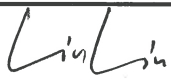


Prüfbericht-Nr.: <i>Test Report No.:</i>	17049474 001	Auftrags-Nr.: <i>Order No.:</i>	164035067	Seite 1 von 133 Page 1 of 133
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	28.04.2015	
Auftraggeber: <i>Client:</i>	Lightcomm Technology Co., Ltd. RM1708-10, 17/F, PROSPERITY CENTRE, 25 CHONG YIP STREET, KWUN TONG, HONG KONG			
Prüfgegenstand: <i>Test item:</i>	7.85" Android HD Tablet			
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	NS-P16AT785HD, MID7802-RA			
Auftrags-Inhalt: <i>Order content:</i>	FCC Certification			
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 15: Subpart C Section 15.407 CFR47 FCC Part 15: Subpart C Section 15.207 CFR47 FCC Part 15: Subpart C Section 15.209			
Wareneingangsdatum: <i>Date of receipt:</i>	18.04.2015			
Prüfmuster-Nr.: <i>Test sample No.:</i>	A000212113-002, A000212113-003			
Prüfzeitraum: <i>Testing period:</i>	18.04.2015 - 18.06.2015			
Ort der Prüfung: <i>Place of testing:</i>	Shenzhen EMTEK Co., Ltd.			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von / tested by: 		kontrolliert von / reviewed by: 		
25.06.2015	Lin Lin/Project Manager	25.06.2015	Sam Lin/Technical Certifier	
Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>
				Unterschrift <i>Signature</i>
Sonstiges / Other:		FCC ID: XMF-MID7802		
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>		Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>		
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT

RESULT: Pass

5.1.2 MAX CONDUCTED TX POWER AND MAX EIRP

RESULT: Pass

5.1.3 26dB BANDWIDTH AND 99% BANDWIDTH

RESULT: Pass

5.1.4 6dB BANDWIDTH

RESULT: Pass

5.1.5 POWER SPECTRAL DENSITY

RESULT: Pass

5.1.6 SPURIOUS EMISSION

RESULT: Pass

5.1.7 CONDUCTED EMISSIONS

RESULT: Pass

5.1.8 FREQUENCY STABILITY

RESULT: Pass

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1. General Remarks

1.1 Complementary Materials

None.

2. Test Sites

2.1 Test Facilities

Shenzhen EMTEK Co., Ltd.

(FCC Registration No.: 709623)

Bldg 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, P.R. China

The tests at the test site have been conducted under the supervision of a TÜV engineer.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment
Radio Frequency Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
Signal Analyzer	Agilent	N9010A	My53470879	05/17/2014	1 Year
Power Analyzer	Agilent	PS-X10-200	N/A	05/17/2014	1 Year
Cable	Agilent	N/A	5#	05/17/2014	1 Year
Temperature&Humidity test chamber	ESPEC	EL-02KA	12107166	05/17/2014	1 Year

For 3m Radiated Emission Measurement 30M-1G

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
EMI Test Receiver	Rohde & Schwarz	ESU	1302.6005.26	May 17, 2015	1 Year
Pre-Amplifier	HP	8447F	2944A07999	May 17, 2015	1 Year
Bilog Antenna	Schwarzbeck	VULB9163	142	May 17, 2015	1 Year
Cable	Schwarzbeck	AK9513	ACRX1	May 17, 2015	1 Year
Cable	Rosenberger	N/A	FP2RX2	May 17, 2015	1 Year
Cable	Schwarzbeck	AK9513	CRPX1	May 17, 2015	1 Year
Cable	Schwarzbeck	AK9513	CRRX2	May 17, 2015	1 Year

For 3m Radiated Emission Measurement 1G-18G

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
EMI Test Receiver	Rohde & Schwarz	ESU	1302.6005.26	May 17, 2015	1 Year
Pre-Amplifier	A.H.	PAM-0126	1415261	May 17, 2015	1 Year
Horn Antenna	Schwarzbeck	BBHA 9120	707	May 17, 2015	1 Year
Cable	H+B	0.5M SF104-26.5	289147/4	May 17, 2015	1 Year
Cable	H+B	3M SF104-26.5	295838/4	May 17, 2015	1 Year
Cable	H+B	6M SF104-26.5	295840/4	May 17, 2015	1 Year

For 3m Radiated Emission Measurement 18G-26.5G

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
EMI Test Receiver	Rohde & Schwarz	ESU	1302.6005.26	May 17, 2015	1 Year
Pre-Amplifier	A.H.	PAM-0126	1415261	May 17, 2015	1 Year
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170399	May 17, 2015	1 Year
Cable	H+B	0.5M SF104-26.5	289147/4	May 17, 2015	1 Year
Cable	H+B	3M SF104-26.5	295838/4	May 17, 2015	1 Year
Cable	H+B	6M SF104-26.5	295840/4	May 17, 2015	1 Year

For 3m Radiated Emission Measurement 26.5G-40G

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
EMI Test Receiver	Rohde & Schwarz	FSV40	132.1-3008K39-100967-AP	May 17, 2015	1 Year
Pre-Amplifier	Lunar EM	LNA26G40-40	J1013131028001	May 17, 2015	1 Year
Horn Antenna	AHS/USA	SAS-573	184	May 17, 2015	1 Year
Cable	H+B	0.5M SF104-26.5	289147/4	May 17, 2015	1 Year
Cable	H+B	3M SF104-26.5	295838/4	May 17, 2015	1 Year
Cable	H+B	6M SF104-26.5	295840/4	May 17, 2015	1 Year

Conducted Emission Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
Test Receiver	Rohde & Schwarz	ESCS30	828985/018	05/17/2014	1 Year
L.I.S.N.	Schwarzbeck	NNLK8129	8129203	05/17/2014	1 Year
50Ω Coaxial Switch	Anritsu	MP59B	M20531	N/A	1 Year
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100006	05/17/2014	1 Year
Voltage Probe	Rohde & Schwarz	TK9416	N/A	05/17/2014	1 Year
I.S.N	Rohde & Schwarz	ENY22	1109.9508.02	05/17/2014	1 Year

2.3 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

Table 2: Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	$\pm 1 \times 10^{-5}$
Maximum Peak Output Power Test	$\pm 1.0\text{dB}$
Conducted Emissions Test	$\pm 2.0\text{dB}$
Radiated Emission Test	$\pm 2.0\text{dB}$
Power Density	$\pm 2.0\text{dB}$
Occupied Bandwidth Test	$\pm 1.0\text{dB}$
Band Edge Test	$\pm 3\text{dB}$
All emission, radiated	$\pm 3\text{dB}$
Antenna Port Emission	$\pm 3\text{dB}$
Temperature	$\pm 0.5^\circ\text{C}$
Humidity	$\pm 3\%$

2.6 Location of Original Data

The original copies of all test data taken during actual testing were retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

Shenzhen EMTEK Co., Ltd. test facility located at Bldg 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3. General Product Information

3.1 Product Function and Intended Use

The EUTs are 7.85" tablet with Wi-Fi, Bluetooth & GPS function.
 Two models are identical except the model name.
 For details refer to the User Manual and Circuit Diagram.

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

Technical Specification	Value
Kind of Equipment	7.85" Android HD Tablet
Type Designation	NS-P16AT785HD, MID7802-RA
FCC ID	XMF-MID7802
Extreme Temperature Range	-20~+50°C
Operation Voltage	DC 3.7V (via built in battery)
	DC 5V (via AC/DC adapter)

Table 4: Technical Specification of 5GHz, 802.11a/n

Operating mode(s) / Wi-Fi:	IEEE 802.11a	IEEE 802.11n HT20 ANT1	IEEE 802.11n HT20 ANT1+ANT2	IEEE 802.11n HT40 ANT1	IEEE 802.11n HT40 ANT1+ANT2
Test modulation	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
Transmit Frequency Range (MHz):	5180 - 5240, 5745 - 5825	5180 - 5240, 5745 - 5825	5180 - 5240, 5745 - 5825	5190 - 5230, 5755 - 5795	5190 - 5230, 5755 - 5795
Channel Number	9	9	9	4	4
Data Rate (Mbps)	6, 9, 12, 18, 24, 36, 48, 54	MCS0 ~ MCS7	MCS0 ~ MCS15	MCS0 ~ MCS7	MCS0 ~ MCS15
Maximum tune-up average output power setting	default	default	default	default	default
Antenna type:	Integrated antenna				
Antenna Gain	1.1dBi				

Table 5: Technical Specification of 5GHz, 802.11ac

Operating mode(s) / WiFi:	IEEE 802.11ac VHT20 ANT1	IEEE 802.11ac VHT20 ANT1+ANT2	IEEE 802.11ac VHT40 ANT1	IEEE 802.11ac VHT40 ANT1+ANT2	IEEE 802.11ac VHT80 ANT1	IEEE 802.11ac VHT80 ANT1+ANT2
Test modulation	OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM)	OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM)	OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM)	OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM)	OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM)	OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM)
Transmit Frequency Range (MHz):	5180 - 5240, 5745 - 5825	5180 - 5240, 5745 - 5825	5190 - 5230, 5755 - 5795	5190 - 5230, 5755 - 5795	5210, 5775	5210, 5775
Channel Number	9	9	4	4	2	2
Data Rate (Mbps)	MCS0 ~ MCS8	MCS0 ~ MCS8	MCS0 ~ MCS8	MCS0 ~ MCS8	MCS0 ~ MCS8	MCS0 ~ MCS9
Maximum tune-up average output power (dBm):	default	default	default	default	default	default
Antenna type:	Integrated antenna					
Antenna Gain	1.1dBi					

Table 6: List of WLAN Channel of 5GHz 802.11a/n

802.11a		802.11n HT20		802.11n HT40	
Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
36	5180	36	5180	38	5190
40	5200	40	5200	46	5230
44	5220	44	5220	151	5755
48	5240	48	5240	159	5795
149	5745	149	5745		
153	5765	153	5765		
157	5785	157	5785		
161	5805	161	5805		
165	5825	165	5825		

Table 7: List of WLAN Channel of 5GHz 802.11ac

802.11ac VHT20		802.11ac VHT40		802.11ac VHT80	
Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230	155	5775
44	5220	151	5755		
48	5240	159	5795		
149	5745				
153	5765				
157	5785				
161	5805				
165	5825				

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, Wi-Fi mode
 - 1. Transmitting
 - a. 802.11a
 - b. 802.11n HT20
 - c. 802.11n HT40
 - d. 802.11ac HT20
 - e. 802.11ac HT40
 - f. 802.11ac HT80
 - 2. Receiving
- B. Standby
- C. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Bill of Material
- Constructional Drawing
- PCB Layout
- Photo Document
- Circuit Diagram
- Instruction Manual
- Rating Label

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.4: 2003 for FCC.
According to clause 3.1, all tests were applied on model NS-P16AT785HD only.

4.3 Special Accessories and Auxiliary Equipment

The EUT was tested together with the following accessories:

Description	Manufacturer	Part No.	Rating
AC/DC Adapter	TEKA	TEKA012-0502000UK	100-240Vac, 50/60Hz

The EUT was tested with following cables:

Interface(s)/Port(s):	Max. cable length, shielding	Cable classification
USB Cable	Shielding USB cable with ferrite ring	Type B USB cable

4.4 Countermeasures to Achieve ERM Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF). No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test

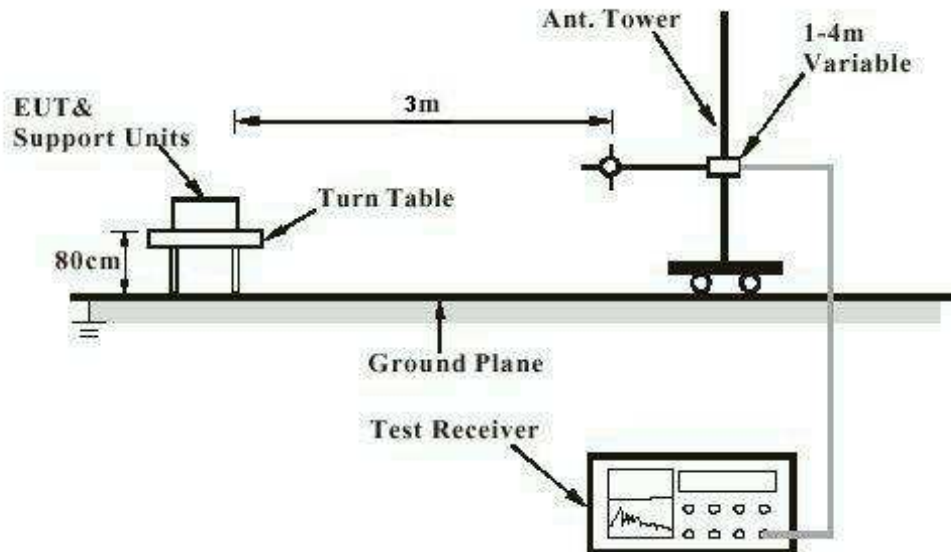


Diagram of Measurement Equipment Configuration for Conduction Measurement

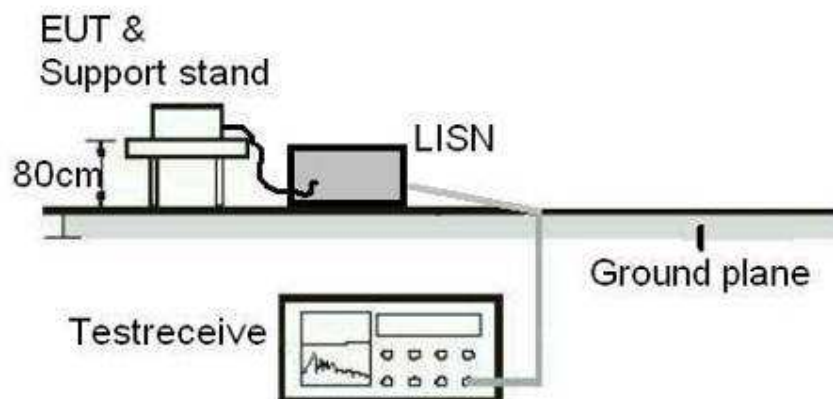
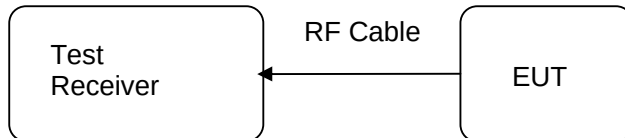


Diagram of Measurement Equipment Configuration for Transmitter Measurement



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Pass**

Test standard : FCC Part 15.203
Limit The use of antennas with directional gains that do not exceed 6dBi

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna 1 is 1.1dBi, antenna 2 is 1.1dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Table 10: Test result of Peak Output Power of 802.11n HT20 MIMO

Channel	Channel Frequency (MHz)	Peak Output Power			Limit
		(dBm)			(dBm)
		Ant1	Ant2	Total	
36	5180	8.48	8.59	11.55	24
44	5220	8.42	8.55	11.50	24
48	5240	8.45	8.52	11.50	24
149	5745	8.45	8.53	11.50	30
157	5785	8.44	8.58	11.52	30
165	5825	8.37	8.58	11.49	30

Table 11: Test result of Peak Output Power of 802.11n HT40 SISO

Channel	Channel Frequency (MHz)	Peak Output Power	Limit
		(dBm)	(dBm)
38	5190	8.59	24
46	5230	8.58	24
151	5755	8.60	30
159	5795	8.61	30

Table 12: Test result of Peak Output Power of 802.11n HT40 MIMO

Channel	Channel Frequency (MHz)	Peak Output Power			Limit
		(dBm)			(dBm)
		Ant1	Ant2	Total	
38	5190	8.45	8.44	11.46	24
46	5230	8.47	8.46	11.48	24
151	5755	8.45	8.47	11.47	30
159	5795	8.49	8.49	11.50	30

Table 13: Test result of Peak Output Power of 802.11ac HT20 SISO

Channel	Channel Frequency (MHz)	Peak Output Power	Limit
		(dBm)	(dBm)
36	5180	8.49	24
44	5220	8.48	24
48	5240	8.48	24
149	5745	8.50	30
157	5785	8.49	30
165	5825	8.48	30

Table 14: Test result of Peak Output Power of 802.11ac HT20 MIMO

Channel	Channel Frequency (MHz)	Peak Output Power			Limit
		(dBm)			(dBm)
		Ant1	Ant2	Total	
36	5180	8.51	8.55	11.54	24
44	5220	8.50	8.57	11.55	24
48	5240	8.52	8.55	11.55	24

149	5745	8.53	8.53	11.54	30
157	5785	8.55	8.52	11.55	30
165	5825	8.57	8.53	11.56	30

Table 15: Test result of Peak Output Power of 802.11ac HT40 SISO

Channel	Channel Frequency (MHz)	Peak Output Power	Limit
		(dBm)	(dBm)
38	5190	8.60	24
46	5230	8.54	24
151	5755	8.55	30
159	5795	8.57	30

Table 16: Test result of Peak Output Power of 802.11ac HT40 MIMO

Channel	Channel Frequency (MHz)	Peak Output Power			Limit
		(dBm)			(dBm)
		Ant1	Ant2	Total	
38	5190	8.52	8.57	11.56	24
46	5230	8.53	8.57	11.56	24
151	5755	8.53	8.53	11.54	30
159	5795	8.50	8.55	11.54	30

Table 17: Test result of Peak Output Power of 802.11ac HT80 SISO

Channel	Channel Frequency (MHz)	Peak Output Power	Limit
		(dBm)	(dBm)
42	5210	8.75	24
155	5775	8.55	30

Table 18: Test result of Peak Output Power of 802.11ac HT80 MIMO

Channel	Channel Frequency (MHz)	Peak Output Power			Limit (dBm)
		(dBm)			
		Ant1	Ant2	Total	
42	5210	8.70	8.72	11.72	24
155	5775	8.77	8.65	11.72	30

Max EIRP

Note: 1, Ant1 Gain: 1.1dBi, Ant2 Gain: 1.1dBi;

2, As according with KDB 662911 v02r01, the MIMO mode directional antenna gain is 4.1dBi, so the Peak Output Power limit is 36dBm for band 5725~5850MHz as antenna gain less than 6dBi.

Table 19: Test result of Max EIRP of 802.11a

Channel	Channel Frequency (MHz)	Peak Output Power	Antenna Gain	Total	Limit
		(dBm)	(dBi)	(dBm)	(dBm)
36	5180	8.53	1.1	9.63	36
44	5220	8.52	1.1	9.62	36
48	5240	8.51	1.1	9.61	36
149	5745	8.49	1.1	9.59	36
157	5785	8.48	1.1	9.58	36
165	5825	8.51	1.1	9.61	36

Table 20: Test result of Max EIRP of 802.11n HT20 SISO

Channel	Channel Frequency (MHz)	Peak Output Power	Antenna Gain	Total	Limit
		(dBm)	(dBi)	(dBm)	(dBm)
36	5180	8.47	1.1	9.57	36
44	5220	8.51	1.1	9.61	36
48	5240	8.48	1.1	9.58	36
149	5745	8.49	1.1	9.59	36
157	5785	8.45	1.1	9.55	36
165	5825	8.50	1.1	9.60	36

Table 21: Test result of Max EIRP of 802.11n HT20 MIMO

Channel	Channel Frequency (MHz)	Peak Output Power			Total	Limit
		(dBm)			(dBm)	(dBm)
		Ant1	Ant2	Ant Gain		
36	5180	8.48	8.59	4.1	15.65	36
44	5220	8.42	8.55	4.1	15.60	36
48	5240	8.45	8.52	4.1	15.60	36
149	5745	8.45	8.53	4.1	15.60	36
157	5785	8.44	8.58	4.1	15.62	36
165	5825	8.37	8.58	4.1	15.59	36

Table 22: Test result of Max EIRP of 802.11n HT40 SISO

Channel	Channel Frequency (MHz)	Peak Output Power	Antenna Gain	Total	Limit
		(dBm)	(dBi)	(dBm)	(dBm)
38	5190	8.59	1.1	9.69	36
46	5230	8.58	1.1	9.68	36
151	5755	8.60	1.1	9.70	36
159	5795	8.61	1.1	9.71	36

Table 23: Test result of Max EIRP of 802.11n HT40 MIMO

Channel	Channel Frequency (MHz)	Peak Output Power (dBm)			Total (dBm)	Limit (dBm)
		Ant1	Ant2	Ant Gain		
38	5190	8.45	8.44	4.1	15.56	36
46	5230	8.47	8.46	4.1	15.58	36
151	5755	8.45	8.47	4.1	15.57	36
159	5795	8.49	8.49	4.1	15.60	36

Table 24: Test result of Max EIRP of 802.11ac HT20 SISO

Channel	Channel Frequency (MHz)	Peak Output Power	Antenna Gain	Total	Limit
		(dBm)	(dBi)	(dBm)	(dBm)
36	5180	8.49	1.1	9.59	36
44	5220	8.48	1.1	9.58	36
48	5240	8.48	1.1	9.58	36
149	5745	8.50	1.1	9.60	36
157	5785	8.49	1.1	9.59	36
165	5825	8.48	1.1	9.58	36

Table 25: Test result of Max EIRP of 802.11ac HT20 MIMO

Channel	Channel Frequency (MHz)	Peak Output Power (dBm)			Total (dBm)	Limit (dBm)
		Ant1	Ant2	Ant Gain		
36	5180	8.51	8.55	4.1	15.64	36
44	5220	8.50	8.57	4.1	15.65	36
48	5240	8.52	8.55	4.1	15.65	36
149	5745	8.53	8.53	4.1	15.64	36
157	5785	8.55	8.52	4.1	15.65	36
165	5825	8.57	8.53	4.1	15.66	36

Table 26: Test result of Max EIRP of 802.11ac HT40 SISO

Channel	Channel Frequency (MHz)	Peak Output Power	Antenna Gain	Total	Limit
		(dBm)	(dBi)	(dBm)	(dBm)
38	5190	8.60	1.1	9.70	36
46	5230	8.54	1.1	9.64	36
151	5755	8.55	1.1	9.65	36
159	5795	8.57	1.1	9.67	36

Table 27: Test result of Max EIRP of 802.11ac HT40 MIMO

Channel	Channel Frequency (MHz)	Peak Output Power	Total	Limit
		(dBm)	(dBm)	(dBm)

		Ant1	Ant2	Ant Gain		
38	5190	8.52	8.57	4.1	15.66	36
46	5230	8.53	8.57	4.1	15.66	36
151	5755	8.53	8.53	4.1	15.64	36
159	5795	8.50	8.55	4.1	15.64	36

Table 28: Test result of Max EIRP of 802.11ac HT80 SISO

Channel	Channel Frequency (MHz)	Peak Output Power	Antenna Gain	Total	Limit
		(dBm)	(dBi)	(dBm)	(dBm)
42	5210	8.75	1.1	9.75	36
155	5775	8.55	1.1	9.65	36

Table 29: Test result of Max EIRP of 802.11ac HT80 MIMO

Channel	Channel Frequency (MHz)	Peak Output Power			Total	Limit
		(dBm)			(dBm)	(dBm)
		Ant1	Ant2	Ant Gain		
42	5210	8.70	8.72	4.1	15.82	36
155	5775	8.77	8.65	4.1	15.82	36

5.1.3 26dB Bandwidth and 99% Bandwidth

RESULT:
Pass

Date of testing : 2015-05-27
 Test standard : KDB 905462 D06
 : KDB 789033 D02 v01
 Basic standard : ANSI C63.4: 2003
 Kind of test site : Shielded room

Test setup

Test Channel : Low/ Middle/ High
 Operation Mode : A.1
 Ambient temperature : 25°C
 Relative humidity : 52%
 Atmospheric pressure : 101kPa

Table 30: Test result of 26dB & 99% Bandwidth of 802.11a

Channel	Channel Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
36	5180	21.48	16.772
44	5220	21.57	16.782
48	5240	21.56	16.779
149	5745	21.45	16.786
157	5785	21.49	16.786
165	5825	21.57	16.785

Table 31: Test result of 26dB & 99% Bandwidth of 802.11n HT20 Ant1

Channel	Channel Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
36	5180	21.65	17.933
44	5220	21.67	17.936
48	5240	21.71	17.927
149	5745	21.53	17.927
157	5785	21.80	17.935
165	5825	21.83	17.932

Table 32: Test result of 26dB & 99% Bandwidth of 802.11n HT20 Ant2

Channel	Channel Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
36	5180	21.71	17.909
44	5220	21.76	17.922
48	5240	21.61	17.878

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149	5745	21.81	17.901
157	5785	21.66	17.894
165	5825	21.67	17.938

Table 33: Test result of 26dB & 99% Bandwidth of 802.11n HT40 Ant1

Channel	Channel Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
38	5190	40.09	36.342
46	5230	39.94	36.314
151	5755	40.04	36.344
159	5795	40.22	36.340

Table 34: Test result of 26dB & 99% Bandwidth of 802.11n HT40 Ant2

Channel	Channel Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
38	5190	39.58	36.283
46	5230	39.60	36.275
151	5755	39.92	36.298
159	5795	39.59	36.331

Table 35: Test result of 26dB & 99% Bandwidth of 802.11ac HT20 Ant1

Channel	Channel Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
36	5180	21.60	17.930
44	5220	21.77	17.902
48	5240	21.79	17.926
149	5745	21.56	17.910
157	5785	21.77	17.943
165	5825	21.83	17.925

Table 36: Test result of 26dB & 99% Bandwidth of 802.11ac HT20 Ant2

Channel	Channel Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
36	5180	21.74	17.884
44	5220	21.80	17.897
48	5240	21.72	17.878
149	5745	21.68	17.900
157	5785	21.66	17.890
165	5825	21.66	17.897

Table 37: Test result of 26dB & 99% Bandwidth of 802.11ac HT40 Ant1

Channel	Channel Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
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38	5190	40.10	36.350
46	5230	40.18	36.326
151	5755	40.12	36.367
159	5795	39.97	36.340

Table 38: Test result of 26dB & 99% Bandwidth of 802.11ac HT40 Ant2

Channel	Channel Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
38	5190	39.77	36.261
46	5230	39.44	36.293
151	5755	39.64	36.292
159	5795	39.56	36.313

Table 39: Test result of 26dB & 99% Bandwidth of 802.11ac HT80 Ant1

Channel	Channel Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
42	5210	81.72	75.853
155	5775	81.84	75.885

Table 40: Test result of 26dB & 99% Bandwidth of 802.11ac HT80 Ant2

Channel	Channel Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
42	5210	80.86	75.663
155	5775	81.31	75.875

Test Plot of 26dB Bandwidth and 99% Bandwidth

802.11a







802.11n-HT20 Ant1







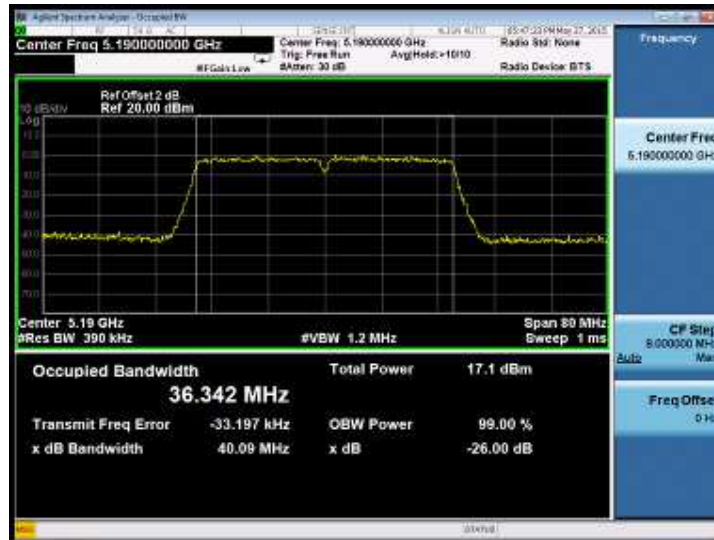
802.11n-HT20 Ant2





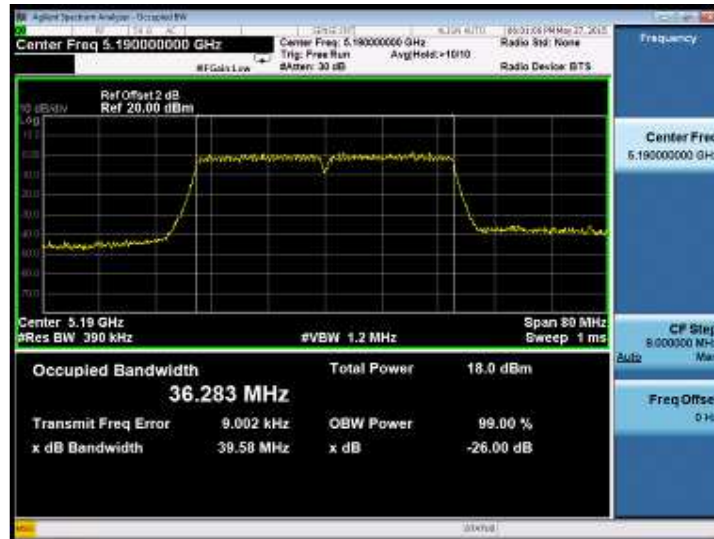


802.11n-HT40 Ant1



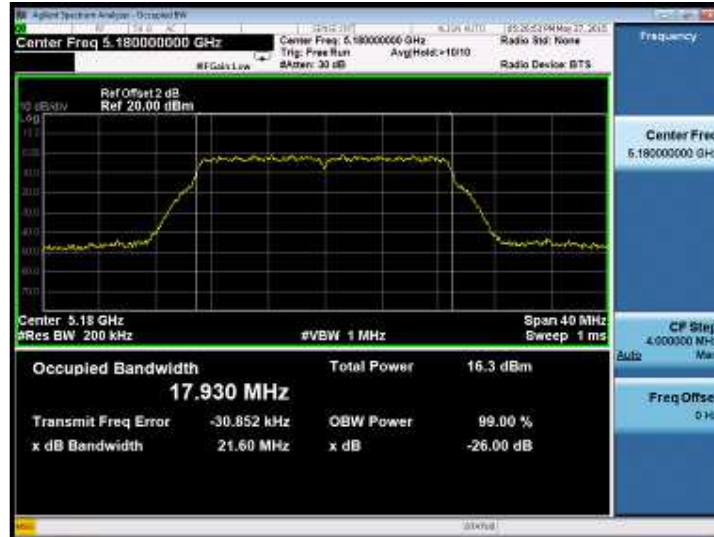


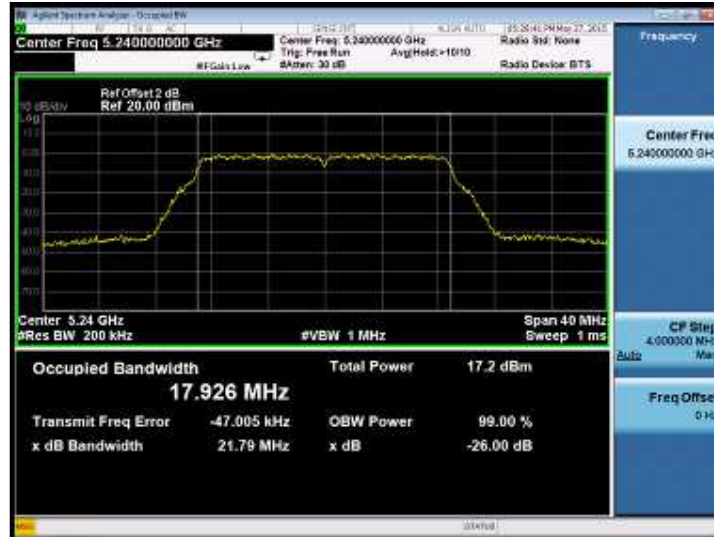
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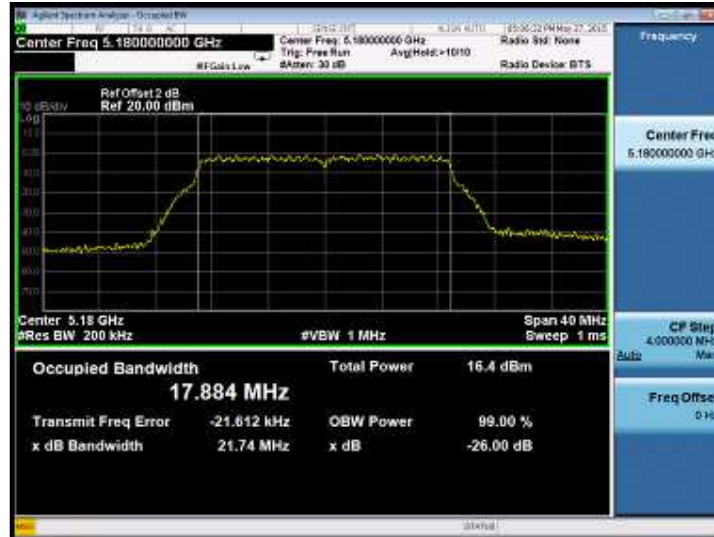
802.11ac n20MHz Ant1







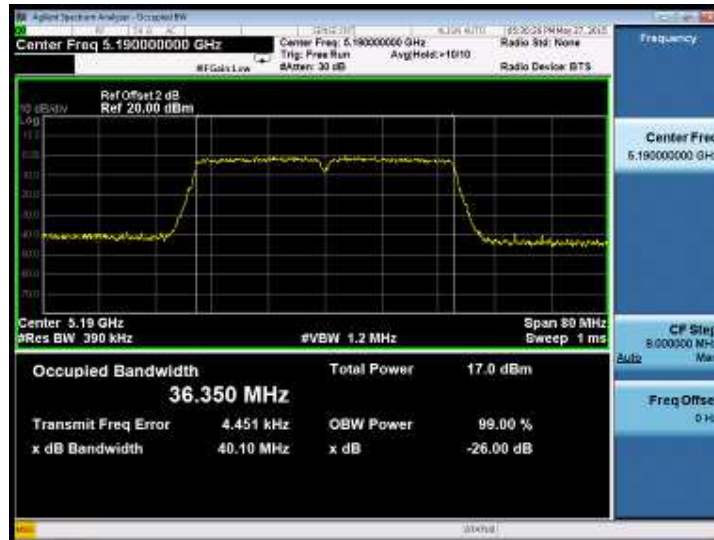
802.11ac n20MHz Ant2







802.11ac n40MHz Ant1





802.11ac n40MHz Ant2





802.11ac n80MHz Ant1



802.11ac n80MHz Ant2



5.1.4 6dB Bandwidth

RESULT:
Pass

Date of testing : 2015-05-27
 Test standard : KDB 905462 D06 v01
 : KDB 789033 D02 v01
 Basic standard : ANSI C63.4: 2003
 Limit : 500kHz
 Kind of test site : Shielded room

Test setup

Test Channel : Low/ Middle/ High
 Operation Mode : A.1
 Ambient temperature : 25°C
 Relative humidity : 52%
 Atmospheric pressure : 101kPa

Table 41: Test result of 6dB Bandwidth of 802.11a

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
149	5745	16.37	0.5
157	5785	18.38	0.5
165	5825	16.39	0.5

Table 42: Test result of 6dB Bandwidth of 802.11n HT20 Ant1

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
149	5745	17.59	0.5
157	5785	17.62	0.5
165	5825	17.63	0.5

Table 43: Test result of 6dB Bandwidth of 802.11n HT20 Ant2

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
149	5745	17.65	0.5
157	5785	17.66	0.5
165	5825	17.65	0.5

Table 44: Test result of 6dB Bandwidth of 802.11n HT40 Ant1

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
151	5755	36.39	0.5
159	5795	36.38	0.5

Table 45: Test result of 6dB Bandwidth of 802.11n HT40 Ant2

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
151	5755	36.43	0.5
159	5795	36.42	0.5

Table 46: Test result of 6dB Bandwidth of 802.11ac HT20 Ant1

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
149	5745	17.65	0.5
157	5785	17.62	0.5
165	5825	17.62	0.5

Table 47: Test result of 6dB Bandwidth of 802.11ac HT20 Ant2

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
149	5745	17.67	0.5
157	5785	17.64	0.5
165	5825	17.68	0.5

Table 48: Test result of 6dB Bandwidth of 802.11ac HT40 Ant1

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
151	5755	36.39	0.5
159	5795	36.35	0.5

Table 49: Test result of 6dB Bandwidth of 802.11ac HT40 Ant2

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
151	5755	36.41	0.5
159	5795	36.41	0.5

Table 50: Test result of 6dB Bandwidth of 802.11ac HT80 Ant1

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
155	5775	75.75	0.5

Table 51: Test result of 6dB Bandwidth of 802.11ac HT80 Ant2

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
155	5775	76.38	0.5

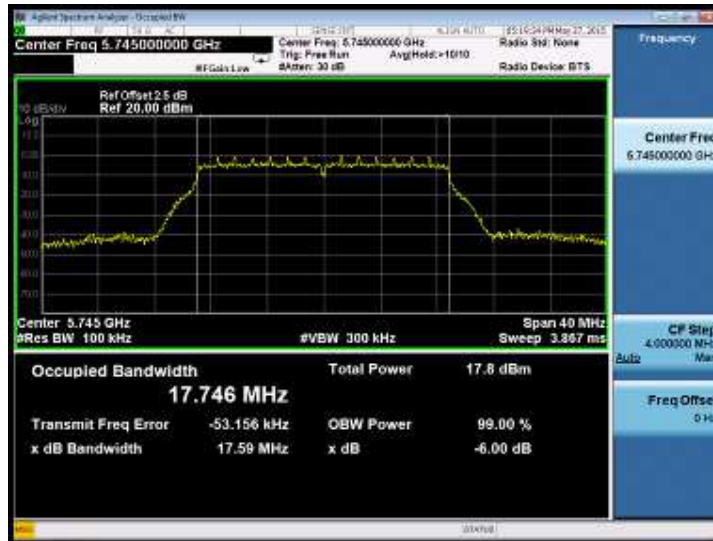
Test Plot of 6dB Bandwidth

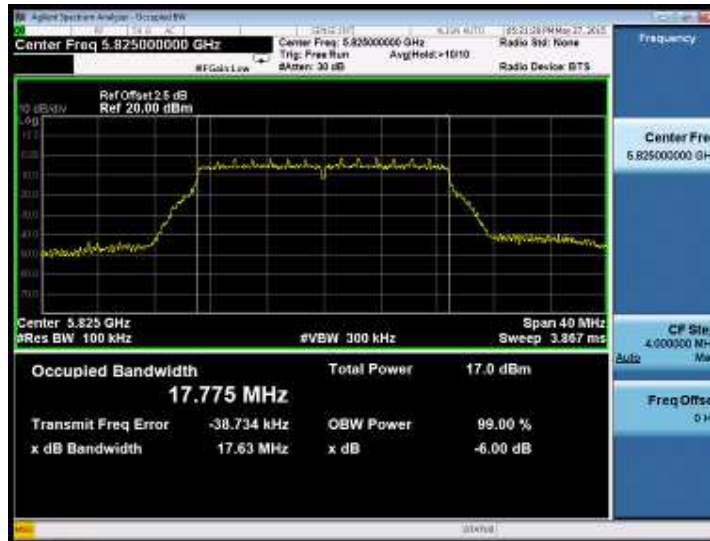
802.11a





802.11n-HT20 Ant1



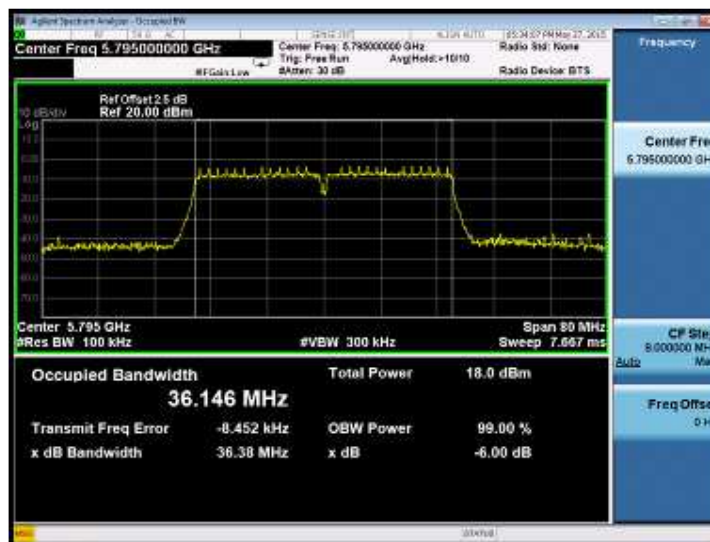
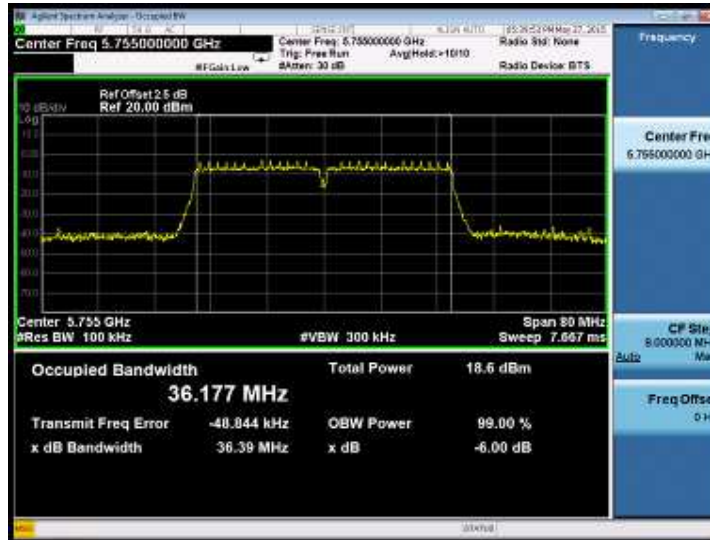


802.11n-HT20 Ant2

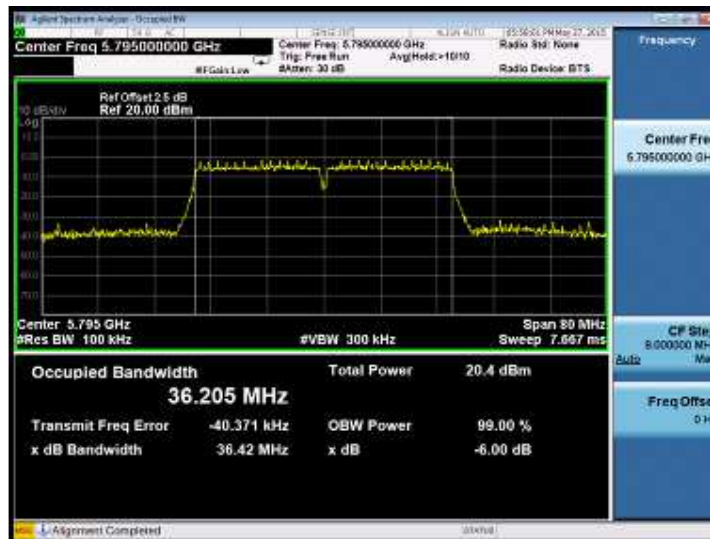
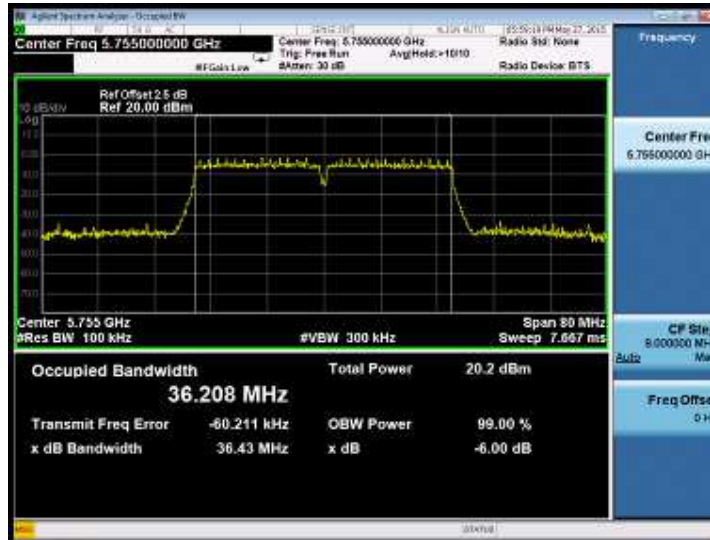




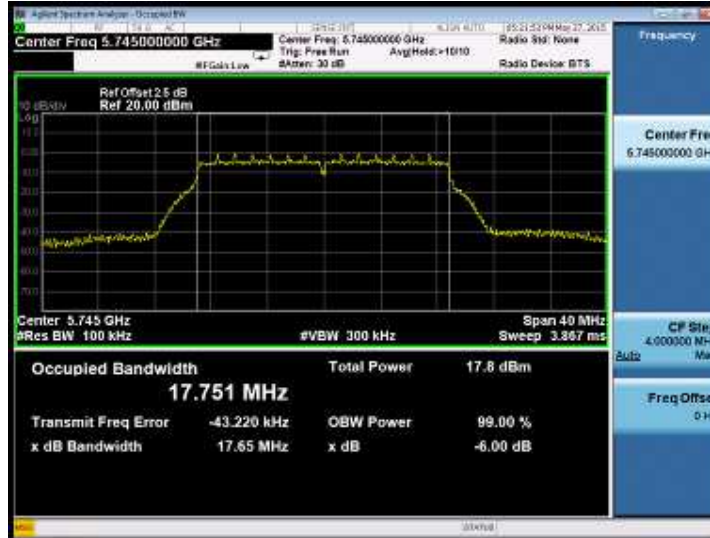
802.11n-HT40 Ant1

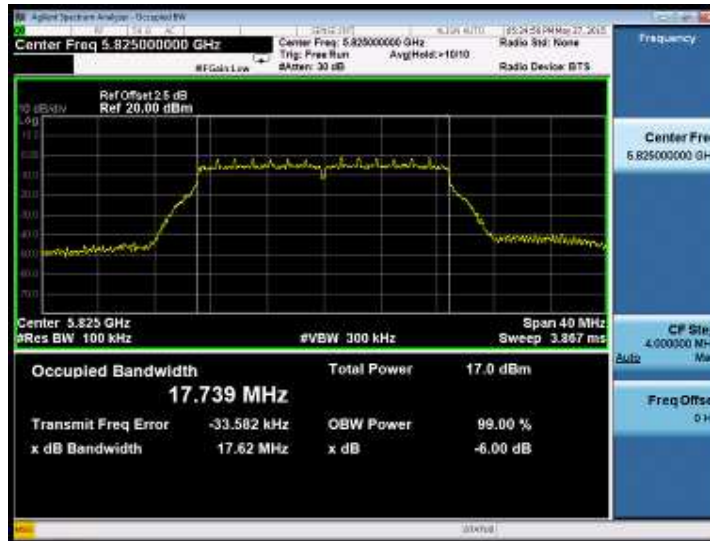


802.11n-HT40 Ant2

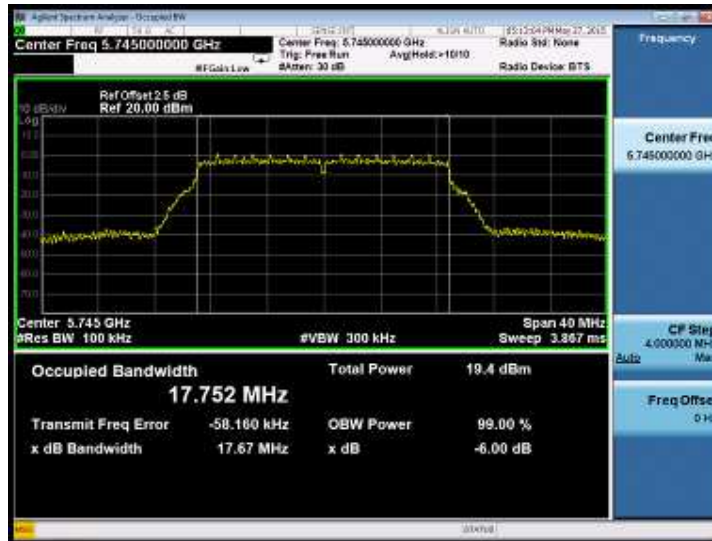


802.11ac n20MHz Ant1



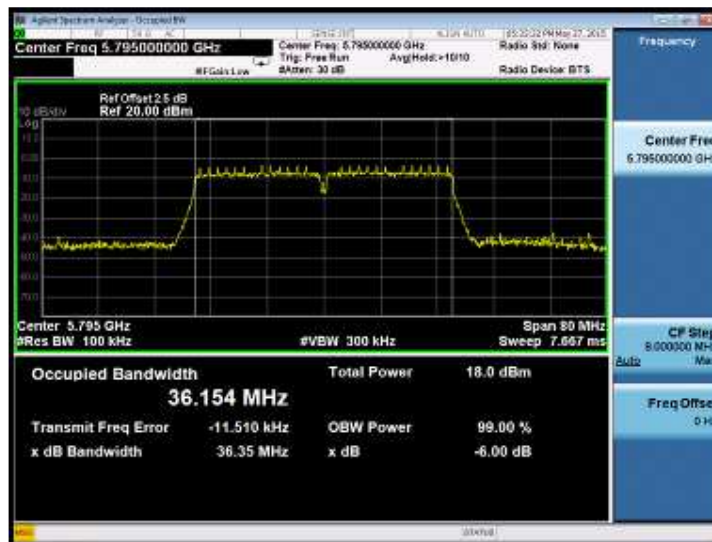
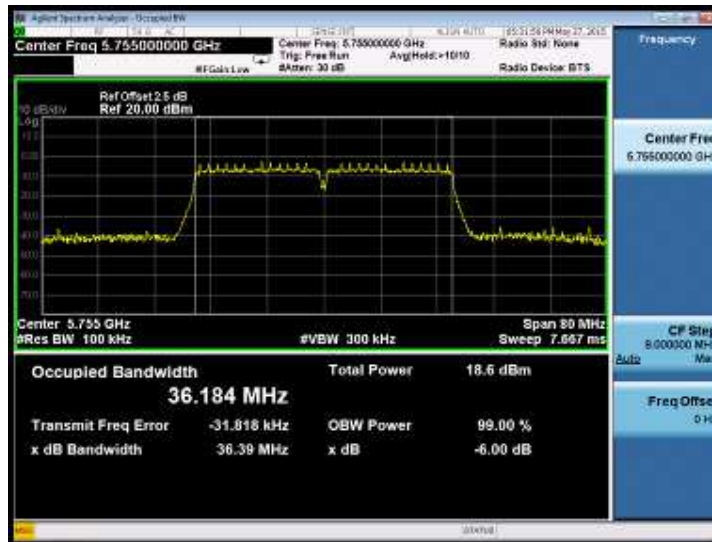


802.11ac n20MHz Ant2

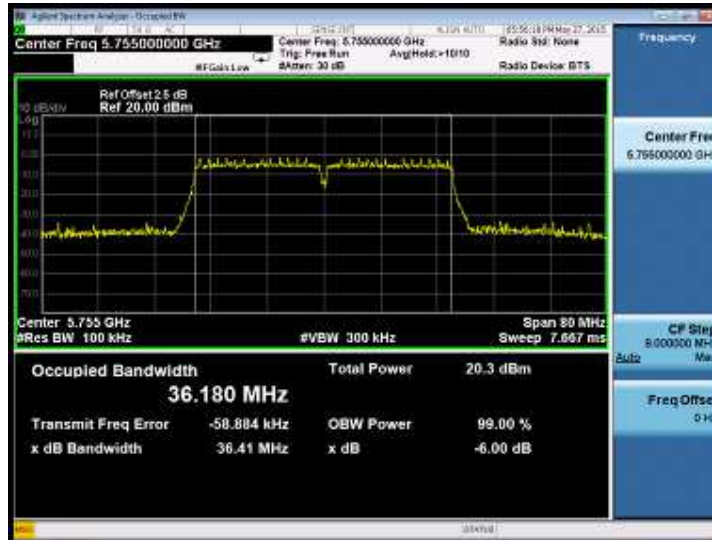




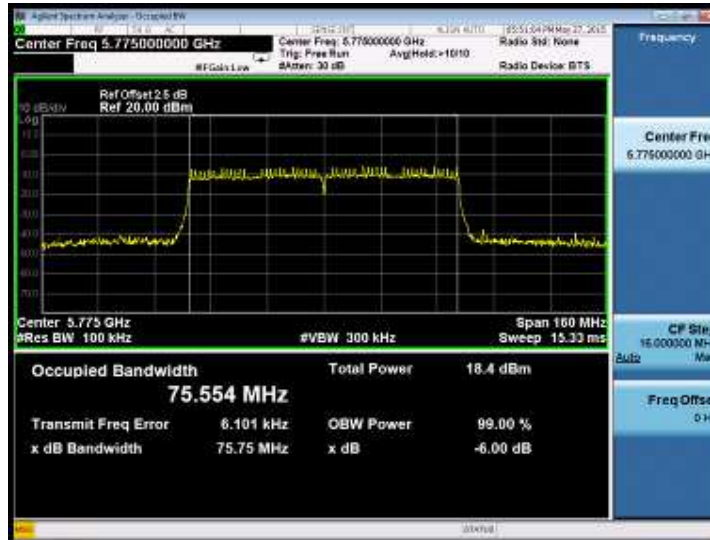
802.11ac n40MHz Ant1



802.11ac n40MHz Ant2



802.11ac n80MHz Ant1



802.11ac n80MHz Ant2

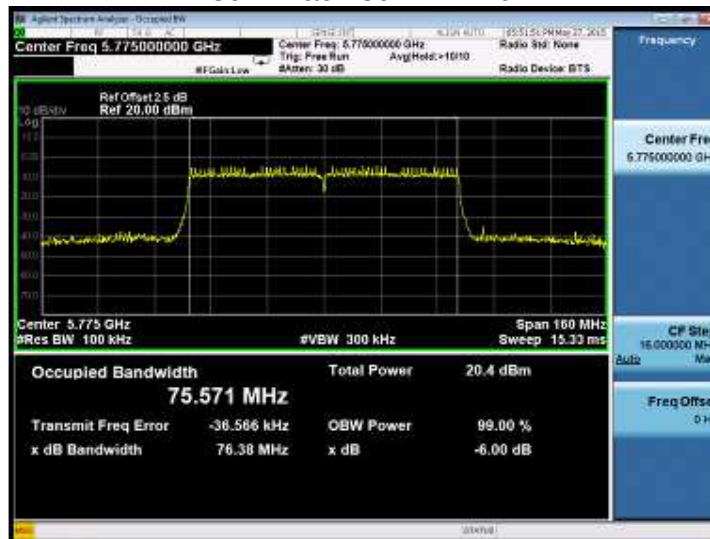


Table 55: Test result of power spectral density for 802.11n HT40 ANT1

Channel	Channel (MHz)	Result	Limit	Conclusion
38	5190	4.103 dBm/MHz	11dBm/MHz	Pass
46	5230	5.149 dBm/MHz	11dBm/MHz	Pass
151	5755	1.368 dBm/500KHz	30dBm/500kHz	Pass
159	5795	1.003 dBm/500KHz	30dBm/500kHz	Pass

Table 56: Test result of power spectral density for 802.11n HT40 ANT2

Channel	Channel (MHz)	Result	Limit	Conclusion
38	5190	6.002 dBm/MHz	11dBm/MHz	Pass
46	5230	6.824 dBm/MHz	11dBm/MHz	Pass
151	5755	4.502 dBm/500KHz	30dBm/500kHz	Pass
159	5795	4.165 dBm/500KHz	30dBm/500kHz	Pass

Table 57: Test result of power spectral density for 802.11ac HT20 ANT1

Channel	Channel (MHz)	Result	Limit	Conclusion
36	5180	6.237 dBm/MHz	11dBm/MHz	Pass
44	5220	7.192 dBm/MHz	11dBm/MHz	Pass
48	5240	8.072 dBm/MHz	11dBm/MHz	Pass
149	5745	3.635 dBm/500KHz	30dBm/500kHz	Pass
157	5785	2.672 dBm/500KHz	30dBm/500kHz	Pass
165	5825	2.568 dBm/500KHz	30dBm/500kHz	Pass

Table 58: Test result of power spectral density for 802.11ac HT20 ANT2

Channel	Channel (MHz)	Result	Limit	Conclusion
36	5180	7.427 dBm/MHz	11dBm/MHz	Pass
44	5220	8.038 dBm/MHz	11dBm/MHz	Pass
48	5240	8.448 dBm/MHz	11dBm/MHz	Pass
149	5745	6.352 dBm/500KHz	30dBm/500kHz	Pass
157	5785	6.676 dBm/500KHz	30dBm/500kHz	Pass
165	5825	6.450 dBm/500KHz	30dBm/500kHz	Pass

Table 59: Test result of power spectral density for 802.11ac HT40 ANT1

Channel	Channel (MHz)	Result	Limit	Conclusion
38	5190	4.434 dBm/MHz	11dBm/MHz	Pass
46	5230	5.754 dBm/MHz	11dBm/MHz	Pass
151	5755	1.495 dBm/500KHz	30dBm/500kHz	Pass
159	5795	0.304 dBm/500KHz	30dBm/500kHz	Pass

Table 60: Test result of power spectral density for 802.11ac HT40 ANT2

Channel	Channel (MHz)	Result	Limit	Conclusion
38	5190	5.500 dBm/MHz	11dBm/MHz	Pass
46	5230	6.397 dBm/MHz	11dBm/MHz	Pass
151	5755	4.754 dBm/500KHz	30dBm/500kHz	Pass
159	5795	4.725 dBm/500KHz	30dBm/500kHz	Pass

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Table 61: Test result of power spectral density for 802.11ac HT80 ANT1

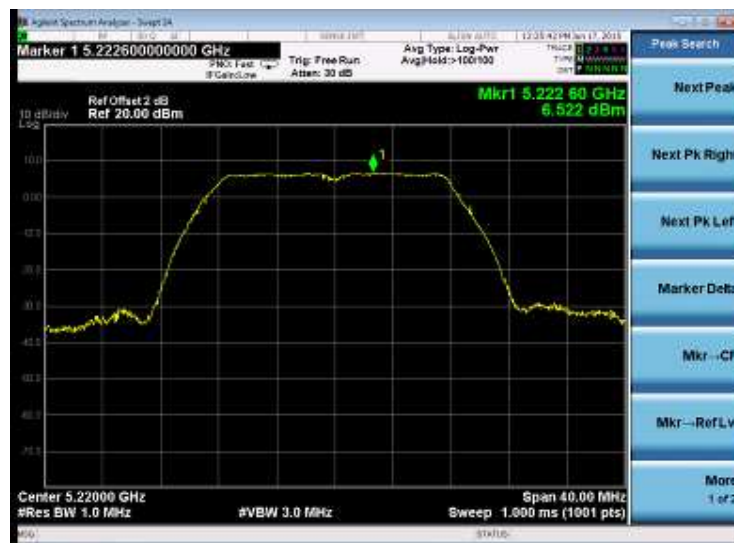
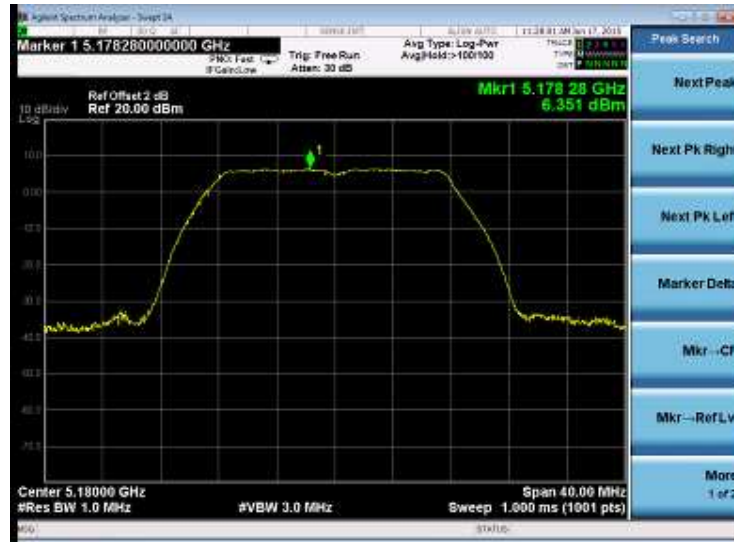
Channel	Channel (MHz)	Result	Limit	Conclusion
42	5210	1.271 dBm/MHz	11dBm/MHz	Pass
155	5775	-2.340 dBm/500KHz	30dBm/500kHz	Pass

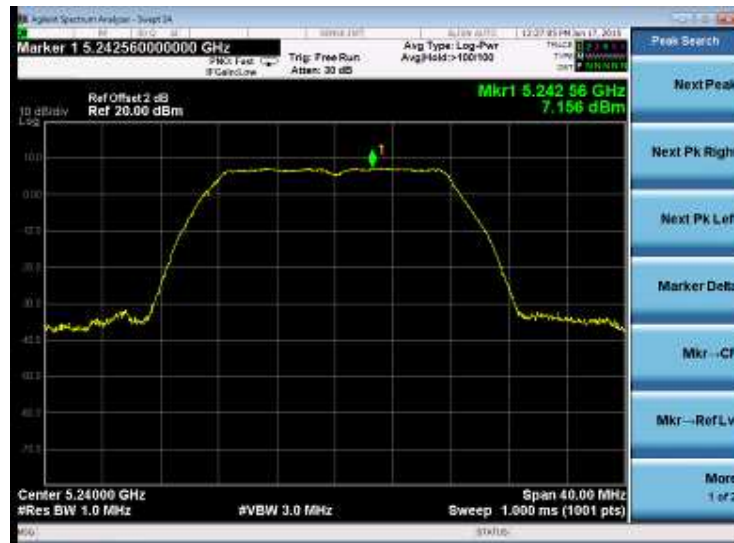
Table 62: Test result of power spectral density for 802.11ac HT80 ANT2

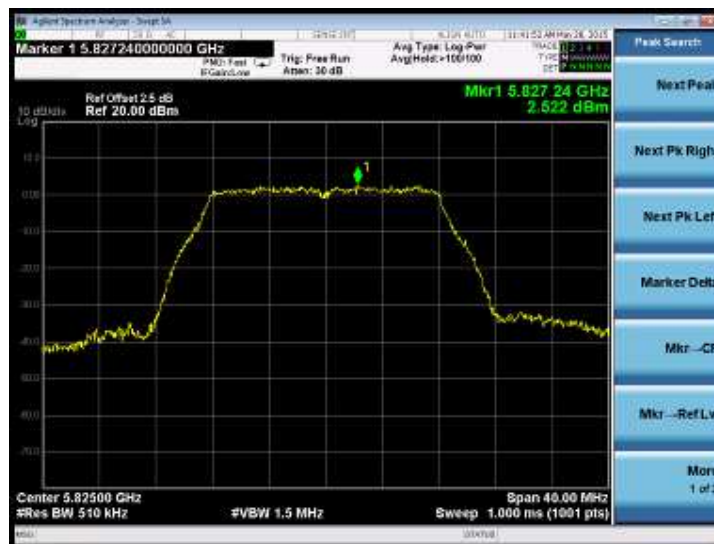
Channel	Channel (MHz)	Result	Limit	Conclusion
42	5210	2.281 dBm/MHz	11dBm/MHz	Pass
155	5775	1.161 dBm/500KHz	30dBm/500kHz	Pass

Test Plot of Power spectral density

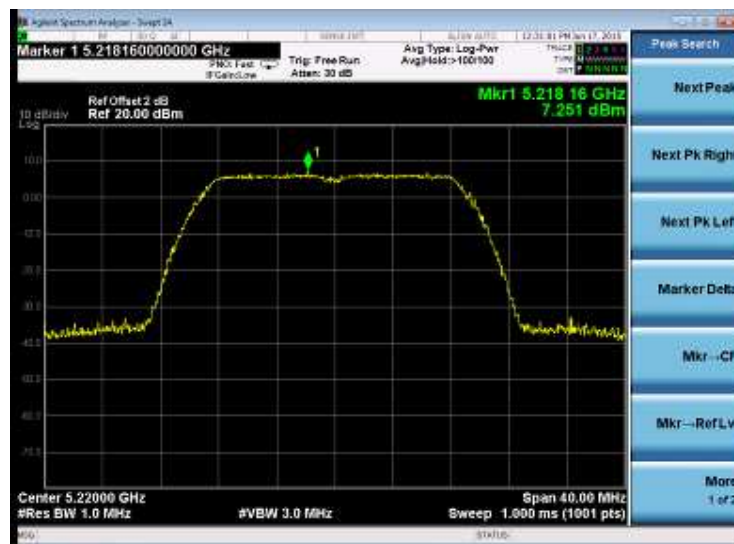
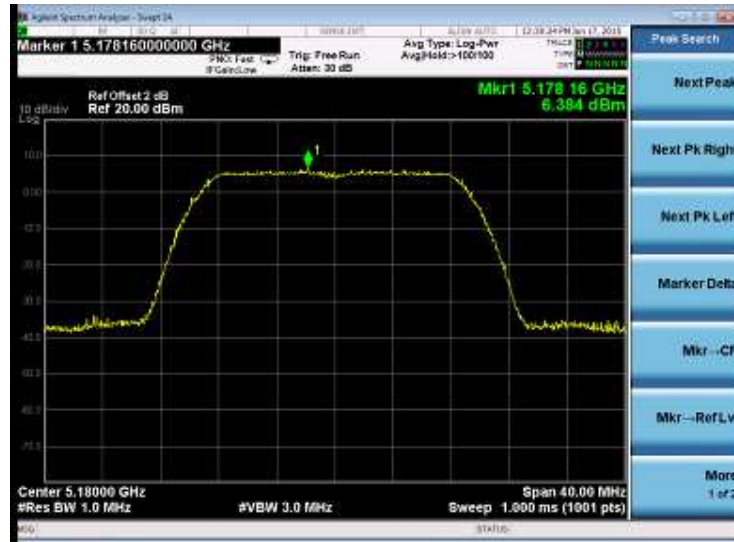
802.11a

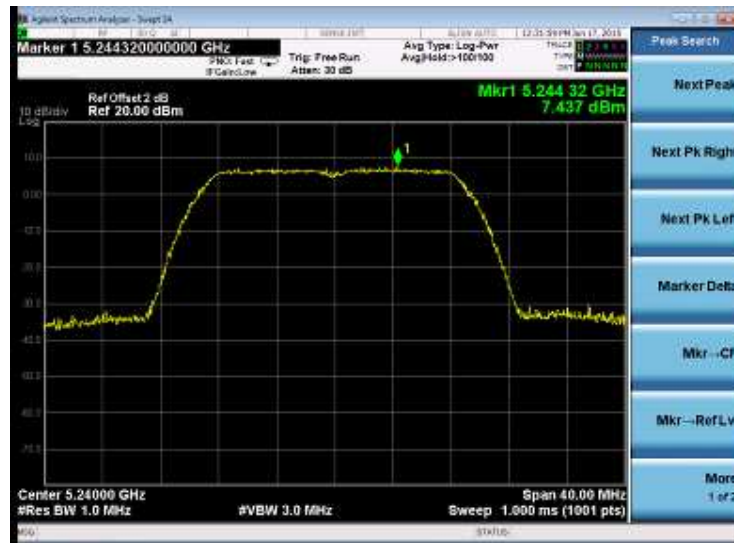


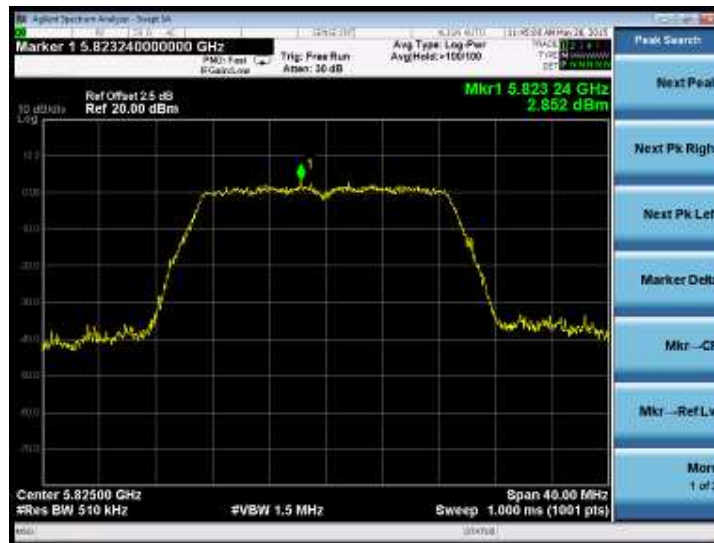




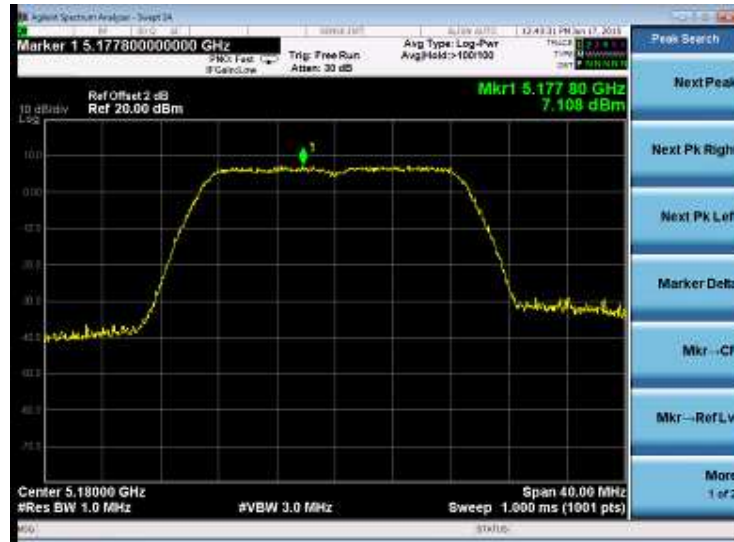
802.11n-HT20 Ant1



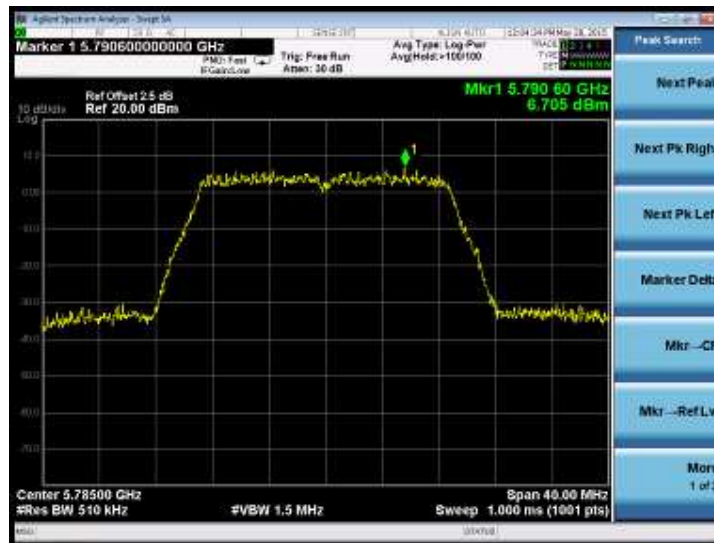




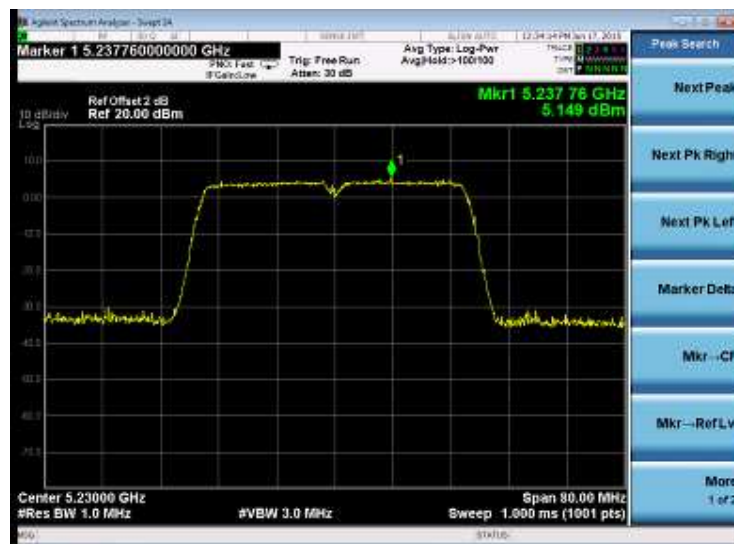
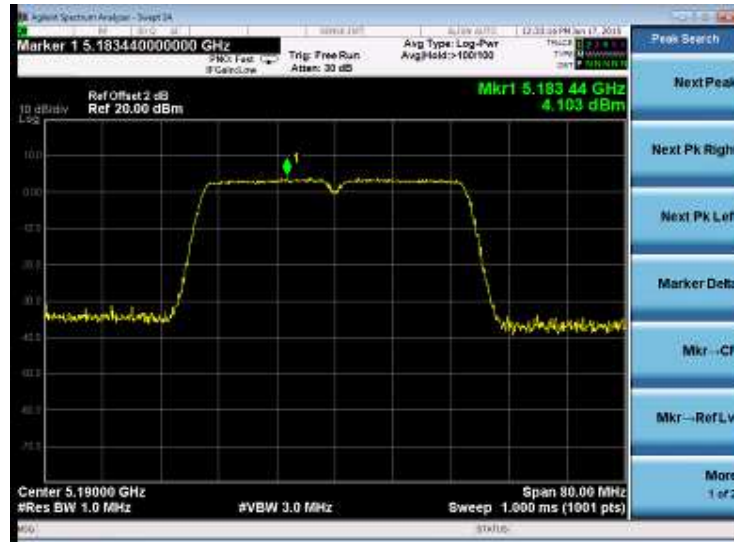
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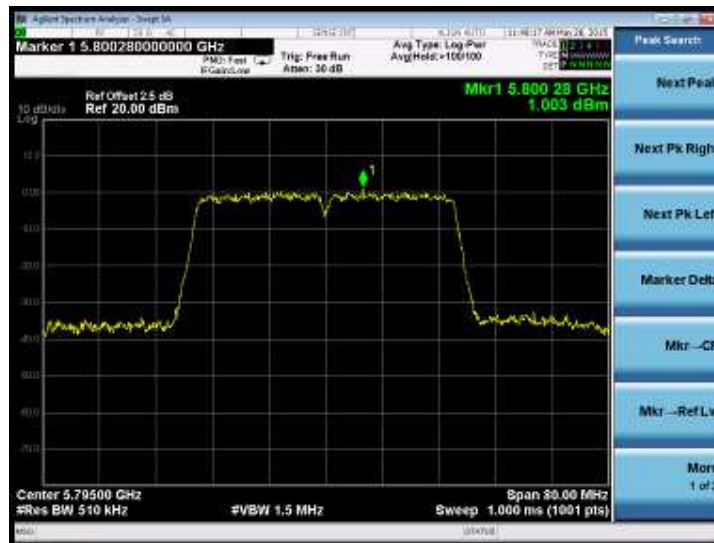
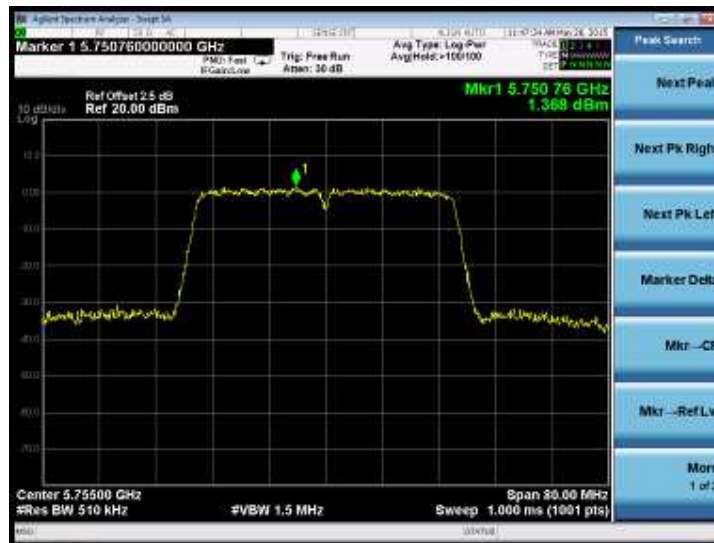




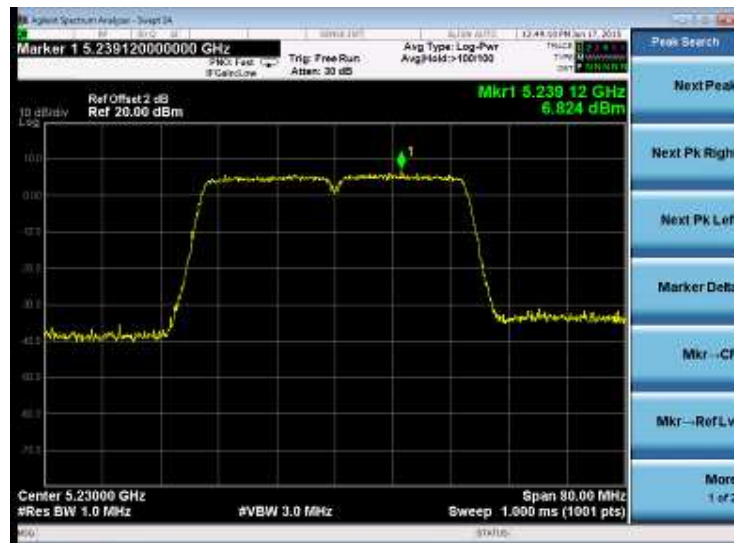
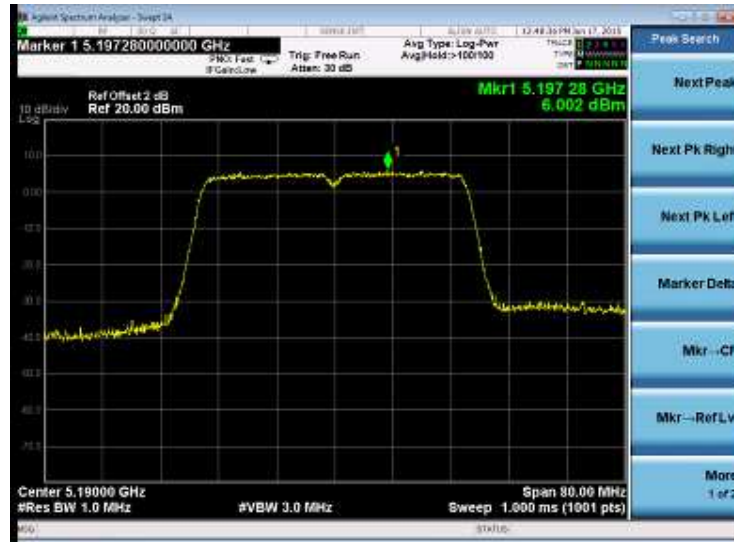


802.11n-HT40 Ant1



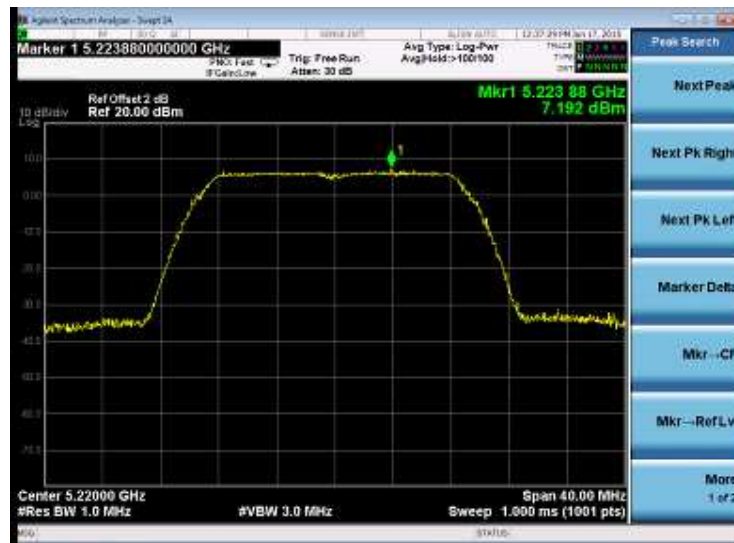


802.11n-HT40 Ant2

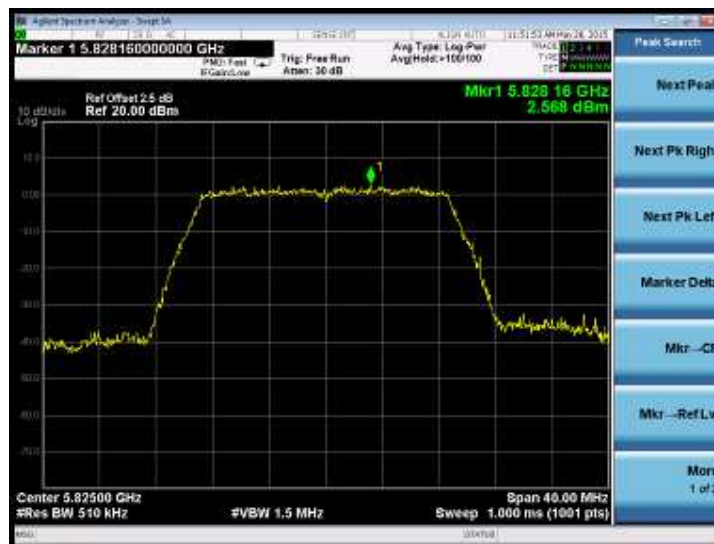




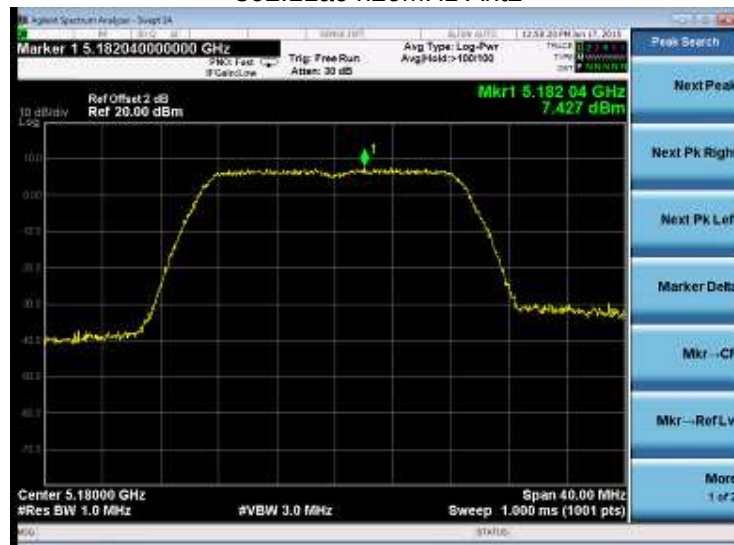
802.11ac n20MHz Ant1







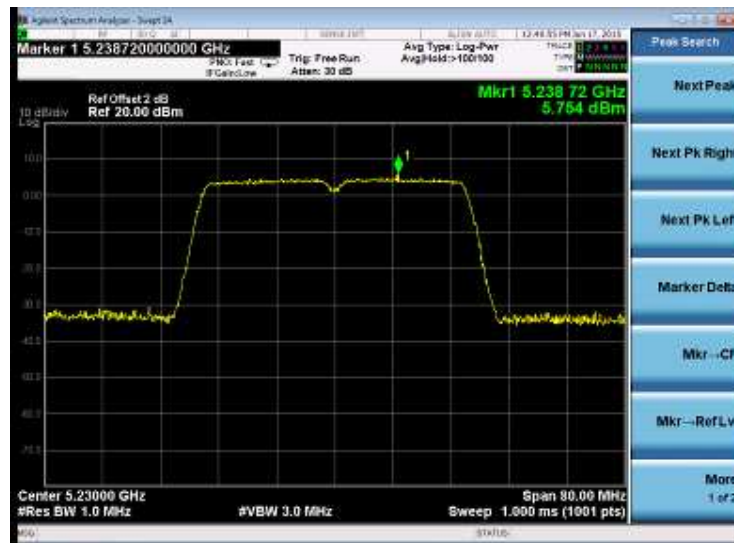
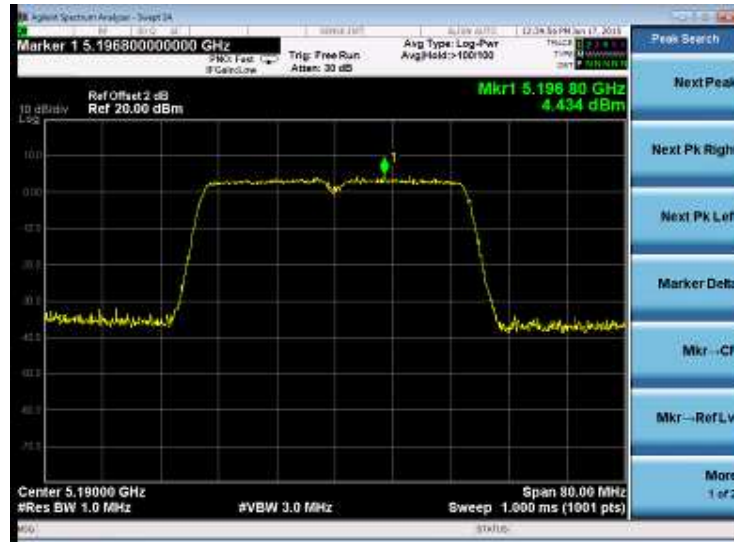
802.11ac n20MHz Ant2

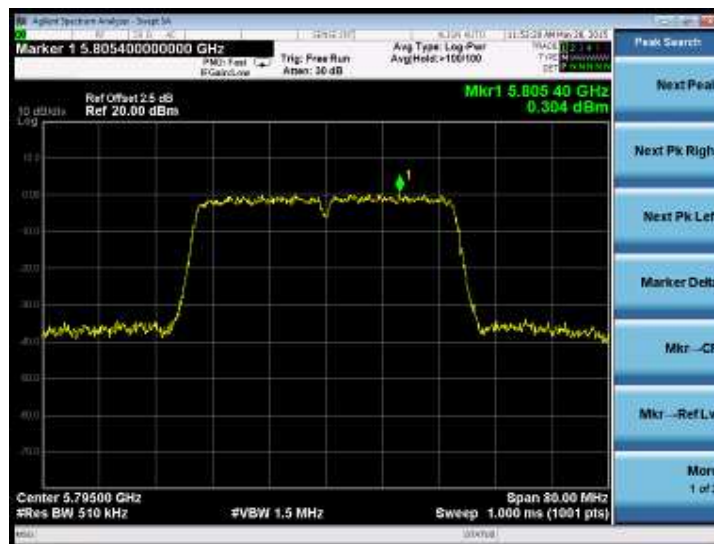
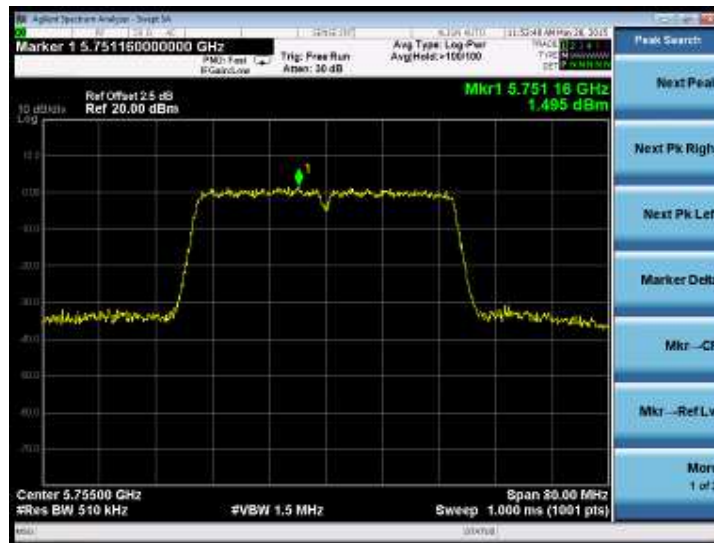




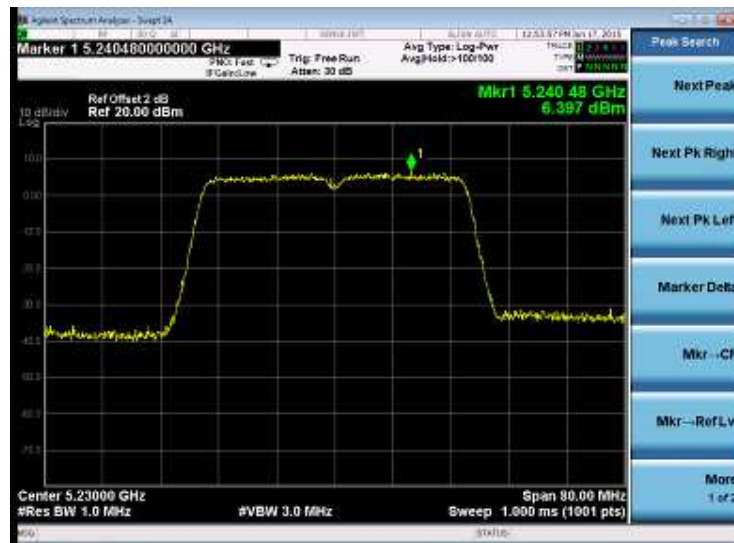
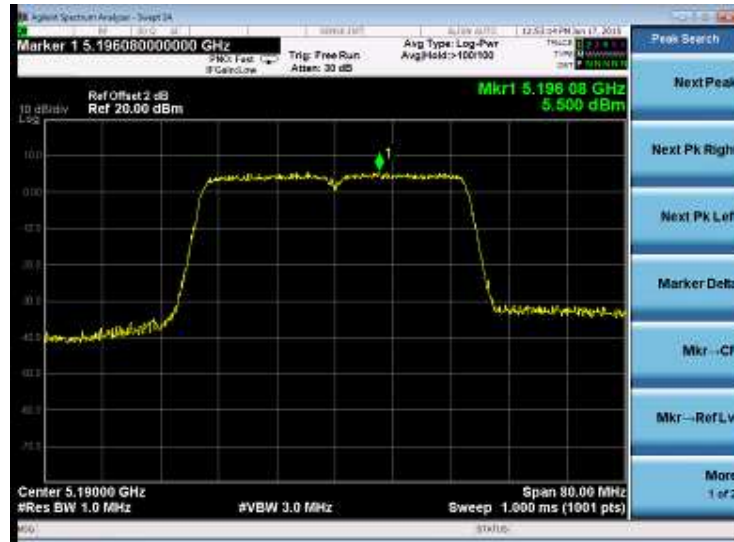


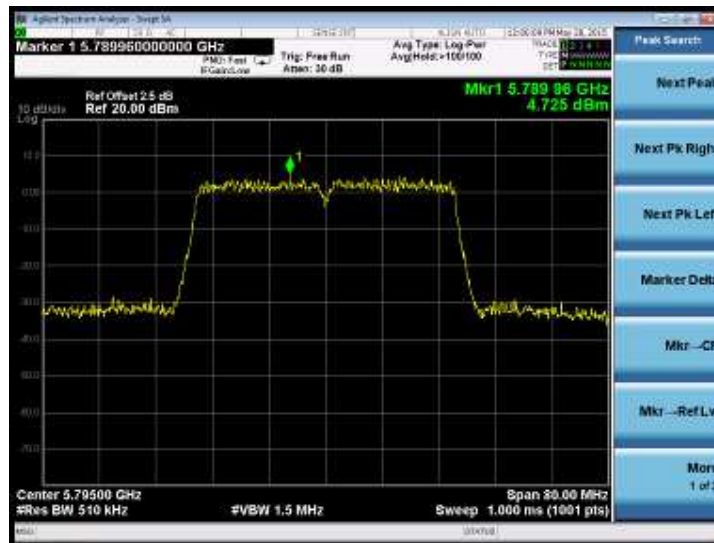
802.11ac n40MHz Ant1



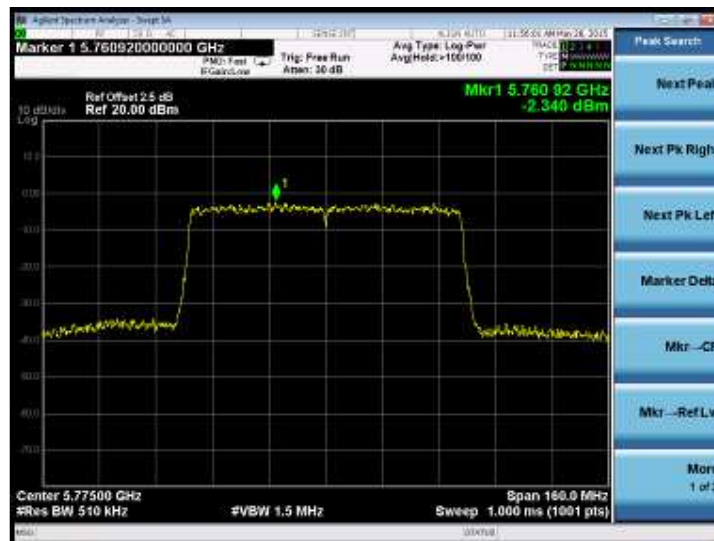
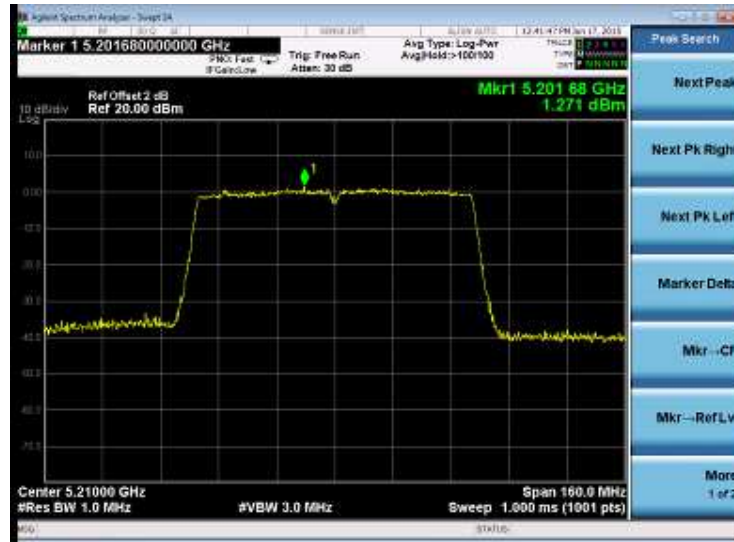


802.11ac n40MHz Ant2

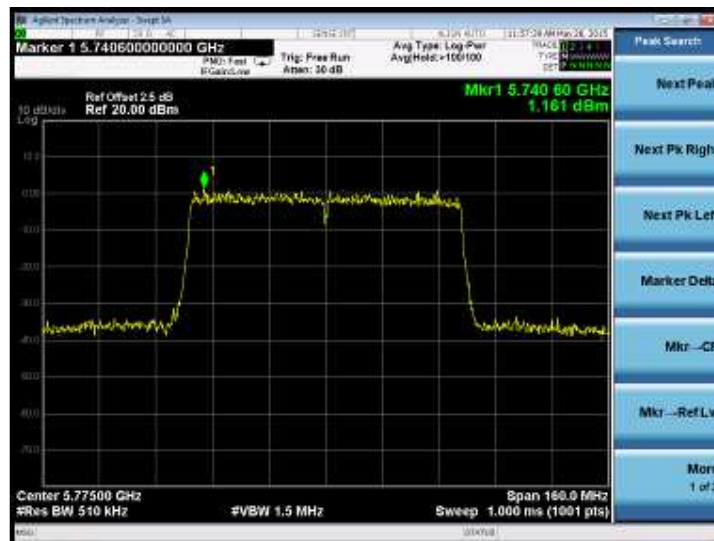
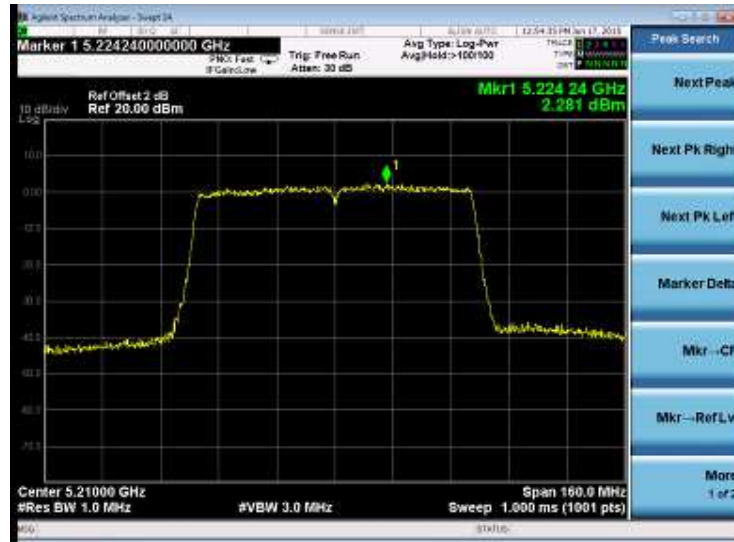




802.11ac n80MHz Ant1



802.11ac n80MHz Ant2



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5.1.6 Spurious Emission

RESULT:**Pass**

Date of testing : 2015-05-09 to 2015-06-18
Test standard : KDB 905462 D06 v01
KDB 789033 D02 v01
Basic standard : ANSI C63.4: 2003
ANSI C63.10: 2013
Limits : FCC part 15.209(a)
Kind of test site : 3m Semi-Anechoic Chamber

Test setup

Test Channel : Low/ Middle/ High
Operation mode : A.1, A.2
Ambient temperature : 23°C
Relative humidity : 48%
Atmospheric pressure : 101kPa

Notes:

1, All emission out-side of the 5.15-5.35GHz & 5.47-5.725GHz band shall not exceed an EIRP of -27dBm/MHz (68.2dBuV/m, test distance: 3 meter), for band 5.725-5.85GHz shall not exceed ≤ -17 dBm/MHz (78.2dBuV/m, test distance: 3 meter) within 5715-5725MHz and 5850-5860MHz, ≤ -27 dBm/MHz (68.2dBuV/m, test distance: 3 meter) outside 5715-5860MHz.

2, The spectrum is measured from 9KHz to the 10th harmonic of the fundamental frequency of the transmitter using QP detector below 1GHz, above 1GHz, average & peak measurements were taken using for test. The worst-case emission are reported however emission whose levels were not within 20dB of the respective limited were not reported.

3, The test was performed on EUT under 802.11a/n-HT20/n-HT40/ac continuously transmitting mode.

Please refer Appendix A for Spurious emission.

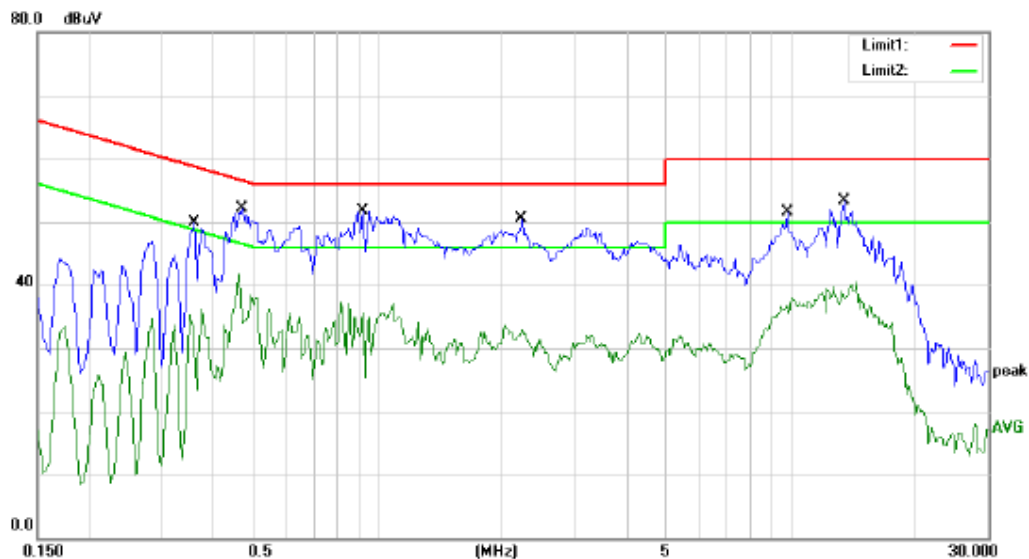
5.1.7 Conducted emissions**RESULT:****Pass**

Date of testing : 2015-05-16
Test standard : FCC Part 15.207
FCC part 15.407(b)(6)
Basic standard : ANSI C63.4: 2003
ANSI C63.10: 2013
Frequency range : 0.15 – 30MHz
Limits : FCC Part 15.207
Kind of test site : Shield room

Test setup

Input Voltage : AC 120V, 60Hz
Operation Mode : A
Earthing : Not Connected
Ambient temperature : 25°C
Relative humidity : 52%
Atmospheric pressure : 101kPa

For details refer to following test plot.



Site Conducted #3

Phase: **N**

Temperature: 26

Limit: (CE)FCC PART 15 class B_QP

Power: AC 120V/60Hz

Humidity: 60 %

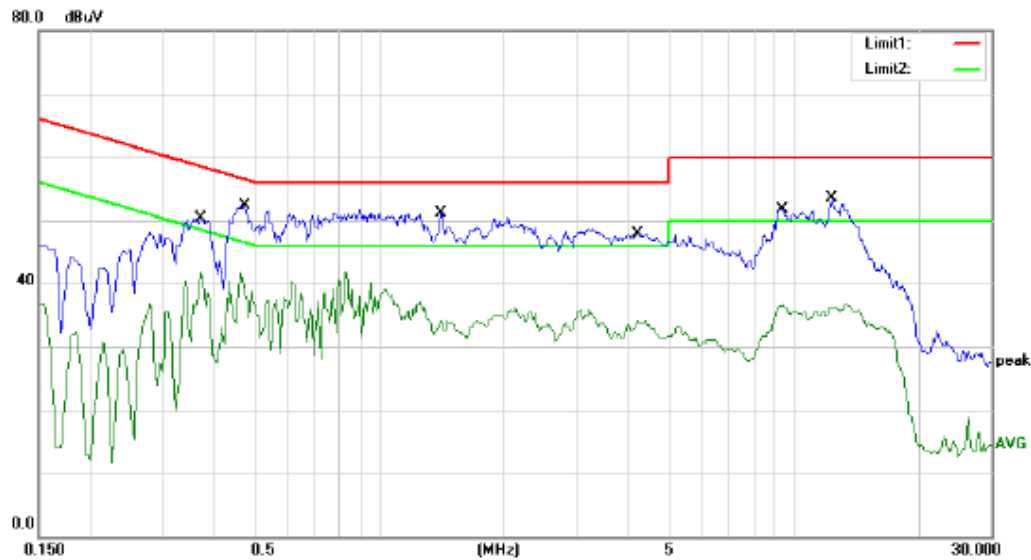
EUT: Tablet PAD

M/N: NS-P16AT785HD

Mode: ON

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.3600	49.87	0.00	49.87	58.73	-8.86	QP	
2		0.3600	36.37	0.00	36.37	48.73	-12.36	AVG	
3		0.4700	51.00	0.00	51.00	56.51	-5.51	QP	
4	*	0.4700	41.95	0.00	41.95	46.51	-4.56	AVG	
5		0.9200	50.00	0.00	50.00	56.00	-6.00	QP	
6		0.9200	37.24	0.00	37.24	46.00	-8.76	AVG	
7		2.2350	50.44	0.00	50.44	56.00	-5.56	QP	
8		2.2350	32.97	0.00	32.97	46.00	-13.03	AVG	
9		9.7700	51.52	0.00	51.52	60.00	-8.48	QP	
10		9.7700	38.18	0.00	38.18	50.00	-11.82	AVG	
11		13.4750	53.24	0.00	53.24	60.00	-6.76	QP	
12		13.4750	36.73	0.00	36.73	50.00	-13.27	AVG	



Site Conducted #3

Phase: **L1**

Temperature: 26

Limit: (CE)FCC PART 15 class B_QP

Power: AC 120V/60Hz

Humidity: 60 %

EUT: Tablet PAD

M/N: NS-P16AT785HD

Mode: ON

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.3700	50.32	0.00	50.32	58.50	-8.18	QP	
2		0.3700	41.64	0.00	41.64	48.50	-6.86	AVG	
3	*	0.4711	52.29	0.00	52.29	56.49	-4.20	QP	
4		0.4711	41.82	0.00	41.82	46.49	-4.67	AVG	
5		1.4100	51.09	0.00	51.09	56.00	-4.91	QP	
6		1.4100	38.41	0.00	38.41	46.00	-7.59	AVG	
7		4.1900	47.98	0.00	47.98	56.00	-8.02	QP	
8		4.1900	35.84	0.00	35.84	46.00	-10.16	AVG	
9		9.4300	51.72	0.00	51.72	60.00	-8.28	QP	
10		9.4300	36.63	0.00	36.63	50.00	-13.37	AVG	
11		12.3750	53.54	0.00	53.54	60.00	-6.46	QP	
12		12.3750	35.76	0.00	35.76	50.00	-14.24	AVG	

5.1.8 Frequency Stability

RESULT:**Pass**

Date of testing	:	2015-05-16
Test standard	:	FCC part 15.407(b)(6)
Basic standard	:	ANSI C63.10: 2013
Limits	:	Ensuring frequency stability such that an emission is maintained within the band of operation
Kind of test site	:	Shield room

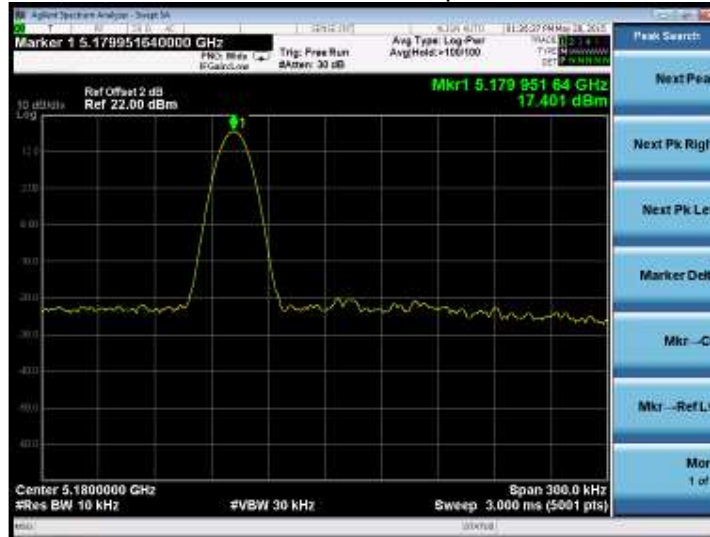
Test setup

Input Voltage	:	AC 120V, 60Hz
Operation Mode	:	A
Earthing	:	Not Connected
Ambient temperature	:	25°C
Relative humidity	:	52%
Atmospheric pressure	:	101kPa

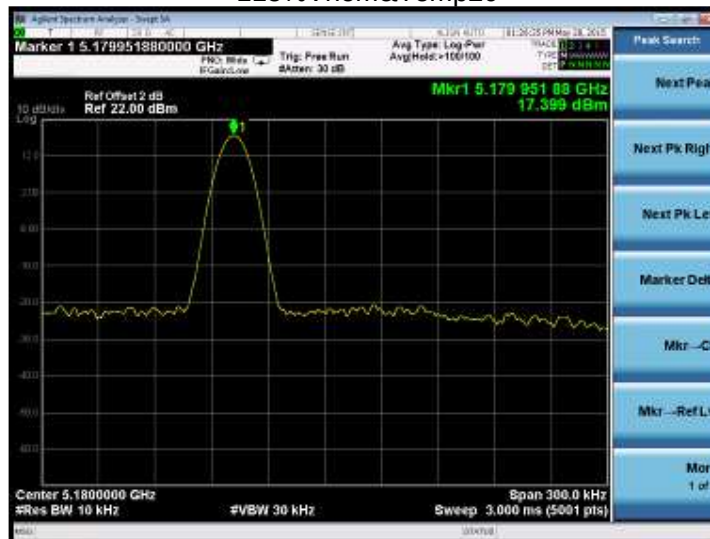
For details refer to following test plot.

*Note: 802.11n-HT20 test mode was selected to evaluation of Frequency Stability.

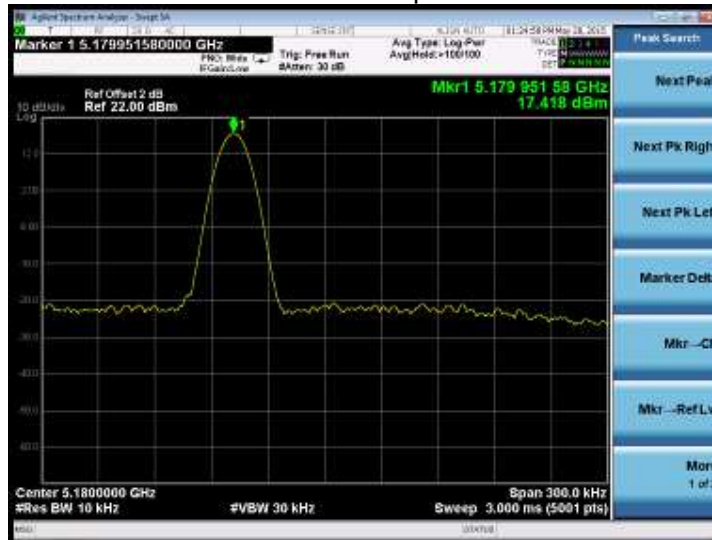
Model: 802.11n-HT20, Operation frequency: 5180MHz
85%Vnom&Temp20



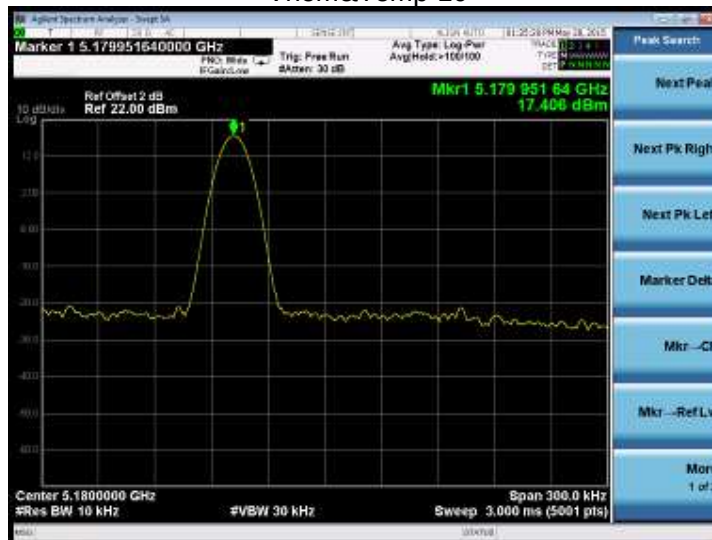
115%Vnom&Temp20



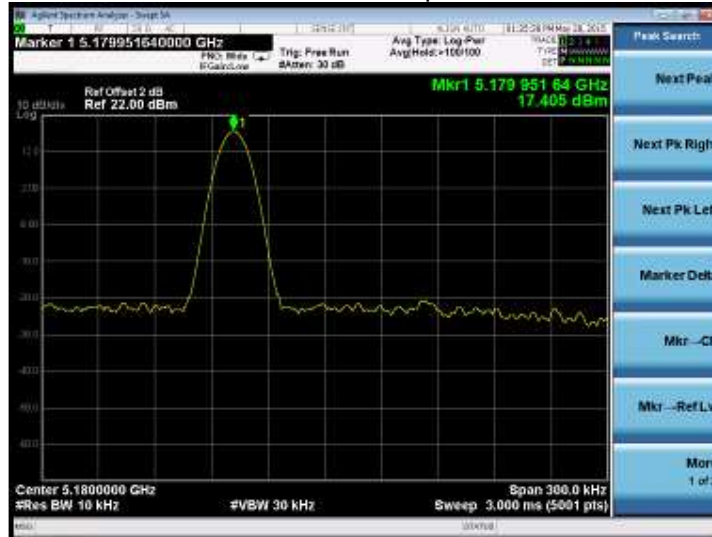
Vnom&Temp-20



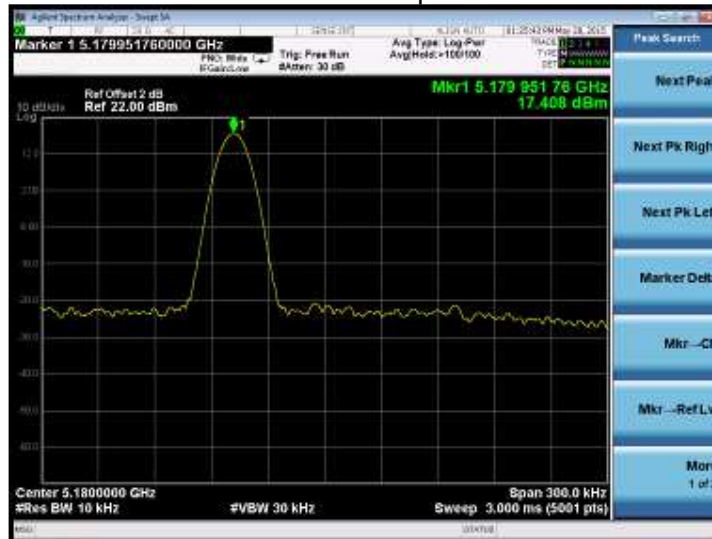
Vnom&Temp-10



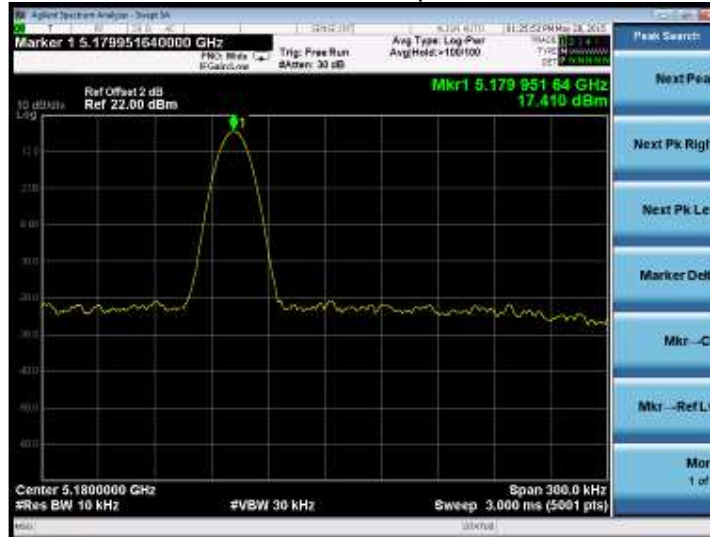
Vnom&Temp0



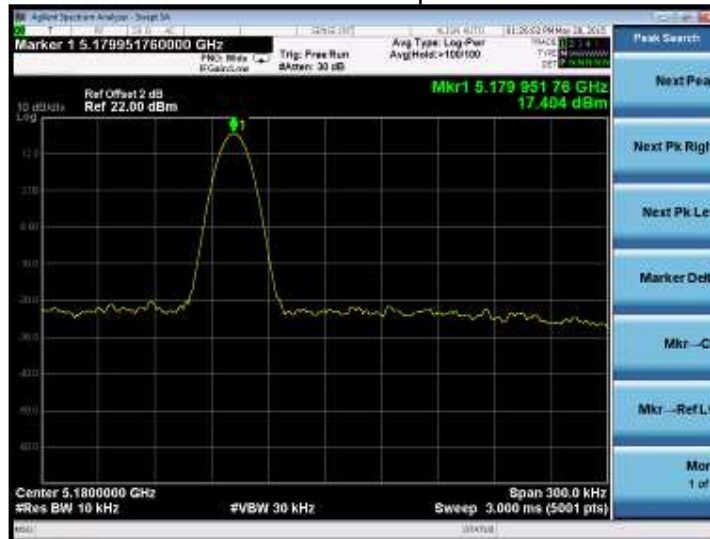
Vnom&Temp10



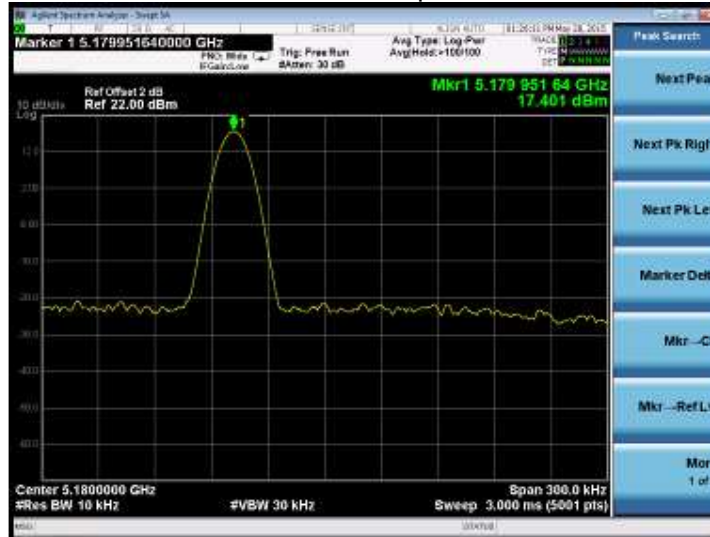
Vnom&Temp20



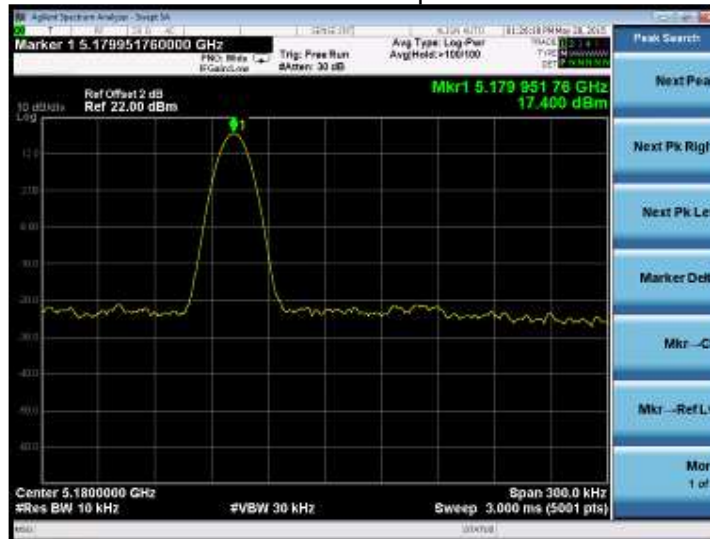
Vnom&Temp30



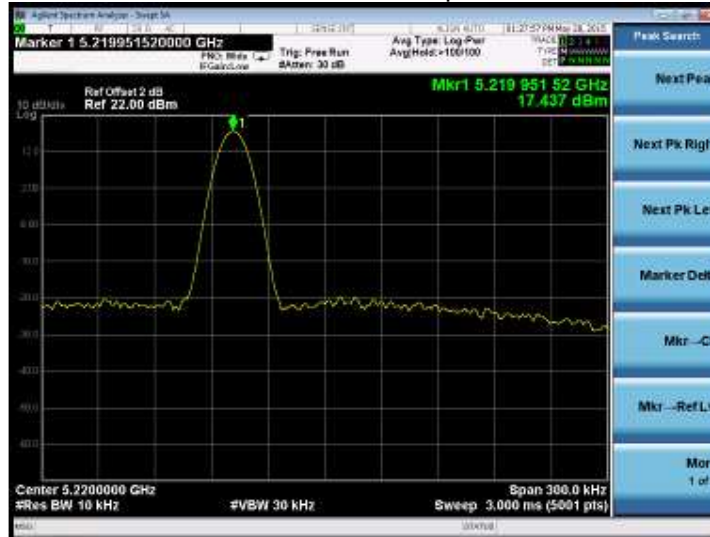
Vnom&Temp40



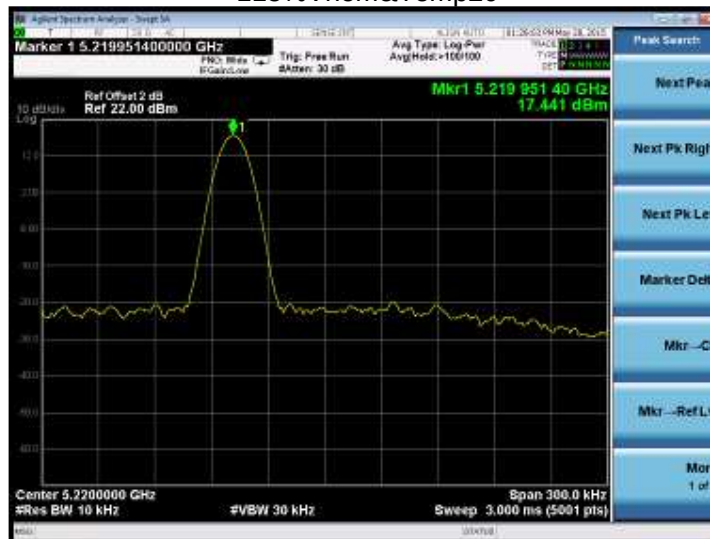
Vnom&Temp50



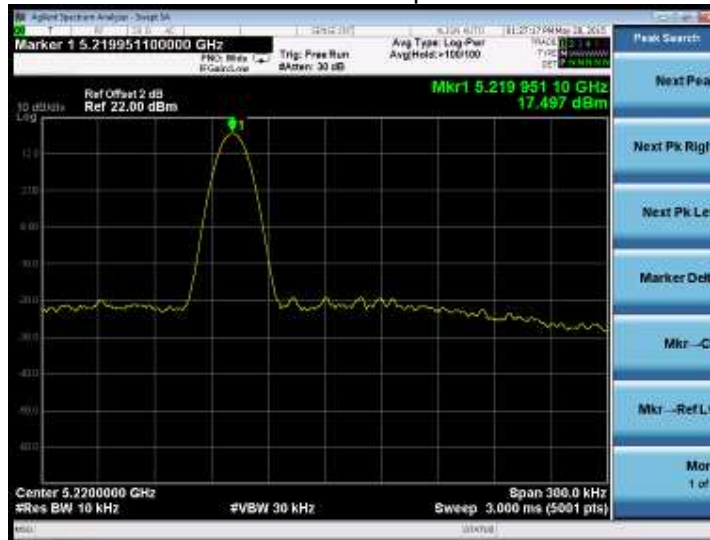
Model: 802.11n-HT20, Operation frequency: 5220MHz
85%Vnom&Temp20



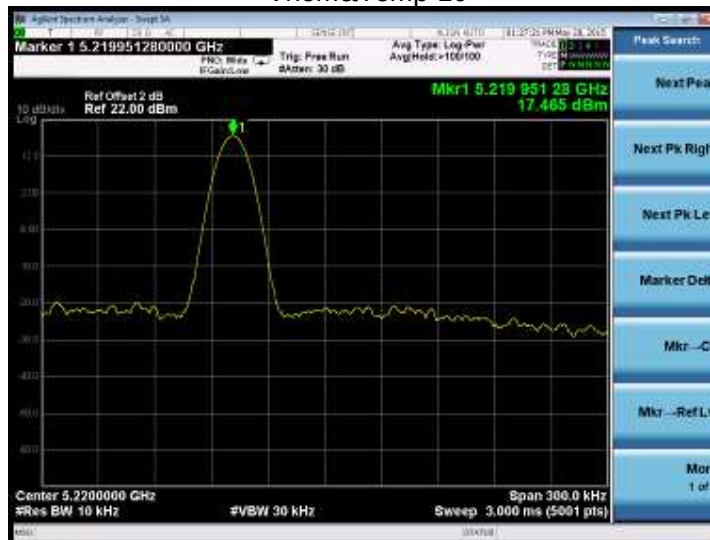
115%Vnom&Temp20



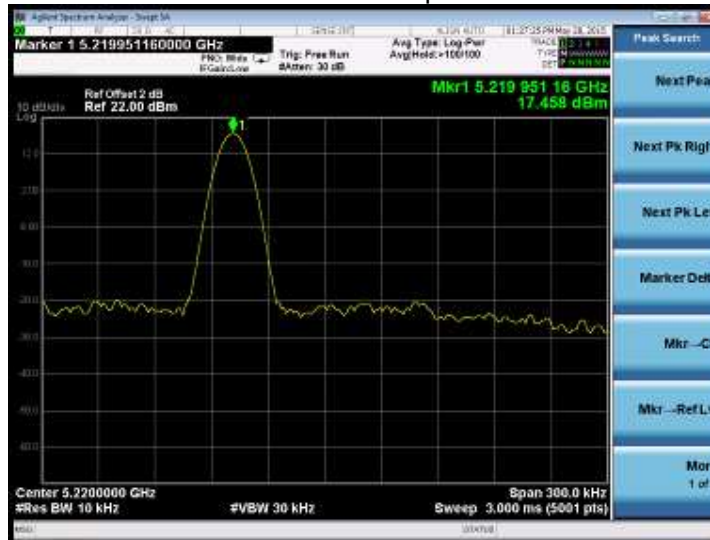
Vnom&Temp-20



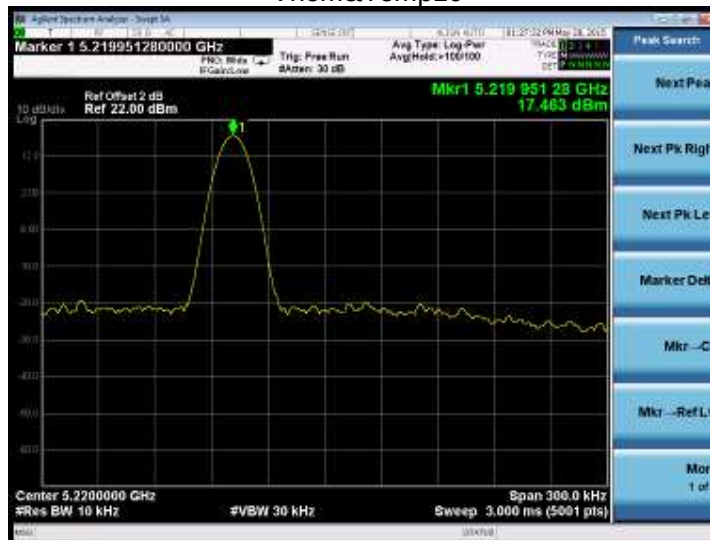
Vnom&Temp-10



Vnom&Temp0



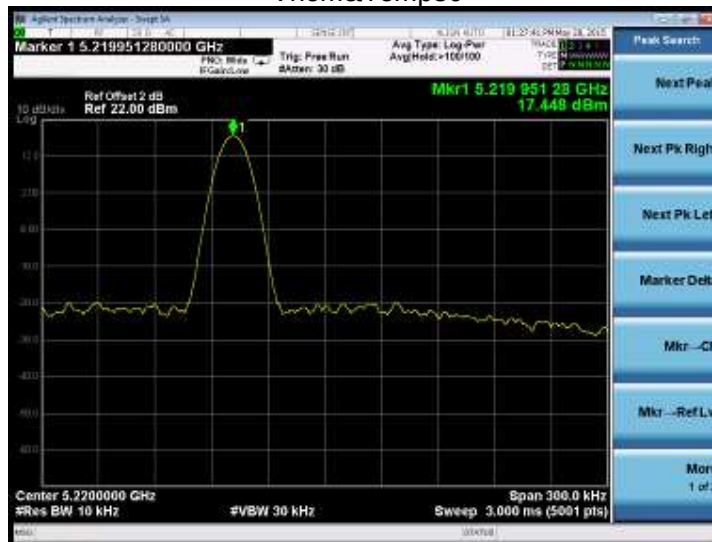
Vnom&Temp10



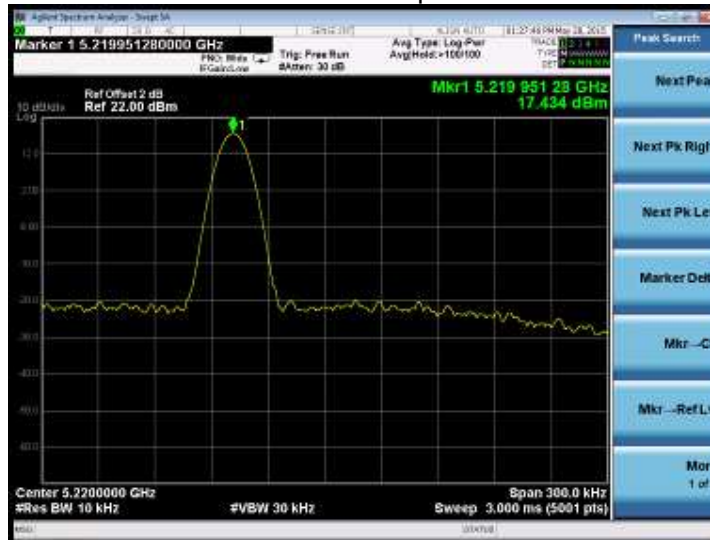
Vnom&Temp20



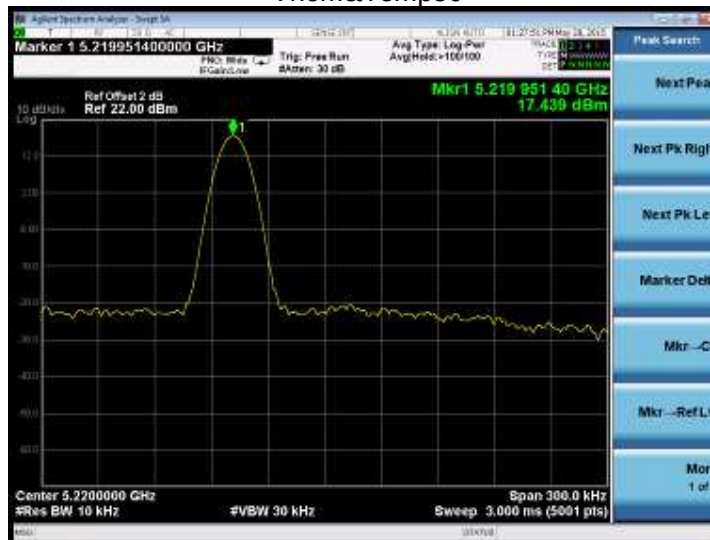
Vnom&Temp30



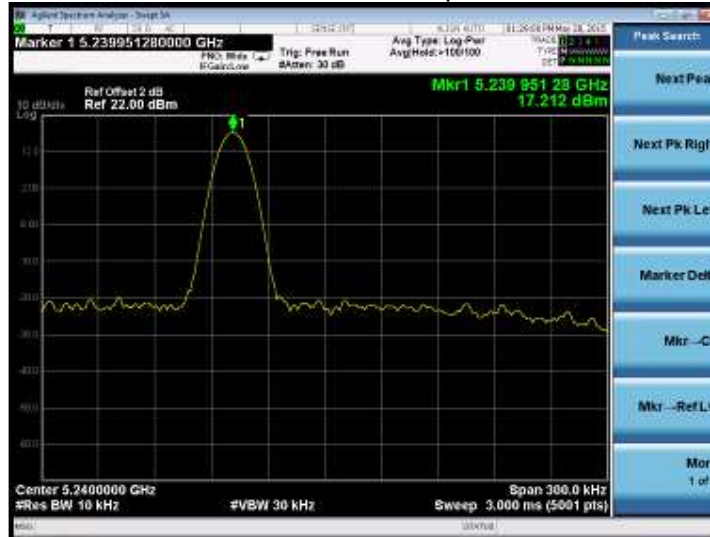
Vnom&Temp40



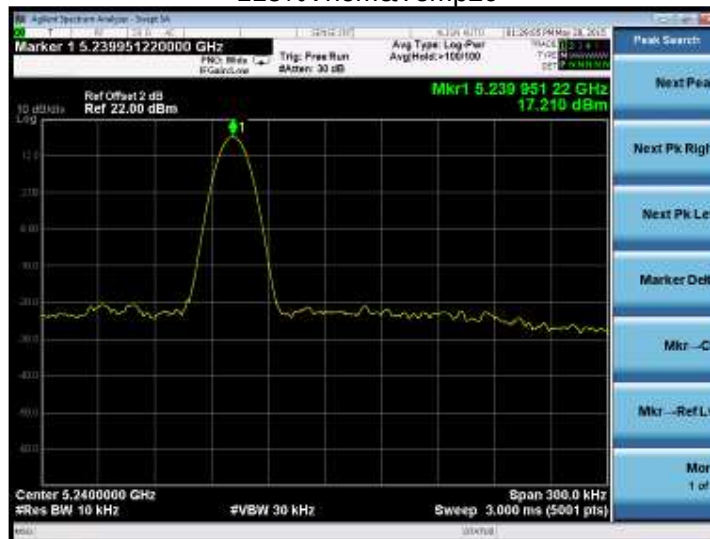
Vnom&Temp50



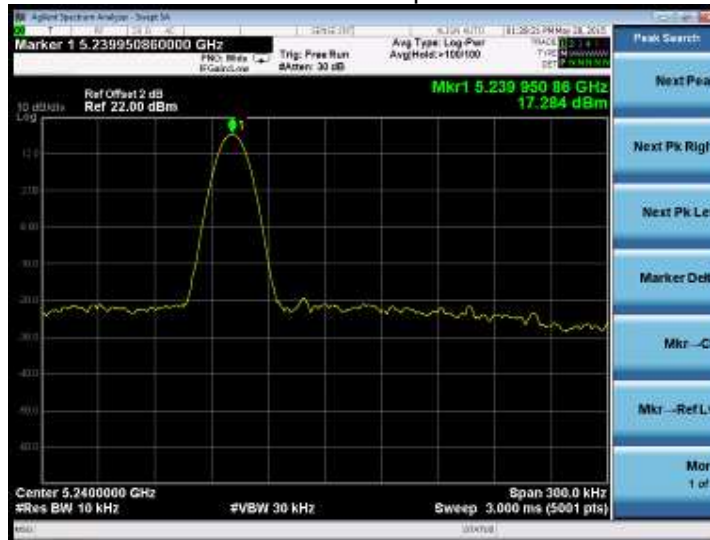
Model: 802.11n-HT20, Operation frequency: 5240MHz
85%Vnom&Temp20



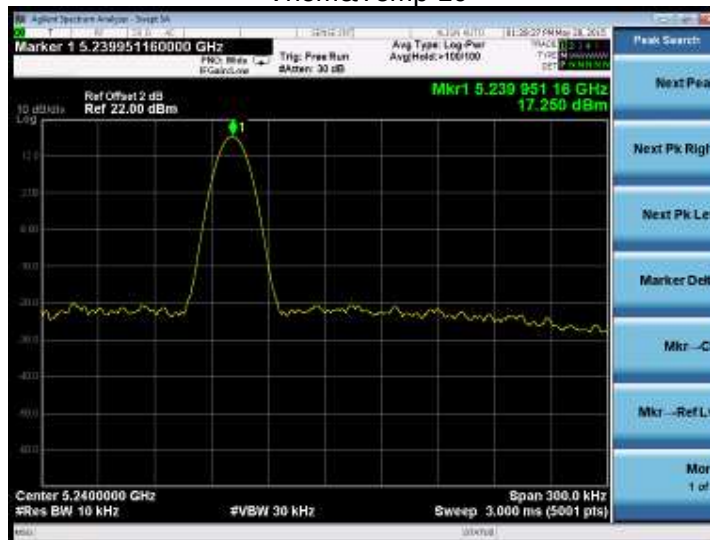
115%Vnom&Temp20



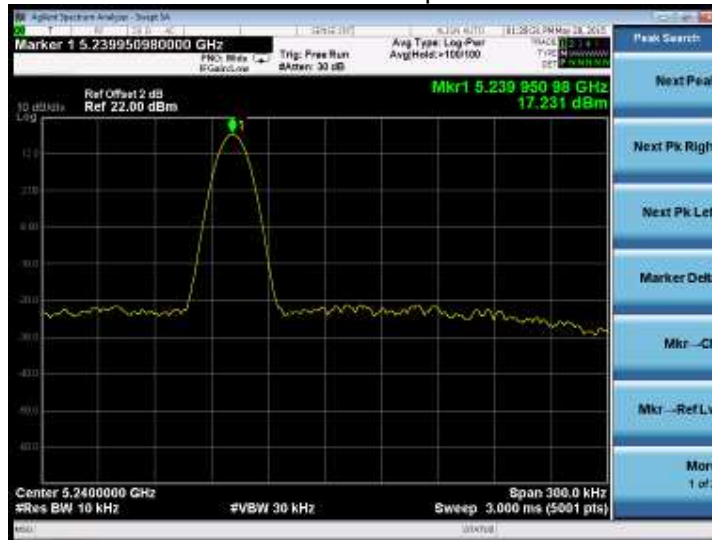
Vnom&Temp-20



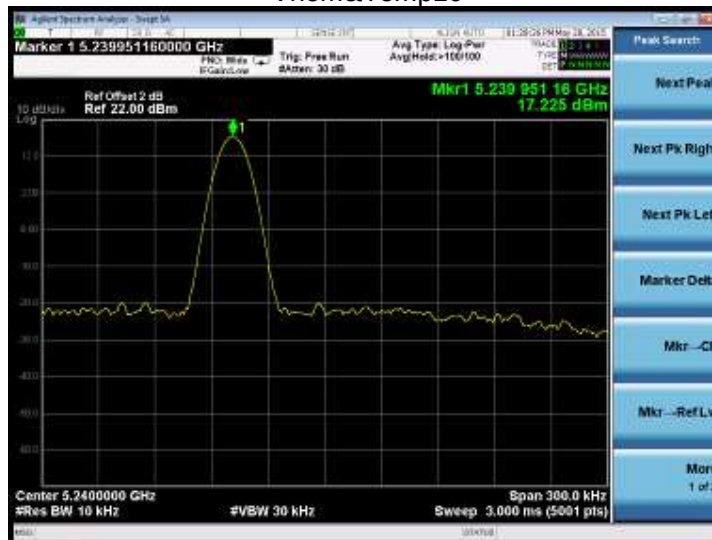
Vnom&Temp-10



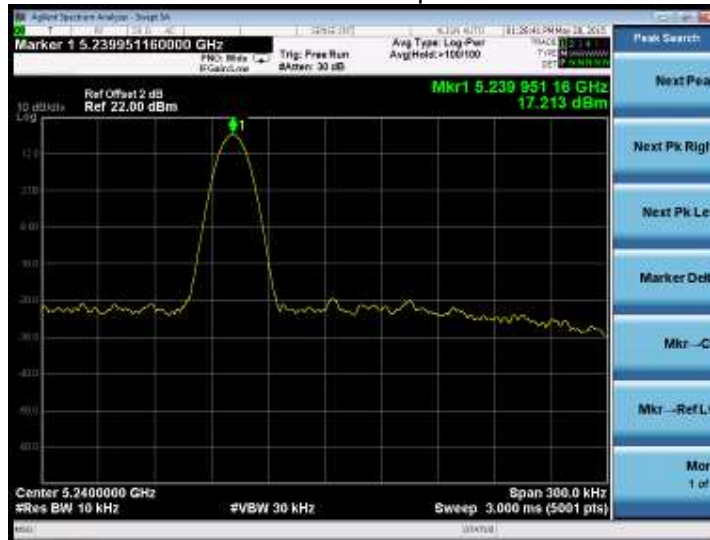
Vnom&Temp0



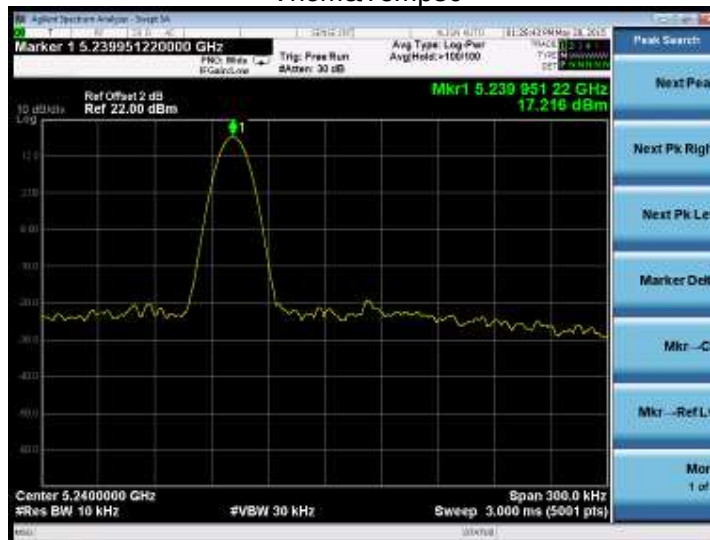
Vnom&Temp10



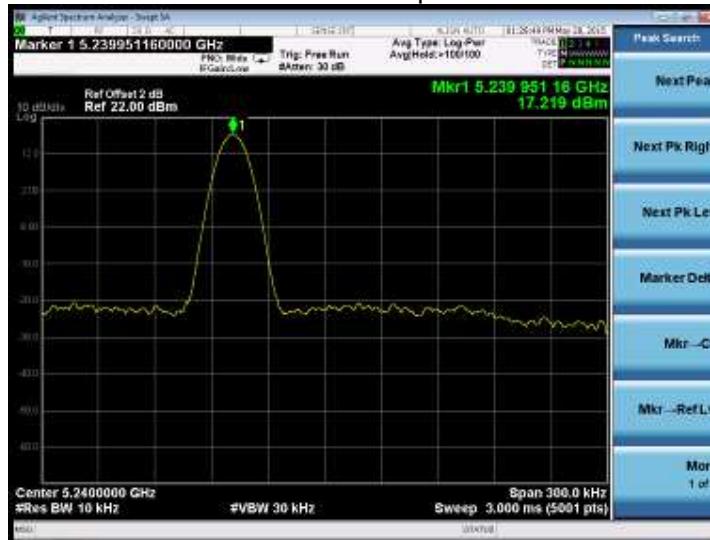
Vnom&Temp20



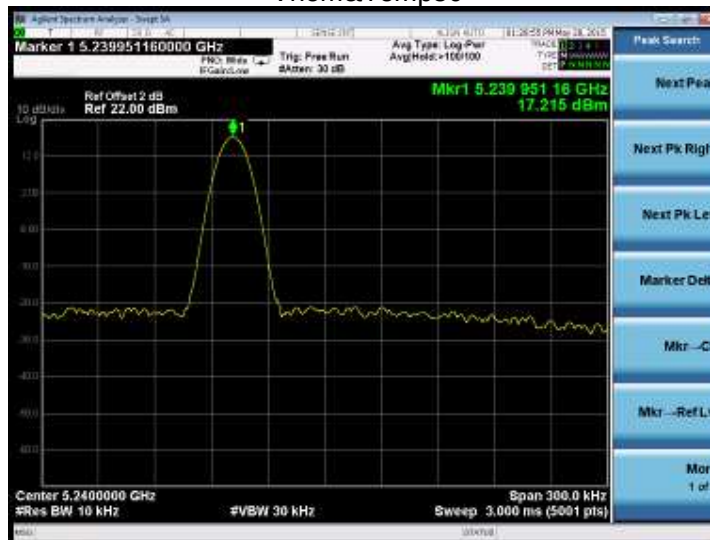
Vnom&Temp30



Vnom&Temp40

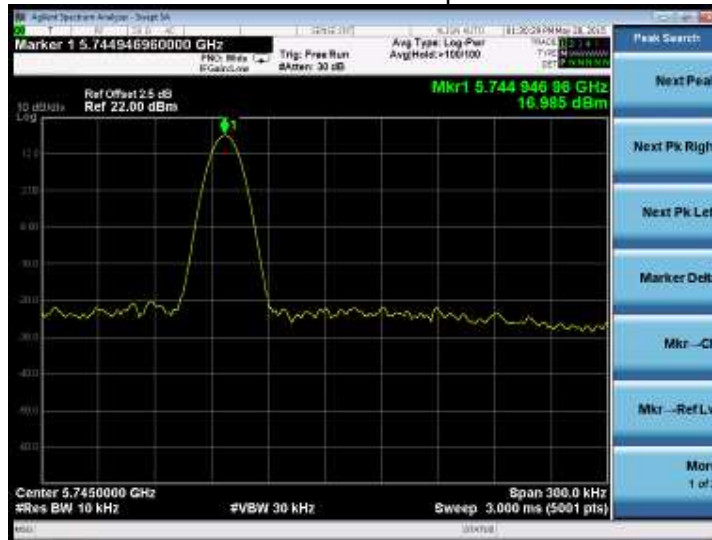


Vnom&Temp50

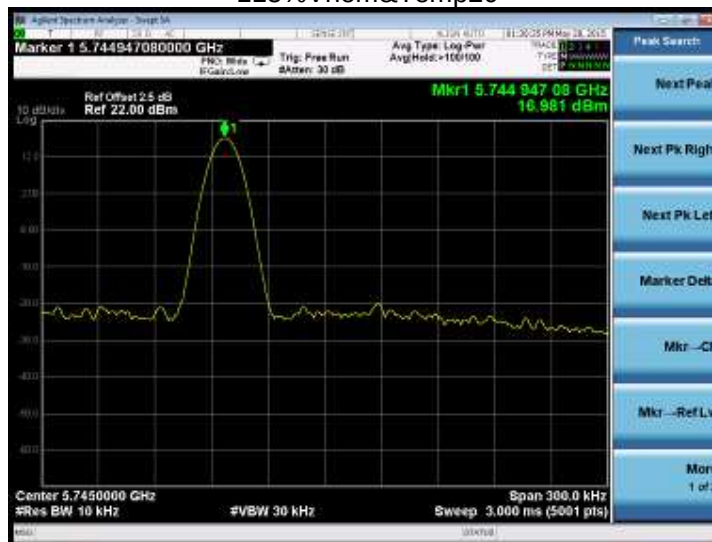


Model: 802.11n-HT20, Operation frequency: 5745MHz

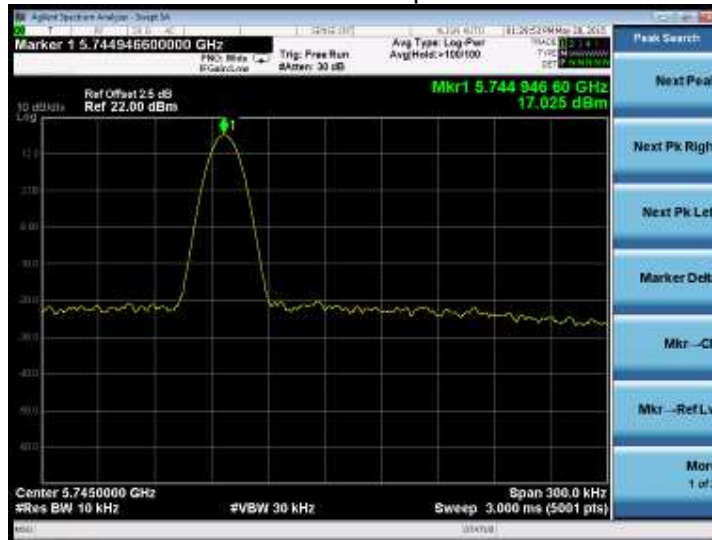
85%Vnom&Temp20



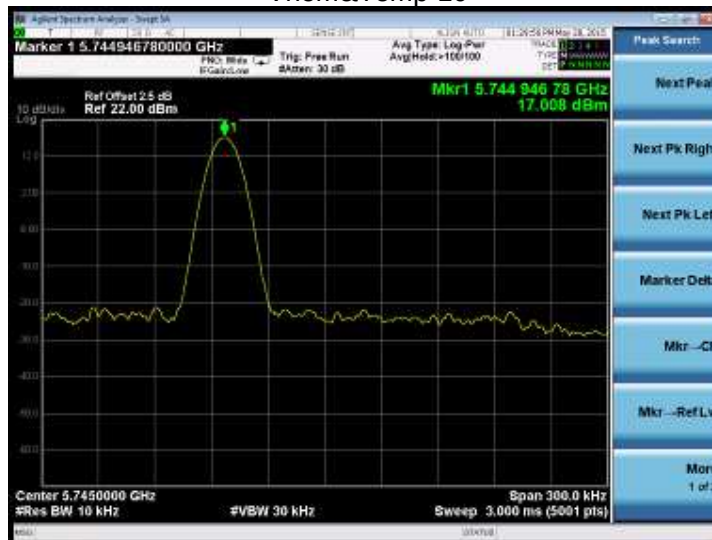
115%Vnom&Temp20



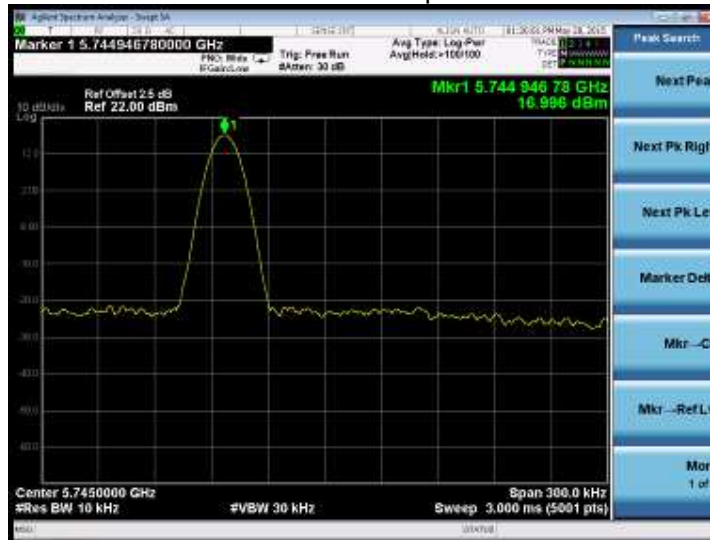
Vnom&Temp-20



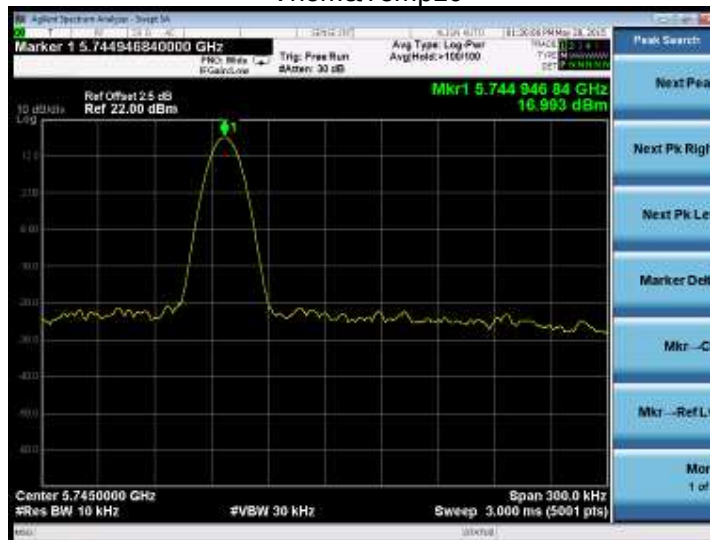
Vnom&Temp-10



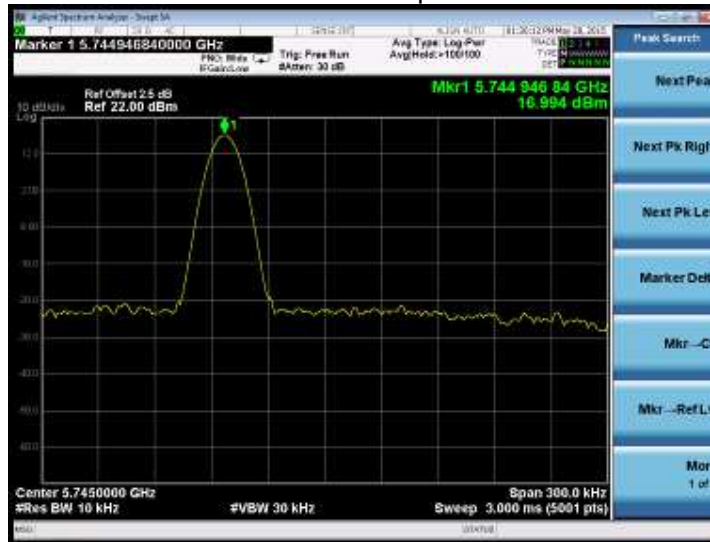
Vnom&Temp0



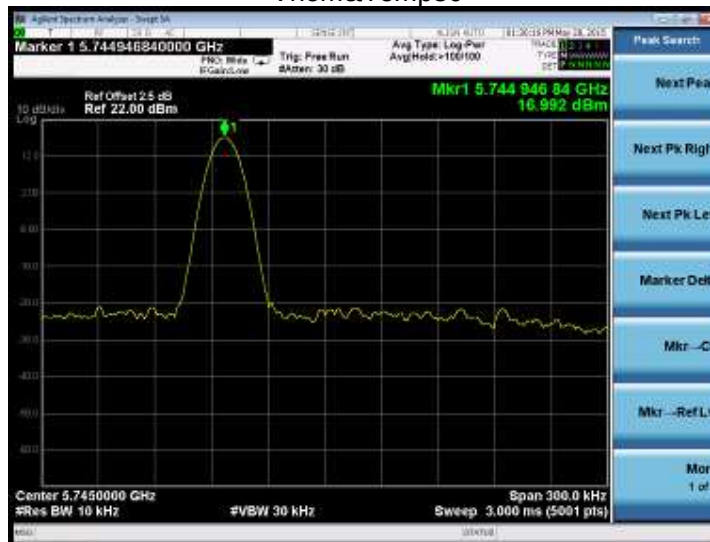
Vnom&Temp10



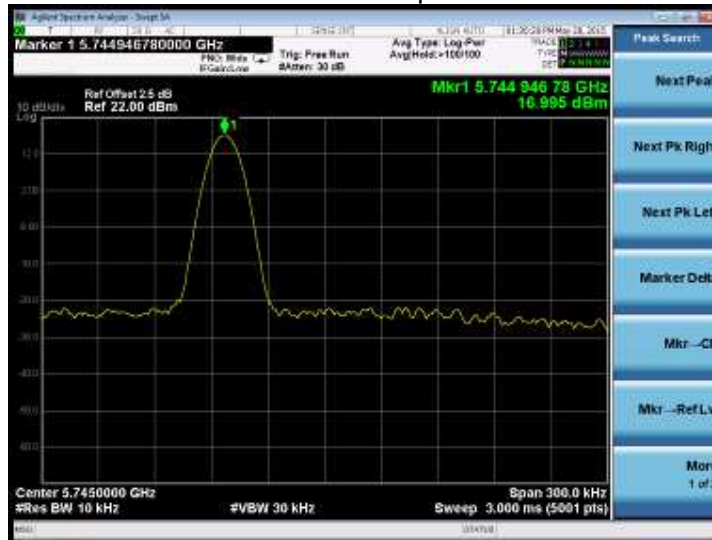
Vnom&Temp20



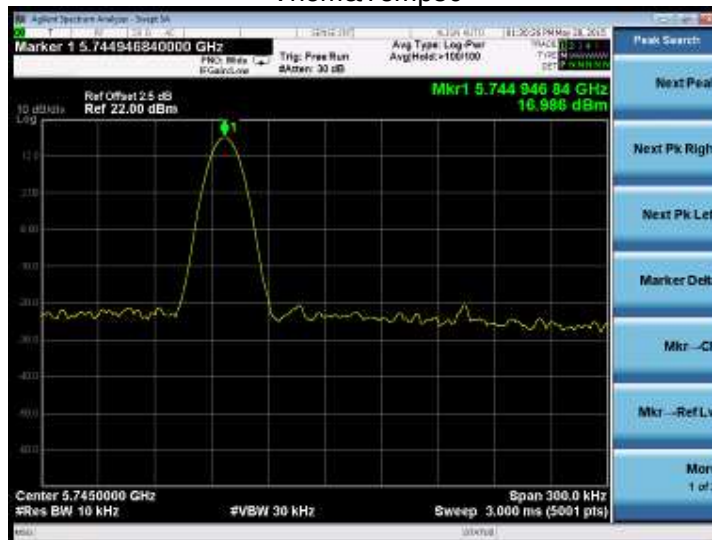
Vnom&Temp30



Vnom&Temp40

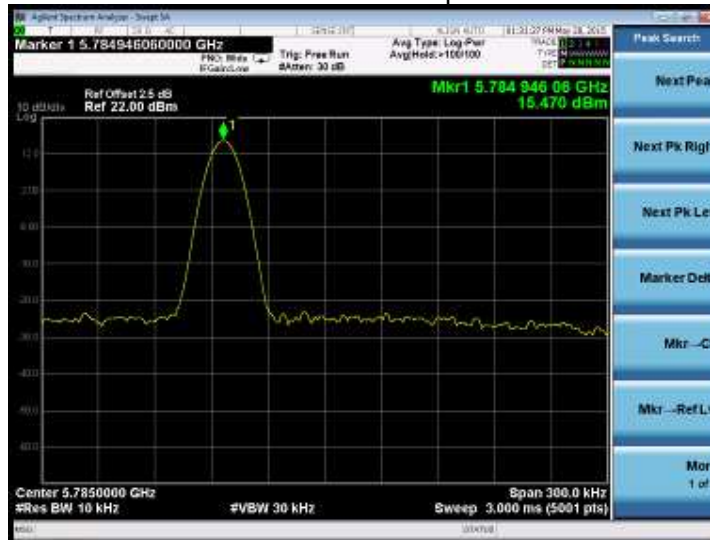


Vnom&Temp50

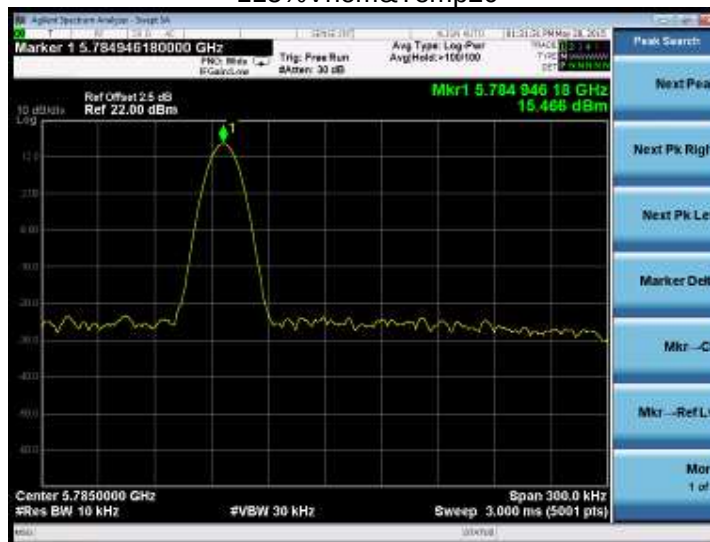


Model: 802.11n-HT20, Operation frequency: 5785MHz

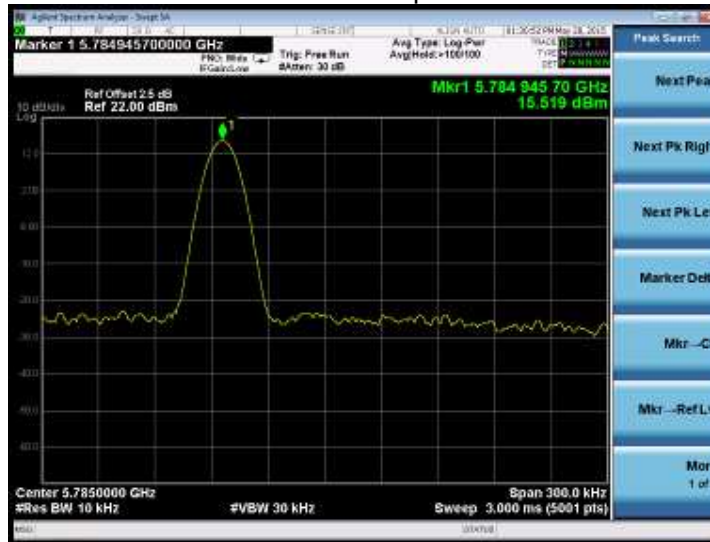
85%Vnom&Temp20



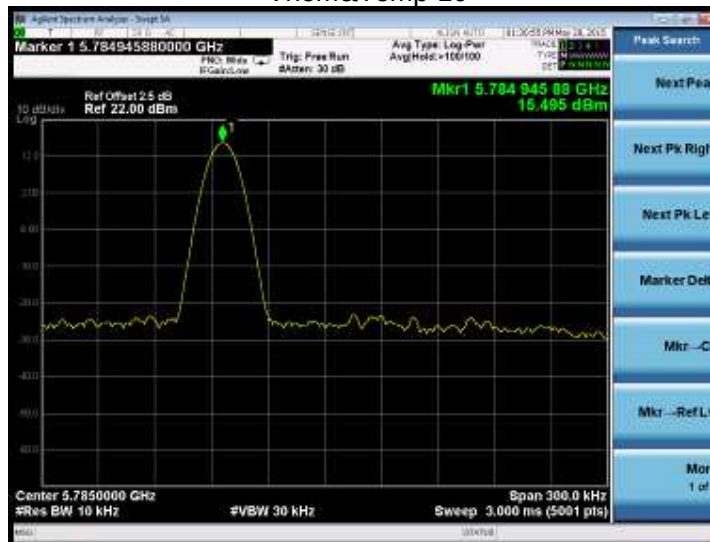
115%Vnom&Temp20



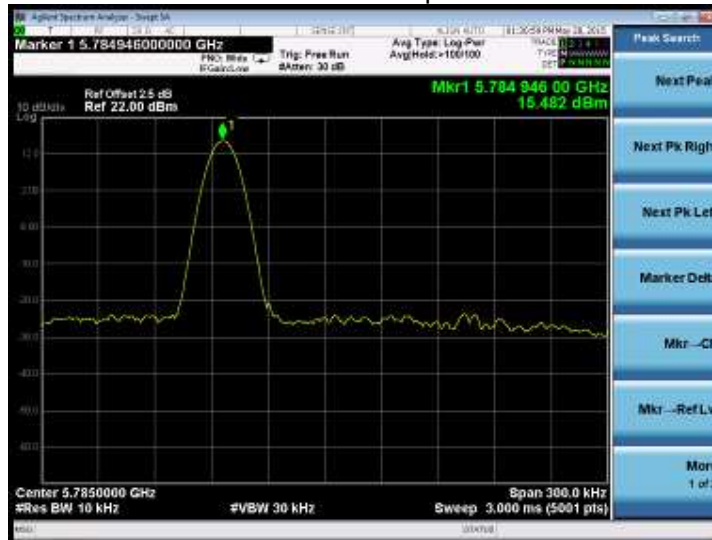
Vnom&Temp-20



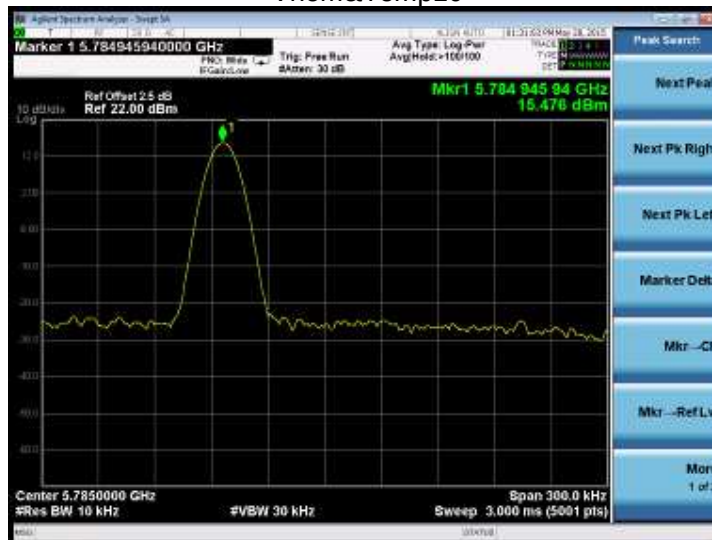
Vnom&Temp-10



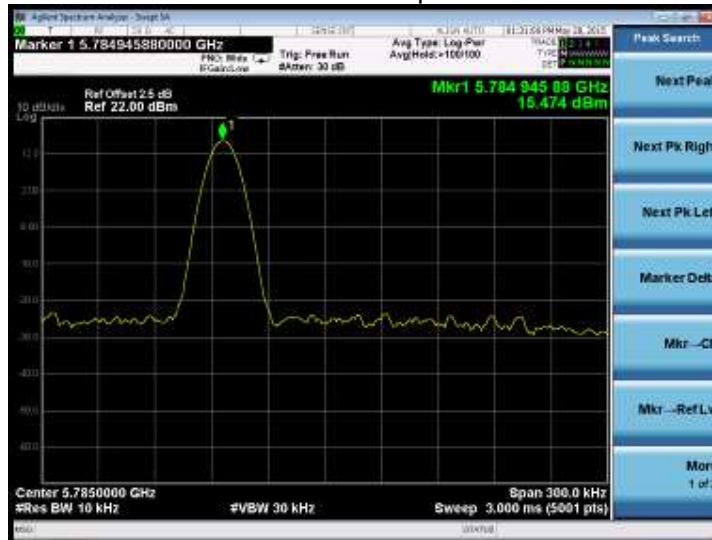
Vnom&Temp0



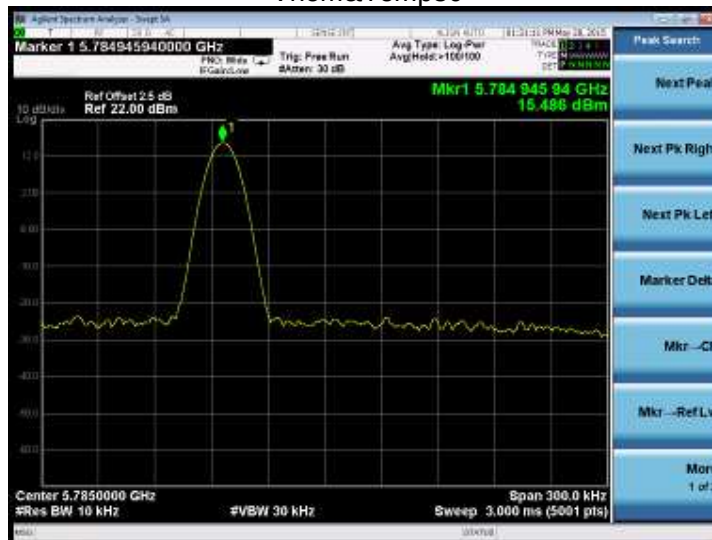
Vnom&Temp10



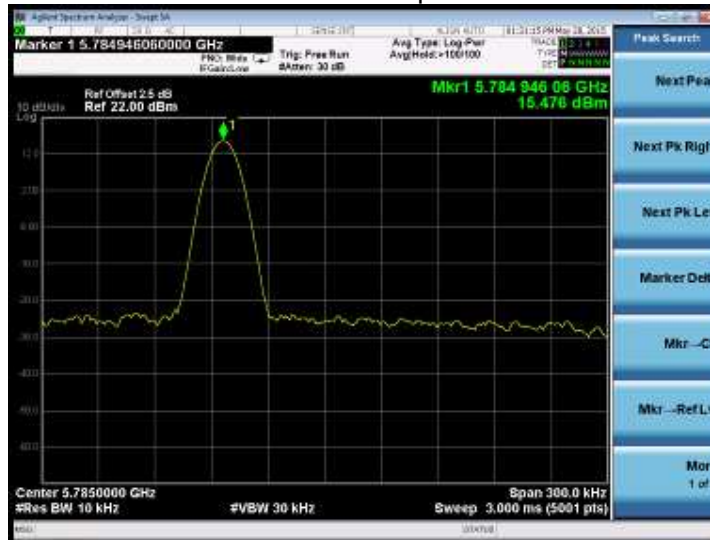
Vnom&Temp20



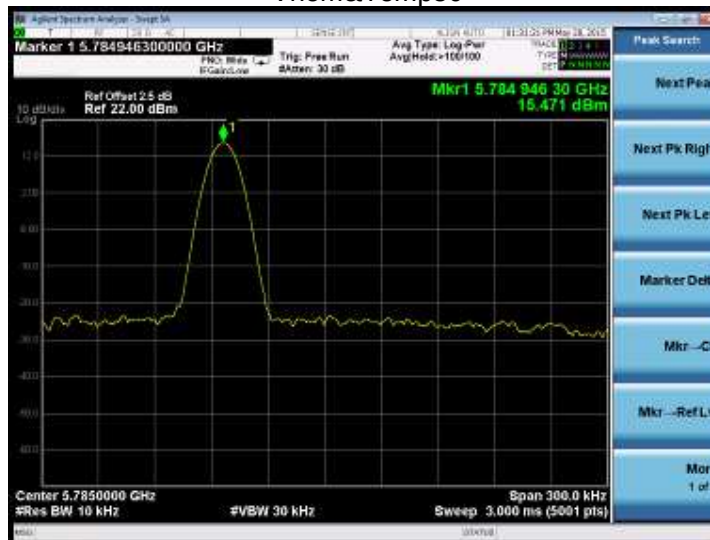
Vnom&Temp30



Vnom&Temp40

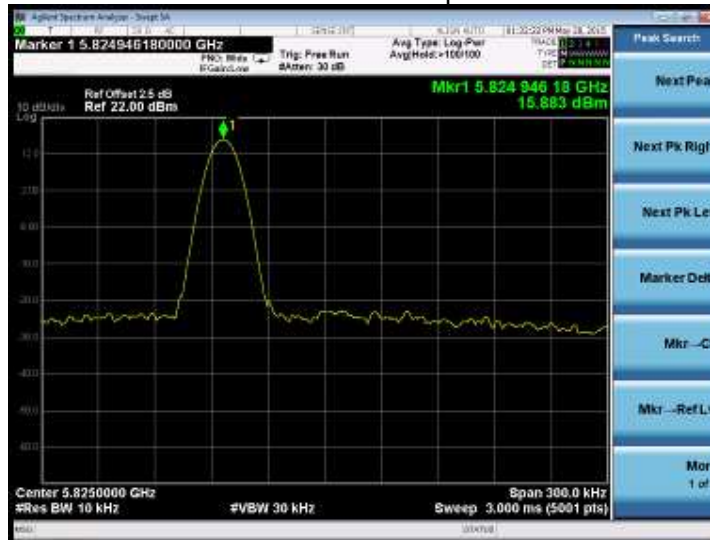


Vnom&Temp50

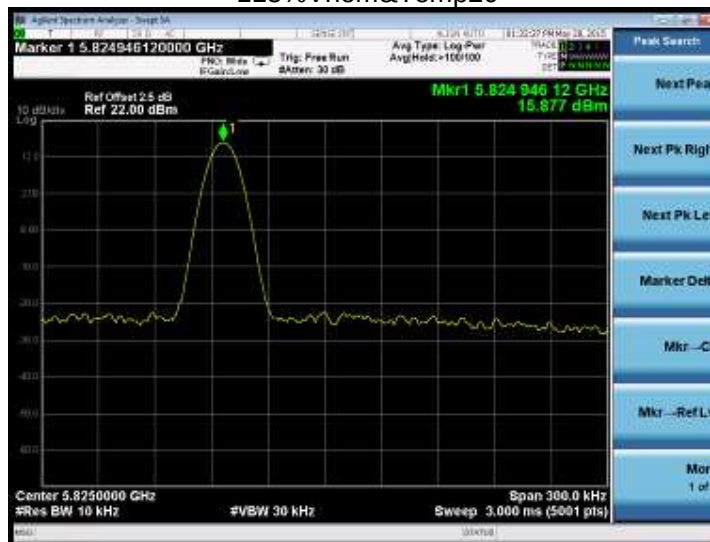


Model: 802.11n-HT20, Operation frequency: 5825MHz

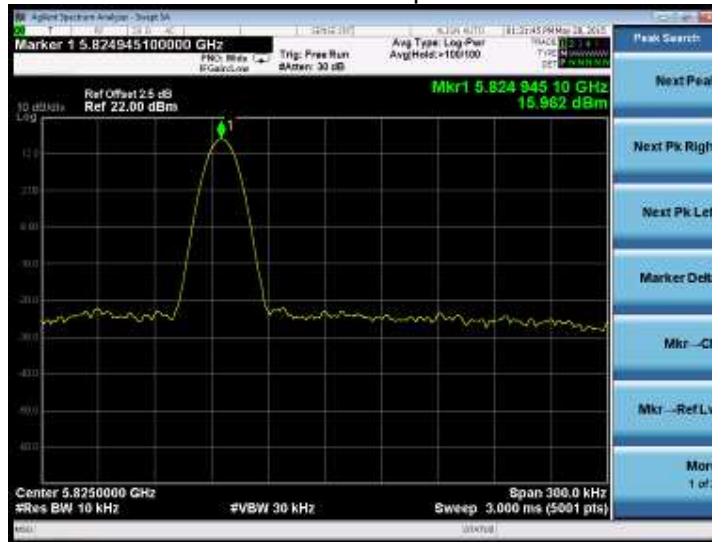
85%Vnom&Temp20



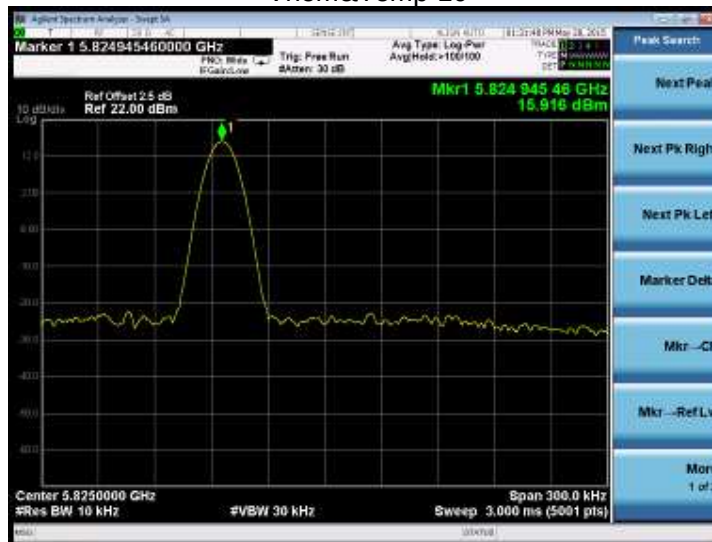
115%Vnom&Temp20



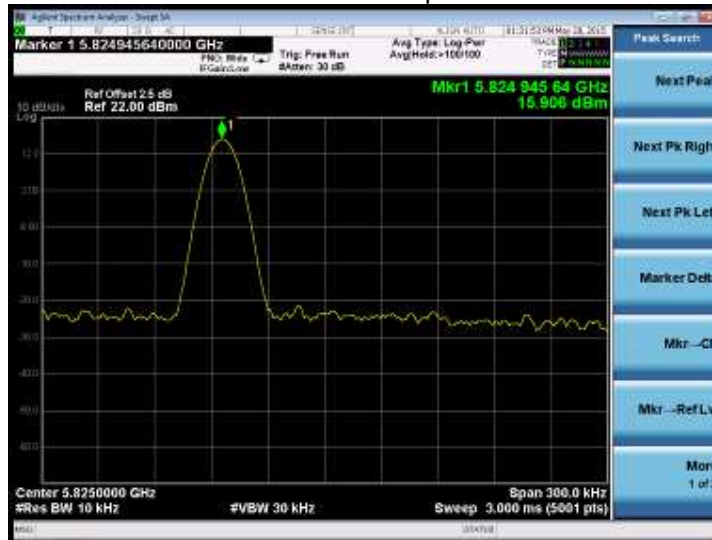
Vnom&Temp-20



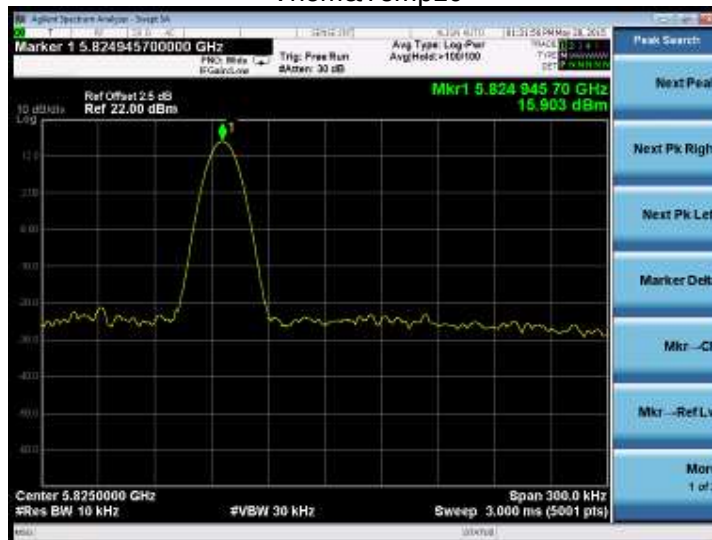
Vnom&Temp-10



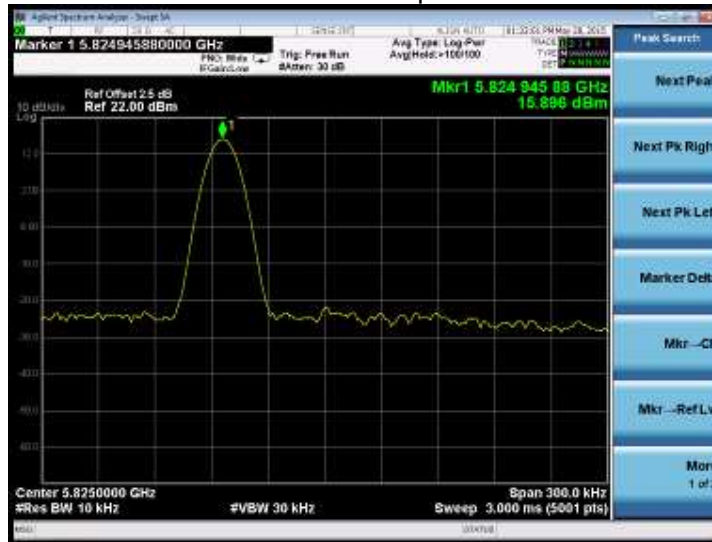
Vnom&Temp0



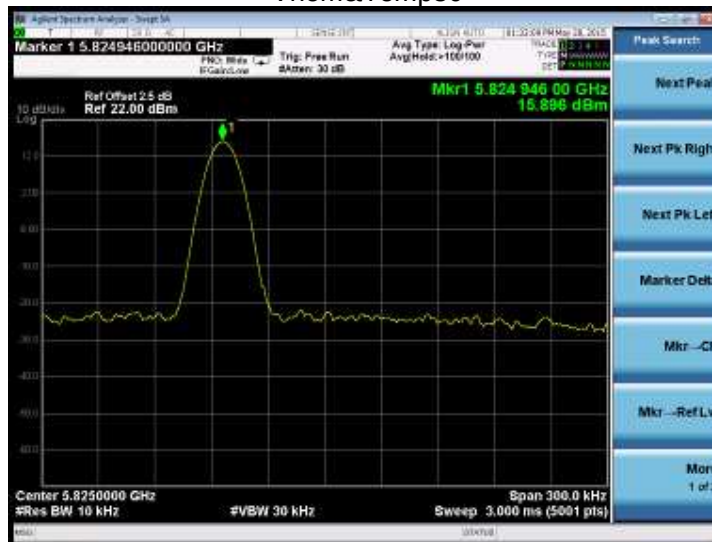
Vnom&Temp10



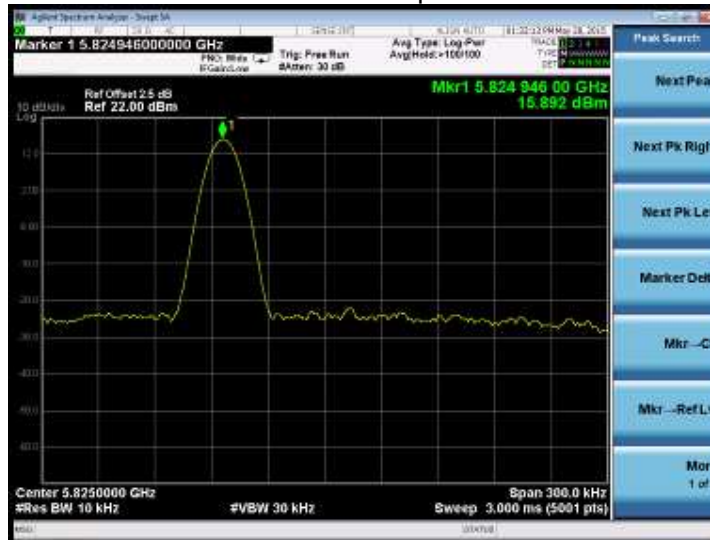
Vnom&Temp20



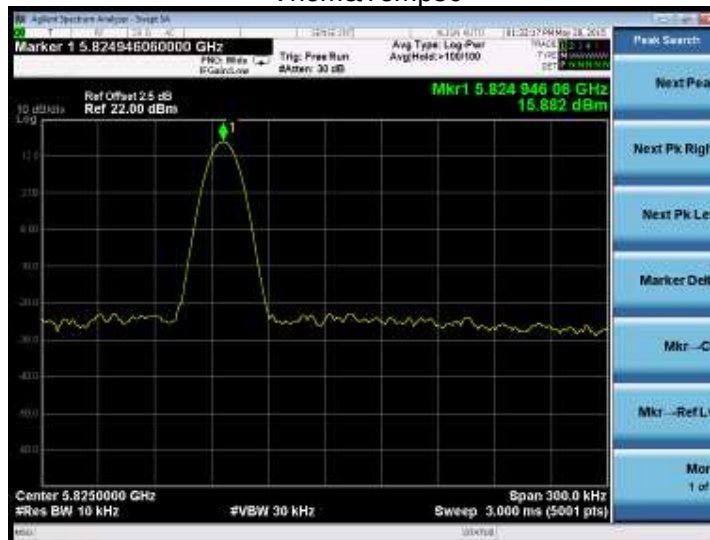
Vnom&Temp30



Vnom&Temp40



Vnom&Temp50



6. Photographs of the Test Set-Up

Photograph 1: Set-up for Conducted Emissions



Photograph 2: Set-up for Spurious Emissions



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