FCC Part 15C Test Report

FCC ID: 2AKHL-ONS1

Product Name:	Onion
Trademark:	N/A
Model Name :	ONS1
Prepared For : Address :	Shenzhen Inpor Cloud Computing CO.,Ltd. 1501, Block B4, Kexing Science Park,15 Keyuan Road, Nanshan, Shenzhen, Guangdong, P.R.China.
Prepared By : Address :	Shenzhen BCTC Technology Co., Ltd. No.101,Yousong Road,Longhua New District, Shenzhen,China
Test Date:	Nov. 04 – Nov. 24, 2016
Date of Report :	Nov. 28, 2016
Report No.:	BCTC-LH160911138-1E

VERIFICATION OF COMPLIANCE

Applicant's name.....	Shenzhen Inpor Cloud Computing CO.,Ltd.
Address	1501, Block B4, Kexing Science Park,15 Keyuan Road, Nanshan, Shenzhen, Guangdong, P.R.China.
Manufacture's Name	Shenzhen Inpor Cloud Computing CO.,Ltd.
Address	1501, Block B4, Kexing Science Park,15 Keyuan Road, Nanshan, Shenzhen, Guangdong, P.R.China.

Product description

Product name..... :	Onion
Trademark ..... :	N/A
Model Name ..... :	ONS1
Test procedure ..... :	FCC Part15.407
Standards	ANSI C63.10-2013 KDB789033 D02 General UNII Test Procedures New Rules v01r02

This device described above has been tested by BCTC, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Test Result **Pass**

Testing Engineer : Eric Yang

Reviewer (Supervisor) : Jade Yang

Authorized Signer(Manager) : Carson Zhang

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1.TEST SUMMARY

Test Items	Test Requirement	Result
Conducted Emissions	15.207	N/A
Radiated Emissions	15.407(b), 15.209	PASS
26dB bandwidth and 99%dB Bandwidth	15.403(i) 15.407(e)	PASS
Power density	15.407 (a)	PASS
Maximum Peak Output Power	15.407 (a)	PASS
Emissions from out of band	15.407 (b)	PASS
Transmission in case of Absence of Information	15.407(c)	PASS
Frequency Stability	15.407(g)	PASS
Antenna Requirement	15.203	PASS

Note: N/A means not applicable.

2.GENERAL PRODUCT INFORMATION

2.1. Product Function

Refer to Technical Construction Form and User Manual.

2.2. Description of Device (EUT)

Product Name:	Onion
Model No.:	ONS1
Trade Name:	N/A
Operation Frequency:	5180-5240, 5745-5825MHz(802.11a/n(HT20)) 5190-5230, 5755-5795MHz(802.11n(HT40))
Channel numbers:	See channel list
Modulation technology:	64QAM, 16QAM, QPSK, BPSK for OFDM
Data speed (IEEE 802.11a):	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps,54Mbps
Data speed (IEEE 802.11n):	Up to 300Mbps
Antenna Type:	Internal antenna
Antenna gain:	2.0dBi
Power supply:	DC 5V from adapter
Adapter:	Model:M050250W111 I/P: AC 100-240V 50/60Hz O/P: DC 5V 2500mA

Channel List for 802.11a/n(20)			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220
40	5200	48	5240

Channel List for 802.11a/n(20)			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	161	5805
153	5765	165	5825
157	5785		

Channel List for 802.11n(40)			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	46	5230

Channel List for 802.11n(40)			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795

2.3. Test Supporting System

None.

2.4. Independent Operation Modes

The basic operation modes are:

These is Digital Transmission system (DTS) and have modulation OFDM, DSSS, DBPSK, DQPSK, CCK, 16QAM, 64QAM. According exploratory test, EUT will have maximum output power in those data rate (802.11a/n20: 6Mbps, (802.11n40: MCS0)), so those data rate were used for all test. The equipment enables high-speed access without wires to network assets. This adapter uses the IEEE 802.11 protocol to enable wireless communications between the host and Wireless rooter.

802.11a/n(20)

Frequency	Band 1	Band 4
Low	5180MHz	5745MHz
Middle	5200MHz	5785MHz
High	5240MHz	5825MHz

802.11n(40)

Frequency	Band 1	Band 4
Low	5190MHz	5755MHz
High	5230MHz	5795MHz

Note: for conducted emission test, we pretest all mode, the worst mode was 802.11a channel 36.
for radiated emissions test, we pretest all mode, the worst mode was 802.11a/n20
The worst mode's data was recording and show in the test report.

2.5. Test Sites

2.5.1. Test Facilities

Lab Qualifications : FCC Registration No.:187086

2.6. List of Test and Measurement Instruments

Conduction test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Test Receiver	R&S	ESCI	1166.5950K03-101165-ha	2016.08.27	2017.08.26
2	LISN	R&S	NSLK8126	8126466	2016.08.27	2017.08.26
3	LISN	R&S	NSLK8126	8126487	2016.08.27	2017.08.26
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2016.08.27	2017.08.26
5	RF cables	R&S	R204	R20X	2016.08.27	2017.08.26

Radiation test, Band-edge test and 6db bandwidth test equipment

Item	Kind of equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Spectrum Analyzer	Agilent	E4407B	MY45108040	2016.08.27	2017.08.26
2	Test Receiver	R&S	ESPI	101318	2016.08.27	2017.08.26
3	Bilog Antenna	R&S	VULB 9168	VULB9168-438	2016.08.27	2017.08.26
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2016.08.27	2017.08.26
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	2016.08.27	2017.08.26
6	Horn Antenna	R&S	HF906	10027	2016.08.29	2017.08.28
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2016.08.29	2017.08.28
8	Amplifier	R&S	BBV9743	9743-019	2016.08.29	2017.08.28
9	Loop Antenna	ARA	PLA-1030/B	1029	2016.08.29	2017.08.28
10	RF cables	R&S	R203	R20X	2016.07.06	2017.07.05
11	Antenna connector	Florida RFLabs	Lab-Fle	RF 01#	2016.08.27	2017.08.26
12	Power Metter	ANRITSU	ML2487A	6K00001568	2016.08.27	2017.08.26
13	Power Sensor (AV)	ANRITSU	ML2491A	030989	2016.08.27	2017.08.26
14	Signal Analyzer	Agilent	N9010A	MY48030494	2016.08.27	2017.08.26
15	966 chamber	ChengYu	966 Room	966	2016.08.27	2017.08.26

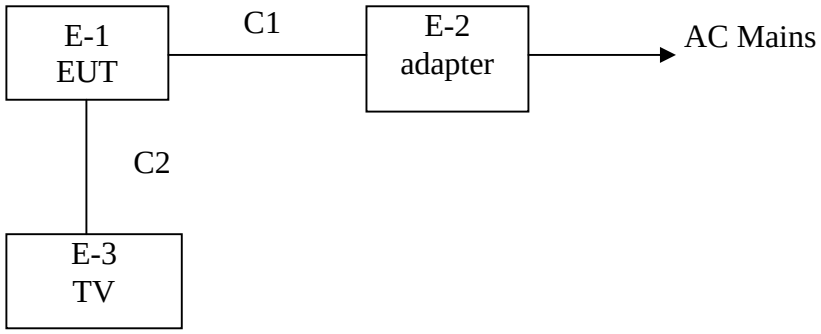
3. TEST SET-UP AND OPERATION MODES

3.1. Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the Operating Instructions.

Block Diagram of Test Set-up

System Diagram of Connections between EUT and Simulators



3.2. DESCRIPTION OF test UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	Onion		ONS1	N/A	EUT
E-2	Adapter		M050250W111	N/A	
E-3	TV	SNOY	NY00214A		

Item	Shielded Type	Ferrite Core	Length	Note
C1	No	No	0.8m	Mini USB
C2	No	No	1.5m	HDMI

Note: For detachable type I/O cable should be specified the length in cm in『Length』column.

3.3. Test Operation Mode and Test Software

None.

3.4. Special Accessories and Auxiliary Equipment

3.5. Countermeasures to Achieve EMC Compliance

None.

4. EMISSION TEST RESULTS

4.1. Conducted Emission Measurement

POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Limit (dBuV)		Standard
	Quasi-peak	Average	
0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

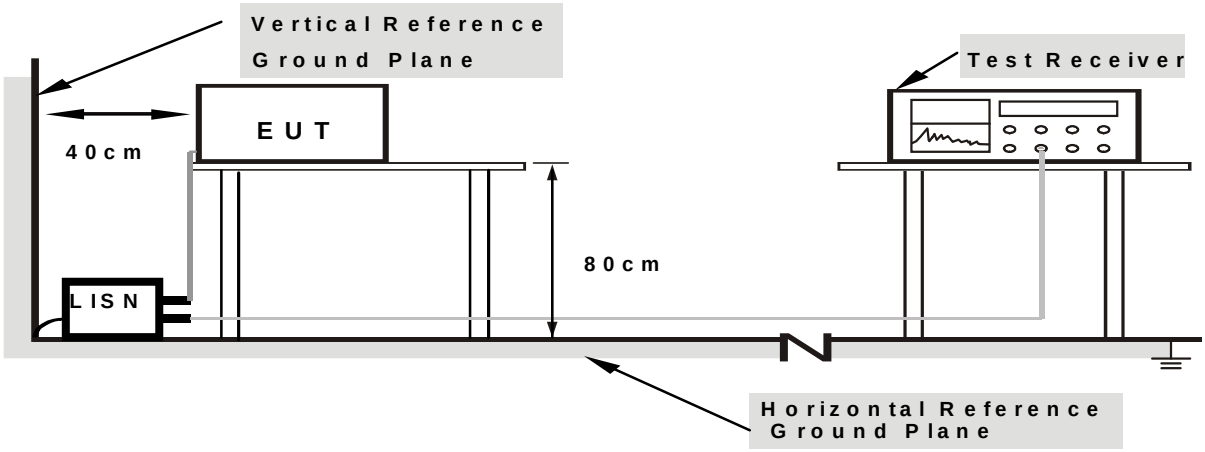
4.1.1. TEST PROCEDURE

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.2. DEVIATION FROM TEST STANDARD

No deviation

4.1.3. TEST SETUP



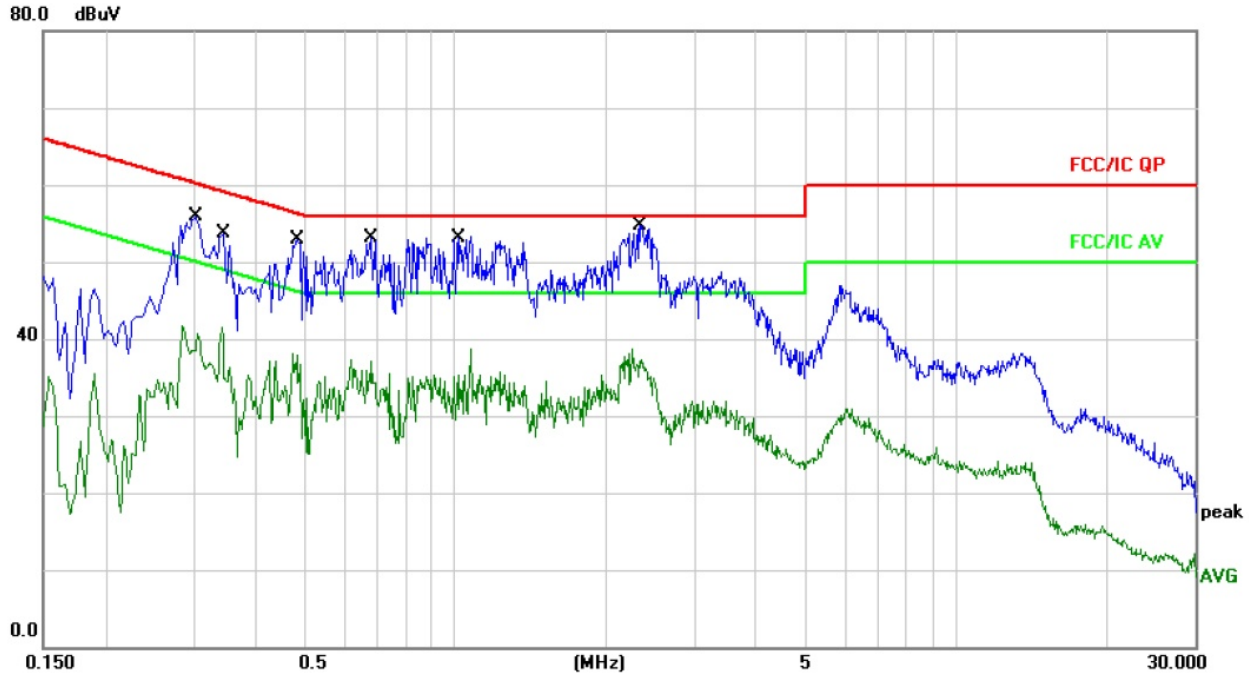
Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

4.1.4. EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it).
The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.
We pretest all adapter's emission, only the adapter 1's data was worst and the data was recording in the report.
The data only show the worst mode.
If peak level comply with Quasi-Peak limit, then the Quasi-Peak level is deemed to comply with Quasi-Peak limit.
We pretest AC 120V and AC 240V, the worst voltage was AC 120V and the data recording in the report.

4.1.5. TEST RESULTS

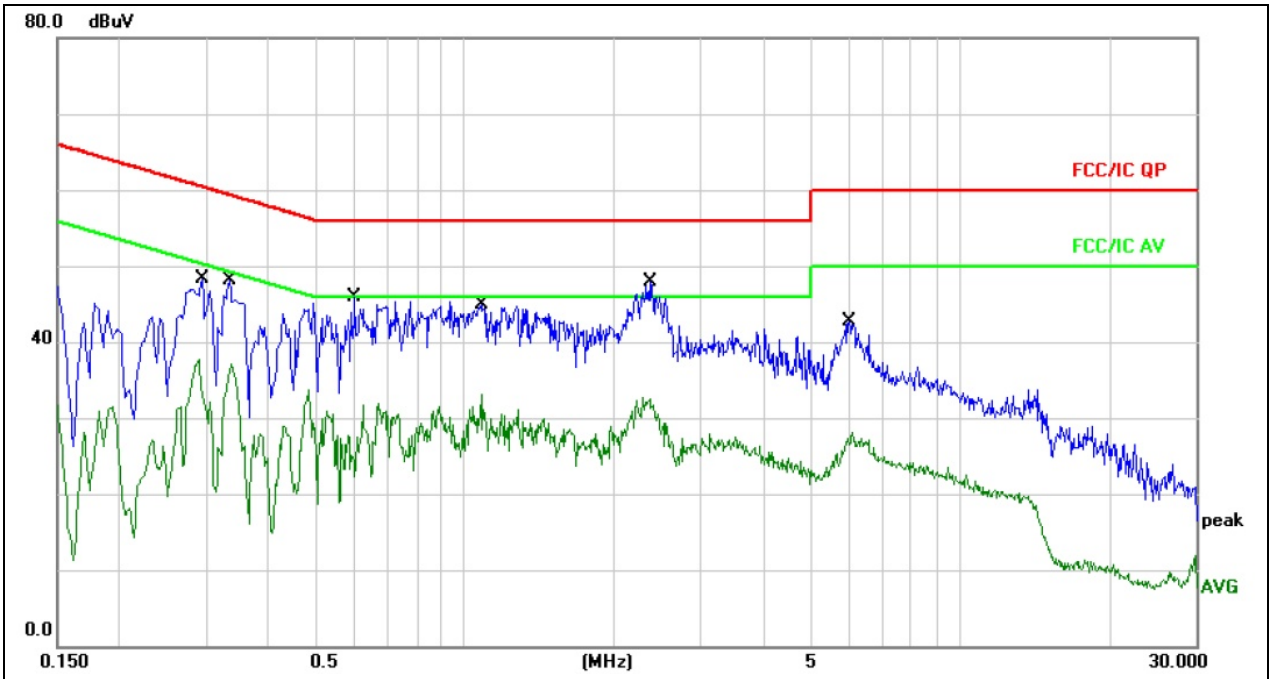
Temperature：	25 ℃	Relative Humidity：	54%
Pressure：	1010hPa	Phase :	L
Test Voltage ：	AC 120V/60Hz	Test Mode：	Mode 5



Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3020	45.73	10.09	55.82	60.19	-4.37	QP	
2		0.3034	29.23	10.09	39.32	50.15	-10.83	AVG	
3		0.3460	43.59	10.10	53.69	59.06	-5.37	QP	
4		0.3460	24.80	10.10	34.90	49.06	-14.16	AVG	
5		0.4820	42.89	10.11	53.00	56.30	-3.30	QP	
6		0.4860	24.25	10.11	34.36	46.24	-11.88	AVG	
7		0.6820	42.98	10.13	53.11	56.00	-2.89	QP	
8		0.6820	27.02	10.13	37.15	46.00	-8.85	AVG	
9		1.0140	42.87	10.17	53.04	56.00	-2.96	QP	
10		1.0180	20.80	10.17	30.97	46.00	-15.03	AVG	
11	*	2.3340	44.60	10.18	54.78	56.00	-1.22	QP	
12		2.3340	26.87	10.18	37.05	46.00	-8.95	AVG	

Temperature：	25 ℃	Relative Humidity：	54%
Pressure：	1010hPa	Phase :	N
Test Voltage ：	AC 120V/60Hz	Test Mode：	Mode 5



Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.2940	38.21	10.09	48.30	60.41	-12.11	QP	
2		0.2940	22.58	10.09	32.67	50.41	-17.74	AVG	
3		0.3339	37.93	10.10	48.03	59.35	-11.32	QP	
4		0.3379	27.08	10.10	37.18	49.25	-12.07	AVG	
5		0.5980	35.69	10.12	45.81	56.00	-10.19	QP	
6		0.5980	12.27	10.12	22.39	46.00	-23.61	AVG	
7		1.0740	20.17	10.17	30.34	46.00	-15.66	AVG	
8		1.0780	34.80	10.17	44.97	56.00	-11.03	QP	
9	*	2.3699	37.67	10.18	47.85	56.00	-8.15	QP	
10		2.3940	21.41	10.18	31.59	46.00	-14.41	AVG	
11		5.9899	32.68	10.09	42.77	60.00	-17.23	QP	
12		5.9899	16.40	10.09	26.49	50.00	-23.51	AVG	

4.2. Radiated Emission Measurement

4.2.1. Radiated Emission Limits (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Class B (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5th harmonic of the highest frequency or 40 GHz, whichever is lower

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

4.2.2. TEST PROCEDURE

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 meter to 1.5 meter.
h Test the EUT in the lowest channel ,the middle channel ,the Highest channel

Note:

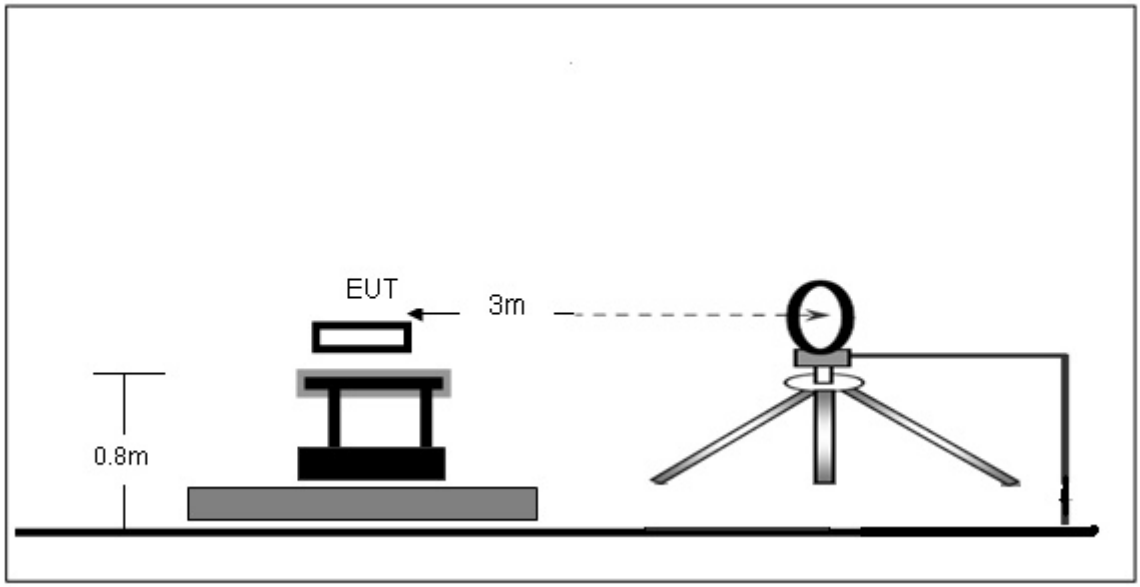
Both horizontal and vertical antenna polarities were tested
and performed pretest to three orthogonal axis. The worst case emissions were reported

4.2.3. DEVIATION FROM TEST STANDARD

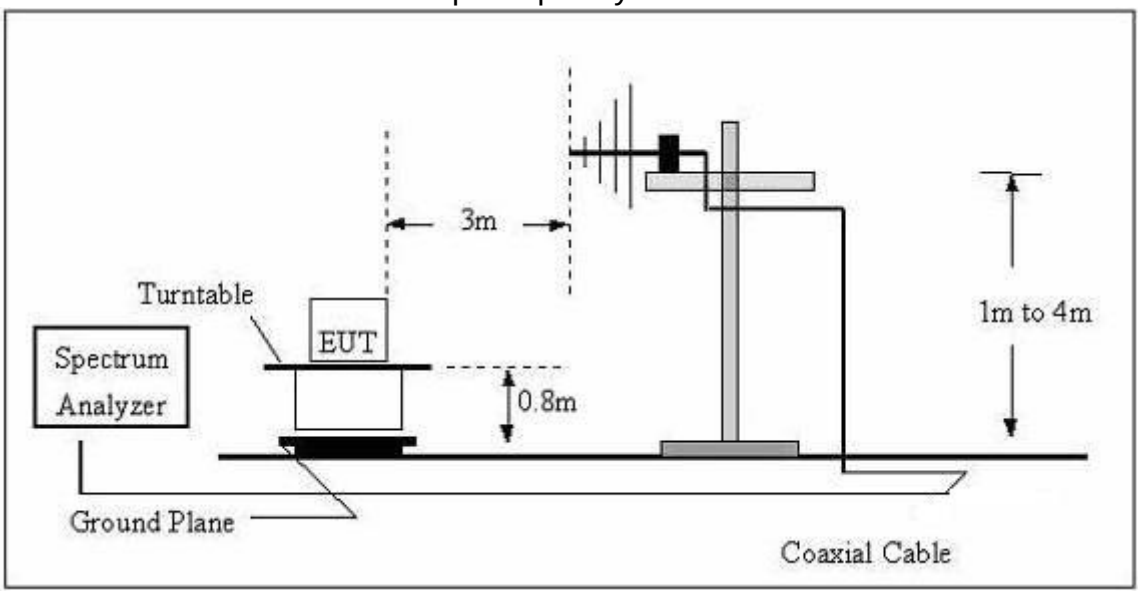
No deviation

4.2.4. TEST SETUP

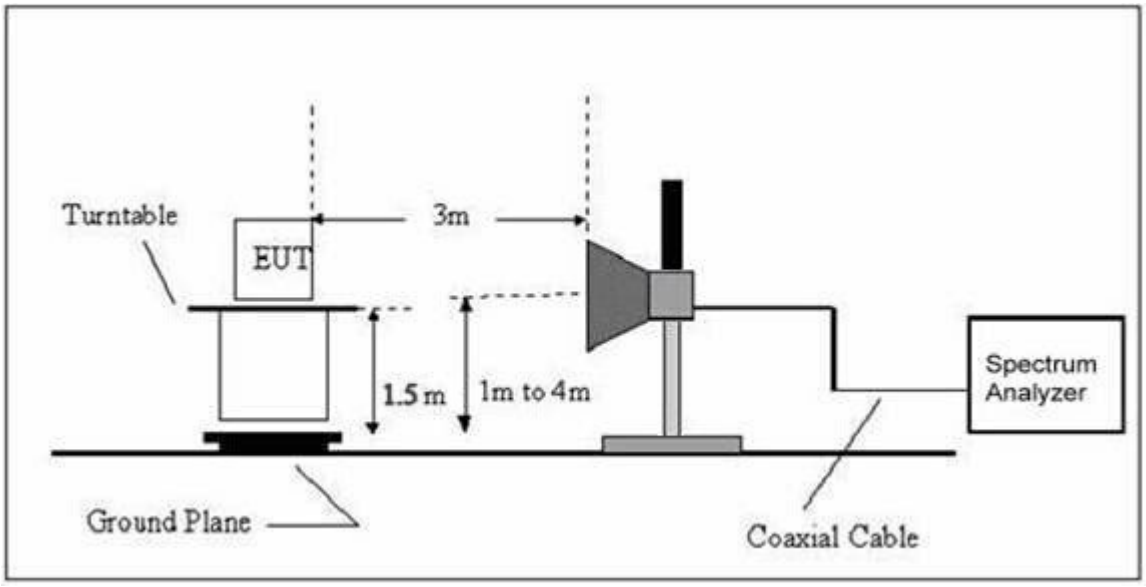
（A）Radiated Emission Test-Up Frequency Below 30MHz



（B）Radiated Emission Test-Up Frequency 30MHz~1GHz



（C）Radiated Emission Test-Up Frequency Above 1GHz



4.2.5. EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

We pretest all adapter's emission, only the adapter 1's data was worst and the data was recording in the report.

The data only show the worst mode.

Radiated Spurious Emission (Below 30MHz)

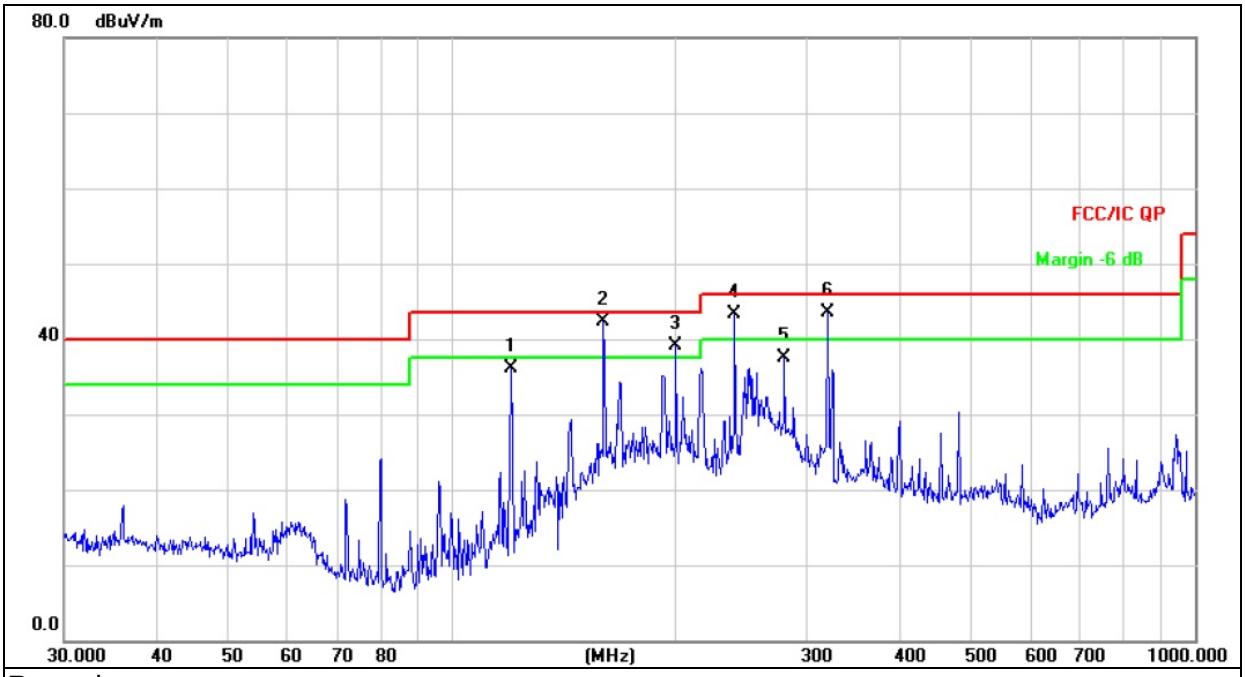
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Polarization：	---
Test Voltage ：	DC 5V from adapter		
Test Mode ：	TX		

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	PASS
--	--	--	--	PASS

Note:
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
Distance extrapolation factor =40 log (specific distance/test distance)(dB);
Limit line = specific limits(dBuv) + distance extrapolation factor.

Radiated Spurious Emission (Between 30MHz – 1GHz)

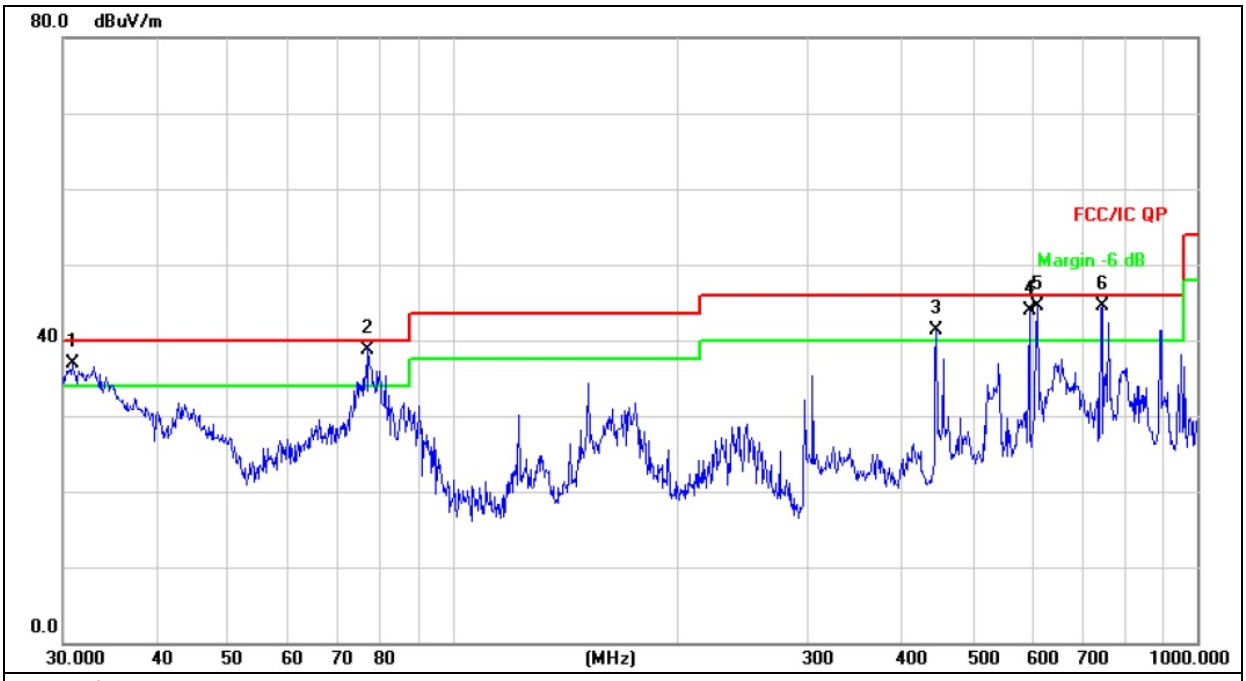
Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	1010 hPa	Polarization：	Horizontal
Test Voltage ：	DC 5V from adapter		
Test Mode ： (Worst)	Link Mode		



Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
All interfaces was connected, and BT TX mode was link.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		119.8555	50.81	-14.72	36.09	43.50	-7.41	QP
2	*	159.7844	55.09	-12.87	42.22	43.50	-1.28	QP
3	!	199.9856	55.24	-16.20	39.04	43.50	-4.46	QP
4	!	239.9874	57.87	-14.49	43.38	46.00	-2.62	QP
5		280.0237	50.54	-13.10	37.44	46.00	-8.56	QP
6	!	319.9370	55.58	-12.06	43.52	46.00	-2.48	QP

Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	1010 hPa	Polarization：	Vertical
Test Voltage ：	DC 5V from adapter		
Test Mode ： (Worst)	Link Mode		



Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
All interfaces was connected, and BT TX mode was link.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	!	30.8535	45.14	-8.14	37.00	40.00	-3.00	QP
2	*	77.0504	55.68	-17.05	38.63	40.00	-1.37	QP
3	!	446.4141	50.40	-9.08	41.32	46.00	-4.68	QP
4	!	595.1327	49.70	-5.83	43.87	46.00	-2.13	QP
5	!	609.9215	50.10	-5.61	44.49	46.00	-1.51	QP
6	!	744.8660	47.74	-3.22	44.52	46.00	-1.48	QP

Radiated Spurious Emission (Above 1GHz)

802.11a band 1									
Polar (H/V)	Freq.	Meter Reading	Pre-amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
operation frequency:5180									
V	10360.00	63.85	36.12	6.48	27.64	61.85	74	-12.15	PK
V	10360.00	51.81	36.12	6.48	27.64	49.81	54	-4.19	AV
V	15540.00	59.49	35.67	6.75	27.97	58.54	74	-15.46	PK
V	15540.00	48.78	35.67	6.75	27.97	47.83	54	-6.17	AV
H	10360.00	63.70	36.12	6.48	27.64	61.70	74	-12.30	PK
H	10360.00	51.63	36.12	6.48	27.64	49.63	54	-4.37	AV
H	15540.00	58.91	35.67	6.75	27.97	57.96	74	-16.04	PK
H	15540.00	48.99	35.67	6.75	27.97	48.04	54	-5.96	AV
operation frequency:5200									
V	10400.00	63.55	36.12	6.48	27.64	61.55	74	-12.45	PK
V	10400.00	51.55	36.12	6.48	27.64	49.55	54	-4.45	AV
V	15600.00	59.05	35.67	6.75	27.97	58.10	74	-15.90	PK
V	15600.00	63.57	35.67	6.75	27.97	62.62	54	8.62	AV
H	10400.00	51.34	36.12	6.48	27.64	49.34	74	-24.66	PK
H	10400.00	48.53	36.12	6.48	27.64	46.53	54	-7.47	AV
H	15600.00	58.80	35.67	6.75	27.97	57.85	74	-16.15	PK
H	15600.00	47.85	35.67	6.75	27.97	46.90	54	-7.10	AV
operation frequency:5240									
V	10480.00	63.73	36.21	6.53	27.72	61.77	74	-12.23	PK
V	10480.00	51.37	36.21	6.53	27.72	49.41	54	-4.59	AV
V	15720.00	59.04	35.67	6.82	28.16	58.35	74	-15.65	PK
V	15720.00	47.86	35.67	6.82	28.16	47.17	54	-6.83	AV
H	10480.00	63.74	36.12	6.48	27.64	61.74	74	-12.26	PK
H	10480.00	51.18	36.12	6.48	27.64	49.18	54	-4.82	AV
H	15720.00	59.08	35.71	6.81	28.11	58.29	74	-15.71	PK
H	15720.00	48.01	35.71	6.81	28.11	47.22	54	-6.78	AV

Remark:
1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

802.11a band 4									
Polar (H/V)	Freq.	Meter Reading	Pre-amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
operation frequency:5745									
V	11490.00	62.87	36.18	6.52	27.69	60.90	74	-13.10	PK
V	11490.00	50.83	36.18	6.52	27.69	48.86	54	-5.14	AV
V	17235.00	58.54	35.82	6.93	28.36	58.01	74	-15.99	PK
V	17235.00	47.77	35.82	6.93	28.36	47.24	54	-6.76	AV
H	11490.00	63.53	36.18	6.52	27.69	61.56	74	-12.44	PK
H	11490.00	51.66	36.18	6.52	27.69	49.69	54	-4.31	AV
H	17235.00	58.78	35.82	6.93	28.36	58.25	74	-15.75	PK
H	17235.00	47.97	35.82	6.93	28.36	47.44	54	-6.56	AV
operation frequency:5785									
V	11570.00	63.54	36.21	6.59	27.73	61.65	74	-12.35	PK
V	11570.00	51.07	36.21	6.59	27.73	49.18	54	-4.82	AV
V	17355.00	58.14	35.89	6.72	28.42	57.39	74	-16.61	PK
V	17355.00	48.54	35.89	6.72	28.42	47.79	54	-6.21	AV
H	11570.00	63.47	36.21	6.59	27.73	61.58	74	-12.42	PK
H	11570.00	50.85	36.21	6.59	27.73	48.96	54	-5.04	AV
H	17355.00	59.03	35.89	6.72	28.42	58.28	74	-15.72	PK
H	17355.00	47.59	35.89	6.72	28.42	46.84	54	-7.16	AV
operation frequency:5825									
V	11650.00	63.13	36.28	6.65	27.81	61.31	74	-12.69	PK
V	11650.00	50.06	36.28	6.65	27.81	48.24	54	-5.76	AV
V	17475.00	59.79	35.92	6.78	28.50	59.15	74	-14.85	PK
V	17475.00	48.02	35.92	6.78	28.50	47.38	54	-6.62	AV
H	11650.00	63.43	36.28	6.65	27.81	61.61	74	-12.39	PK
H	11650.00	51.93	36.28	6.65	27.81	50.11	54	-3.89	AV
H	17475.00	59.23	35.92	6.78	28.50	58.59	74	-15.41	PK
H	17475.00	48.26	35.92	6.78	28.50	47.62	54	-6.38	AV

Remark:
1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

802.11n20 band 1									
Polar (H/V)	Freq. (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
operation frequency:5180									
V	10360.00	62.84	36.12	6.48	27.64	60.84	74	-13.16	PK
V	10360.00	51.80	36.12	6.48	27.64	49.80	54	-4.20	AV
V	15540.00	59.48	35.67	6.75	27.97	58.53	74	-15.47	PK
V	15540.00	48.77	35.67	6.75	27.97	47.82	54	-6.18	AV
H	10360.00	63.68	36.12	6.48	27.64	61.68	74	-12.32	PK
H	10360.00	51.62	36.12	6.48	27.64	49.62	54	-4.38	AV
H	15540.00	58.89	35.67	6.75	27.97	57.94	74	-16.06	PK
H	15540.00	48.98	35.67	6.75	27.97	48.03	54	-5.97	AV
operation frequency:5200									
V	10400.00	63.53	36.12	6.48	27.64	61.53	74	-12.47	PK
V	10400.00	51.54	36.12	6.48	27.64	49.54	54	-4.46	AV
V	15600.00	59.03	35.67	6.75	27.97	58.08	74	-15.92	PK
V	15600.00	47.55	35.67	6.75	27.97	46.60	54	-7.40	AV
H	10400.00	63.34	36.12	6.48	27.64	61.34	74	-12.66	PK
H	10400.00	51.52	36.12	6.48	27.64	49.52	54	-4.48	AV
H	15600.00	58.79	35.67	6.75	27.97	57.84	74	-16.16	PK
H	15600.00	47.84	35.67	6.75	27.97	46.89	54	-7.11	AV
operation frequency:5240									
V	10480.00	63.72	36.21	6.53	27.72	61.76	74	-12.24	PK
V	10480.00	51.36	36.21	6.53	27.72	49.40	54	-4.60	AV
V	15720.00	59.02	35.67	6.82	28.16	58.33	74	-15.67	PK
V	15720.00	47.85	35.67	6.82	28.16	47.16	54	-6.84	AV
H	10480.00	62.72	36.12	6.48	27.64	60.72	74	-13.28	PK
H	10480.00	51.17	36.12	6.48	27.64	49.17	54	-4.83	AV
H	15720.00	59.07	35.71	6.81	28.11	58.28	74	-15.72	PK
H	15720.00	48.00	35.71	6.81	28.11	47.21	54	-6.79	AV

Remark:
1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

802.11n20 band 4									
Polar (H/V)	Freq.	Meter Reading	Pre-amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
operation frequency:5745									
V	11490.00	63.02	36.18	6.52	27.69	61.05	74	-12.95	PK
V	11490.00	50.96	36.18	6.52	27.69	48.99	54	-5.01	AV
V	17235.00	58.70	35.82	6.93	28.36	58.17	74	-15.83	PK
V	17235.00	47.90	35.82	6.93	28.36	47.37	54	-6.63	AV
H	11490.00	62.68	36.18	6.52	27.69	60.71	74	-13.29	PK
H	11490.00	50.79	36.18	6.52	27.69	48.82	54	-5.18	AV
H	17235.00	58.94	35.82	6.93	28.36	58.41	74	-15.59	PK
H	17235.00	48.09	35.82	6.93	28.36	47.56	54	-6.44	AV
operation frequency:5785									
V	11570.00	62.70	36.21	6.59	27.73	60.81	74	-13.19	PK
V	11570.00	50.19	36.21	6.59	27.73	48.30	54	-5.70	AV
V	17355.00	58.30	35.89	6.72	28.42	57.55	74	-16.45	PK
V	17355.00	48.67	35.89	6.72	28.42	47.92	54	-6.08	AV
H	11570.00	62.63	36.21	6.59	27.73	60.74	74	-13.26	PK
H	11570.00	50.98	36.21	6.59	27.73	49.09	54	-4.91	AV
H	17355.00	59.19	35.89	6.72	28.42	58.44	74	-15.56	PK
H	17355.00	47.72	35.89	6.72	28.42	46.97	54	-7.03	AV
operation frequency:5825									
V	11650.00	62.28	36.28	6.65	27.81	60.46	74	-13.54	PK
V	11650.00	50.18	36.28	6.65	27.81	48.36	54	-5.64	AV
V	17475.00	59.95	35.92	6.78	28.50	59.31	74	-14.69	PK
V	17475.00	48.14	35.92	6.78	28.50	47.50	54	-6.50	AV
H	11650.00	62.59	36.28	6.65	27.81	60.77	74	-13.23	PK
H	11650.00	50.06	36.28	6.65	27.81	48.24	54	-5.76	AV
H	17475.00	59.39	35.92	6.78	28.50	58.75	74	-15.25	PK
H	17475.00	48.39	35.92	6.78	28.50	47.75	54	-6.25	AV

Remark:
1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

802.11n40 band 1									
Polar (H/V)	Freq.	Meter Reading	Pre-amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
operation frequency:5190									
V	10360.00	61.76	36.12	6.48	27.64	59.76	74	-14.24	PK
V	10360.00	49.74	36.12	6.48	27.64	47.74	54	-6.26	AV
V	15540.00	59.41	35.67	6.75	27.97	58.46	74	-15.54	PK
V	15540.00	48.71	35.67	6.75	27.97	47.76	54	-6.24	AV
H	10360.00	61.60	36.12	6.48	27.64	59.60	74	-14.40	PK
H	10360.00	49.56	36.12	6.48	27.64	47.56	54	-6.44	AV
H	15540.00	58.82	35.67	6.75	27.97	57.87	74	-16.13	PK
H	15540.00	48.92	35.67	6.75	27.97	47.97	54	-6.03	AV
operation frequency:5230									
V	10480.00	61.64	36.21	6.53	27.72	59.68	74	-14.32	PK
V	10480.00	49.30	36.21	6.53	27.72	47.34	54	-6.66	AV
V	15720.00	58.95	35.67	6.82	28.16	58.26	74	-15.74	PK
V	15720.00	47.79	35.67	6.82	28.16	47.10	54	-6.90	AV
H	10480.00	60.64	36.12	6.48	27.64	58.64	74	-15.36	PK
H	10480.00	49.11	36.12	6.48	27.64	47.11	54	-6.89	AV
H	15720.00	59.00	35.71	6.81	28.11	58.21	74	-15.79	PK
H	15720.00	47.94	35.71	6.81	28.11	47.15	54	-6.85	AV

Remark:
1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

802.11n40 band 4									
Polar (H/V)	Freq.	Meter Reading	Pre-amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
operation frequency:5755									
V	11490.00	60.94	36.18	6.52	27.69	58.97	74	-15.03	PK
V	11490.00	47.90	36.18	6.52	27.69	45.93	54	-8.07	AV
V	17235.00	58.63	35.82	6.93	28.36	58.10	74	-15.90	PK
V	17235.00	47.84	35.82	6.93	28.36	47.31	54	-6.69	AV
H	11490.00	60.60	36.18	6.52	27.69	58.63	74	-15.37	PK
H	11490.00	48.73	36.18	6.52	27.69	46.76	54	-7.24	AV
H	17235.00	58.87	35.82	6.93	28.36	58.34	74	-15.66	PK
H	17235.00	48.03	35.82	6.93	28.36	47.50	54	-6.50	AV
operation frequency:5795									
V	11570.00	60.62	36.21	6.59	27.73	58.73	74	-15.27	PK
V	11570.00	48.13	36.21	6.59	27.73	46.24	54	-7.76	AV
V	17355.00	58.23	35.89	6.72	28.42	57.48	74	-16.52	PK
V	17355.00	48.61	35.89	6.72	28.42	47.86	54	-6.14	AV
H	11570.00	60.55	36.21	6.59	27.73	58.66	74	-15.34	PK
H	11570.00	47.92	36.21	6.59	27.73	46.03	54	-7.97	AV
H	17355.00	59.12	35.89	6.72	28.42	58.37	74	-15.63	PK
H	17355.00	47.66	35.89	6.72	28.42	46.91	54	-7.09	AV

Remark:
1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

5. BAND EDGE COMPLIANCE TEST

5.1. Limits

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

5.2. TEST PROCEDURE

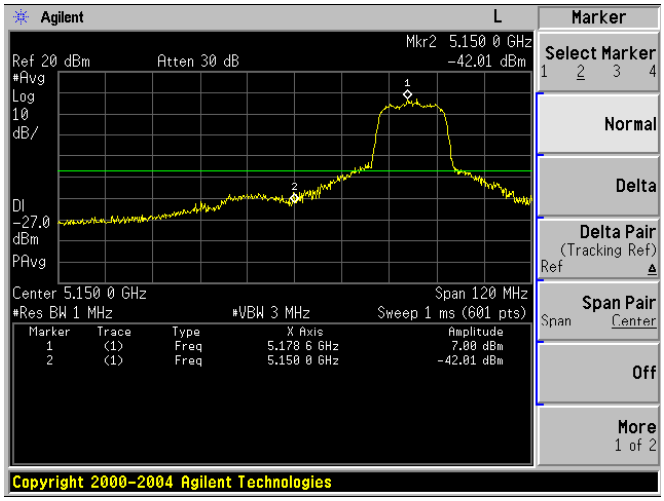
1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

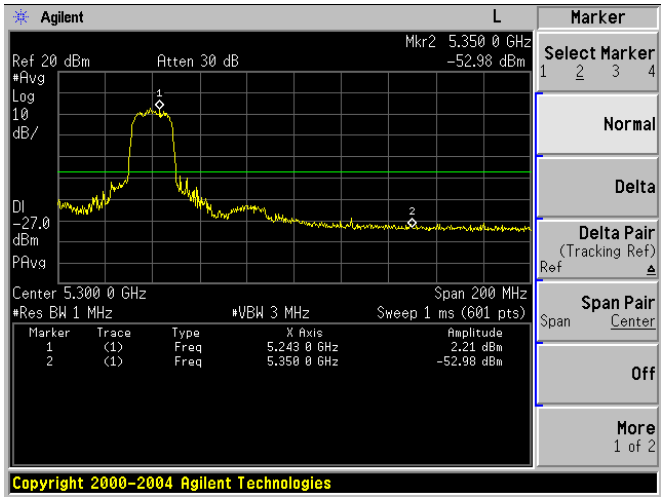
5.3. Test Data

Please see data as below:

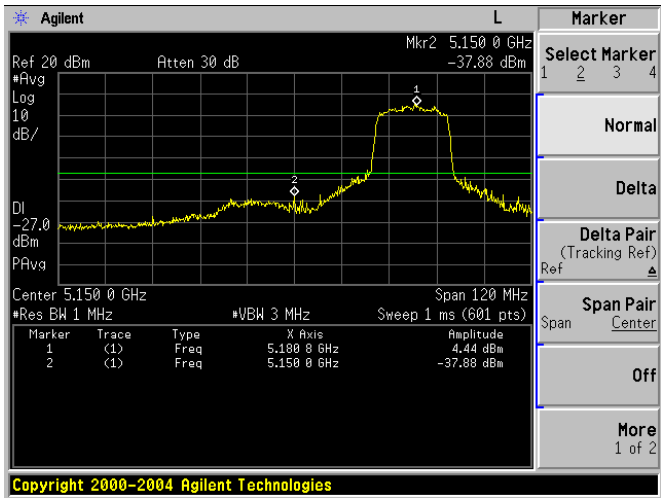
Band 1

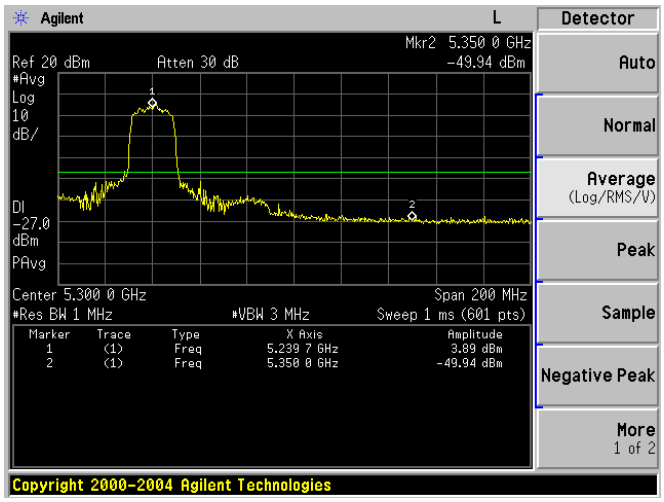
802.11a



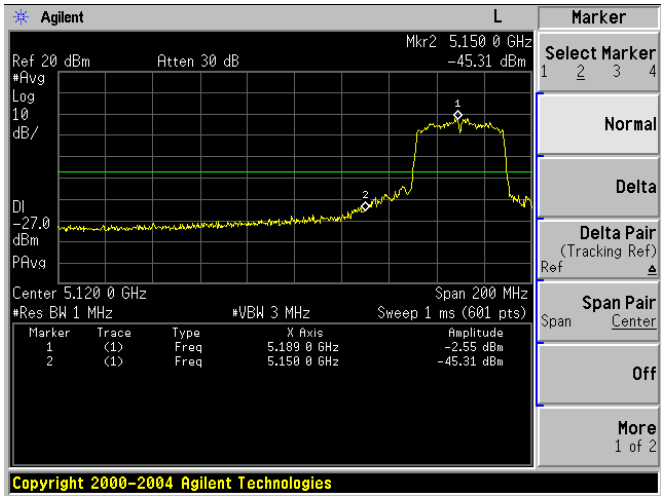


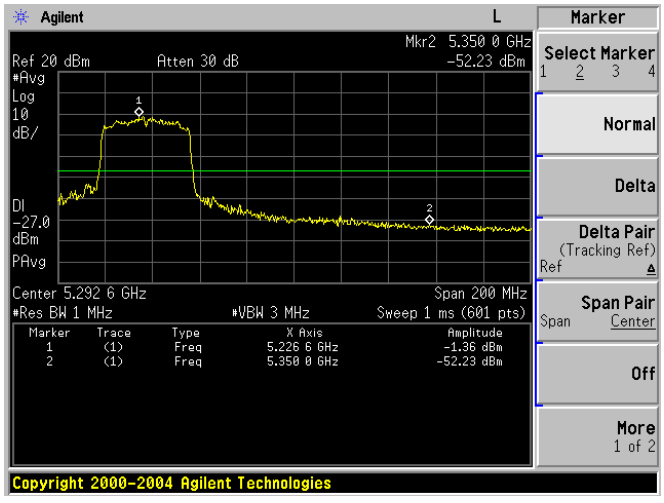
802.11n20





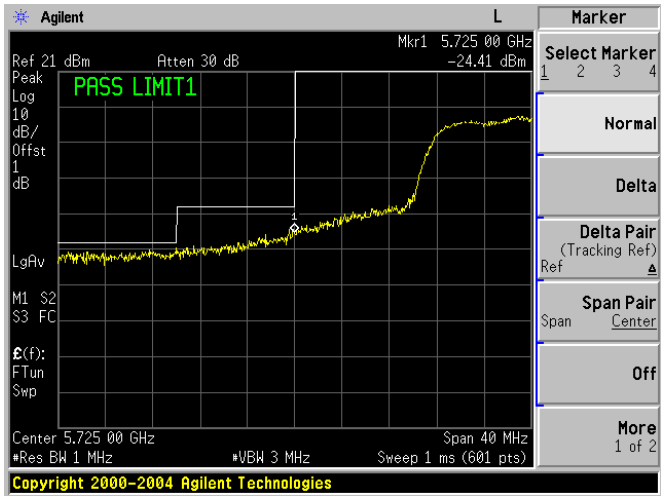
802.11n40

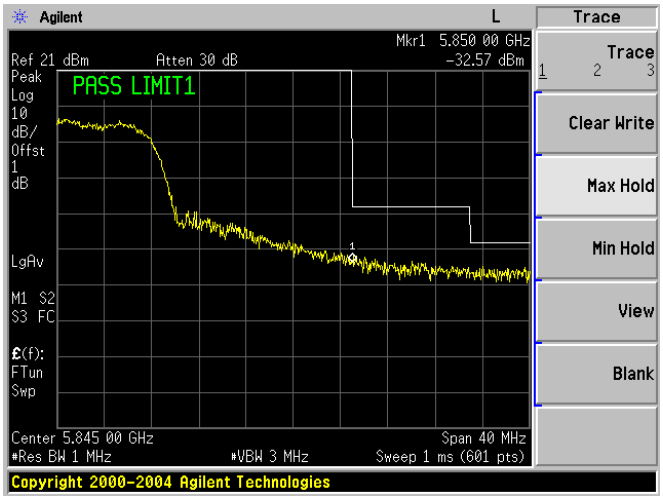




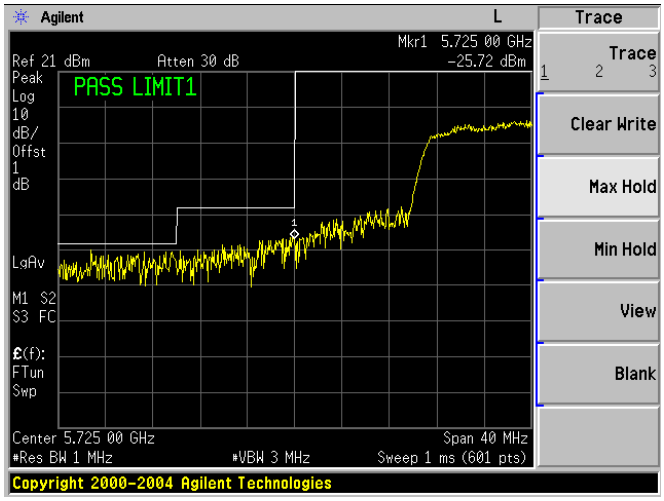
Band 4

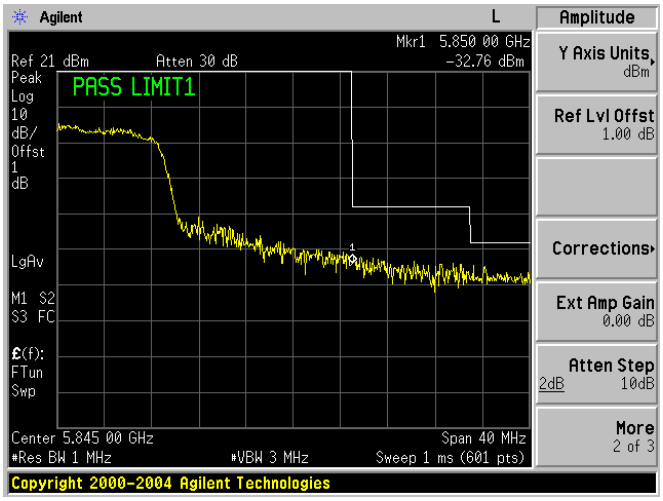
802.11a



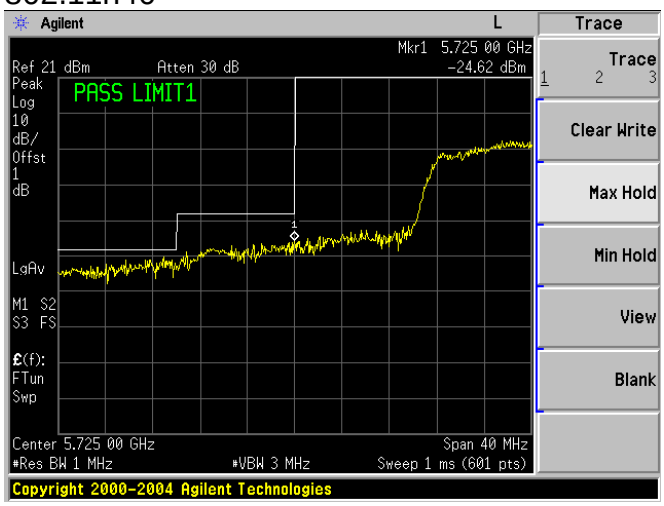


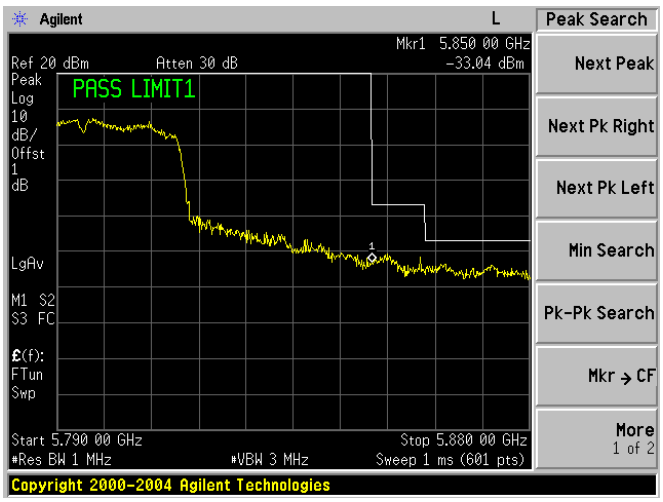
802.11n20





802.11n40





6. 26DB AND 99% BANDWIDTH TEST

6.1. Measurement Procedure

The bandwidth at 26 dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating at its maximum power control level, as defined in KDB 789033, at the appropriate frequencies. The spectrum analyzer's bandwidth measurement function is configured to measure the 26 dB bandwidth.

The 26 dB bandwidth is used to determine the conducted power limits.

There is no limit bandwidth for U-NII-1, U-NII-2-A and U-NII-2-C.

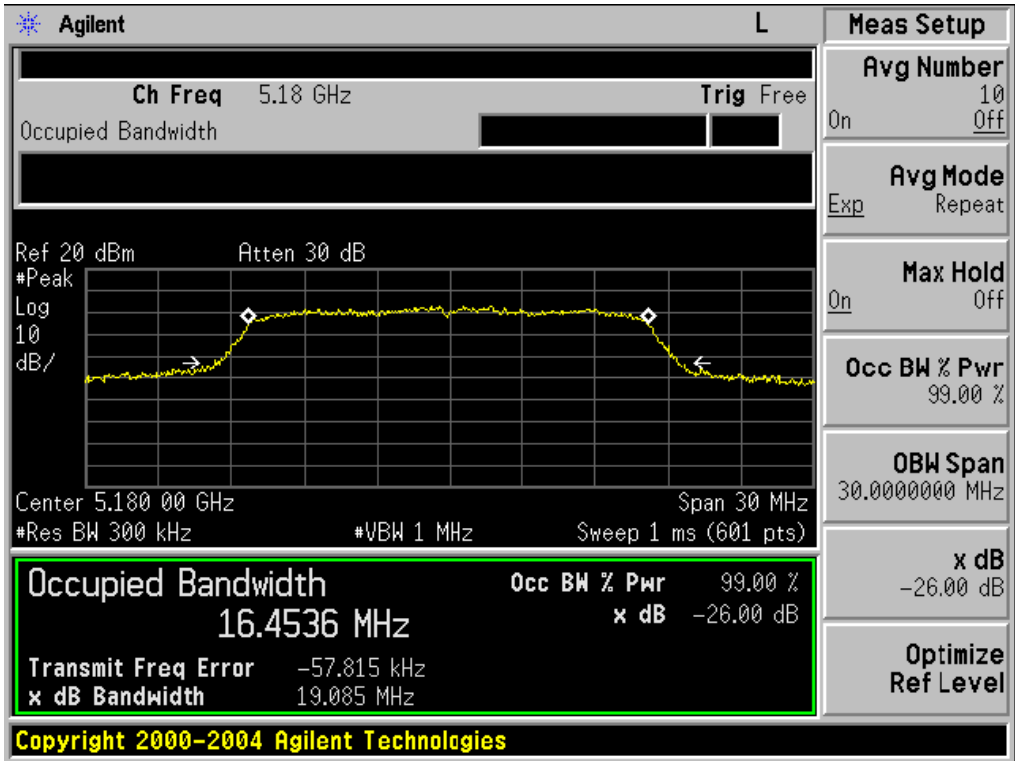
The minimum of 6dB Bandwidth measurement is 0.5 MHz for U-NII-3

26dB bandwidth

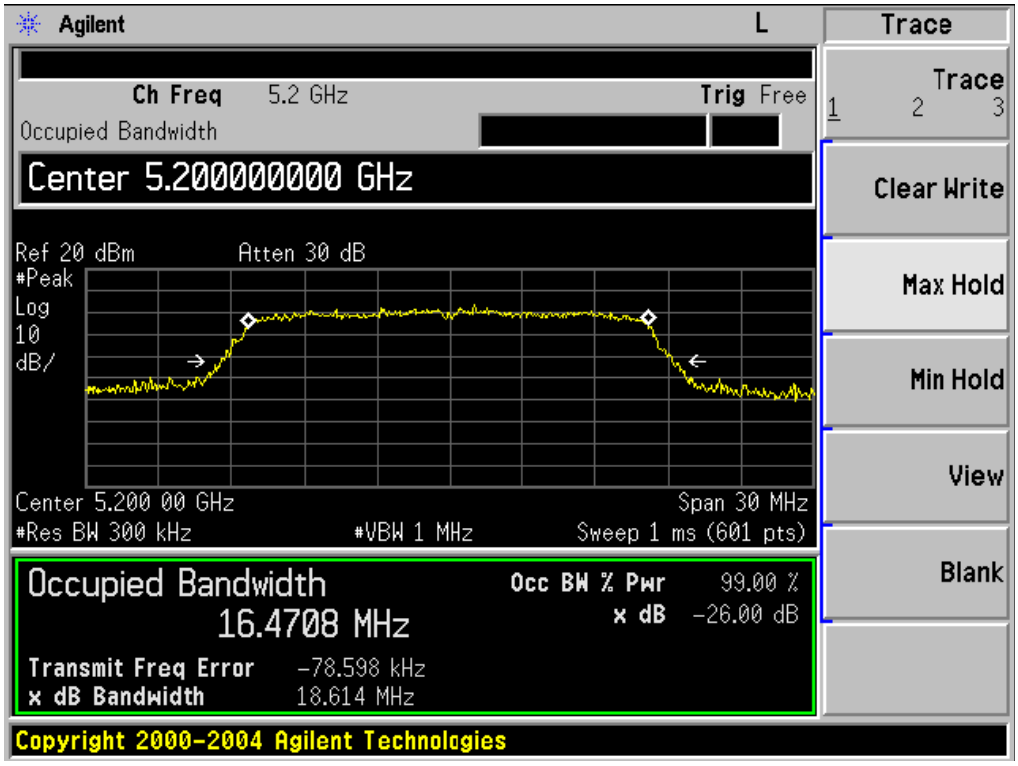
	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
802.11a	5180	16.454	19.085
	5200	16.471	18.614
	5240	16.450	18.834
802.11n (HT20)	5180	17.541	19.161
	5200	17.536	19.008
	5240	17.503	19.018
802.11n (HT40)	5190	35.920	38.726
	5230	35.904	38.627

	Frequency (MHz)	-6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)
802.11a	5745	16.114	16.698	>0.5
	5785	15.752	16.499	>0.5
	5825	16.021	16.441	>0.5
802.11n (HT20)	5745	17.505	17.564	>0.5
	5785	17.359	17.500	>0.5
	5825	17.454	17.558	>0.5
802.11n (HT40)	5755	35.672	35.972	>0.5
	5795	35.359	35.948	>0.5

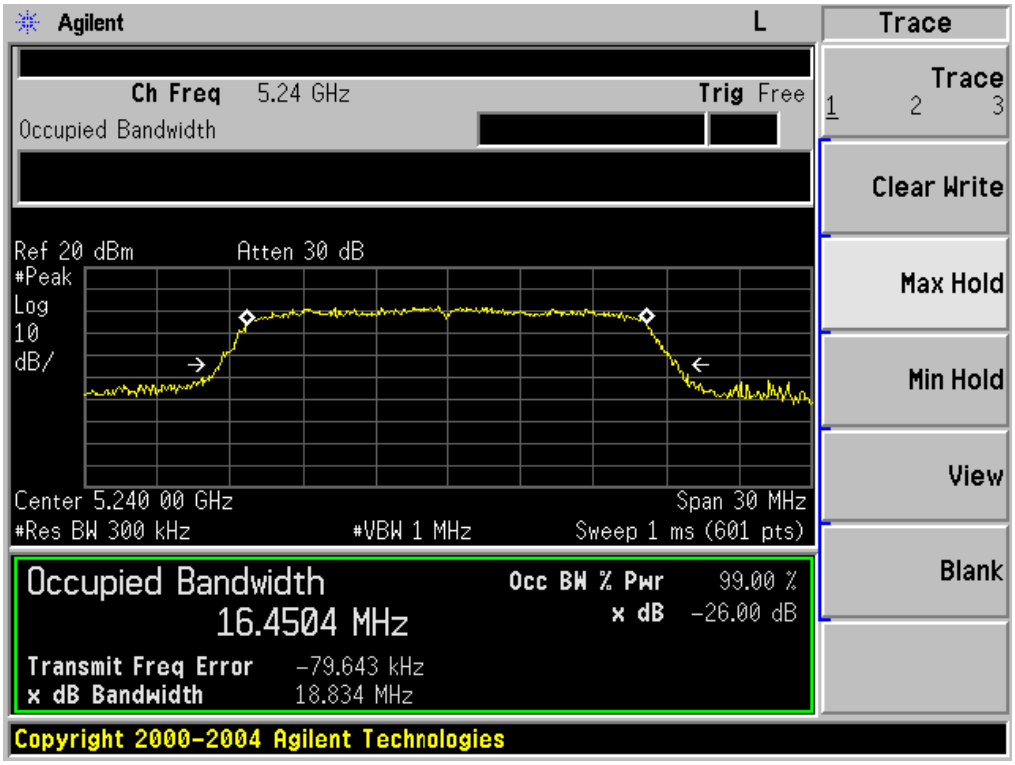
802.11a 5180MHz



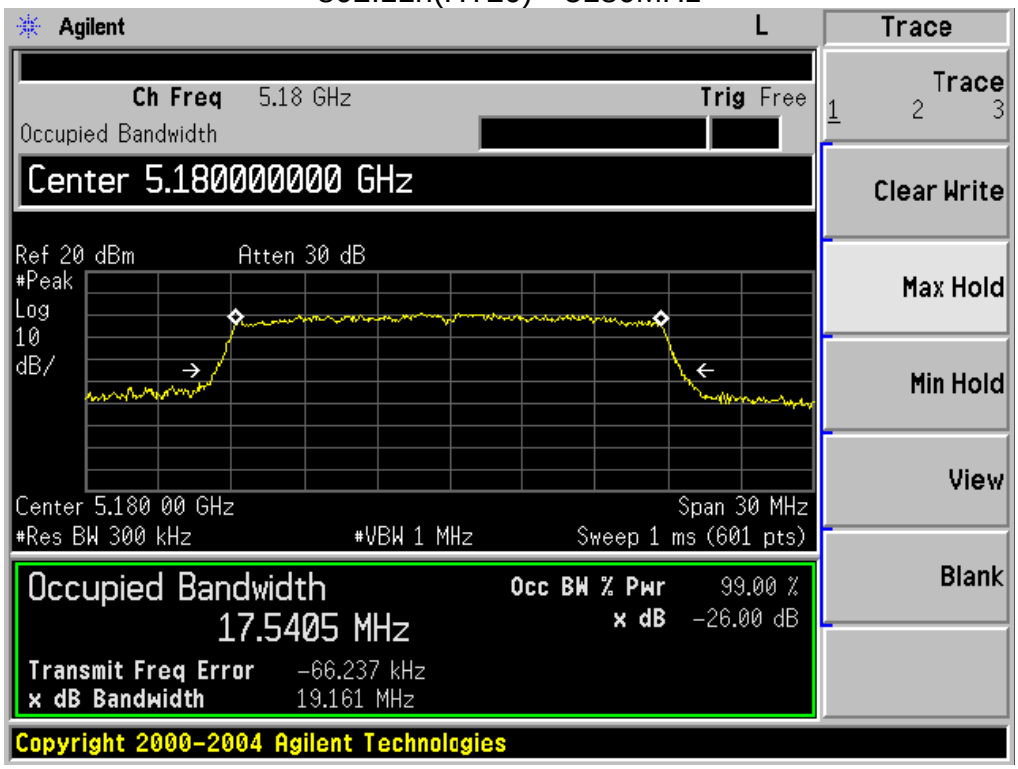
802.11a 5200MHz



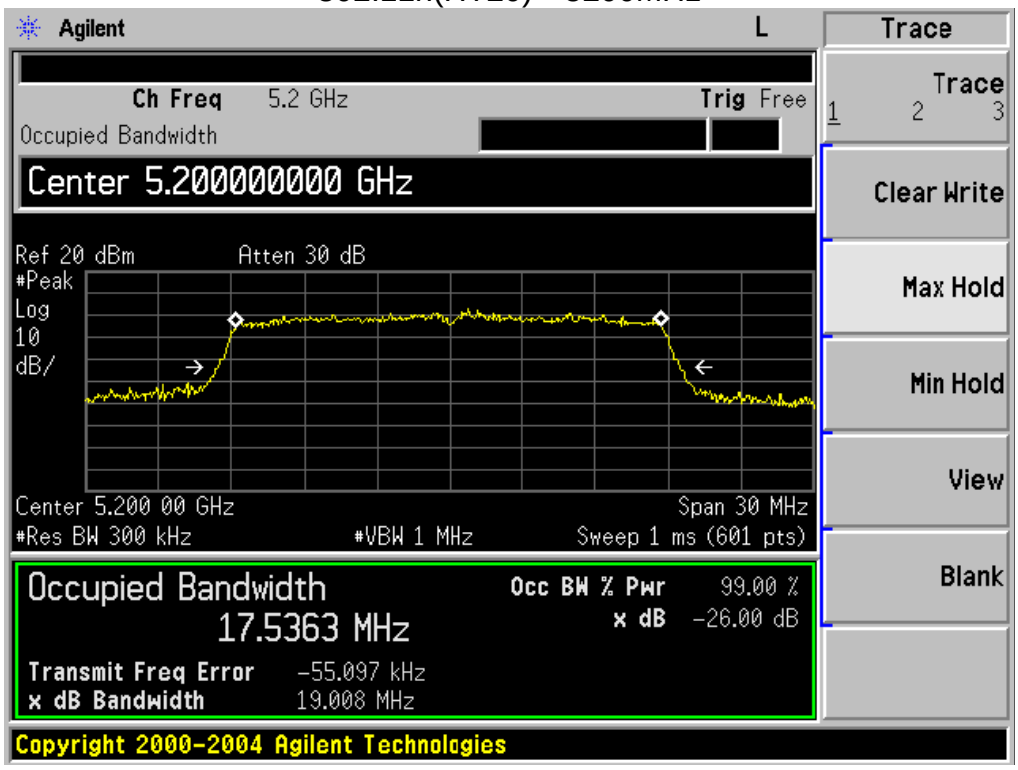
802.11a 5240MHz



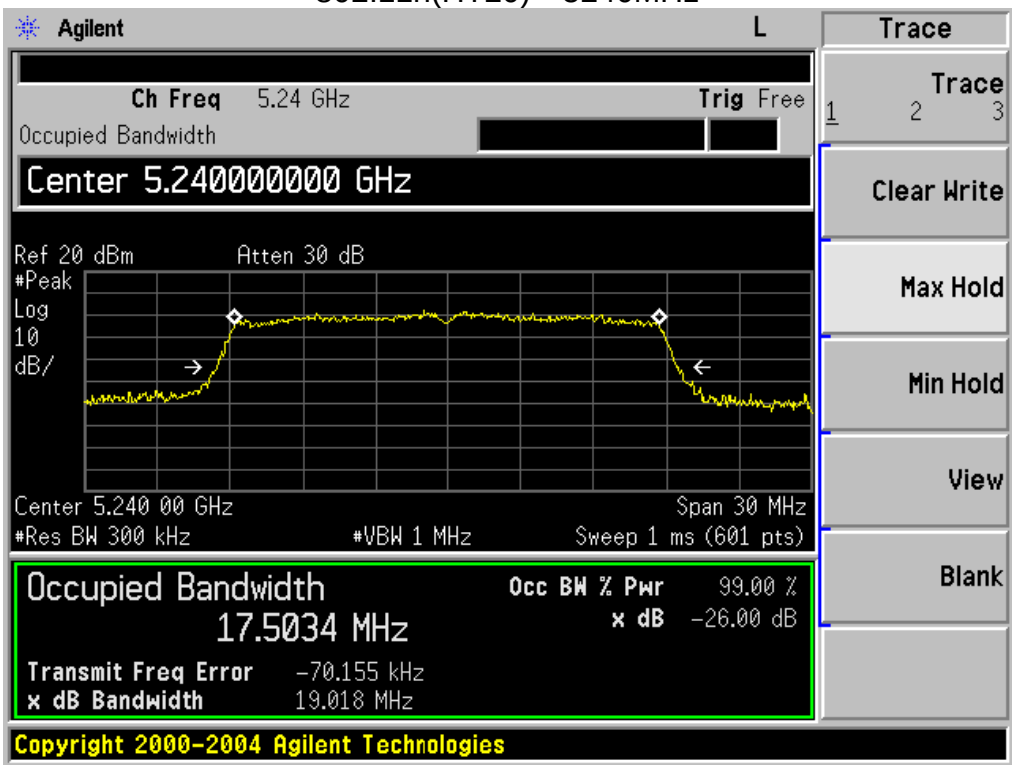
802.11n(HT20) 5180MHz



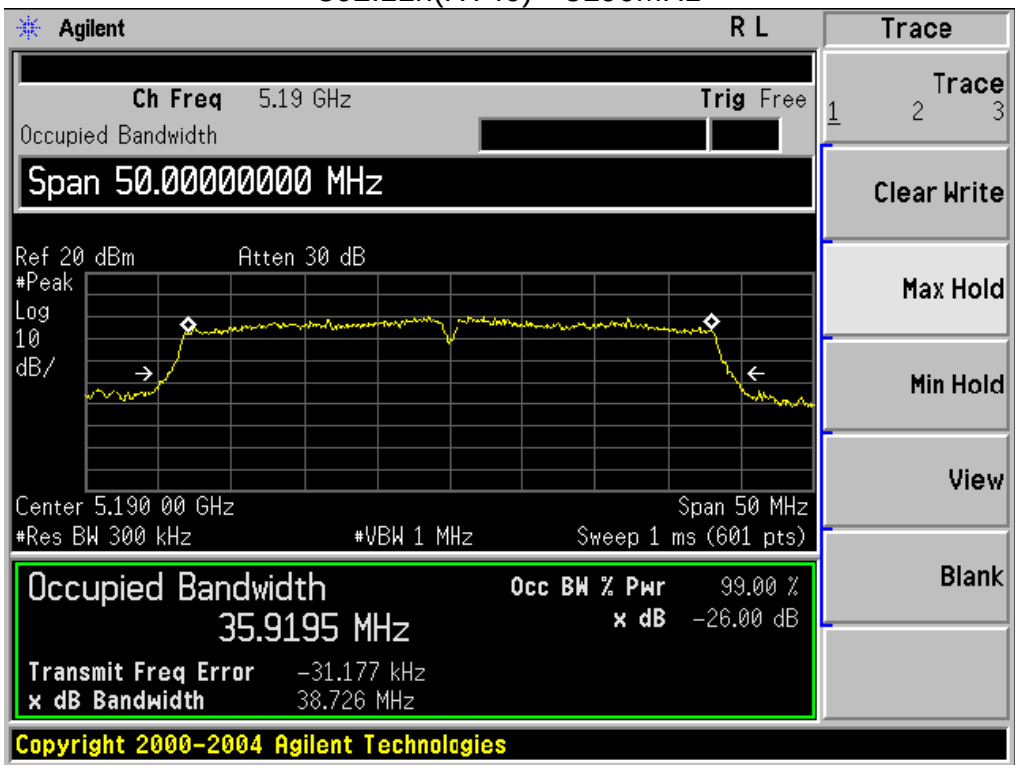
802.11n(HT20) 5200MHz



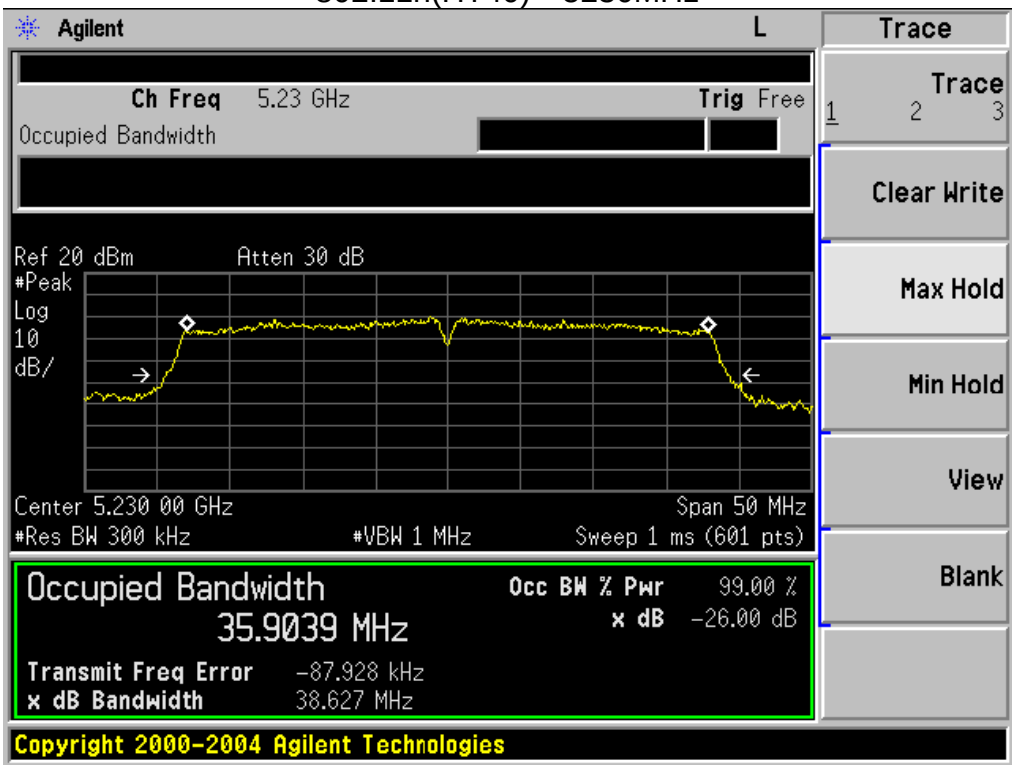
802.11n(HT20) 5240MHz



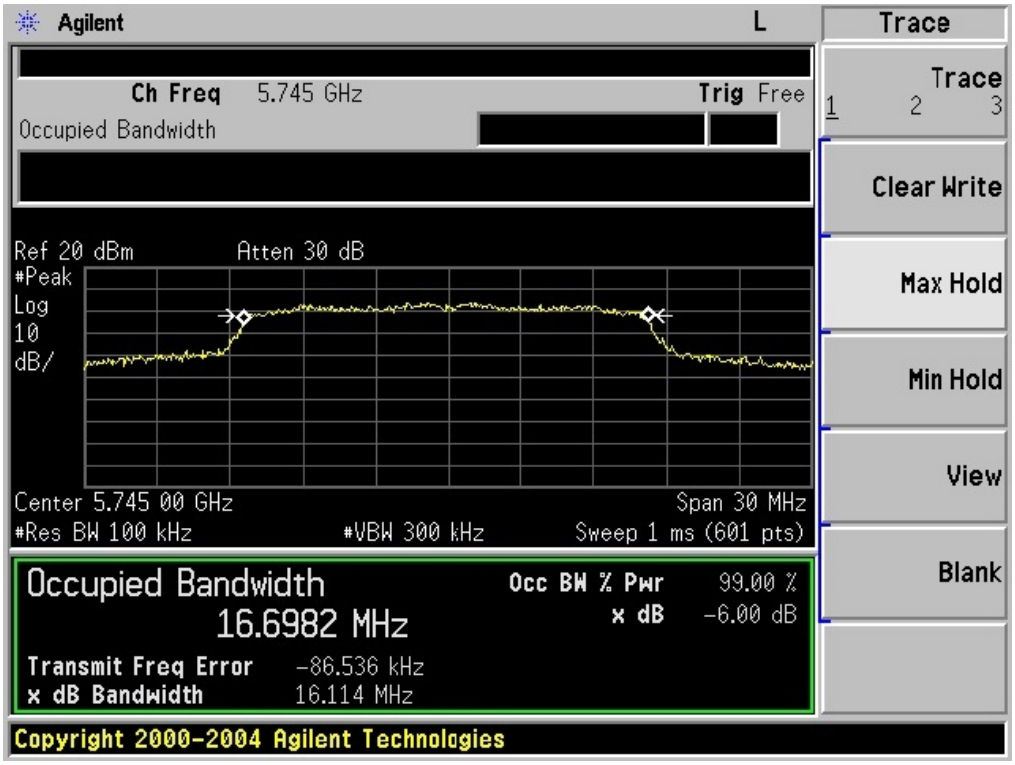
802.11n(HT40) 5190MHz



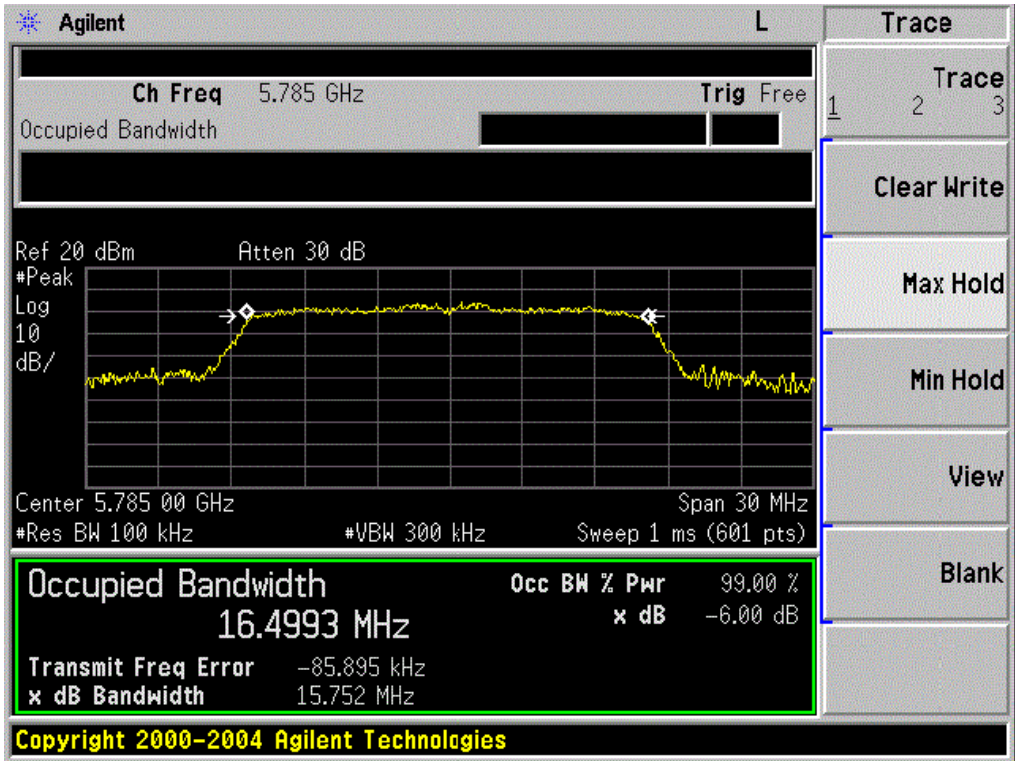
802.11n(HT40) 5230MHz



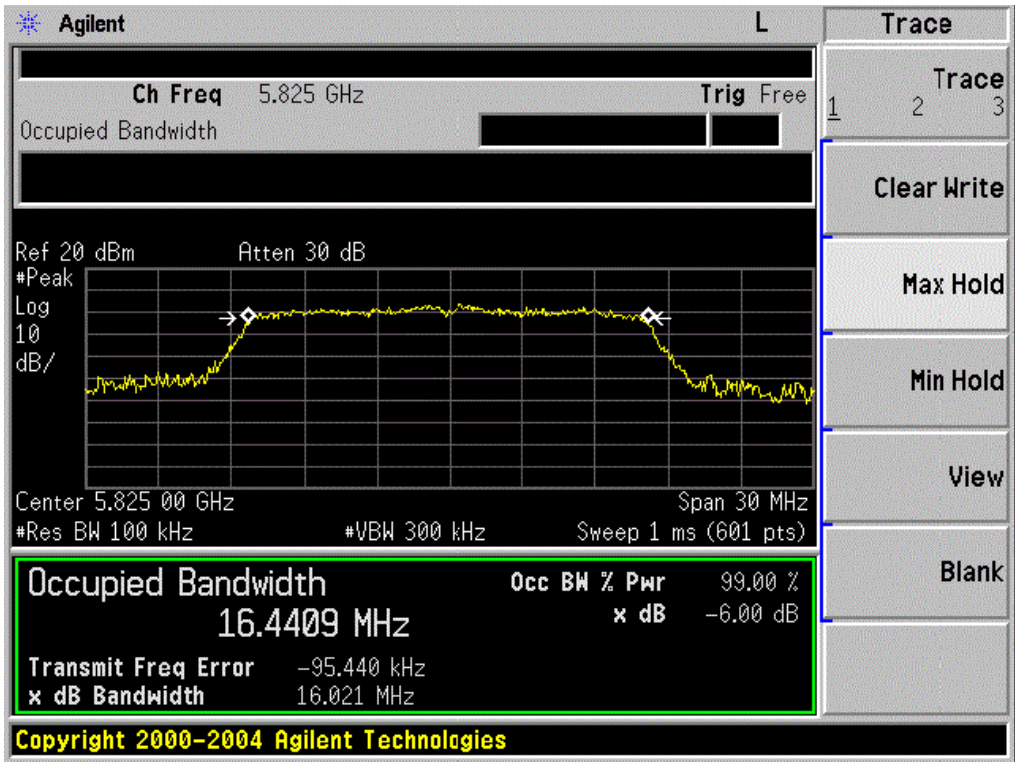
802.11a 5745MHz



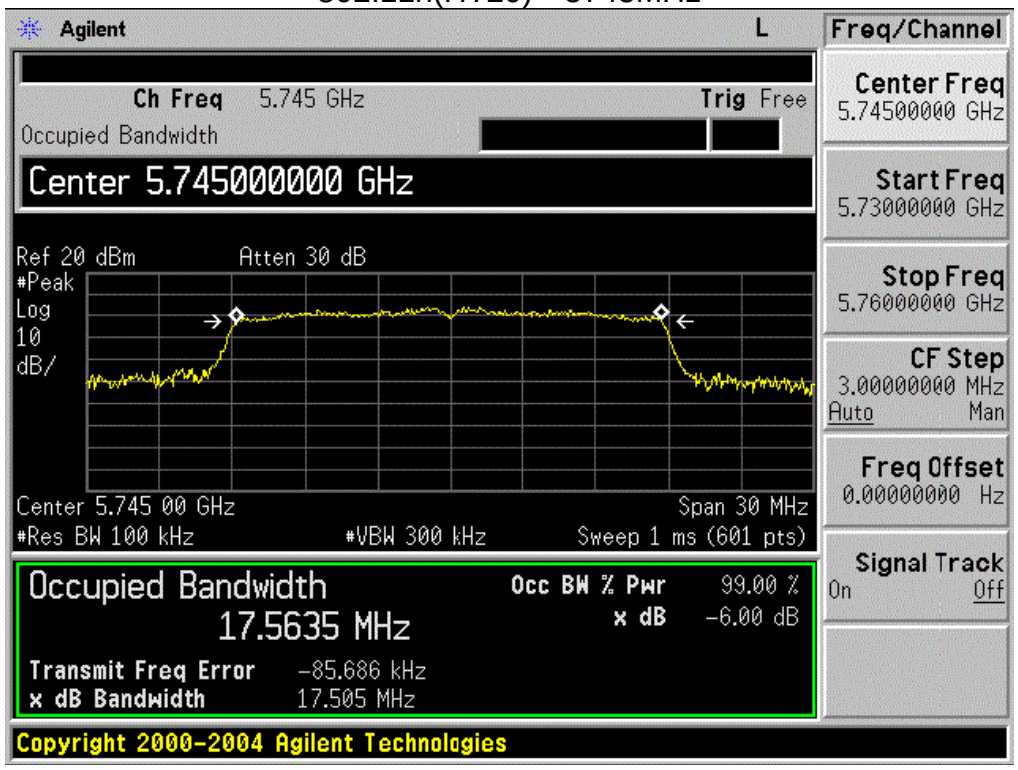
802.11a 5785MHz



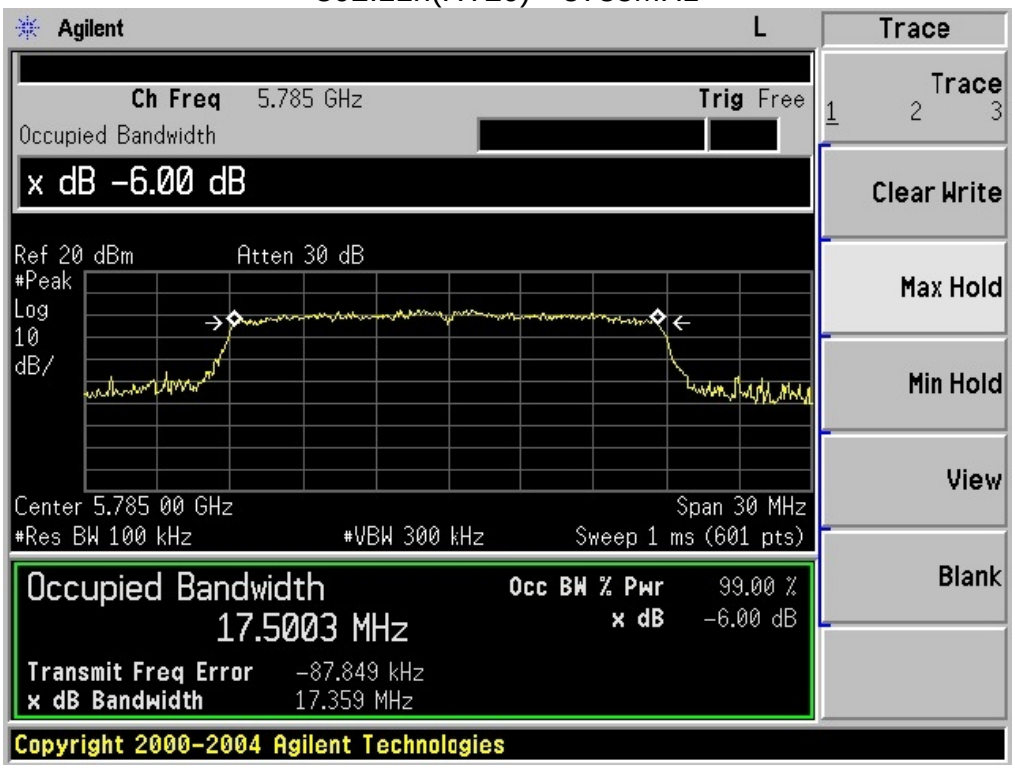
802.11a 5825MHz



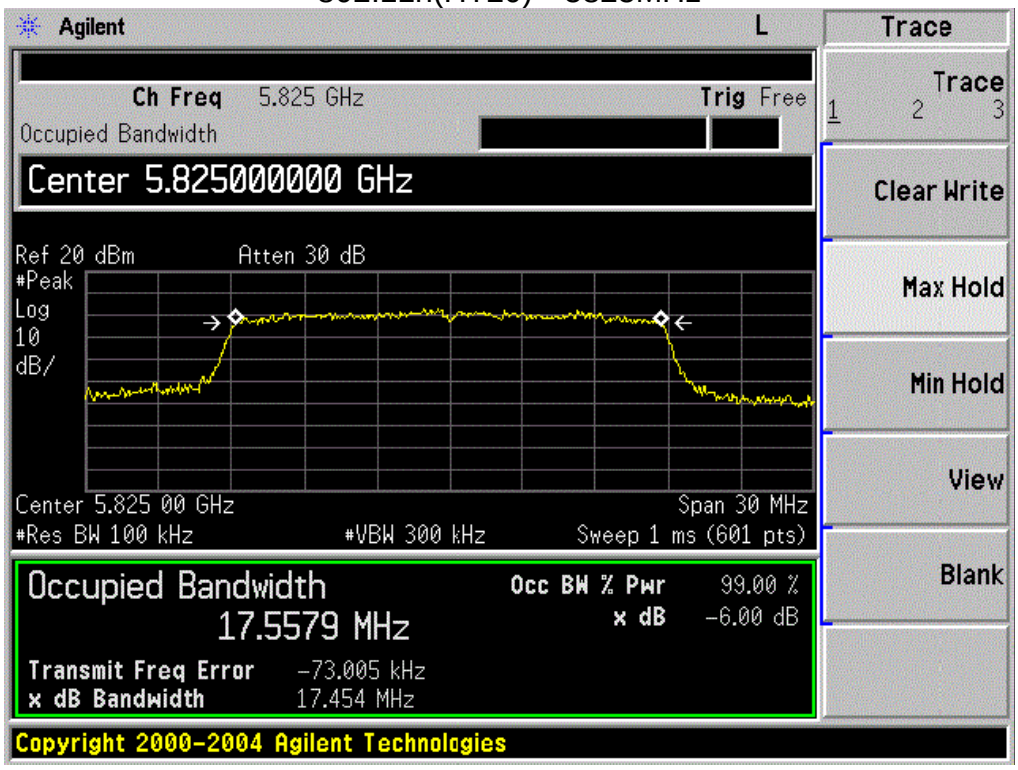
802.11n(HT20) 5745MHz



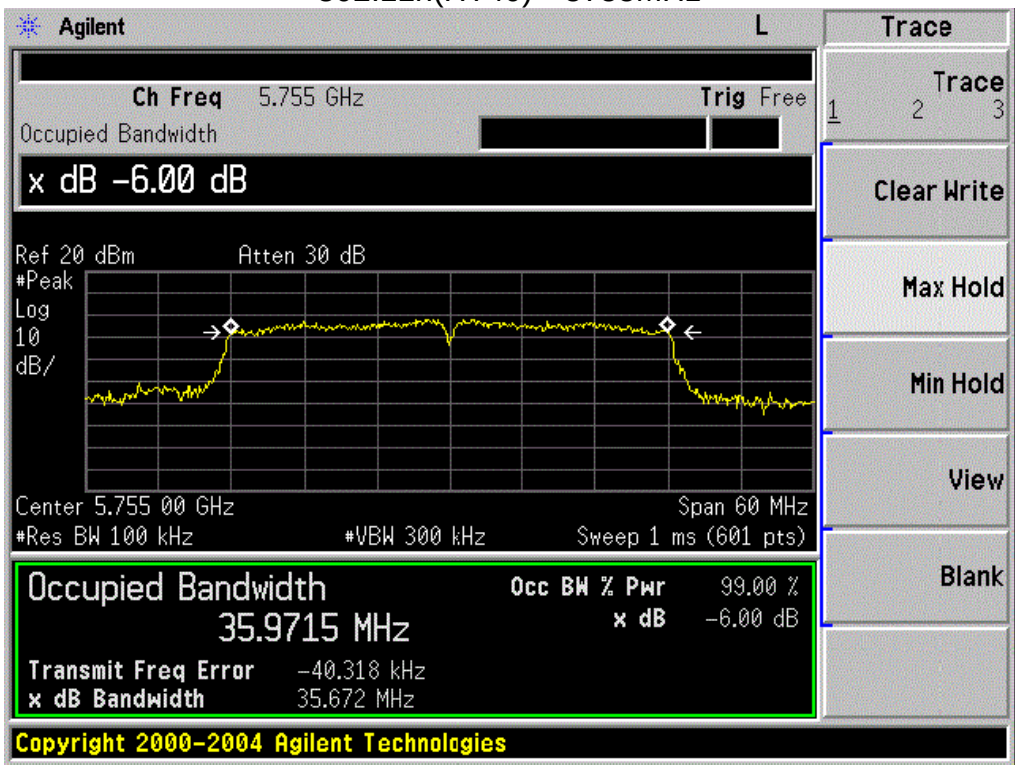
802.11n(HT20) 5785MHz



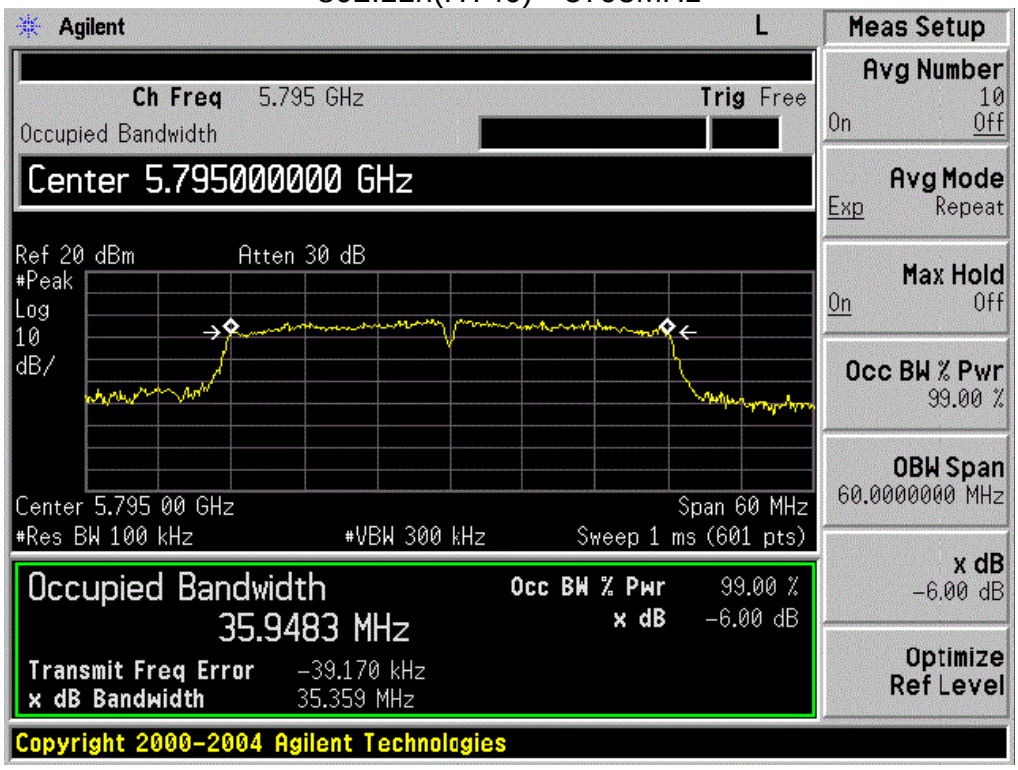
802.11n(HT20) 5825MHz



802.11n(HT40) 5755MHz



802.11n(HT40) 5795MHz



7. OUTPUT POWER TEST

7.1. Limits

For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

7.2. Test setup

1. The maximum average conducted output power can be measured using Method PM-G (Measurement using a gated RF average power meter):
2. Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

a. The Transmitter output (antenna port) was connected to the power meter.

b. Turn on the EUT and power meter and then record the power value.

c. Repeat above procedures on all channels needed to be tested.

3.

7.3. Test result

	Frequency (MHz)	Average Output Power(dBm)	FCC Limit (dBm)	Result
802.11a	5180	11.84	23.98	Pass
	5200	11.66	23.98	Pass
	5240	11.67	23.98	Pass
	5745	10.75	30.00	Pass
	5785	10.67	30.00	Pass
	5825	10.62	30.00	Pass
802.11n (HT20)	5180	10.57	23.98	Pass
	5200	10.27	23.98	Pass
	5240	10.42	23.98	Pass
	5745	9.26	30.00	Pass
	5785	9.24	30.00	Pass
	5825	9.31	30.00	Pass
802.11n (HT40)	5190	10.79	23.98	Pass
	5230	10.34	23.98	Pass
	5755	9.18	30.00	Pass
	5795	9.27	30.00	Pass

8. PEAK POWER SPECTRAL DENSITY TEST

8.1. Limits

In addition, the maximum power spectral density shall not exceed 11 dBm in any 1Mz band.

In addition, the maximum power spectral density shall not exceed 30 dBm in any 500 kHz band.

8.2. Test setup

1. Place the EUT on the table and set it in transmitting mode.
2. The testing follows FCC KDB 789033 D02.
3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to Spectrum.
4. For U-NII1, U-NII-2A, U-NII-2C Band:

Set RBW=1MHz, VBW=3MHz, where span is enough to capture the entire bandwidth, Sweep time = Auto (601 pts), detector = sample, traces 100 sweeps of video averaging. (SA-2 with the omission of procedure x, the integration with 26dB EBW bandwidth)

For U-NII-3 Band:

Set RBW=510 kHz, VBW=3*RBW, where span is enough to capture the entire bandwidth, Sweep time = Auto (601 pts), detector = sample, traces 100 sweeps of video averaging. (SA-2 with the omission of procedure x, the integration with 26dB EBW bandwidth)

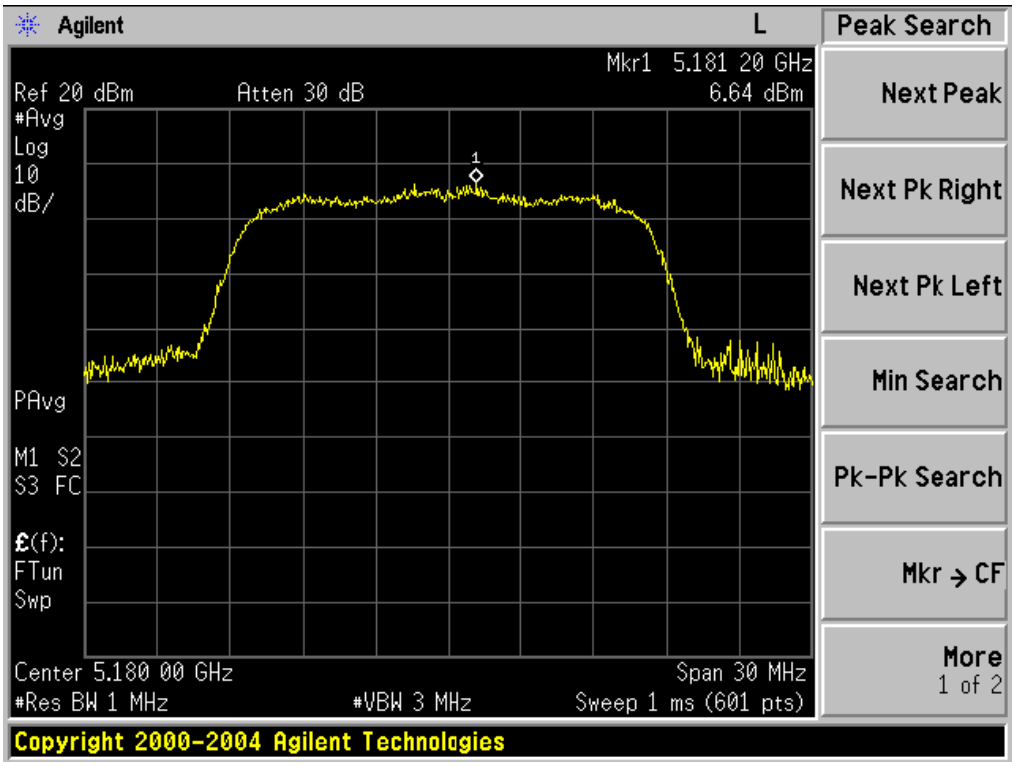
5. User the cursor on spectrum to peak search the highest level of trace
6. Record the max. reading and add 10 log(1/duty cycle).

8.3. Test data

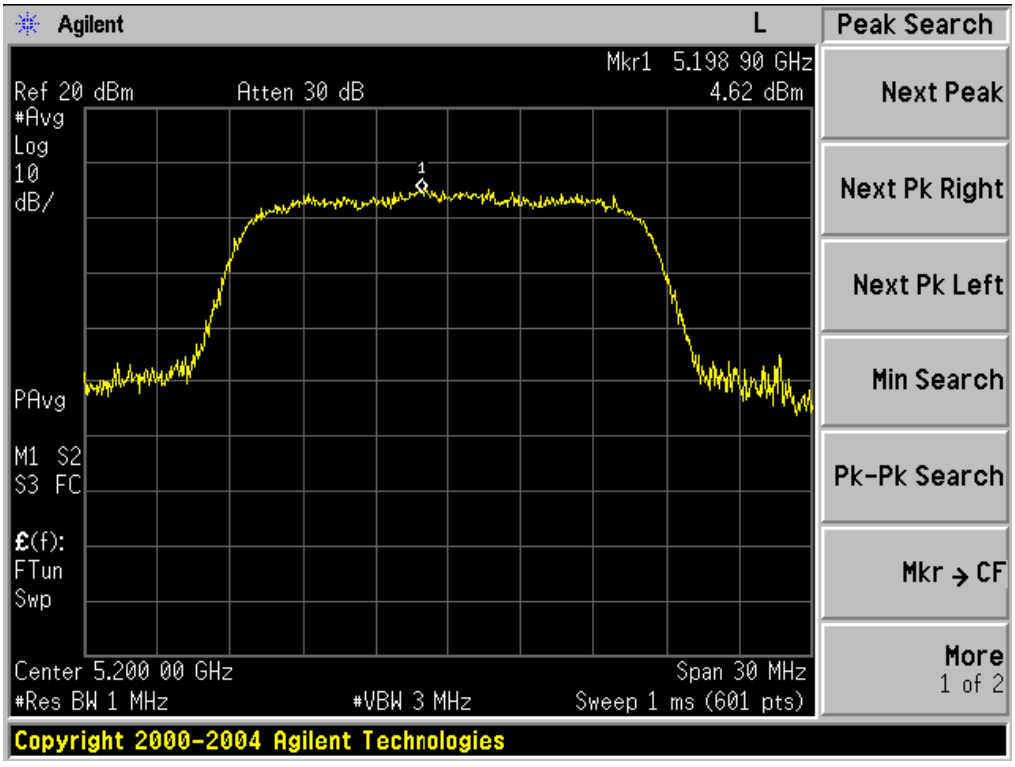
Test data as below

	Frequency (MHz)	Reading Level (dBm)	Duty factor (dB)	Duty factor 10 log (1MHz/ RBW)	PPSD (dBm)	FCC Limit (dBm)	Result
802.11a	5180	6.64	0.27	0.0	6.91	11.00	Pass
	5200	4.62	0.27	0.0	4.89	11.00	Pass
	5240	5.24	0.27	0.0	5.51	11.00	Pass
	5745	9.70	0.27	0.0	9.97	30.00	Pass
	5785	9.49	0.27	0.0	9.76	30.00	Pass
	5825	9.15	0.27	0.0	9.42	30.00	Pass
802.11n (HT20)	5180	4.04	0.22	0.0	4.26	11.00	Pass
	5200	4.20	0.22	0.0	4.42	11.00	Pass
	5240	4.33	0.22	0.0	4.55	11.00	Pass
	5745	8.32	0.22	0.0	8.54	30.00	Pass
	5785	9.60	0.22	0.0	9.82	30.00	Pass
	5825	9.06	0.22	0.0	9.28	30.00	Pass
802.11n (HT40)	5190	0.73	0.43	0.0	1.16	11.00	Pass
	5230	0.40	0.43	0.0	0.83	11.00	Pass
	5755	4.46	0.43	0.0	4.89	30.00	Pass
	5795	4.72	0.43	0.0	5.15	30.00	Pass

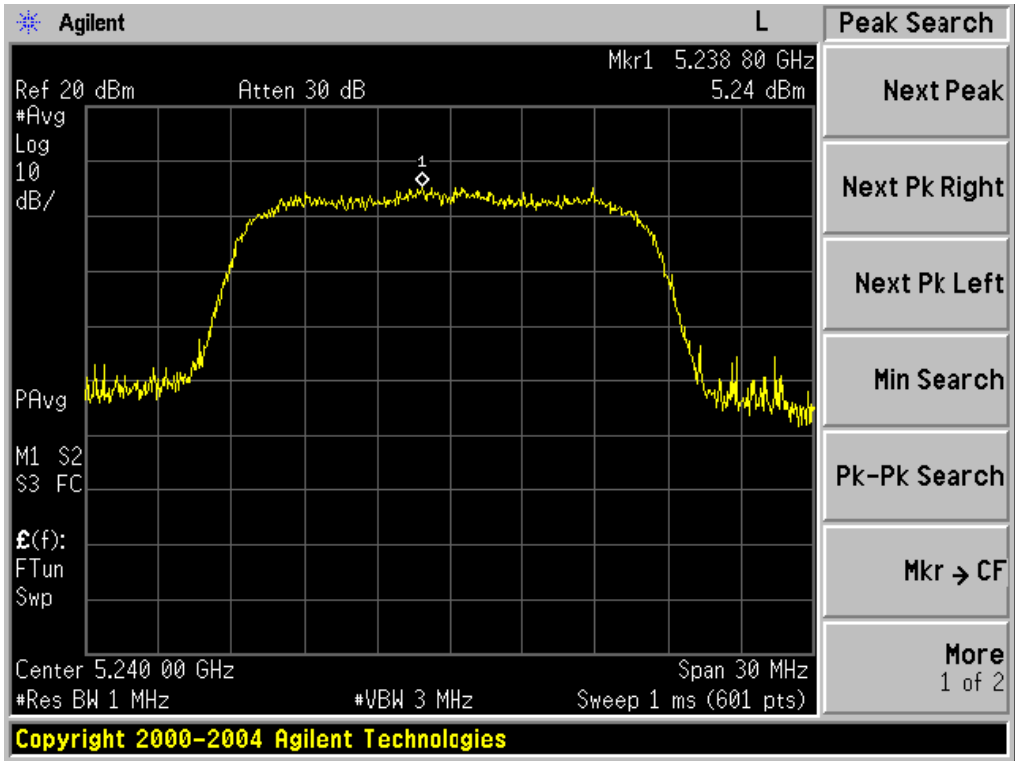
802.11a 5180MHz



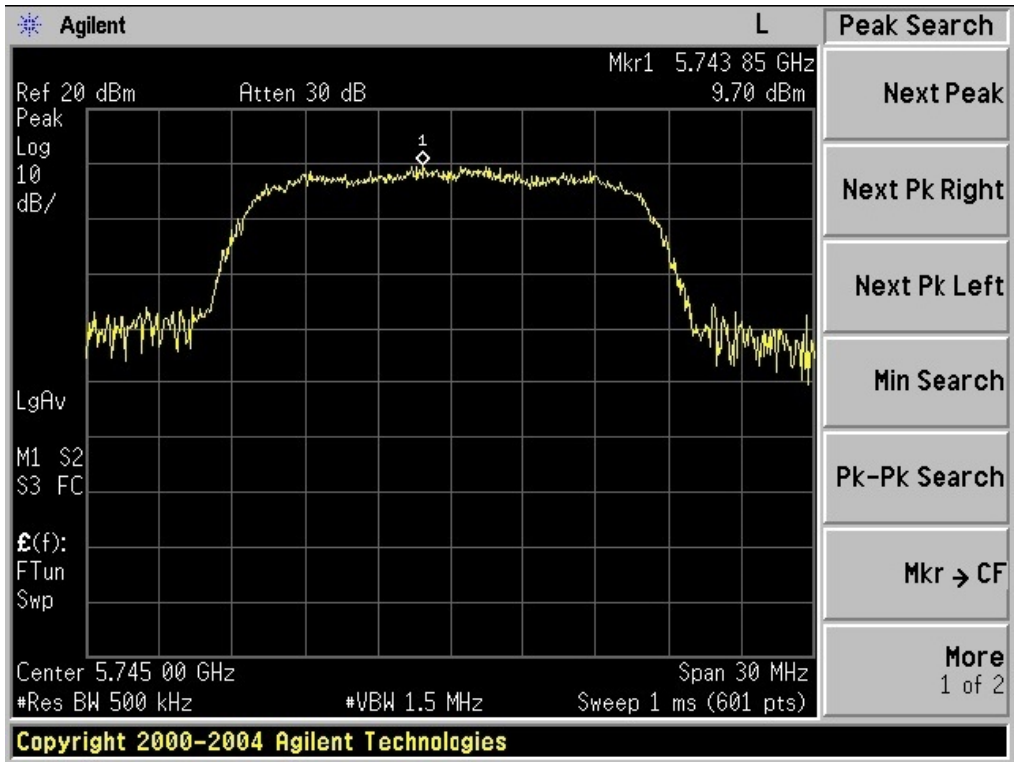
802.11a 5200MHz



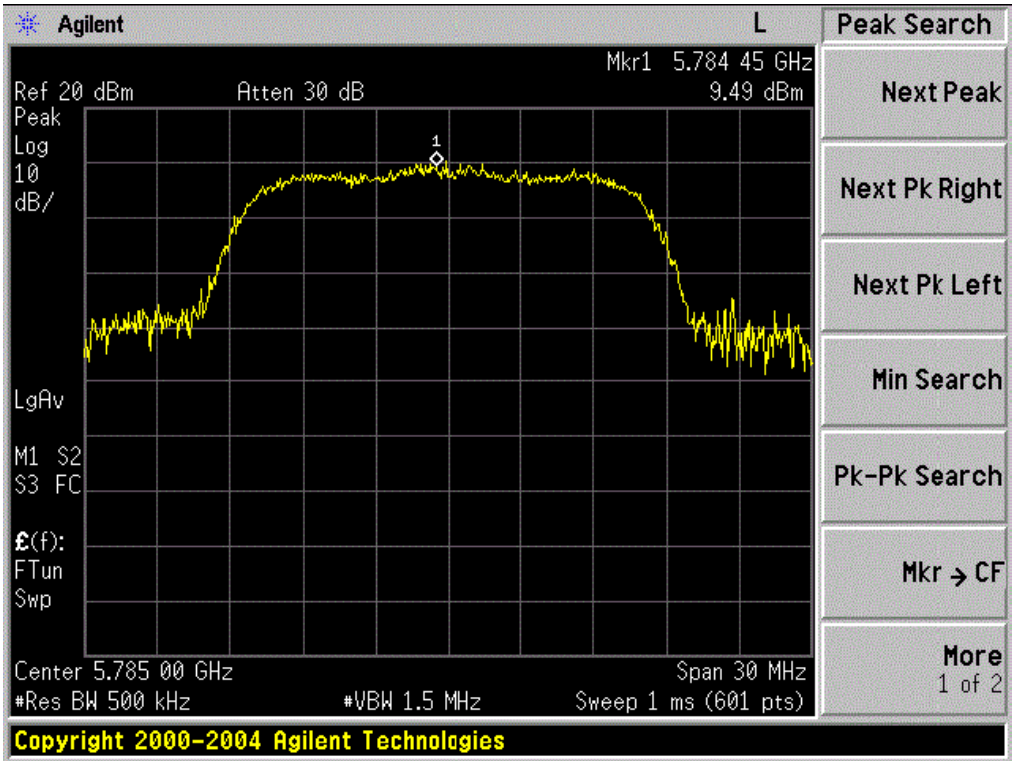
802.11a 5240MHz



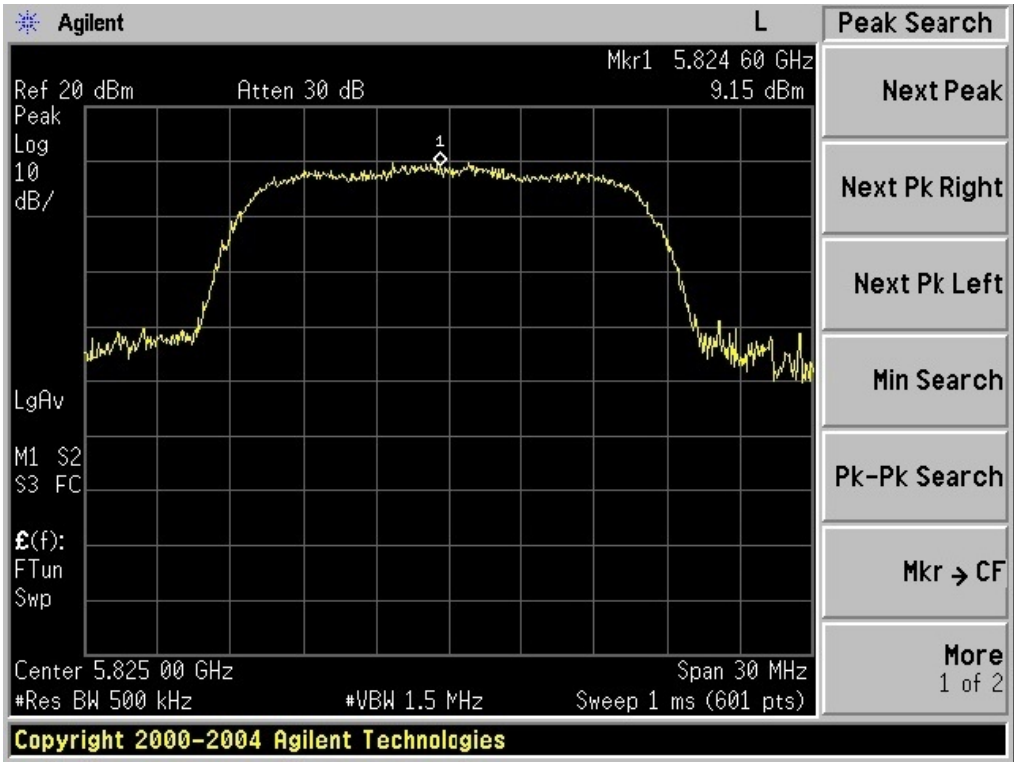
802.11a 5745MHz



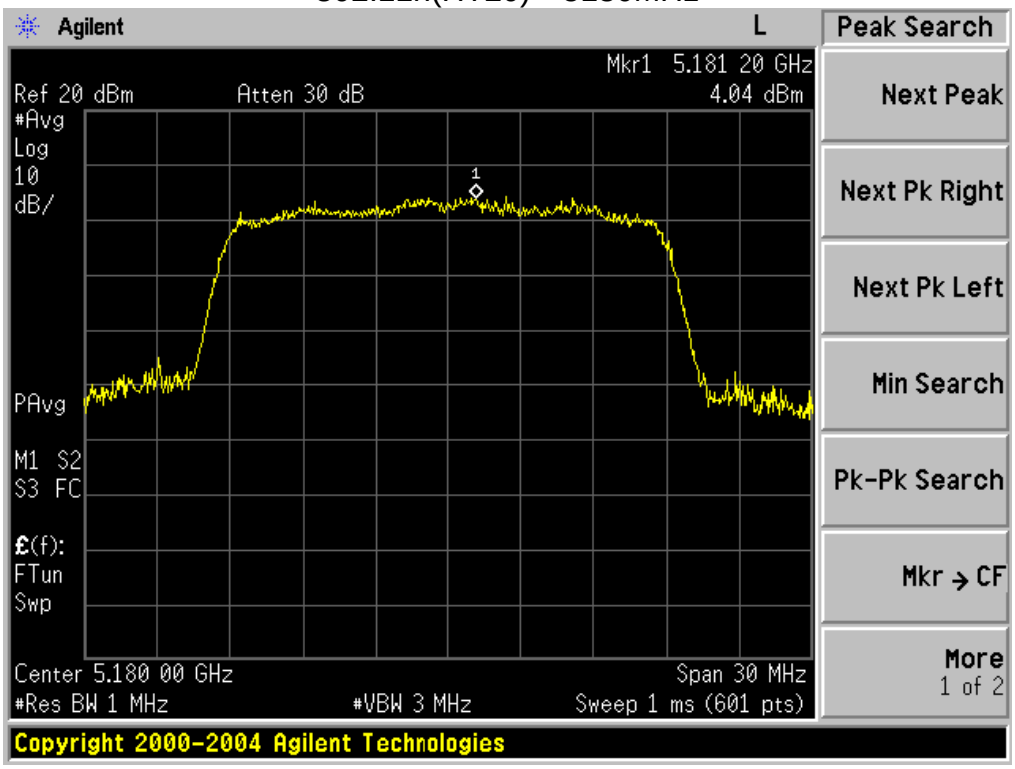
802.11a 5785MHz



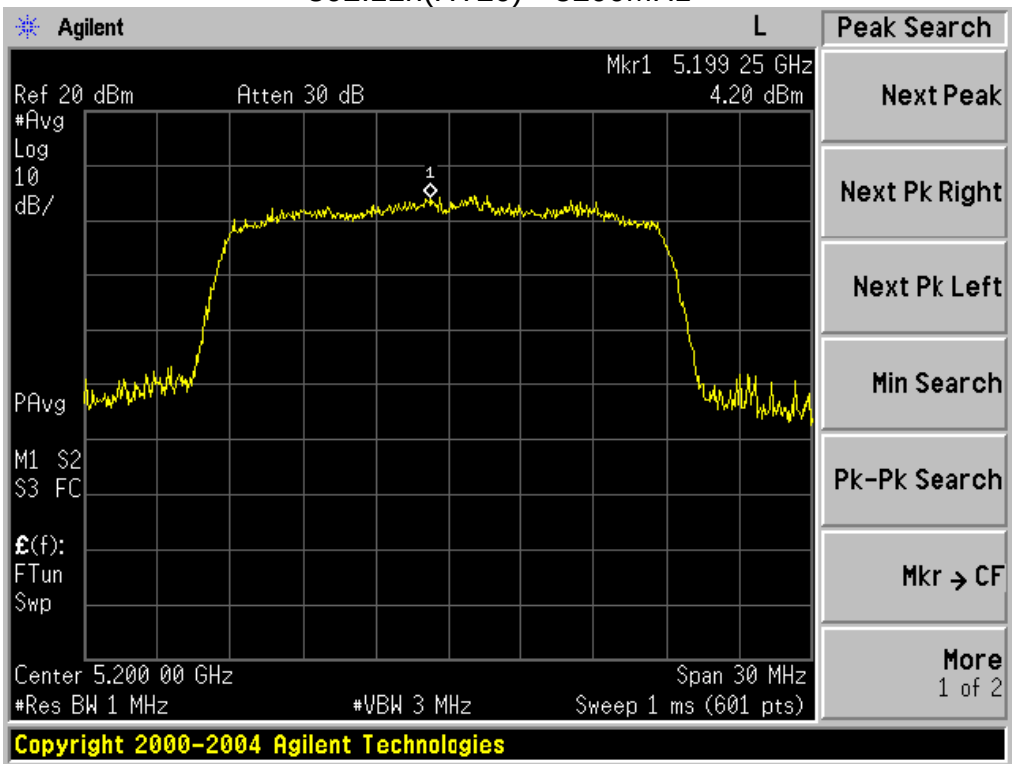
802.11a 5825MHz



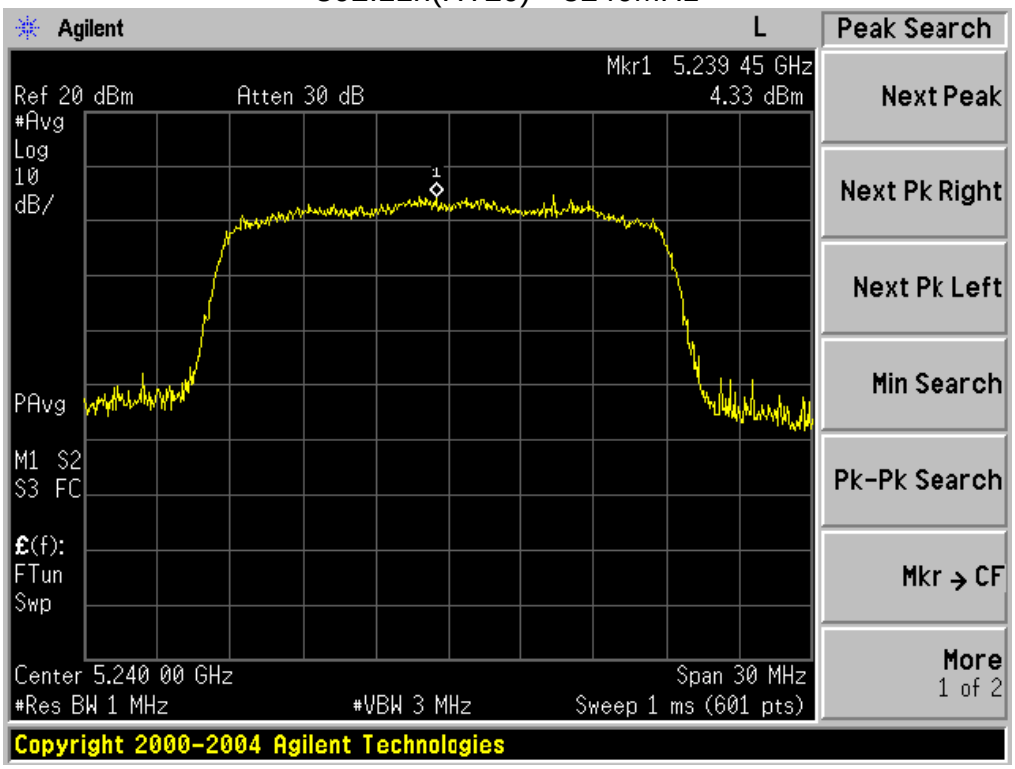
802.11n(HT20) 5180MHz



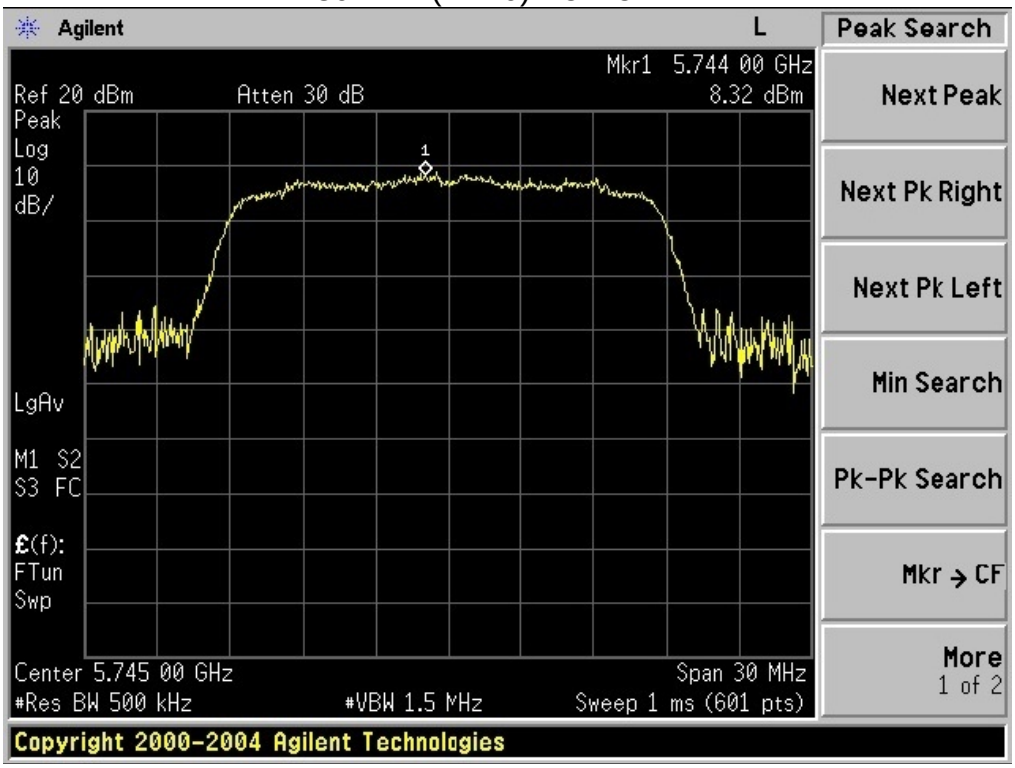
802.11n(HT20) 5200MHz



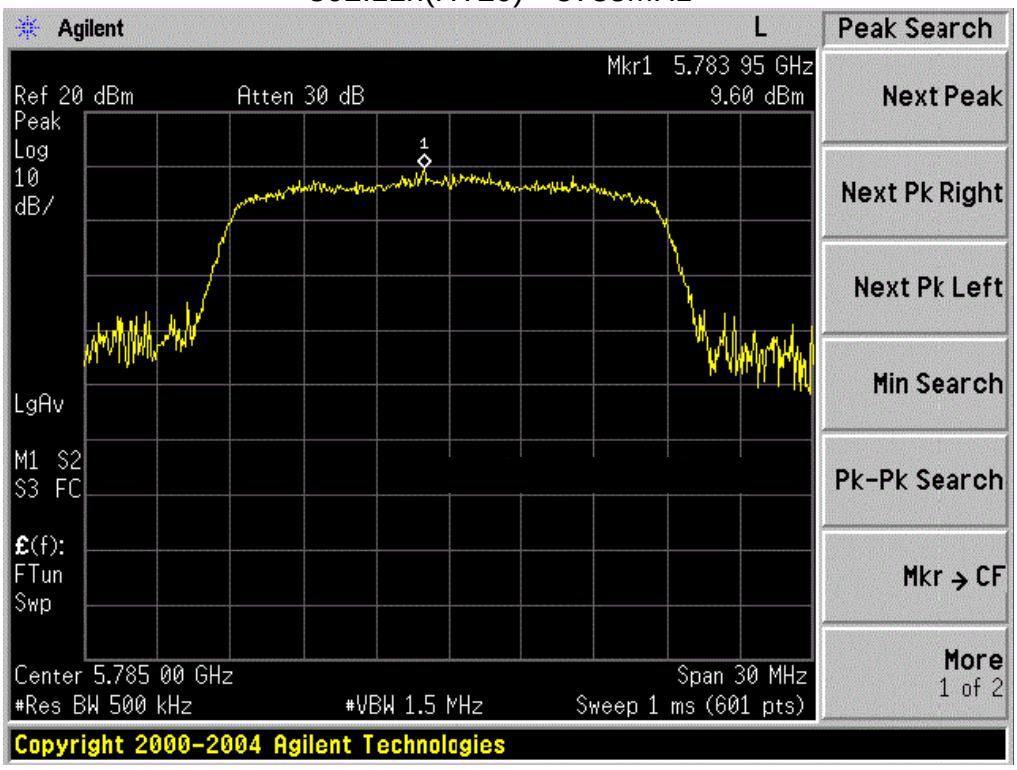
802.11n(HT20) 5240MHz



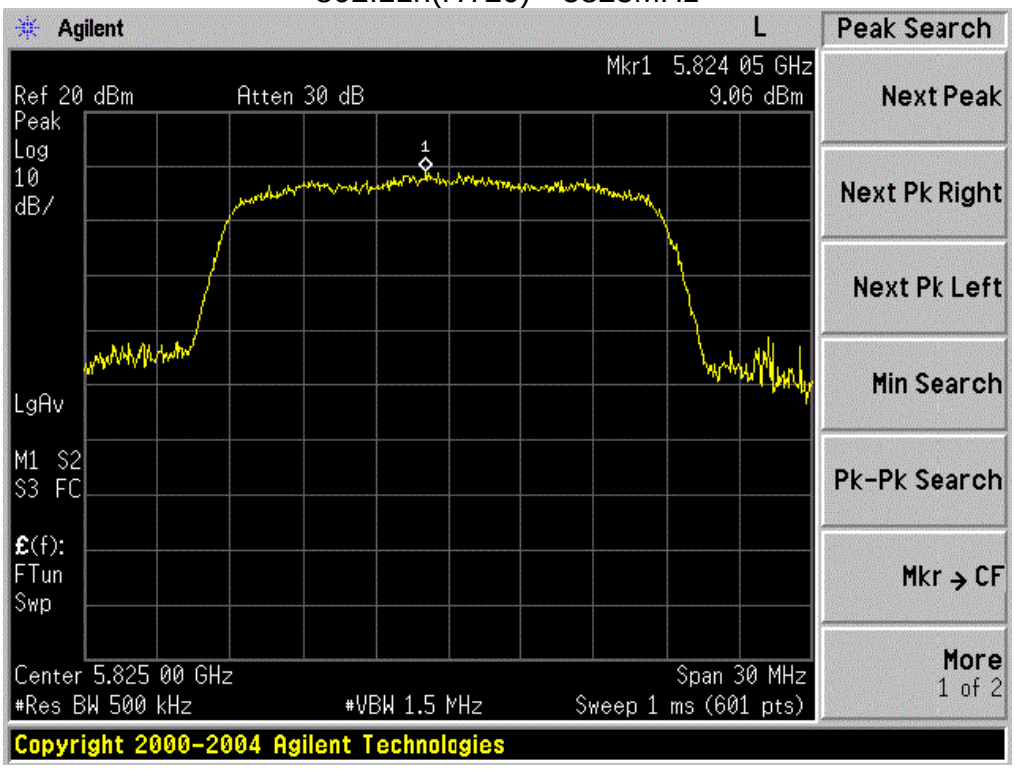
802.11n(HT20) 5745MHz



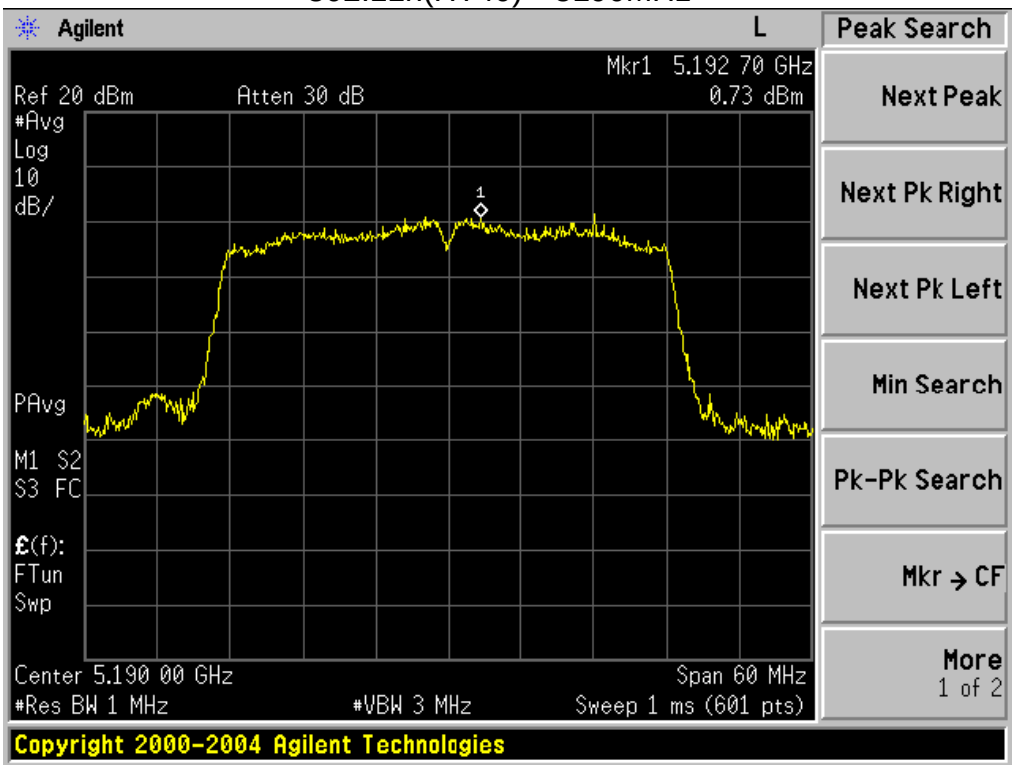
802.11n(HT20) 5785MHz



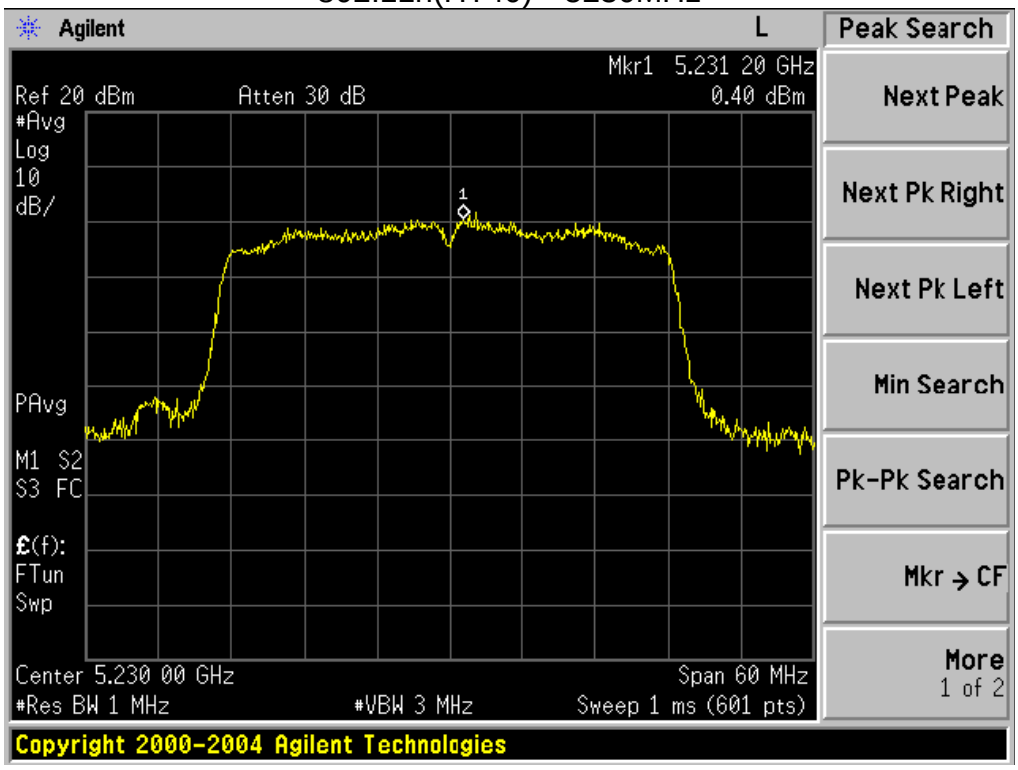
802.11n(HT20) 5825MHz



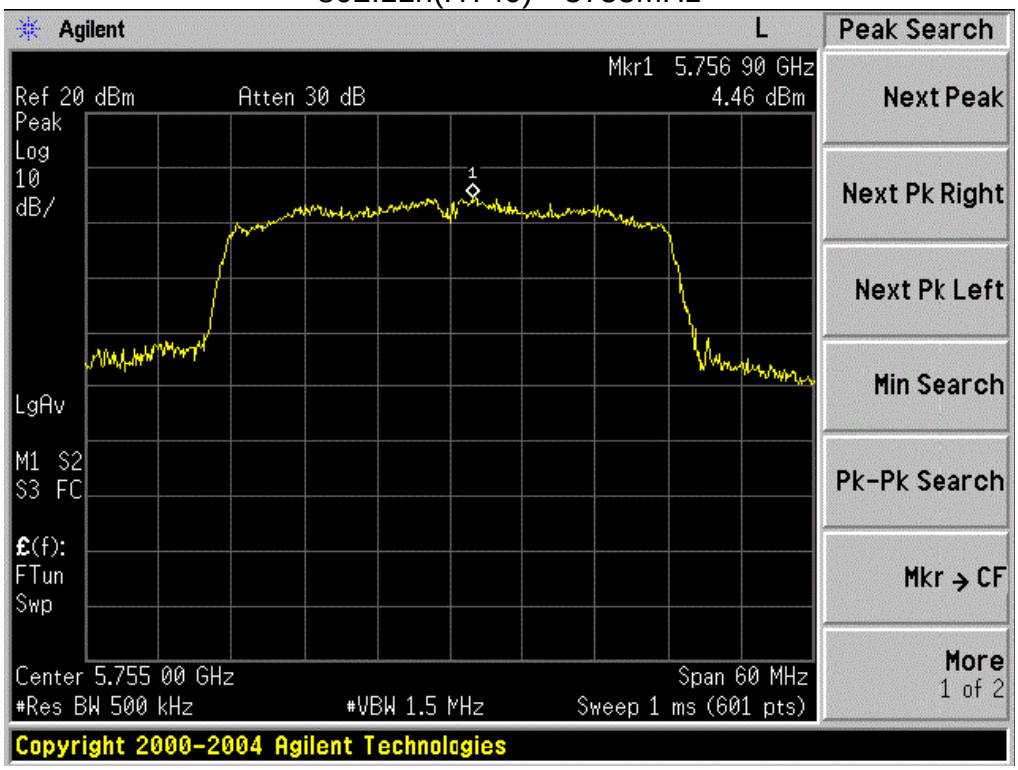
802.11n(HT40) 5190MHz



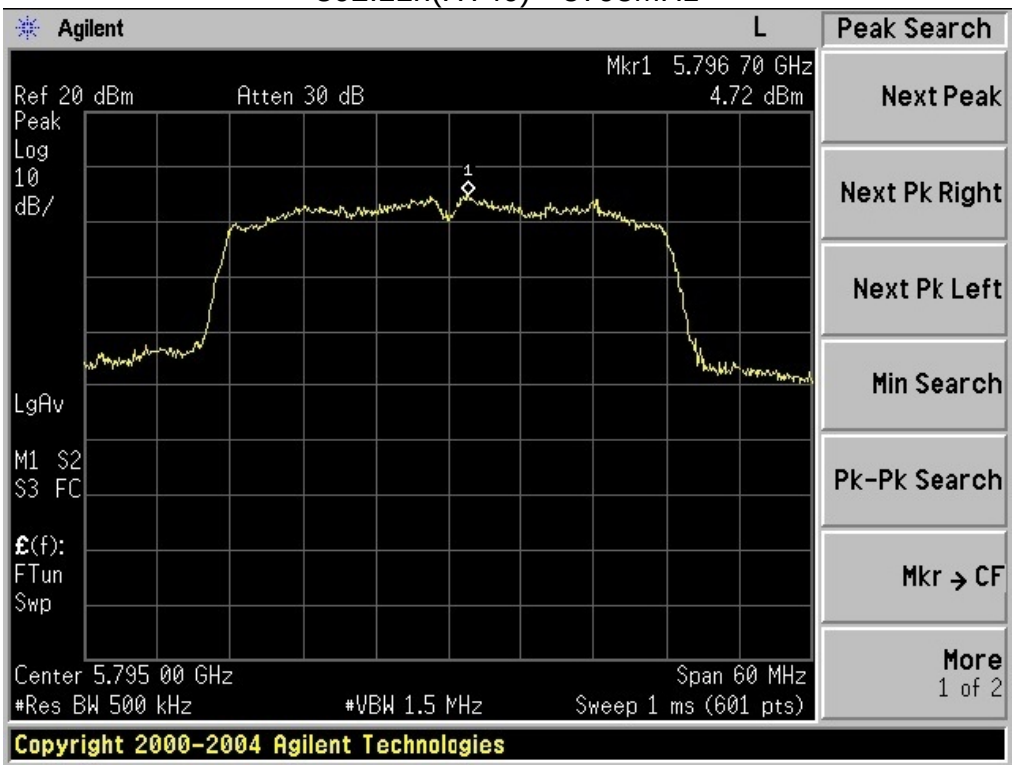
802.11n(HT40) 5230MHz



802.11n(HT40) 5755MHz



802.11n(HT40) 5795MHz



9. DUTY CYCLE TEST SIGNAL

Pre-analysis Check: While conducting average power measurement, duty cycle of each mode shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle.

All duty cycle is pre-scanned, and result as obtained below shows only the most representative ones where duty cycle is conducted as the given transmission with given virtual operation that expresses the percentage.

Formula:

Duty Cycle = Ton / (Ton+Toff)

Measurement Procedure:

1. Set span = Zero
2. RBW = 8MHz
3. VBW = 8MHz,
4. Detector = Peak

Duty Cycle:

Operation Mode	Duty Cycle	Duty Fator (dB) 10 * log (1/ Duty cycle)
802.11a	93.99%	0.27
802.11n(HT20)	95.02%	0.22
802.11n(HT40)	90.66%	0.43

802.11a

802.11n(HT20)

802.11n(HT40)

10. FREQUENCY STABILITY

10.1. Limits

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

10.2. Test setup

1. The EUT was placed inside temperature chamber and powered and powered by nominal DC voltage.
2. Set EUT as normal operation.
3. Turn the EUT on and couple its output to spectrum.
4. Turn the EUT off and set the chamber to the highest temperature specified.
5. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT and measure the operating frequency.
6. Repeat step with the temperature chamber set to the lowest temperature.

10.3. Test data

Test data as below

	Test Voltage	Test Temp.	Measured Frequency (MHz)	Spectrum Frequency (MHz)	Δ Frequency (MHz)
802.11a	4.255V	-20℃	5180.000	5180.0428	-0.0428
			5200.000	5200.0347	-0.0347
			5240.000	5240.0248	-0.0248
			5745.000	5745.0342	-0.0342
			5785.000	5785.0362	-0.0362
			5825.000	5825.0342	-0.0342
	3.145V		5180.000	5180.0248	-0.0248
			5200.000	5200.0318	-0.0318
			5240.000	5240.0276	-0.0276
			5745.000	5745.0294	-0.0294
			5785.000	5785.0347	-0.0347
			5825.000	5825.0418	-0.0418
	3.70V	25℃	5180.000	5180.0517	-0.0517
			5200.000	5200.0249	-0.0249
			5240.000	5240.0361	-0.0361
			5745.000	5745.0347	-0.0347
			5785.000	5785.0428	-0.0428
			5825.000	5825.0294	-0.0294
	4.255V	50℃	5180.000	5180.0347	-0.0347
			5200.000	5200.0264	-0.0264
			5240.000	5240.0318	-0.0318
			5745.000	5745.0614	-0.0614
			5785.000	5785.0418	-0.0418
			5825.000	5825.0611	-0.0611
	3.145V		5180.000	5180.0336	-0.0336
			5200.000	5200.0275	-0.0275
			5240.000	5240.0361	-0.0361
			5745.000	5745.0484	-0.0484
			5785.000	5785.0294	-0.0294
			5825.000	5825.0741	-0.0741

	Test Voltage	Test Temp.	Measured Frequency (MHz)	Spectrum Frequency (MHz)	Δ Frequency (MHz)
802.11n20	4.255V	-20℃	5180.000	5180.0418	-0.0418
			5200.000	5200.0364	-0.0364
			5240.000	5240.0269	-0.0269
			5745.000	5745.0674	-0.0674
			5785.000	5785.0249	-0.0249
			5825.000	5825.0337	-0.0337
	3.145V		5180.000	5180.0289	-0.0289
			5200.000	5200.0519	-0.0519
			5240.000	5240.0347	-0.0347
			5745.000	5745.0427	-0.0427
			5785.000	5785.0428	-0.0428
			5825.000	5825.0218	-0.0218
	3.70V	25℃	5180.000	5180.0247	-0.0247
			5200.000	5200.0351	-0.0351
			5240.000	5240.0428	-0.0428
			5745.000	5745.0617	-0.0617
			5785.000	5785.0347	-0.0347
			5825.000	5825.0519	-0.0519
	4.255V	50℃	5180.000	5180.0267	-0.0267
			5200.000	5200.0314	-0.0314
			5240.000	5240.0516	-0.0516
			5745.000	5745.0324	-0.0324
			5785.000	5785.0614	-0.0614
			5825.000	5825.0287	-0.0287
	3.145V	50℃	5180.000	5180.0327	-0.0327
			5200.000	5200.0287	-0.0287
			5240.000	5240.0611	-0.0611
			5745.000	5745.0387	-0.0387
			5785.000	5785.0269	-0.0269
			5825.000	5825.0334	-0.0334

	Test Voltage	Test Temp.	Measured Frequency (MHz)	Spectrum Frequency (MHz)	Δ Frequency (MHz)
802.11n40	4.255V	-20℃	5190.000	5190.0268	-0.0268
			5230.000	5230.0364	-0.0364
			5755.000	5755.0517	-0.0517
			5795.000	5795.0641	-0.0641
	3.145V		5190.000	5190.0297	-0.0297
			5230.000	5230.0384	-0.0384
			5755.000	5755.0275	-0.0275
			5795.000	5795.0466	-0.0466
	3.70V	25℃	5190.000	5190.0258	-0.0258
			5230.000	5230.0618	-0.0618
			5755.000	5755.0268	-0.0268
			5795.000	5795.0517	-0.0517
	4.255V	50℃	5190.000	5190.0617	-0.0617
			5230.000	5230.0547	-0.0547
			5755.000	5755.0417	-0.0417
			5795.000	5795.0349	-0.0349
	3.145V	50℃	5190.000	5190.0521	-0.0521
			5230.000	5230.0329	-0.0329
			5755.000	5755.0337	-0.0337
			5795.000	5795.0419	-0.0419

11. TRANSMISSION IN THE ABSENCE OF DATA

11.1. Limits

According to §15.407(c)

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

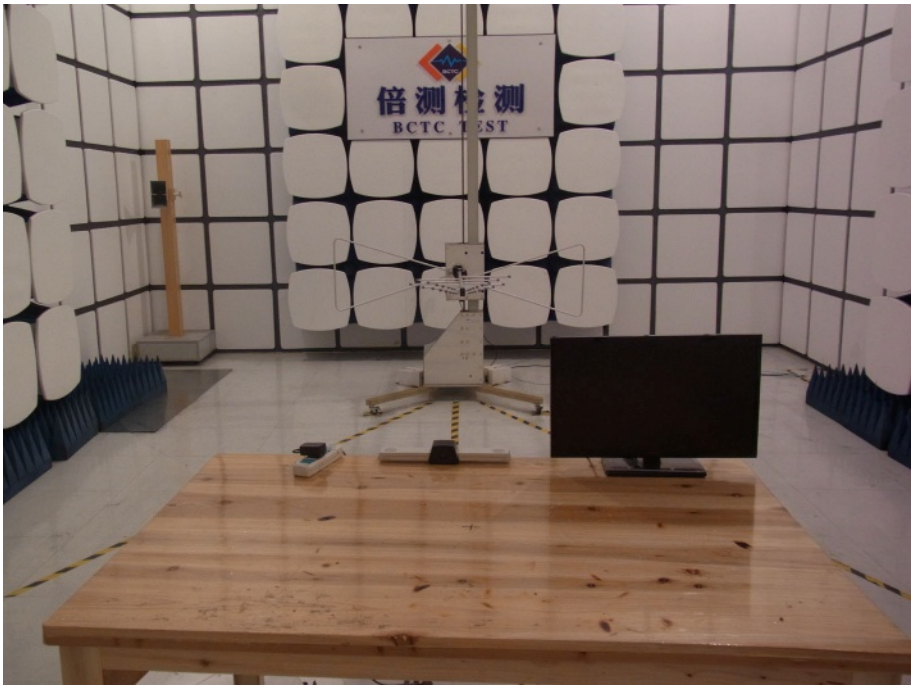
11.2. Test result

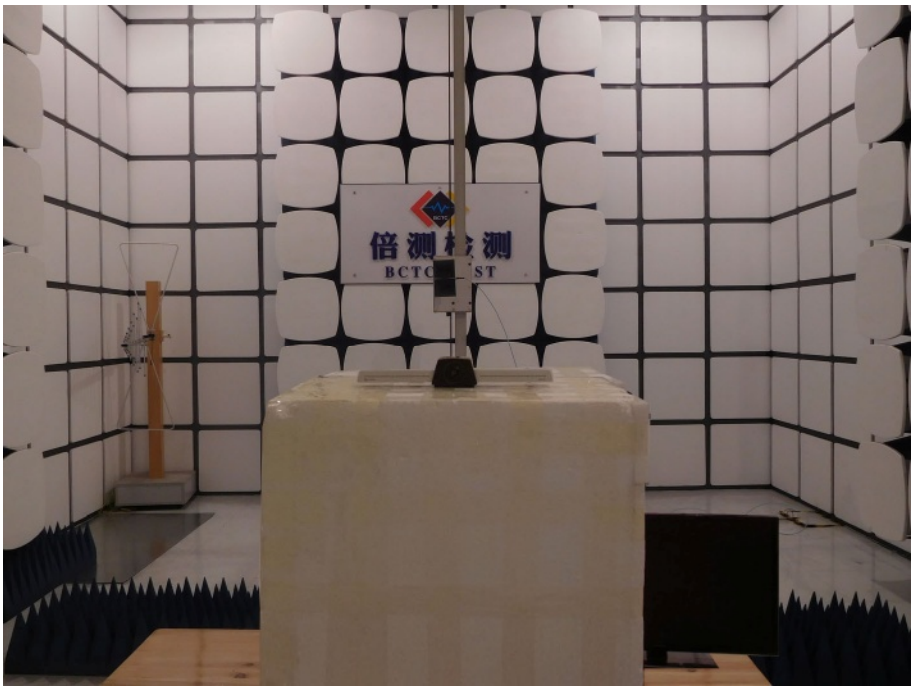
No non-compliance noted:

Refer to the theory of operation.

12. PHOTOGRAPHS OF TEST SET-UP

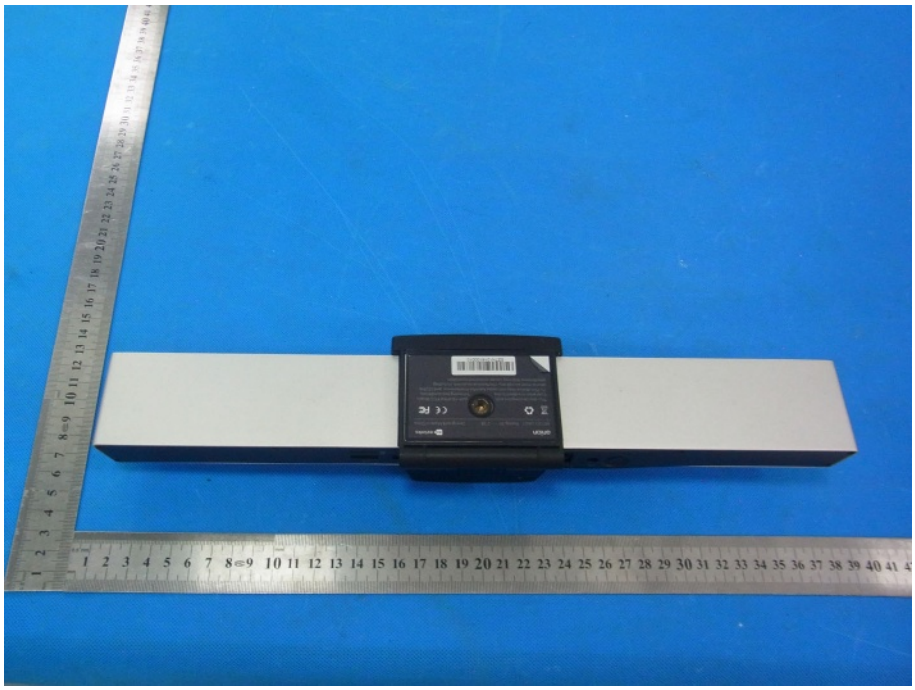
Radiated Emission Test

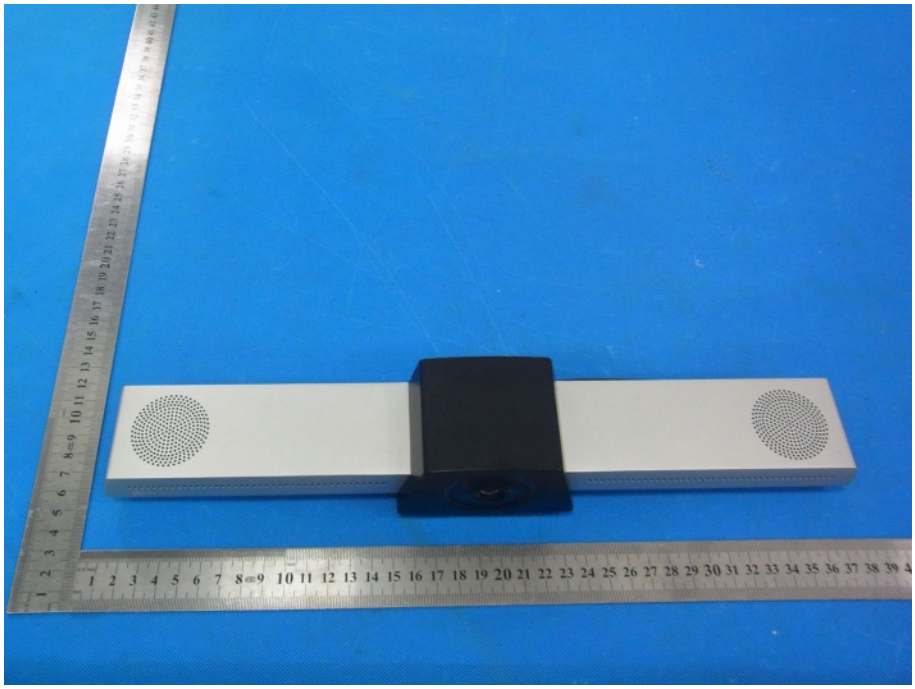


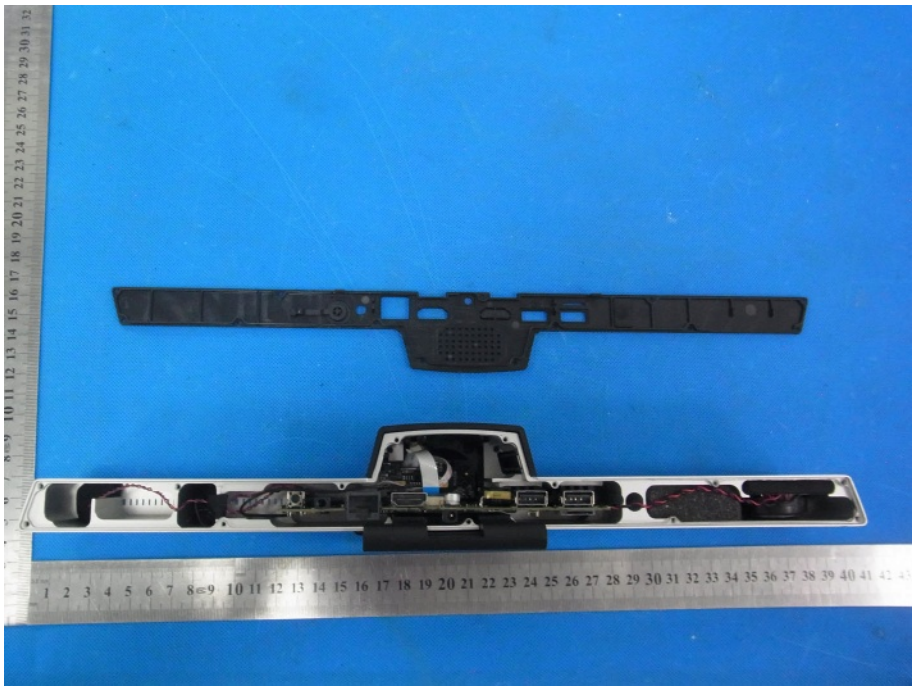


Conducted Measurement Photos

13. PHOTOGRAPHS OF THE EUT







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