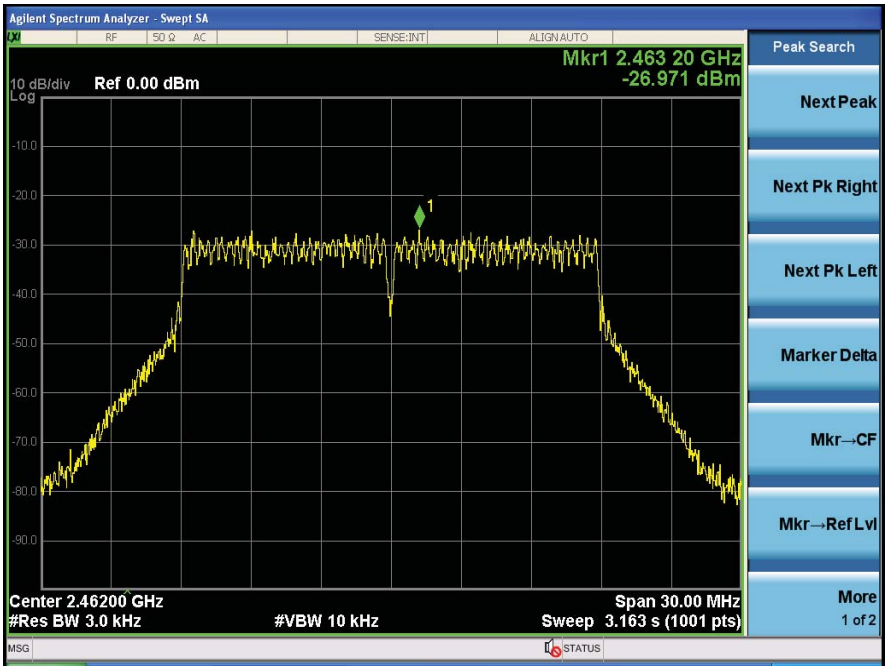
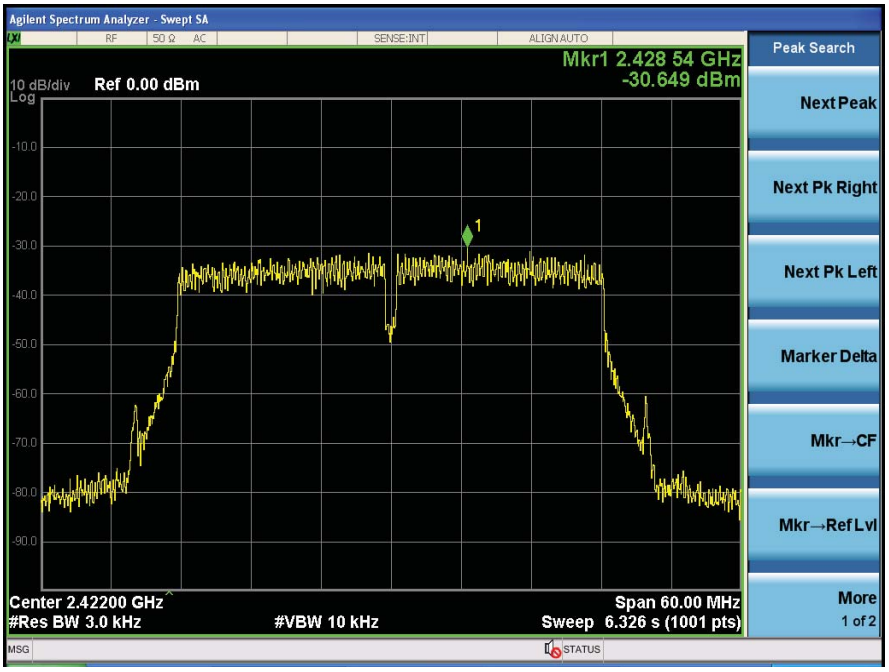
CH Hig:

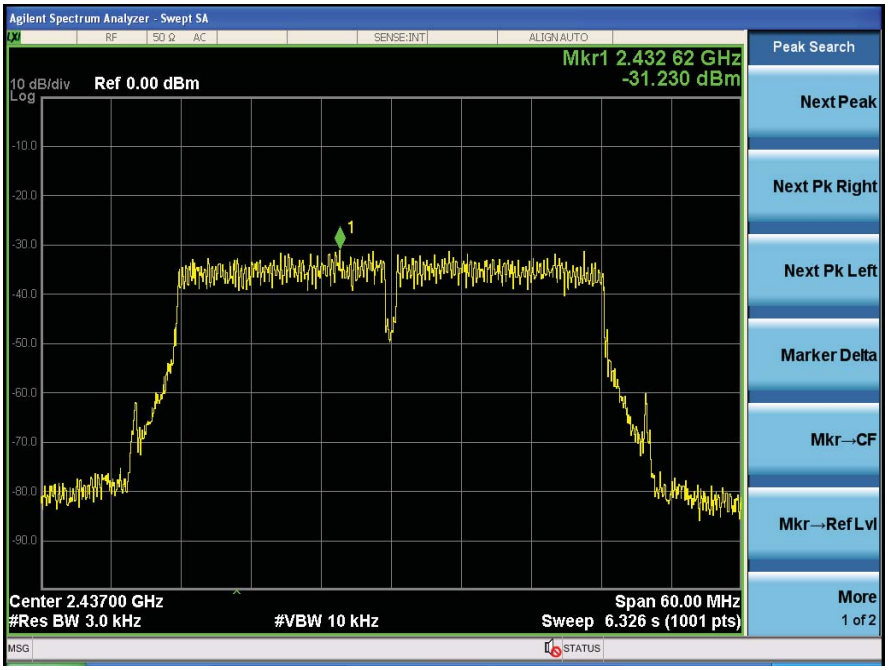


IEEE 802.11n HT40 :

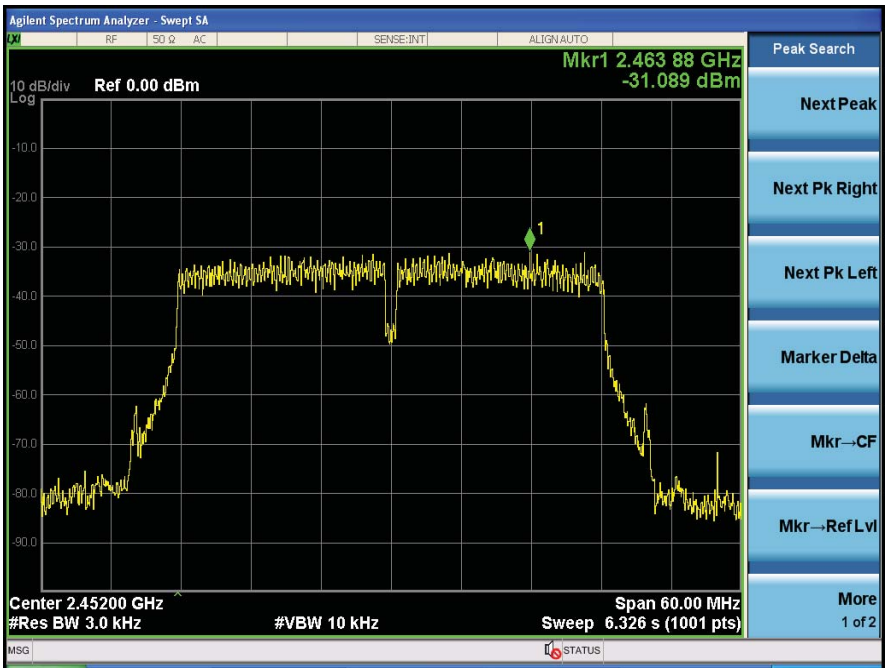
CH Low :



CH Mid:

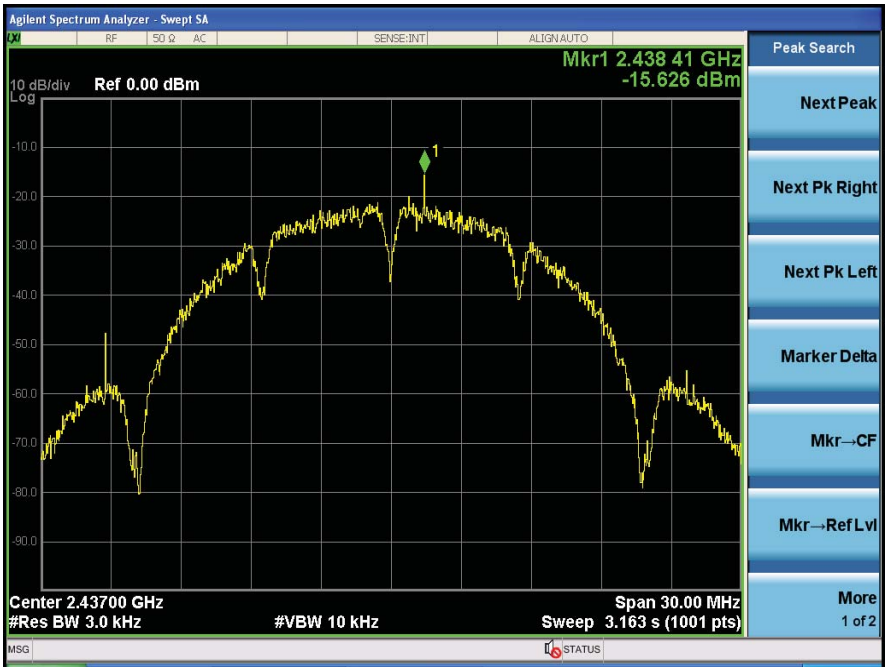

Agilent Spectrum Analyzer - Swept SA
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
Mkr1 2.432 62 GHz
-31.230 dBm
10 dB/div
Log
Ref 0.00 dBm
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
-90.0
Center 2.43700 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 60.00 MHz
Sweep 6.326 s (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

CH Hig:

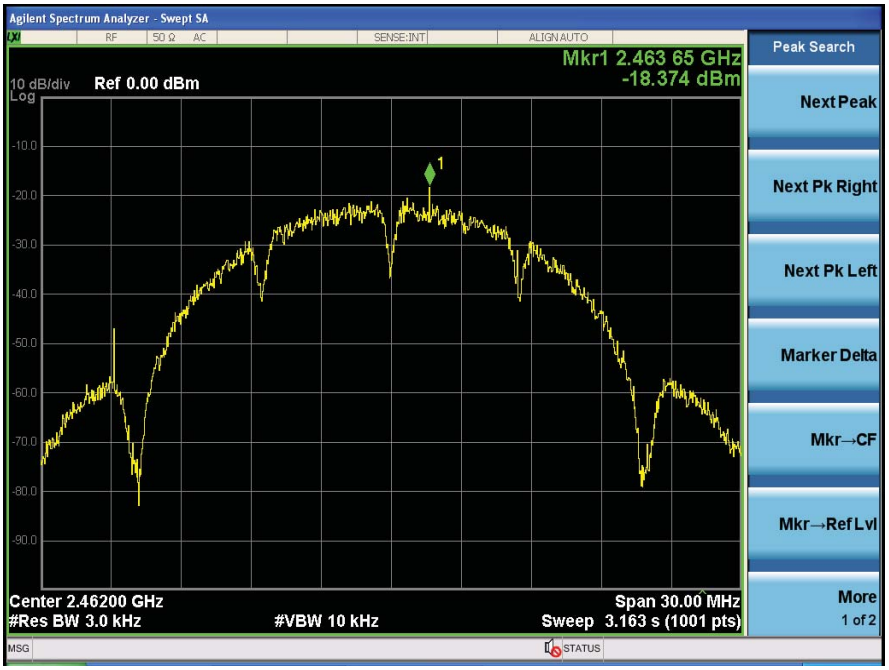

Agilent Spectrum Analyzer - Swept SA
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
Mkr1 2.463 88 GHz
-31.089 dBm
10 dB/div
Log
Ref 0.00 dBm
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
-90.0
Center 2.45200 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 60.00 MHz
Sweep 6.326 s (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

port 1 antenna
IEEE 802.11b :
CH Low :

CH Mid:

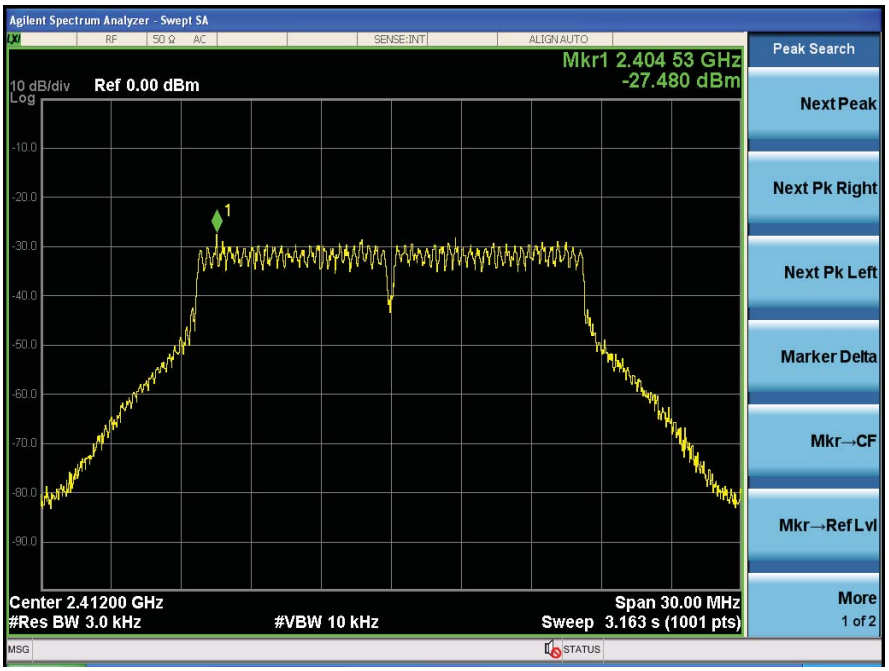


CH Hig:

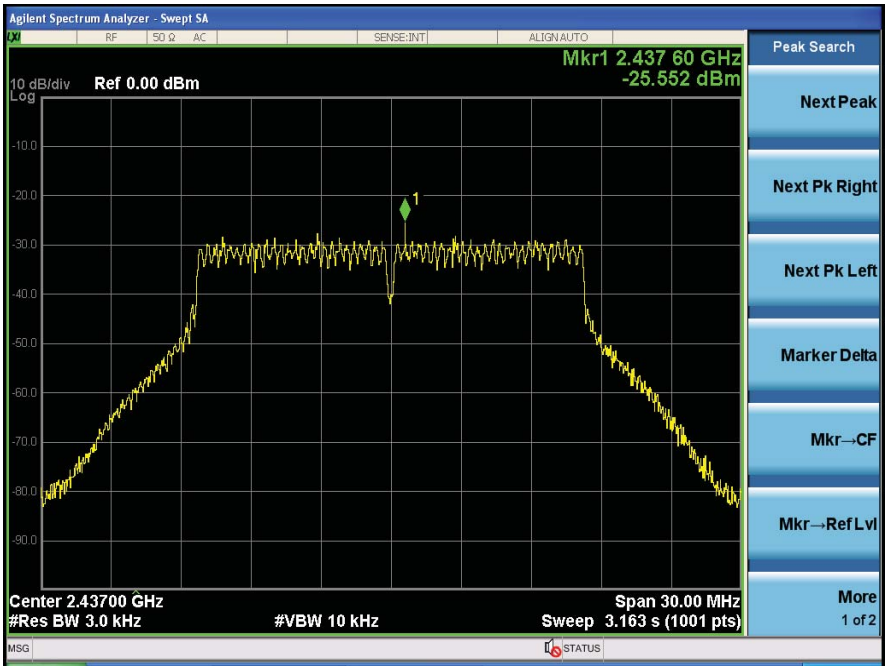


IEEE 802.11g :

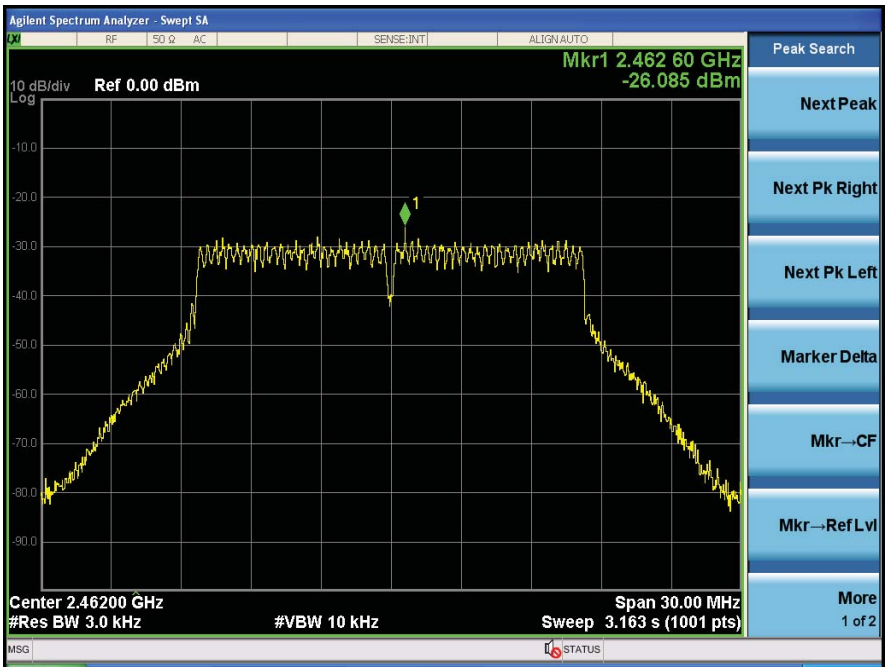
CH Low :



CH Mid:

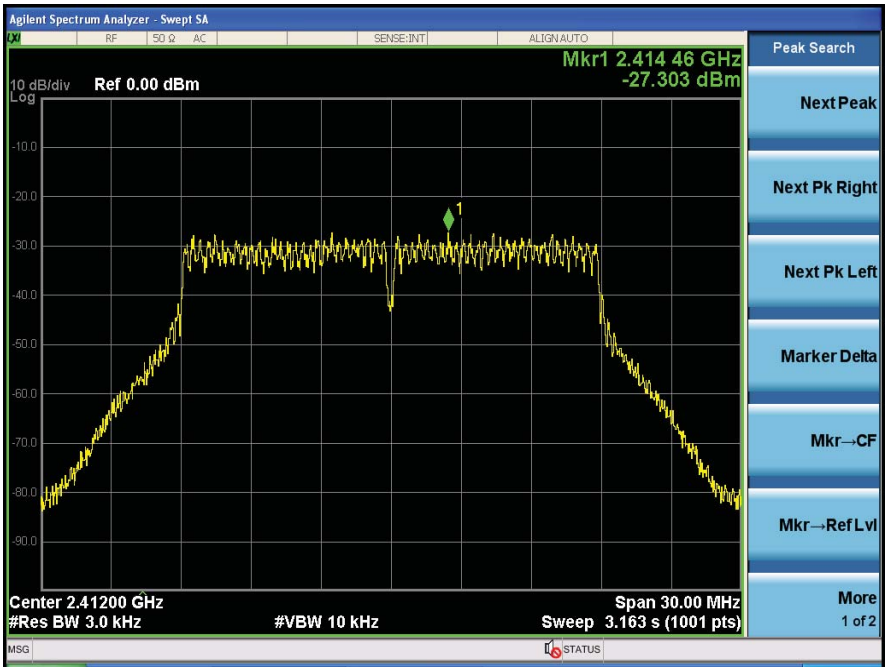

Agilent Spectrum Analyzer - Swept SA
RF 50 Ω AC
SENSE:INT
ALIGN AUTO
Mkr1 2.437 60 GHz
-25.552 dBm
10 dB/div
Log
Ref 0.00 dBm
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
-90.0
1
Center 2.43700 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 30.00 MHz
Sweep 3.163 s (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

CH Hig:

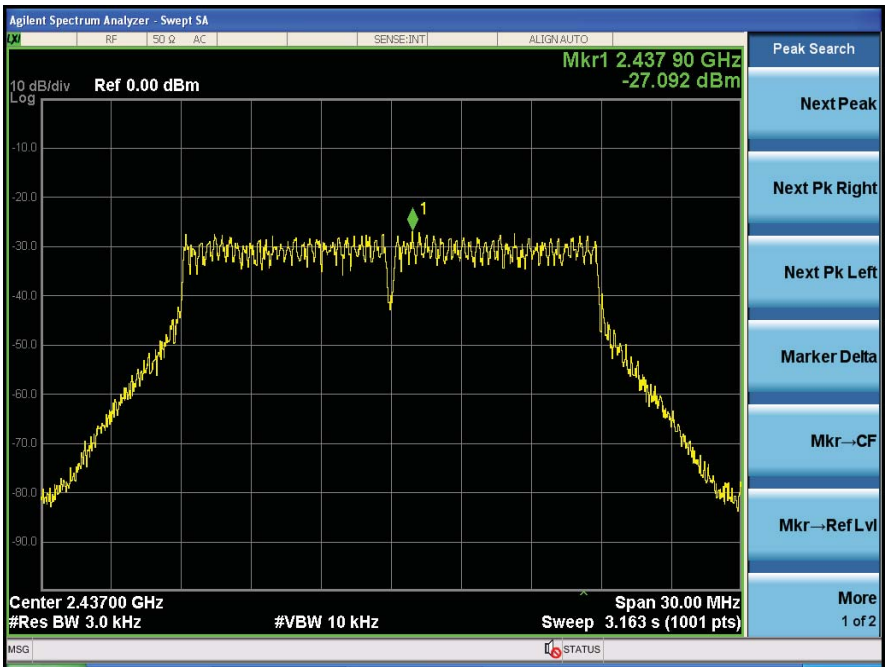

Agilent Spectrum Analyzer - Swept SA
RF 50 Ω AC
SENSE:INT
ALIGN AUTO
Mkr1 2.462 60 GHz
-26.085 dBm
10 dB/div
Log
Ref 0.00 dBm
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
-90.0
1
Center 2.46200 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 30.00 MHz
Sweep 3.163 s (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

IEEE 802.11n HT20 :

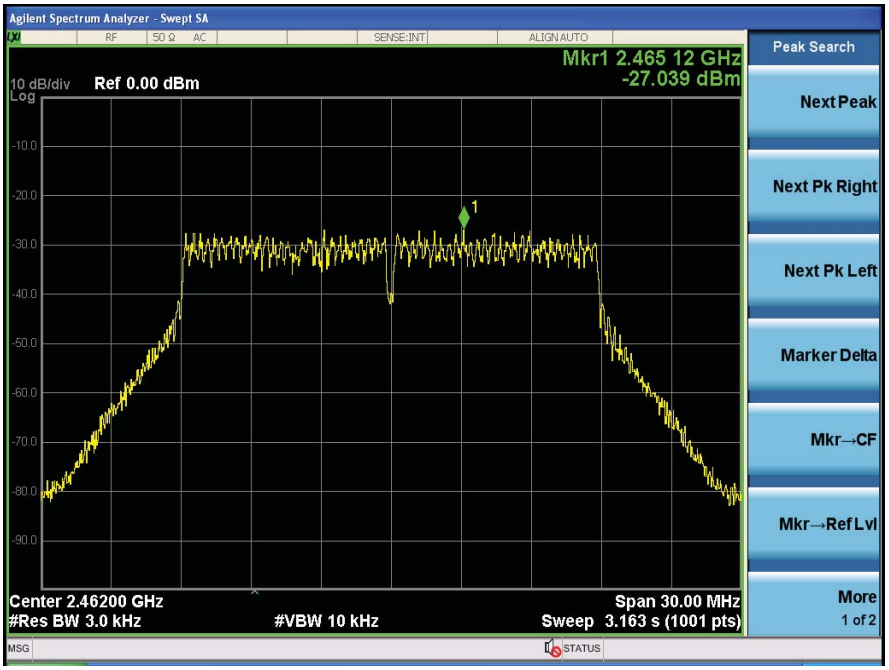
CH Low :



CH Mid:

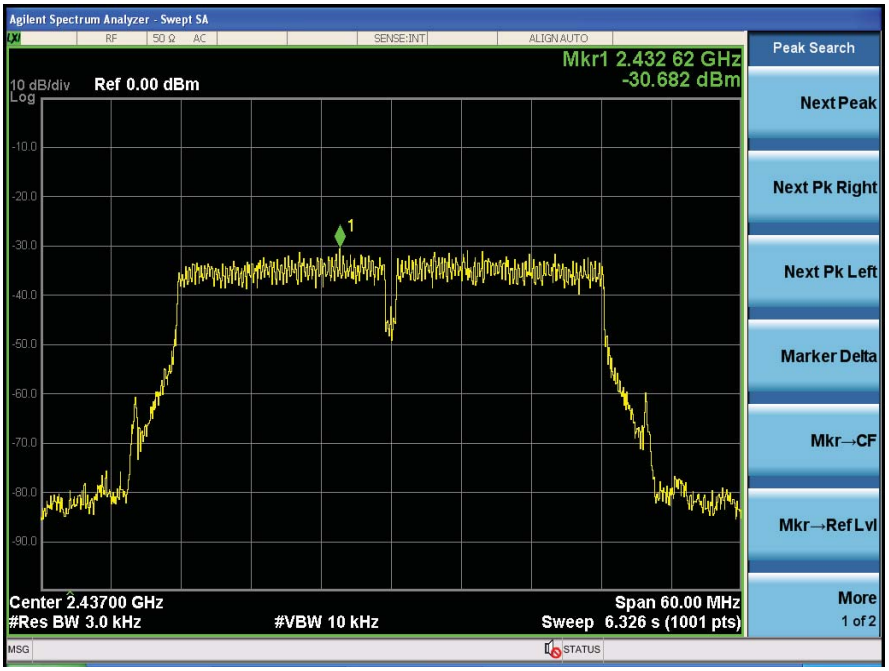


CH Hig:

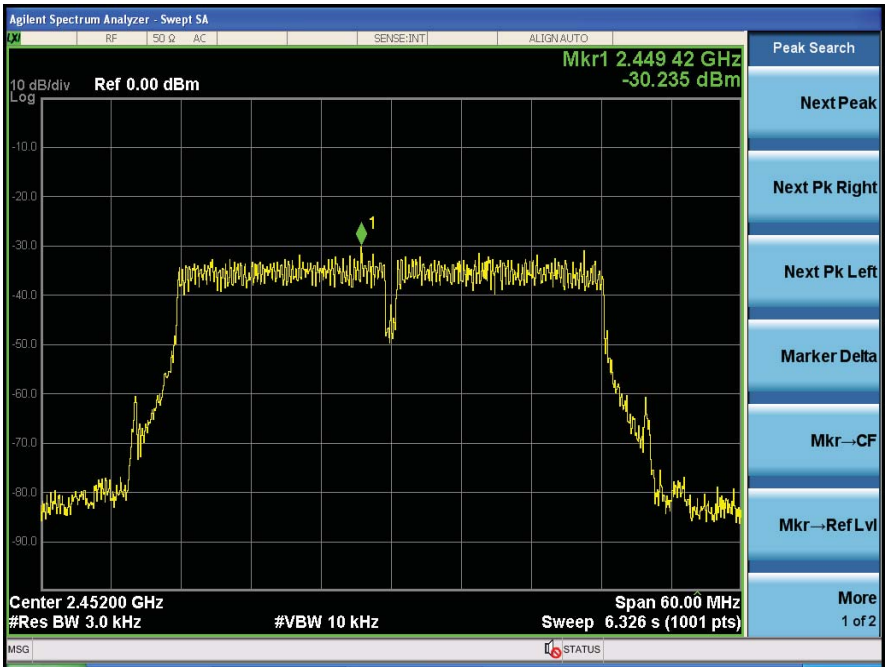


IEEE 802.11n HT40 :
CH Low :

CH Mid:


Agilent Spectrum Analyzer - Swept SA
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
Mkr1 2.432 62 GHz
-30.682 dBm
10 dB/div
Log
Ref 0.00 dBm
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
-90.0
Center 2.43700 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 60.00 MHz
Sweep 6.326 s (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

CH Hig:


Agilent Spectrum Analyzer - Swept SA
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
Mkr1 2.449 42 GHz
-30.235 dBm
10 dB/div
Log
Ref 0.00 dBm
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
-90.0
Center 2.45200 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 60.00 MHz
Sweep 6.326 s (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

9 Bandwidth

9.1 Test limit

Please refer sectionRSS-247 & 15.247

For direct sequence systems, the minimum 6dB bandwidth shall be at least 500 kHz.

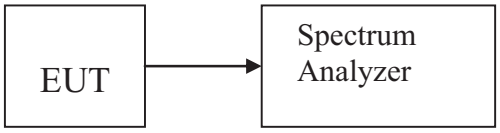
9.2 Method of measurement

Details see the KDB558074 D01 Meas Guidance

a) The bandwidth is measured at an amplitude level reduced 20dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst-case (i.e. the widest) bandwidth.

b) The test receiver set RBW = 100KHz, VBW≥300KHz, Sweep time set auto, PEAK Detector,detail see the test plot.

9.3 Test Setup



9.4 Test Results

PASS.

Antenna 0 and Antenna 1port all have been tested ,
only worse case is reported

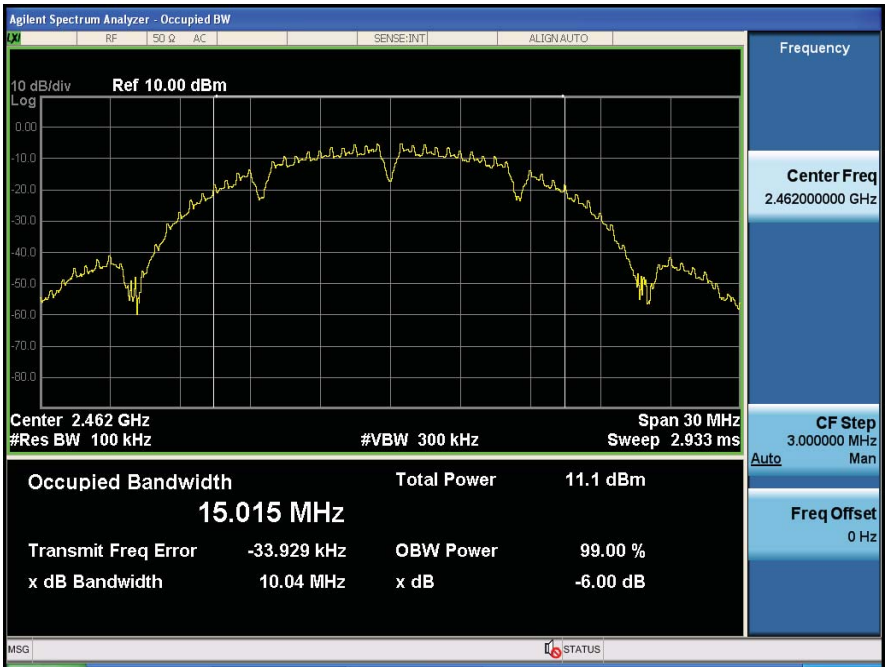
Detailed information please see the following page.

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit (MHz)	Result
IEEE 802.11b:					
Low	2412	9.61	/	0.5	PASS
Mid	2437	10.01	/	0.5	PASS
High	2462	10.04	/	0.5	PASS
IEEE 802.11g					
Low	2412	16.37	/	0.5	PASS
Mid	2437	16.36	/	0.5	PASS
High	2462	16.38	/	0.5	PASS
IEEE 802.11n/HT20:					
Low	2412	17.62	/	0.5	PASS
Mid	2437	17.61	/	0.5	PASS
High	2462	17.60	/	0.5	PASS
IEEE 802.11n/HT40:					
Low	2422	35.75	/	0.5	PASS
Mid	2437	35.75	/	0.5	PASS
High	2452	35.54	/	0.5	PASS

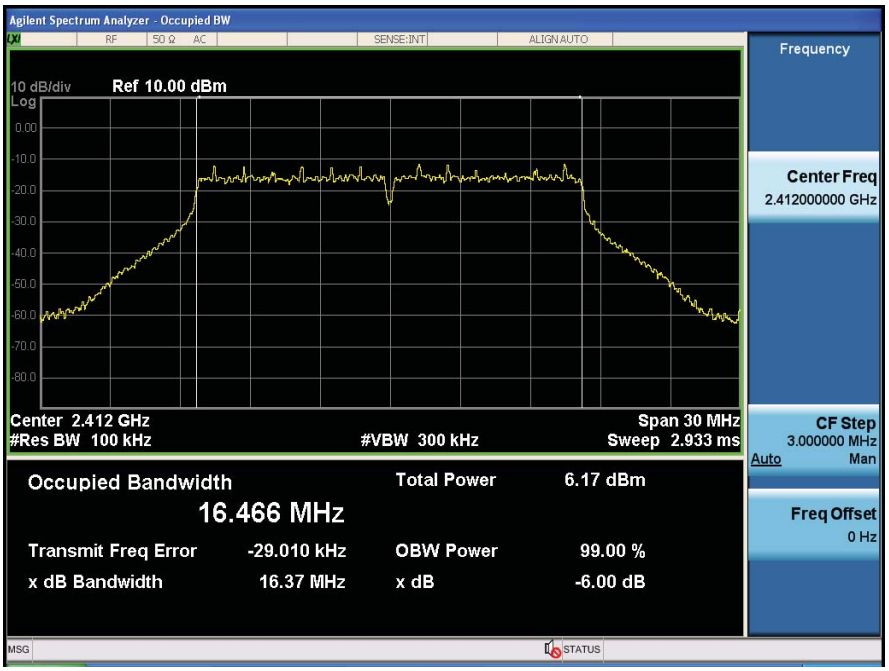
IEEE 802.11b:
CH Low :

CH Mid :

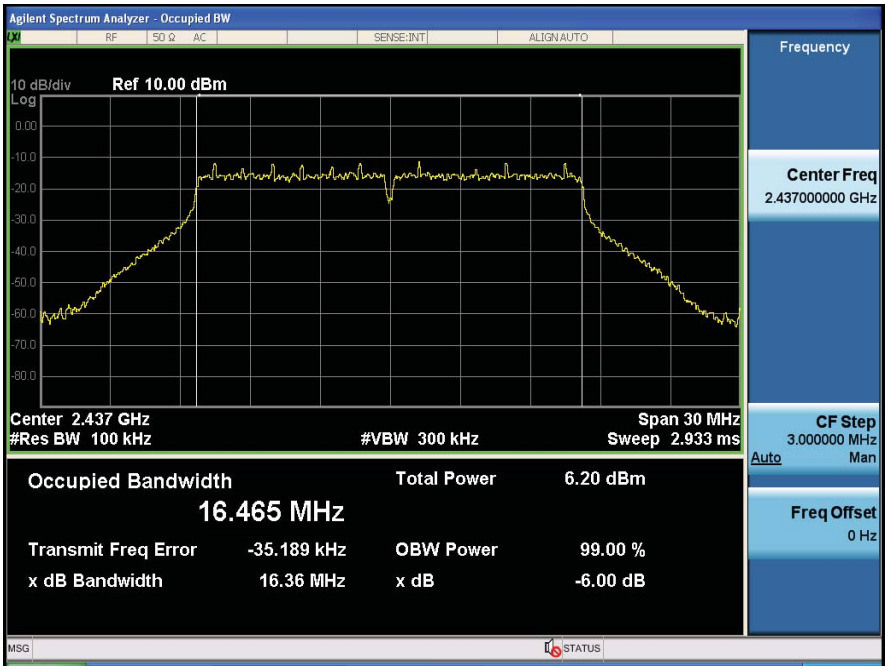
CH High :



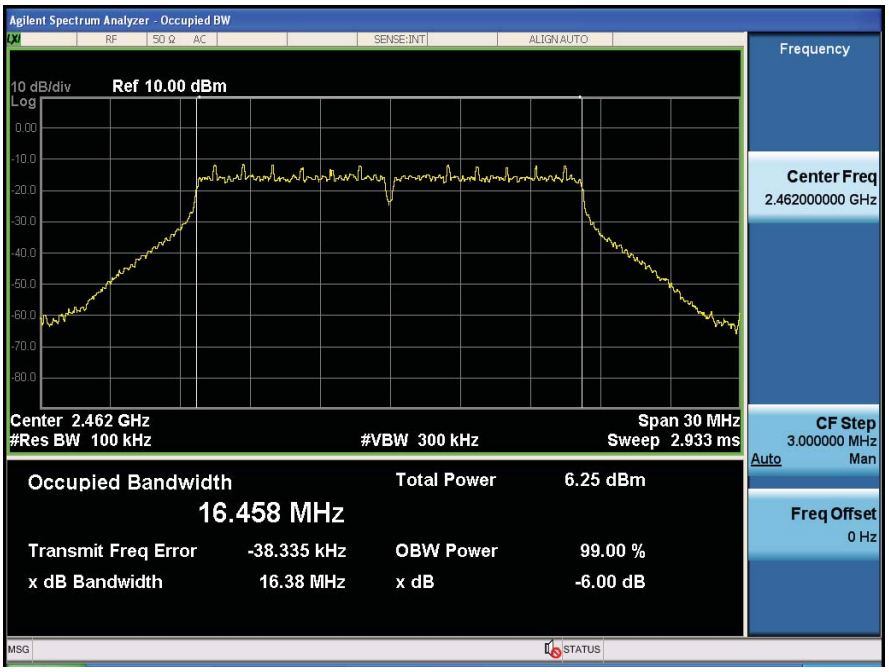
IEEE 802.11g:
CH Low :



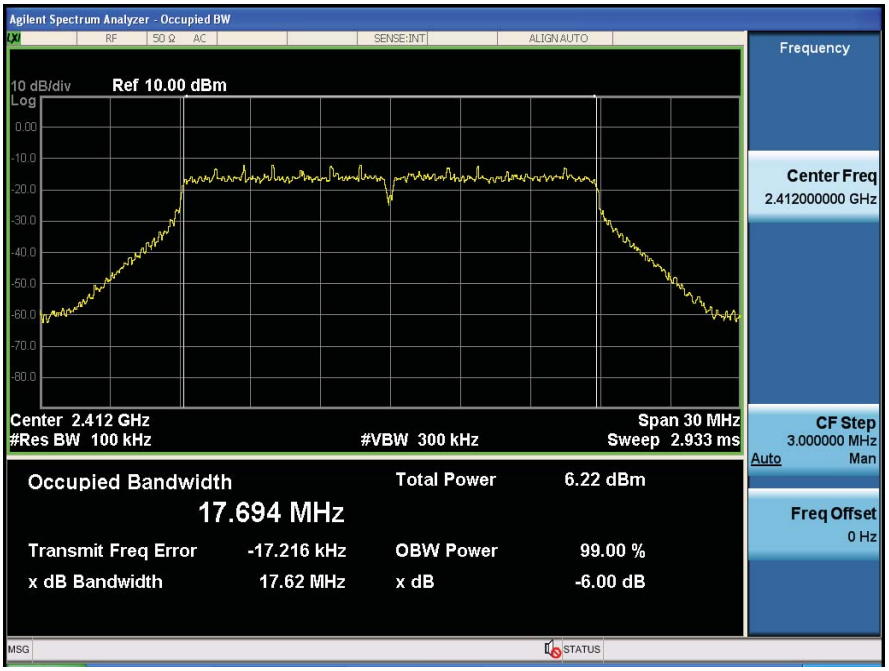
CH Mid:


Agilent Spectrum Analyzer - Occupied BW
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
10 dB/div
Log
Ref 10.00 dBm
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
Center 2.437 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 30 MHz
Sweep 2.933 ms
Occupied Bandwidth
16.465 MHz
Total Power 6.20 dBm
Transmit Freq Error -35.189 kHz
OBW Power 99.00 %
x dB Bandwidth 16.36 MHz
x dB -6.00 dB
MSG
STATUS
Frequency
Center Freq
2.437000000 GHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz

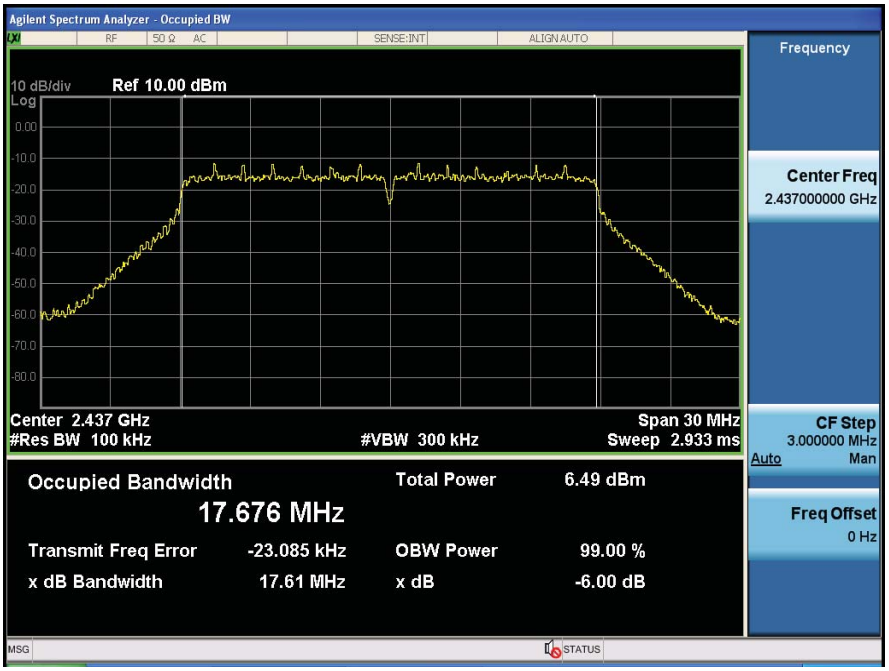
CH Hig:


Agilent Spectrum Analyzer - Occupied BW
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
10 dB/div
Log
Ref 10.00 dBm
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
Center 2.462 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 30 MHz
Sweep 2.933 ms
Occupied Bandwidth
16.458 MHz
Total Power 6.25 dBm
Transmit Freq Error -38.335 kHz
OBW Power 99.00 %
x dB Bandwidth 16.38 MHz
x dB -6.00 dB
MSG
STATUS
Frequency
Center Freq
2.462000000 GHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz

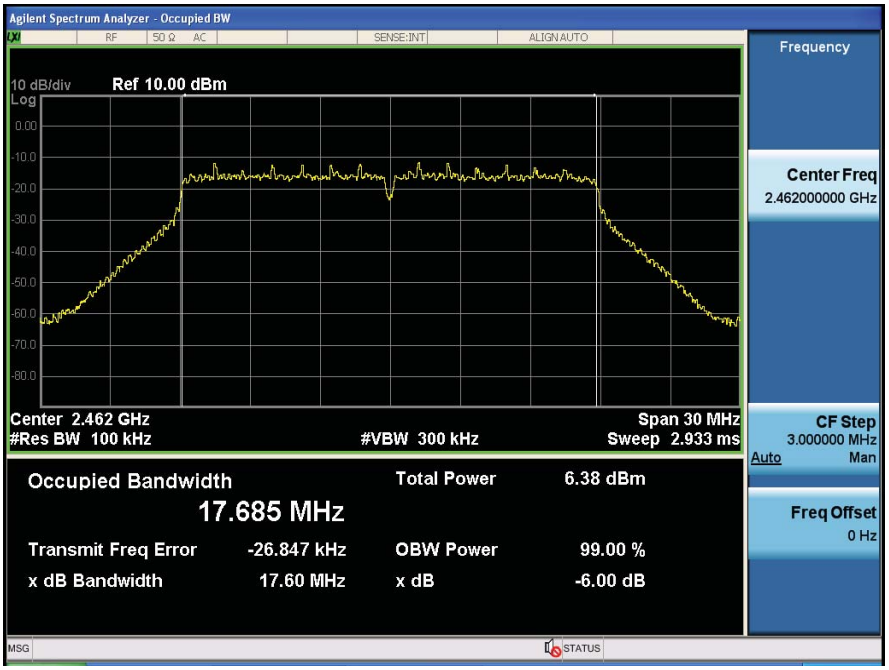
IEEE 802.11n HT20:
CH Low :



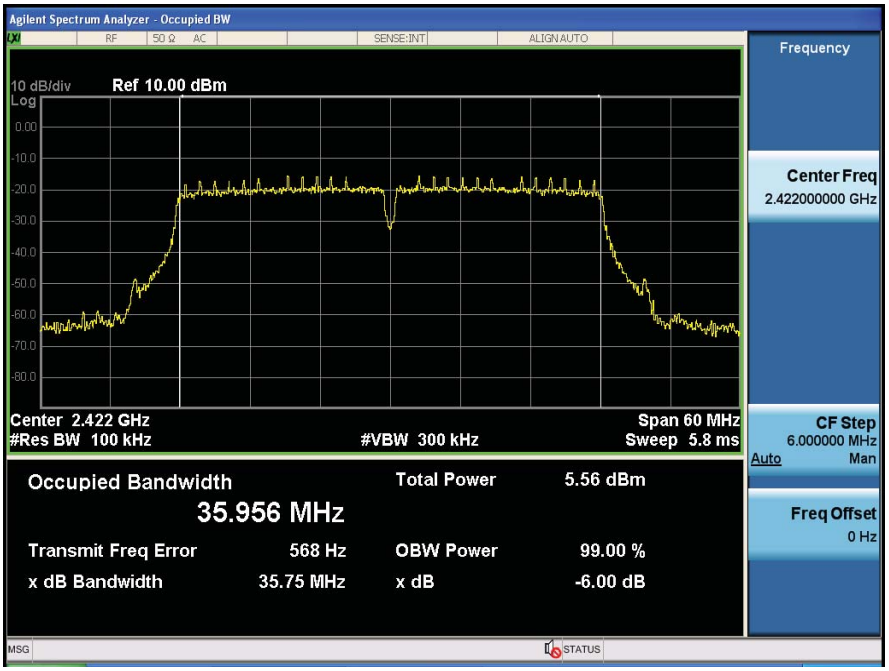
CH Mid :



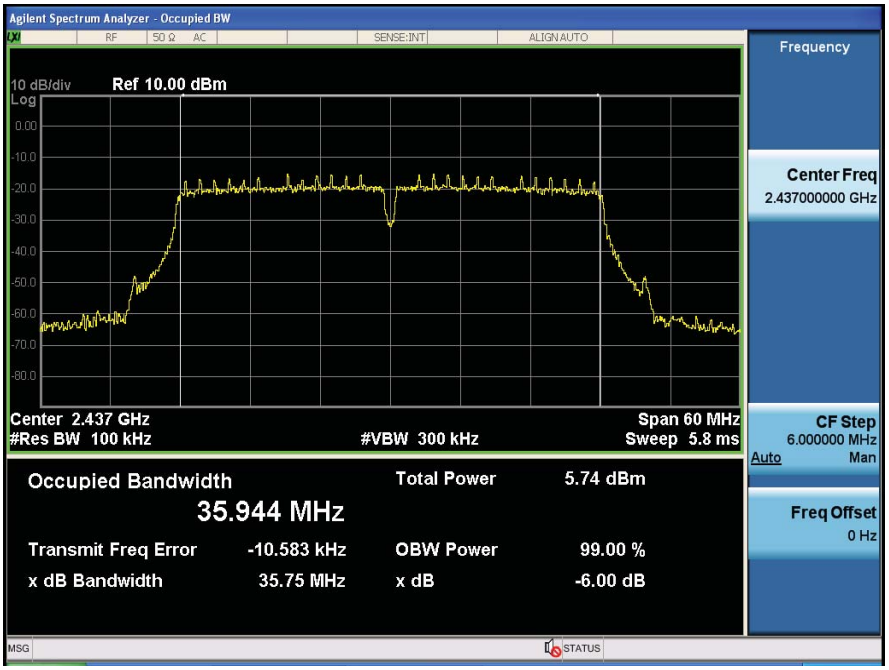
CH High :



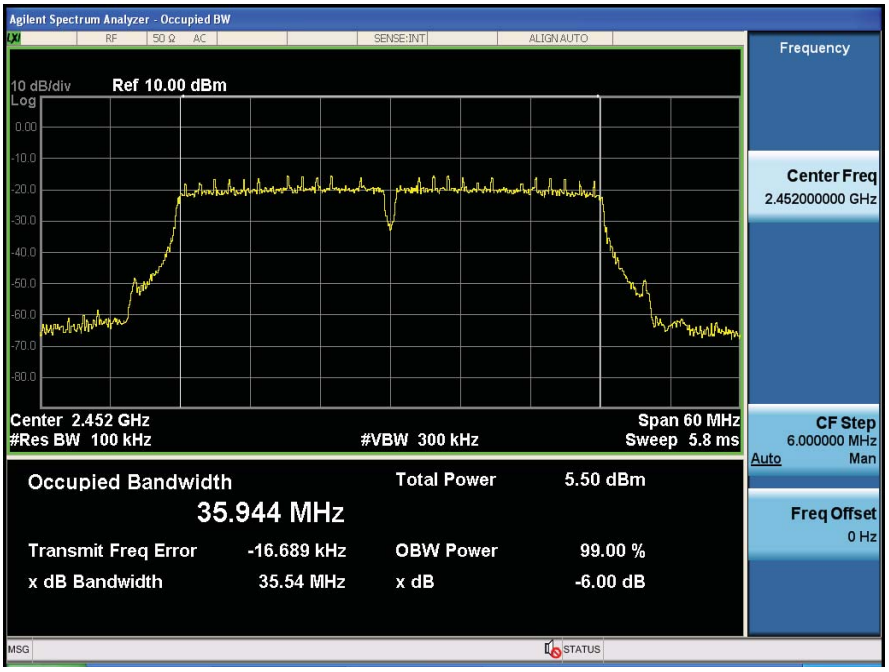
IEEE 802.11n/HT40:
CH Low :



CH Mid:



CH High :



10 Band Edge Check

10.1 Test limit

Please refer section RSS-GEN&15.247.

10.2 Test Procedure

12.2.1 Put the EUT on a 0.8m high table, power on the EUT. Emissions were scanned and measured rotating the EUT to 360 degrees, Find the maximum Emission

12.2.2 Check the spurious emissions out of band.

12.2.3 RBW 1MHz ,VBW 3MHz ,peak detector for peak value , RBW 1MHz ,VBW 3MHz ,RMS detector for AV value.

10.3 Test Setup

Same as 5.2.2.

10.4 Test Result

PASS.

Detailed information please see the following page.

Radiated Method:
802.11b ant1

Band Edge Test result								
EUT: 802.11n Wireless Router M/N: R0300								
Power: DC 5V From Adapter with AC 120V/60Hz								
Test date: 2016-05-21 Test site: 3m Chamber Tested by: Reak Yang								
Test mode: Tx Low								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	45.25	27.62	3.92	34.97	41.82	74	32.18	**PK**
--	--	--	--	--	--	--	--	--
Antenna Polarity: Horizontal								
2390	46.17	27.62	3.92	34.97	42.74	74	31.26	**PK**
--	--	--	--	--	--	--	--	--

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

Band Edge Test result								
EUT: 802.11n Wireless Router M/N: R0300								
Power: DC 5V From Adapter with AC 120V/60Hz								
Test date: 2016-05-21 Test site: 3m Chamber Tested by: Reak Yang								
Test mode: Tx High								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	41.21	27.89	4	34.97	38.13	74	35.87	**PK**
--	--	--	--	--	--	--	--	--
Antenna Polarity: Horizontal								
2483.5	42.33	27.89	4	34.97	39.25	74	34.75	**PK**
--	--	--	--	--	--	--	--	--

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

802.11g ant1

Band Edge Test result								
EUT: 802.11n Wireless Router M/N: R0300								
Power: DC 5V From Adapter with AC 120V/60Hz								
Test date: 2016-05-21 Test site: 3m Chamber Tested by: Reak Yang								
Test mode: Tx Low								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	45.68	27.62	3.92	34.97	42.25	74	31.75	**PK**
--	--	--	--	--	--	--	--	--
Antenna Polarity: Horizontal								
2390	46.75	27.62	3.92	34.97	43.32	74	30.68	**PK**
--	--	--	--	--	--	--	--	--

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

Band Edge Test result								
EUT: 802.11n Wireless Router M/N: R0300								
Power: DC 5V From Adapter with AC 120V/60Hz								
Test date: 2016-05-21 Test site: 3m Chamber Tested by: Reak Yang								
Test mode: Tx High								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	41.35	27.89	4	34.97	38.27	74	35.73	**PK**
--	--	--	--	--	--	--	--	--
Antenna Polarity: Horizontal								
2483.5	42.47	27.89	4	34.97	39.39	74	34.61	**PK**
--	--	--	--	--	--	--	--	--

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

802.11b ant2

Band Edge Test result								
EUT: 802.11n Wireless Router M/N: R0300								
Power: DC 5V From Adapter with AC 120V/60Hz								
Test date: 2016-05-21 Test site: 3m Chamber Tested by: Reak Yang								
Test mode: Tx Low								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	46.12	27.62	3.92	34.97	42.69	74	31.31	**PK**
--	--	--	--	--	--	--	--	--
Antenna Polarity: Horizontal								
2390	47.31	27.62	3.92	34.97	43.88	74	30.12	**PK**
--	--	--	--	--	--	--	--	--

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

Band Edge Test result								
EUT: 802.11n Wireless Router M/N: R0300								
Power: DC 5V From Adapter with AC 120V/60Hz								
Test date: 2016-05-21 Test site: 3m Chamber Tested by: Reak Yang								
Test mode: Tx High								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	41.28	27.89	4	34.97	38.2	74	35.8	**PK**
--	--	--	--	--	--	--	--	--
Antenna Polarity: Horizontal								
2483.5	42.17	27.89	4	34.97	39.09	74	34.91	**PK**
--	--	--	--	--	--	--	--	--

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

802.11g ant2

Band Edge Test result								
EUT: 802.11n Wireless Router M/N: R0300								
Power: DC 5V From Adapter with AC 120V/60Hz								
Test date: 2016-05-21 Test site: 3m Chamber Tested by: Reak Yang								
Test mode: Tx Low								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	45.98	27.62	3.92	34.97	42.55	74	31.45	**PK**
--	--	--	--	--	--	--	--	--
Antenna Polarity: Horizontal								
2390	46.79	27.62	3.92	34.97	43.36	74	30.64	**PK**
--	--	--	--	--	--	--	--	--

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

Band Edge Test result								
EUT: 802.11n Wireless Router M/N: R0300								
Power: DC 5V From Adapter with AC 120V/60Hz								
Test date: 2016-05-21 Test site: 3m Chamber Tested by: Reak Yang								
Test mode: Tx High								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	41.33	27.89	4	34.97	38.25	74	35.75	**PK**
--	--	--	--	--	--	--	--	--
Antenna Polarity: Horizontal								
2483.5	42.57	27.89	4	34.97	39.49	74	34.51	**PK**
--	--	--	--	--	--	--	--	--

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

802.11n20

Band Edge Test result								
EUT: 802.11n Wireless Router M/N: R0300								
Power: DC 5V From Adapter with AC 120V/60Hz								
Test date: 2016-05-21 Test site: 3m Chamber Tested by: Reak Yang								
Test mode: MIMO Tx Low								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	45.28	27.62	3.92	34.97	41.85	74	32.15	**PK**
--	--	--	--	--	--	--	--	--
Antenna Polarity: Horizontal								
2390	46.19	27.62	3.92	34.97	42.76	74	31.24	**PK**
--	--	--	--	--	--	--	--	--

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

Band Edge Test result								
EUT: 802.11n Wireless Router M/N: R0300								
Power: DC 5V From Adapter with AC 120V/60Hz								
Test date: 2016-05-21 Test site: 3m Chamber Tested by: Reak Yang								
Test mode: MIMO Tx High								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	41.25	27.89	4	34.97	38.17	74	35.83	PK
--	--	--	--	--	--	--	--	--
Antenna Polarity: Horizontal								
2483.5	42.38	27.89	4	34.97	39.3	74	34.7	PK
--	--	--	--	--	--	--	--	--

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

802.11n40

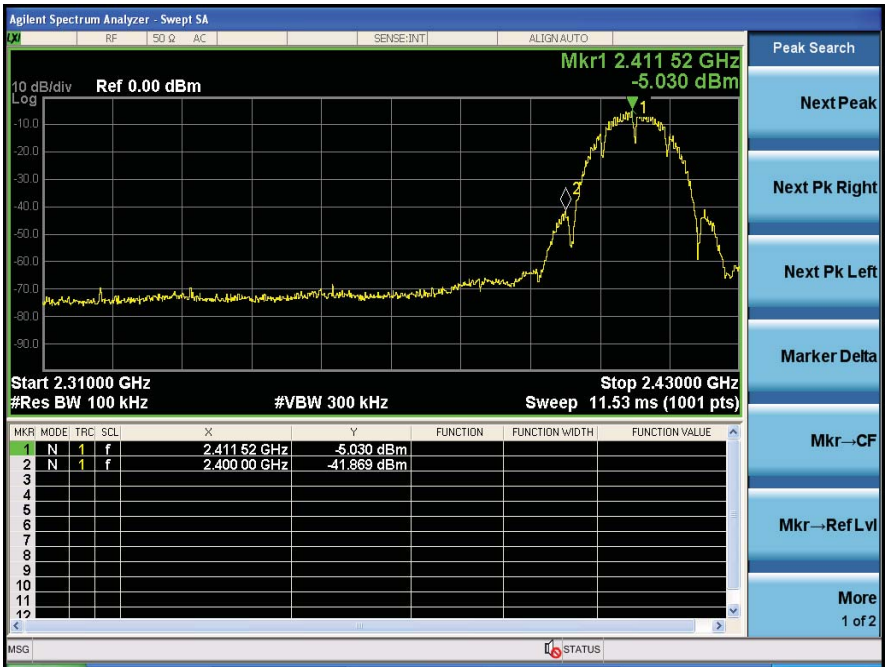
Band Edge Test result								
EUT: 802.11n Wireless Router M/N: R0300								
Power: DC 5V From Adapter with AC 120V/60Hz								
Test date: 2016-05-21 Test site: 3m Chamber Tested by: Reak Yang								
Test mode: MIMO Tx Low								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	45.73	27.62	3.92	34.97	42.3	74	31.7	**PK**
--	--	--	--	--	--	--	--	--
Antenna Polarity: Horizontal								
2390	46.82	27.62	3.92	34.97	43.39	74	30.61	**PK**
--	--	--	--	--	--	--	--	--

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

Band Edge Test result								
EUT: 802.11n Wireless Router M/N: R0300								
Power: DC 5V From Adapter with AC 120V/60Hz								
Test date: 2016-05-21 Test site: 3m Chamber Tested by: Reak Yang								
Test mode: MIMO Tx High								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	41.51	27.89	4	34.97	38.43	74	35.57	PK
--	--	--	--	--	--	--	--	--
Antenna Polarity: Horizontal								
2483.5	42.72	27.89	4	34.97	39.64	74	34.36	PK
--	--	--	--	--	--	--	--	--

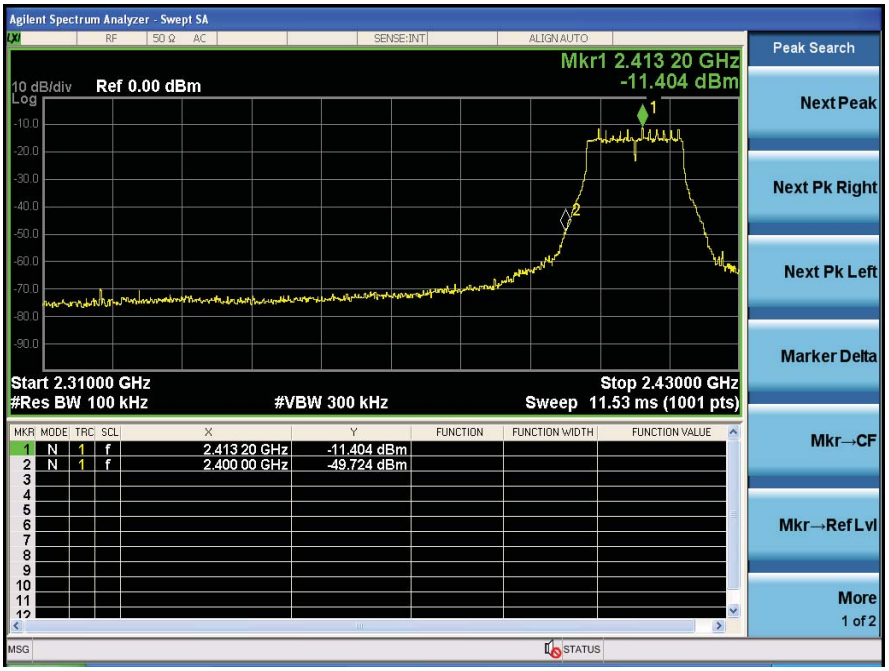
Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

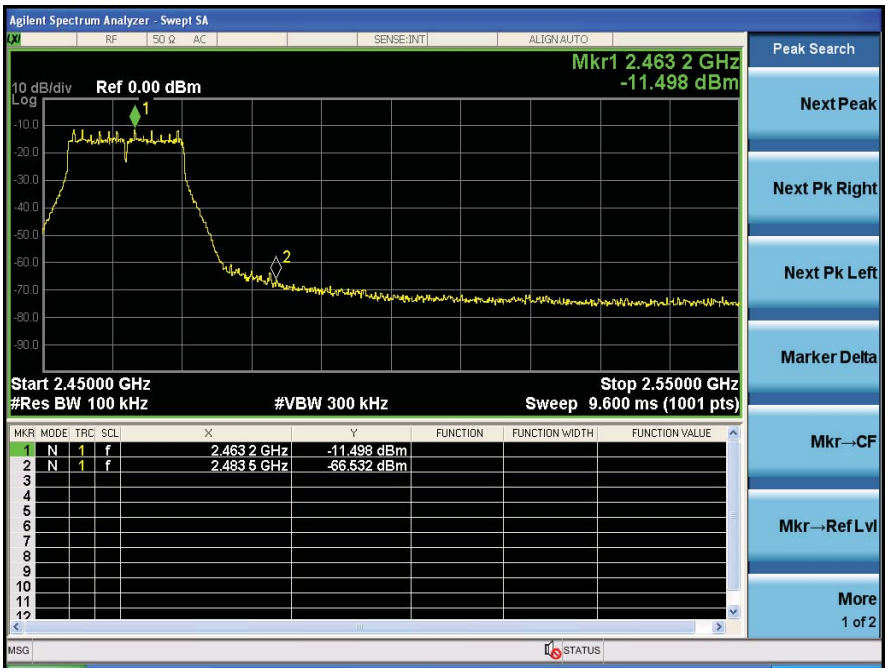
Conducted Method:
802.11b



Antenna 0 and Antenna 1port all have been tested , only worse case is reported

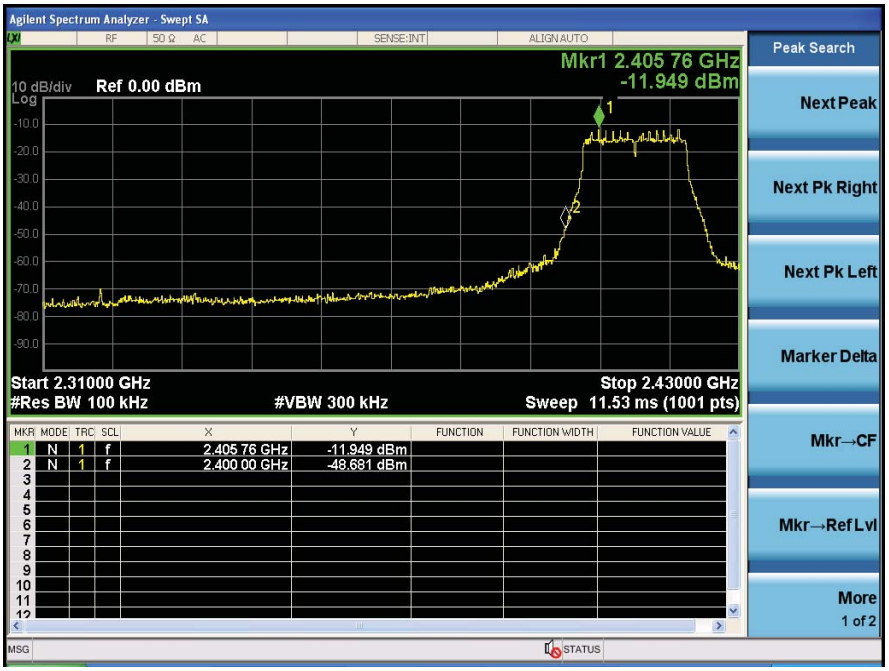
802.11g

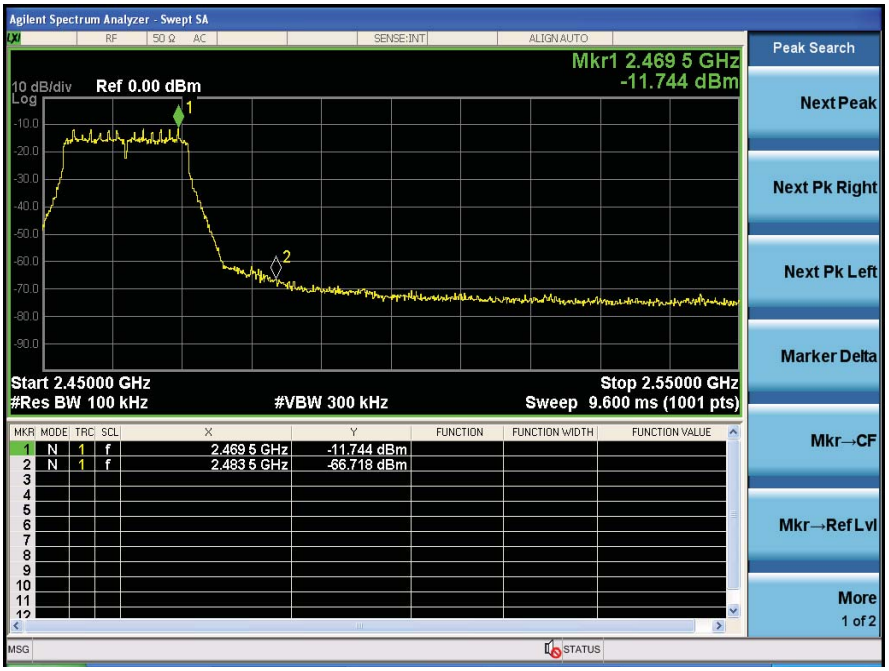




Antenna 0 and Antenna 1port all have been tested , only worse case is reported

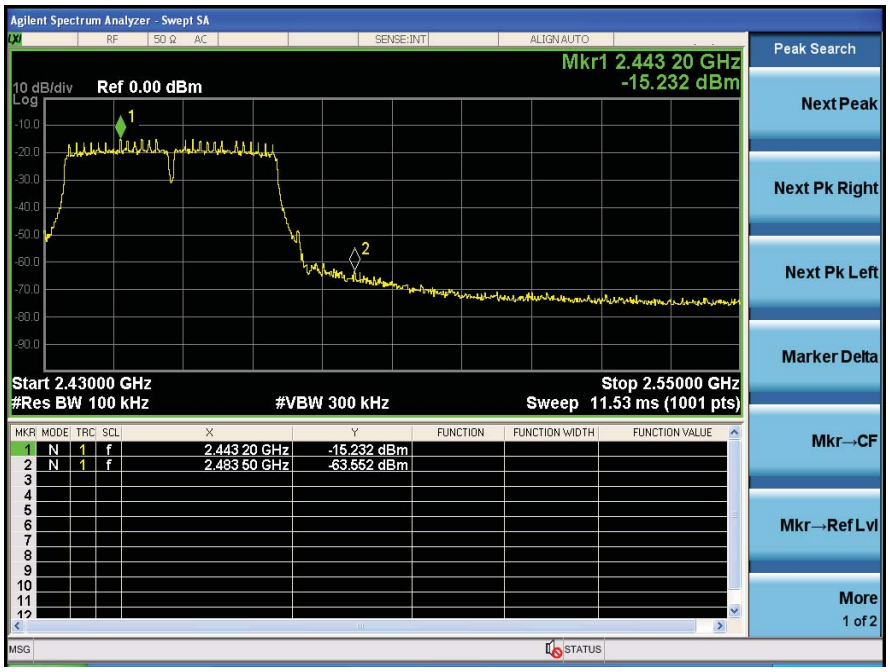
802.11n HT20





Antenna 0 and Antenna 1port all have been tested , only worse case is reported

802.11n HT40



Antenna 0 and Antenna 1port all have been tested , only worse case is reported

11 Antenna Requirement

11.1 Standard Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

11.2 Antenna Connected Construction

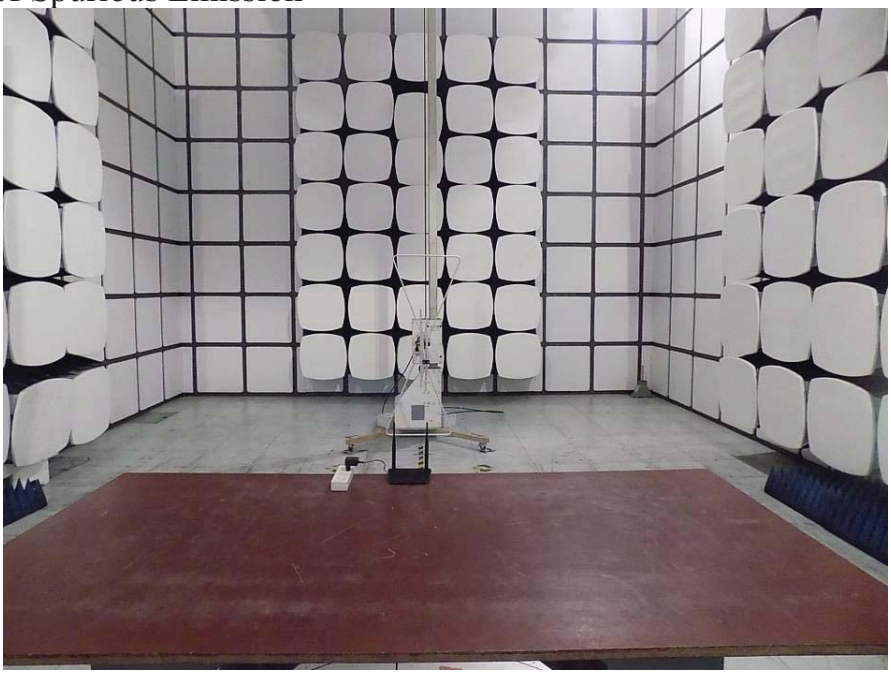
The antenna connector is unique antenna and no consideration of replacement. Please see EUT photo for details.

11.3 Result

The EUT antenna is integrated Antenna and PCB Antenna. It comply with the standard requirement.

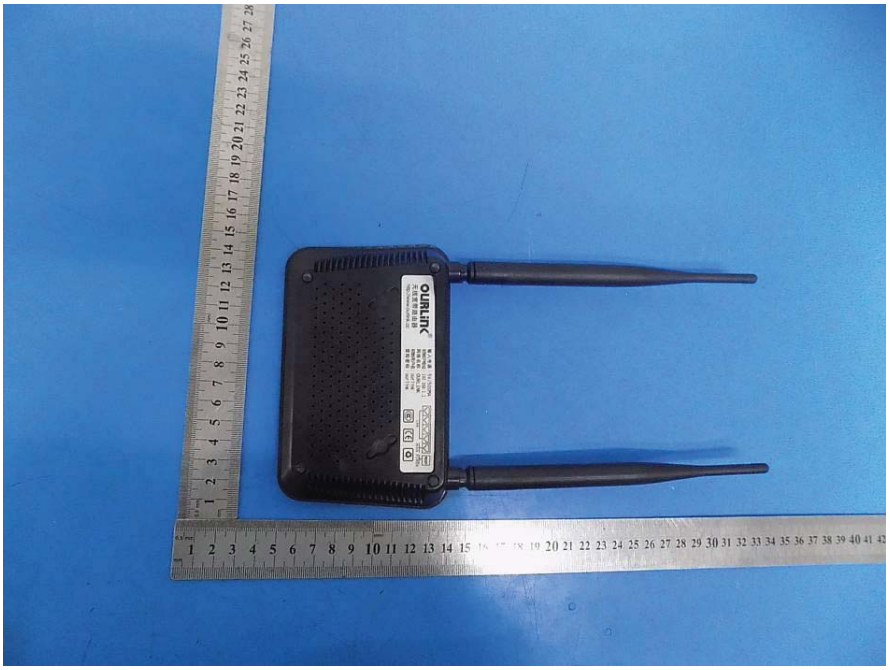
12 Photographs of Setup

12.1 Photo of Spurious Emission



12.2 Photo of Power line conducted emission

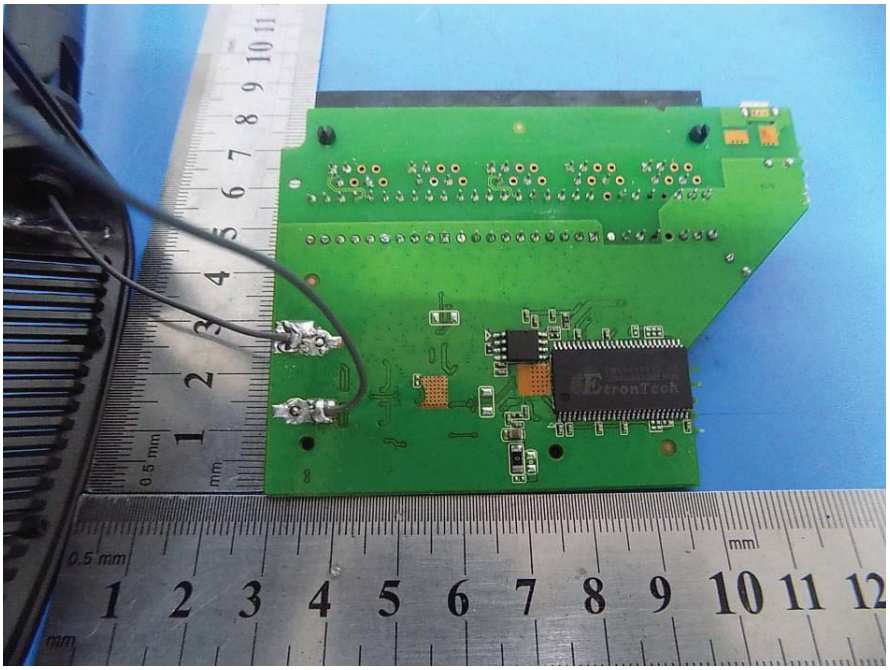
13 Photographs of EUT



OURLINK

OURLINK

JX-516



---------END OF THE REPORT-------