490-5730	802.11n HT40	10.4	10.96
5490-5730	802.11ac HT20	10.55	11.35
5490-5730	802.11ac HT40	10.2	10.47
5490-5730	802.11ac HT80	10.79	11.99
5735-5835	802.11a	11.66	14.66
5735-5835	802.11n HT20	10.7	11.75
5735-5835	802.11n HT40	9.92	9.82
5735-5835	802.11ac HT20	9.42	8.75
5735-5835	802.11ac HT40	9.09	8.11
5735-5815	802.11ac HT80	9.17	8.26

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of -1.00 dBi.

5.4. SOFTWARE AND FIRMWARE

The test utility software used during was VS9800RA and firmware used was g2_vzw-userdebug 4.2.2 JDQ39B VS9800RA.1368678220.

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 Y orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in the X orientation.

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

802.11a mode: 6 Mbps
802.11n HT20mode: MCS0
802.11n HT40mode: MCS0

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
AC Adapter	TEN PAO	MCS-04WT2	N/A	N/A
Earphone	I-SOUND	EAB62729001	N/A	N/A

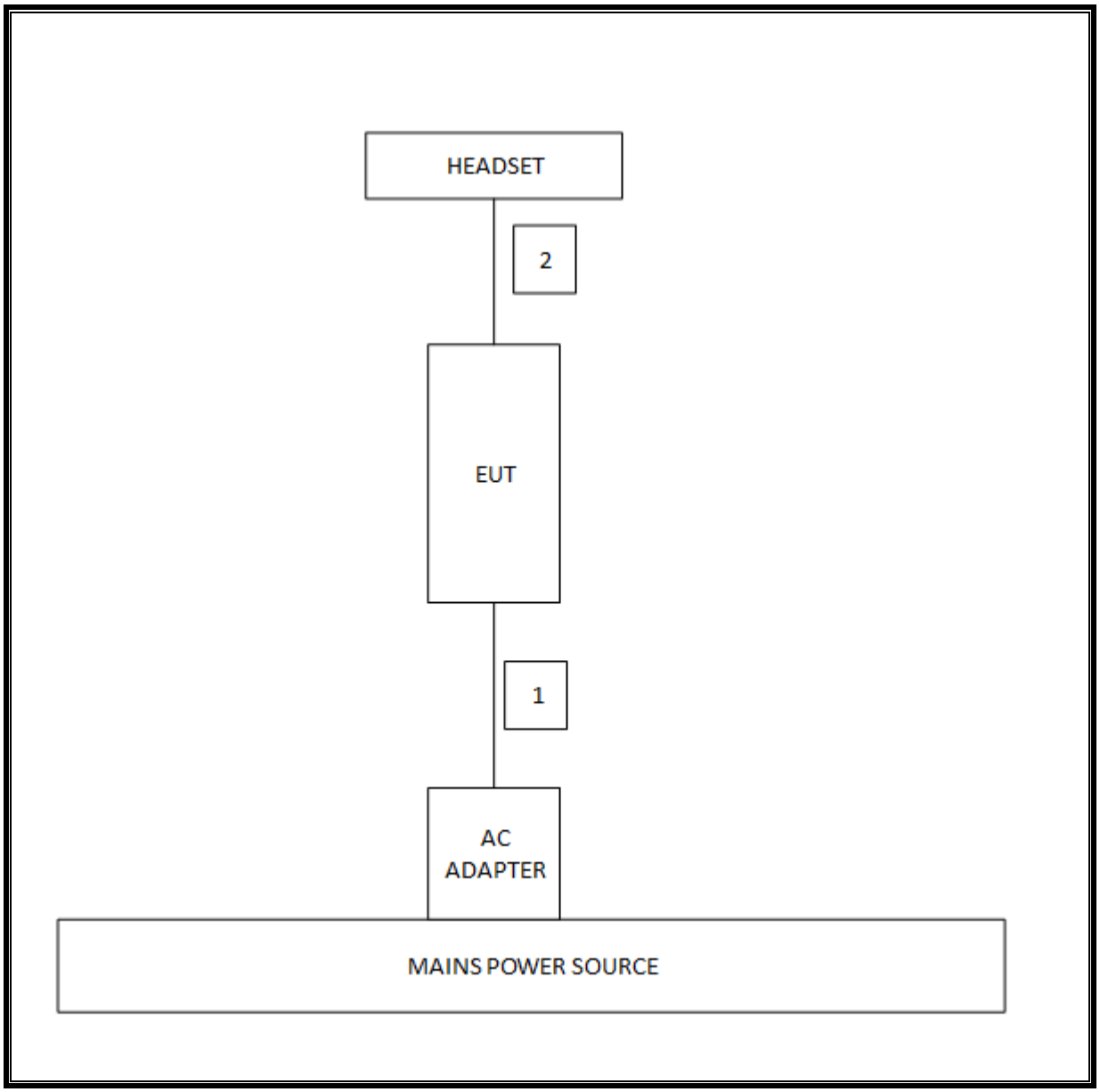
I/O CABLES

I/O Cable List						
Cable No	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	DC Power	1	Mini-USB	Shielded	1.2m	N/A
2	Audio	1	Mini-Jack	Unshielded	1.0m	N/A

TEST SETUP

The EUT is setup as 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:

Test Equipment List				
Description	**Manufacturer**	**Model**	**Asset**	**Cal Due**
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C00986	4/1/2014
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01179	2/26/2014
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	8/8/2013
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00580	1/28/2014
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01063	10/22/2013
Preamplifier, 40 GHz	Miteq	NSP4000-SP2	C00990	8/2/2013
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	N/A	3/6/2014
Antenna, Horn, 18 GHz	ETS	3117	C01022	2/21/2014
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	C00589	12/17/2013
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/2013
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/2013
LISN, 30 MHz	FCC	50/250-25-2	C00626	01/14/14
Reject Filter, 5.725-5.825 GHz	Micro-Tronics	BRC13192	N02676	CNR

7. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

LIMITS

None; for reporting purposes only.

PROCEDURE

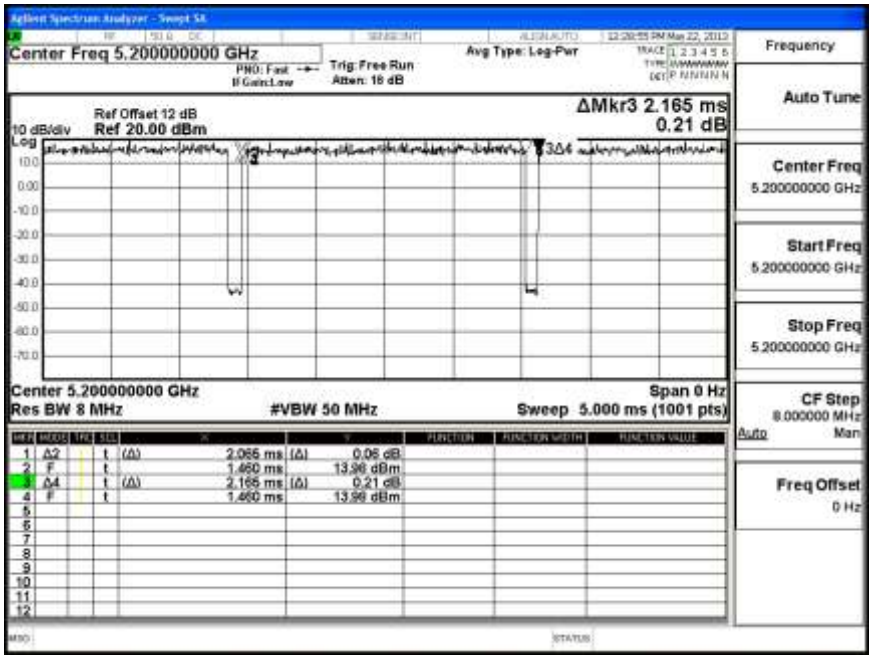
KDB 789033 Zero-Span Spectrum Analyzer Method.

7.1. ON TIME AND DUTY CYCLE RESULTS

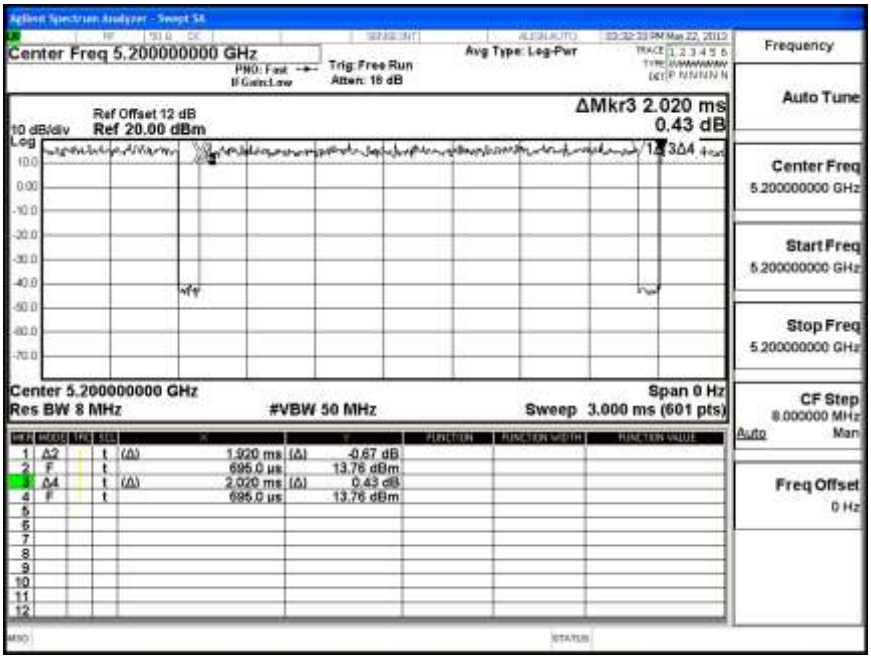
Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
802.11a 20 MHz	2.065	2.165	0.954	95.4%	0.21	0.484
802.11n HT20	1.920	2.020	0.950	95.0%	0.22	0.521
802.11n HT40	0.9267	1.037	0.894	89.4%	0.49	1.079

7.2. DUTY CYCLE PLOTS

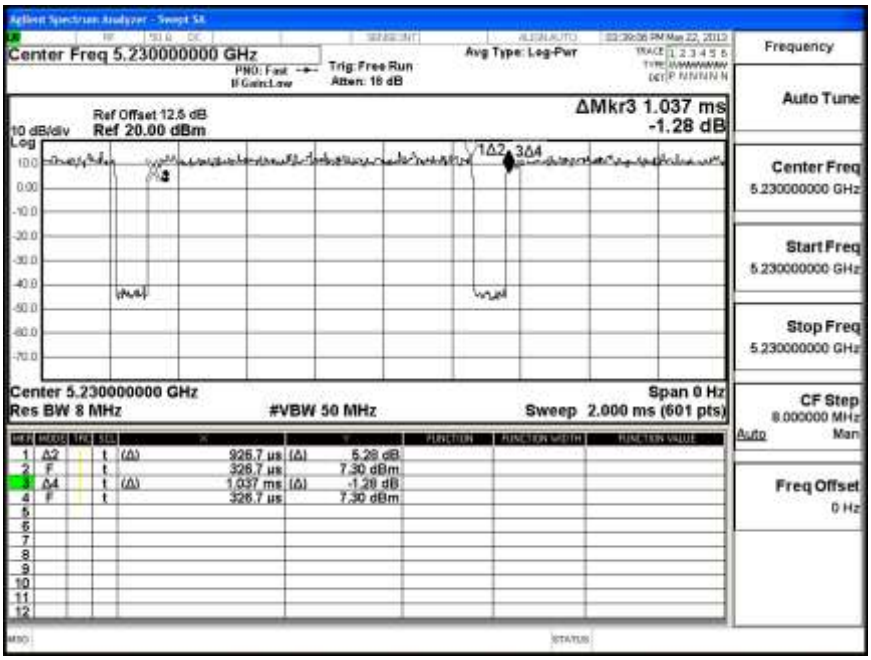
DUTY CYCLE 802.11a MODE



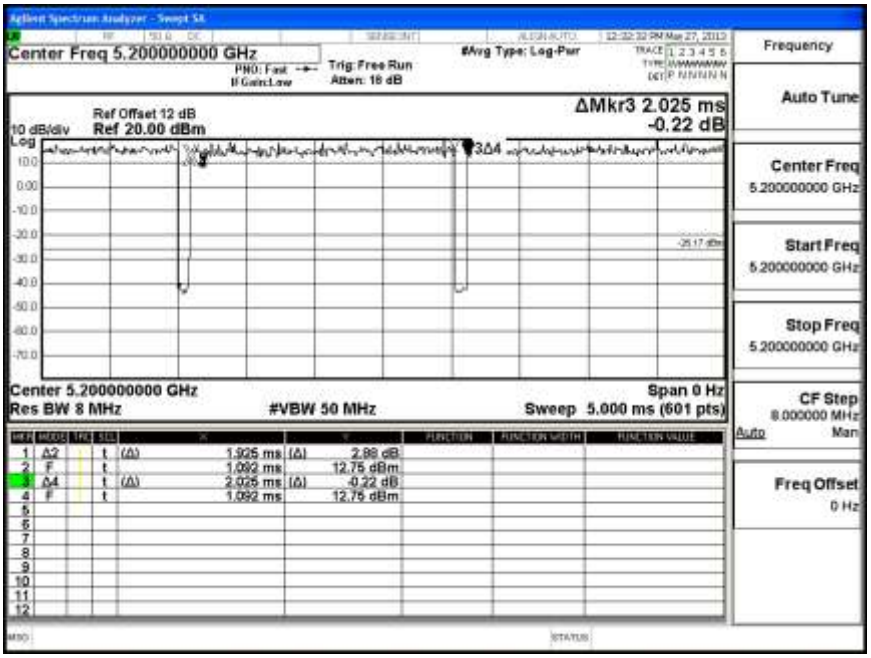
DUTY CYCLE 802.11n HT20 MODE



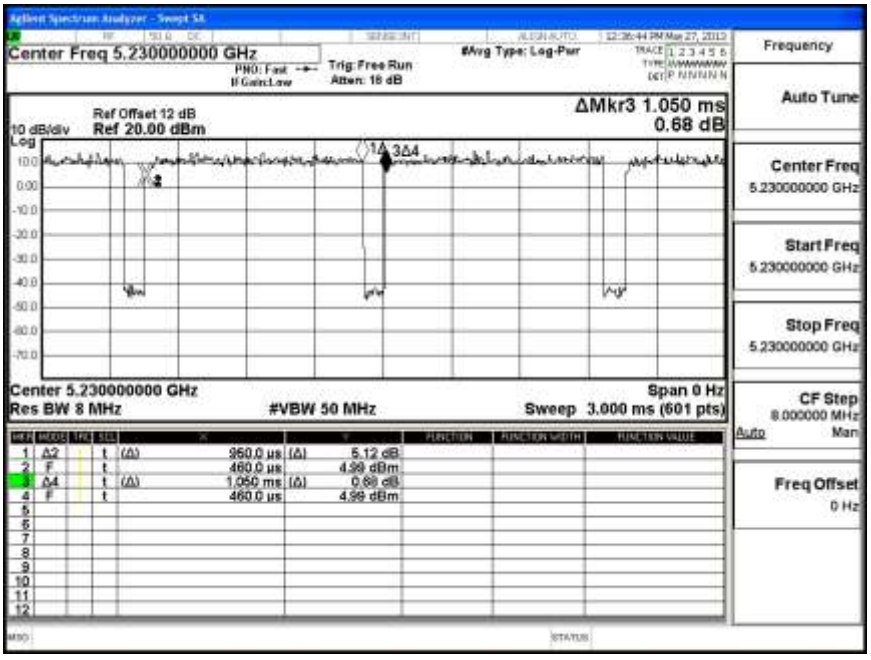
DUTY CYCLE 802.11n HT40 MODE



DUTY CYCLE 802.11ac HT20 MODE



DUTY CYCLE 802.11ac HT40 MODE



8. MEASUREMENT METHOD

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

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

9. ANTENNA PORT TEST RESULTS

9.1. 802.11a MODE IN THE 5.2 GHz BAND

9.1.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

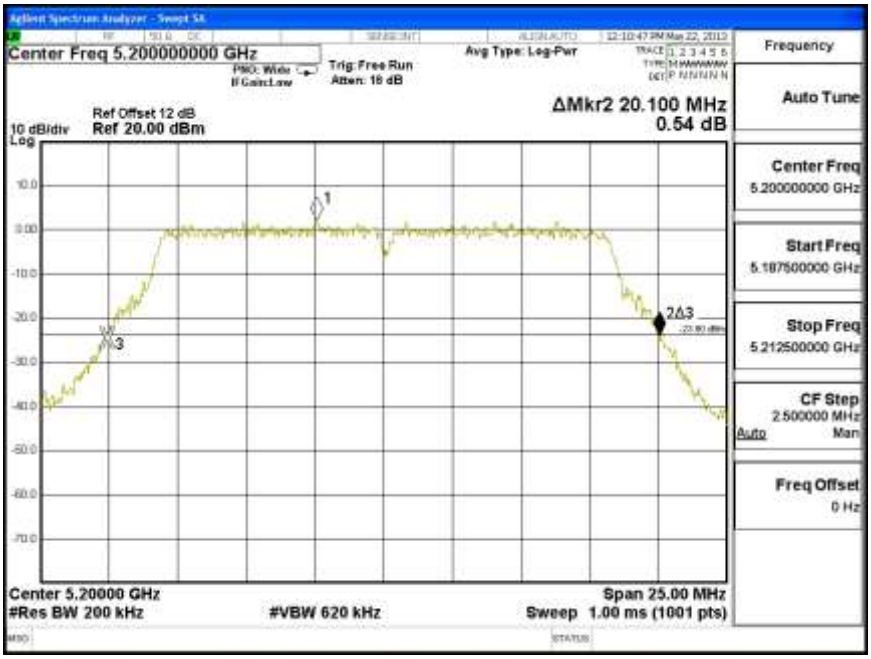
RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5180	20.150
Mid	5200	20.100
High	5240	20.075

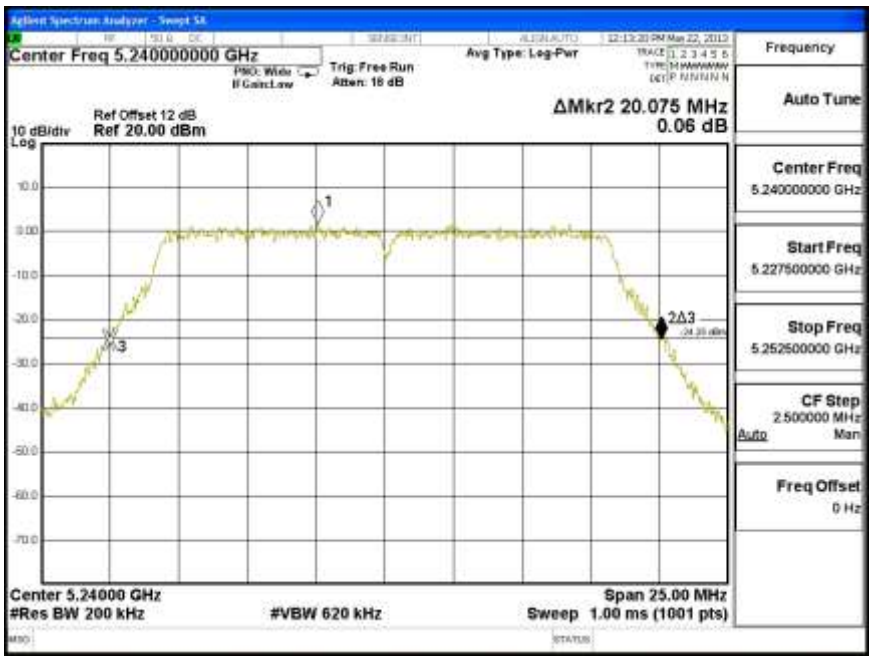
26 dB BANDWIDTH

BANDWIDTH LOW CH

BANDWIDTH MID CH



BANDWIDTH HIGH CH



9.1.2. 99% BANDWIDTH

LIMITS

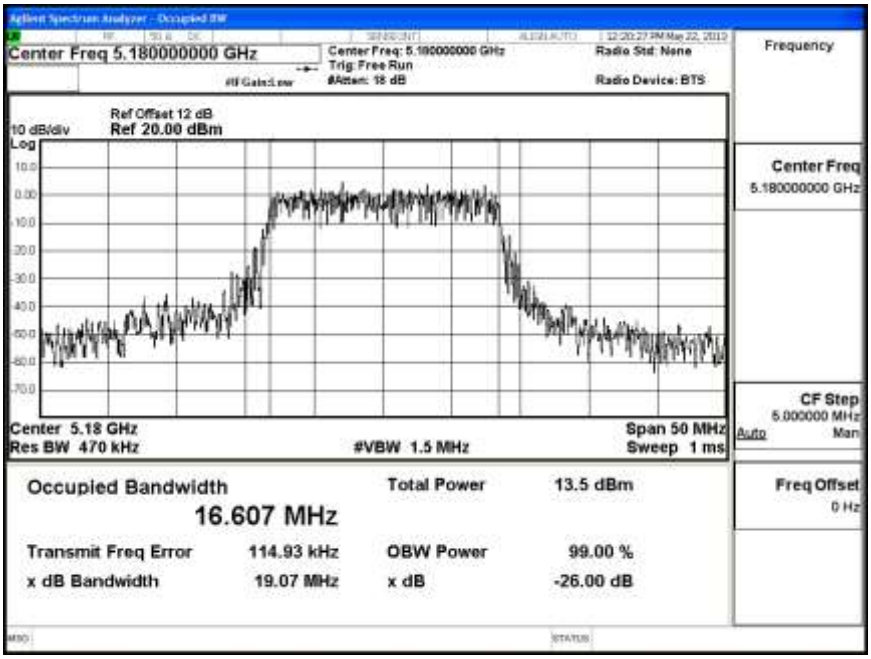
None; for reporting purposes only.

RESULTS

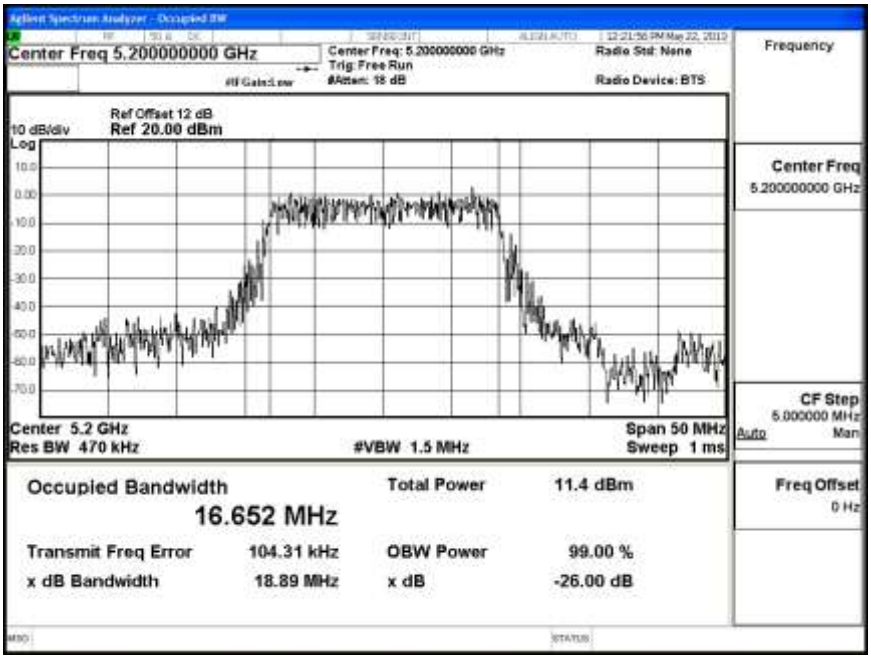
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	16.607
Mid	5200	16.652
High	5240	16.584

99% BANDWIDTH

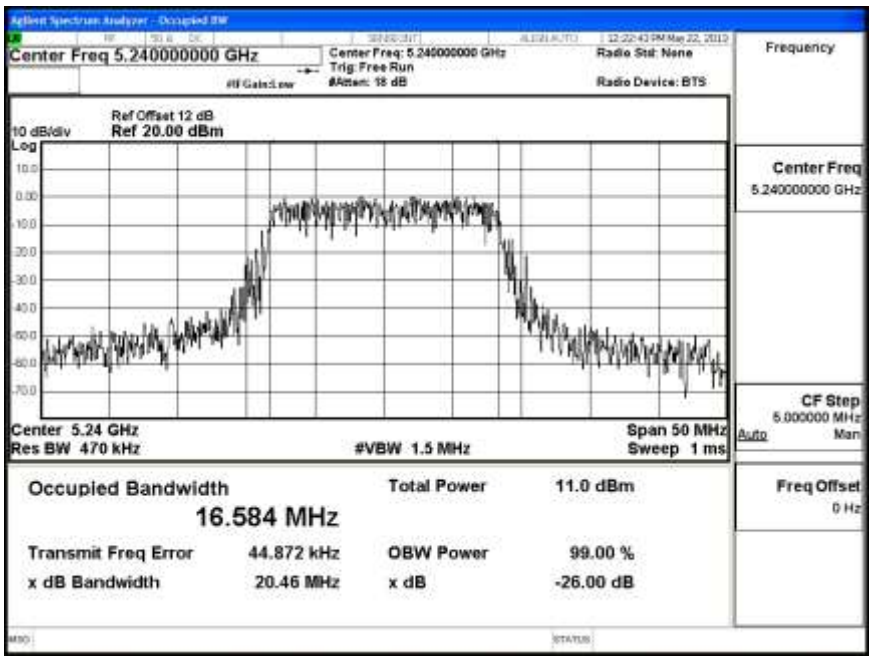
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



9.1.3. 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 11 dB (including 10 dB pad and 1 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	12.39
Mid	5200	12.32
High	5240	12.17

9.1.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (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.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5180	20.150	16.607	-6.40
Mid	5200	20.100	16.652	-6.40
High	5240	20.075	16.584	-6.40

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC EIRP Limit (dBm)	Max IC Power (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC eirp PSD Limit (dBm)	PPSD Limit (dBm)
Low	5180	17.00	22.20	28.60	17.00	4.00	10.00	4.00
Mid	5200	17.00	22.21	28.61	17.00	4.00	10.00	4.00
High	5240	17.00	22.20	28.60	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power & PPSD

Output Power Results

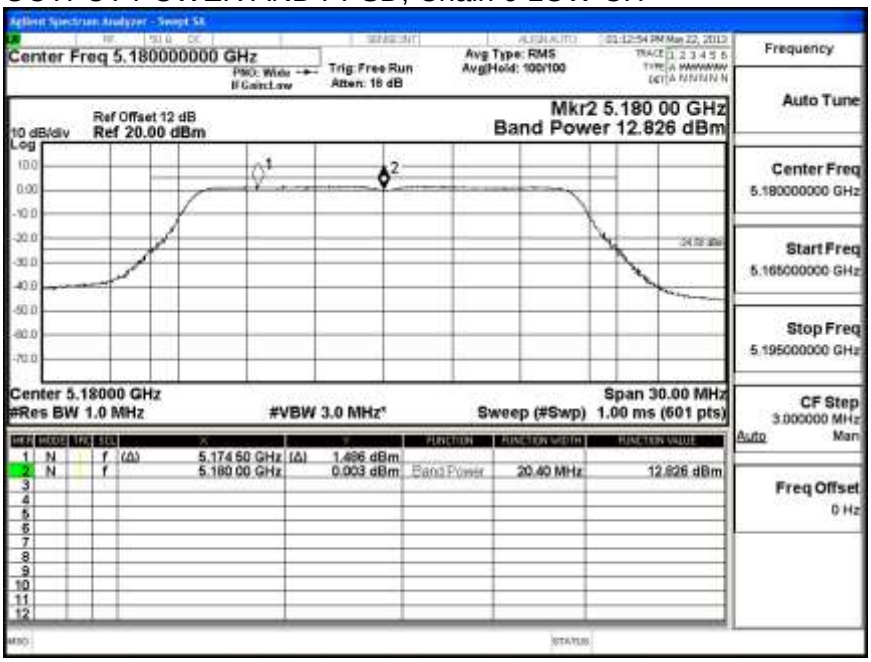
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	12.826	13.04	17.00	-3.96
Mid	5200	11.487	11.70	17.00	-5.30
High	5240	11.226	11.44	17.00	-5.56

PPSD Results

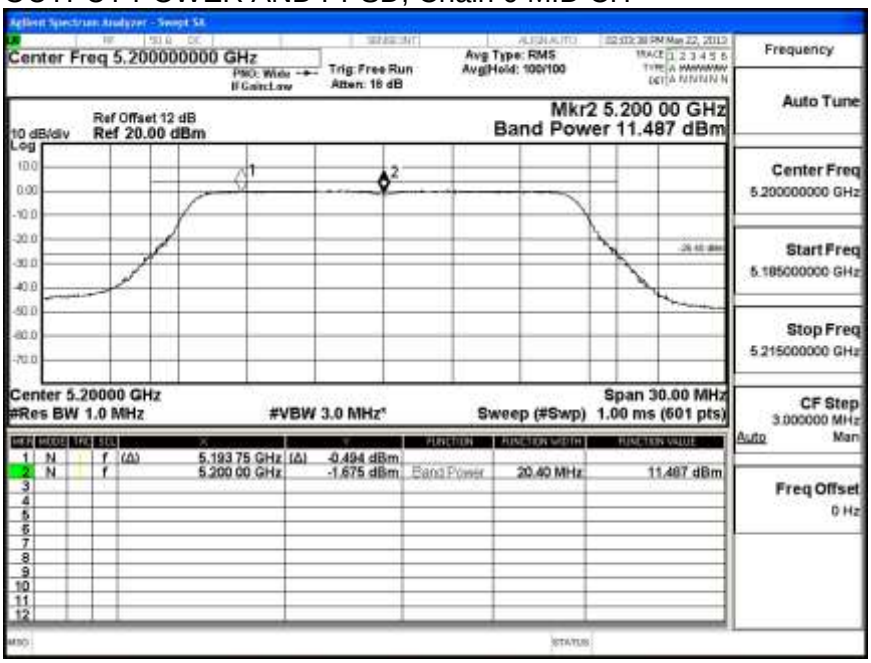
Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	1.486	1.70	4.00	-2.30
Mid	5200	-0.494	-0.28	4.00	-4.28
High	5240	0.009	0.22	4.00	-3.78

OUTPUT POWER AND PPSD, Chain 0

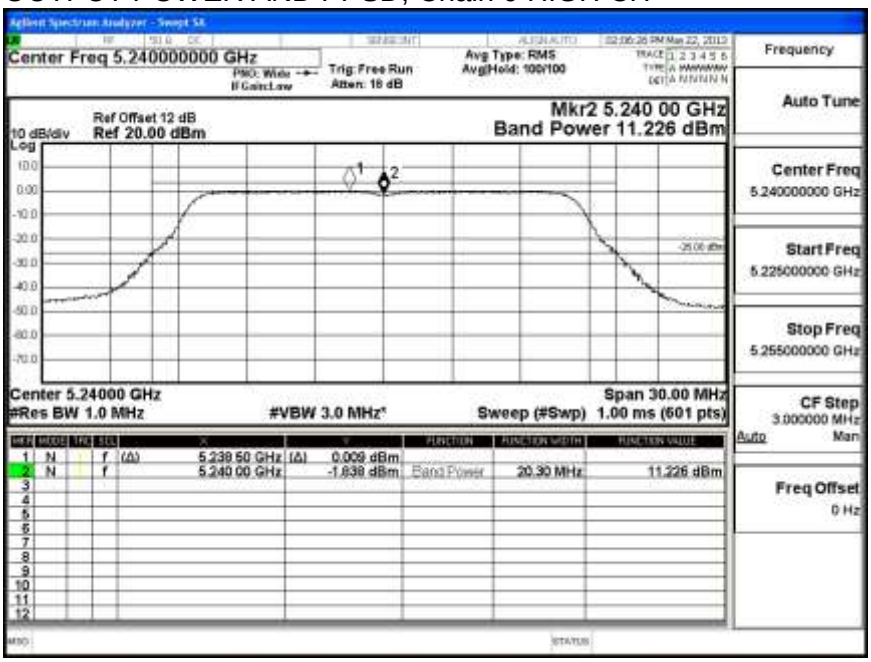
OUTPUT POWER AND PPSD, Chain 0 LOW CH



OUTPUT POWER AND PPSD, Chain 0 MID CH



OUTPUT POWER AND PPSD, Chain 0 HIGH CH



9.1.5. 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)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5200	9.02	-0.28	0.20	9.10	13	-3.90

PEAK EXCURSION

PEAK EXCURSION MID CH

9.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

9.2.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

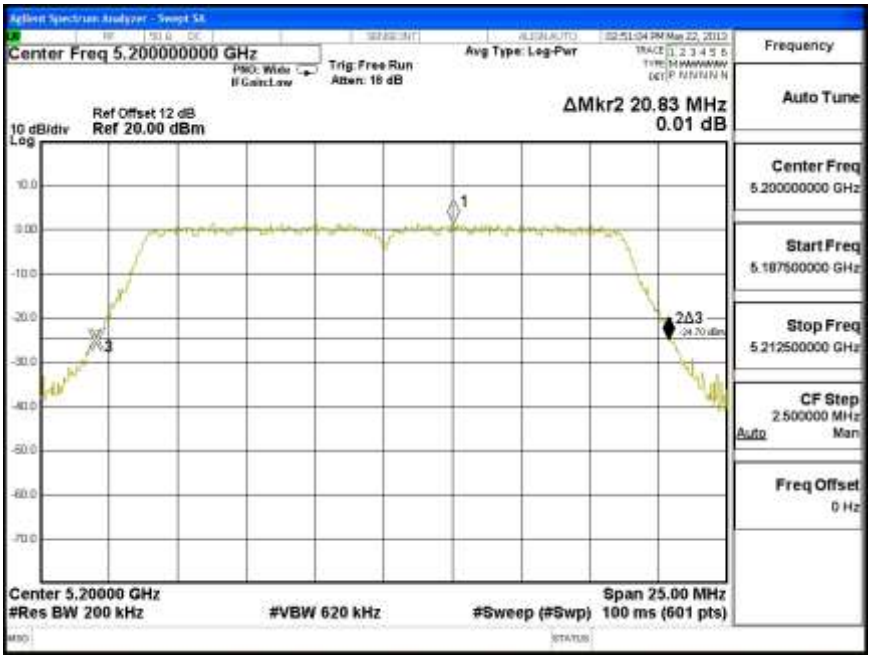
RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5180	21.00
Mid	5200	20.83
High	5240	20.96

26 dB BANDWIDTH

BANDWIDTH LOW CH

BANDWIDTH MID CH



BANDWIDTH HIGH CH

9.2.2. 99% BANDWIDTH

LIMITS

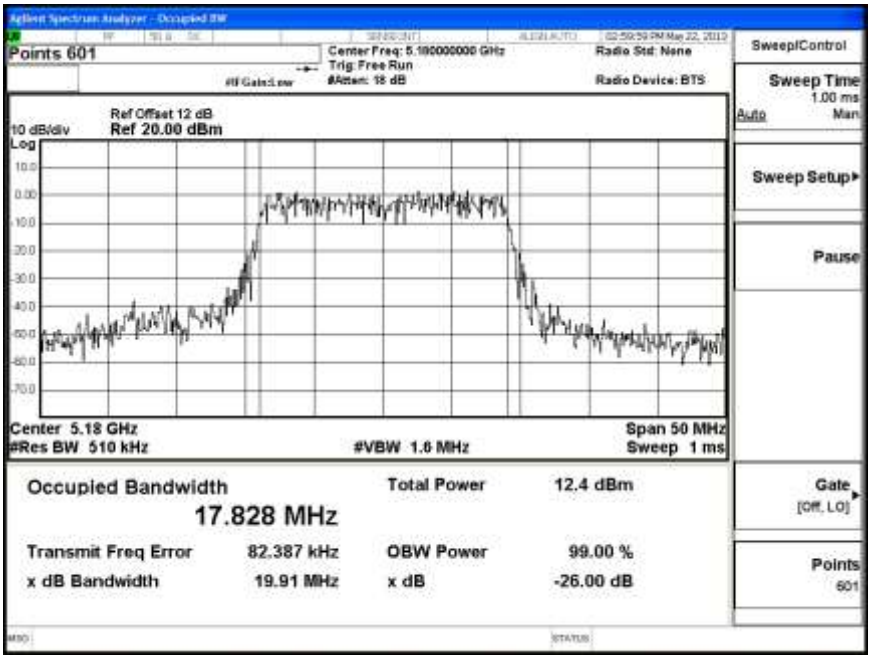
None; for reporting purposes only.

RESULTS

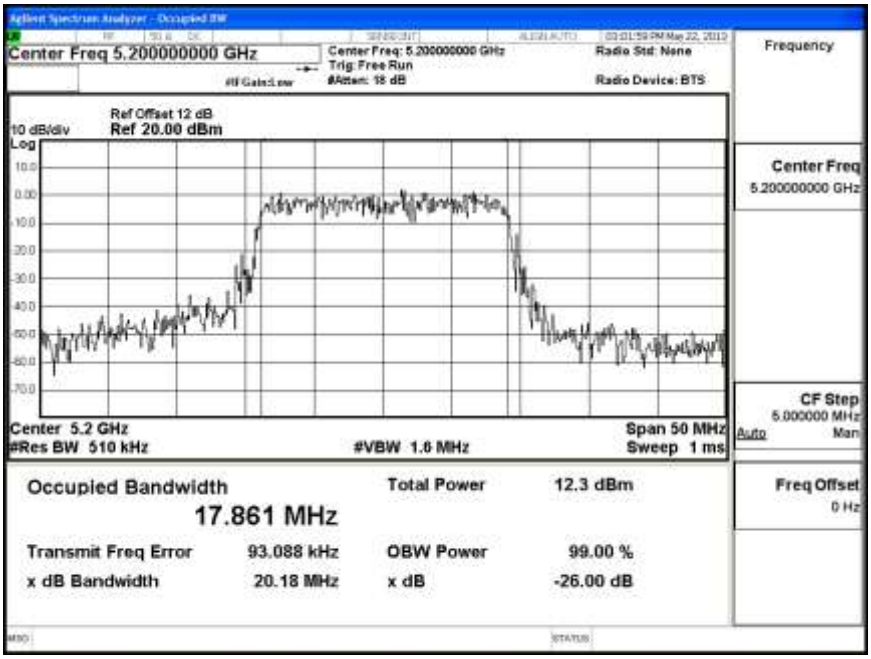
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	17.828
Mid	5200	17.861
High	5240	17.828

99% BANDWIDTH

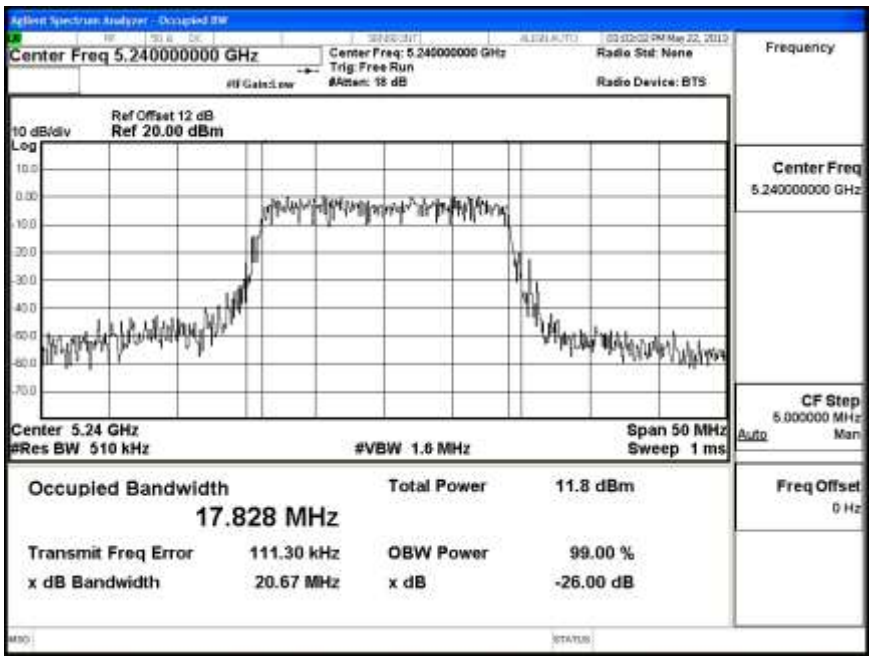
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



9.2.3. 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 11 dB (including 10 dB pad and 1 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	11.70
Mid	5200	11.37
High	5240	11.78

9.2.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (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.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5180	21.00	17.828	-6.40
Mid	5200	20.83	17.861	-6.40
High	5240	20.96	17.828	-6.40

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC EIRP Limit (dBm)	Max IC Power (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC eirp PSD Limit (dBm)	PPSD Limit (dBm)
Low	5180	17.00	22.51	28.91	17.00	4.00	10.00	4.00
Mid	5200	17.00	22.52	28.92	17.00	4.00	10.00	4.00
High	5240	17.00	22.51	28.91	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	0.22	Included in Calculations of Corr'd Power & PPSD

Output Power Results

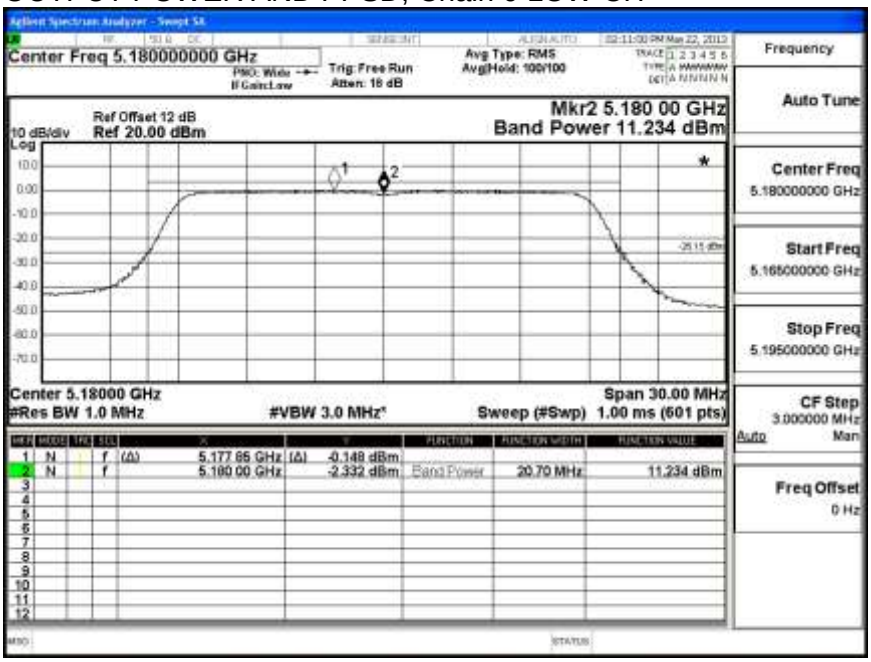
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	11.234	11.45	17.00	-5.55
Mid	5200	10.237	10.46	17.00	-6.54
High	5240	9.732	9.95	17.00	-7.05

PPSD Results

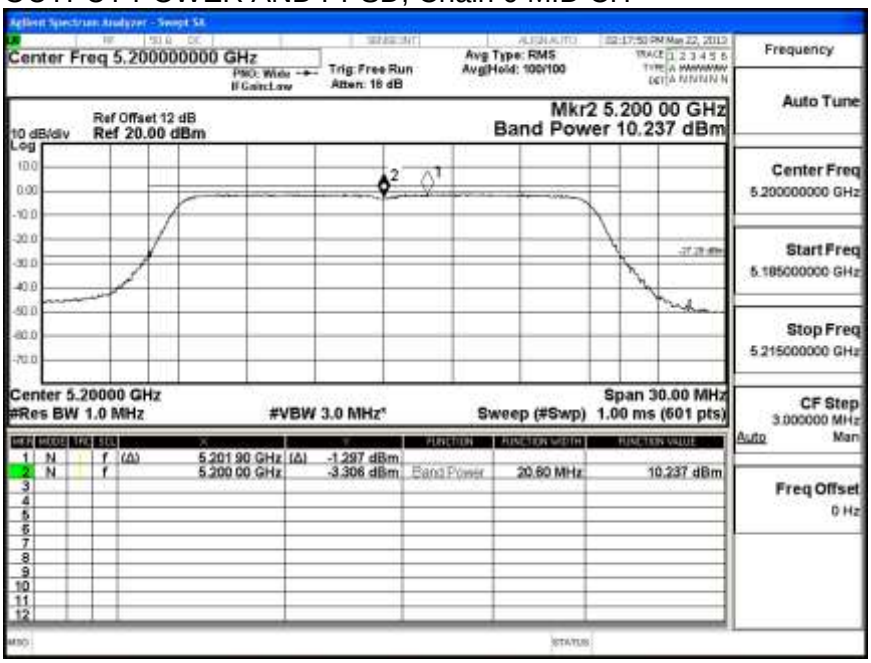
Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	-0.148	0.07	4.00	-3.93
Mid	5200	-1.297	-1.08	4.00	-5.08
High	5240	-1.986	-1.77	4.00	-5.77

OUTPUT POWER AND PPSD, Chain 0

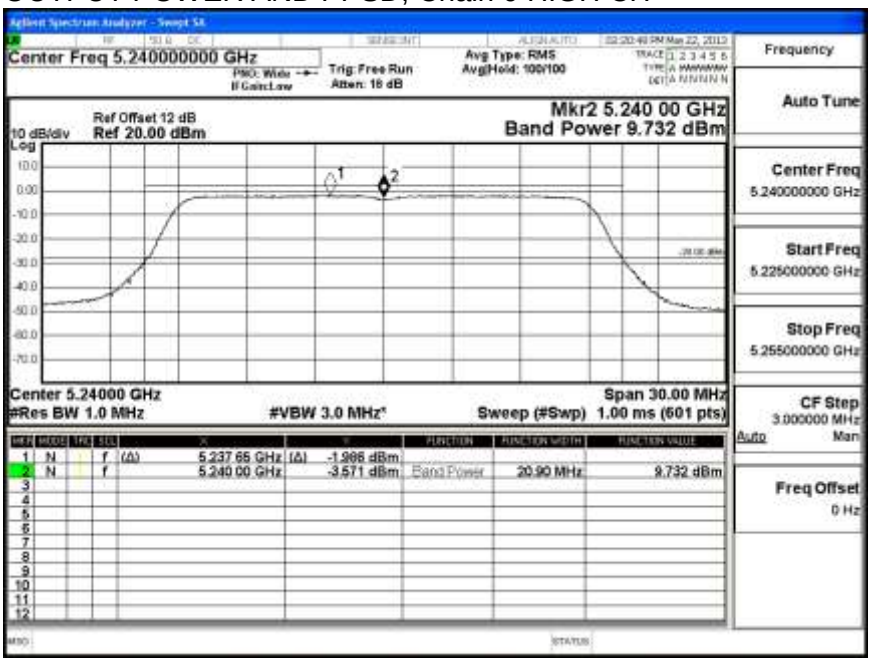
OUTPUT POWER AND PPSD, Chain 0 LOW CH



OUTPUT POWER AND PPSD, Chain 0 MID CH



OUTPUT POWER AND PPSD, Chain 0 HIGH CH



9.2.5. PEAK EXCURSION

LIMITS

FCC §15.407 (a) (6)

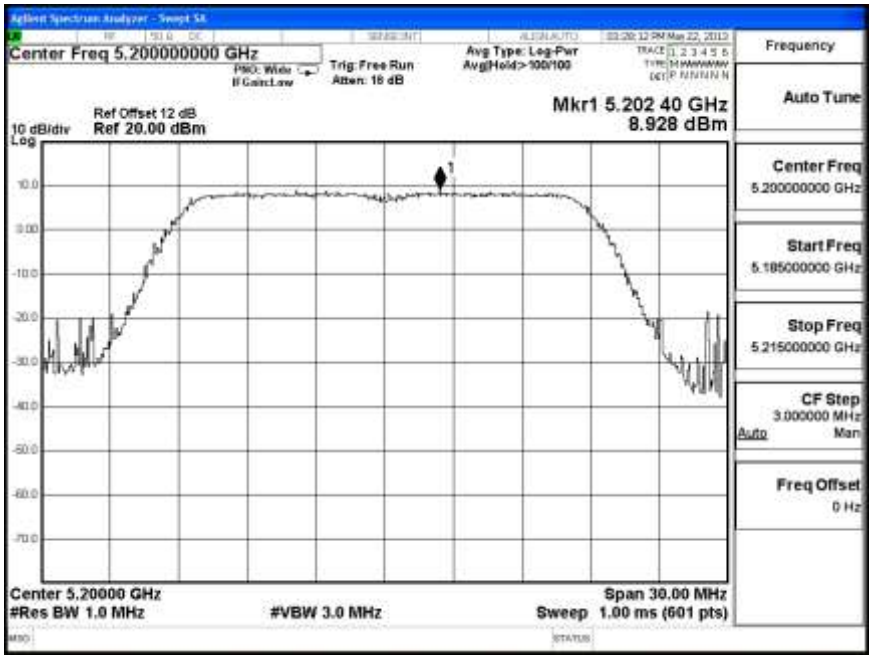
The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

RESULTS

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5200	8.928	-1.08	0.22	9.79	13	-3.21

PEAK EXCURSION

PEAK EXCURSION MID CH



9.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

9.3.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5190	39.8
High	5230	39.4

26 dB BANDWIDTH

BANDWIDTH LOW CH

BANDWIDTH HIGH CH

9.3.2. 99% BANDWIDTH

LIMITS

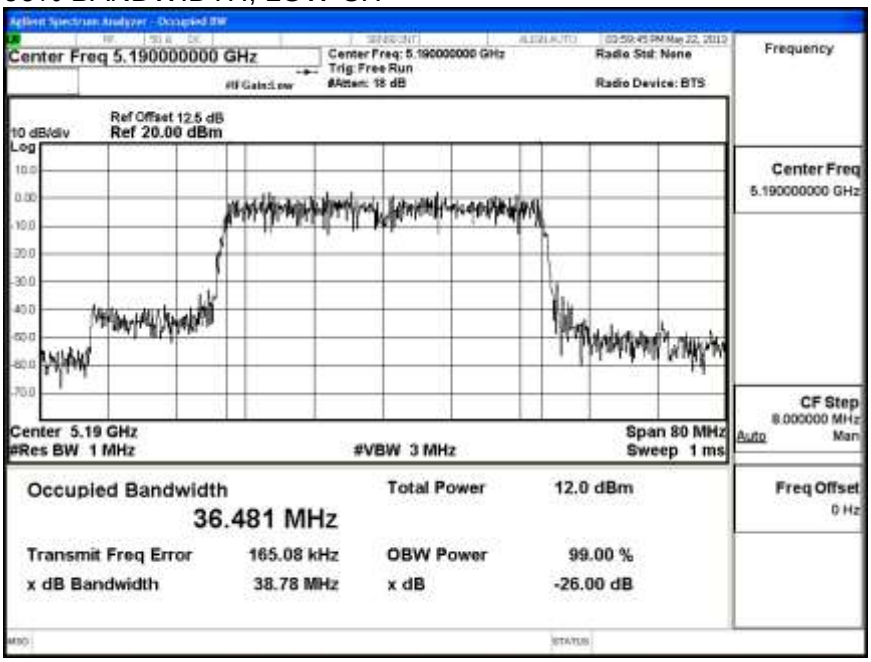
None; for reporting purposes only.

RESULTS

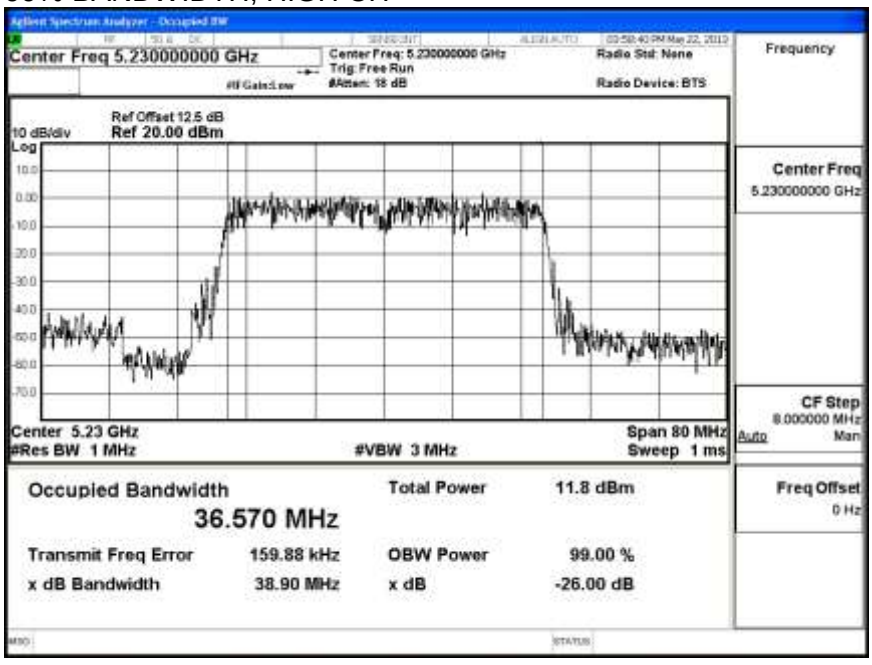
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5190	36.481
High	5230	36.570

99% BANDWIDTH

99% BANDWIDTH, LOW CH



99% BANDWIDTH, HIGH CH



9.3.3. 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 11 dB (including 10 dB pad and 1 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	5190	11.62
High	5230	11.54

9.3.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (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.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5190	39.8	36.481	-6.40
High	5230	39.4	36.570	-6.40

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC EIRP Limit (dBm)	Max IC Power (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC eirp PSD Limit (dBm)	PPSD Limit (dBm)
Low	5190	17.00	23.00	29.40	17.00	4.00	10.00	4.00
High	5230	17.00	23.00	29.40	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	0.49	Included in Calculations of Corr'd Power & PPSD

Output Power Results

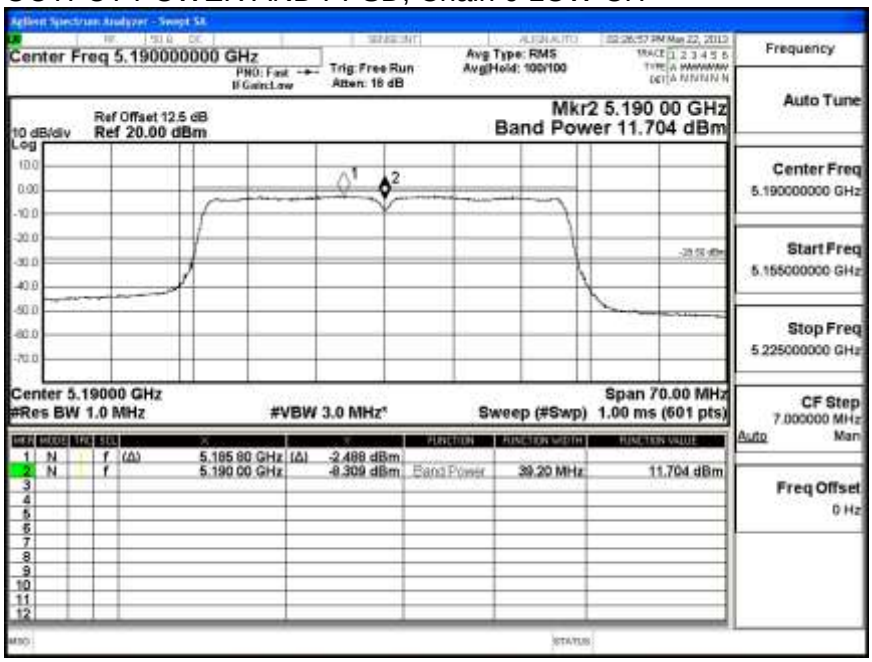
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5190	11.704	12.19	17.00	-4.81
High	5230	10.904	11.39	17.00	-5.61

PPSD Results

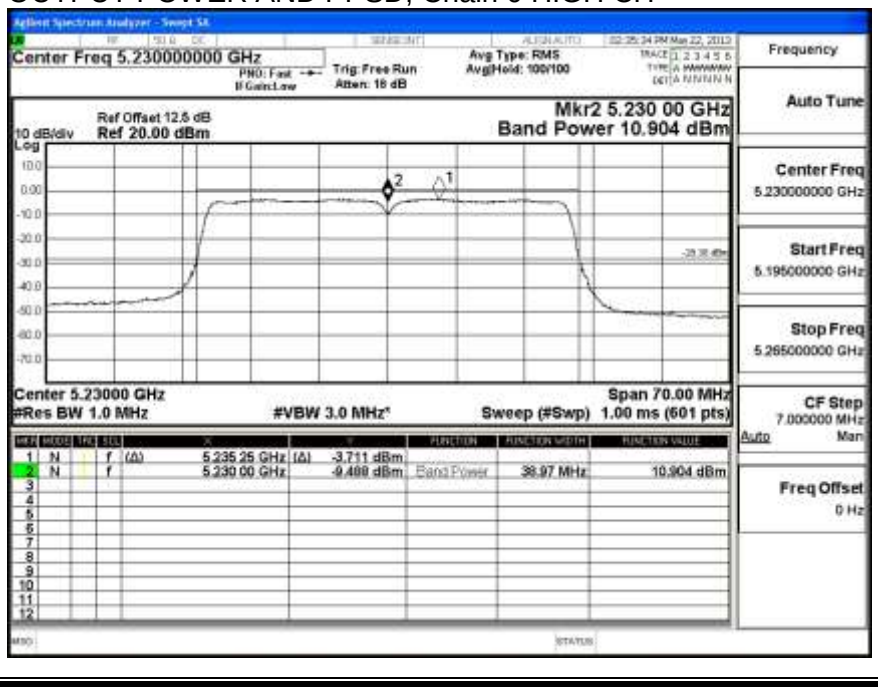
Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5190	-2.488	-2.00	4.00	-6.00
High	5230	-3.711	-3.22	4.00	-7.22

OUTPUT POWER AND PPSD, Chain 0

OUTPUT POWER AND PPSD, Chain 0 LOW CH



OUTPUT POWER AND PPSD, Chain 0 HIGH CH



9.4. 802.11ac HT20 MODE IN THE 5.2 GHz BAND

9.4.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5180	20.710
Mid	5200	20.670
High	5240	20.790

26 dB BANDWIDTH

BANDWIDTH LOW CH

BANDWIDTH MID CH

BANDWIDTH HIGH CH

9.4.2. 99% BANDWIDTH

LIMITS

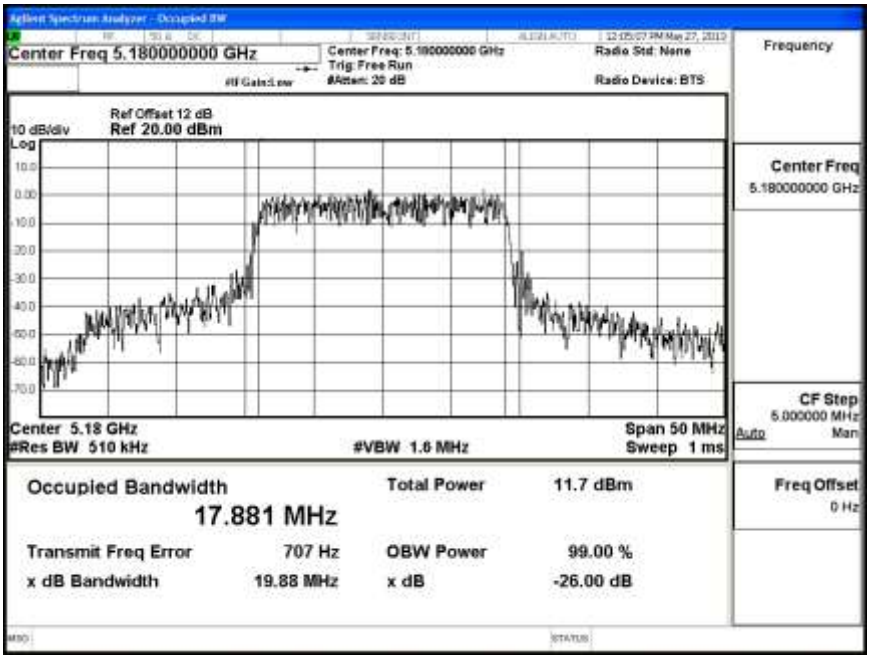
None; for reporting purposes only.

RESULTS

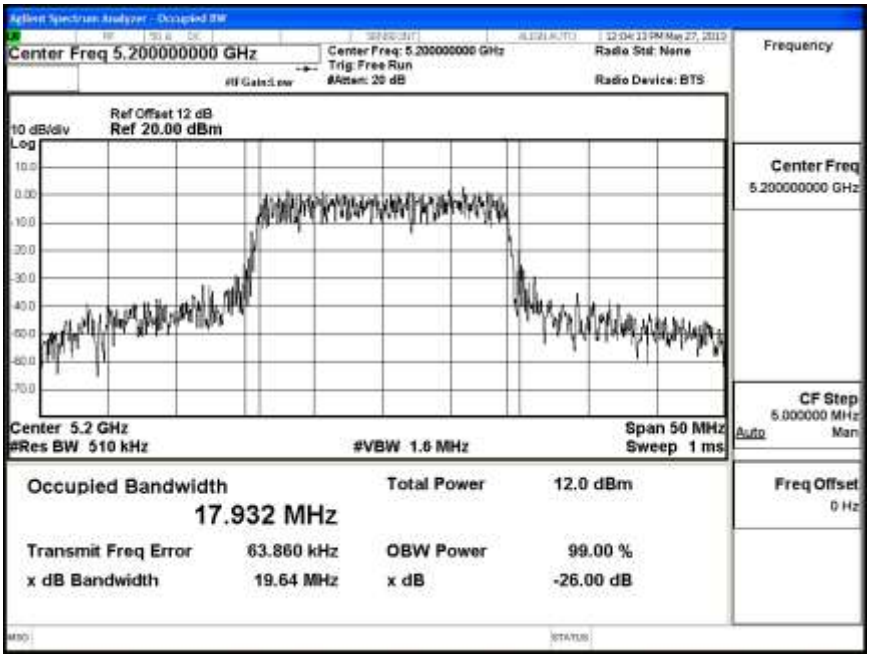
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	17.881
Mid	5200	17.932
High	5240	17.876

99% BANDWIDTH

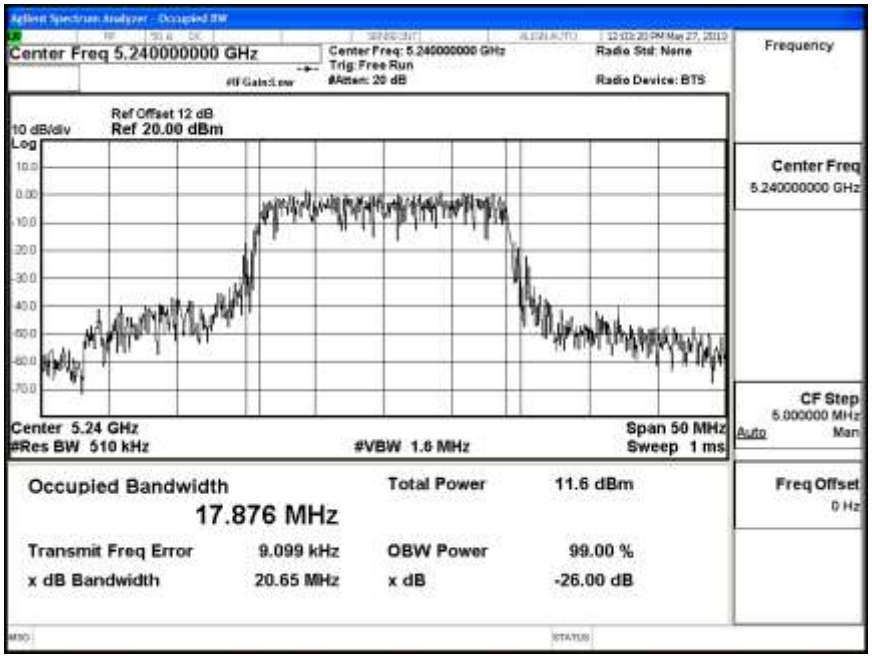
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



9.4.3. 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 11 dB (including 10 dB pad and 1 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	10.25
Mid	5200	10.44
High	5240	10.14

9.4.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (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.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5180	20.710	17.881	-6.40
Mid	5200	20.670	17.932	-6.40
High	5240	20.790	17.876	-6.40

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC EIRP Limit (dBm)	Max IC Power (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC eirp PSD Limit (dBm)	PPSD Limit (dBm)
Low	5180	17.00	22.52	28.92	17.00	4.00	10.00	4.00
Mid	5200	17.00	22.54	28.94	17.00	4.00	10.00	4.00
High	5240	17.00	22.52	28.92	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power & PPSD

Output Power Results

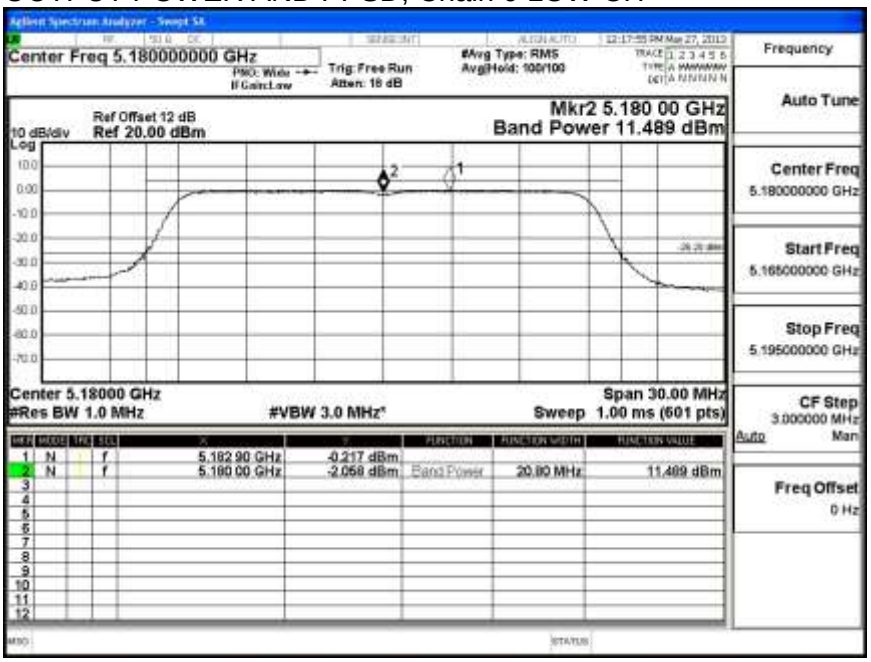
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	11.489	11.70	17.00	-5.30
Mid	5200	11.401	11.61	17.00	-5.39
High	5240	11.316	11.53	17.00	-5.47

PPSD Results

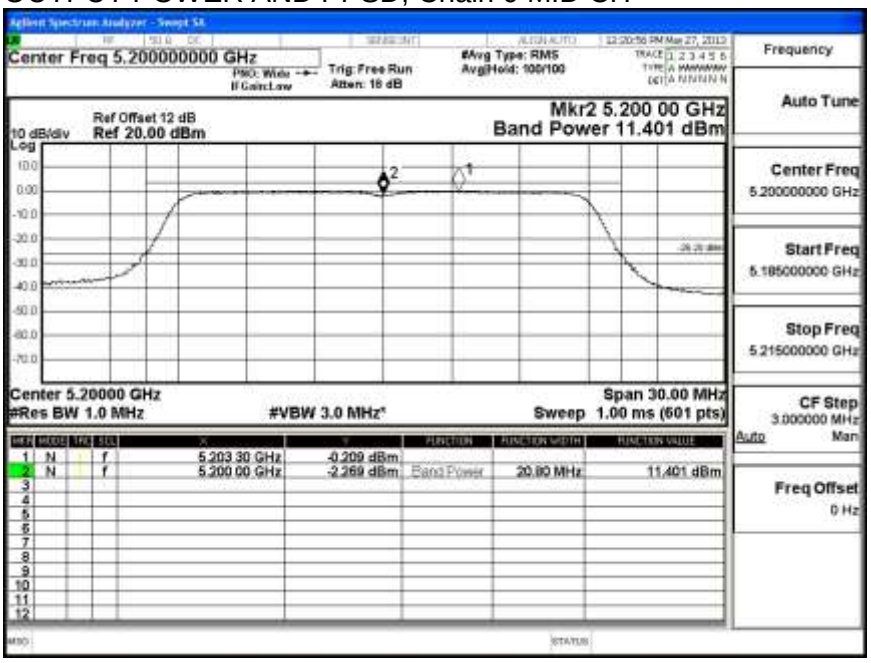
Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	0.217	0.43	4.00	-3.57
Mid	5200	-0.209	0.00	4.00	-4.00
High	5240	0.009	0.22	4.00	-3.78

OUTPUT POWER AND PPSD, Chain 0

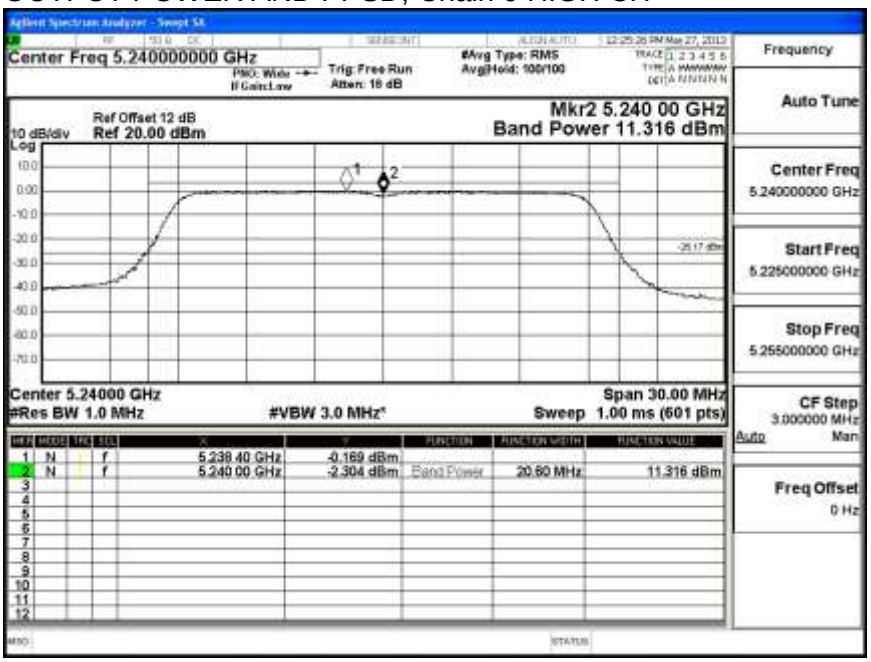
OUTPUT POWER AND PPSD, Chain 0 LOW CH



OUTPUT POWER AND PPSD, Chain 0 MID CH



OUTPUT POWER AND PPSD, Chain 0 HIGH CH



9.5. 802.11ac HT40 MODE IN THE 5.2 GHz BAND

9.5.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5190	39.670
Mid	5230	40.130

26 dB BANDWIDTH

BANDWIDTH LOW CH

BANDWIDTH HIGH CH

9.5.2. 99% BANDWIDTH

LIMITS

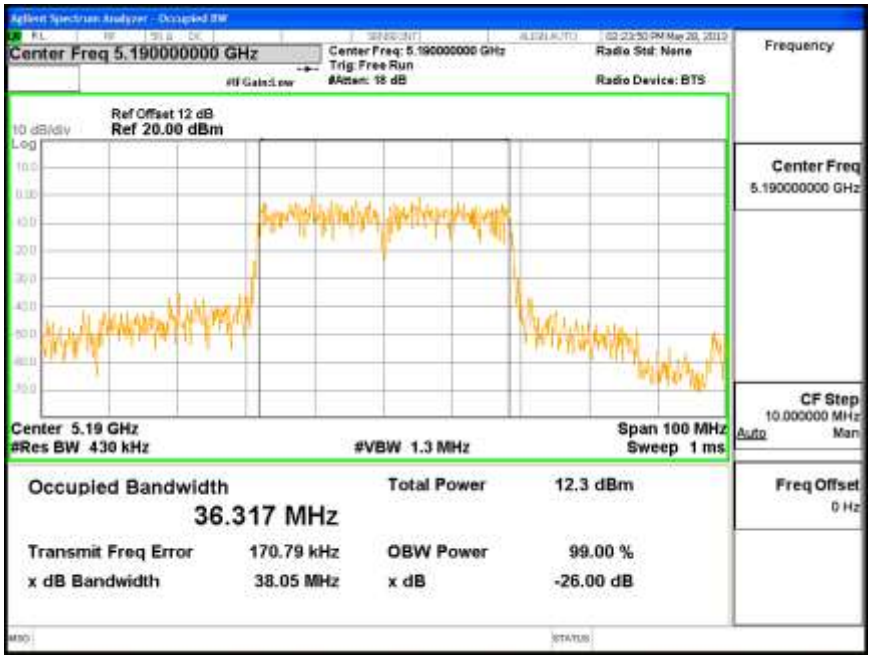
None; for reporting purposes only.

RESULTS

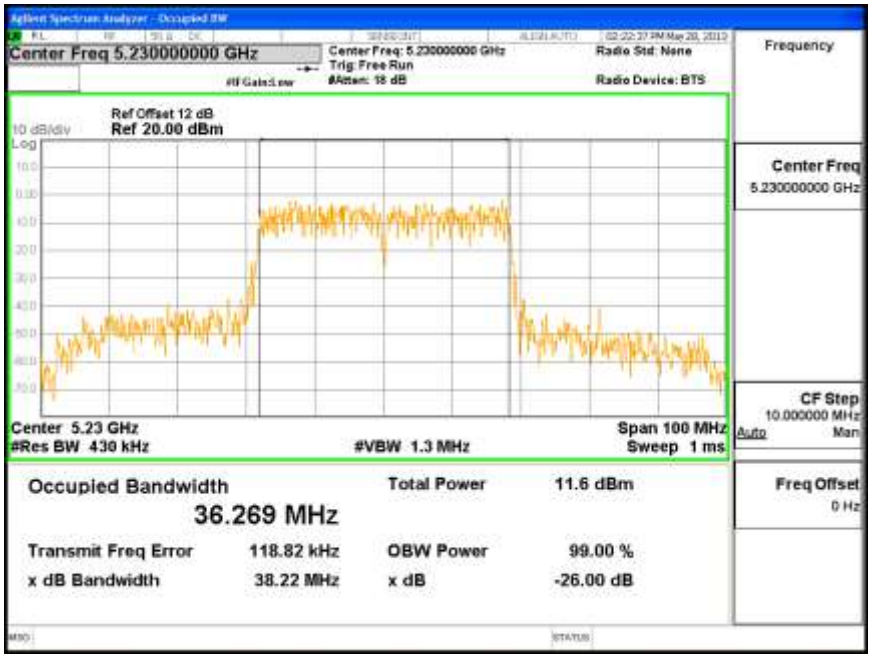
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5190	36.317
Mid	5230	36.269

99% BANDWIDTH

BANDWIDTH LOW CH



BANDWIDTH HIGH CH



9.5.3. 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 11 dB (including 10 dB pad and 1 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	5190	10.72
Mid	5230	10.05

9.5.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (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.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5190	39.670	36.317	-6.40
Mid	5230	40.130	36.269	-6.40

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC EIRP Limit (dBm)	Max IC Power (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC eirp PSD Limit (dBm)	PPSD Limit (dBm)
Low	5190	17.00	23.00	29.40	17.00	4.00	10.00	4.00
Low	5230	17.00	23.00	29.40	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power & PPSD

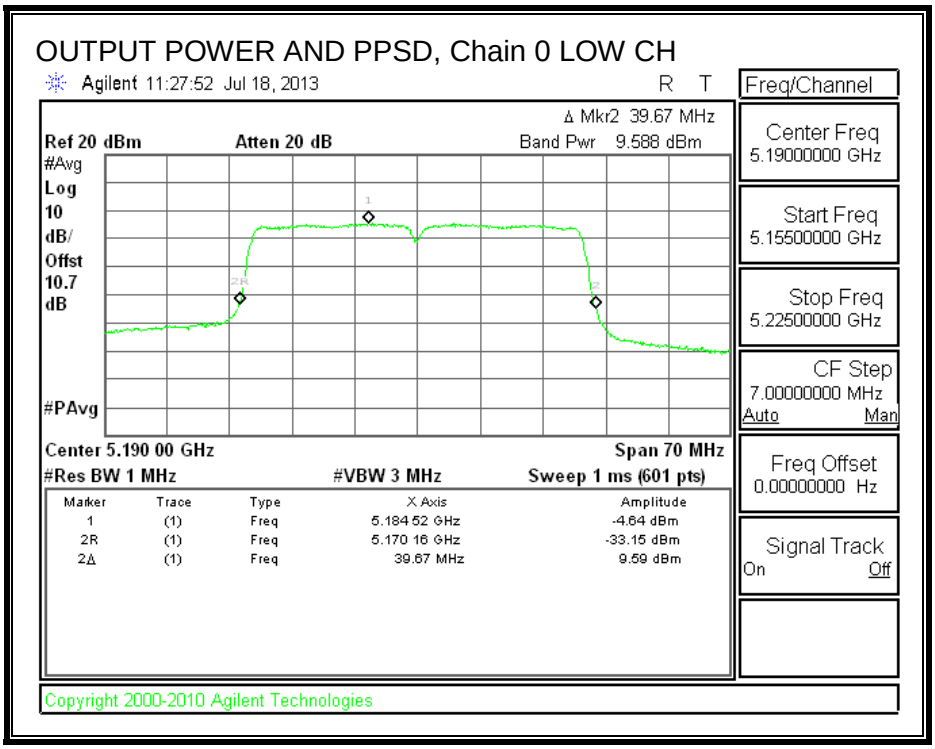
Output Power Results

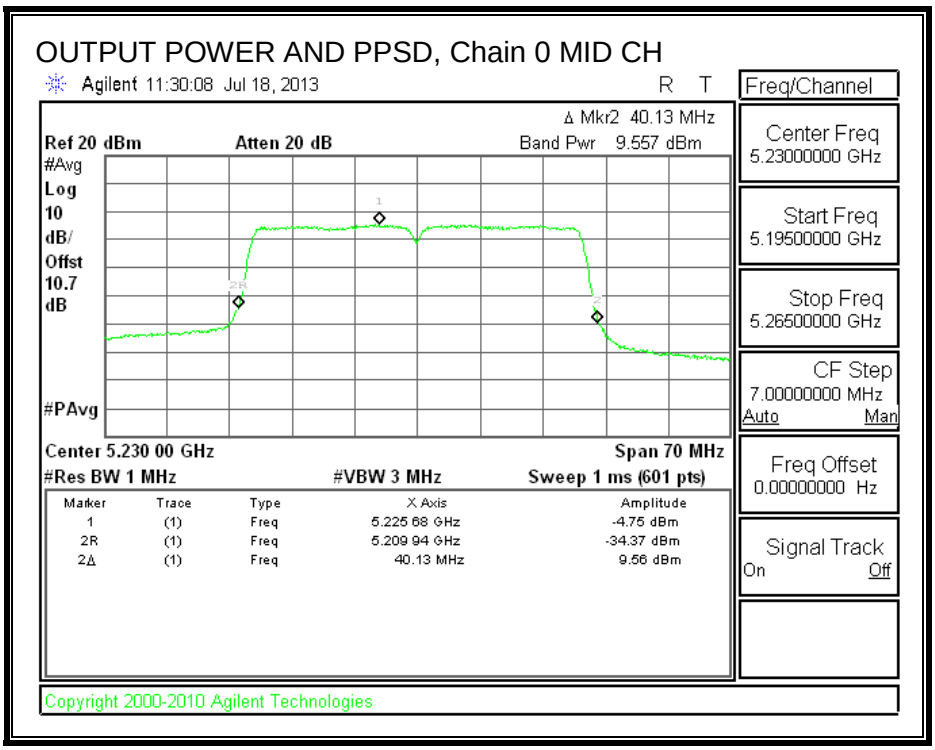
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5190	11.559	11.77	17.00	-5.23
Mid	5230	11.287	11.50	17.00	-5.50

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5190	1.486	1.70	4.00	-2.30
Mid	5230	-0.494	-0.28	4.00	-4.28

OUTPUT POWER AND PPSD, Chain 0





9.6. 802.11ac HT80 MODE IN THE 5.2 GHz BAND

9.6.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5210	81.670

26 dB BANDWIDTH

BANDWIDTH LOW CH

9.6.2. 99% BANDWIDTH

LIMITS

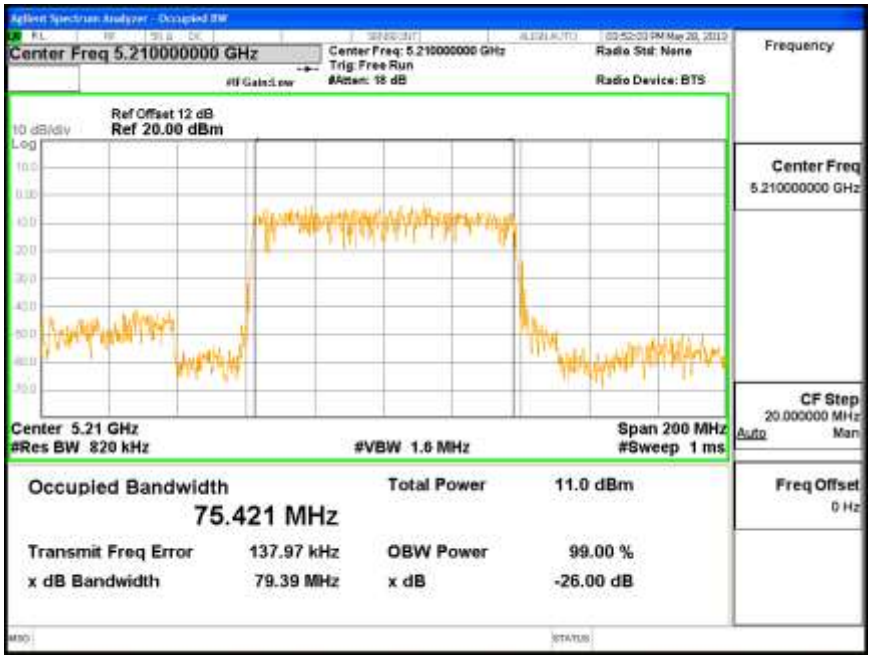
None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5210	75.421

99% BANDWIDTH

BANDWIDTH LOW CH



9.6.3. 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 11 dB (including 10 dB pad and 1 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	5210	10.52

9.6.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (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.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5210	81.670	75.421	-6.40

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC EIRP Limit (dBm)	Max IC Power (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC eirp PSD Limit (dBm)	PPSD Limit (dBm)
Low	5210	17.00	23.00	29.40	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power & PPSD

Output Power Results

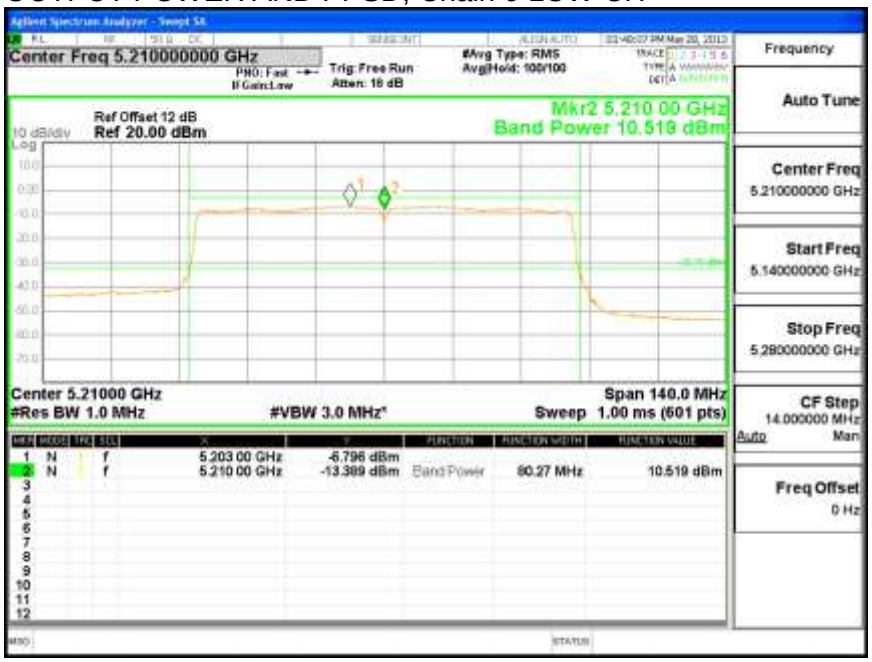
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5210	12.826	13.04	17.00	-3.96

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5210	1.486	1.70	4.00	-2.30

OUTPUT POWER AND PPSD, Chain 0

OUTPUT POWER AND PPSD, Chain 0 LOW CH



9.7. 802.11a MODE IN THE 5.3 GHz BAND

9.7.1. 26 dB BANDWIDTH

LIMITS

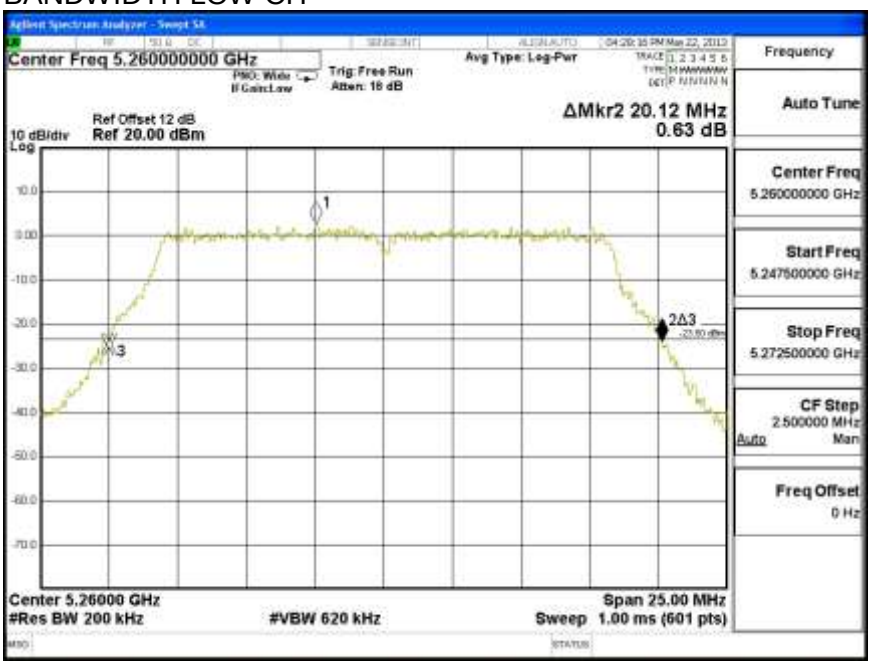
None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	20.12
Mid	5300	20.13
High	5320	20.04

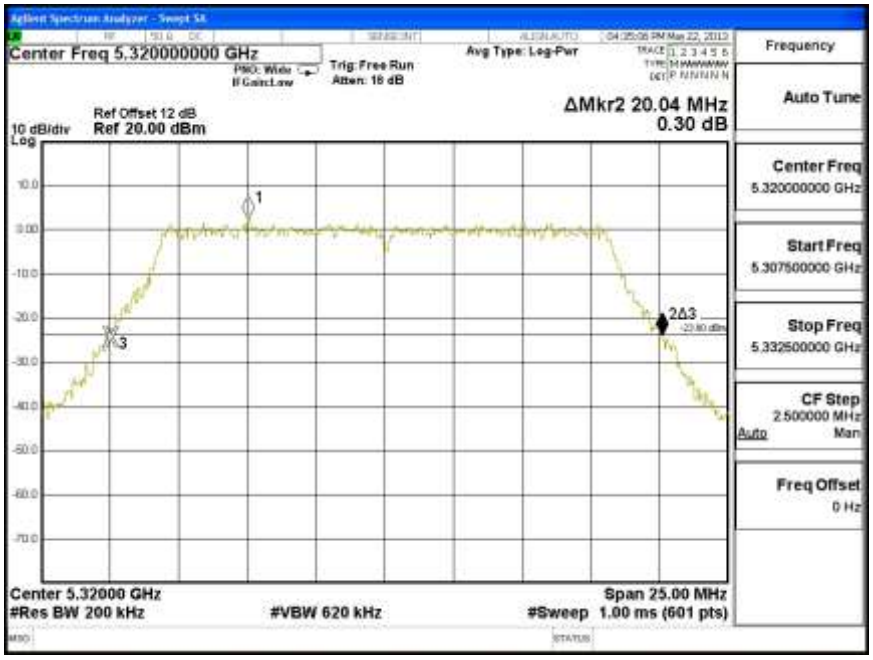
26 dB BANDWIDTH

BANDWIDTH LOW CH



BANDWIDTH MID CH

BANDWIDTH HIGH CH



9.7.2. 99% BANDWIDTH

LIMITS

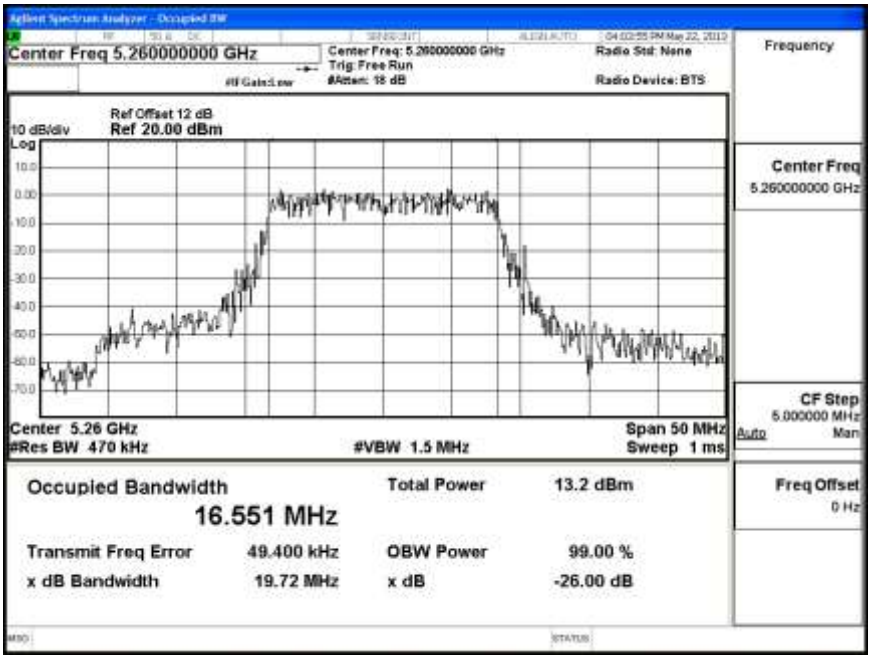
None; for reporting purposes only.

RESULTS

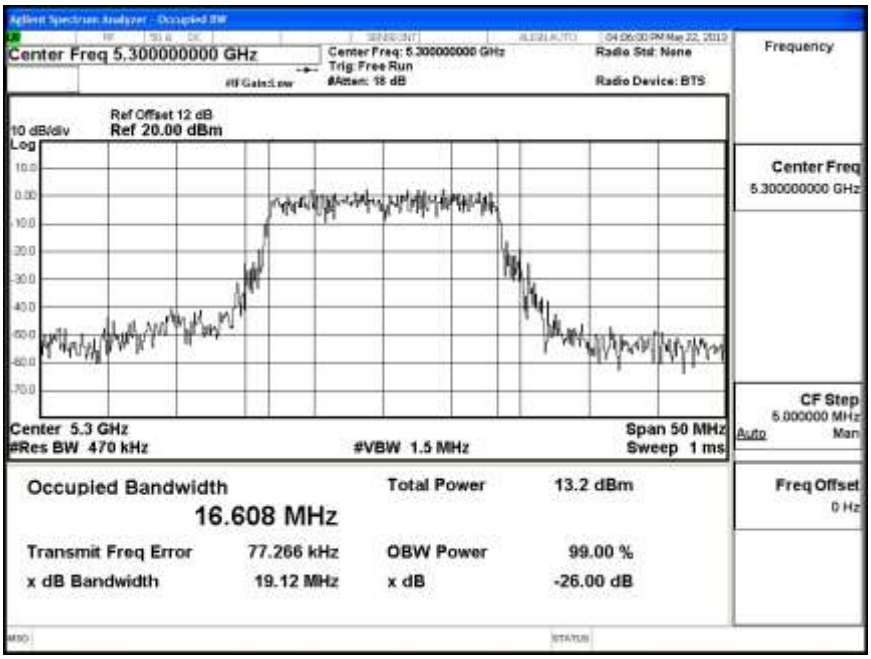
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	16.551
Mid	5300	16.608
High	5320	16.679

99% BANDWIDTH

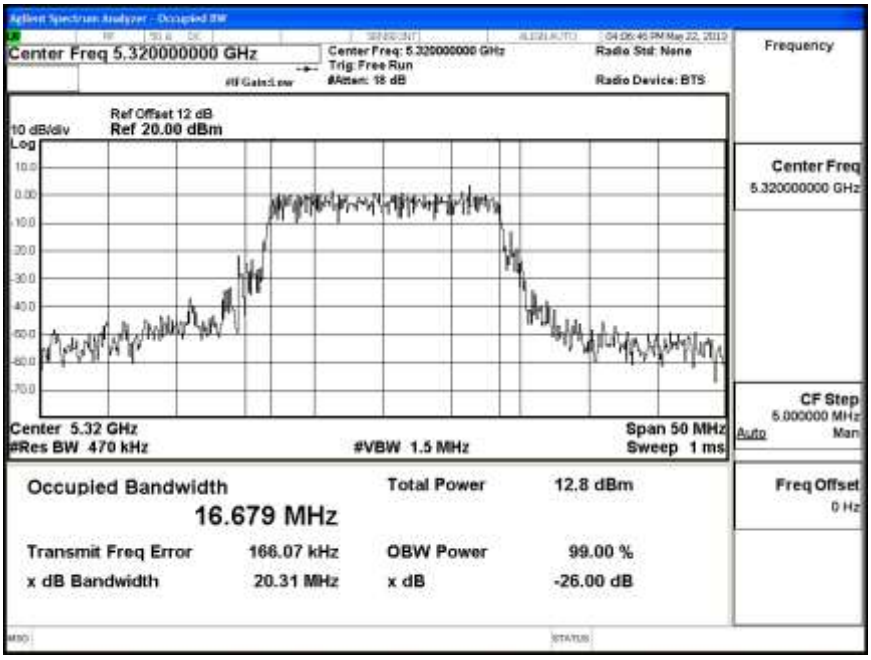
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



9.7.3. 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 11 dB (including 10 dB pad and 1 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	12.51
Mid	5300	12.50
High	5320	12.32

9.7.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (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.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5260	20.12	16.551	-6.40
Mid	5300	20.13	16.608	-6.40
High	5320	20.04	16.679	-6.40

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5260	24.00	23.19	29.19	23.19	11.00	11.00	11.00
Mid	5300	24.00	23.20	29.20	23.20	11.00	11.00	11.00
High	5320	24.00	23.22	29.22	23.22	11.00	11.00	11.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power & PPSD

Output Power Results

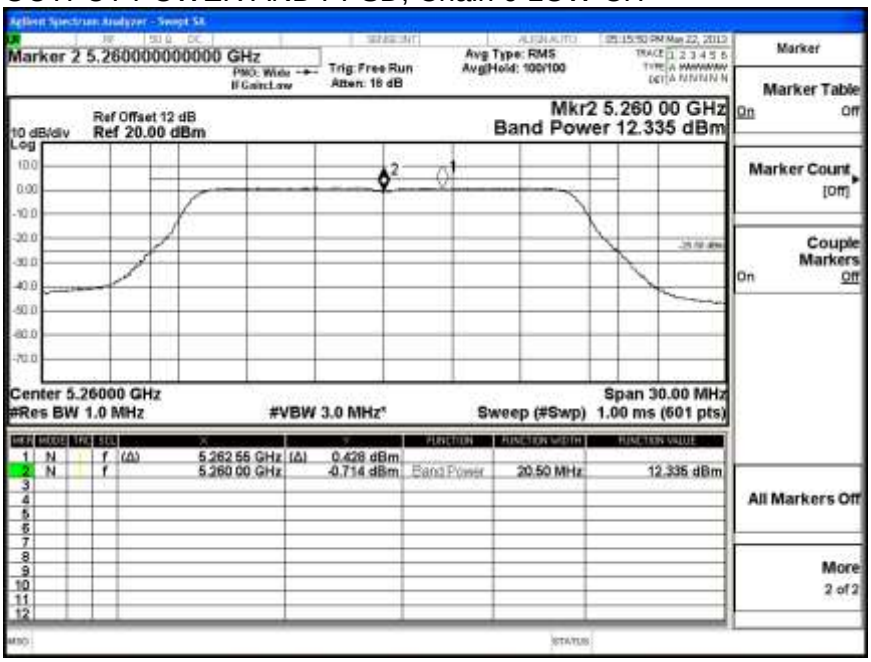
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	12.335	12.55	23.19	-10.64
Mid	5300	12.760	12.97	23.20	-10.23
High	5320	12.008	12.22	23.22	-11.00

PPSD Results

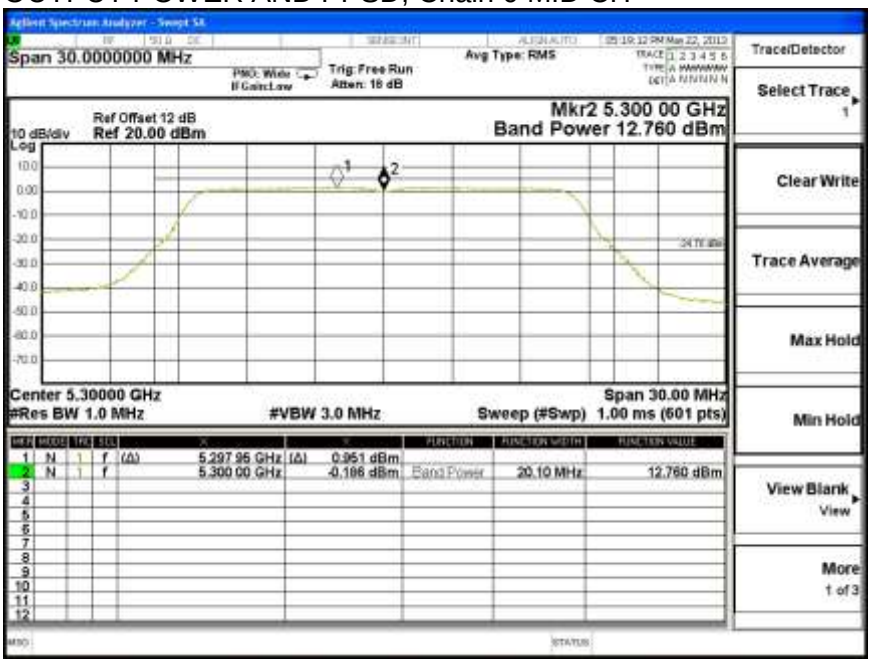
Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	0.428	0.64	11.00	-10.36
Mid	5300	0.951	1.16	11.00	-9.84
High	5320	0.037	0.25	11.00	-10.75

OUTPUT POWER AND PPSD, Chain 0

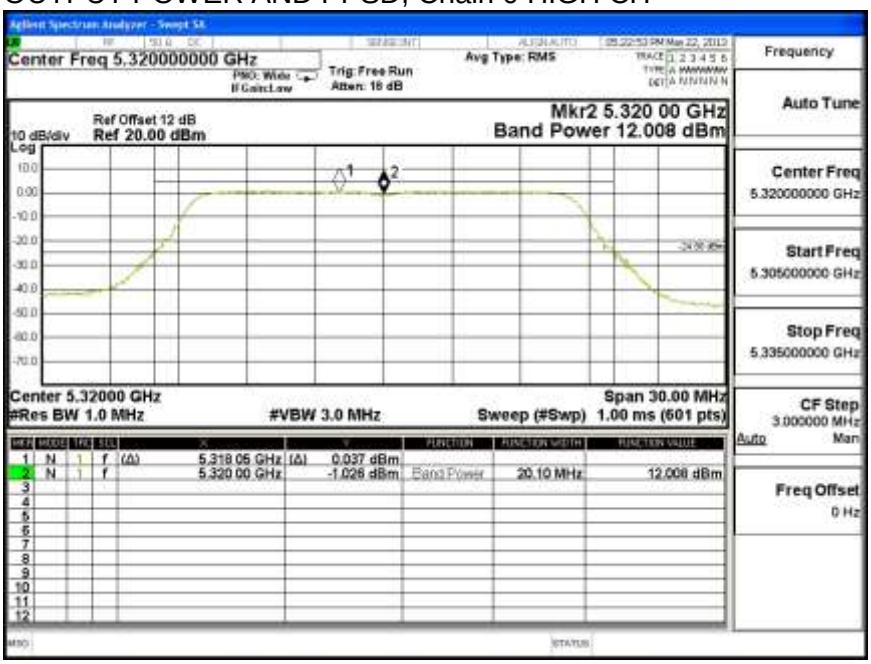
OUTPUT POWER AND PPSD, Chain 0 LOW CH



OUTPUT POWER AND PPSD, Chain 0 MID CH



OUTPUT POWER AND PPSD, Chain 0 HIGH CH



9.8. 802.11n HT20 MODE IN THE 5.3 GHz BAND

9.8.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

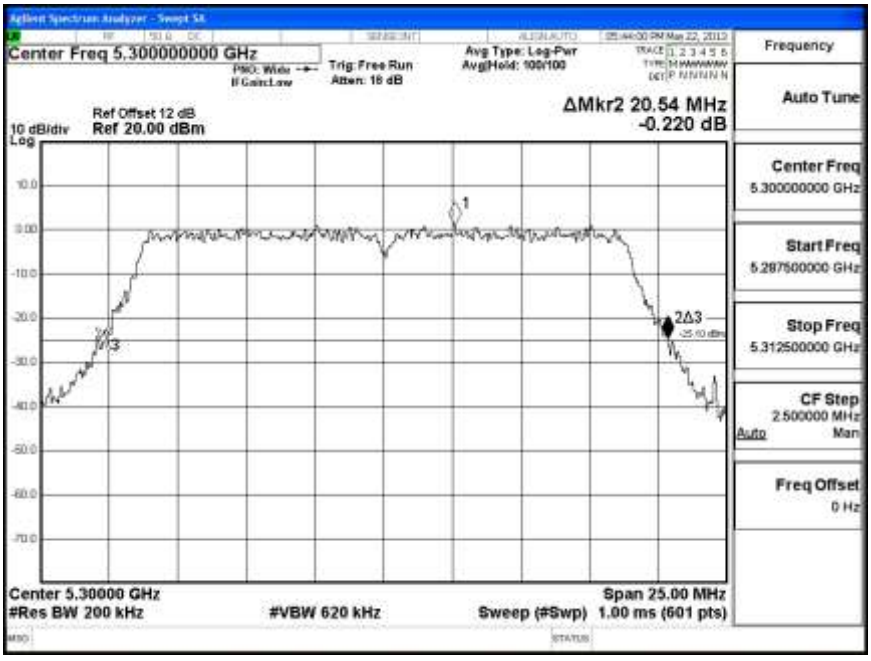
RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	20.71
Mid	5300	20.54
High	5320	20.71

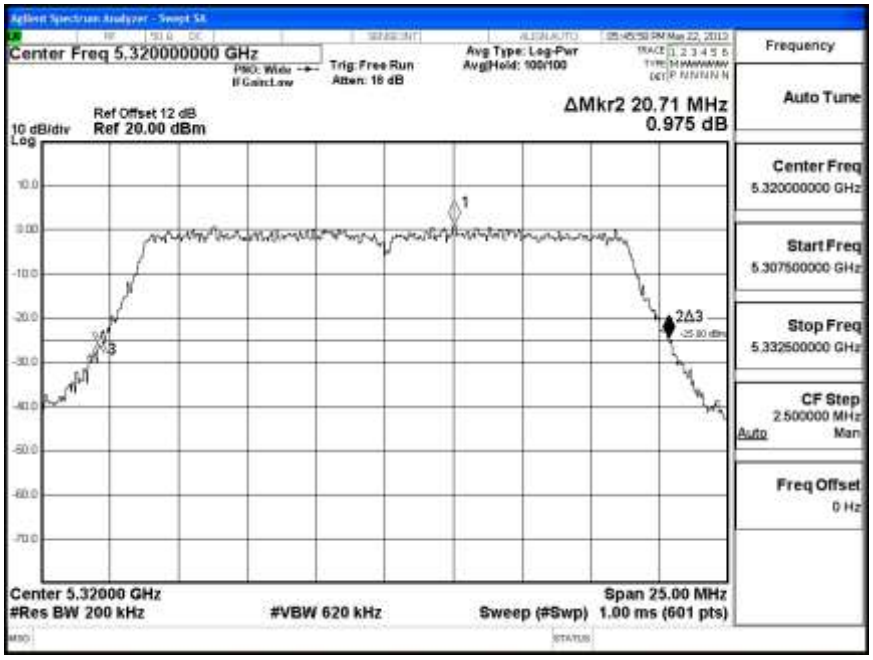
26 dB BANDWIDTH

BANDWIDTH LOW CH

BANDWIDTH MID CH



BANDWIDTH HIGH CH



9.8.2. 99% BANDWIDTH

LIMITS

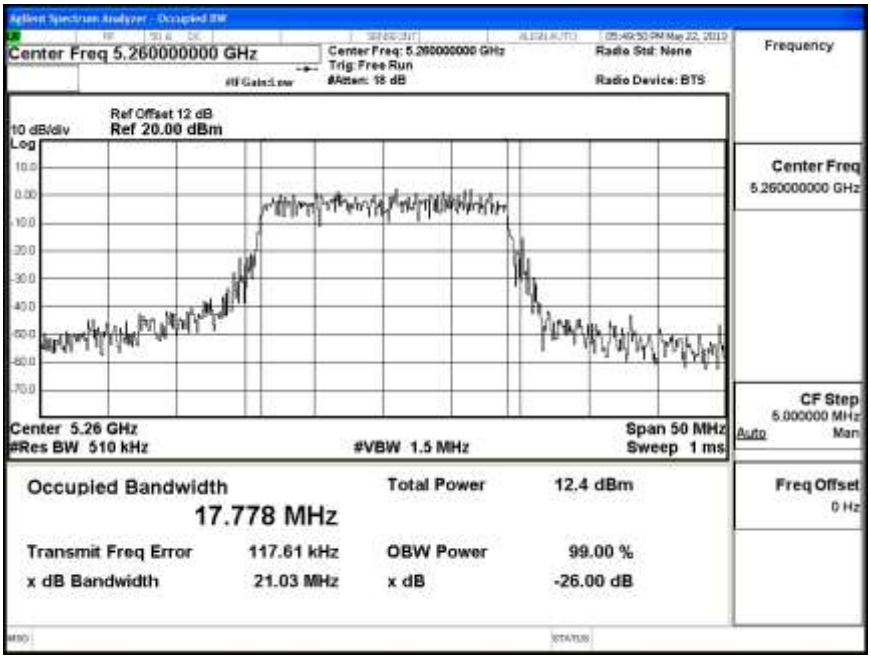
None; for reporting purposes only.

RESULTS

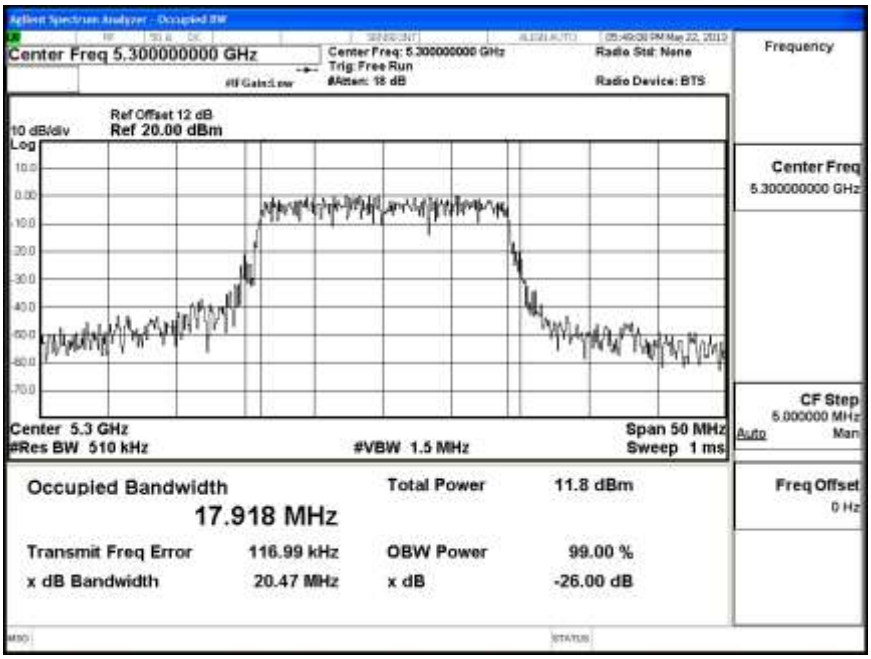
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	17.778
Mid	5300	17.918
High	5320	17.896

99% BANDWIDTH

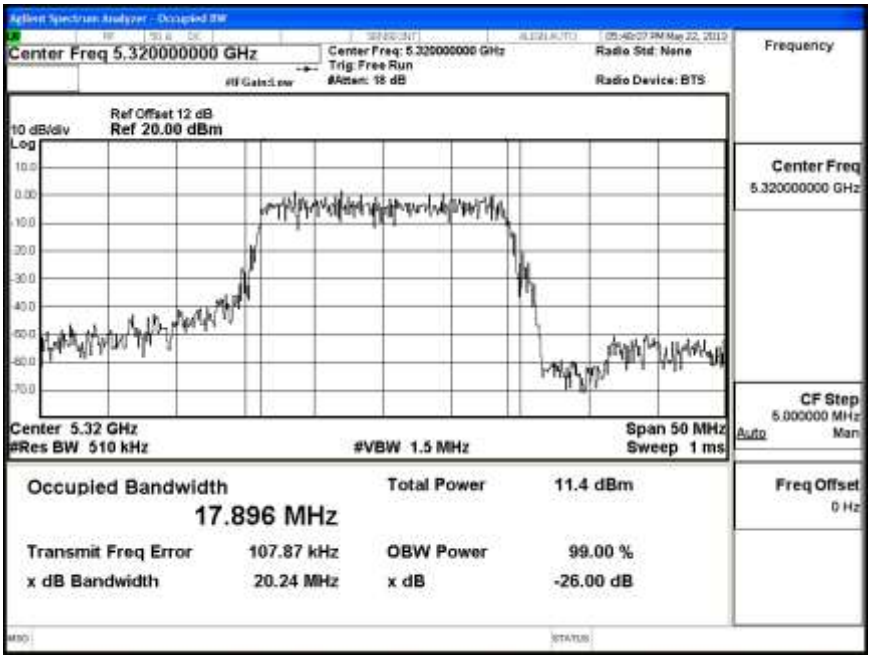
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



9.8.3. 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 11 dB (including 10 dB pad and 1 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	11.61
Mid	5300	11.55
High	5320	11.51

9.8.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (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.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5260	20.54	17.778	-6.40
Mid	5300	20.54	17.778	-6.40
High	5320	20.54	17.778	-6.40

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5260	24.00	23.50	29.50	23.50	11.00	11.00	11.00
Mid	5300	24.00	23.50	29.50	23.50	11.00	11.00	11.00
High	5320	24.00	23.50	29.50	23.50	11.00	11.00	11.00

Duty Cycle CF (dB)	0.22	Included in Calculations of Corr'd Power & PPSD

Output Power Results

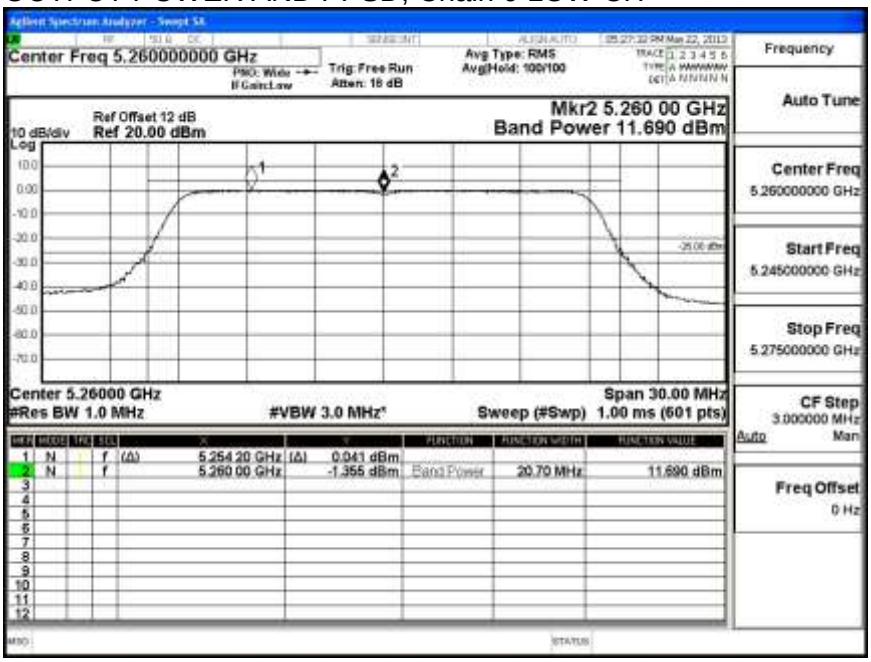
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	11.690	11.91	23.50	-11.59
Mid	5300	10.950	11.17	23.50	-12.33
High	5320	10.741	10.96	23.50	-12.54

PPSD Results

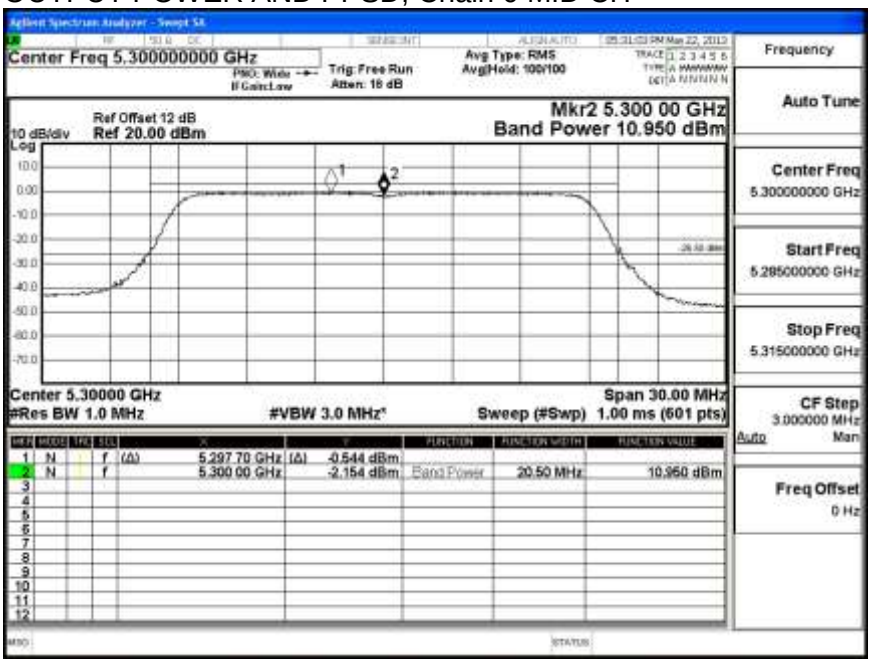
Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	0.041	0.26	11.00	-10.74
Mid	5300	-0.544	-0.32	11.00	-11.32
High	5320	-0.904	-0.68	11.00	-11.68

OUTPUT POWER AND PPSD, Chain 0

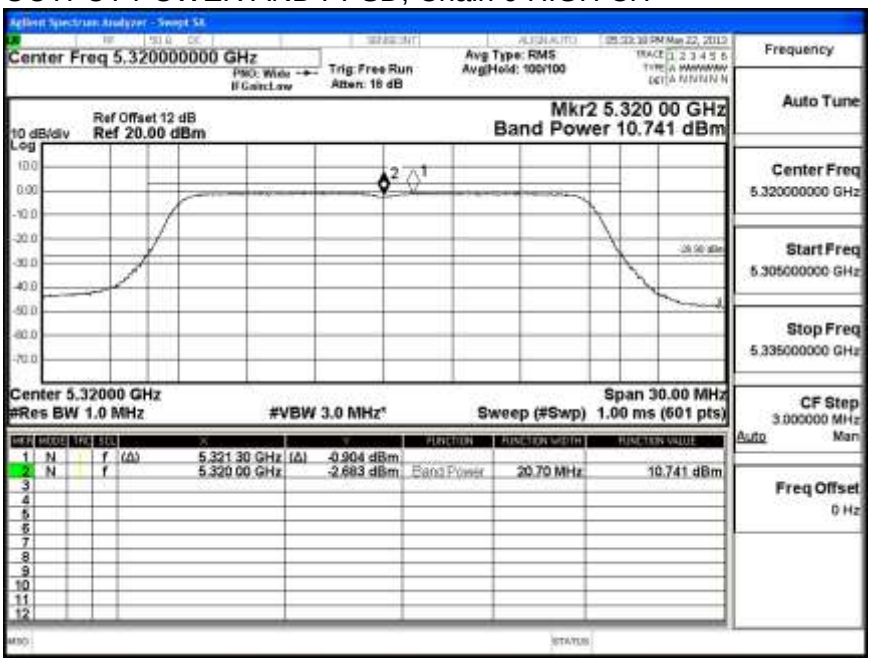
OUTPUT POWER AND PPSD, Chain 0 LOW CH



OUTPUT POWER AND PPSD, Chain 0 MID CH



OUTPUT POWER AND PPSD, Chain 0 HIGH CH



9.9. 802.11n HT40 MODE IN THE 5.3 GHz BAND

9.9.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

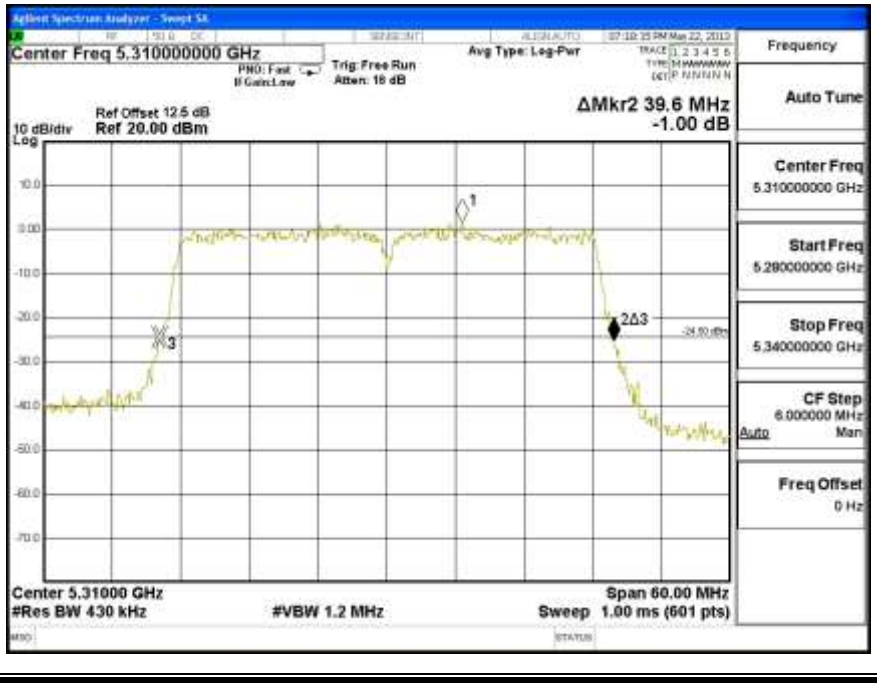
RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5270	39.5
High	5310	39.6

26 dB BANDWIDTH

BANDWIDTH LOW CH

BANDWIDTH HIGH CH



9.9.2. 99% BANDWIDTH

LIMITS

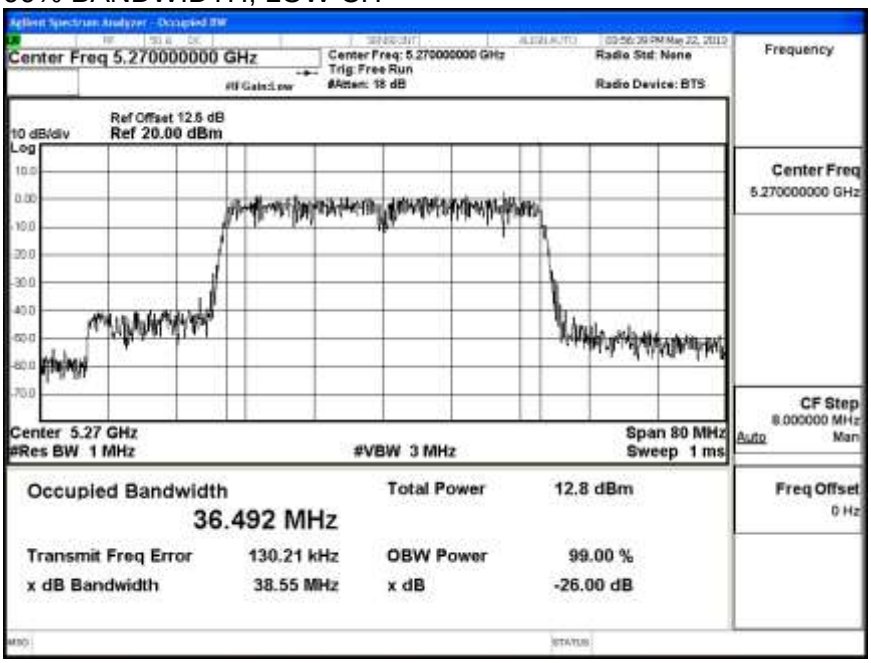
None; for reporting purposes only.

RESULTS

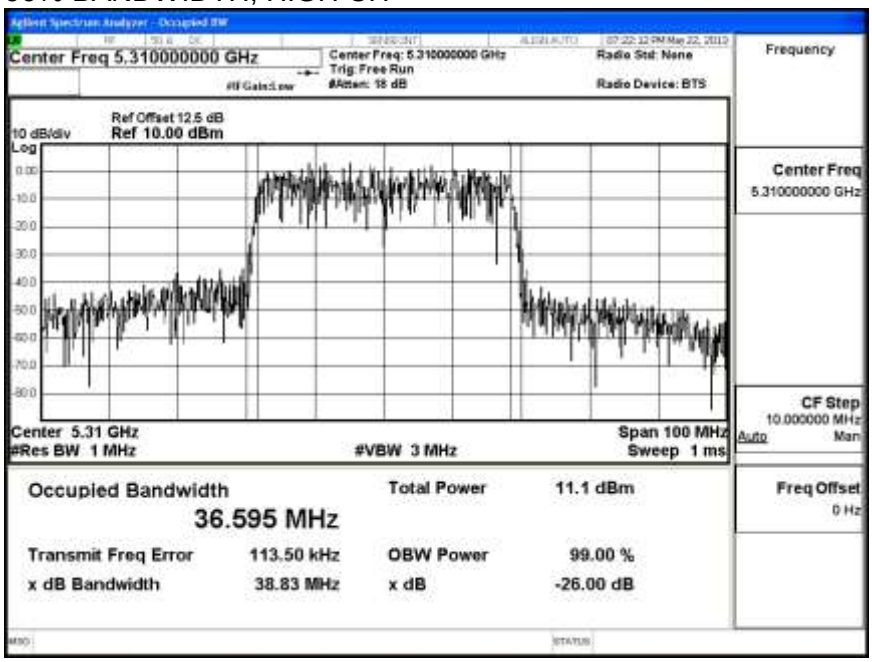
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5270	36.492
High	5310	36.595

99% BANDWIDTH

99% BANDWIDTH, LOW CH



99% BANDWIDTH, HIGH CH



9.9.3. 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 11 dB (including 10 dB pad and 1 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	5270	12.23
High	5310	11.44

9.9.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (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.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5270	39.5	36.492	-6.40
High	5310	39.6	36.595	-6.40

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5270	24.00	24.00	30.00	24.00	11.00	11.00	11.00
High	5310	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.49	Included in Calculations of Corr'd Power & PPSD

Output Power Results

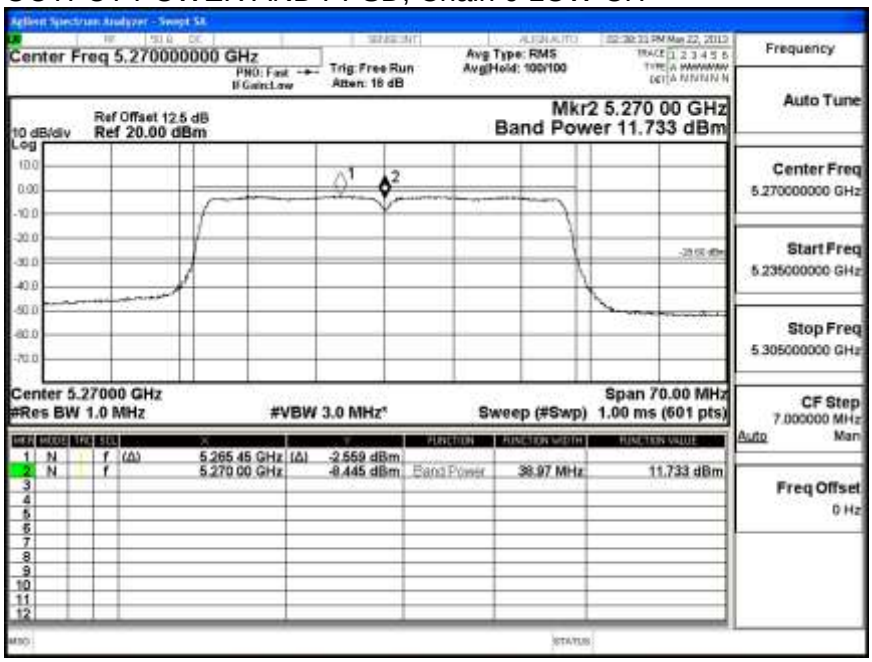
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	11.733	12.22	24.00	-11.78
High	5310	10.936	11.43	24.00	-12.57

PPSD Results

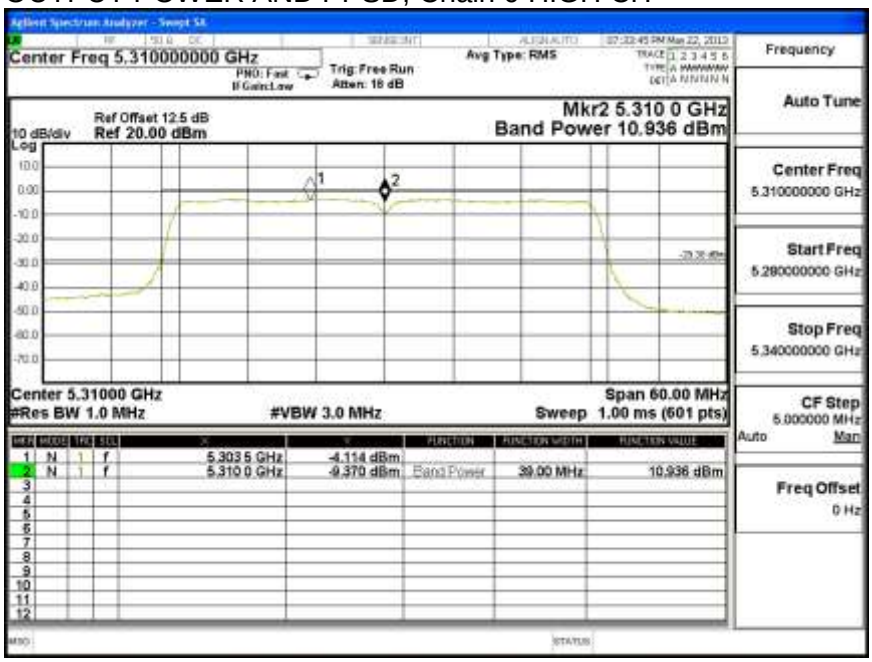
Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5270	-2.559	-2.07	11.00	-13.07
High	5310	-4.114	-3.62	11.00	-14.62

OUTPUT POWER AND PPSD, Chain 0

OUTPUT POWER AND PPSD, Chain 0 LOW CH



OUTPUT POWER AND PPSD, Chain 0 HIGH CH



9.10. 802.11ac HT20 MODE IN THE 5.3 GHz BAND

9.10.1. 26 dB BANDWIDTH

LIMITS

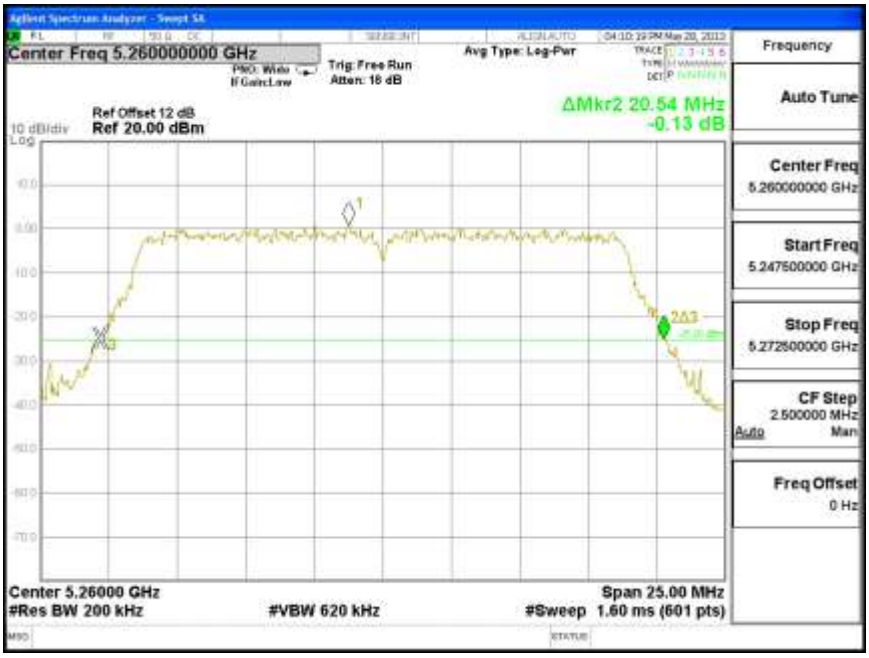
None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	20.540
Mid	5300	20.630
High	5320	20.500

26 dB BANDWIDTH

BANDWIDTH LOW CH



BANDWIDTH MID CH

BANDWIDTH HIGH CH

9.10.2. 99% BANDWIDTH

LIMITS

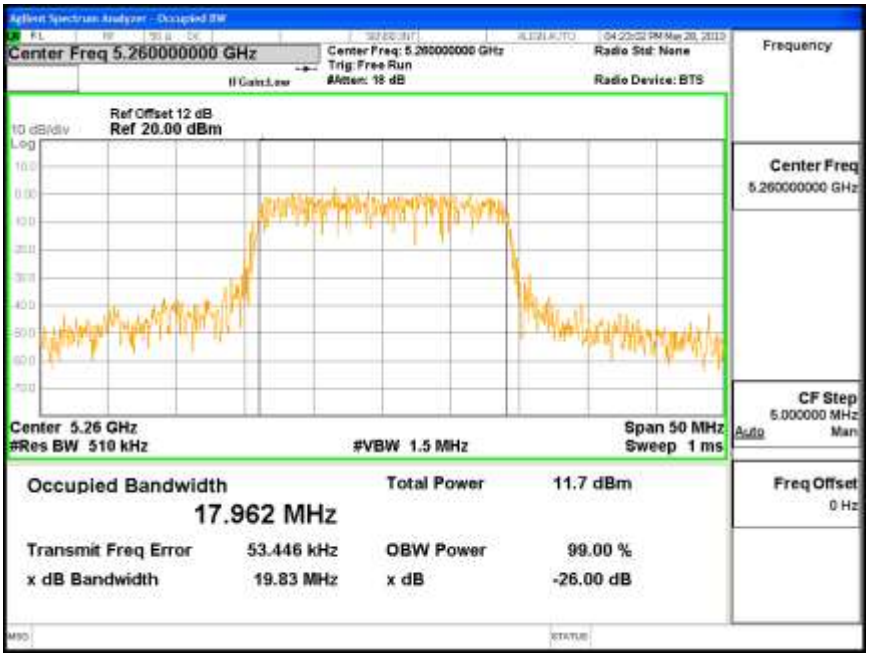
None; for reporting purposes only.

RESULTS

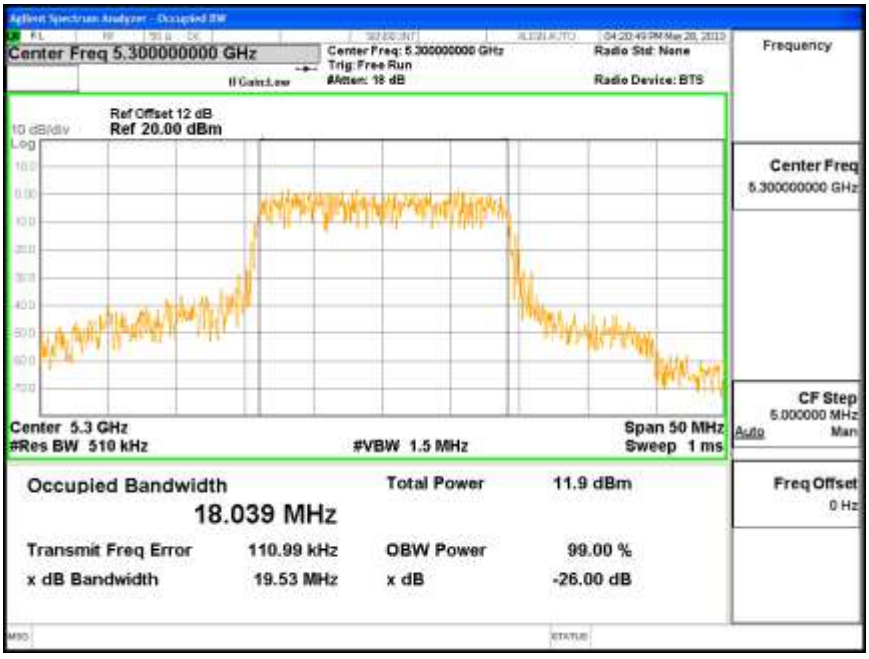
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	17.692
Mid	5300	18.039
High	5320	17.831

99% BANDWIDTH

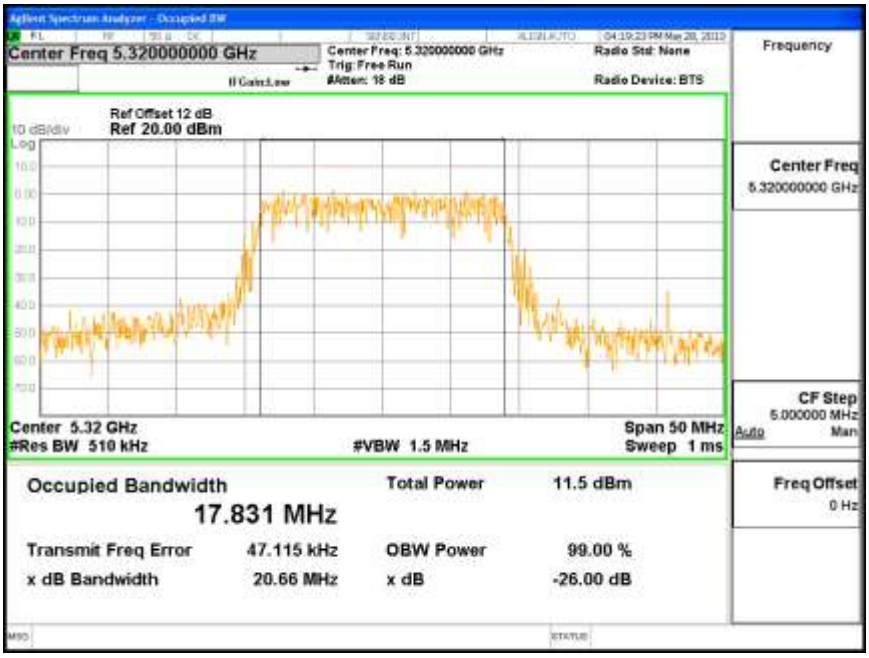
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



9.10.3. 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 11 dB (including 10 dB pad and 1 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	10.65
Mid	5300	10.45
High	5320	10.41

9.10.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (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.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5260	20.500	17.692	-6.40
Mid	5300	20.500	17.692	-6.40
High	5320	20.500	17.692	-6.40

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC EIRP Limit (dBm)	Max IC Power (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC eirp PSD Limit (dBm)	PPSD Limit (dBm)
Low	5260	17.00	22.48	28.88	17.00	4.00	10.00	4.00
Mid	5300	17.00	22.48	28.88	17.00	4.00	10.00	4.00
High	5320	17.00	22.48	28.88	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power & PPSD

Output Power Results

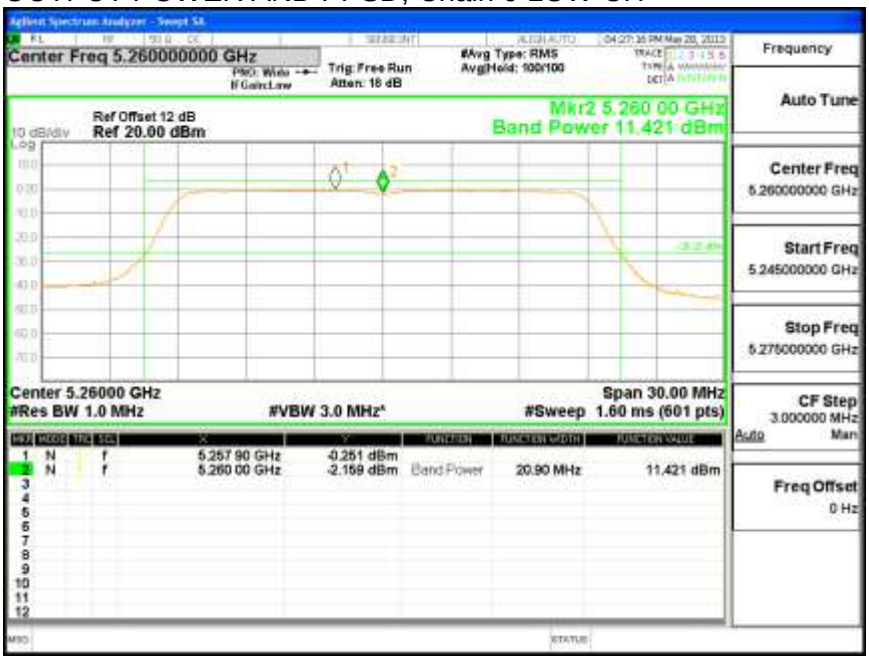
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	11.421	11.63	17.00	-5.37
Mid	5300	11.355	11.57	17.00	-5.43
High	5320	11.297	11.51	17.00	-5.49

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	-0.251	-0.04	4.00	-4.04
Mid	5300	-0.329	-0.12	4.00	-4.12
High	5320	0.009	0.22	4.00	-3.78

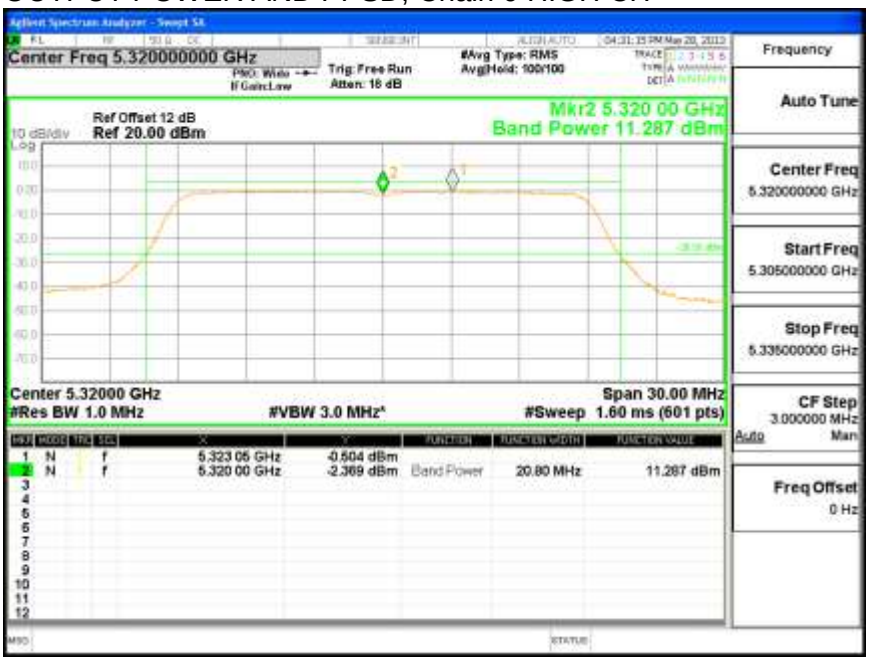
OUTPUT POWER AND PPSD, Chain 0

OUTPUT POWER AND PPSD, Chain 0 LOW CH



OUTPUT POWER AND PPSD, Chain 0 MID CH

OUTPUT POWER AND PPSD, Chain 0 HIGH CH



9.11. 802.11ac HT40 MODE IN THE 5.3 GHz BAND

9.11.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

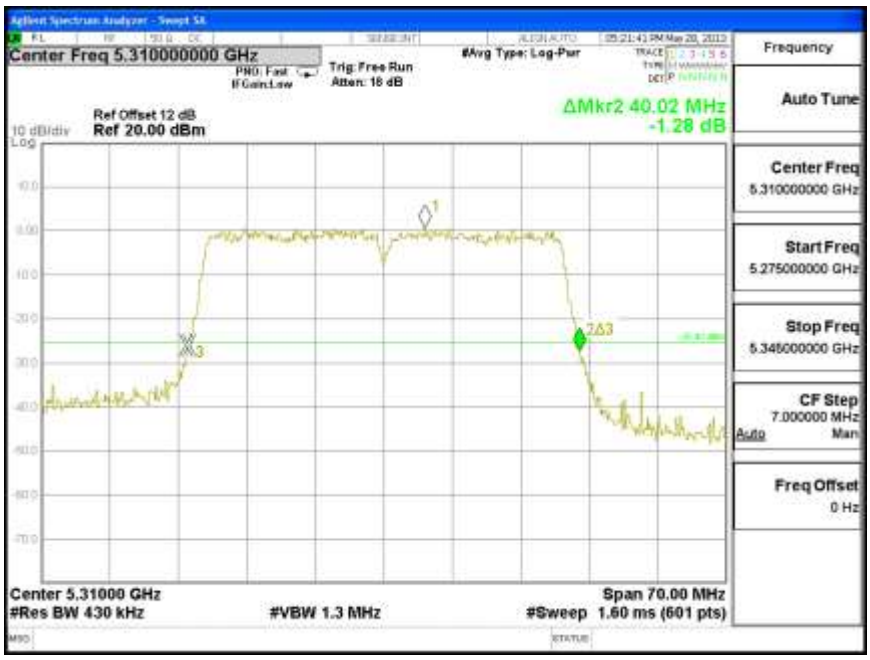
RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5270	40.020
Mid	5310	40.020

26 dB BANDWIDTH

BANDWIDTH LOW CH

BANDWIDTH HIGH CH



9.11.2. 99% BANDWIDTH

LIMITS

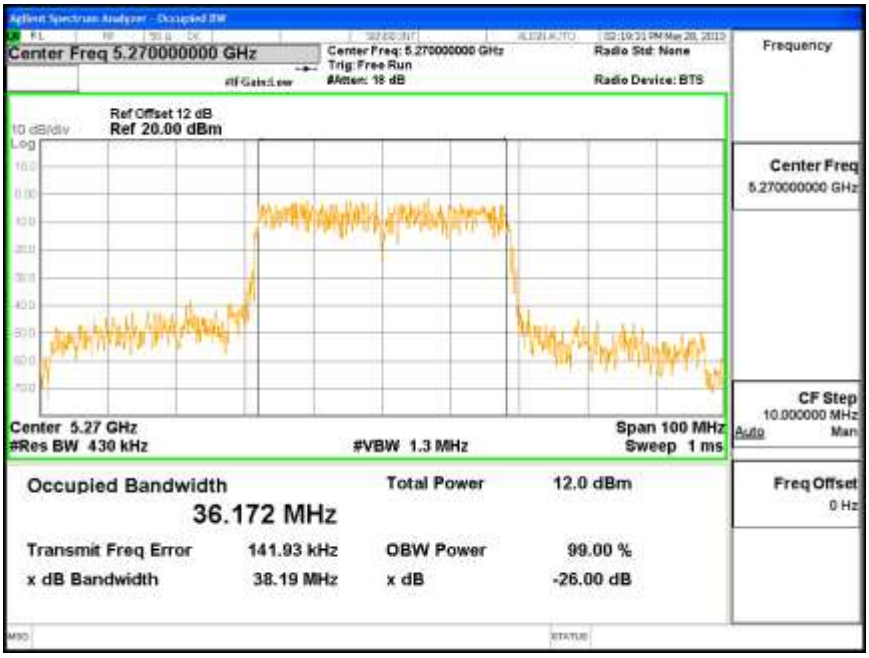
None; for reporting purposes only.

RESULTS

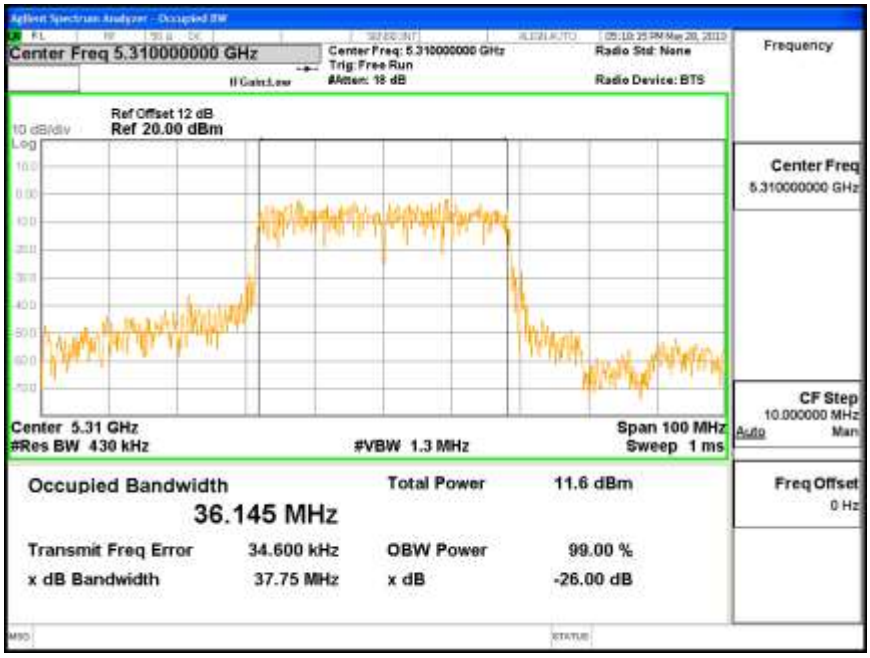
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Mid	5270	36.172
High	5310	36.145

99% BANDWIDTH

BANDWIDTH LOW CH



BANDWIDTH HIGH CH



9.11.3. 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 11 dB (including 10 dB pad and 1 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Channel	Frequency (MHz)	Power (dBm)
Mid	5270	10.86
High	5310	10.94

9.11.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (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.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

	(MHz)	BW (MHz)	BW (MHz)	(dBi)
Mid	5270	40.02	36.145	-6.40
High	5310	40.02	36.145	-6.40

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC EIRP Limit (dBm)	Max IC Power (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC eirp PSD Limit (dBm)	PPSD Limit (dBm)
Mid	5270	17.00	23.00	29.40	17.00	4.00	10.00	4.00
High	5310	17.00	23.00	29.40	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power & PPSD

Output Power Results

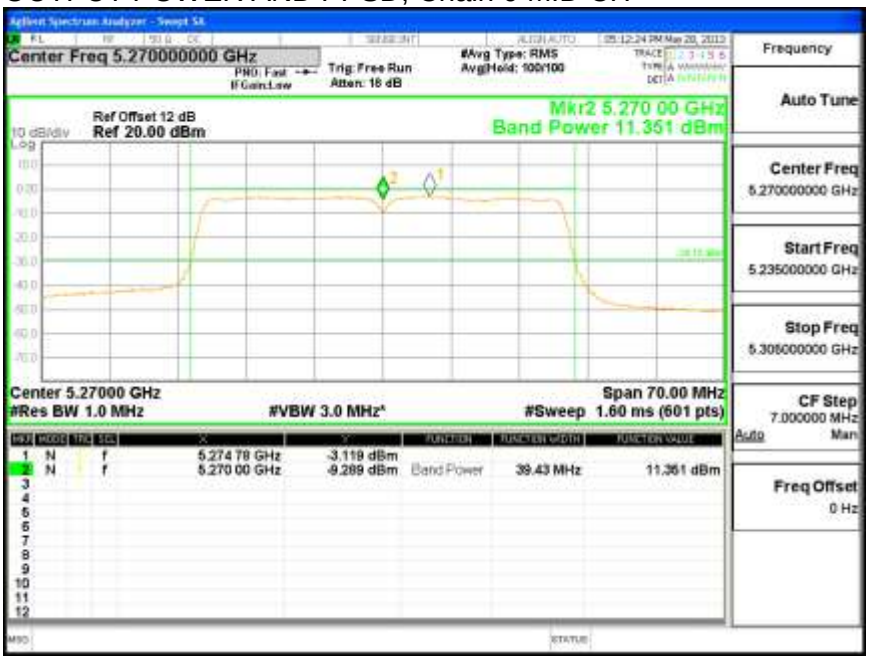
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5270	11.351	11.56	17.00	-5.44
High	5310	11.514	11.72	17.00	-5.28

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Mid	5270	1.486	1.70	4.00	-2.30
High	5310	-0.494	-0.28	4.00	-4.28

OUTPUT POWER AND PPSD, Chain 0

OUTPUT POWER AND PPSD, Chain 0 MID CH



OUTPUT POWER AND PPSD, Chain 0 HIGH CH

9.12. 802.11ac HT80 MODE IN THE 5.3 GHz BAND

9.12.1. 26 dB BANDWIDTH

LIMITS

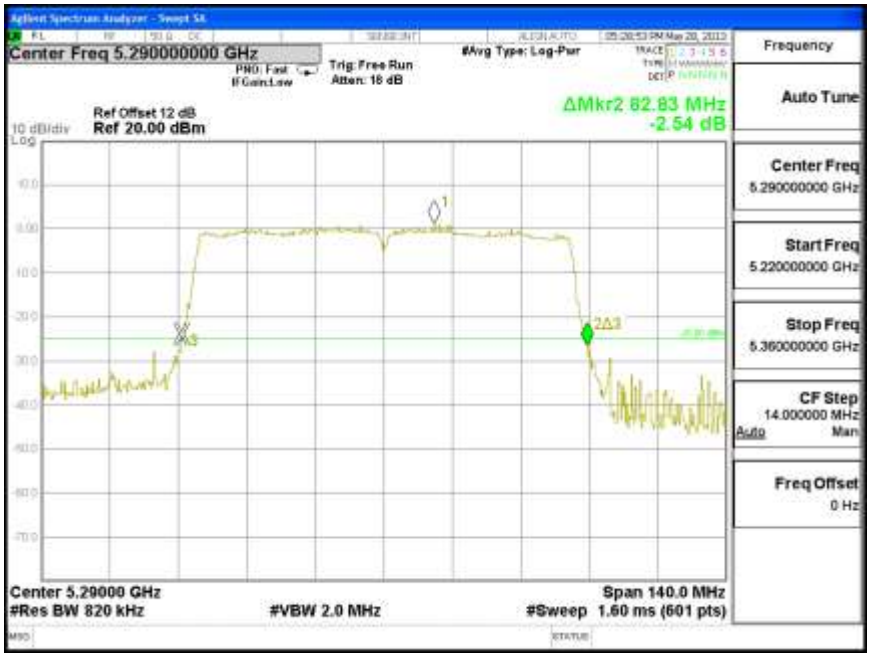
None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5290	82.830

26 dB BANDWIDTH

BANDWIDTH LOW CH



9.12.2. 99% BANDWIDTH

LIMITS

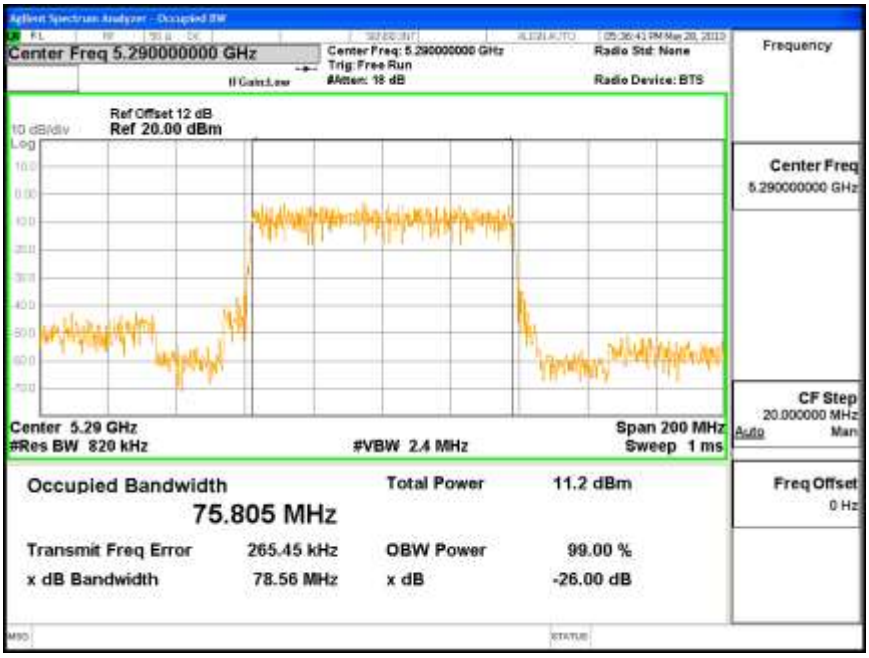
None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5290	75.805

99% BANDWIDTH

BANDWIDTH LOW CH



9.12.3. 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 11 dB (including 10 dB pad and 1 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	5290	10.65

9.12.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (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.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5290	82.83	75.805	-6.40

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC EIRP Limit (dBm)	Max IC Power (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC eirp PSD Limit (dBm)	PPSD Limit (dBm)
Low	5290	17.00	23.00	29.40	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power & PPSD

Output Power Results

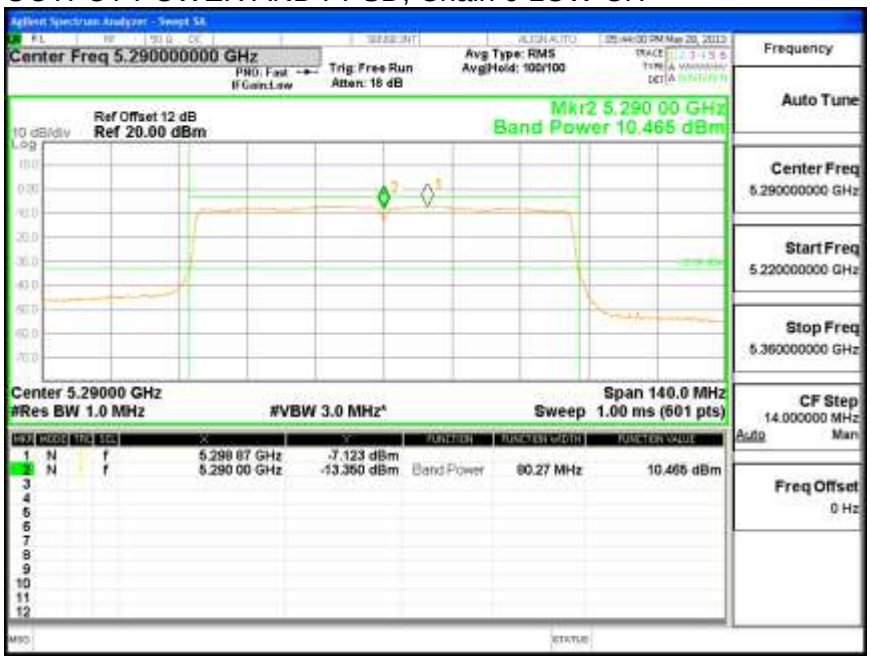
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5290	10.455	10.67	17.00	-6.34

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5290	-7.123	-6.91	4.00	-10.91

OUTPUT POWER AND PPSD, Chain 0

OUTPUT POWER AND PPSD, Chain 0 LOW CH



9.13. 802.11a MODE IN THE 5.6 GHz BAND

9.13.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

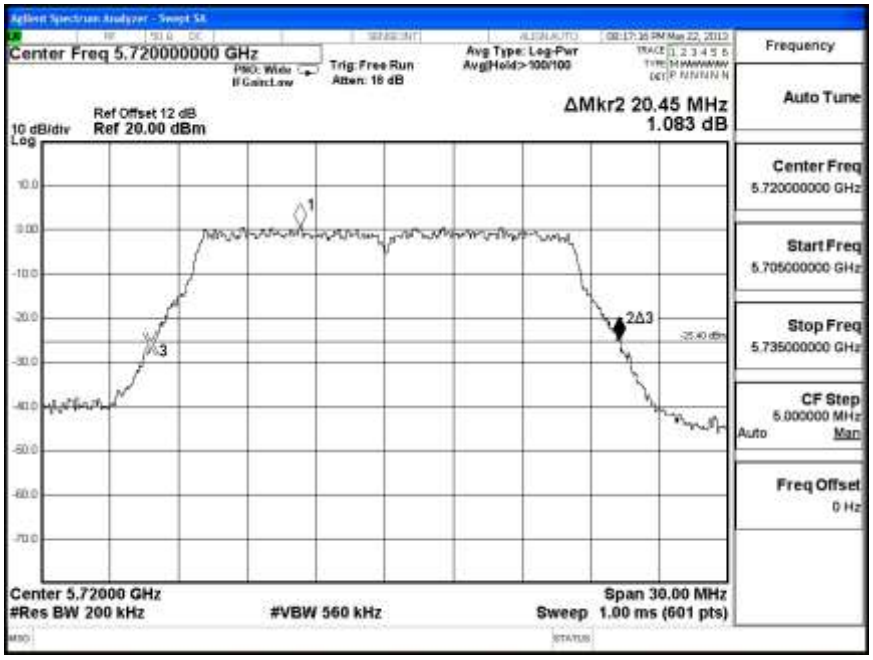
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	20.50
Mid	5580	20.40
High	5700	20.45

26 dB BANDWIDTH

BANDWIDTH LOW CH

BANDWIDTH MID CH

BANDWIDTH HIGH CH



9.13.2. 99% BANDWIDTH

LIMITS

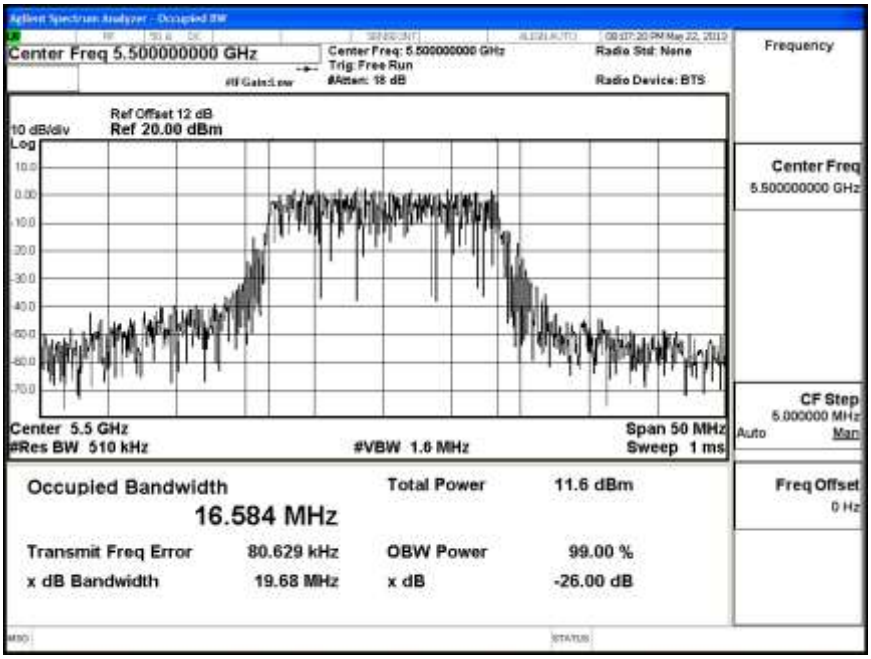
None; for reporting purposes only.

RESULTS

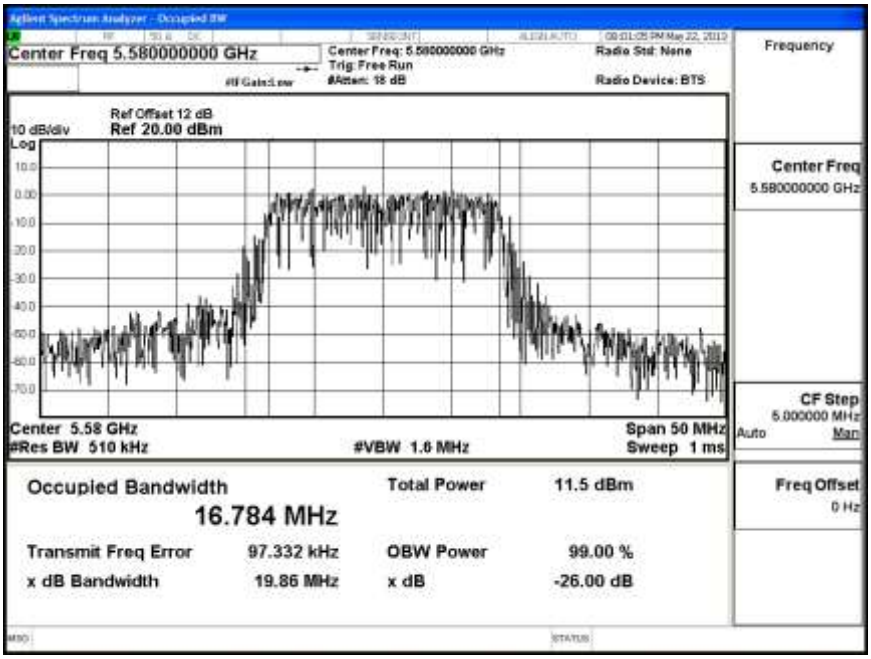
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	16.548
Mid	5580	16.784
High	5700	16.601

99% BANDWIDTH

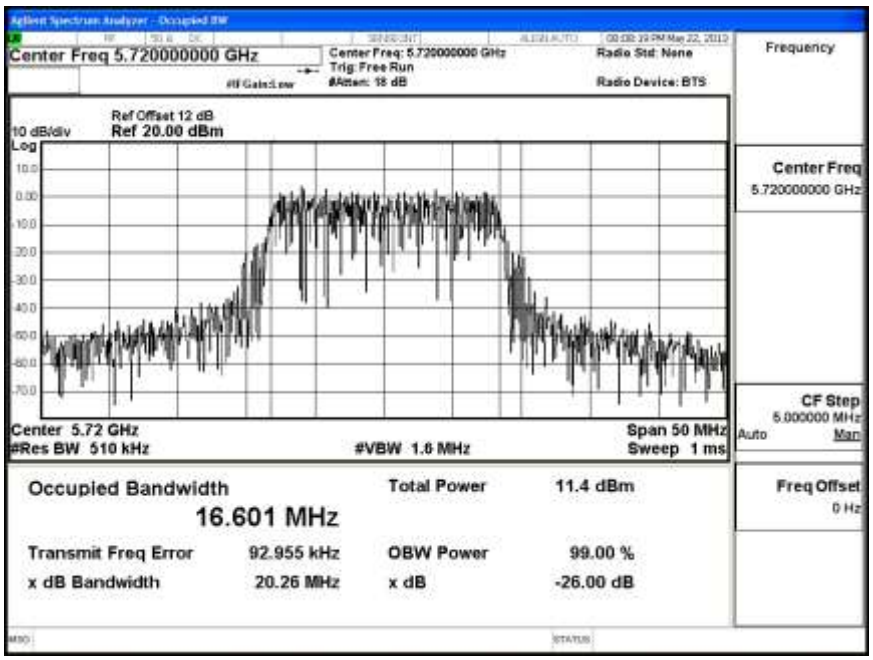
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



9.13.3. 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 11 dB (including 10 dB pad and 1 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	12.16
Mid	5580	11.92
High	5700	11.39

9.13.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1)

For the band 5.5–5.7 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. In addition, the peak power spectral density shall not exceed 11 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.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5500	20.40	16.548	-6.40
Mid	5580	20.40	16.548	-6.40
High	5700	20.40	16.548	-6.40

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5500	24.00	23.19	29.19	23.19	11.00	11.00	11.00
Mid	5580	24.00	23.19	29.19	23.19	11.00	11.00	11.00
High	5700	24.00	23.19	29.19	23.19	11.00	11.00	11.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power & PPSD

Output Power Results

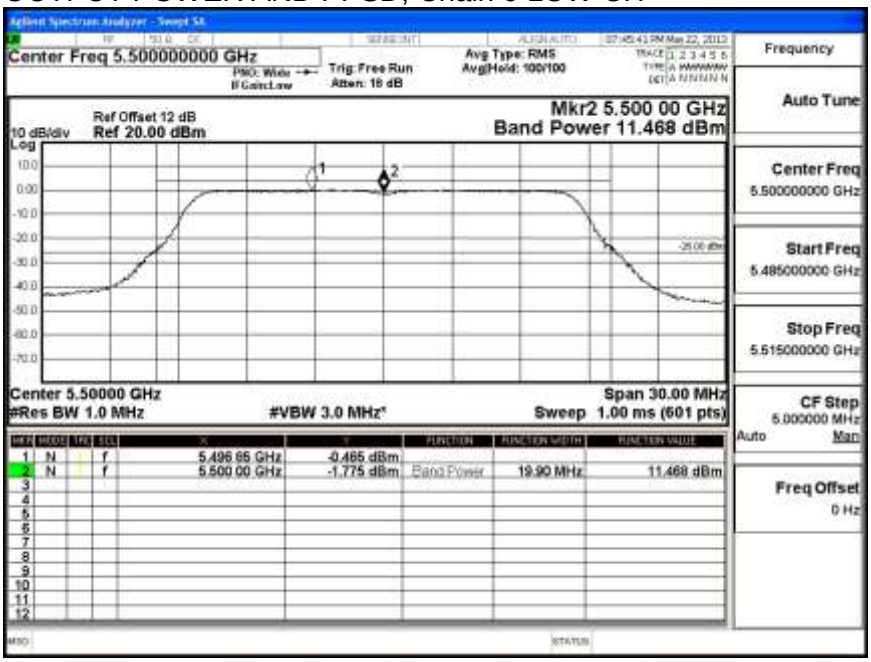
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	11.468	11.68	23.19	-11.51
Mid	5580	11.536	11.75	23.19	-11.44
High	5700	11.029	11.24	23.19	-11.95

PPSD Results

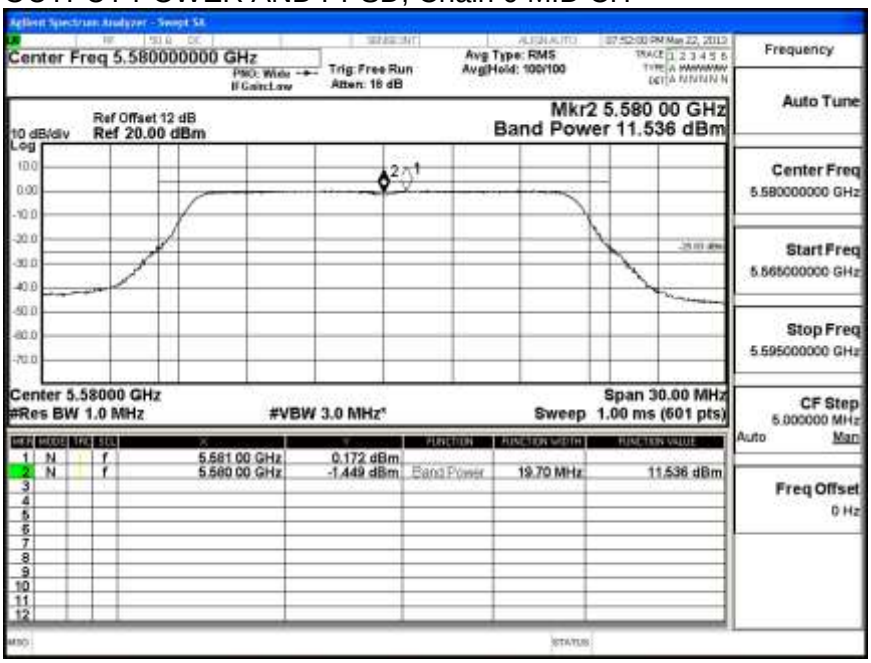
Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	-0.465	-0.26	11.00	-11.26
Mid	5580	0.172	0.38	11.00	-10.62
High	5700	-0.289	-0.08	11.00	-11.08

OUTPUT POWER AND PPSD, Chain 0

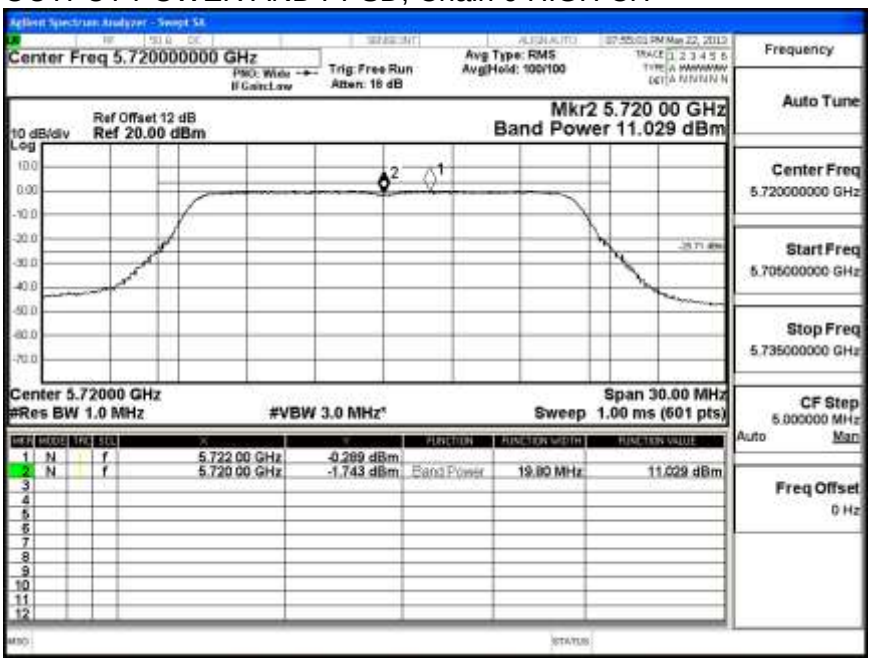
OUTPUT POWER AND PPSD, Chain 0 LOW CH



OUTPUT POWER AND PPSD, Chain 0 MID CH



OUTPUT POWER AND PPSD, Chain 0 HIGH CH



9.14. 802.11n HT20 MODE IN THE 5.6 GHz BAND

9.14.1. 26 dB BANDWIDTH

LIMITS

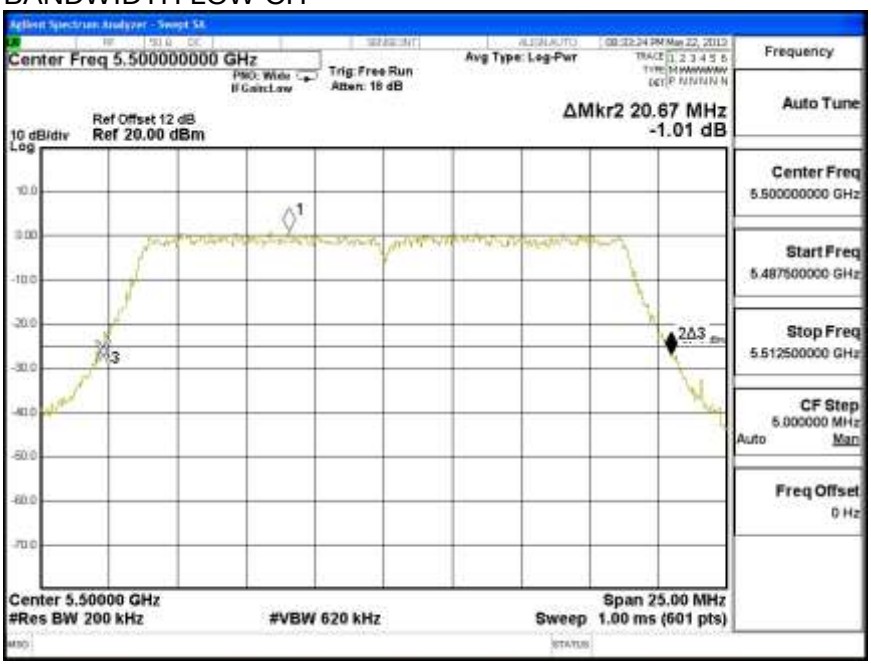
None; for reporting purposes only.

RESULTS

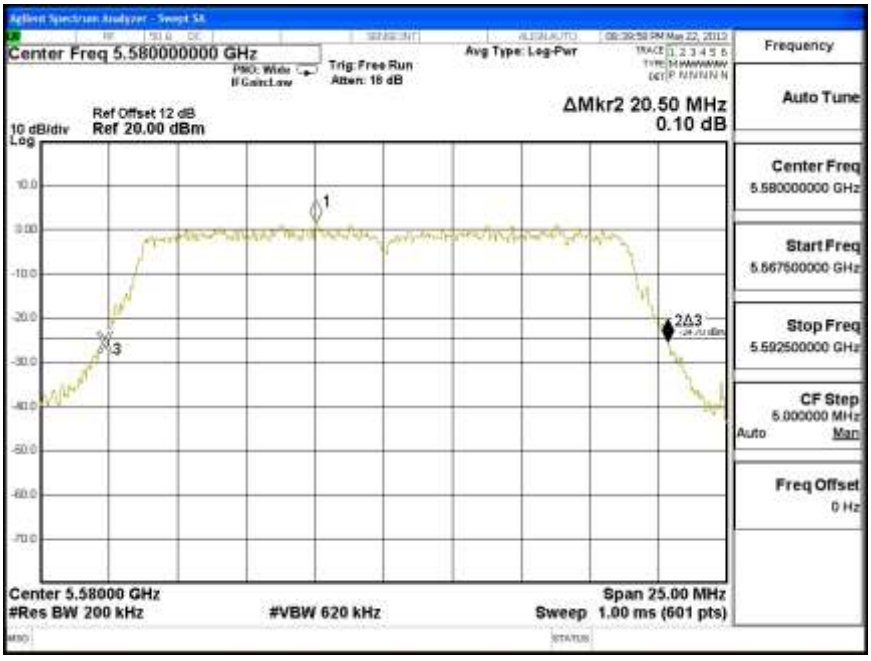
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	20.67
Mid	5580	20.50
High	5700	20.67

26 dB BANDWIDTH

BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH

9.14.2. 99% BANDWIDTH

LIMITS

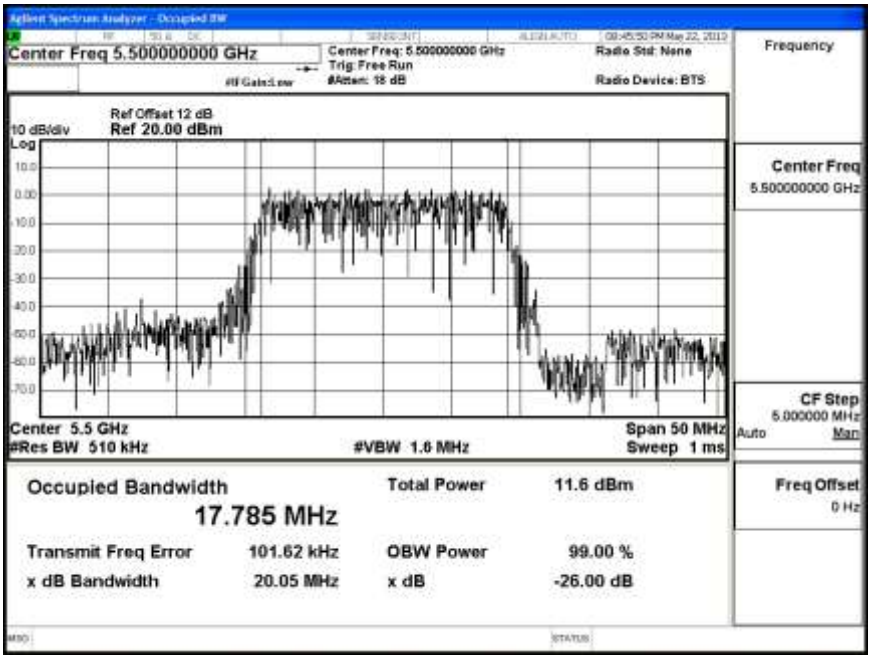
None; for reporting purposes only.

RESULTS

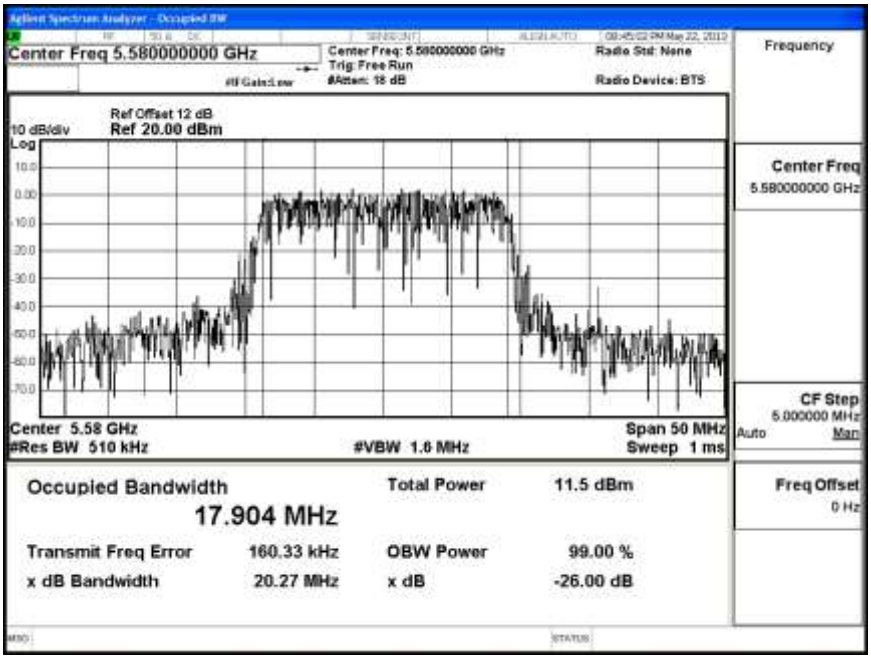
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	17.785
Mid	5580	17.904
High	5700	17.889

99% BANDWIDTH

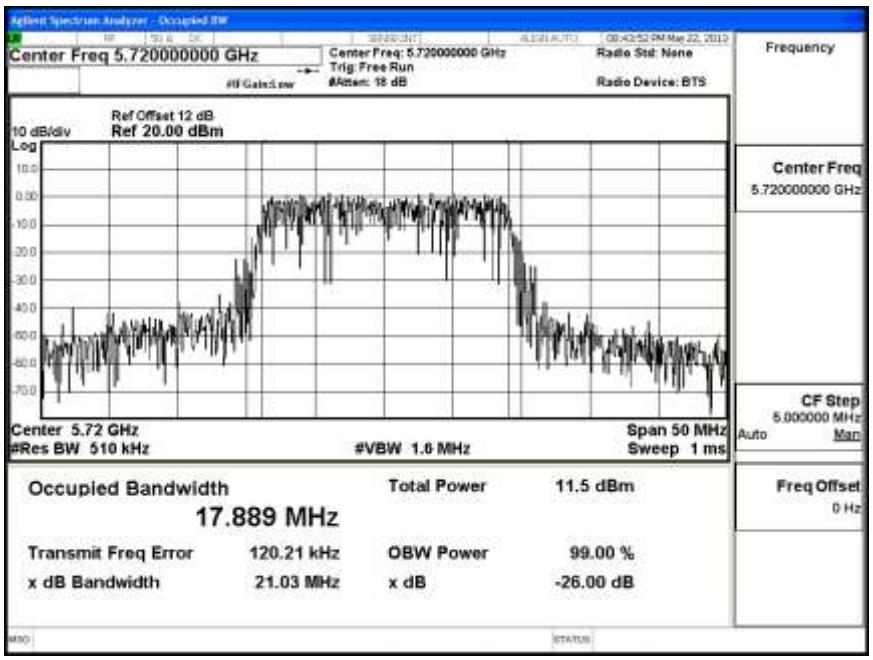
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



9.14.3. 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 11 dB (including 10 dB pad and 1 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	11.4
Mid	5580	11.1
High	5700	10.6

9.14.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1)

For the band 5.5–5.7 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. In addition, the peak power spectral density shall not exceed 11 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.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5500	20.50	17.785	-6.40
Mid	5580	20.50	17.785	-6.40
High	5700	20.50	17.785	-6.40

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5500	24.00	23.50	29.50	23.50	11.00	11.00	11.00
Mid	5580	24.00	23.50	29.50	23.50	11.00	11.00	11.00
High	5700	24.00	23.50	29.50	23.50	11.00	11.00	11.00

Duty Cycle CF (dB)	0.22	Included in Calculations of Corr'd Power & PPSD

Output Power Results

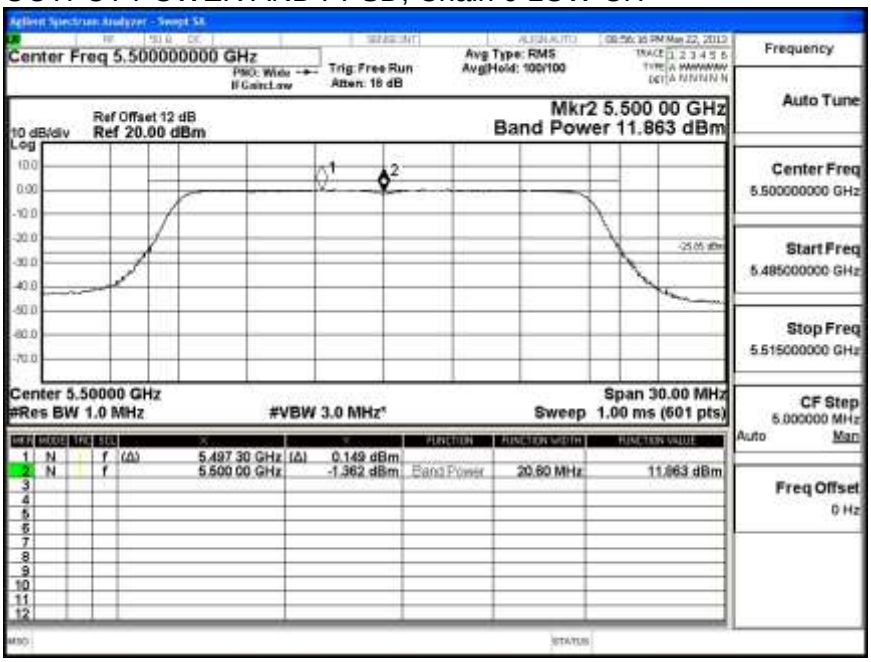
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	11.863	12.08	23.50	-11.42
Mid	5580	11.621	11.84	23.50	-11.66
High	5700	11.040	11.26	23.50	-12.24

PPSD Results

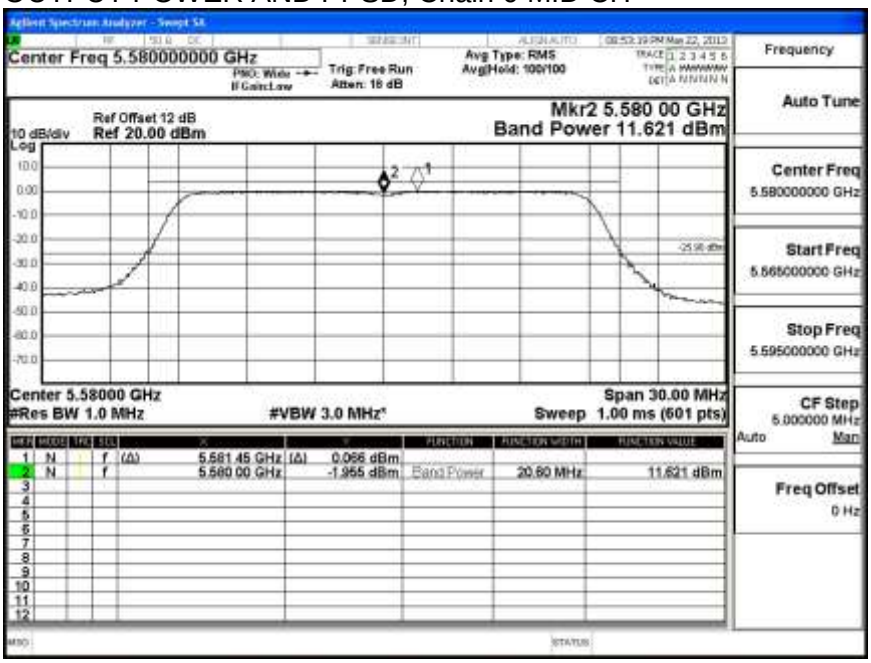
Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	0.149	0.37	11.00	-10.63
Mid	5580	0.066	0.29	11.00	-10.71
High	5700	-0.053	0.17	11.00	-10.83

OUTPUT POWER AND PPSD, Chain 0

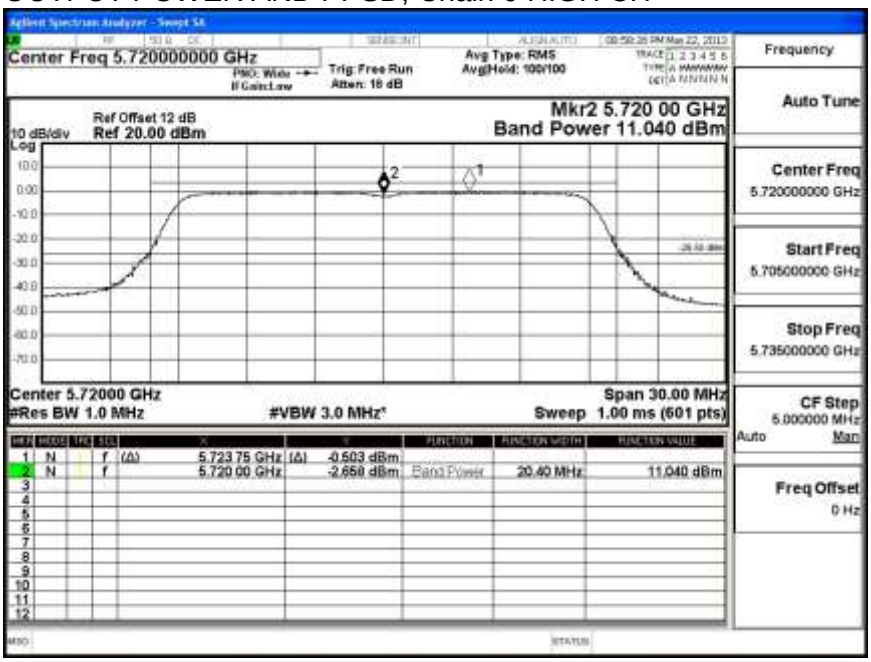
OUTPUT POWER AND PPSD, Chain 0 LOW CH



OUTPUT POWER AND PPSD, Chain 0 MID CH



OUTPUT POWER AND PPSD, Chain 0 HIGH CH



9.15. 802.11n HT40 MODE IN THE 5.6 GHz BAND

9.15.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

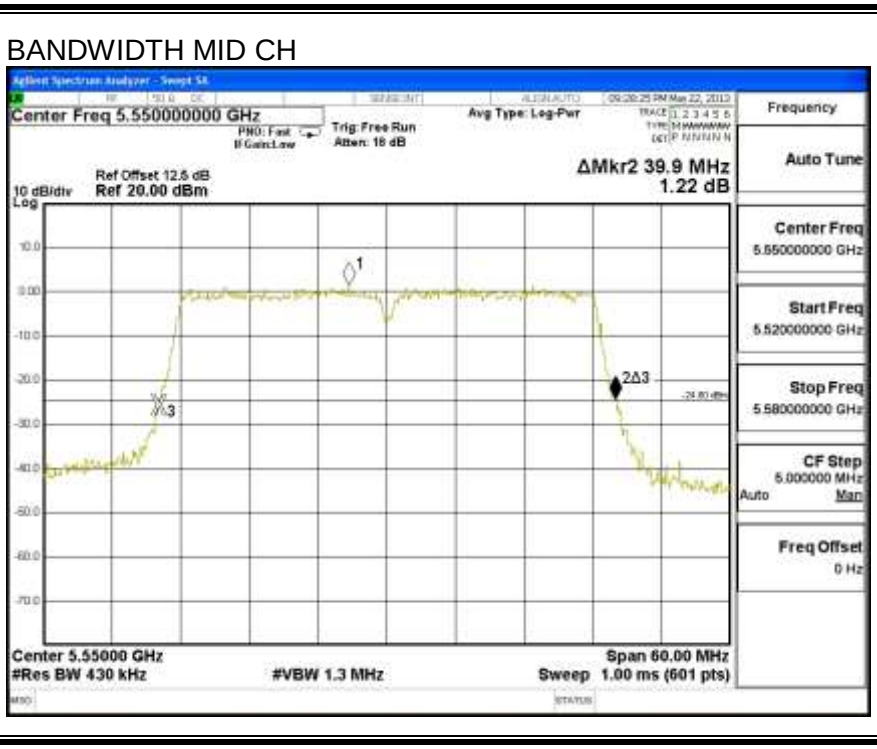
RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5510	39.7
Mid	5550	39.9
High	5670	39.7

26 dB BANDWIDTH

BANDWIDTH LOW CH

BANDWIDTH MID CH



BANDWIDTH HIGH CH

9.15.2. 99% BANDWIDTH

LIMITS

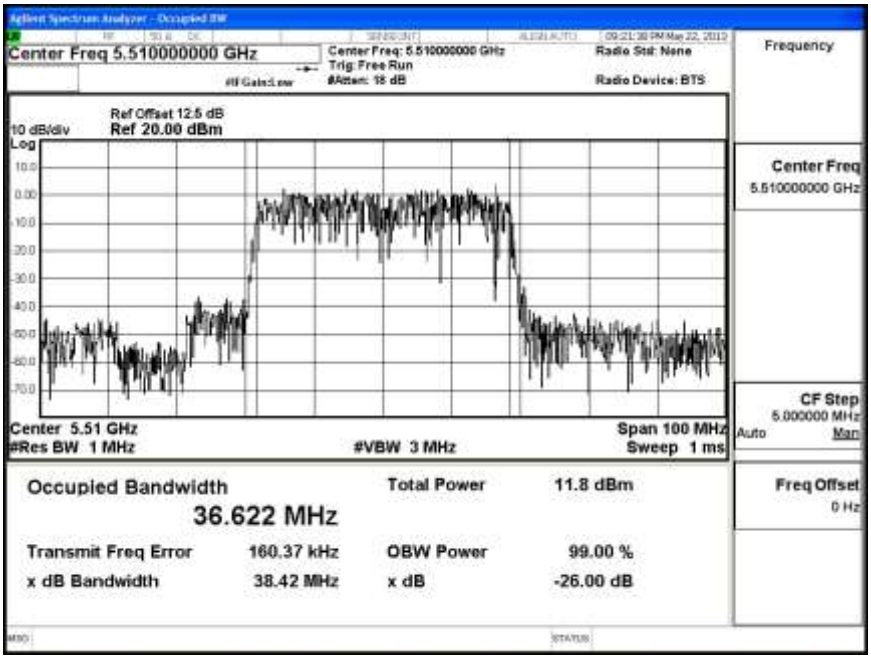
None; for reporting purposes only.

RESULTS

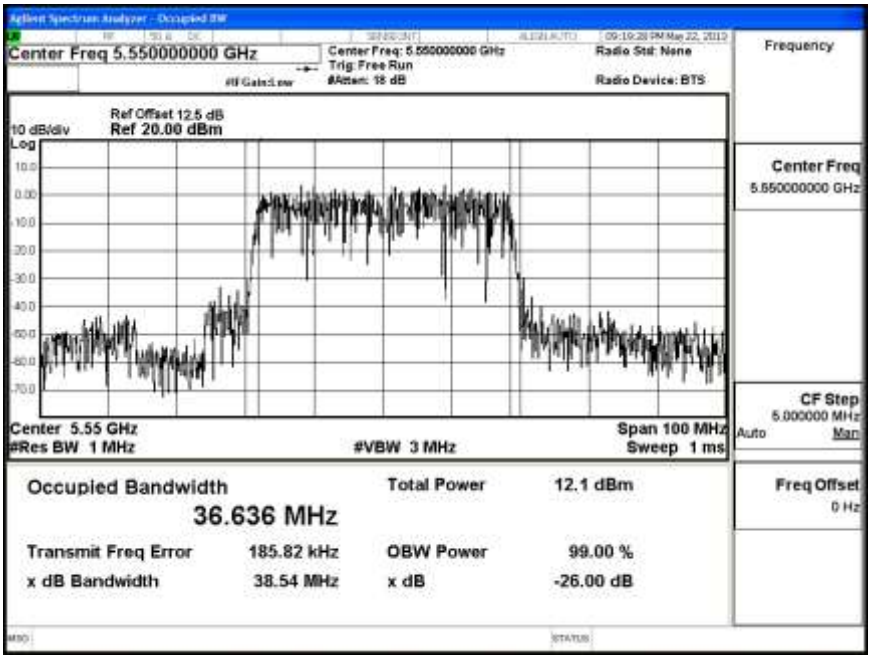
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5510	36.622
Mid	5550	36.636
High	5670	36.495

99% BANDWIDTH

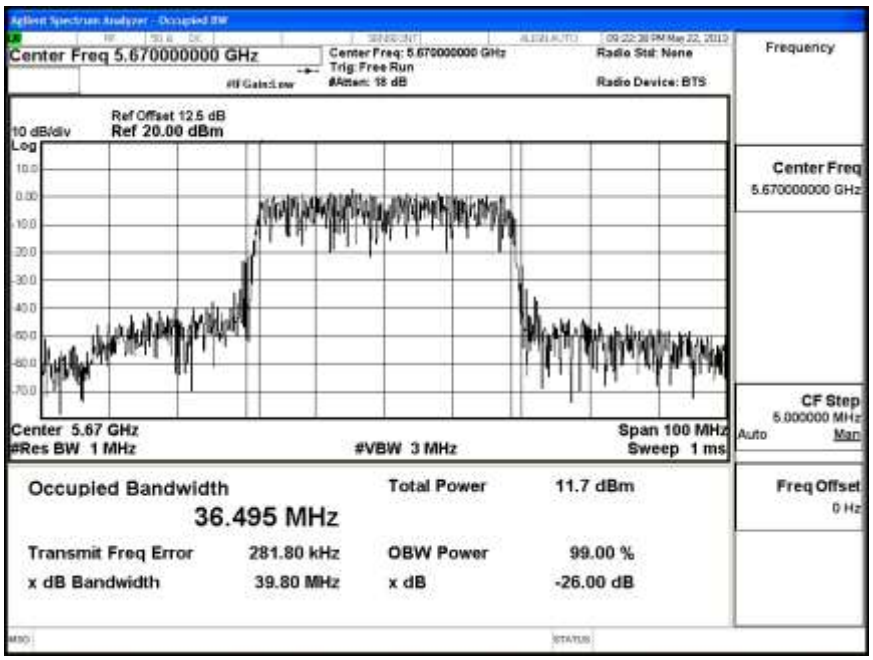
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



9.15.3. 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 11 dB (including 10 dB pad and 1 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	5510	11.26
High	5670	10.92

9.15.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1)

For the band 5.5–5.7 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. In addition, the peak power spectral density shall not exceed 11 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.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5510	39.7	36.495	-6.40
Mid	5550	39.7	36.495	-6.40
High	5670	39.7	36.495	-6.40

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5510	24.00	24.00	30.00	24.00	11.00	11.00	11.00
Mid	5550	24.00	24.00	30.00	24.00	11.00	11.00	11.00
High	5670	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.49	Included in Calculations of Corr'd Power & PPSD

Output Power Results

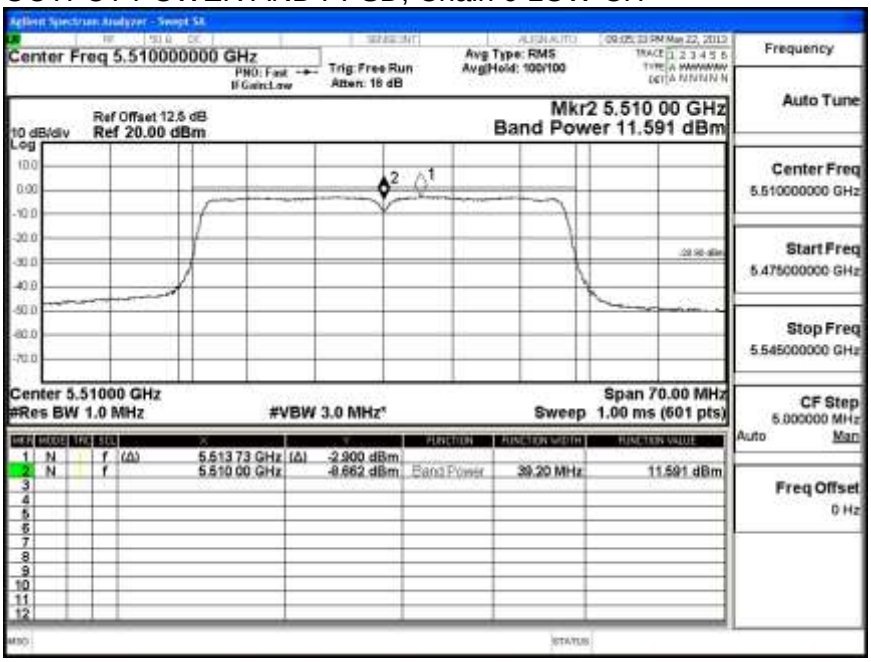
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	11.591	12.08	24.00	-11.92
Mid	5550	11.485	11.98	24.00	-12.03
High	5670	11.595	12.09	24.00	-11.92

PPSD Results

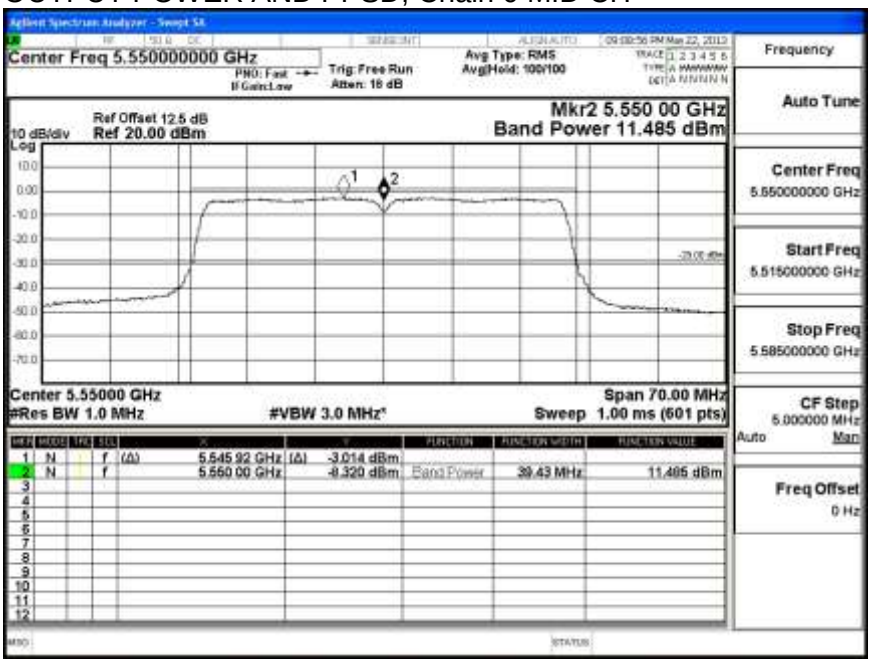
Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5510	-2.900	-2.41	11.00	-13.41
Mid	5550	-3.014	-2.52	11.00	-13.52
High	5670	-2.696	-2.21	11.00	-13.21

OUTPUT POWER AND PPSD, Chain 0

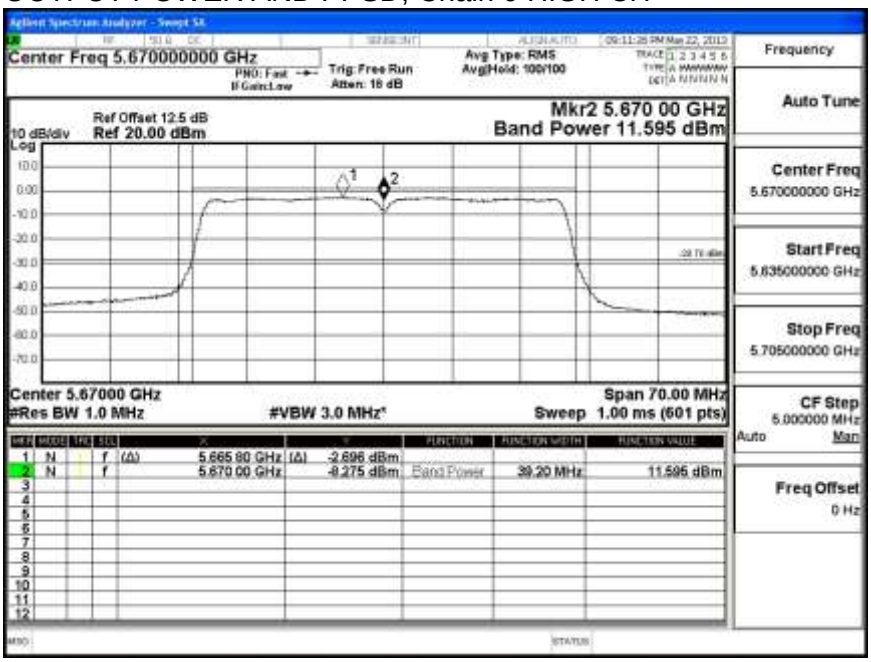
OUTPUT POWER AND PPSD, Chain 0 LOW CH



OUTPUT POWER AND PPSD, Chain 0 MID CH



OUTPUT POWER AND PPSD, Chain 0 HIGH CH



9.16. 802.11ac HT20 MODE IN THE 5.6 GHz BAND

9.16.1. 26 dB BANDWIDTH

LIMITS

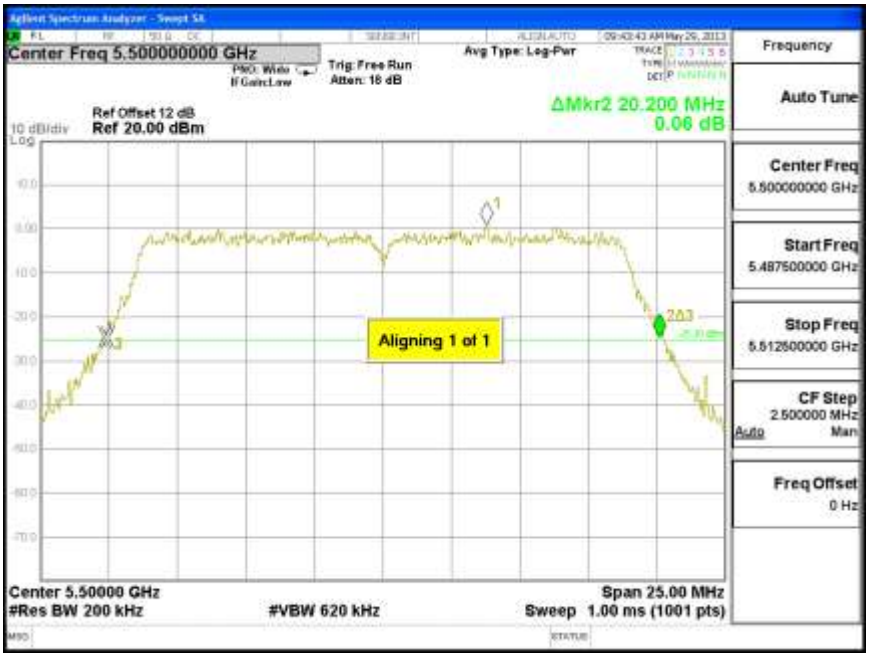
None; for reporting purposes only.

RESULTS

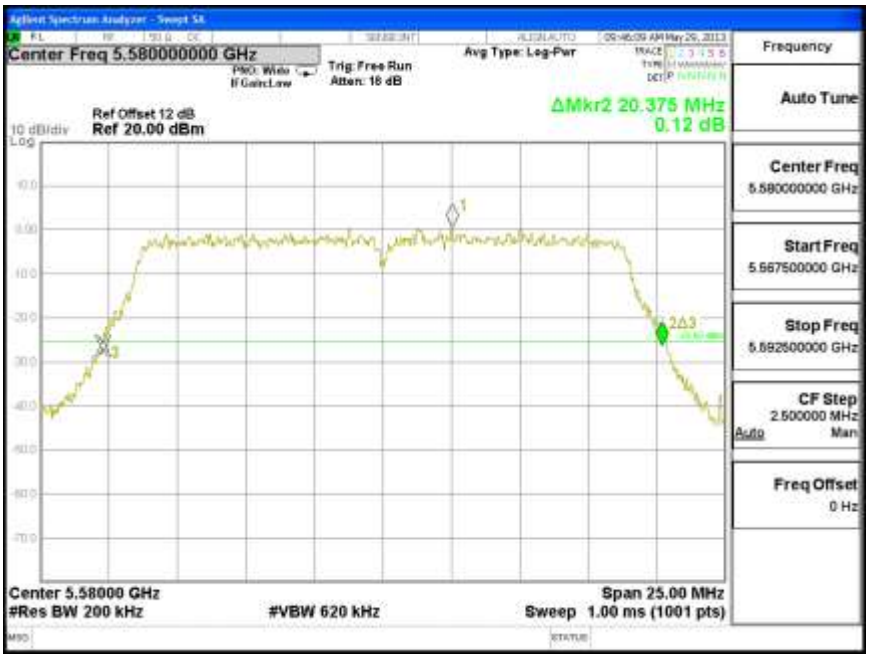
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	20.200
Mid	5580	20.375
High	5700	20.450

26 dB BANDWIDTH

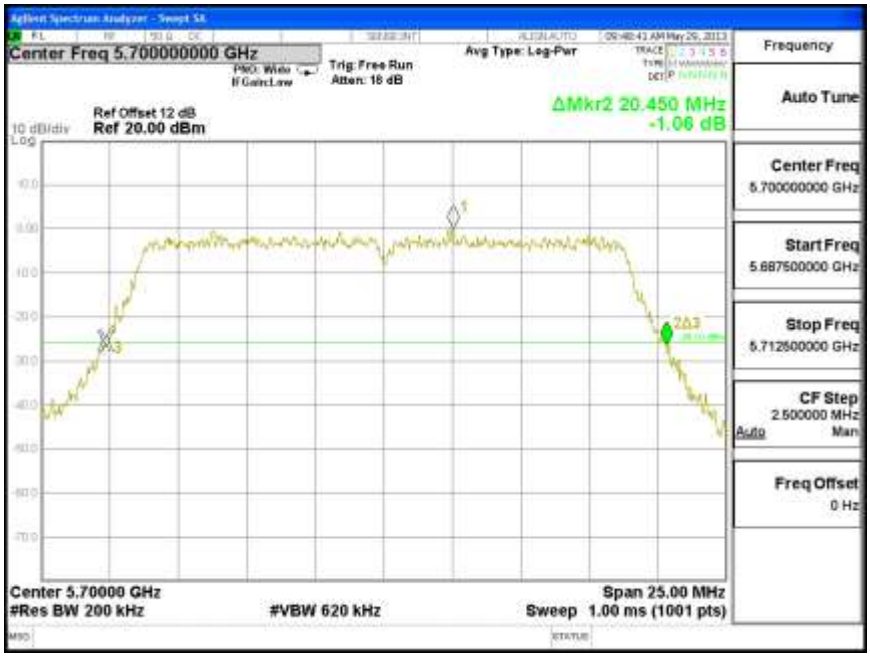
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



9.16.2. 99% BANDWIDTH

LIMITS

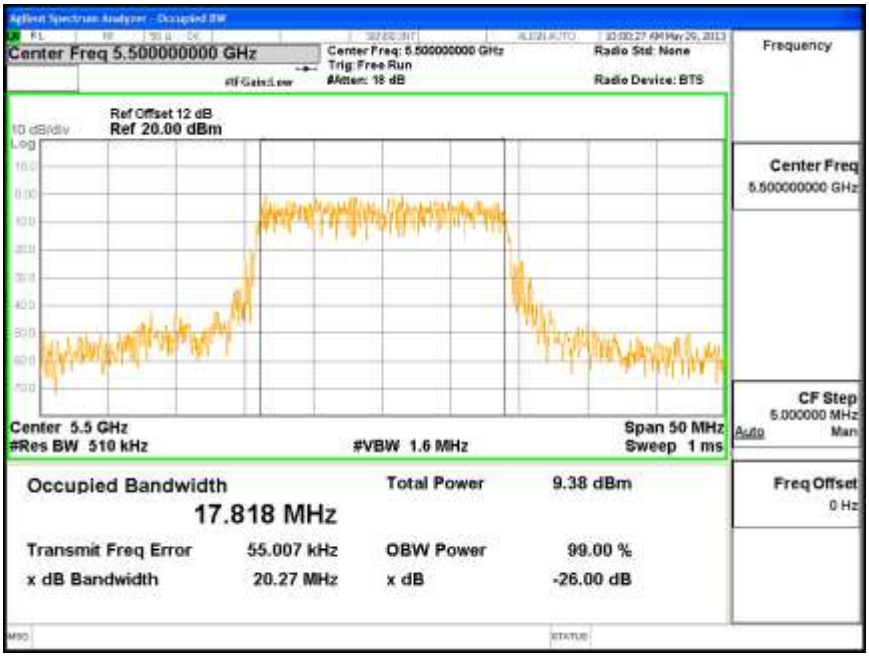
None; for reporting purposes only.

RESULTS

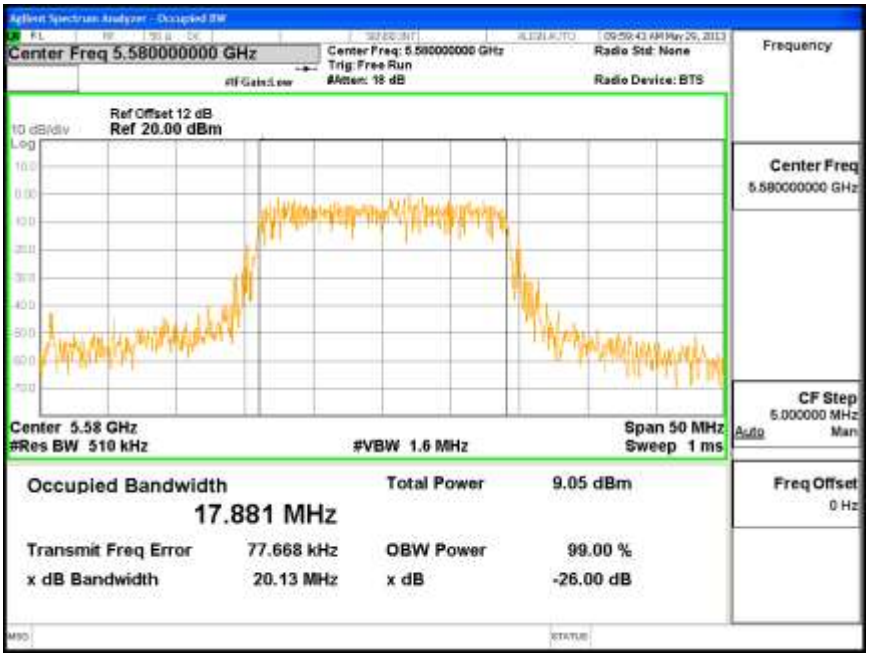
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	17.818
Mid	5580	17.881
High	5700	17.873

99% BANDWIDTH

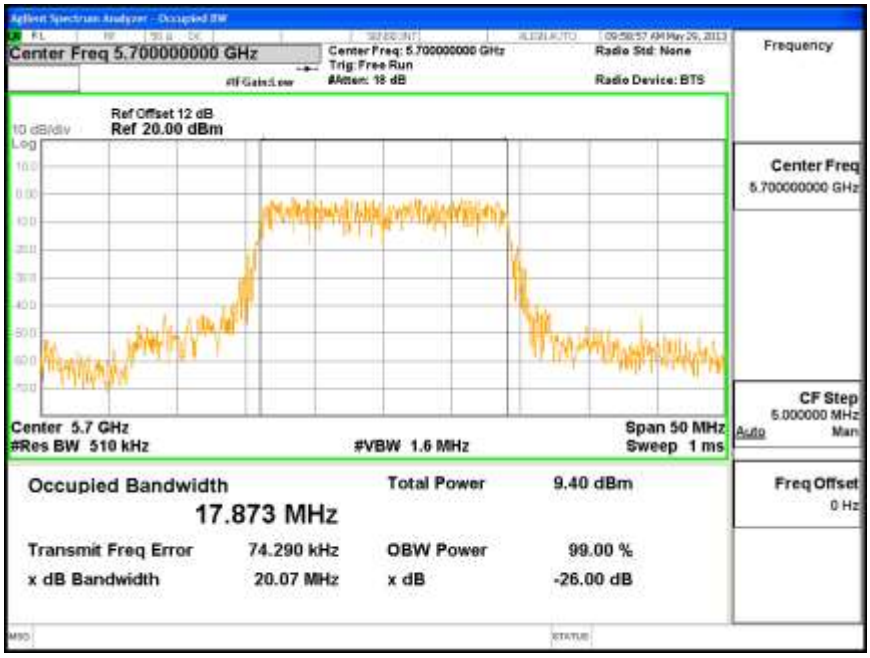
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



9.16.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

Channel	Frequency (MHz)	Power (dBm)
Low	5500	10.6
Mid	5580	10.2
High	5700	9.5

9.16.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1)

For the band 5.5–5.7 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. In addition, the peak power spectral density shall not exceed 11 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.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5500	20.200	17.818	-6.40
Mid	5580	20.200	17.818	-6.40
High	5700	20.200	17.818	-6.40

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5500	24.00	23.51	29.51	23.51	11.00	11.00	11.00
Mid	5580	24.00	23.51	29.51	23.51	11.00	11.00	11.00
High	5700	24.00	23.51	29.51	23.51	11.00	11.00	11.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power & PPSD

Output Power Results

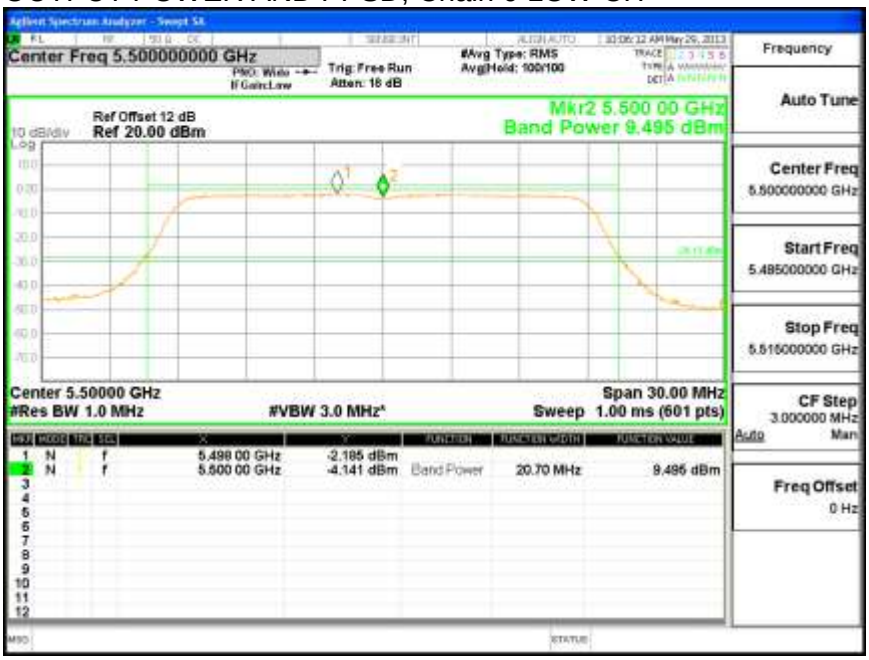
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	9.50	9.71	23.51	-13.80
Mid	5580	9.95	10.16	23.51	-13.35
High	5700	8.62	8.83	23.51	-14.68

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	-2.19	-1.98	11.00	-12.98
Mid	5580	-2.70	-2.49	11.00	-13.49
High	5700	-3.00	-2.79	11.00	-13.79

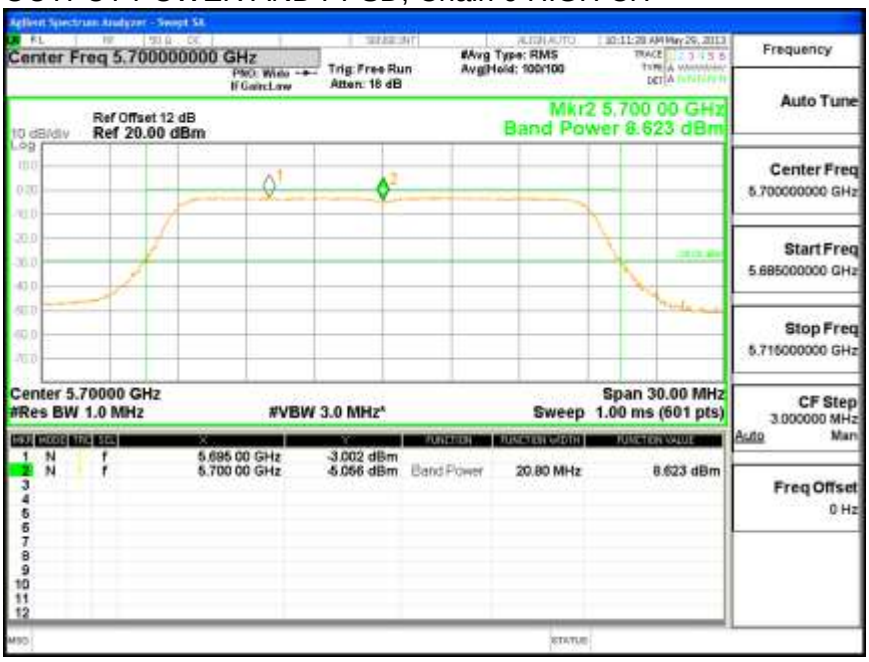
OUTPUT POWER AND PPSD, Chain 0

OUTPUT POWER AND PPSD, Chain 0 LOW CH



OUTPUT POWER AND PPSD, Chain 0 MID CH

OUTPUT POWER AND PPSD, Chain 0 HIGH CH



9.17. 802.11ac HT40 MODE IN THE 5.6 GHz BAND

9.17.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5100	39.670
Mid	5550	39.430
High	5670	39.900

26 dB BANDWIDTH

BANDWIDTH LOW CH

BANDWIDTH MID CH

BANDWIDTH HIGH CH

9.17.2. 99% BANDWIDTH

LIMITS

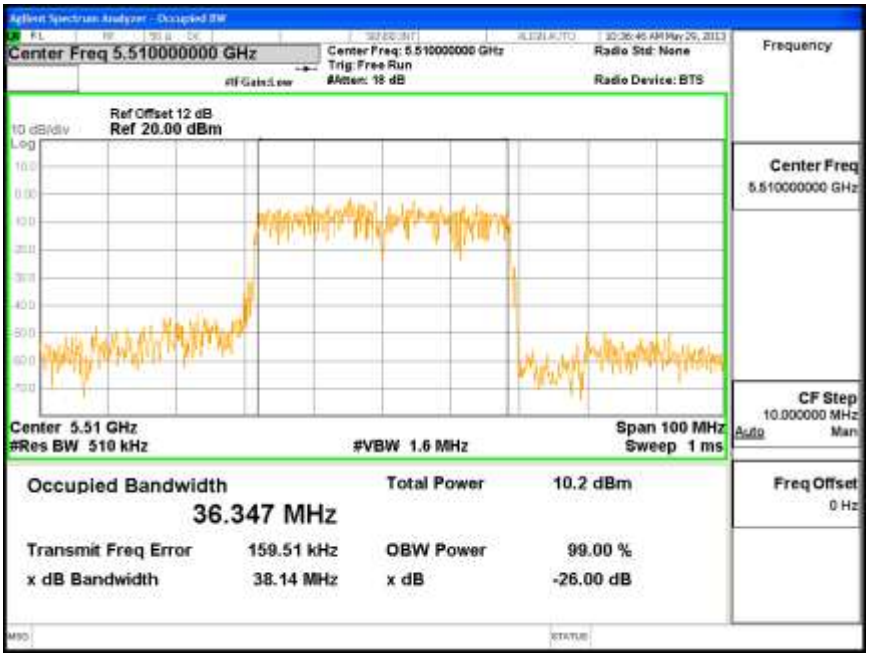
None; for reporting purposes only.

RESULTS

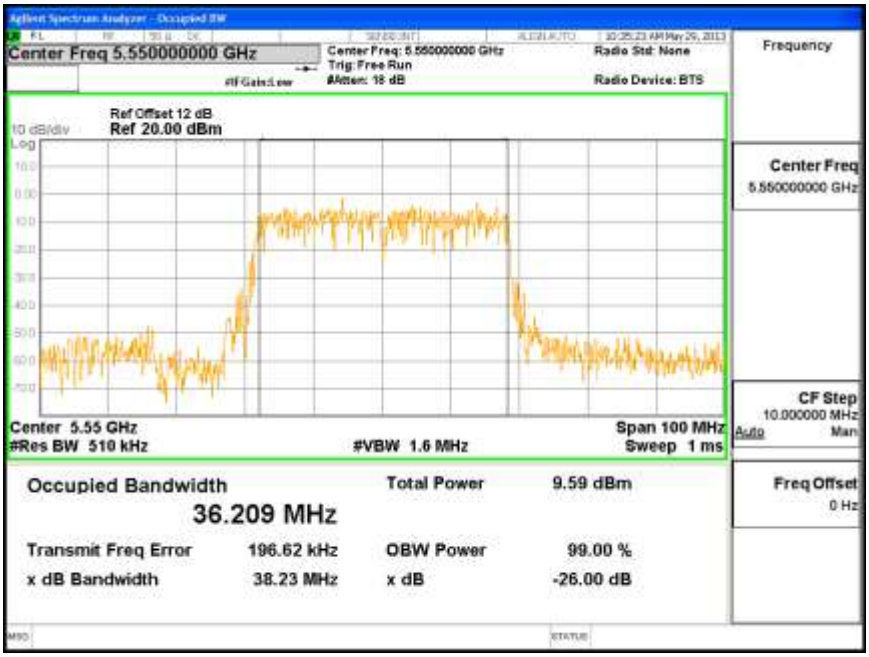
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5100	36.347
Mid	5550	36.209
High	5670	36.174

99% BANDWIDTH

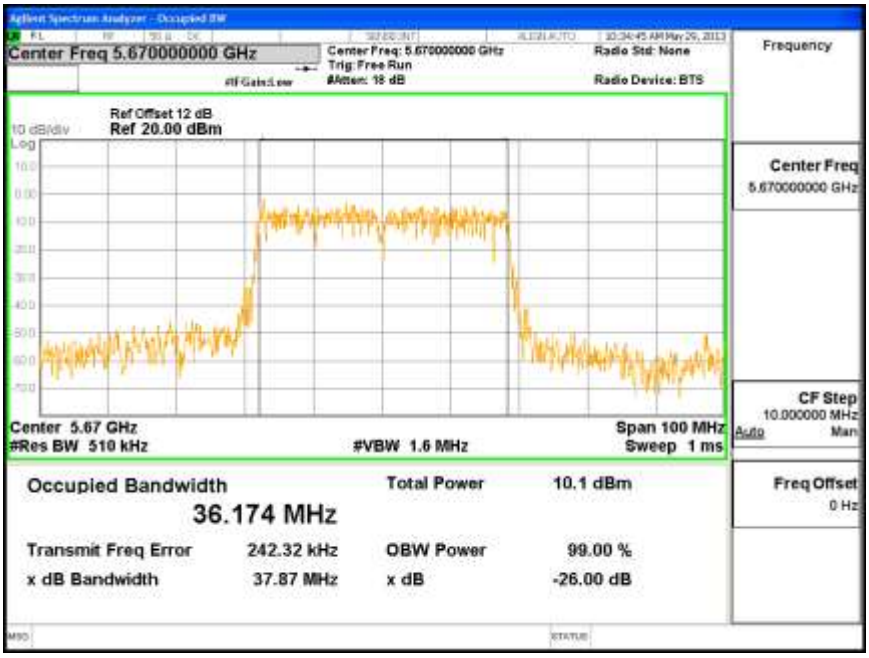
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



9.17.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

Channel	Frequency (MHz)	Power (dBm)
Low	5100	10.6
Mid	5550	10.9
High	5670	10.2

9.17.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1)

For the band 5.5–5.7 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. In addition, the peak power spectral density shall not exceed 11 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.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5100	39.430	36.174	-6.40
Mid	5550	39.430	36.174	-6.40
High	5670	39.430	36.174	-6.40

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5100	24.00	24.00	30.00	24.00	11.00	11.00	11.00
Mid	5550	24.00	24.00	30.00	24.00	11.00	11.00	11.00
High	5670	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power & PPSD

Output Power Results

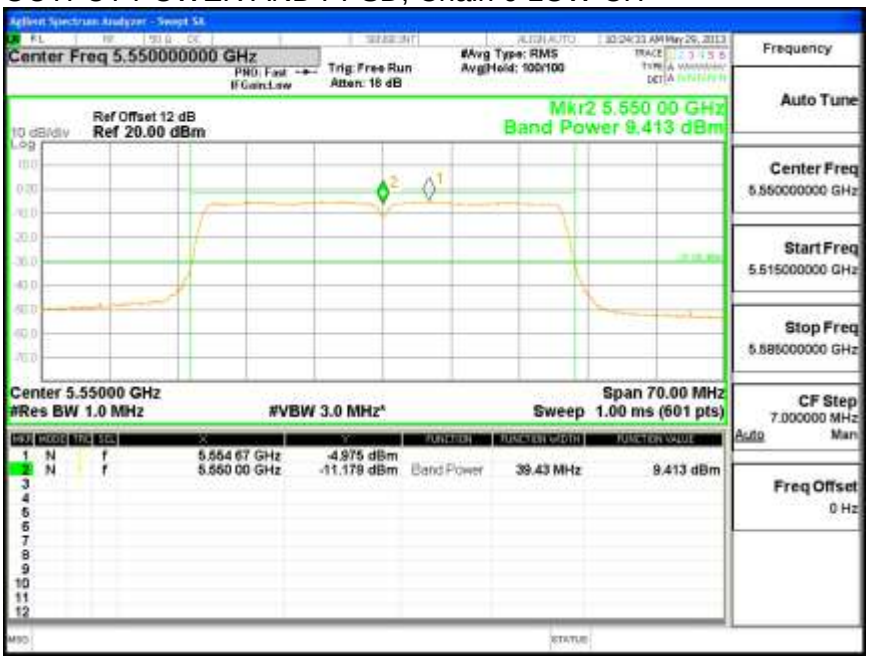
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5100	9.41	9.62	24.00	-14.38
Mid	5550	9.54	9.75	24.00	-14.26
High	5670	9.43	9.64	24.00	-14.36

PPSD Results

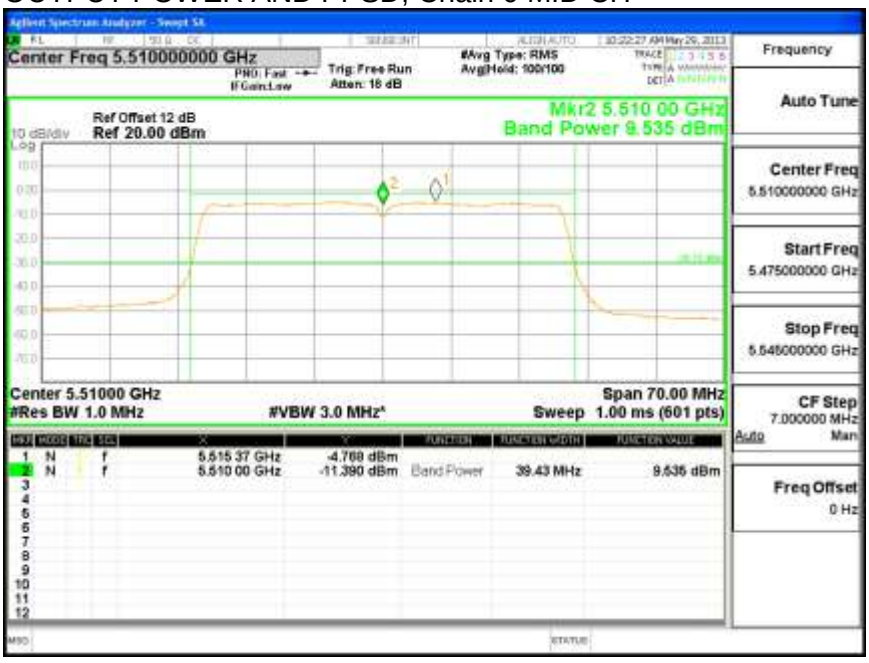
Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5100	-4.98	-4.77	11.00	-15.77
Mid	5550	-4.77	-4.56	11.00	-15.56
High	5670	-5.04	-4.83	11.00	-15.83

OUTPUT POWER AND PPSD, Chain 0

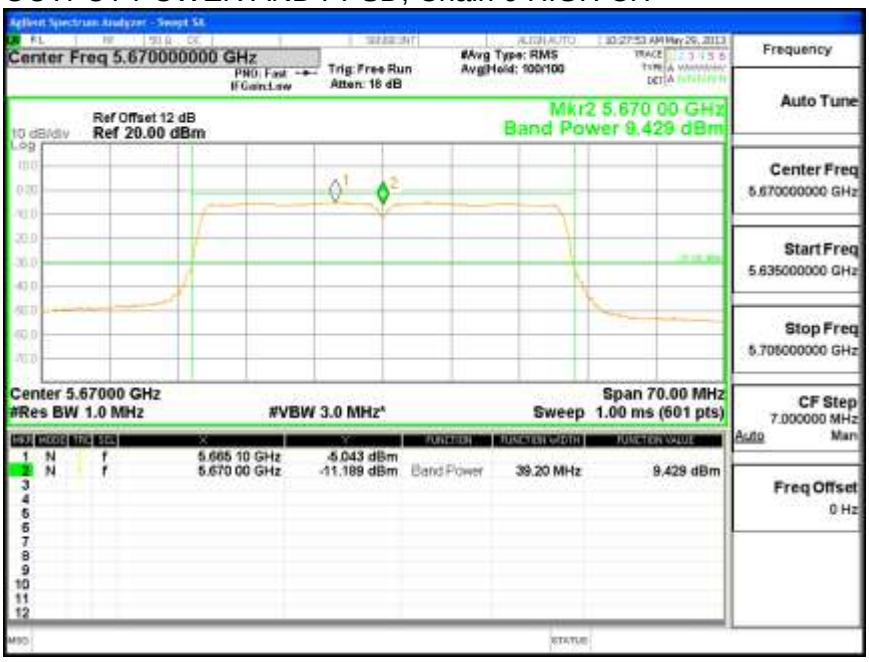
OUTPUT POWER AND PPSD, Chain 0 LOW CH



OUTPUT POWER AND PPSD, Chain 0 MID CH



OUTPUT POWER AND PPSD, Chain 0 HIGH CH



9.18. 802.11ac HT80 MODE IN THE 5.6 GHz BAND

9.18.1. 26 dB BANDWIDTH

LIMITS

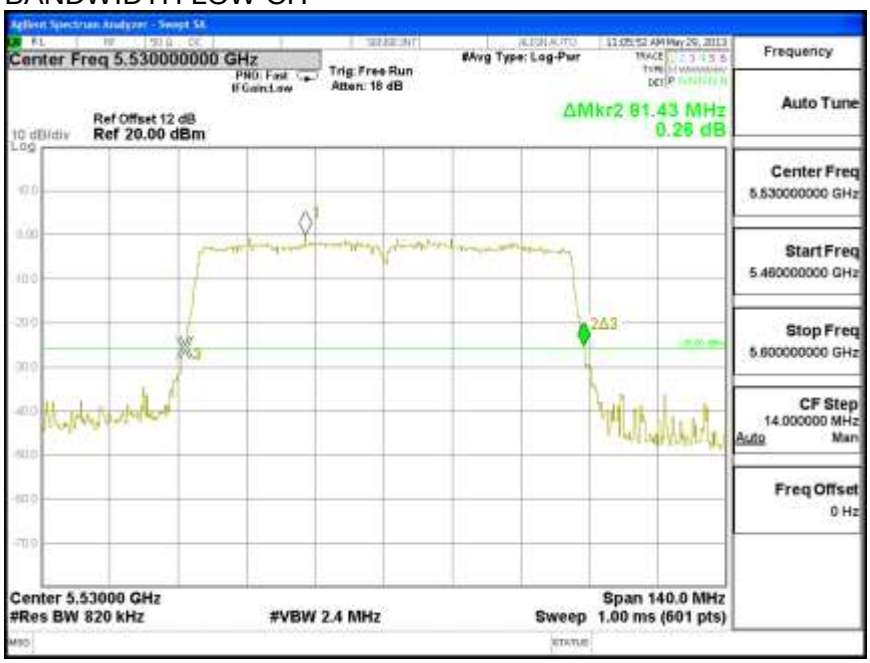
None; for reporting purposes only.

RESULTS

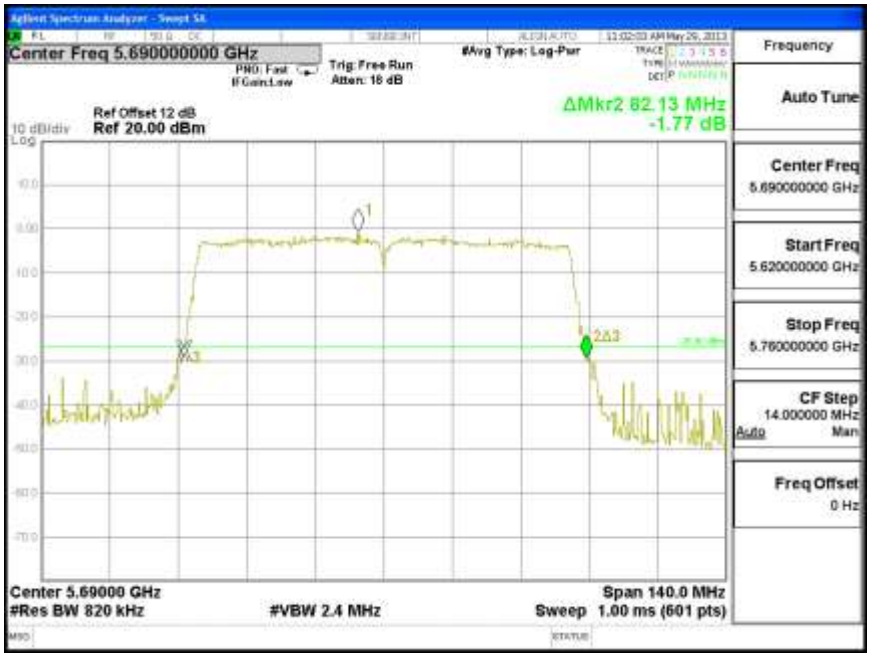
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5300	81.430
High	5690	82.130

26 dB BANDWIDTH

BANDWIDTH LOW CH



BANDWIDTH HIGH CH



9.18.2. 99% BANDWIDTH

LIMITS

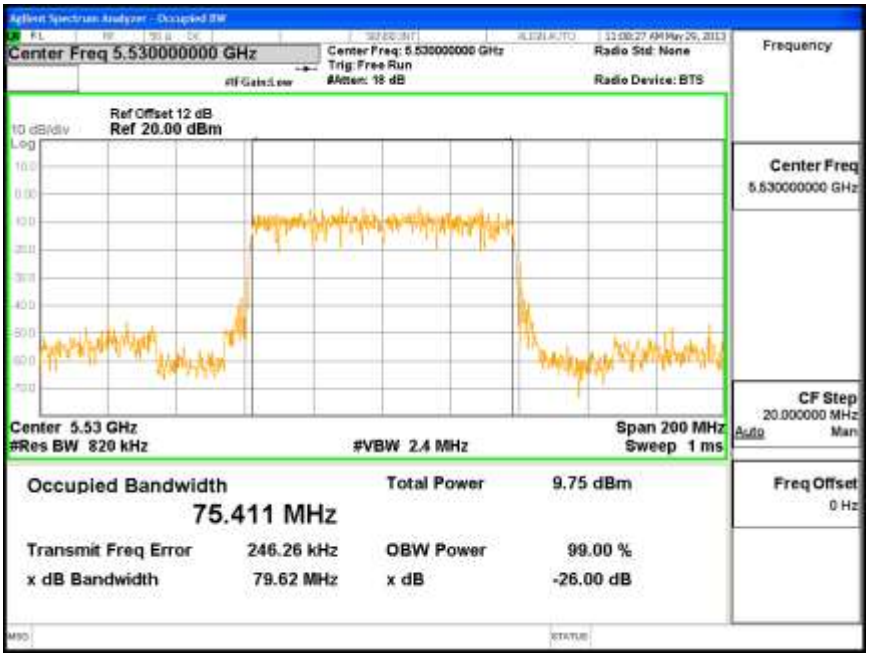
None; for reporting purposes only.

RESULTS

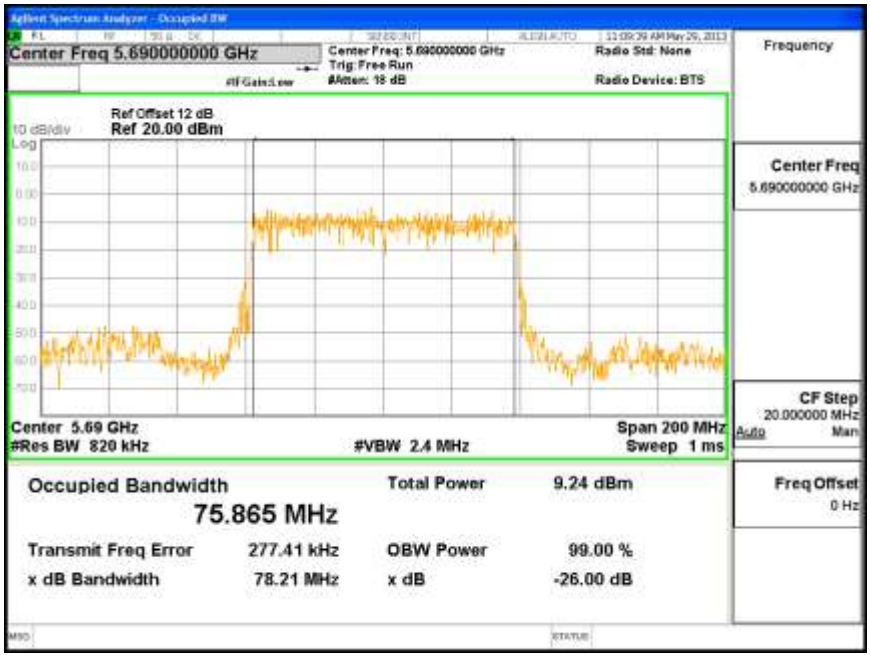
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5530	75.411
High	5690	75.865

99% BANDWIDTH

BANDWIDTH LOW CH



BANDWIDTH HIGH CH



9.18.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

Channel	Frequency (MHz)	Power (dBm)
Low	5300	10.790
[redacted]		
High	5690	10.220

9.18.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1)

For the band 5.5–5.7 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. In addition, the peak power spectral density shall not exceed 11 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.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5530	81.130	75.411	-6.40
High	5690	82.130	75.411	-6.40

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5530	24.00	24.00	30.00	24.00	11.00	11.00	11.00
High	5690	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	9.157	9.37	24.00	-14.63
High	5690	8.442	8.65	24.00	-15.35

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5530	-8.152	-7.94	11.00	-18.94
High	5690	-8.945	-8.74	11.00	-19.74