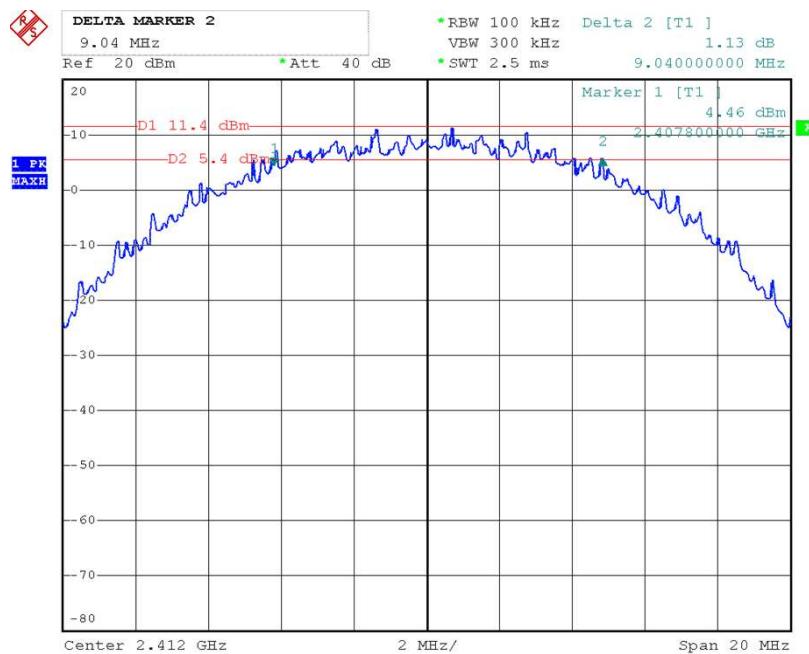
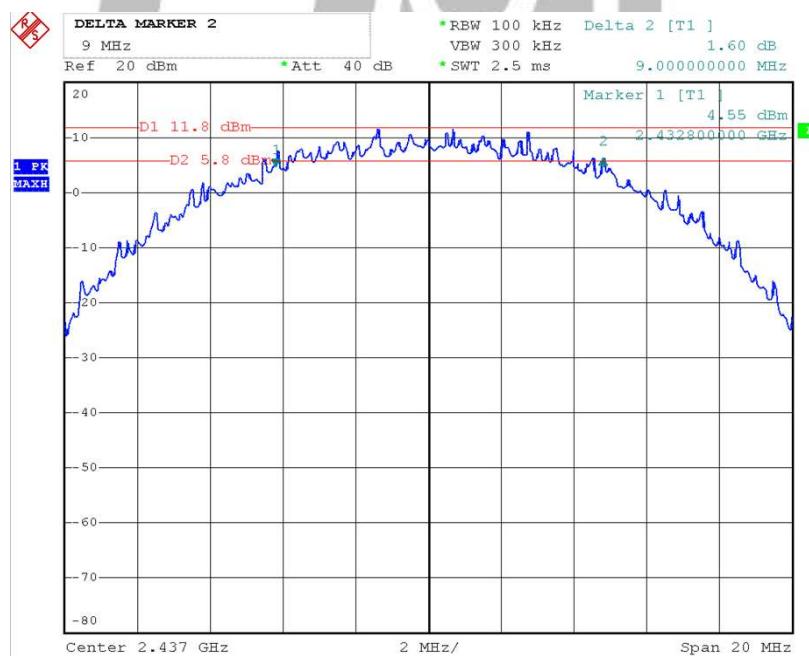


CH2

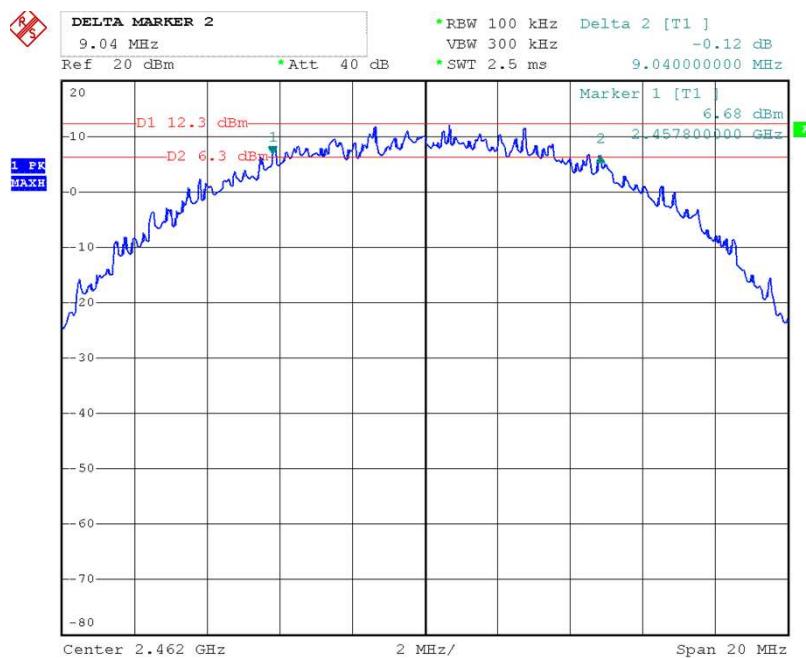
### 6dB BANDWIDTH ( IEEE 802.11b MODE CH Low)



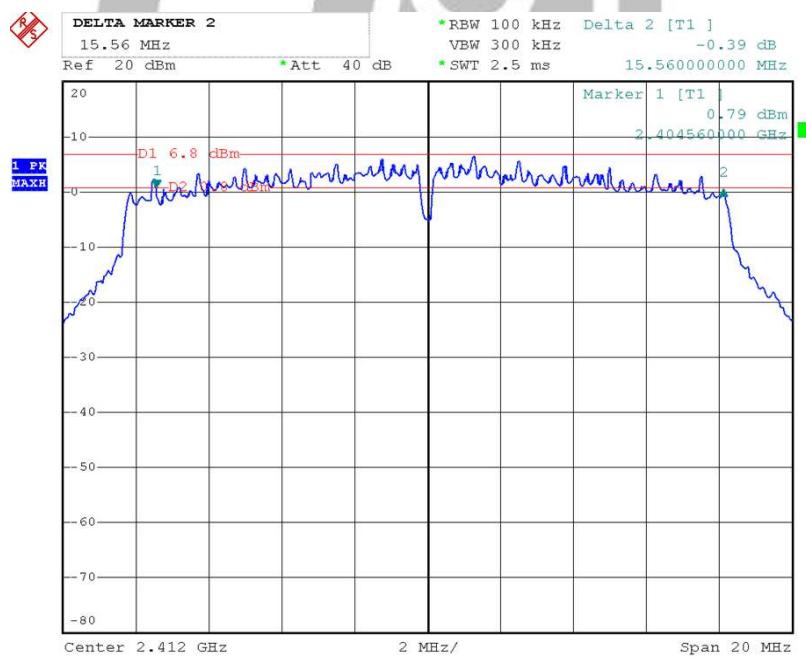
### 6dB BANDWIDTH (IEEE 802.11b MODE CH Mid)



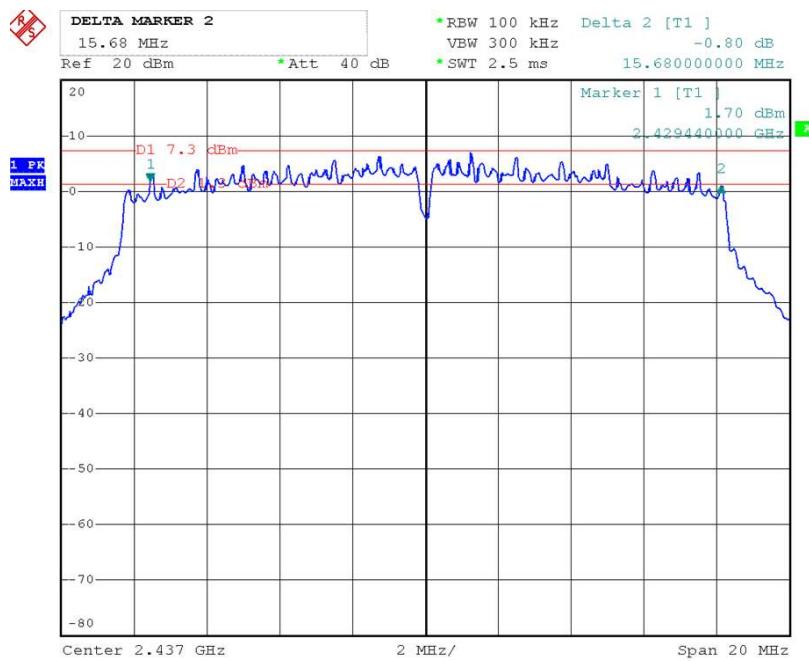
### 6dB BANDWIDTH (IEEE 802.11b MODE CH High)



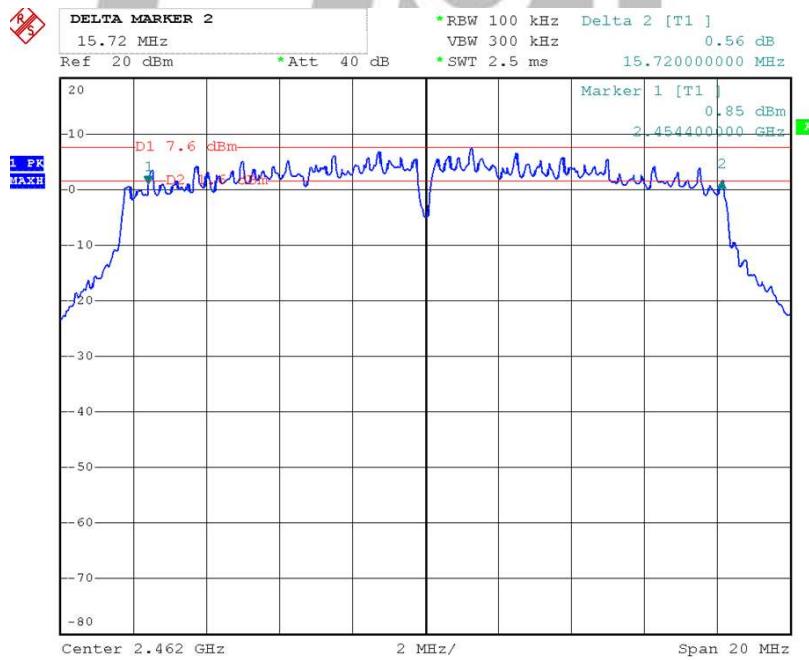
### 6dB BANDWIDTH (IEEE 802.11g MODE CH Low)



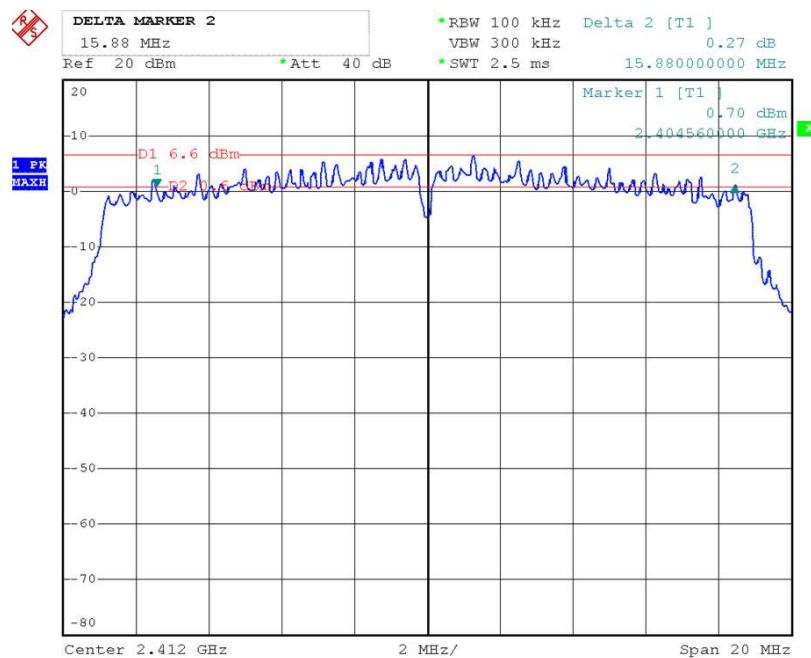
### 6dB BANDWIDTH (IEEE 802.11g MODE CH Mid)



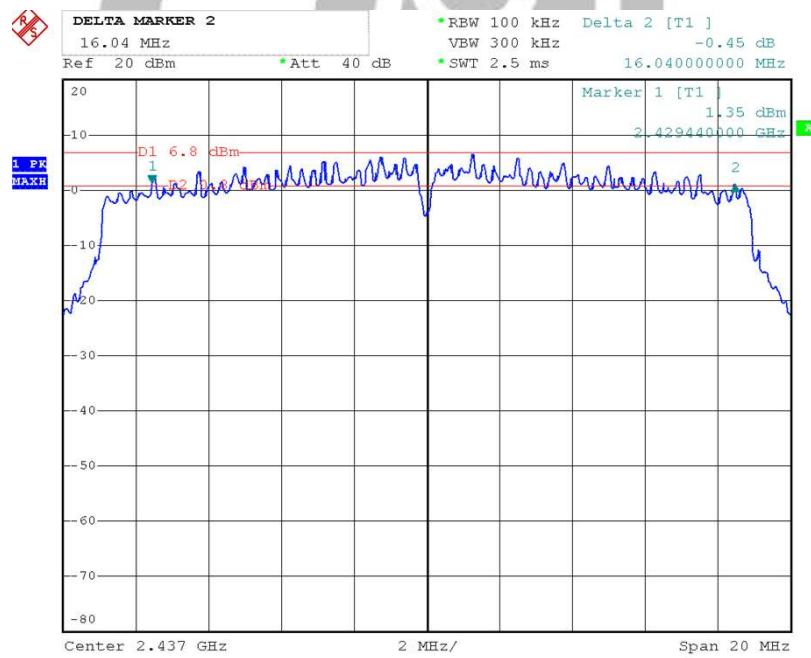
### 6dB BANDWIDTH (IEEE 802.11g MODE CH High)



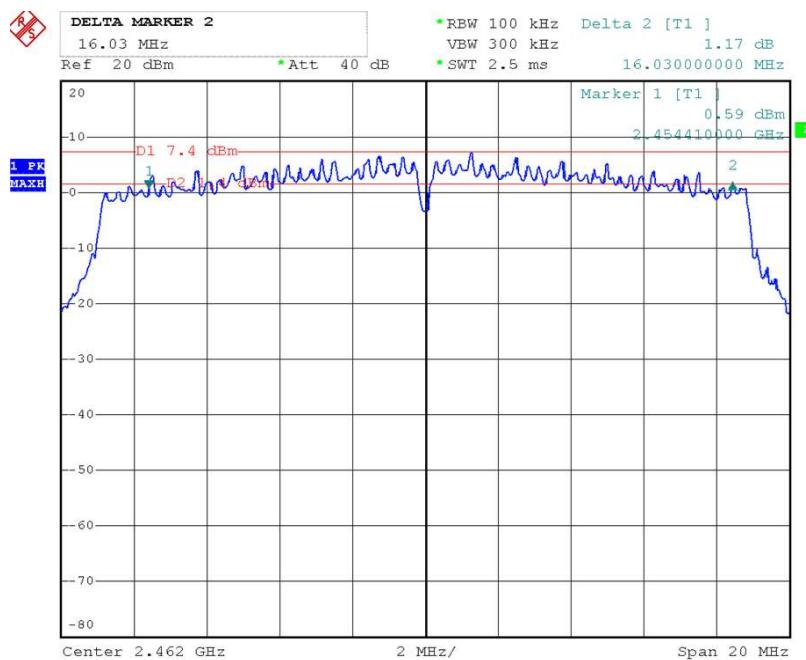
### 6dB BANDWIDTH ( IEEE 802 11n HT20 MODE CH Low)



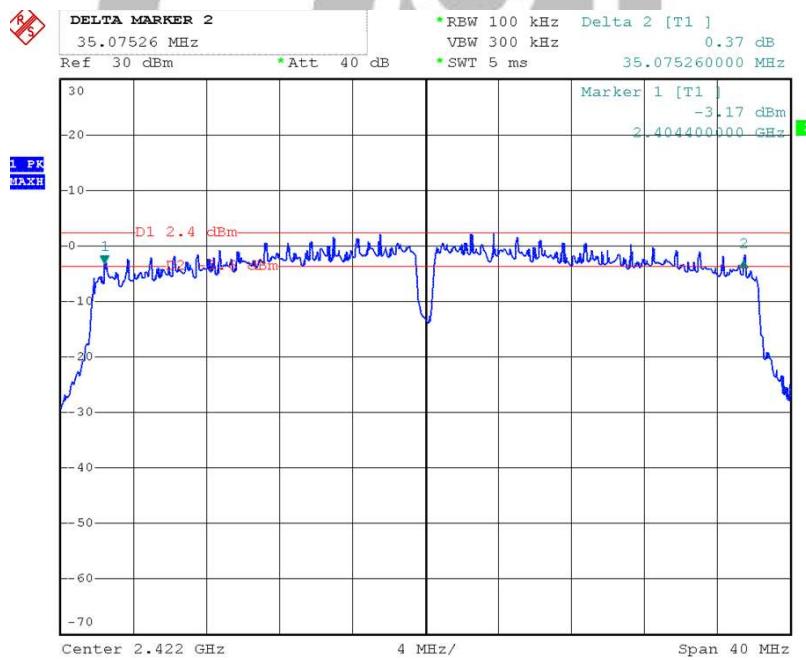
### 6dB BANDWIDTH (IEEE 802 11n HT20 MODE CH Mid)



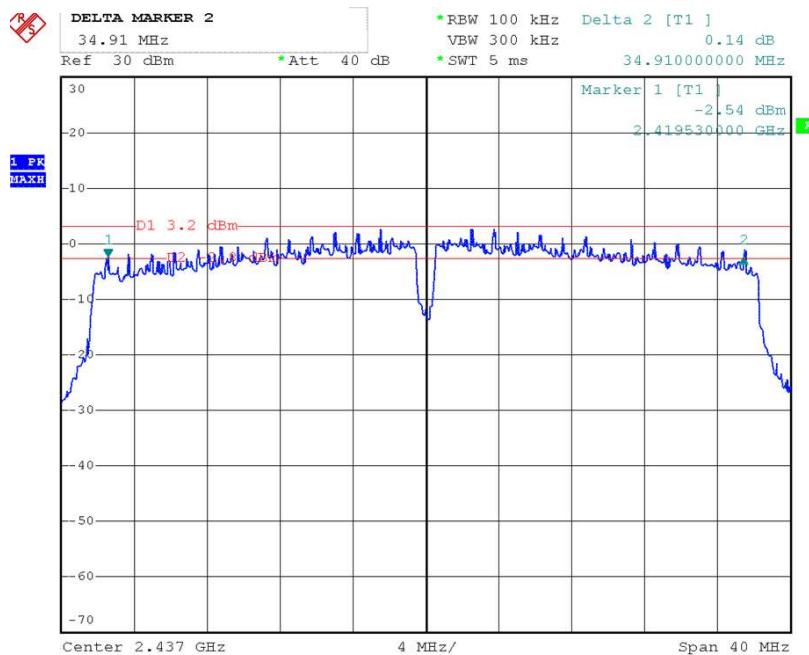
### 6dB BANDWIDTH (IEEE 802.11n HT20 MODE CH High)



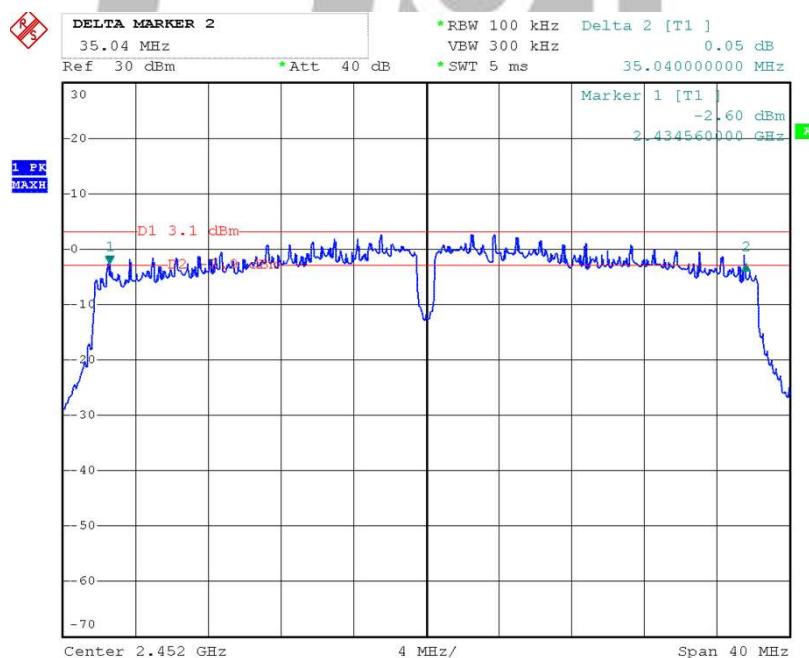
### 6dB BANDWIDTH ( IEEE 802.11n HT40 MODE CH Low)



### 6dB BANDWIDTH (IEEE 802.11n HT40 MODE CH Mid)



### 6dB BANDWIDTH (IEEE 802.11 n HT40 MODE CH High)



## 8. Test of Conducted Spurious Emission

### 8.1 Applicable standard

Refer to FCC §15.247 (d) and IC RSS-247 Issue2 Clause 5.5 and KDB558074 D01 V04 Section 11.3

Section 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. In addition, radiated emissions that fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209.

### 8.2 EUT Setup



### 8.3 Test Equipment List and Details

See section 2.7.

### 8.4 Test Procedure

1. Set start frequency to DTS channel edge frequency.
2. Set stop frequency so as to encompass the spectrum to be examined.
3. Set RBW = 100 kHz.
4. Set VBW  $\geq$  300 kHz.
5. Detector = peak.
6. Trace Mode = max hold.
7. Sweep = auto couple.
8. Allow the trace to stabilize (this may take some time, depending on the extent of the span).
9. Use peak marker function to determine maximum amplitude of all unwanted emissions within any 100 kHz bandwidth.

### 8.5 Test Result

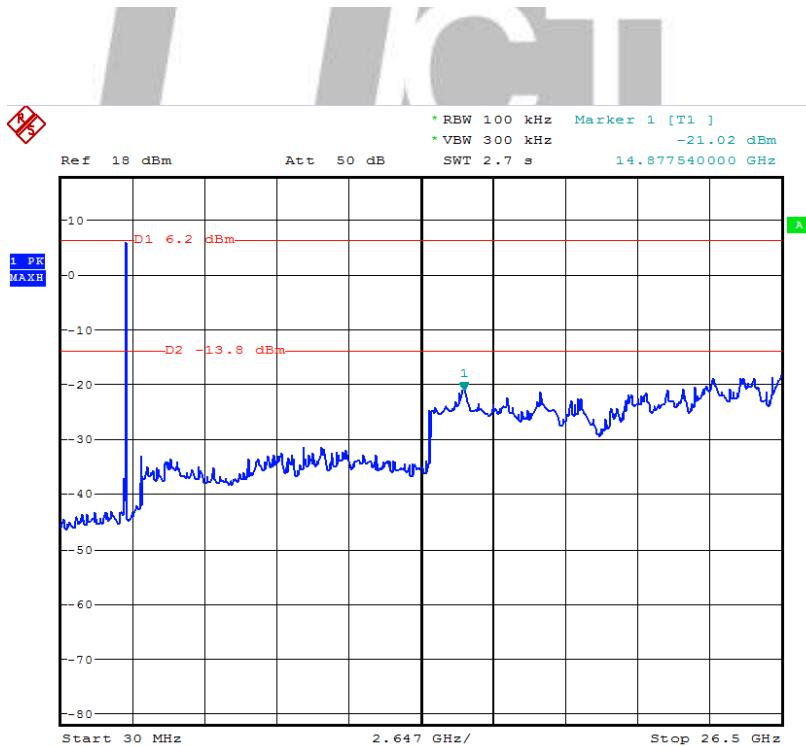
Temperature ( °C ) : 22~23	EUT: Wireless Router
Humidity (%RH ): 50~54	M/N: ARN02304U8
Barometric Pressure ( mbar ): 950~1000	Operation Condition: Continuously Tx Mode

Test Result: PASS

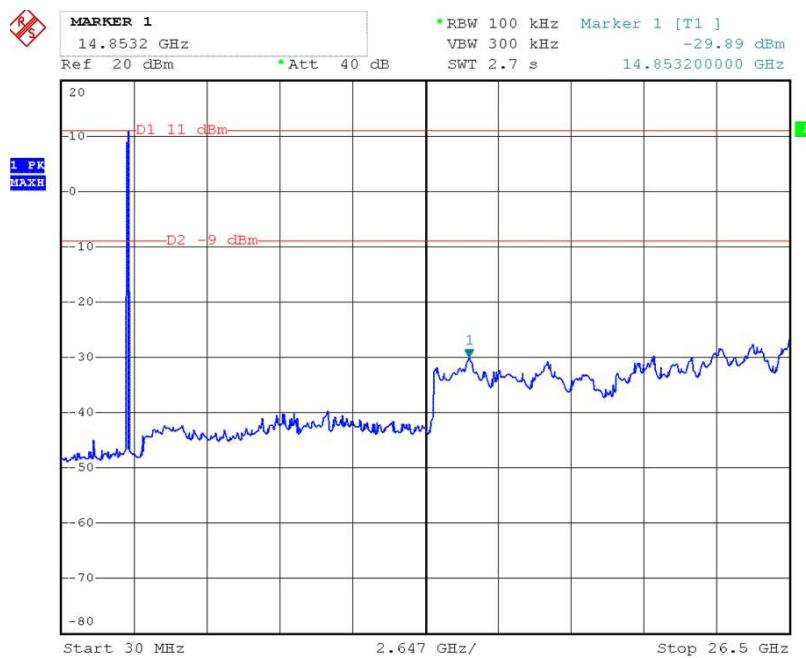
**CH1**  
IEEE 802.11b mode  
Channel Low



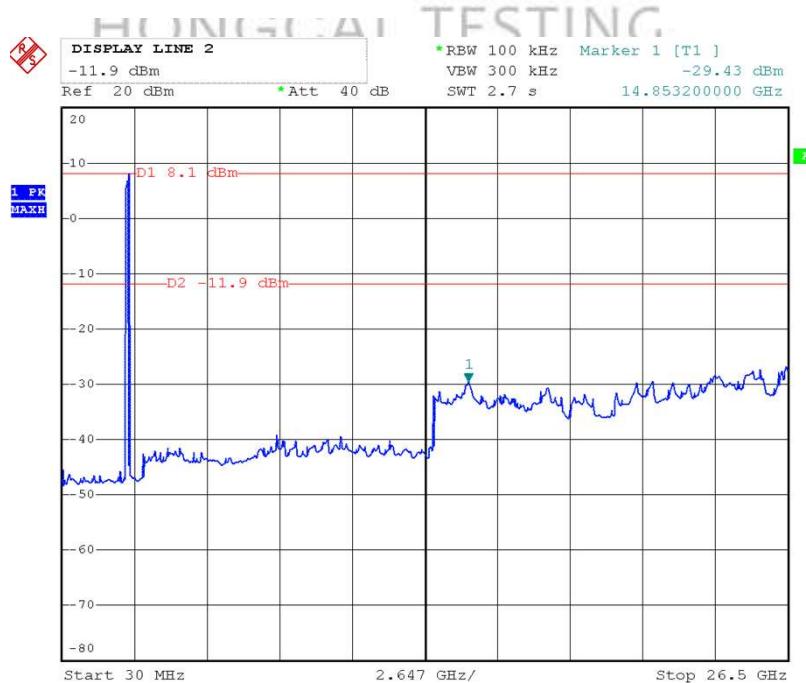
Channel Middle



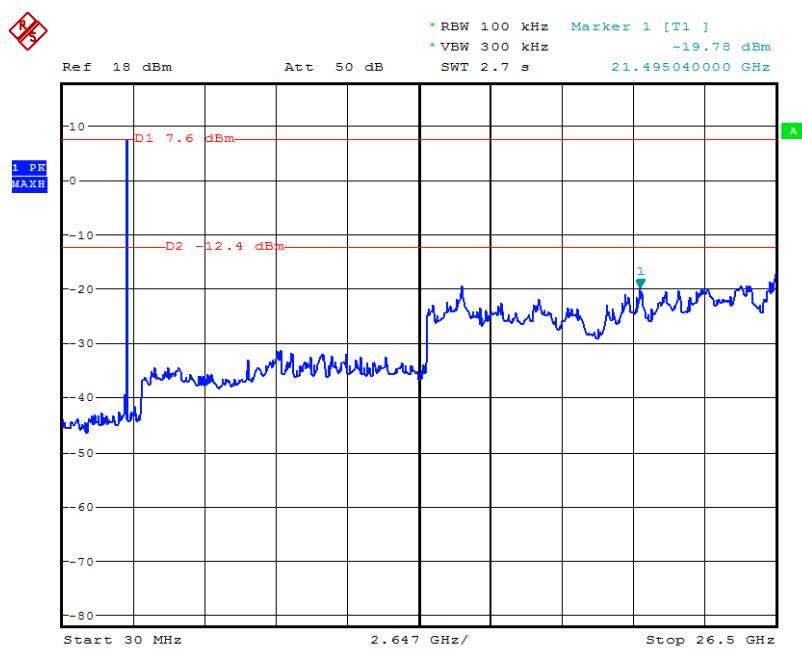
## Channel High



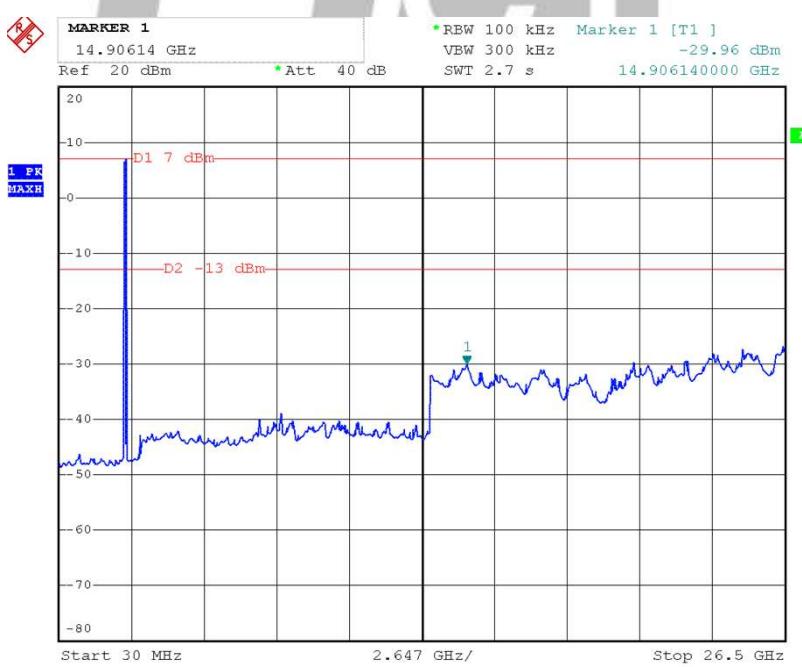
IEEE 802.11g mode  
Channel Low



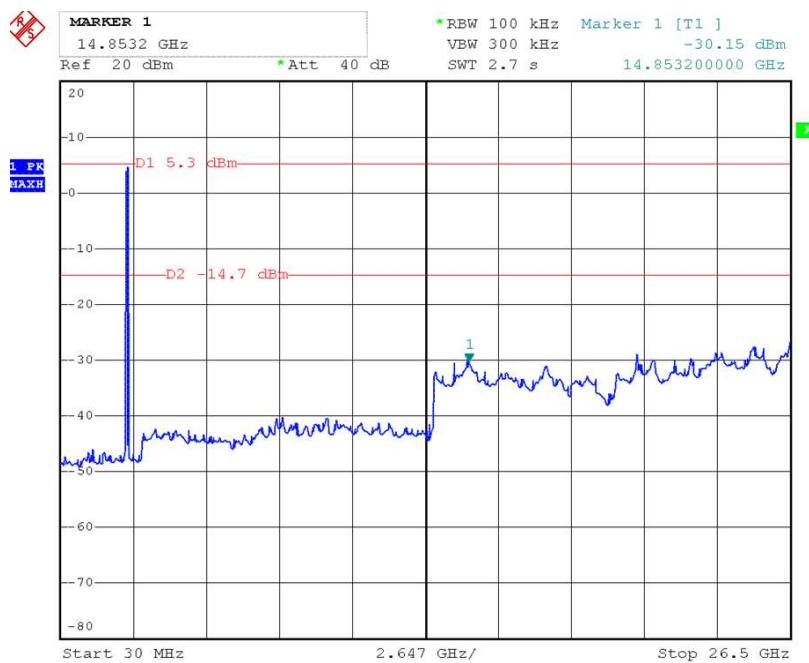
## Channel Middle



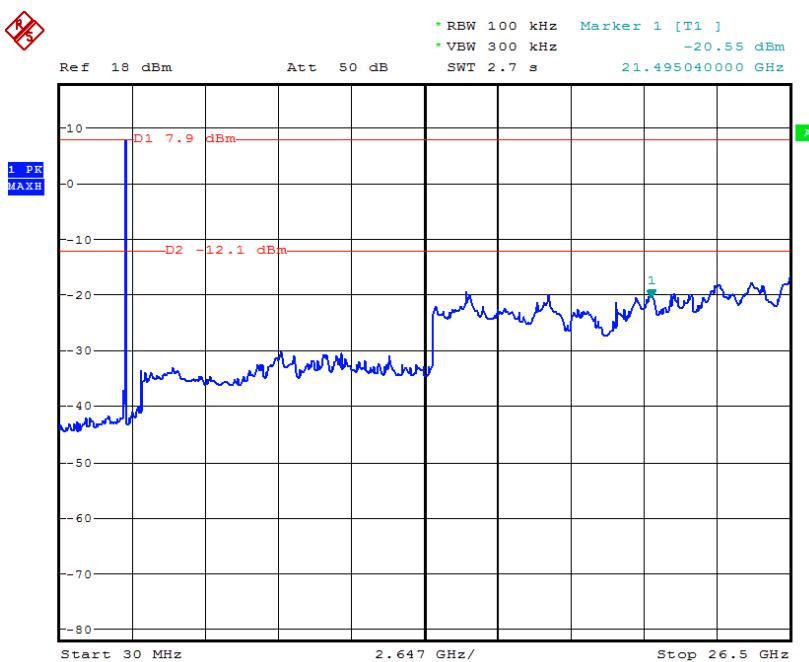
## Channel High



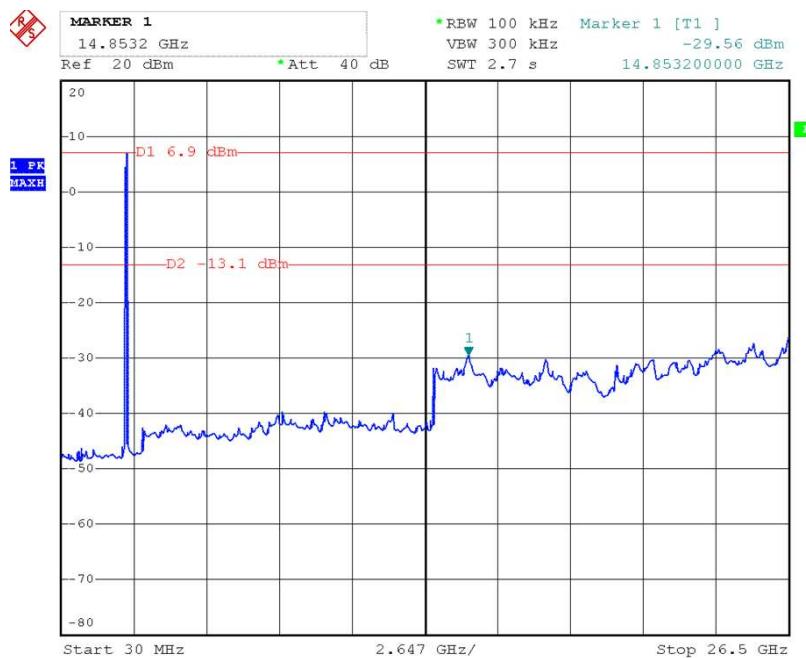
IEEE 802.11n HT20 mode  
Channel Low



Channel Middle



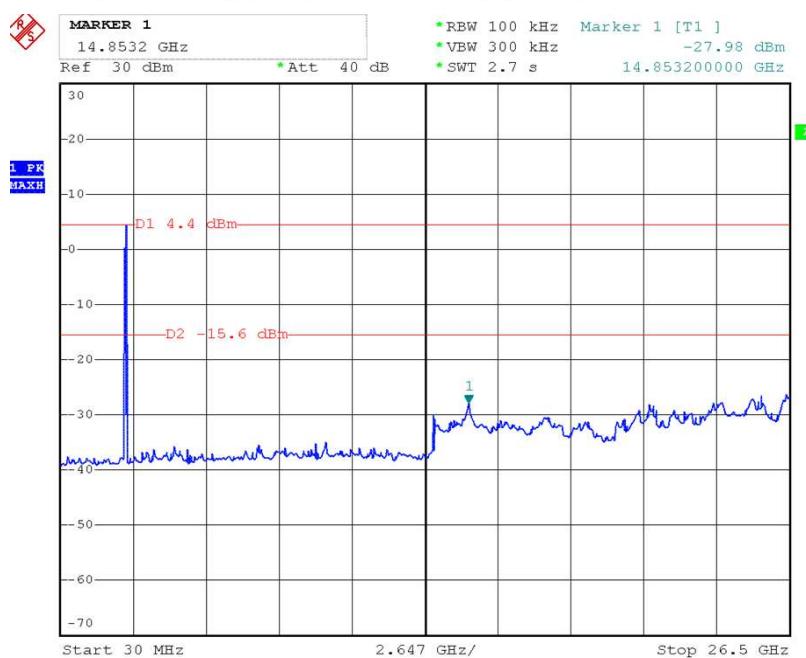
## Channel High



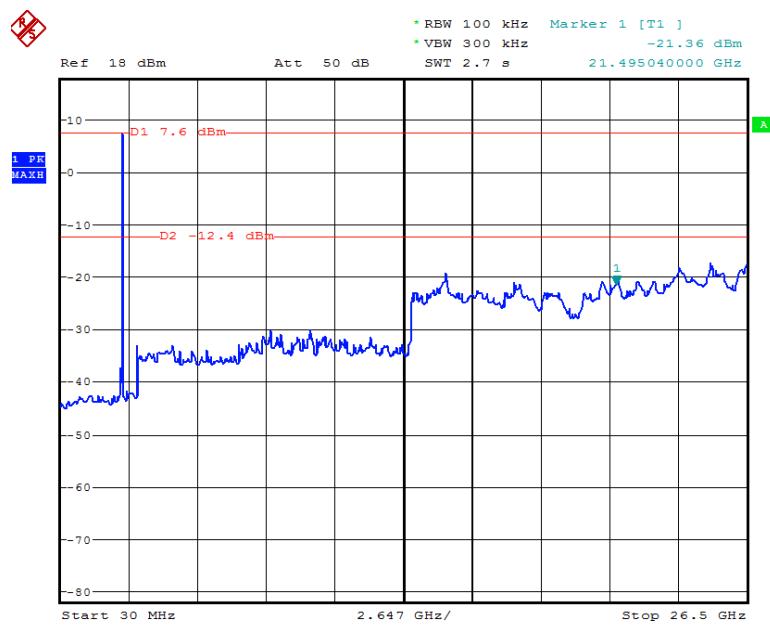
IEEE 802.11n HT40 mode

Channel Low

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## Channel Middle

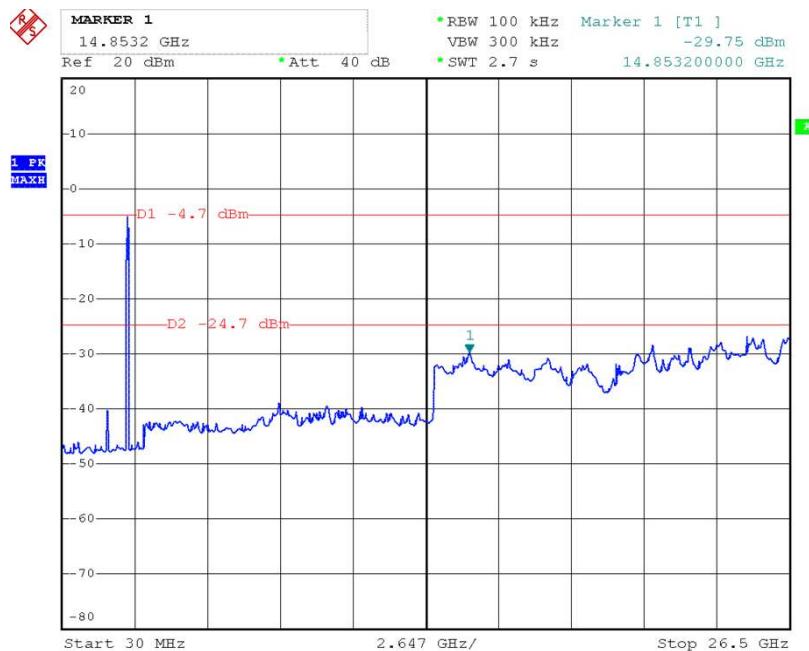


## Channel High

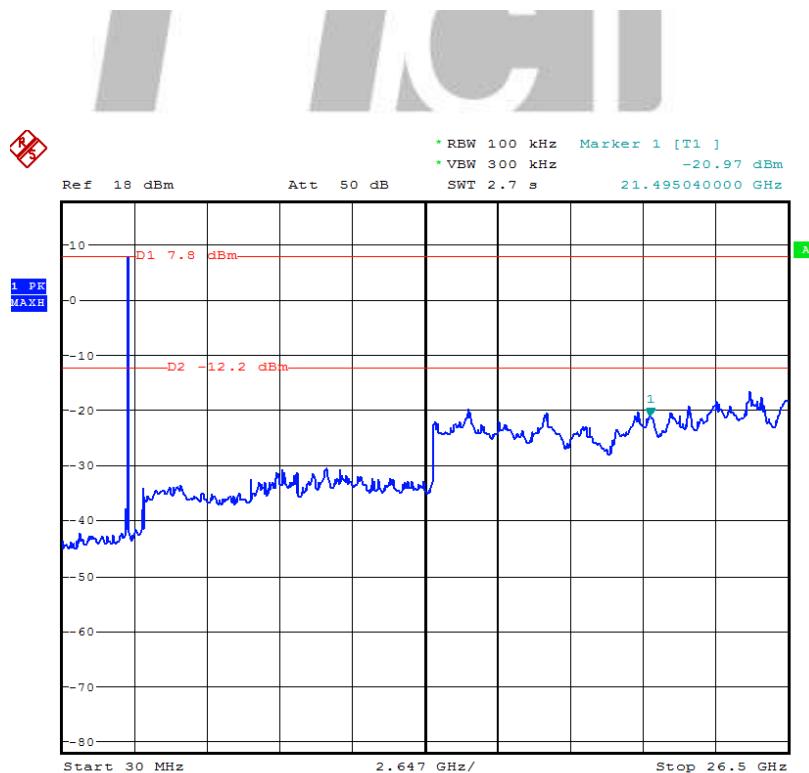


## CH2

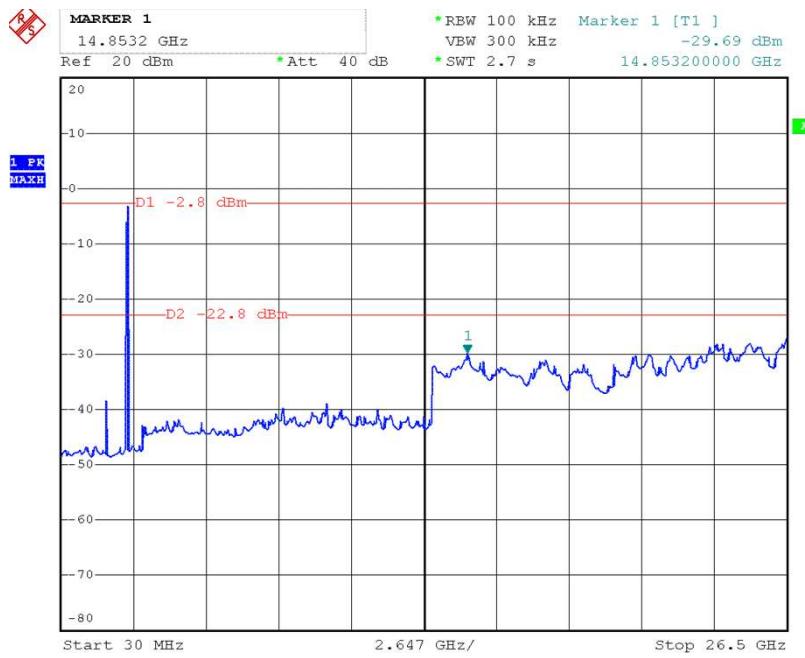
IEEE 802.11b mode  
Channel Low



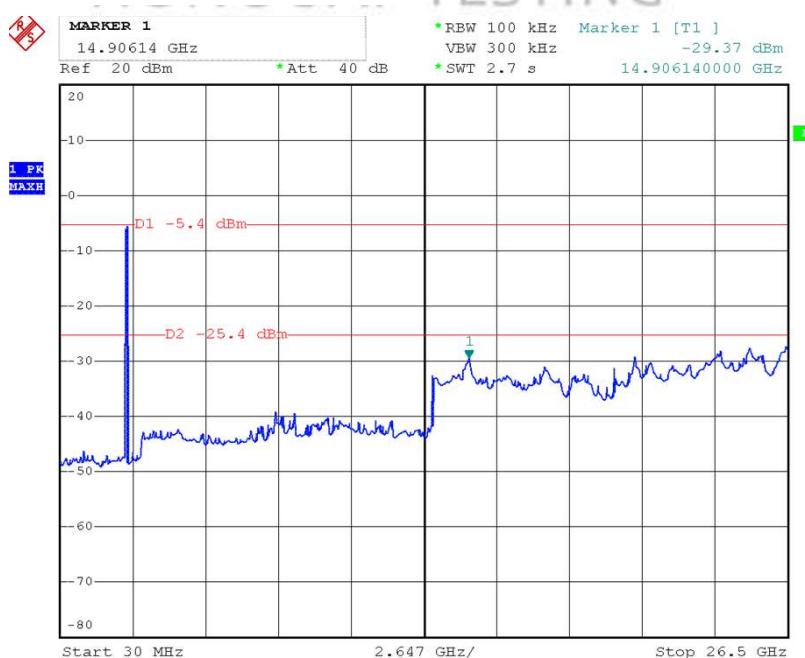
Channel Middle



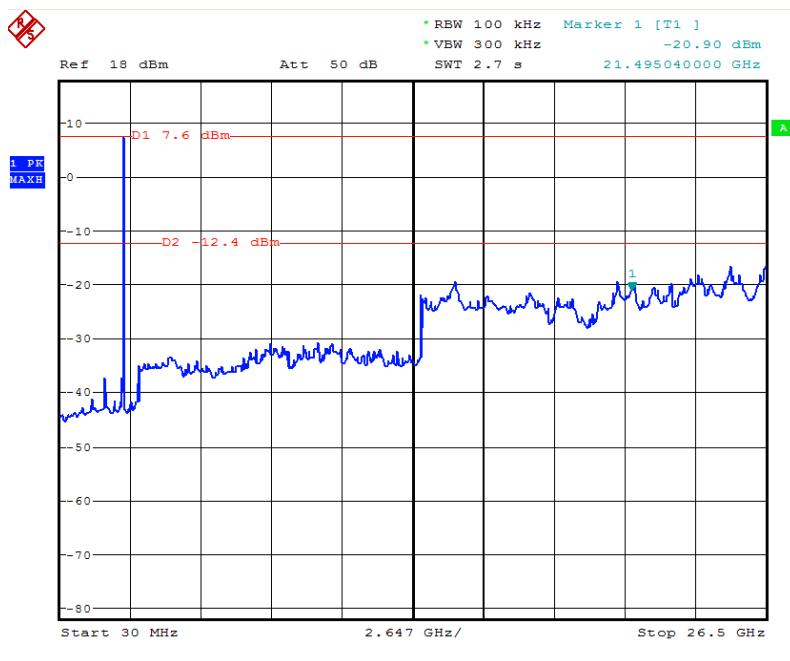
## Channel High



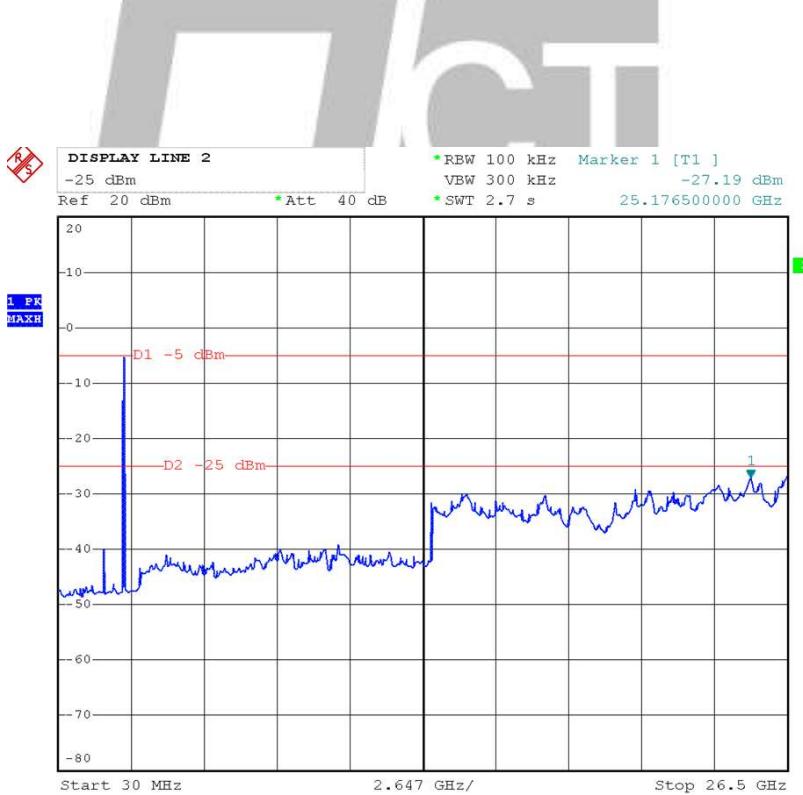
## IEEE 802.11g mode Channel Low



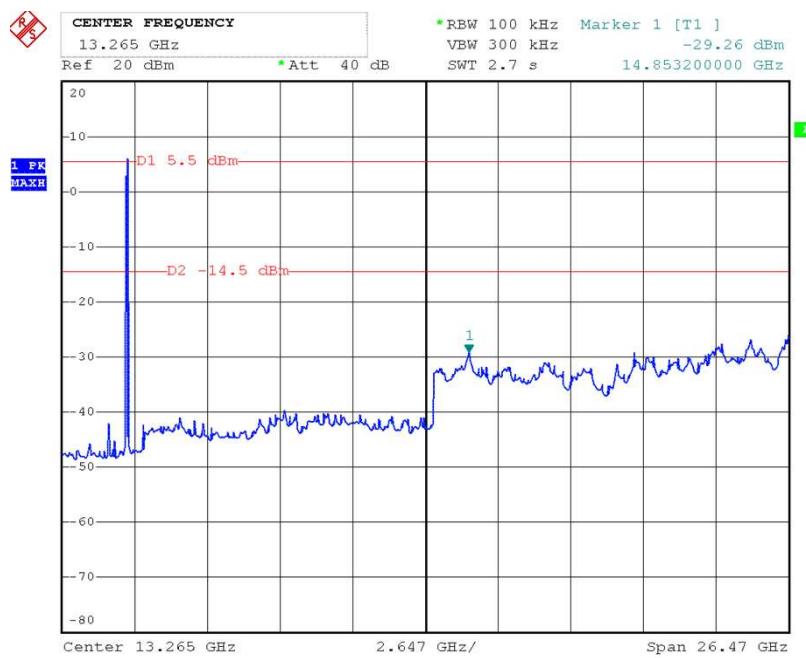
## Channel Middle



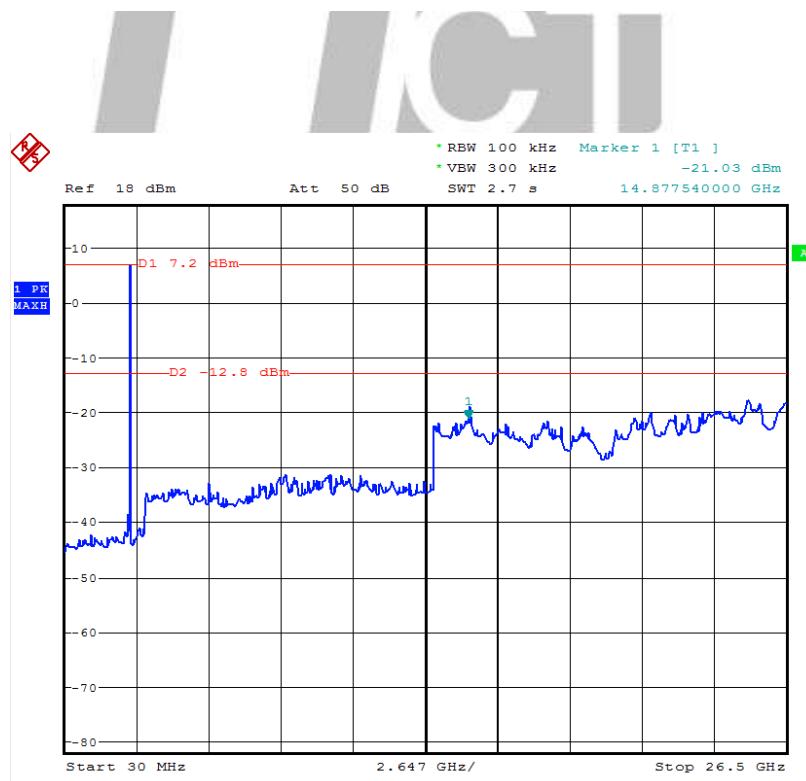
## Channel High



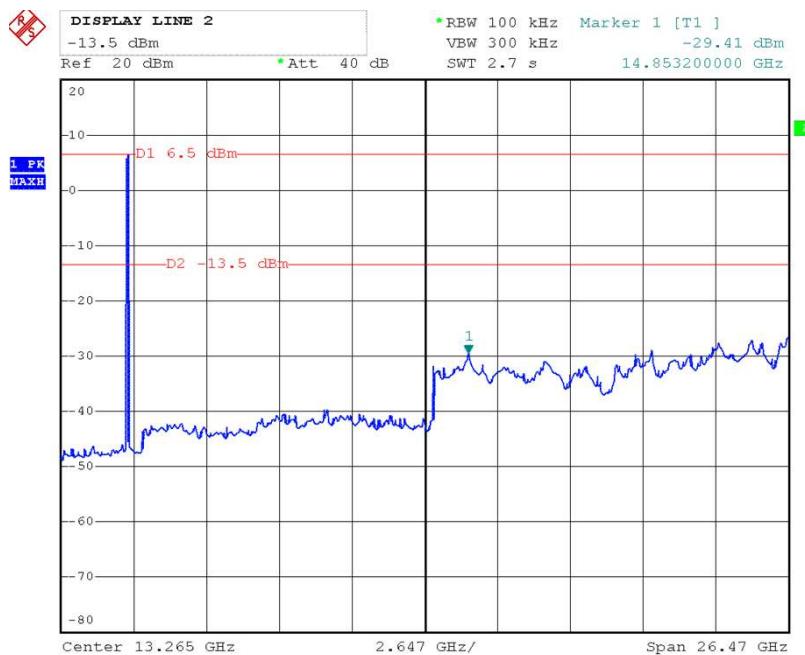
IEEE 802.11n HT20 mode  
Channel Low



Channel Middle

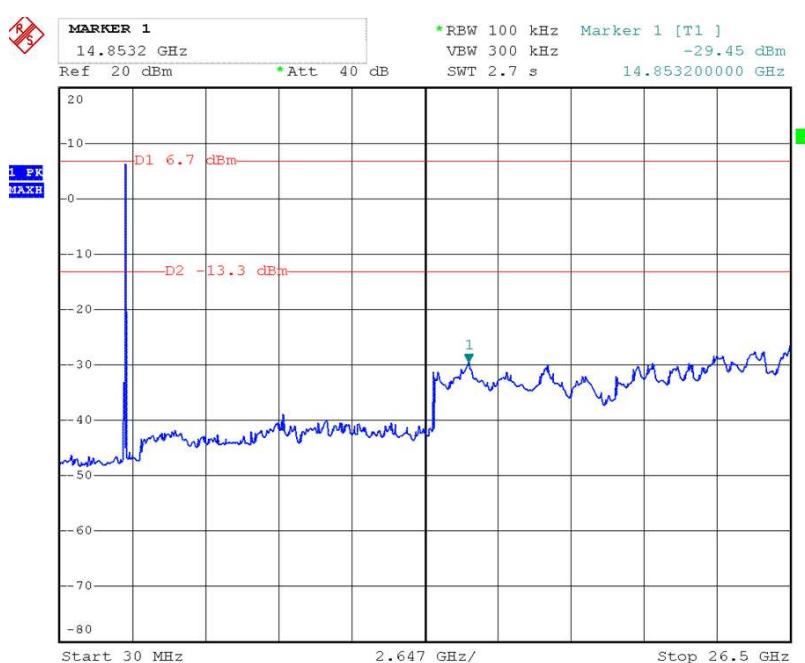


## Channel High

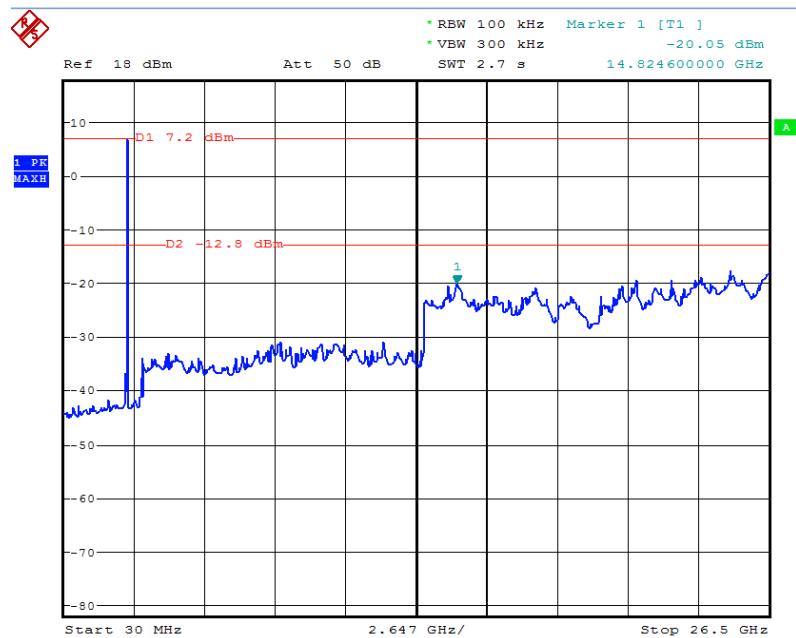


IEEE 802.11n HT40 mode

Channel Low



## Channel Middle



## Channel High



## 9. Test of Radiated Spurious Emission

### 9.1 Radiated Spurious Emission

Refer to FCC §15.205 and §15.209, IC RSS-247 Clause 5.5

KDB558074 D01 V04 Section 12.1, 12.2.7

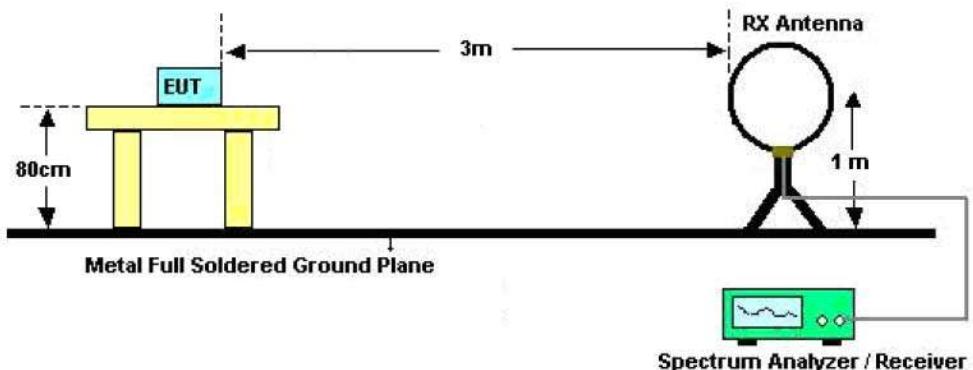
### 9.2 Limits

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

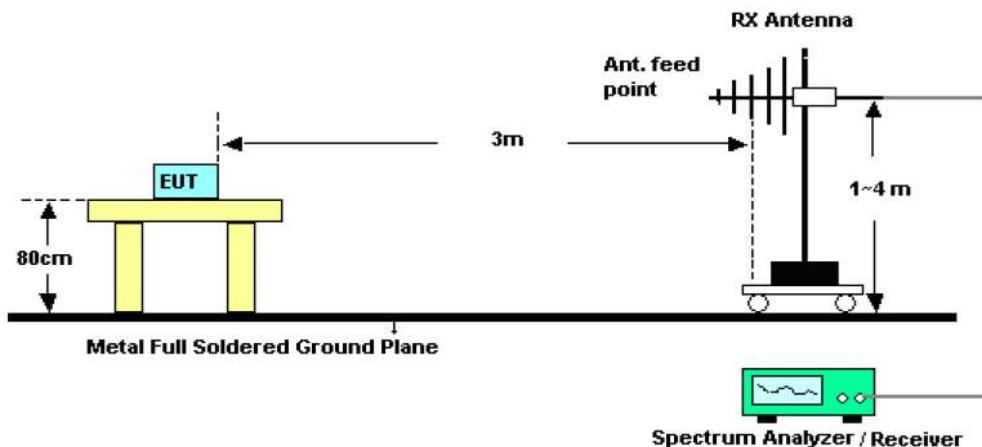
Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

### 9.3 EUT Setup

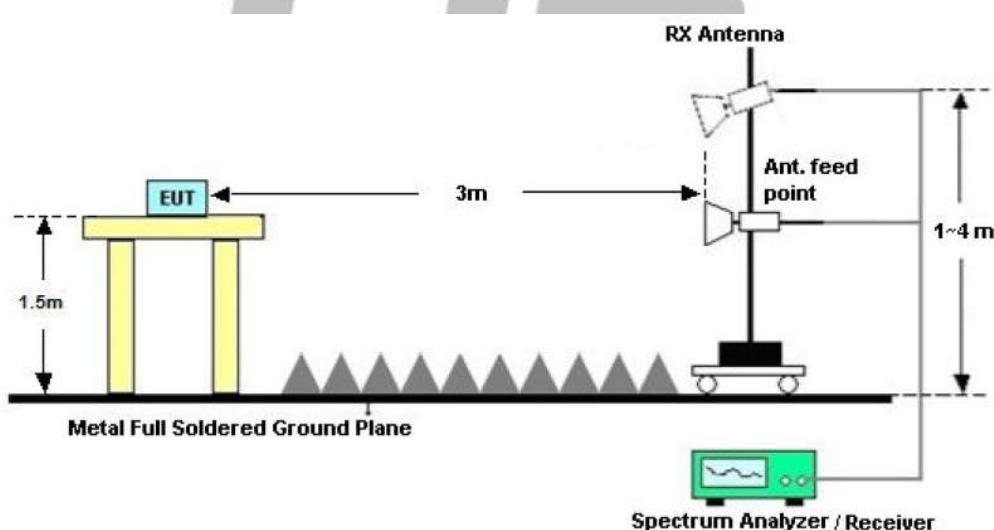
For radiated emission below 30MHz



For radiated emission from 30MHz to1GHz



For radiated emission from above1GHz



## 9.4 Test Procedure

KDB558074 D01 V04 Section 12.1, 12.2.7

### Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Set RBW = 120kHz(for emissions from 30MHz-1GHz)
3. Detector = Quasi-Peak
4. Trace Mode = max hold.
5. Sweep = auto couple.
6. Trace was allowed to stabilize

### Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Set RBW = 1MHz
3. Set VBW = 3MHz

4. Detector = Peak
5. Trace Mode = max hold.
6. Sweep = auto couple.
7. Trace was allowed to stabilize

### **Average Field Strength Measurements**

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Set RBW = 1MHz
3. Set VBW = 3MHz
4. Detector = power average (RMS)
5. Number of measurement points=1001 (  $\geq 2 \times \text{span}/\text{RBW}$  )
6. Sweep = auto couple.
7. Trace (RMS) averaging was performed over at least 100 traces

Note:

1. Configure the EUT according to ANSI C63.10-2013
2. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emission field strength of both horizontal and vertical polarization.
4. For band edge emission, the antenna tower was scan (from 1 M to 4 M) and then the turn table was rotated (from 0 degree to 360 degrees) to find the maximum reading.

### **9.5 Test Result**

Temperature ( °C ) : 22~23	EUT: Wireless Router
Humidity (%RH ): 50~54	M/N: ARN02304U8
Barometric Pressure ( mbar ): 950~1000	Operation Condition: Charging, Normal operation ,Continuously Tx Mode

Note:

1. Worst-case radiated emission below 30MHz is IEEE 802.11g Tx (CH Low) mode;
2. Worst-case radiated emission below 1GHz is IEEE 802.11g Tx (CH Low, Middle, High) mode.
3. Worst-case radiated emission above 1GHz is IEEE 802.11b/g/n (CH Low, CH High)
4. Worst-case radiated emission is Antenna 1, so we chose it for the data as follow:

#### **RADIATED EMISSION BELOW 30 MHz**

IEEE 802.11 g Tx (CH Low) operating Mode:

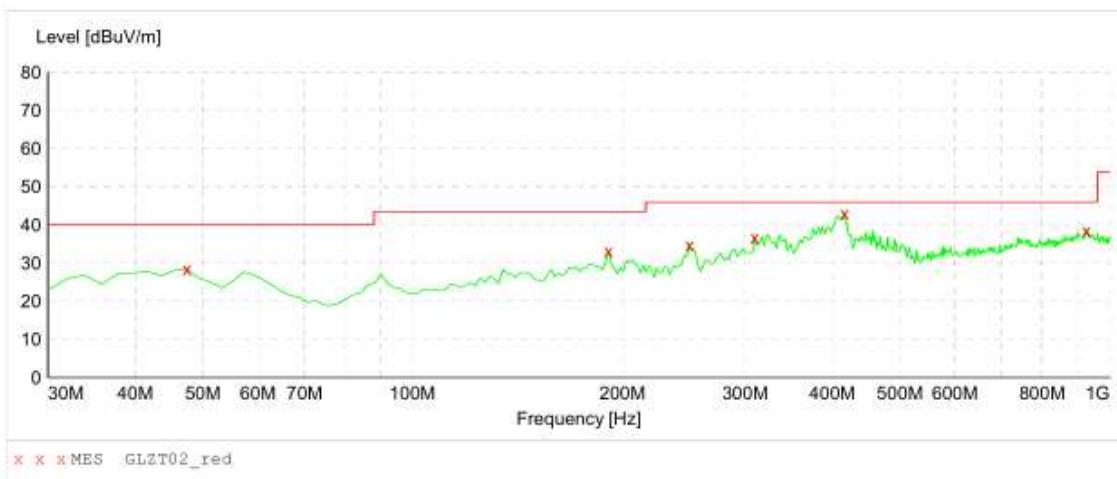
Frequency (MHz)	Meter Reading (dB $\mu$ V)	Antenna Factor (dB/M)	Cable Loss (dB)	Emission Levels (dB $\mu$ V/M)	Limits (dB $\mu$ V/M)	Margin (dB)	Detector Mode
0.58	32.59	7.88	1.1	41.57	72.3	-30.73	QP
23.43	32.04	8.64	1.24	41.92	69.5	-27.58	QP
27.97	33.36	8.82	1.13	43.31	69.5	-26.19	QP
32.92	33.46	8	1.71	43.17	69.5	-26.33	QP

## Spurious Emission Below 1GHz: IEEE 802.11g Tx (CH Low)

EUT: Wireless Router  
 M/N: ARN02304U8  
 Operating Condition: Tx Mode  
 Test Site: 3m CHAMBER  
 Operator: Chen  
 Test Specification: AC 120V/60Hz  
 Comment: Polarization: Horizontal

### ***SWEET TABLE: "test (30M-1G)"***

Short Description:			Field Strength		
Start Frequency	Stop Frequency	Detector	Meas.	IF Time	Transducer
30.0 MHz	1.0 GHz	MaxPeak	Coupled	100 kHz	9163-2015



### ***MEASUREMENT RESULT: "GLZT02\_red"***

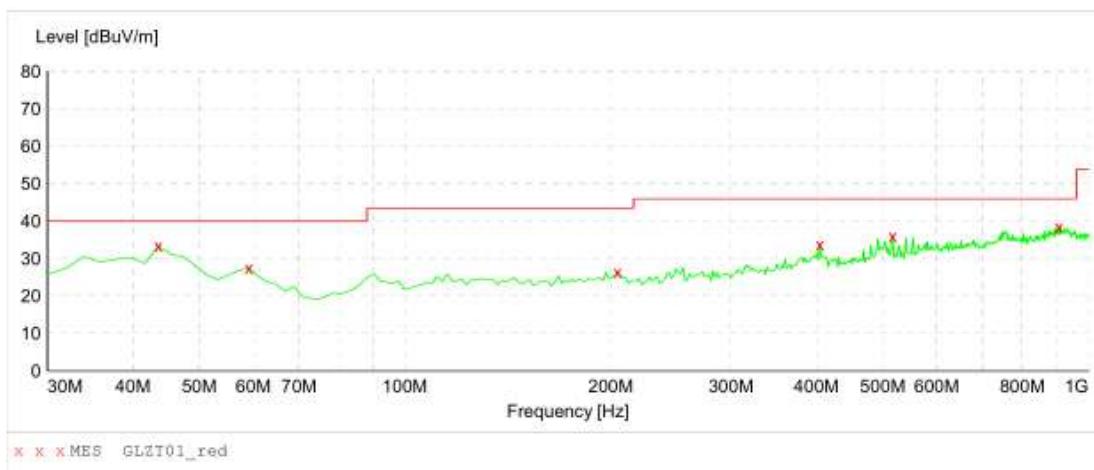
Frequency MHz	Level dBuV/m	Transd dB	Limit dBuV/m	Margin dB	Det. ---	Height cm	Azimuth deg	Polarization
47.460000	28.50	16.7	40.0	11.5	---	100.0	0.00	HORIZONTAL
191.020000	33.20	13.6	43.5	10.3	---	100.0	0.00	HORIZONTAL
249.220000	34.70	13.7	46.0	11.3	---	100.0	0.00	HORIZONTAL
309.360000	36.70	15.6	46.0	9.3	---	100.0	0.00	HORIZONTAL
416.060000	43.10	18.2	46.0	2.9	---	100.0	0.00	HORIZONTAL
924.340000	38.50	25.8	46.0	7.5	---	100.0	0.00	HORIZONTAL

## Spurious Emission Below 1GHz : IEEE 802.11g Tx (CH Low)

EUT: Wireless Router  
 M/N: ARN02304U8  
 Operating Condition: Tx Mode  
 Test Site: 3m CHAMBER  
 Operator: Chen  
 Test Specification: AC 120V/60Hz  
 Comment: Polarization: Vertical

### ***SWEEP TABLE: "test (30M-1G)"***

Short Description:		Field Strength		
Start Frequency	Stop Frequency	Detector	Meas.	IF
30.0 MHz	1.0 GHz	MaxPeak	Time Coupled	Bandw. 100 kHz
Transducer 9163-2015				



### ***MEASUREMENT RESULT: "MES GLZT01\_red "***

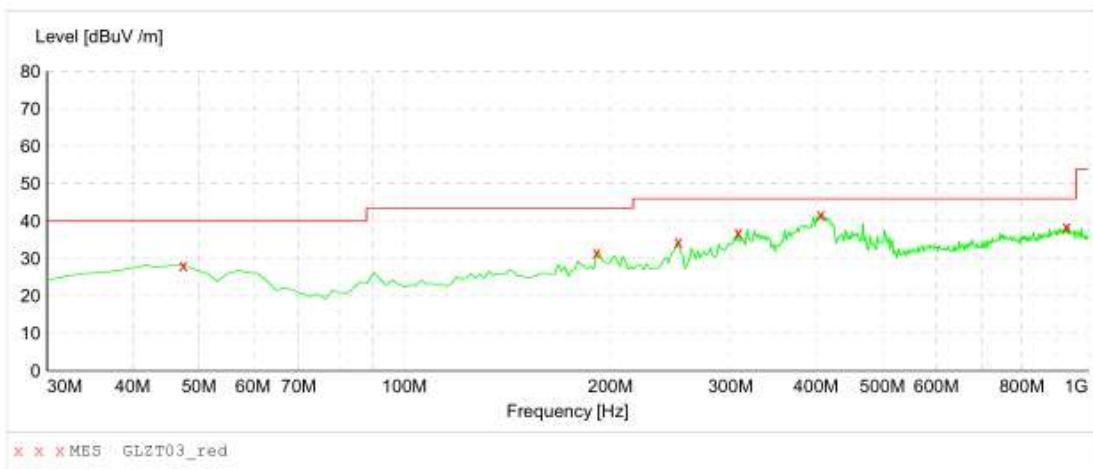
Frequency MHz	Level dBuV/m	Transd dB	Limit dBuV/m	Margin dB	Det. ---	Height cm	Azimuth deg	Polarization
43.580000	33.40	15.8	40.0	6.6	---	100.0	0.00	VERTICAL
59.100000	27.50	15.7	40.0	12.5	---	100.0	0.00	VERTICAL
204.600000	26.40	14.1	43.5	17.1	---	100.0	0.00	VERTICAL
404.420000	33.80	17.9	46.0	12.2	---	100.0	0.00	VERTICAL
516.940000	36.00	19.6	46.0	10.0	---	100.0	0.00	VERTICAL
904.940000	38.50	25.8	46.0	7.5	---	100.0	0.00	VERTICAL

## Spurious Emission Below 1GHz: IEEE 802.11g Tx (CH Mid)

EUT: Wireless Router  
 M/N: ARN02304U8  
 Operating Condition: Tx Mode  
 Test Site: 3m CHAMBER  
 Operator: Chen  
 Test Specification: AC 120V/60Hz  
 Comment: Polarization: Horizontal

### ***SWEEP TABLE: "test (30M-1G)"***

Short Description:		Field Strength			
Start Frequency	Stop Frequency	Detector	Meas.	IF Time	Transducer
30.0 MHz	1.0 GHz	MaxPeak	Coupled	100 kHz	9163-2015



### ***MEASUREMENT RESULT: "GLZT03\_red"***

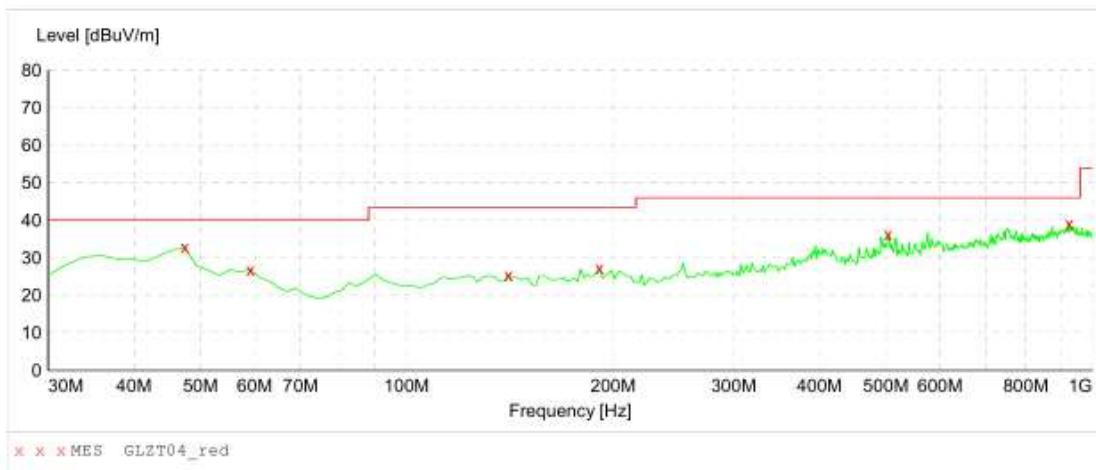
Frequency MHz	Level dBuV/m	Transd dB	Limit dBuV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
47.460000	28.20	16.7	40.0	11.8	---	100.0	0.00	HORIZONTAL
191.020000	31.70	13.6	43.5	11.8	---	100.0	0.00	HORIZONTAL
251.160000	34.50	13.8	46.0	11.5	---	100.0	0.00	HORIZONTAL
307.420000	37.00	15.4	46.0	9.0	---	100.0	0.00	HORIZONTAL
406.360000	41.70	17.9	46.0	4.3	---	100.0	0.00	HORIZONTAL
928.220000	38.60	25.9	46.0	7.4	---	100.0	0.00	HORIZONTAL

## Spurious Emission Below 1GHz: IEEE 802.11g Tx (CH Mid)

EUT: Wireless Router  
 M/N: ARN02304U8  
 Operating Condition: Tx Mode  
 Test Site: 3m CHAMBER  
 Operator: Chen  
 Test Specification: AC 120V/60Hz  
 Comment: Polarization: Vertical

### **SWEET TABLE: "test (30M-1G)"**

Short Description:		Field Strength		
Start Frequency	Stop Frequency	Detector	Meas.	IF
30.0 MHz	1.0 GHz	MaxPeak	Time Coupled	Bandw. 100 kHz
Transducer 9163-2015				



### **MEASUREMENT RESULT: "GLZT04\_red"**

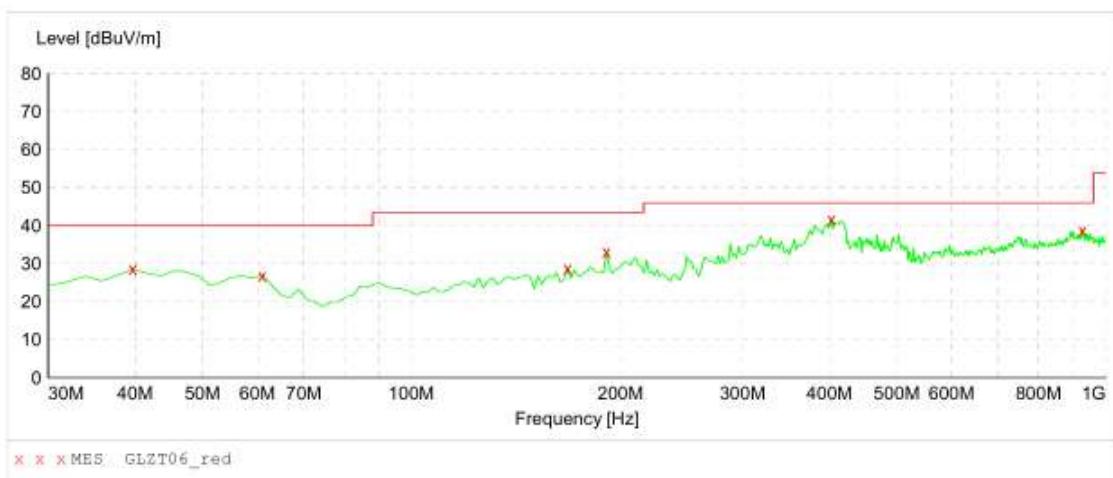
Frequency MHz	Level dBuV/m	Transd dB	Limit dBuV/m	Margin dB	Det. ---	Height cm	Azimuth deg	Polarization
47.460000	32.80	16.7	40.0	7.2	---	100.0	0.00	VERTICAL
59.100000	26.80	15.7	40.0	13.2	---	100.0	0.00	VERTICAL
140.580000	25.40	12.5	43.5	18.1	---	100.0	0.00	VERTICAL
191.020000	27.20	13.6	43.5	16.3	---	100.0	0.00	VERTICAL
503.360000	36.30	19.6	46.0	9.7	---	100.0	0.00	VERTICAL
924.340000	39.10	25.8	46.0	6.9	---	100.0	0.00	VERTICAL

## Spurious Emission Below 1GHz: IEEE 802.11g Tx (CH High)

EUT: Wireless Router  
 M/N: ARN02304U8  
 Operating Condition: Tx Mode  
 Test Site: 3m CHAMBER  
 Operator: Chen  
 Test Specification: AC 120V/60Hz  
 Comment: Polarization: Horizontal

### ***SWEEP TABLE: "test (30M-1G)"***

Short Description:		Field Strength			
Start Frequency	Stop Frequency	Detector	Meas.	IF Time	Transducer
30.0 MHz	1.0 GHz	MaxPeak	Coupled	100 kHz	9163-2015



### ***MEASUREMENT RESULT: "GLZT06\_red"***

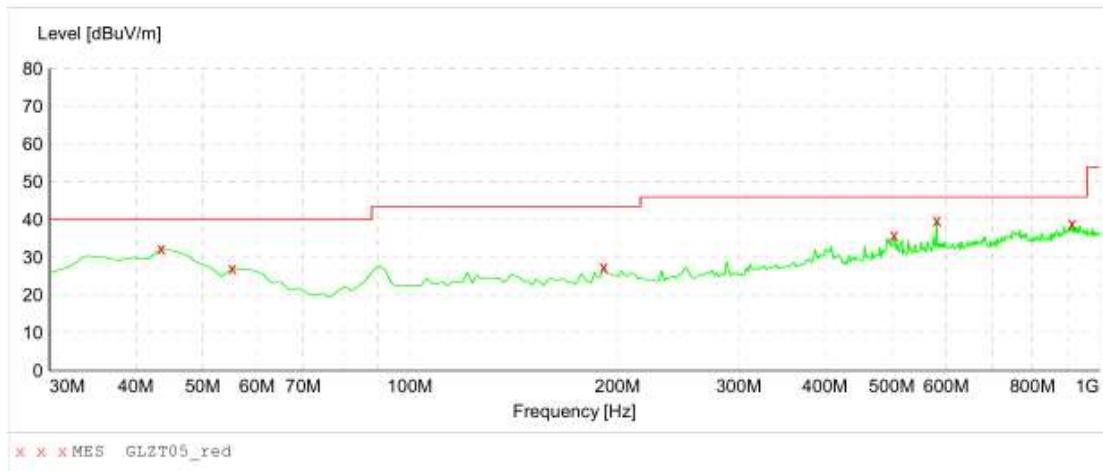
Frequency MHz	Level dBuV/m	Transd dB	Limit dBuV/m	Margin dB	Det. ---	Height cm	Azimuth deg	Polarization
39.700000	28.70	15.7	40.0	11.3	---	100.0	0.00	HORIZONTAL
61.040000	26.90	14.9	40.0	13.1	---	100.0	0.00	HORIZONTAL
167.740000	28.80	12.7	43.5	14.7	---	100.0	0.00	HORIZONTAL
191.020000	33.20	13.6	43.5	10.3	---	100.0	0.00	HORIZONTAL
402.480000	41.70	17.8	46.0	4.3	---	100.0	0.00	HORIZONTAL
924.340000	38.80	25.8	46.0	7.2	---	100.0	0.00	HORIZONTAL

## Spurious Emission Below 1GHz: IEEE 802.11g Tx (CH High)

EUT: Wireless Router  
 M/N: ARN02304U8  
 Operating Condition: Tx Mode  
 Test Site: 3m CHAMBER  
 Operator: Chen  
 Test Specification: AC 120V/60Hz  
 Comment: Polarization: Vertical

### **SWEET TABLE: "test (30M-1G)"**

Short Description:		Field Strength		
Start Frequency	Stop Frequency	Detector	Meas.	IF
30.0 MHz	1.0 GHz	MaxPeak	Coupled	100 kHz
Transducer 9163-2015				

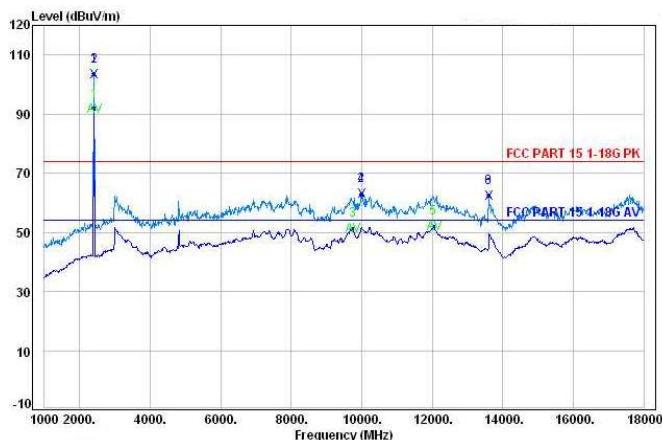


### **MEASUREMENT RESULT: "GLZT05\_red"**

Frequency MHz	Level dBuV/m	Transd dB	Limit dBuV/m	Margin dB	Det. ---	Height cm	Azimuth deg	Polarization
43.580000	32.40	15.8	40.0	7.6	---	100.0	0.00	VERTICAL
55.220000	27.10	15.1	40.0	12.9	---	100.0	0.00	VERTICAL
191.020000	27.50	13.6	43.5	16.0	---	100.0	0.00	VERTICAL
503.360000	35.90	19.6	46.0	10.1	---	100.0	0.00	VERTICAL
580.960000	39.80	21.2	46.0	6.2	---	100.0	0.00	VERTICAL
912.700000	39.00	25.8	46.0	7.0	---	100.0	0.00	VERTICAL

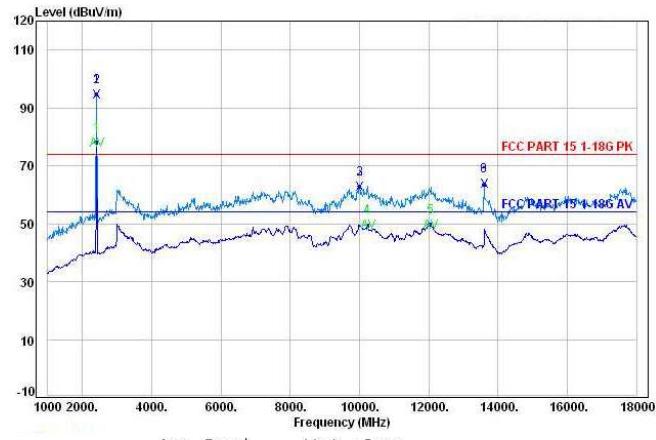
## RADIATED EMISSION ABOVE 1 GHz

### IEEE 802.11b Tx (CH Low)



Ant	Read	Limit	Over		
Freq	Factor	Level	Line	Limit	Remark

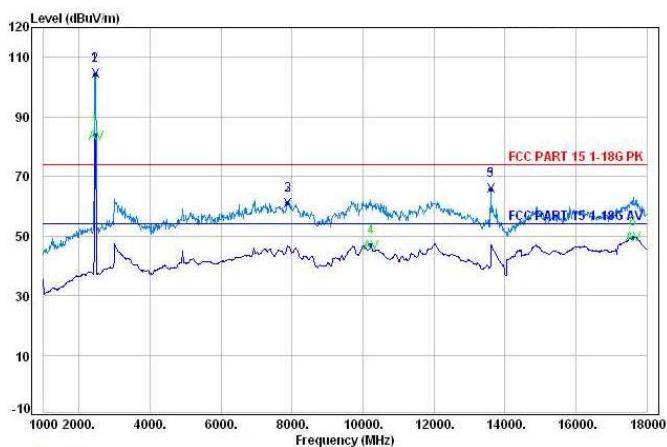
	Freq	MHz	Ant	Read	Limit	Over	Line	Limit	Remark
		MHz	dB/m	dB <sub>UV</sub>	dB <sub>UV</sub> /m	dB <sub>UV</sub> /m	dB		
1	2411.00	30.74	92.86	92.00	74.00	18.00	Average		
2	2411.00	30.74	104.45	103.59	74.00	29.59	Peak		
3	9738.00	39.19	55.20	51.33	74.00	-22.67	Average		
4	9993.00	39.39	65.62	63.00	74.00	-11.00	Peak		
5	12033.00	41.43	53.97	52.03	74.00	-21.97	Average		
6	13597.00	42.38	71.08	62.50	74.00	-11.50	Peak		



Ant	Read	Limit	Over		
Freq	Factor	Level	Line	Limit	Remark

	Freq	MHz	Ant	Read	Limit	Over	Line	Limit	Remark
		MHz	dB/m	dB <sub>UV</sub>	dB <sub>UV</sub> /m	dB <sub>UV</sub> /m	dB		
1	2411.00	30.74	79.00	78.14	74.00	4.14	Average		
2	2411.00	30.74	95.64	94.78	74.00	20.78	Peak		
3	10010.00	39.40	65.57	62.96	74.00	-11.04	Peak		
4	10231.00	39.49	52.86	49.57	74.00	-24.43	Average		
5	12050.00	41.45	51.80	49.80	74.00	-24.20	Average		
6	13597.00	42.38	72.28	63.70	74.00	-10.30	Peak		

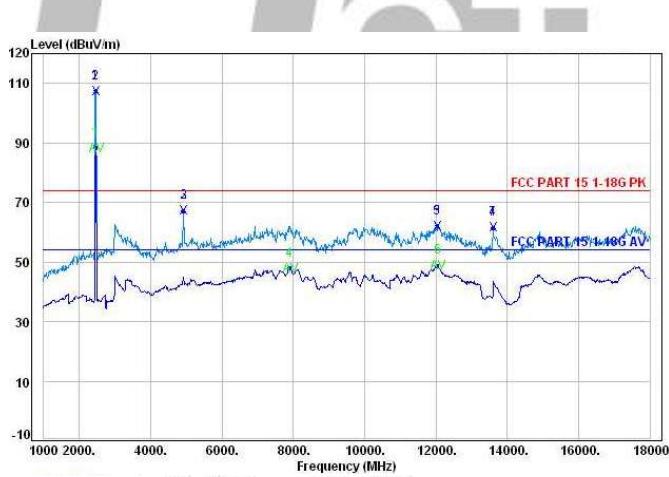
### IEEE 802.11b Tx (CH High)



	Ant	Read	Limit	Over	
Freq	Factor	Level	Line	Limit	Remark

	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB
--	-----	------	------	--------	--------	----

1	2462.00	30.72	84.58	83.75	74.00	9.75 Average
2	2462.00	30.72	105.25	104.42	74.00	30.42 Peak
3	7885.00	39.48	64.53	61.08	74.00	-12.92 Peak
4	10214.00	39.49	50.24	47.01	74.00	-26.99 Average
5	13597.00	42.38	74.42	65.84	74.00	-8.16 Peak
6	17609.00	43.88	62.50	49.67	74.00	-24.33 Average

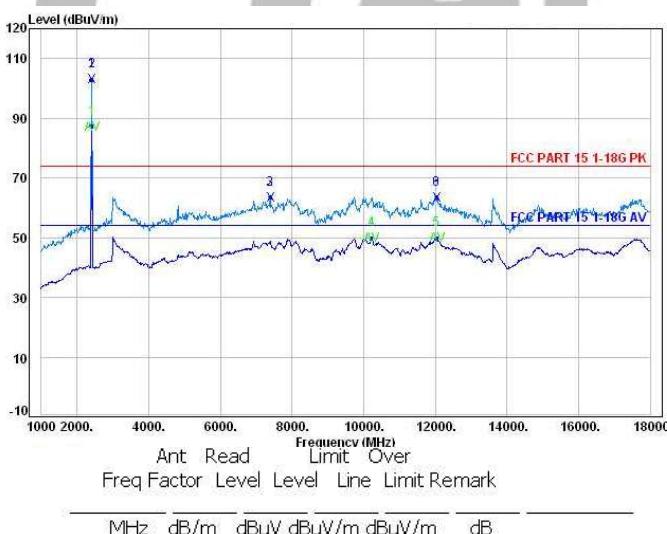
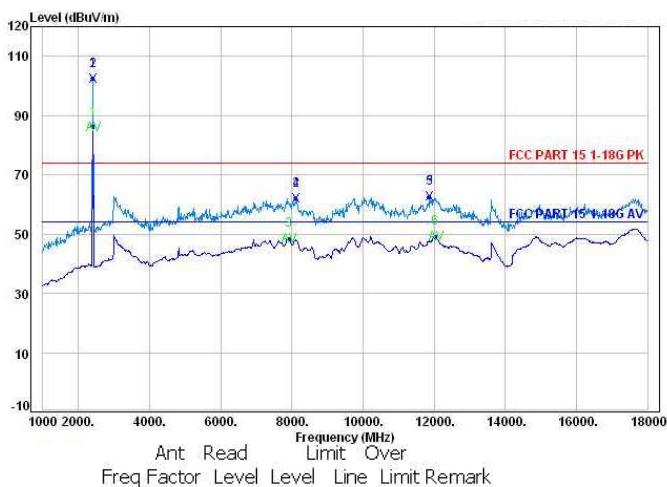


	Ant	Read	Limit	Over	
Freq	Factor	Level	Line	Limit	Remark

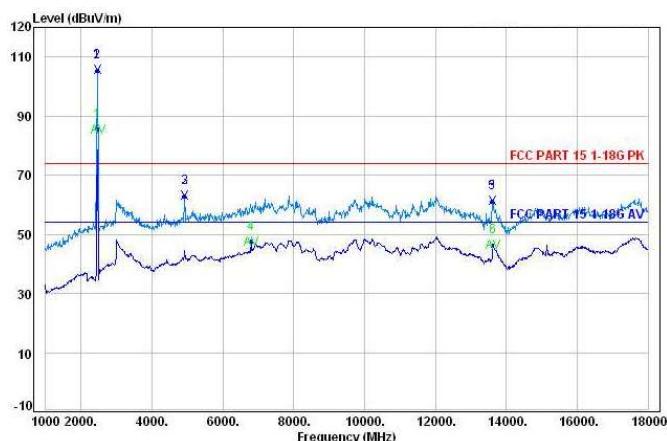
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB
--	-----	------	------	--------	--------	----

1	2462.00	30.72	89.21	88.38	74.00	14.38 Average
2	2462.00	30.72	108.31	107.48	74.00	33.48 Peak
3	4927.00	35.50	71.92	67.38	74.00	-6.62 Peak
4	7902.00	39.48	51.40	47.92	74.00	-26.08 Average
5	12033.00	41.43	64.04	62.10	74.00	-11.90 Peak
6	12050.00	41.45	50.85	48.85	74.00	-25.15 Average
7	13597.00	42.38	70.19	61.61	74.00	-12.39 Peak

## IEEE 802.11g Tx (CH Low)



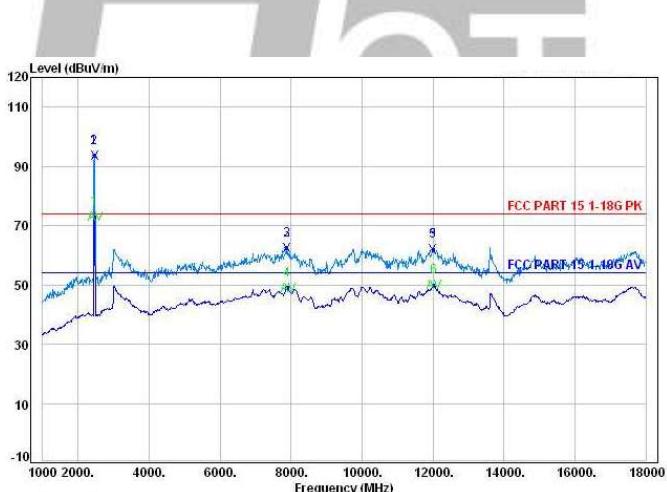
### IEEE 802.11g Tx (CH High)



Ant Read Limit Over  
Freq Factor Level Level Line Limit Remark

	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB
--	-----	------	------	--------	--------	----

1	2462.00	30.72	86.33	85.50	74.00	11.50 Average
2	2462.00	30.72	106.47	105.64	74.00	31.64 Peak
3	4927.00	35.50	67.61	63.07	74.00	-10.93 Peak
4	6797.00	39.01	49.81	47.71	74.00	-26.29 Average
5	13597.00	42.38	69.88	61.30	74.00	-12.70 Peak
6	13614.00	42.39	60.13	46.48	74.00	-27.52 Average

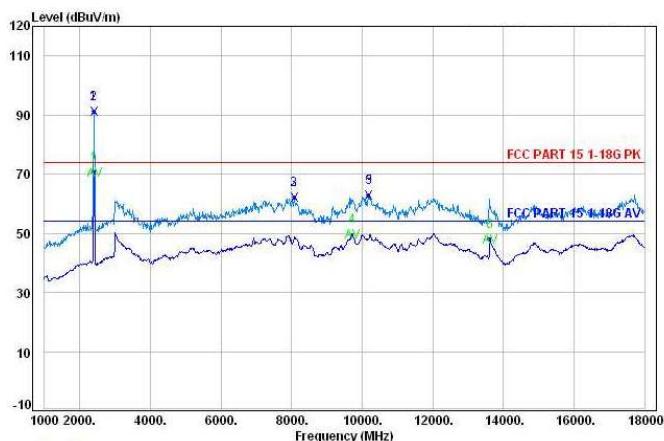


Ant Read Limit Over  
Freq Factor Level Level Line Limit Remark

	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB
--	-----	------	------	--------	--------	----

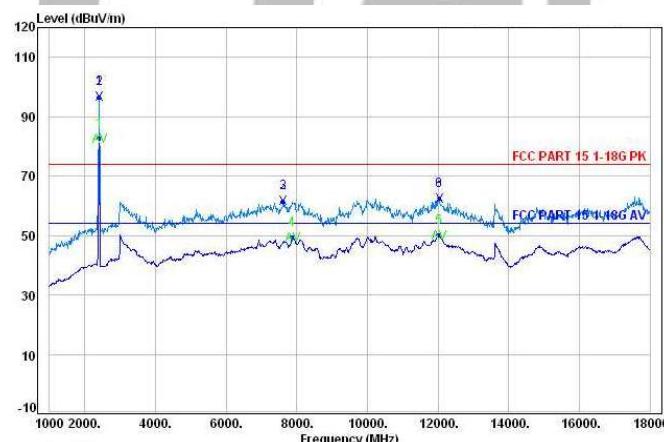
1	2462.00	30.72	73.86	73.03	74.00	-0.97 Average
2	2462.00	30.72	94.50	93.67	74.00	19.67 Peak
3	7885.00	39.48	65.92	62.47	74.00	-11.53 Peak
4	7902.00	39.48	52.63	49.15	74.00	-24.85 Average
5	11999.00	41.40	63.89	62.08	74.00	-11.92 Peak
6	12016.00	41.42	51.77	49.90	74.00	-24.10 Average

## IEEE 802.11 n HT20 Tx (CH LOW)



	Ant	Read	Limit	Over		
Freq	Factor	Level	Level	Line	Limit	Remark

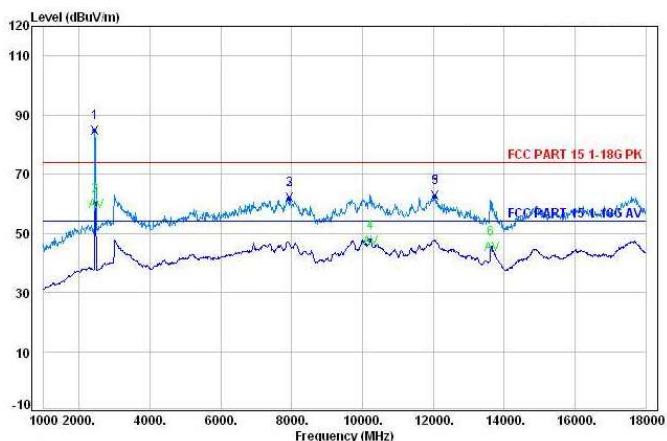
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB
1	2411.00	30.74	71.54	70.67	74.00	-3.33 Average
2	2411.00	30.74	92.08	91.21	74.00	17.21 Peak
3	8072.00	39.36	66.07	62.10	74.00	-11.90 Peak
4	9721.00	39.18	53.53	49.58	74.00	-24.42 Average
5	10180.00	39.47	65.98	62.84	74.00	-11.16 Peak
6	13614.00	42.39	61.69	48.04	74.00	-25.96 Average



	Ant	Read	Limit	Over		
Freq	Factor	Level	Level	Line	Limit	Remark

	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB
1	2411.00	30.74	83.58	82.72	74.00	8.72 Average
2	2411.00	30.74	97.61	96.75	74.00	22.75 Peak
3	7613.00	39.42	64.63	61.57	74.00	-12.43 Peak
4	7868.00	39.47	52.83	49.40	74.00	-24.60 Average
5	12016.00	41.42	52.01	50.14	74.00	-23.86 Average
6	12033.00	41.43	64.52	62.58	74.00	-11.42 Peak

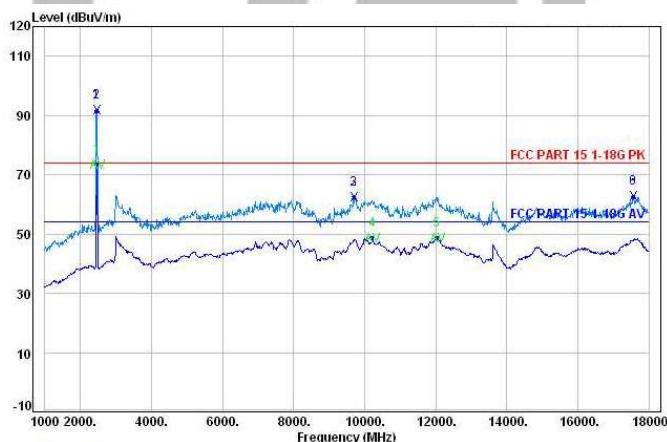
### IEEE 802.11 n HT20 Tx (CH High)



Ant	Read	Limit	Over		
Freq	Factor	Level	Line	Limit	Remark

MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB
-----	------	------	--------	--------	----

1	2462.00	30.72	85.73	84.88	74.00	10.88 Peak
2	2462.00	30.72	60.88	60.05	74.00	-13.95 Average
3	7936.00	39.49	65.45	61.93	74.00	-12.07 Peak
4	10214.00	39.49	50.86	47.63	74.00	-26.37 Average
5	12050.00	41.45	64.73	62.73	74.00	-11.27 Peak
6	13631.00	42.40	59.36	45.42	74.00	-28.58 Average

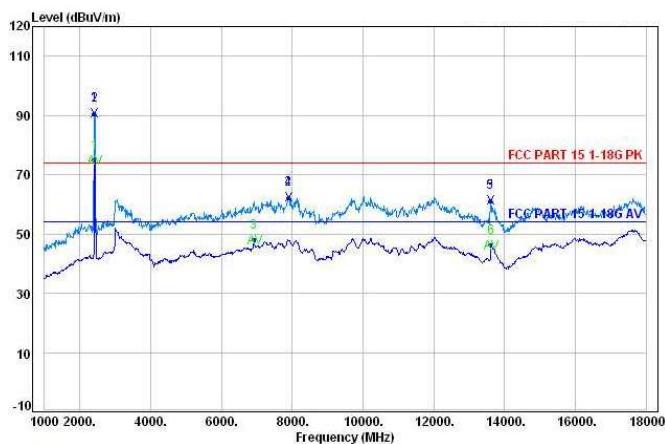


Ant	Read	Limit	Over		
Freq	Factor	Level	Line	Limit	Remark

MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB
-----	------	------	--------	--------	----

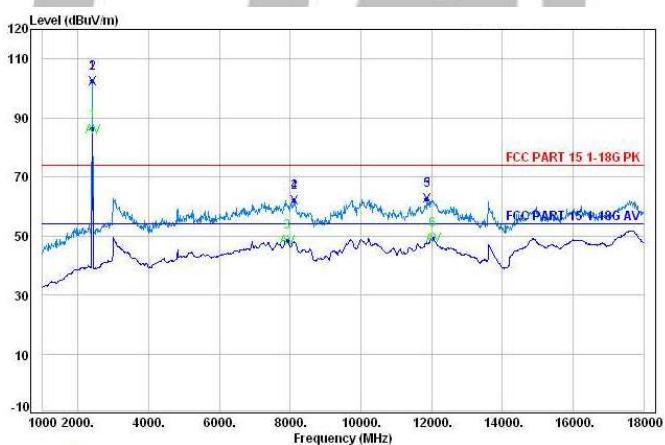
1	2462.00	30.72	74.38	73.55	74.00	-0.45 Average
2	2462.00	30.72	92.63	91.80	74.00	17.80 Peak
3	9704.00	39.16	66.50	62.46	74.00	-11.54 Peak
4	10214.00	39.49	52.01	48.78	74.00	-25.22 Average
5	12033.00	41.43	50.64	48.70	74.00	-25.30 Average
6	17558.00	44.31	75.23	62.65	74.00	-11.35 Peak

## IEEE 802.11 n HT40 Tx (CH LOW)



Ant	Read	Limit	Over		
Freq	Factor	Level	Line	Limit	Remark

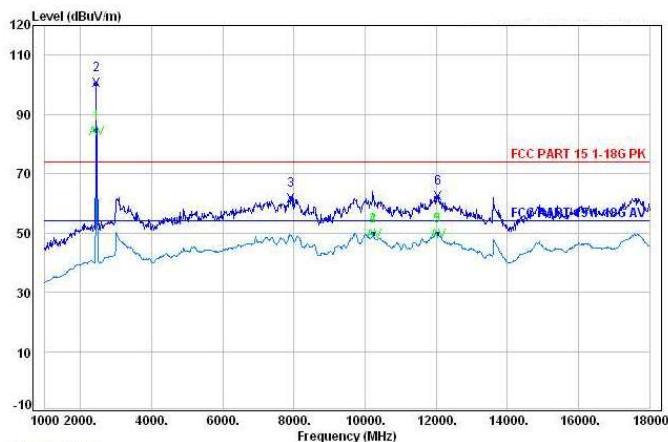
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB
1	2422.00	30.74	75.82	74.96	74.00	0.96 Average
2	2422.00	30.74	91.49	90.63	74.00	16.63 Peak
3	6916.00	39.30	50.11	48.09	74.00	-25.91 Average
4	7902.00	39.48	65.83	62.35	74.00	-11.65 Peak
5	13597.00	42.38	69.93	61.35	74.00	-12.65 Peak
6	13614.00	42.39	59.85	46.20	74.00	-27.80 Average



Ant	Read	Limit	Over		
Freq	Factor	Level	Line	Limit	Remark

	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB
1	2422.00	30.74	78.14	77.28	74.00	3.28 Average
2	2422.00	30.74	95.57	94.71	74.00	20.71 Peak
3	7885.00	39.48	52.44	48.99	74.00	-25.01 Average
4	7902.00	39.48	66.40	62.92	74.00	-11.08 Peak
5	12016.00	41.42	64.34	62.47	74.00	-11.53 Peak
6	12033.00	41.43	52.11	50.17	74.00	-23.83 Average

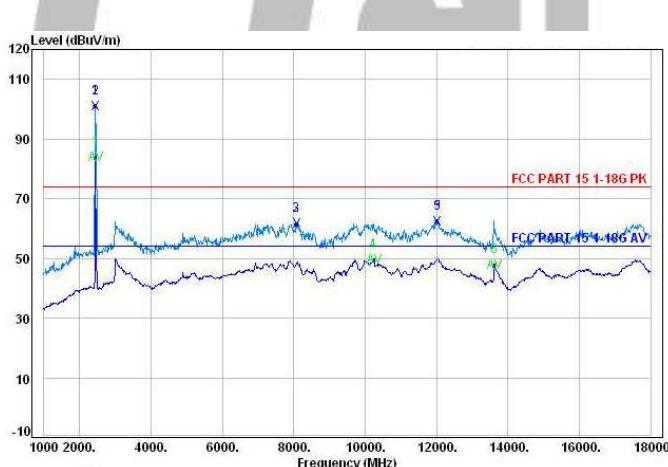
## IEEE 802.11 n HT40 Tx (CH High)



Ant	Read	Limit	Over		
Freq	Factor	Level	Line	Limit	Remark

MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB
-----	------	------	--------	--------	----

1	2452.00	30.72	85.31	84.46	74.00	10.46	Average
2	2452.00	30.72	101.42	100.57	74.00	26.57	Peak
3	7919.00	39.48	65.24	61.73	74.00	-12.27	Peak
4	10231.00	39.49	53.03	49.74	74.00	-24.26	Average
5	12033.00	41.43	51.77	49.83	74.00	-24.17	Average
6	12050.00	41.45	64.42	62.42	74.00	-11.58	Peak



Ant	Read	Limit	Over		
Freq	Factor	Level	Line	Limit	Remark

MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB
-----	------	------	--------	--------	----

1	2452.00	30.72	84.87	84.02	74.00	10.02	Average
2	2452.00	30.72	102.01	101.16	74.00	27.16	Peak
3	8072.00	39.36	65.60	61.63	74.00	-12.37	Peak
4	10231.00	39.49	52.81	49.52	74.00	-24.48	Average
5	12016.00	41.42	64.41	62.54	74.00	-11.46	Peak
6	13614.00	42.39	61.42	47.77	74.00	-26.23	Average

## 10. Test of Band Edges Emission

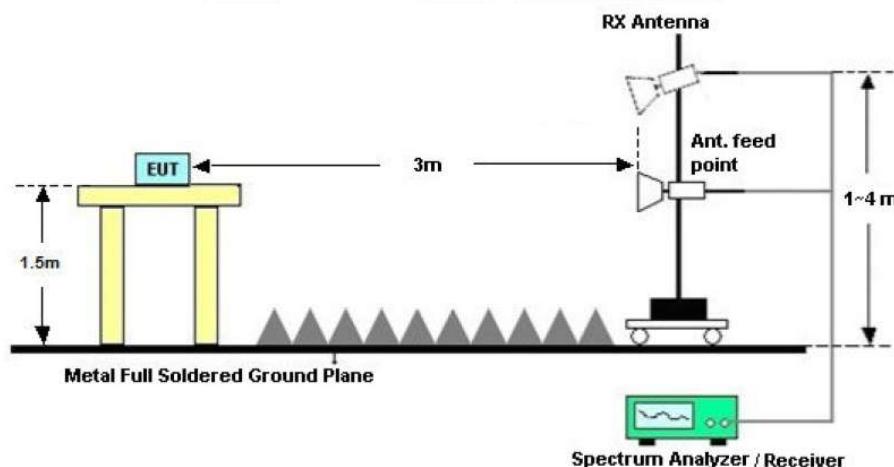
### 10.1 Applicable standard

Refer to FCC §15.247 (d), IC RSS-247 Issue2 Clause 5.5  
KDB558074 D01 V04 Section 13.0

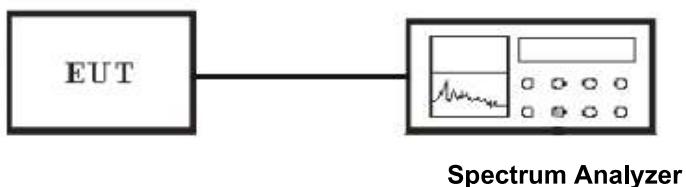
Section 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. In addition, radiated emissions that fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209.

### 10.2 EUT Setup

#### Radiated Measurement Setup



#### Conducted Measurement Setup



### 10.3 Test Equipment List and Details

See section 2.7.

### 10.4 Test Procedure

#### Conducted Measurement

KDB558074 D01 V04 Section 11.3

- Set the center frequency and span to encompass frequency range to be measured.

2. Set the RBW = 100 kHz.
3. Set the VBW  $\geq$  3 x RBW.
4. Detector = peak.
5. Sweep time = auto couple.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use the peak marker function to determine the maximum amplitude level.

### Radiated Measurement

KDB558074 D01 V04 Section 12.1, 12.2.7

#### Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Set RBW = 1MHz
3. Set VBW = 3MHz
4. Detector = Peak
5. Trace Mode = max hold.
6. Sweep = auto couple.
7. Trace was allowed to stabilize

#### Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Set RBW = 1MHz
3. Set VBW = 3MHz
4. Detector = power average (RMS)
5. Sweep = auto couple.
6. Trace (RMS) averaging was performed over at least 100 traces

Note :

1. Configure the EUT according to ANSI C63.10-2013
2. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emission field strength of both horizontal and vertical polarization.
4. For band edge emission, the antenna tower was scan (from 1 M to 4 M) and then the turn table was rotated (from 0 degree to 360 degrees) to find the maximum reading.

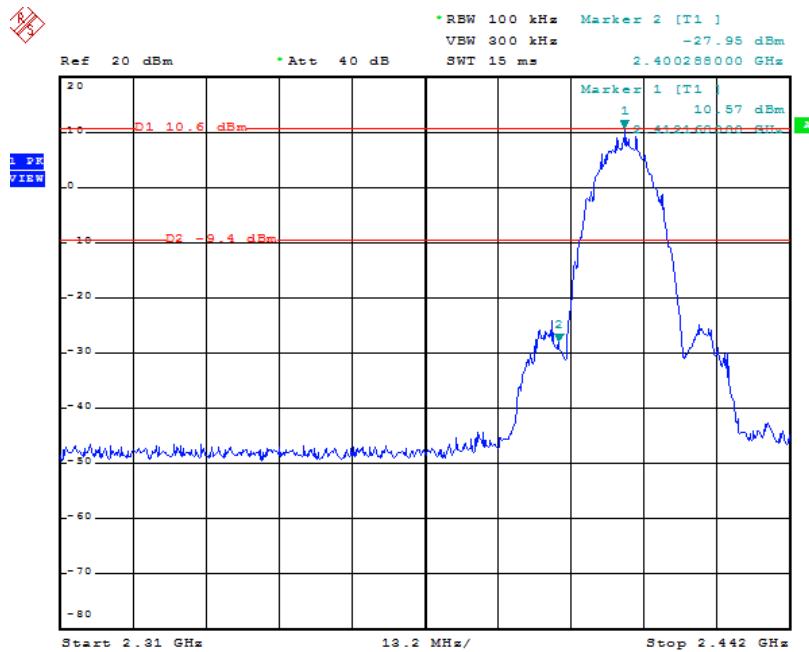
### 10.5 Test Result

Temperature ( °C ) : 22~23	EUT: Wireless Router
Humidity (%RH ): 50~54	M/N: ARN02304U8
Barometric Pressure ( mbar ): 950~1000	Operation Condition: Continuously Tx Mode

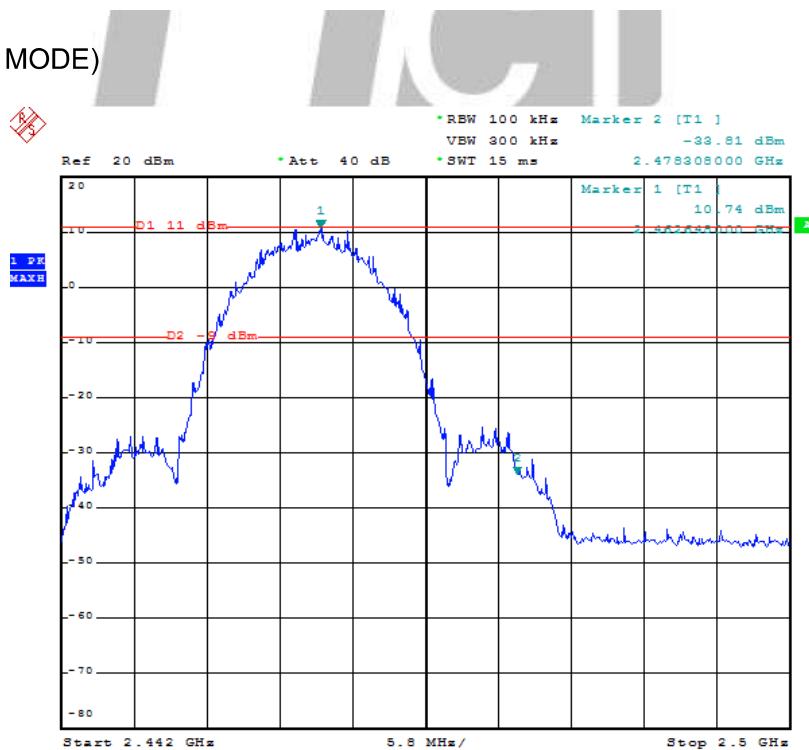
## Test of Conducted band edges

**CH1**

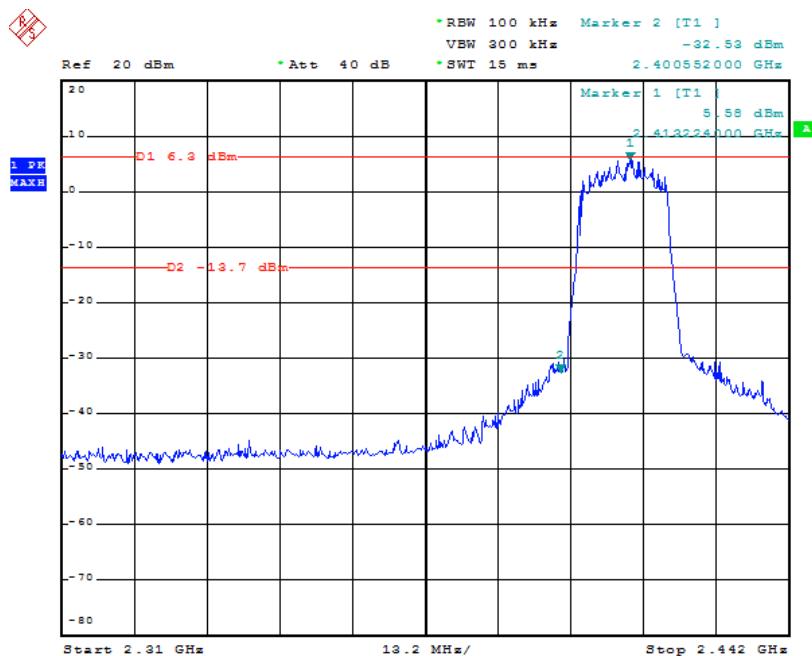
CH Low (802.11b MODE)



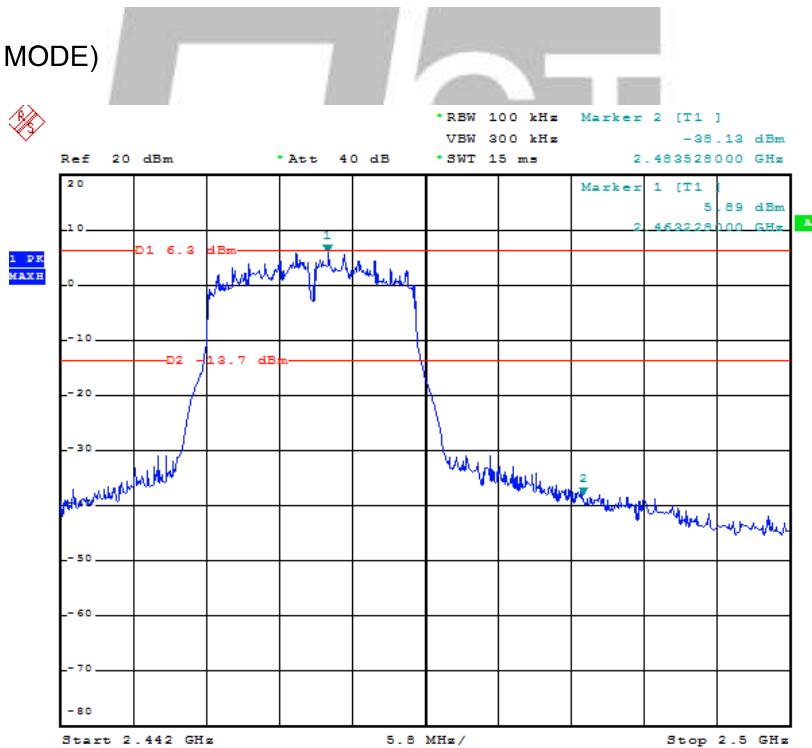
CH High (802.11b MODE)



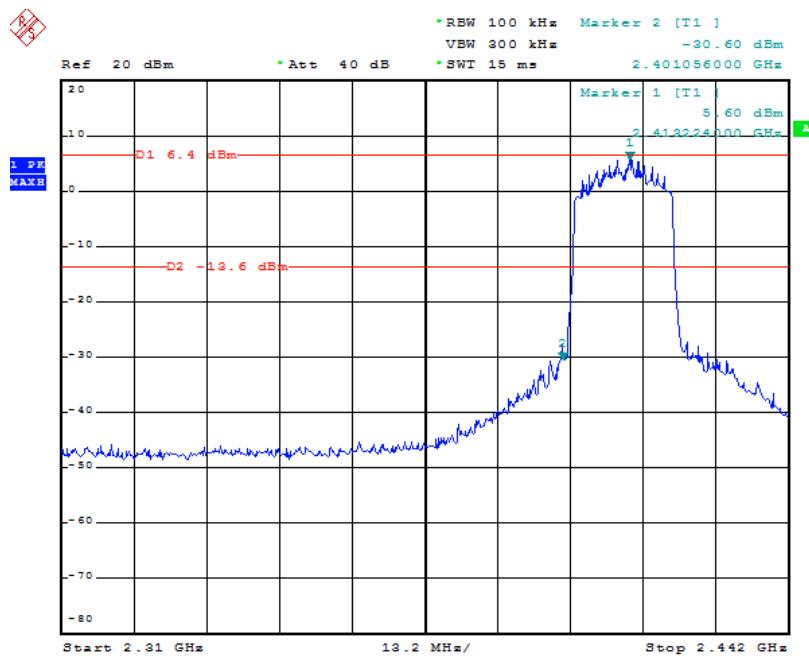
### CH Low (802.11g MODE)



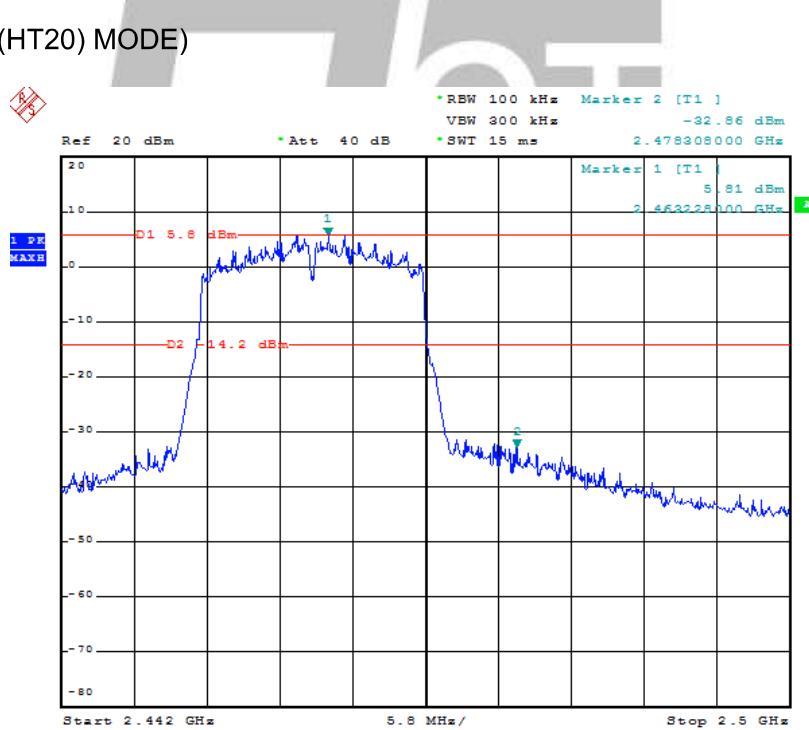
### CH High (802.11g MODE)



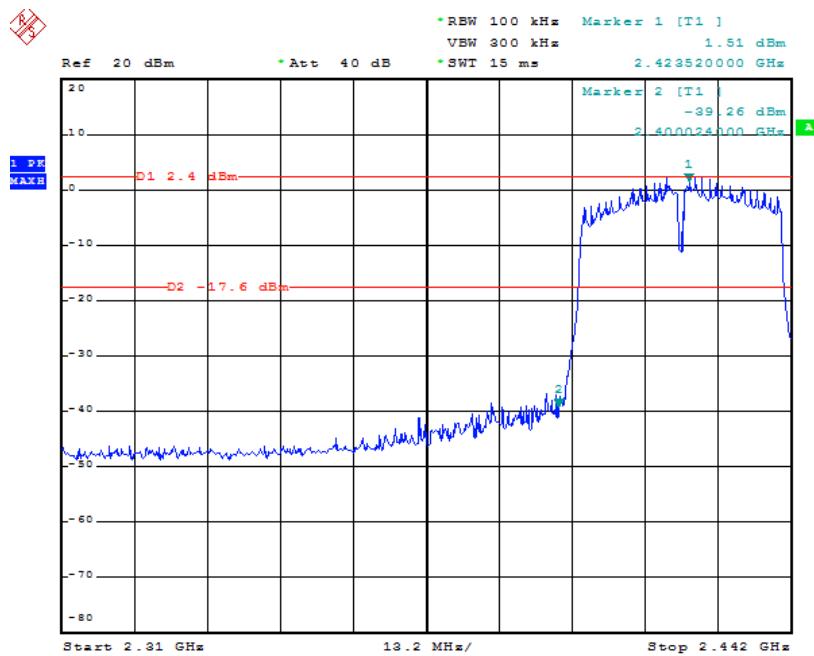
### CH Low (802.11n(HT20) MODE)



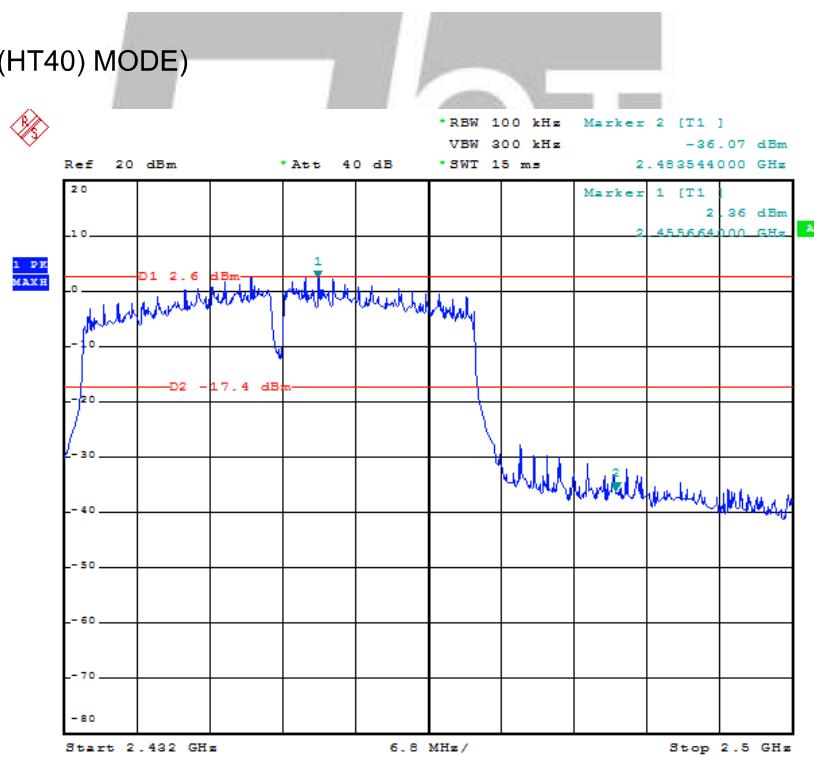
### CH High (802.11n(HT20) MODE)



### CH Low (802.11n(HT40) MODE)

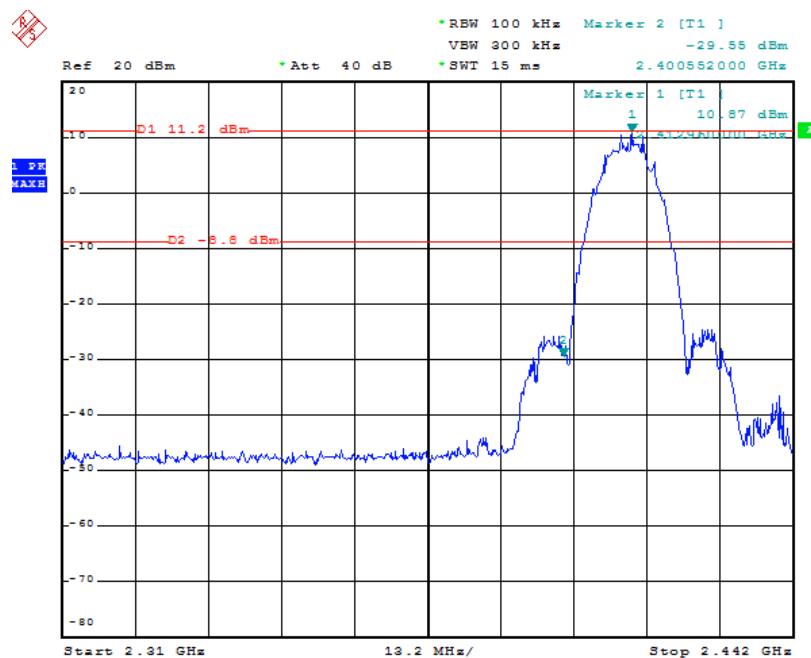


### CH High (802.11n(HT40) MODE)

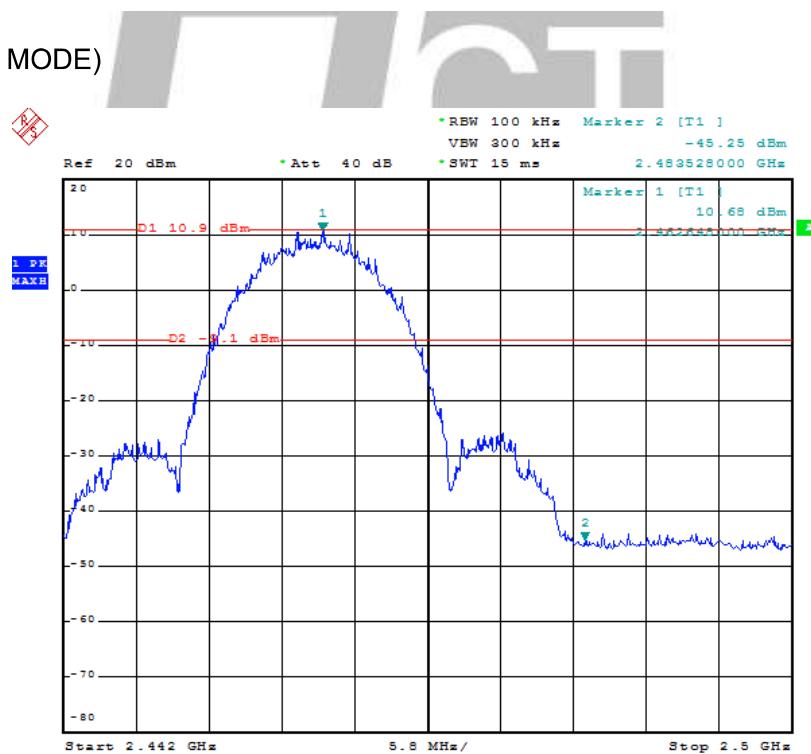


## CH2

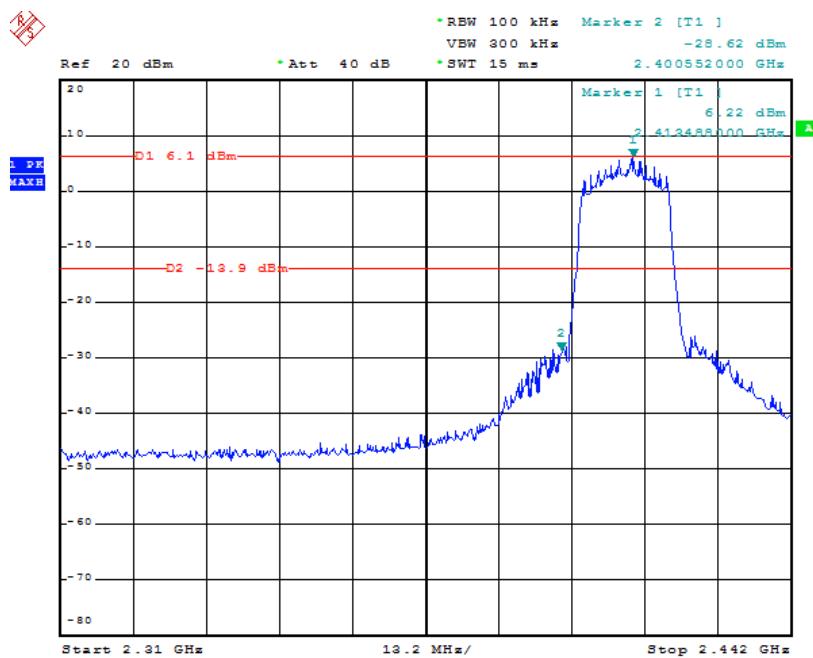
### CH Low (802.11b MODE)



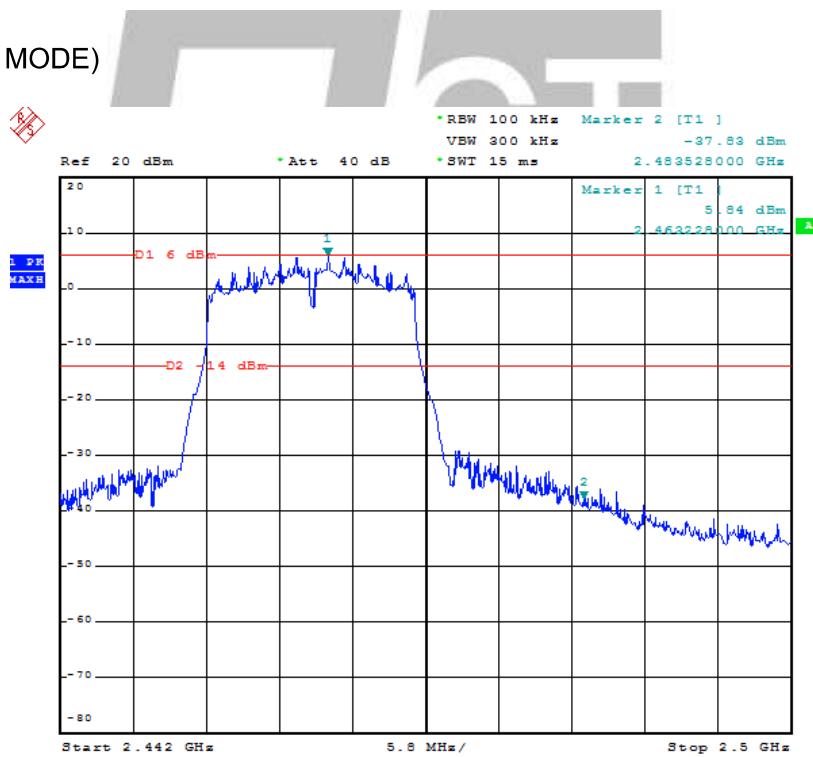
### CH High (802.11b MODE)



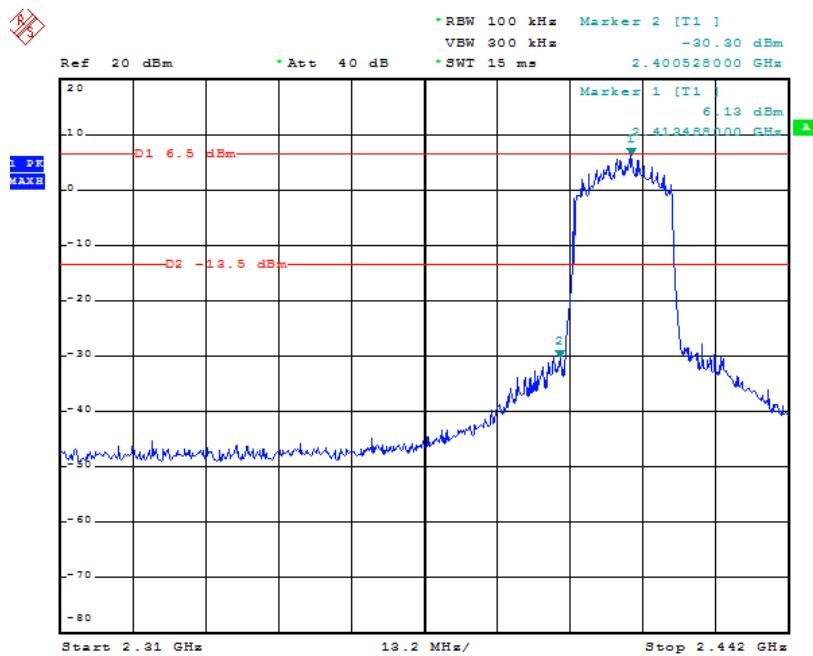
### CH Low (802.11g MODE)



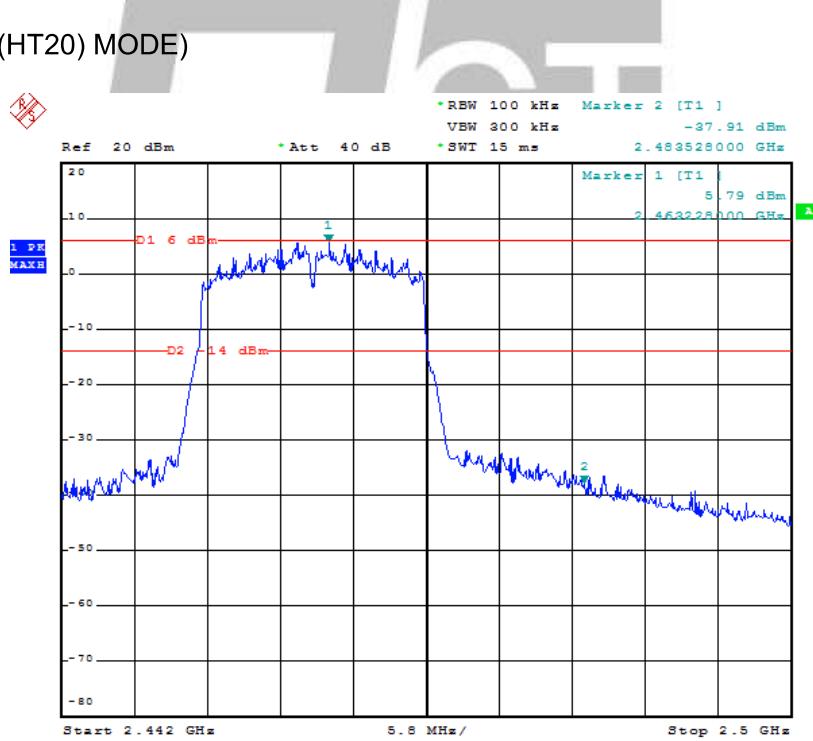
### CH High (802.11g MODE)



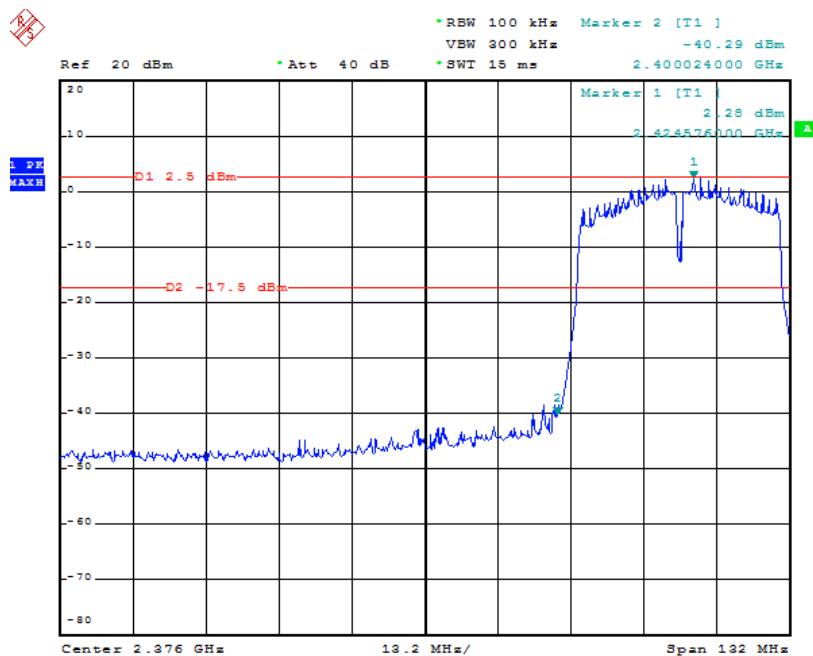
### CH Low (802.11n(HT20) MODE)



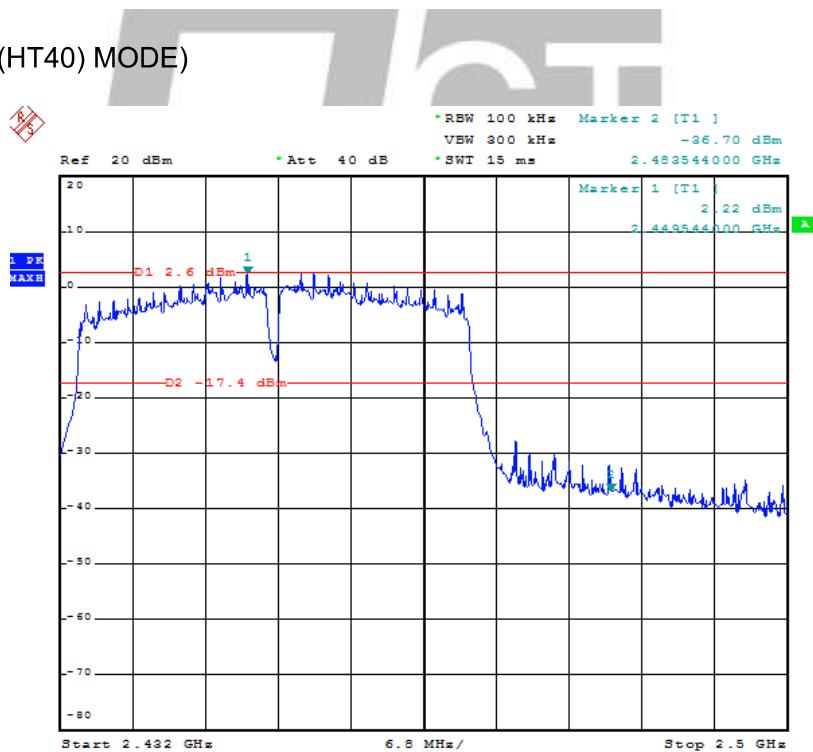
### CH High (802.11n(HT20) MODE)



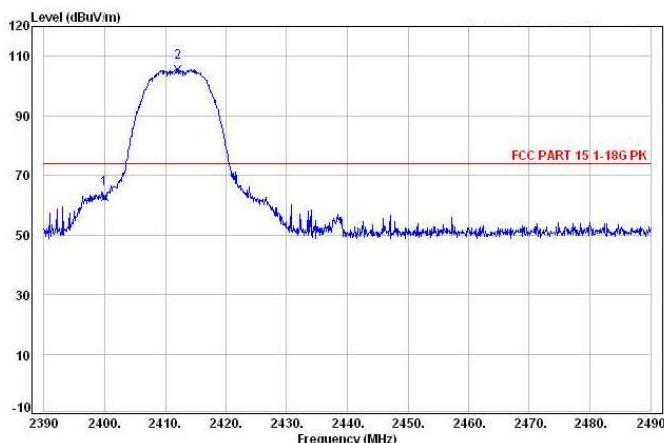
### CH Low (802.11n(HT40) MODE)



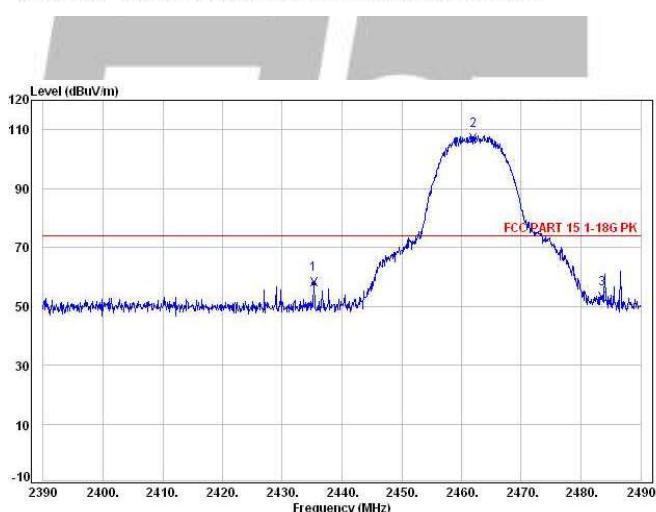
### CH High (802.11n(HT40) MODE)



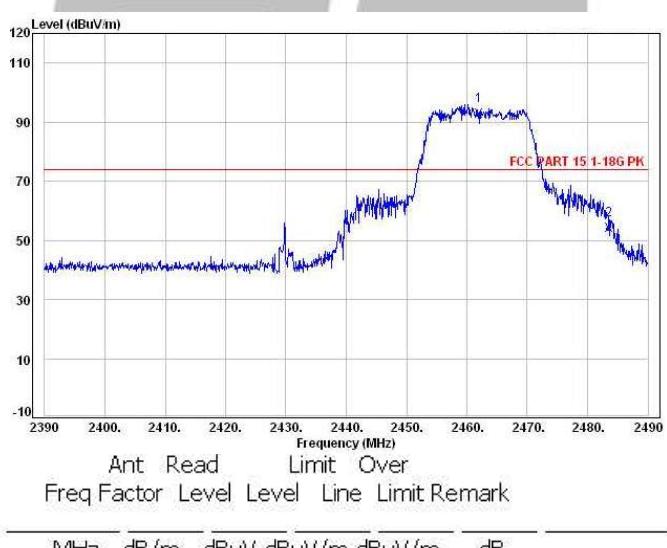
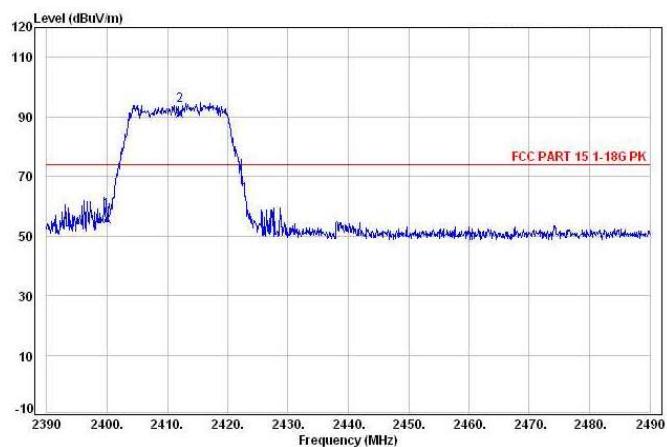
## Radiated Test Result



	Ant	Read	Limit	Over		
	Freq	Factor	Level	Line	Limit	Remark
	MHz		dB/m	dBuV	dBuV/m	dB
1	2400.00	30.74	63.54	62.67	74.00	-11.33 Peak
2	2412.00	30.74	106.30	105.44	74.00	31.44 Peak

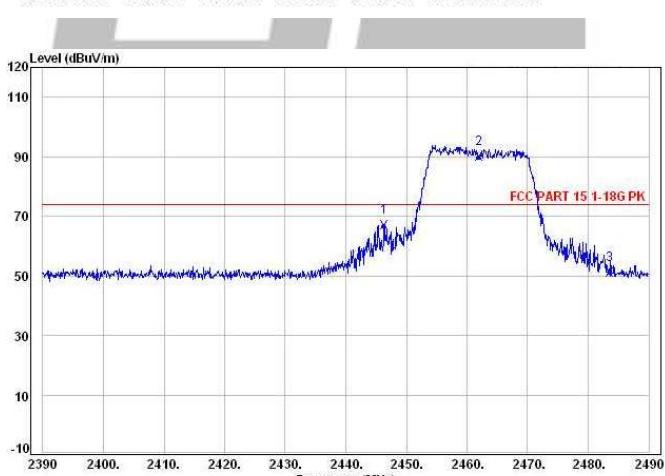


	Ant	Read	Limit	Over		
	Freq	Factor	Level	Line	Limit	Remark
	MHz		dB/m	dBuV	dBuV/m	dB
1	2435.30	30.73	58.98	58.13	74.00	-15.87 Peak
2	2462.00	30.72	108.05	107.22	74.00	33.22 Peak
3	2483.50	30.71	54.01	53.19	74.00	-20.81 Peak

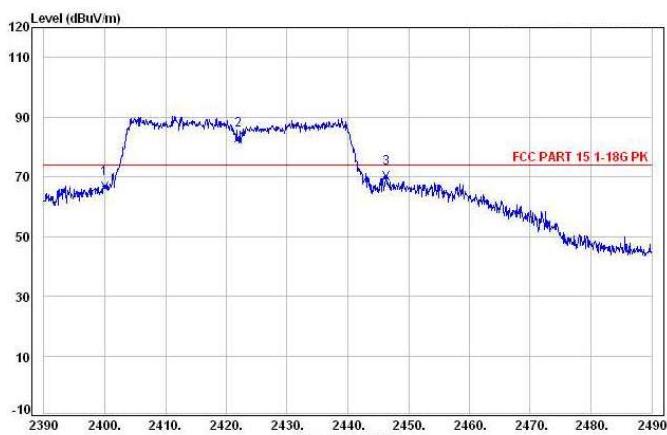




	Ant	Read	Limit	Over		
	Freq	Factor	Level	Line	Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB
1	2400.00	30.74	68.84	67.97	74.00	-6.03 Peak
2	2412.00	30.74	88.91	88.05	74.00	14.05 Peak



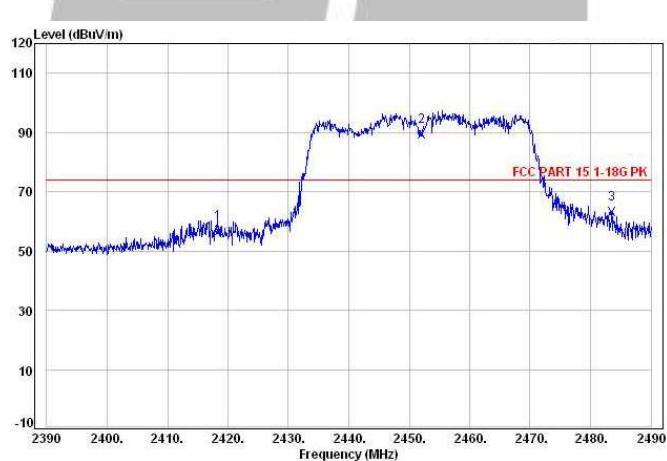
	Ant	Read	Limit	Over		
	Freq	Factor	Level	Line	Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB
1	2446.30	30.72	67.72	66.87	74.00	-7.13 Peak
2	2462.00	30.72	90.78	89.95	74.00	15.95 Peak
3	2483.50	30.71	51.99	51.17	74.00	-22.83 Peak



Ant	Read	Limit	Over		
Freq	Factor	Level	Line	Limit	Remark

MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB
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1	2400.00	30.74	67.66	66.79	74.00	-7.21 Peak
2	2422.00	30.73	83.77	82.91	74.00	8.91 Peak
3	2446.30	30.72	71.04	70.19	74.00	-3.81 Peak



Ant	Read	Limit	Over		
Freq	Factor	Level	Line	Limit	Remark

MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB
-----	------	------	--------	--------	----

1	2418.40	30.73	57.60	56.74	74.00	-17.26 Peak
2	2452.00	30.72	90.36	89.52	74.00	15.52 Peak
3	2483.50	30.71	63.95	63.13	74.00	-10.87 Peak

## 11. ANTENNA REQUIREMENT

### 11.1 standard Applicable

Section 15.203 & IC RSS-GEN Clause 8.3

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.

Section 15.247(b)/(c)

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

If the intentional radiator is used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

### 11.2 Antenna Connected Construction

There are no provisions for connections to an external antenna.

The antenna is designed with 2.4GHz 5dBi WIFI dipole antenna. The antenna is soldered to the PCB and no consideration of replacement.

The antenna used in this product is complied with standard. The maximum Gain of the antenna lower than 6.0dBi and have the definite antenna Specification.

...End of Report...