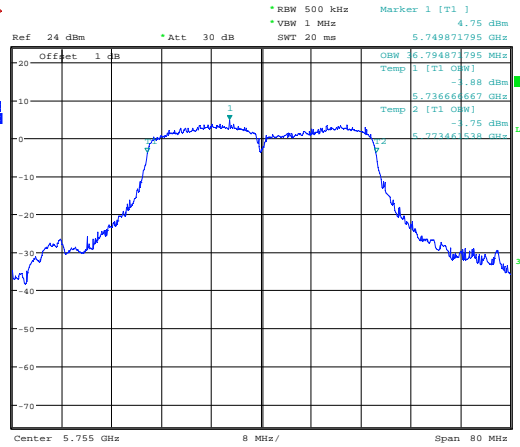
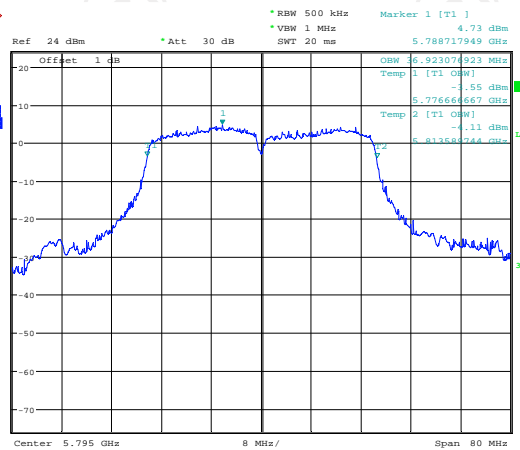


11n(HT40)

CH151




CH159



## 6.6. Power Spectral Density

### 6.6.1. Test Specification

<b>Test Requirement:</b>	FCC Part15 E Section 15.407 (a)
<b>Test Method:</b>	KDB662911 D01 Multiple Transmitter Output v02r01 KDB789033 D02 General UNII Test Procedures New Rules v01r03 Section F
<b>Limit:</b>	$\leq 17.00\text{dBm/MHz}$ for Band I 5150MHz-5250MHz $\leq 11.00\text{dBm/MHz}$ for Band II 5250MHz-5350MHz $\leq 11.00\text{dBm/MHz}$ for Band III 5450MHz-5725MHz $\leq 30.00\text{dBm/500KHz}$ for Band IV 5725MHz-5850MHz The e.i,r,p spectral density for Band I 5150MHz – 5250 MHz should not exceed 10dBm/MHz
<b>Test Setup:</b>	 <p style="text-align: center;">Spectrum Analyzer                      EUT</p>
<b>Test Mode:</b>	Transmitting mode with modulation
<b>Test Procedure:</b>	1. Set the spectrum analyzer or EMI receiver span to view the entire emission bandwidth. 1. Set RBW = 510 kHz/1 MHz, VBW $\geq 3 \times$ RBW, Sweep time = Auto, Detector = RMS. 2. Allow the sweeps to continue until the trace stabilizes. 3. Use the peak marker function to determine the maximum amplitude level.
<b>Test Result:</b>	PASS

### 6.6.2. Test Instruments

RF Test Room				
Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	R&S	FSQ	200061	Aug. 12, 2017
RF cable	TCT	RE-06	N/A	Aug. 12, 2017
Antenna Connector	TCT	RFC-01	N/A	Aug. 12, 2017

**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

**6.6.3. Test data**

Configuration Band I (5150 - 5250 MHz ) / Antenna 0+Antenna 1+ Antenna 2							
Mode	Test channel	Power Spectral Density				Limit (dBm/MHz)	Result
		Ant0	Ant1	Ant2	Total		
11a	CH36	9.96	8.61	9.27	14.09	15.20	PASS
11a	CH44	9.15	8.72	8.58	13.59	15.20	PASS
11a	CH48	8.51	8.44	8.86	13.38	15.20	PASS
11n(HT20)	CH36	8.45	8.84	8.45	13.36	15.20	PASS
11n(HT20)	CH44	8.22	8.32	8.70	13.19	15.20	PASS
11n(HT20)	CH48	8.04	7.38	7.42	12.40	15.20	PASS
11n(HT40)	CH38	5.12	5.18	4.55	9.73	15.20	PASS
11n(HT40)	CH46	3.95	4.69	3.39	8.81	15.20	PASS

Note: 1. All antennas have the same gain.  $G_{ANT}=3dBi$ ,  $Array\ Gain=10\log(N_{ANT}/N_{SS})=4.8dBi$

$Directional\ Gain=G_{ANT} + Array\ Gain=7.8dBi$ , so  $limit=17-(7.8-6)=15.2\ dBm/MHz$

2. The total PSD method used the sum spectra maxima across the outputs.

Configuration Band IV (5725 - 5850 MHz ) / Antenna 0+Antenna 1+ Antenna 2							
Mode	Test channel	Power Spectral Density				Limit (dBm/MHz)	Result
		Ant0	Ant1	Ant2	Total		
11a	CH149	7.74	7.49	7.72	12.42	28.20	PASS
11a	CH157	8.13	7.55	7.37	12.47	28.20	PASS
11a	CH165	7.46	7.47	7.58	12.27	28.20	PASS
11n (HT20)	CH149	7.20	7.03	6.80	11.78	28.20	PASS
11n (HT20)	CH157	8.37	7.64	8.04	12.80	28.20	PASS
11n (HT20)	CH165	7.67	7.98	8.02	12.66	28.20	PASS
11n (HT40)	CH151	4.05	3.64	4.20	8.74	28.20	PASS
11n (HT40)	CH159	4.63	4.78	4.74	9.49	28.20	PASS

Note: 1. All antennas have the same gain.  $G_{ANT}=3dBi$ ,  $Array\ Gain=10\log(N_{ANT}/N_{SS})=4.8dBi$

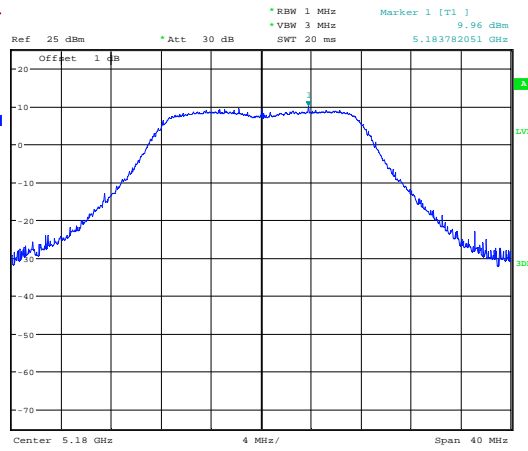
$Directional\ Gain=G_{ANT} + Array\ Gain=7.8dBi$ , so  $limit=30-(7.8-6)=28.2\ dBm/MHz$

2. The total PSD method used the sum spectra maxima across the outputs.

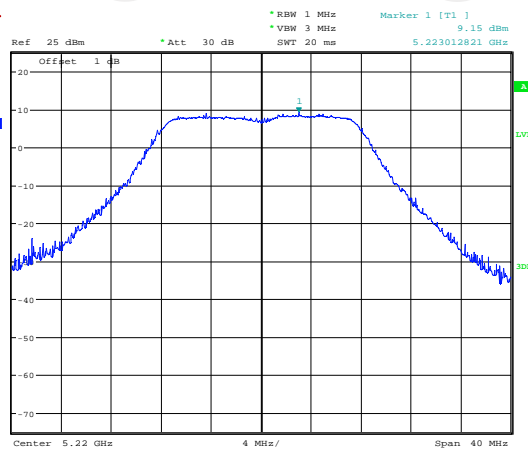
Test plots as follows:

ANT 0  
Band I (5150 – 5250 MHz)  
11a

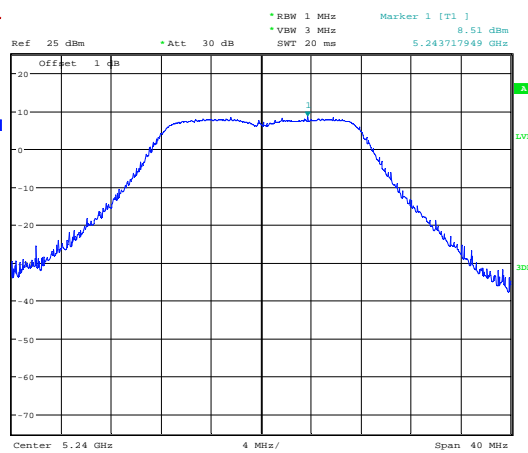
### CH36



### CH44

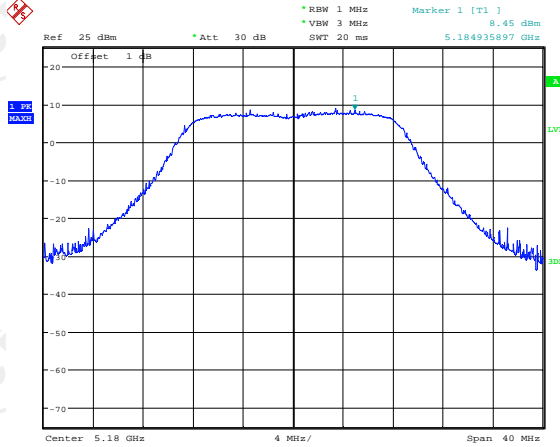


### CH48

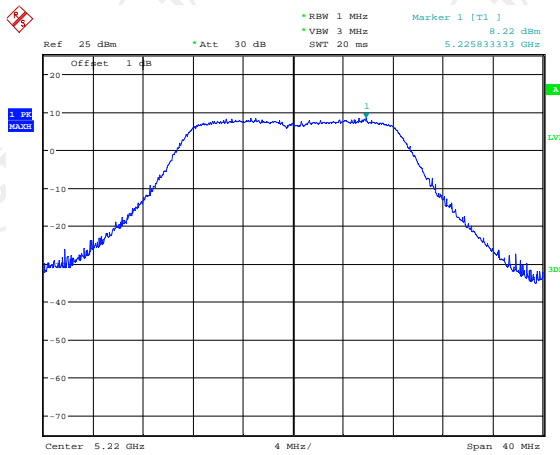


11n(HT20)

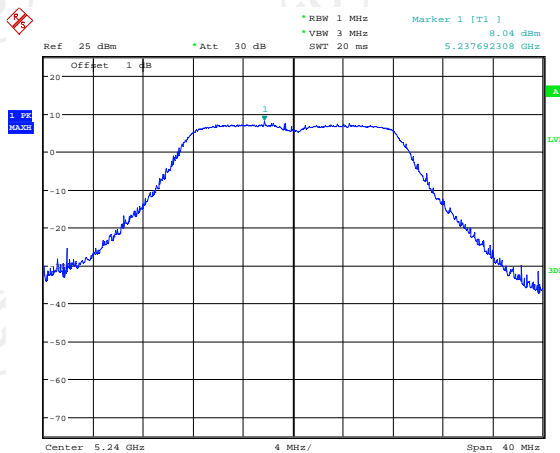
CH36



CH44

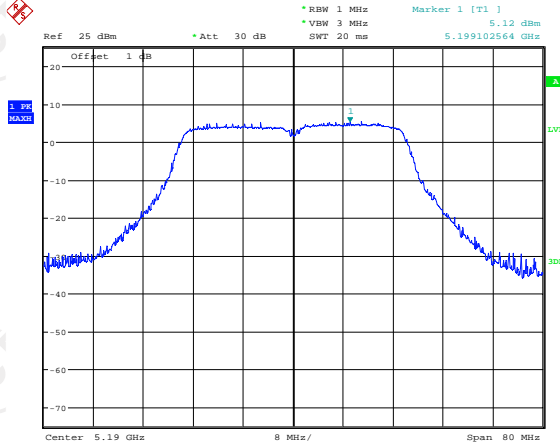


CH48

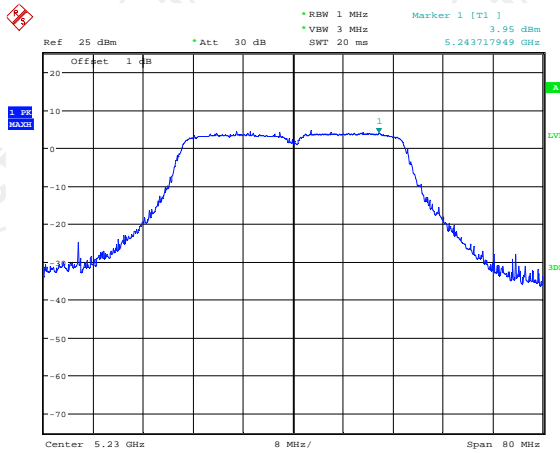


11n(HT40)

CH38



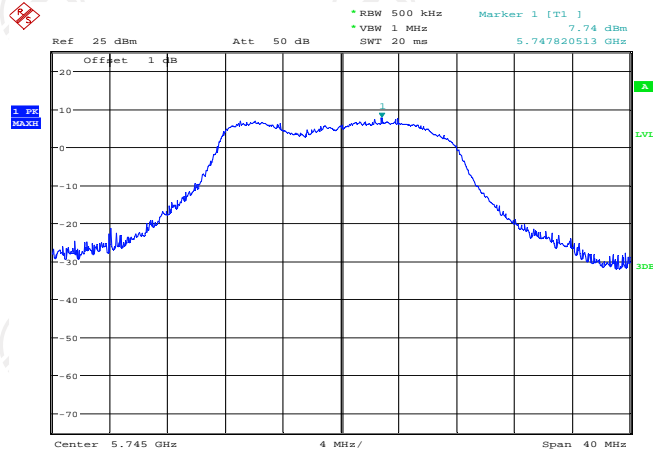
CH46



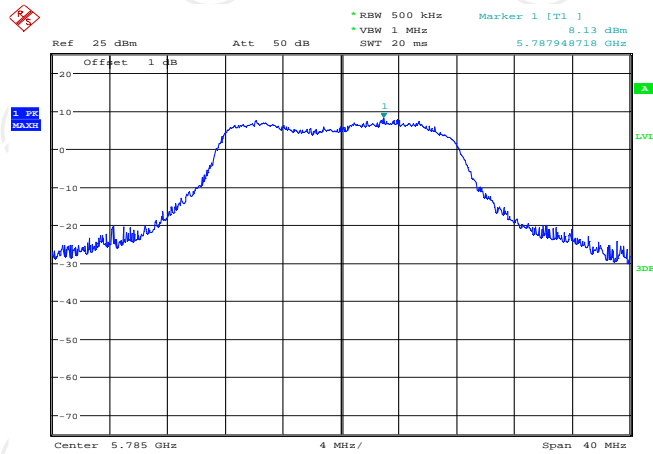
## Band IV (5725 – 5850 MHz)

11a

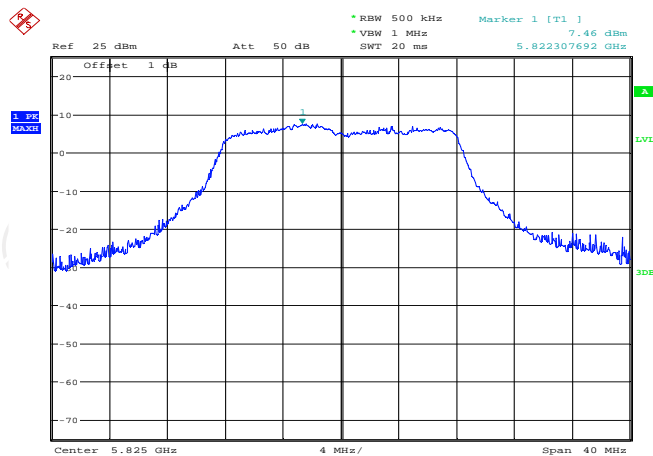
### CH149



### CH157

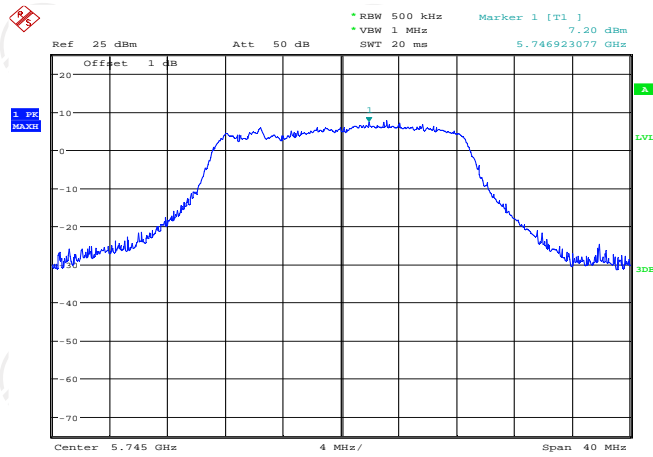


### CH165

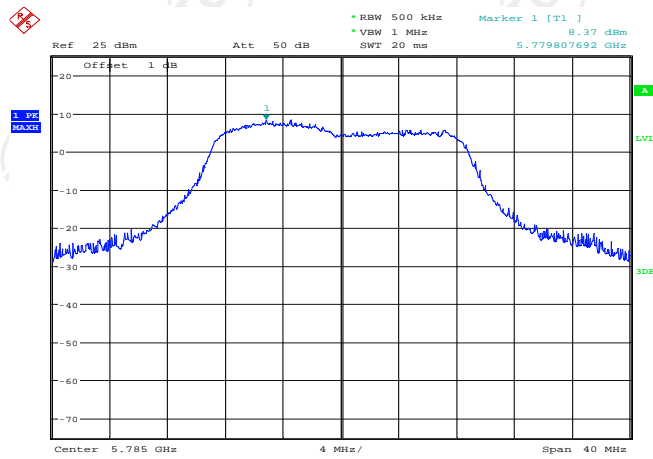


11n(HT20)

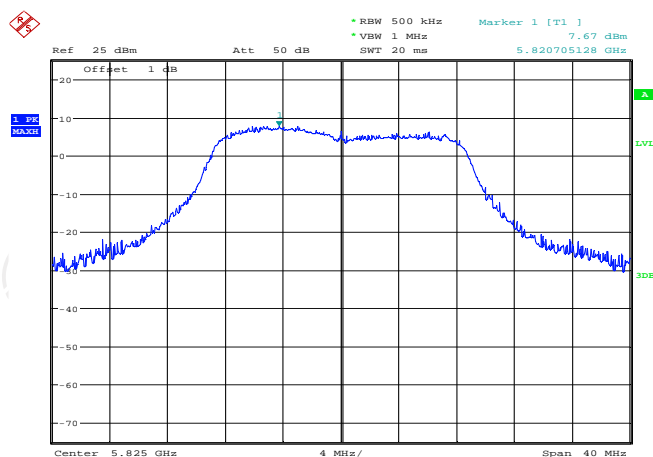
CH149



CH157



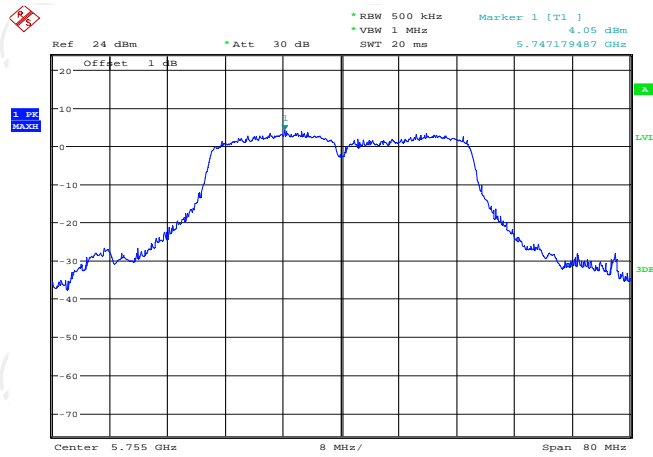
CH165



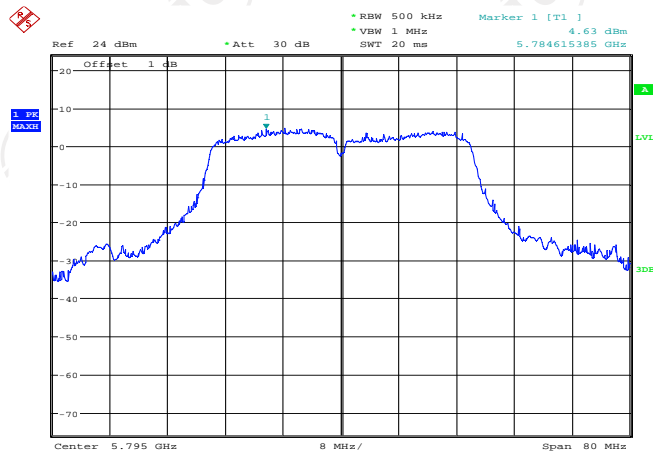


11n(HT40)

CH151

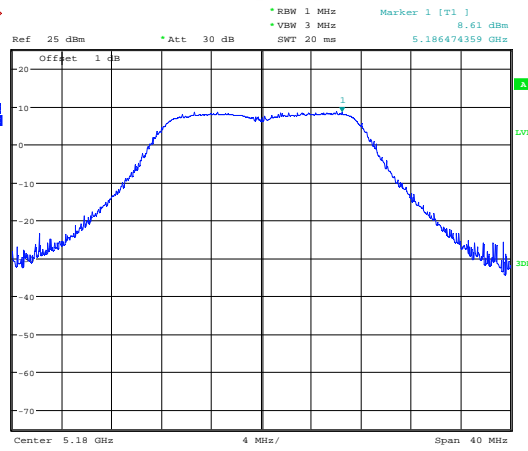


CH159

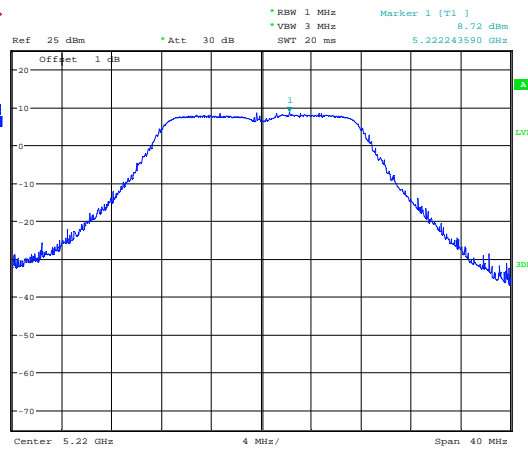


ANT 1  
Band I (5150 – 5250 MHz)  
11a

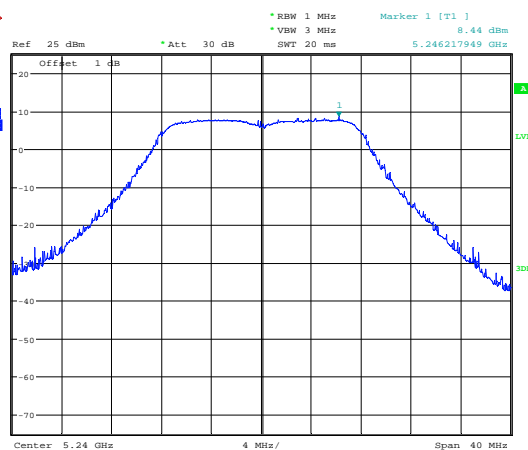
CH36



CH44

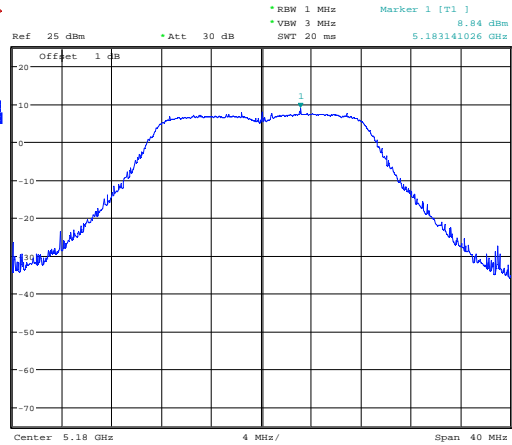


CH48

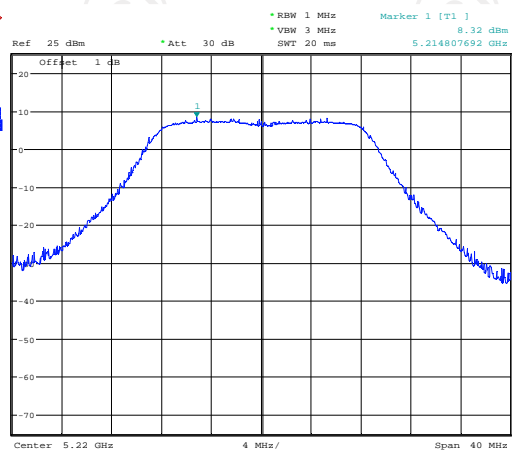


11n(HT20)

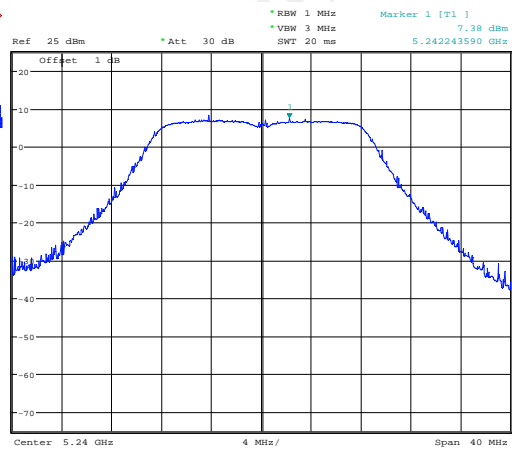
CH36



CH44

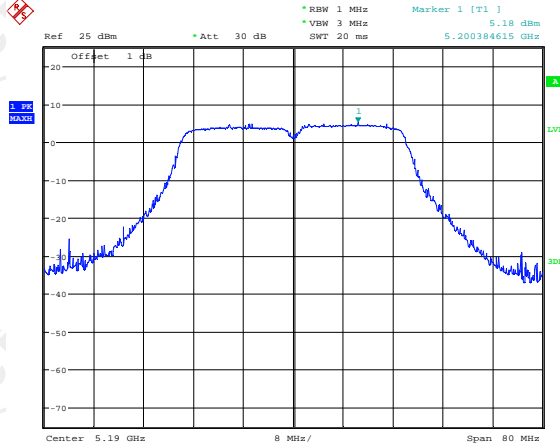


CH48

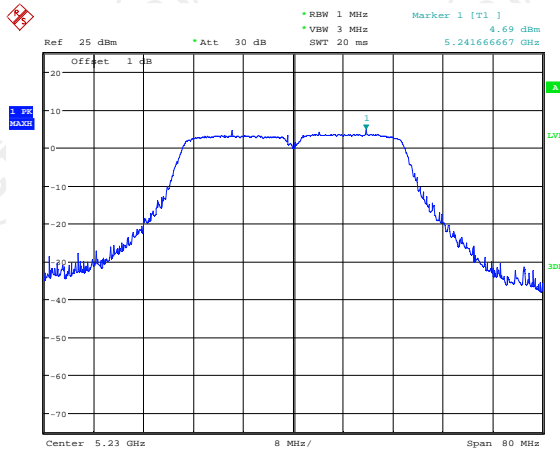


11n(HT40)

CH38



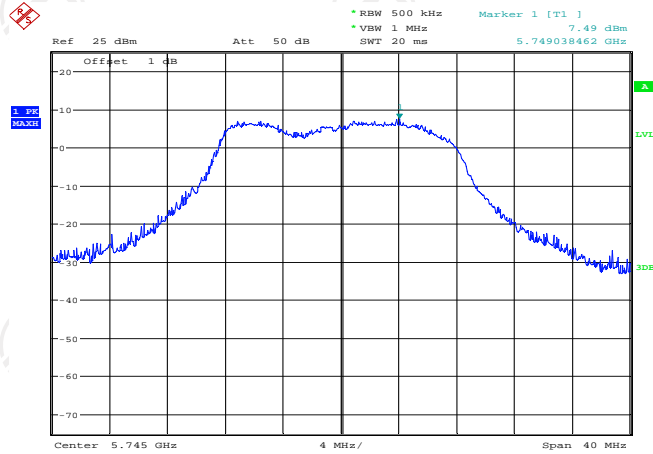
CH46



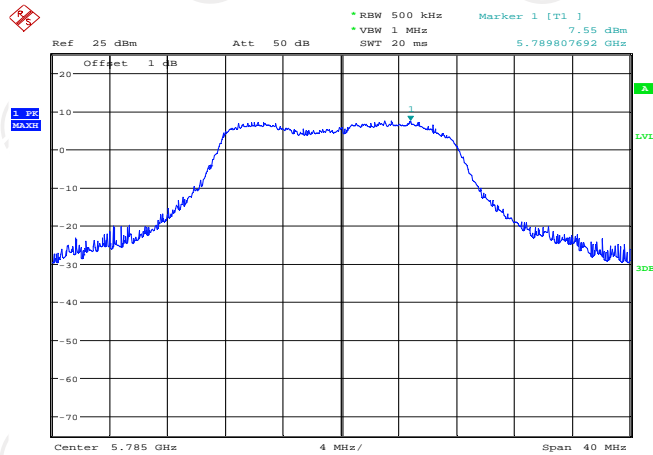
## Band IV (5725 – 5850 MHz)

11a

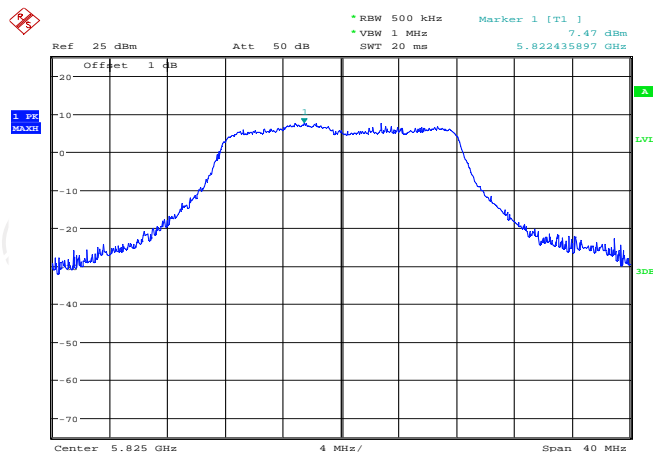
### CH149



### CH157

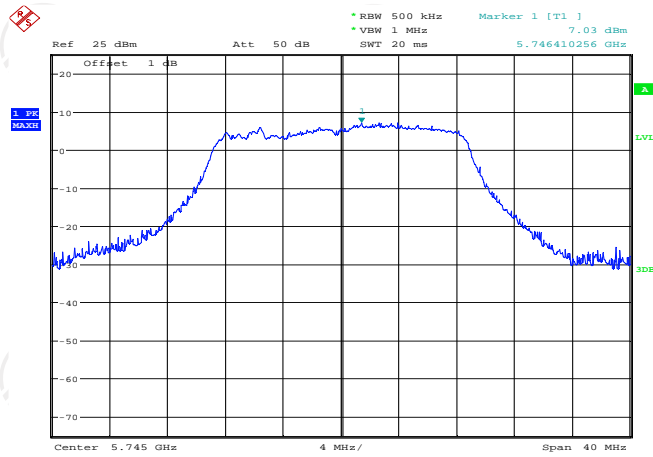


### CH165

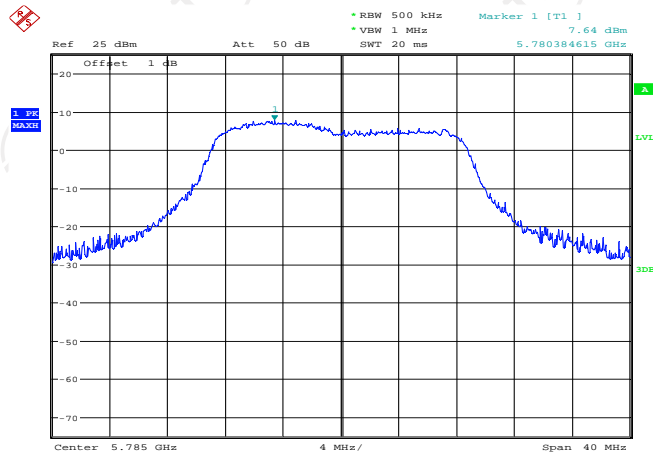


11n(HT20)

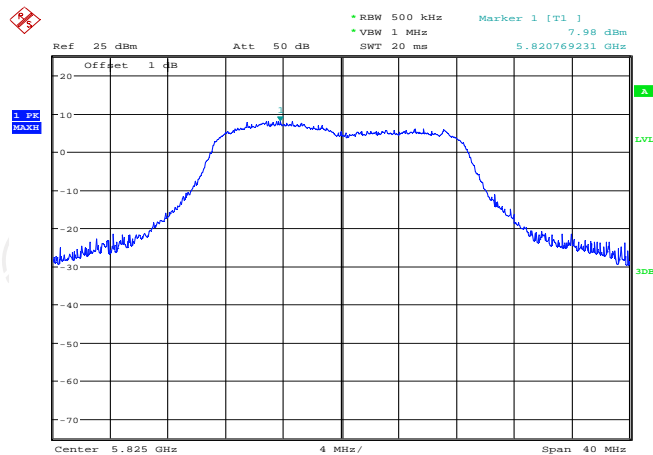
CH149



CH157

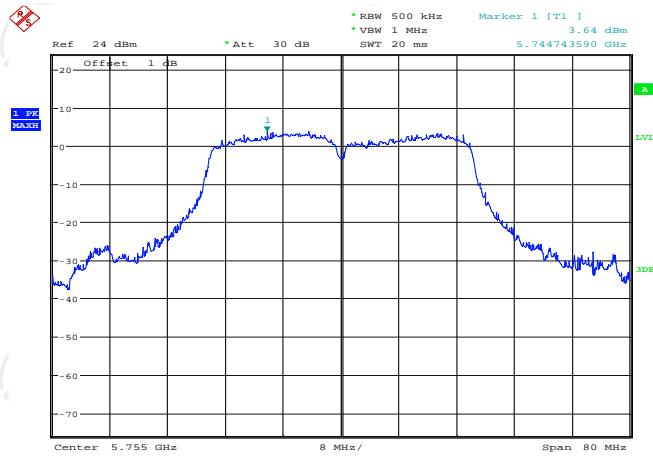


CH165

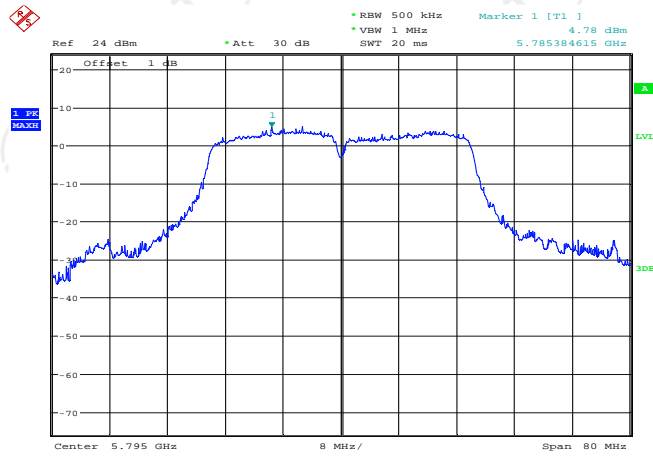


11n(HT40)

CH151

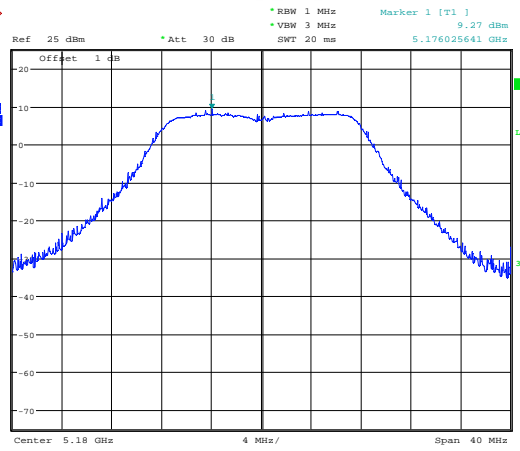


CH159

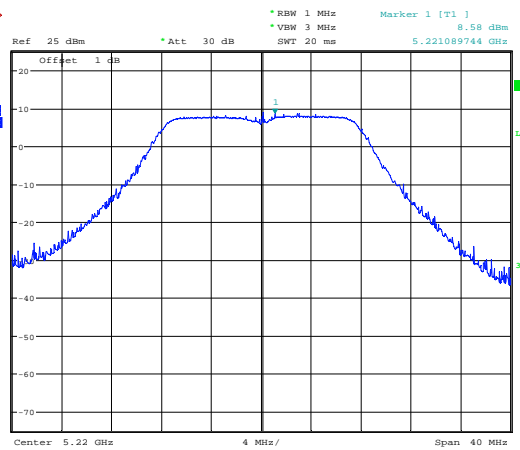


ANT 2  
Band I (5150 – 5250 MHz)  
11a

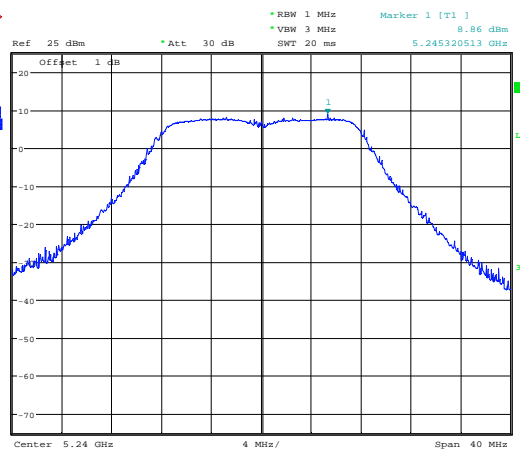
CH36



CH44



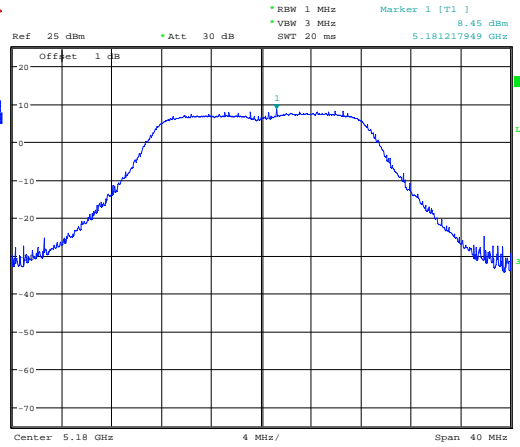
CH48



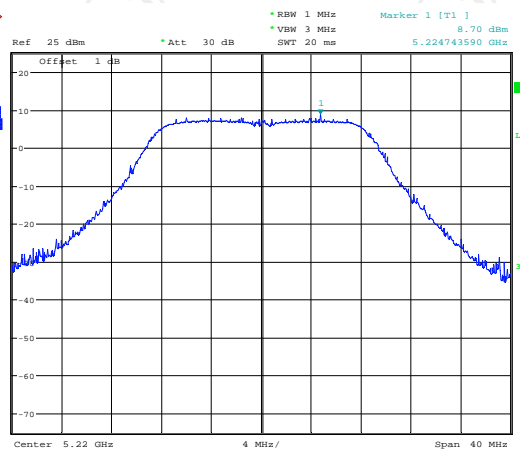


11n(HT20)

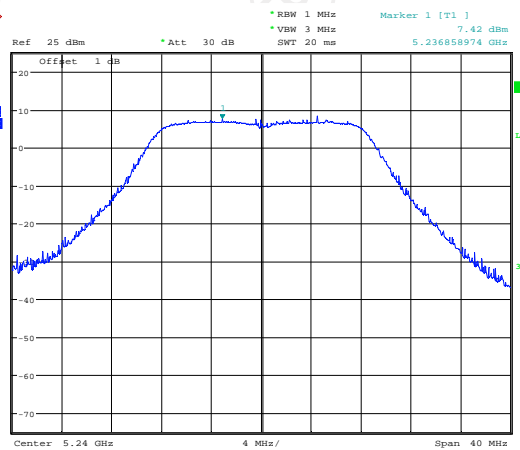
CH36



CH44

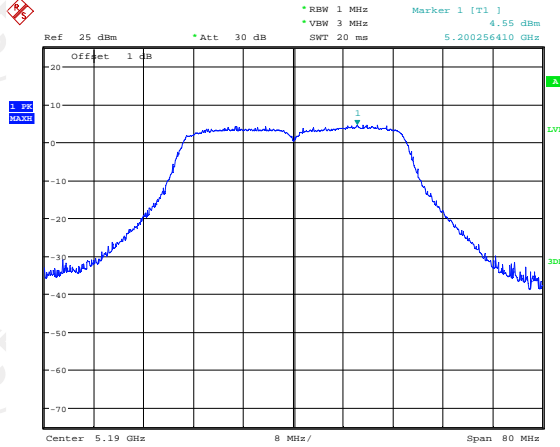


CH48

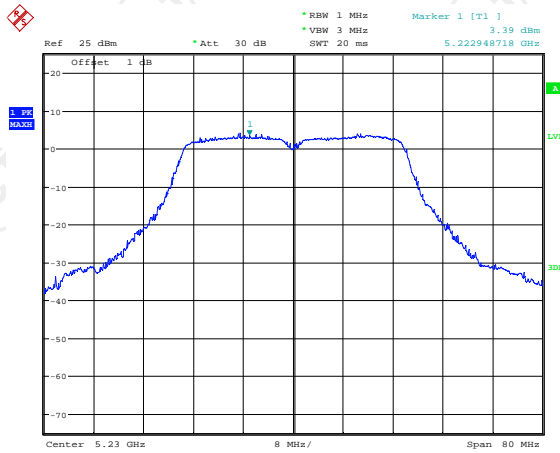


11n(HT40)

CH38



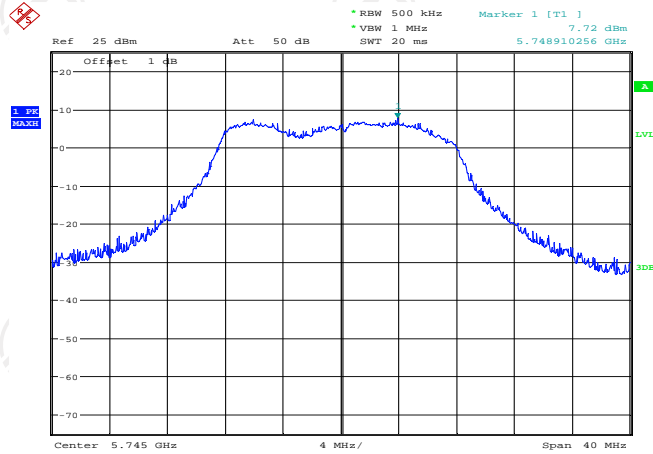
CH46



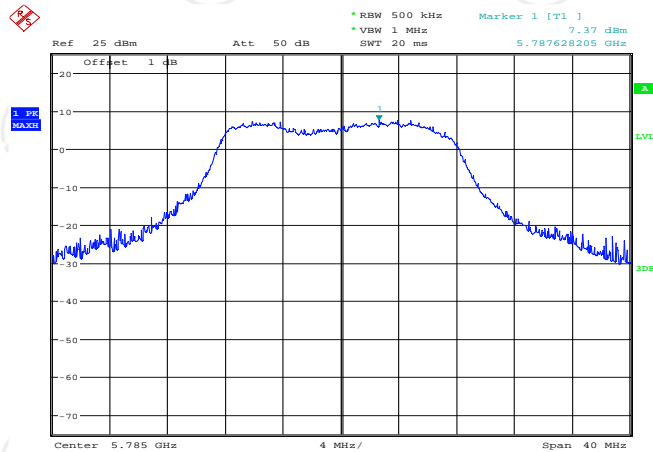
## Band IV (5725 – 5850 MHz)

11a

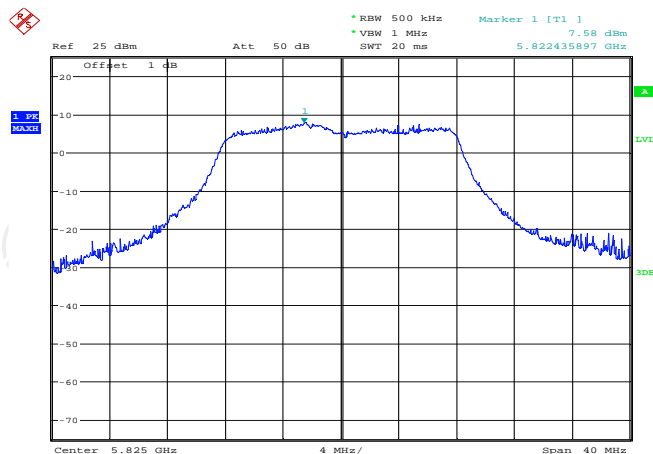
### CH149



### CH157

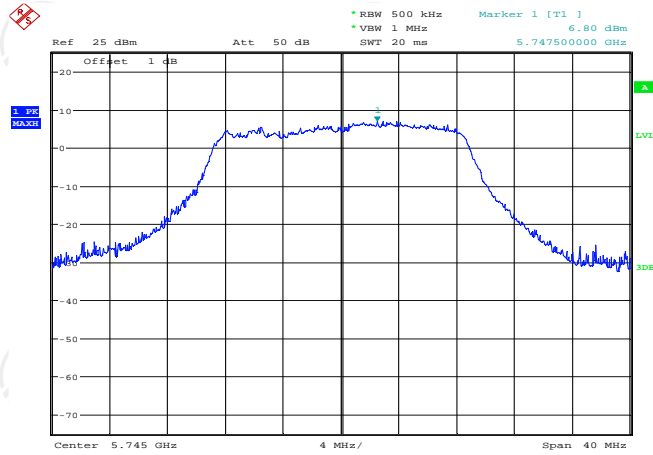


### CH165

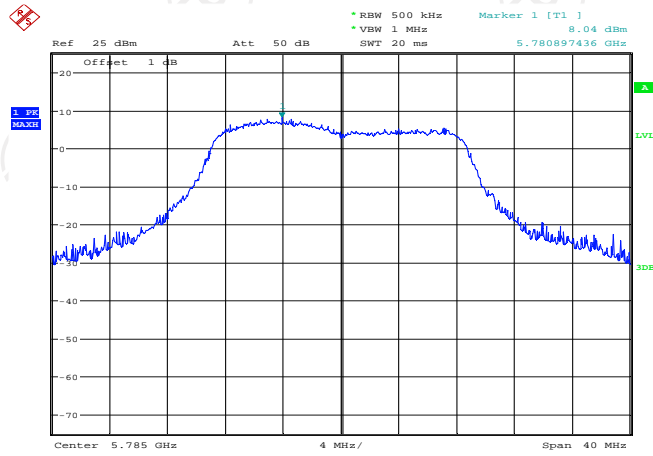


11n(HT20)

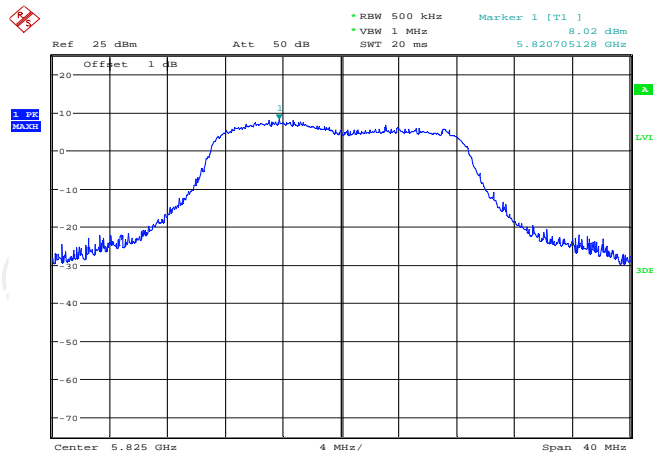
CH149



CH157

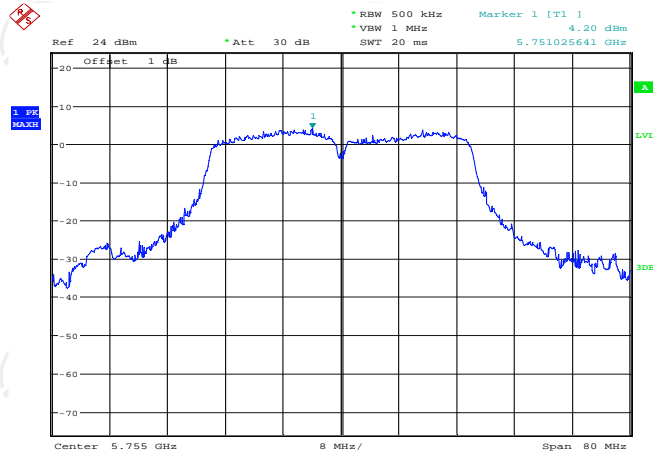


CH165

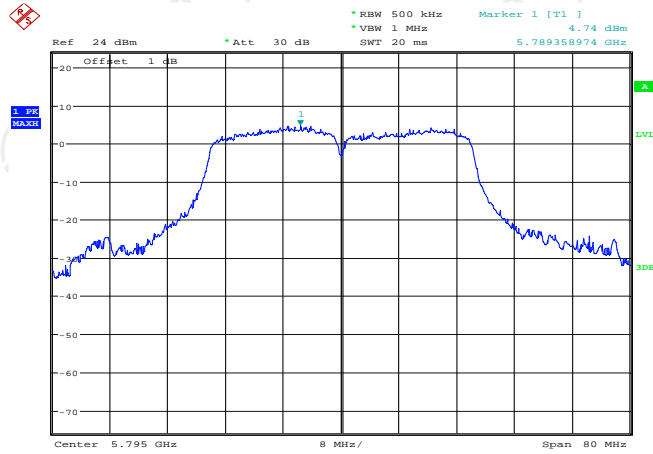


11n(HT40)

CH151

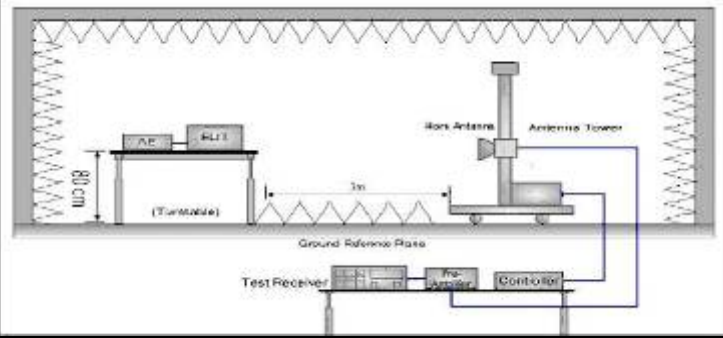


CH159



## 6.7. Band edge

### 6.7.1. Test Specification

<b>Test Requirement:</b>	FCC CFR47 Part 15E Section 15.407		
<b>Test Method:</b>	ANSI C63.10 2013		
<b>Limit:</b>	<b>Bands</b>	<b>Limit (dBuV/m @3m)</b>	<b>Remark</b>
	For band I&II&III	68.2	Peak Value
		54.0	Average Value
	For band IV	78.2	Peak Value
		54.0	Average Value
<p>Remark:                      For band I&amp;II&amp;III, <math>E[\text{dB}\mu\text{V}/\text{m}] = \text{EIRP}[\text{dBm}] + 95.2 = 68.2 \text{ dB}\mu\text{V}/\text{m}</math>, for <math>\text{EIRP}(\text{dBm}) = -27\text{dBm}</math>                      For band IV, <math>E[\text{dB}\mu\text{V}/\text{m}] = \text{EIRP}[\text{dBm}] + 95.2 = 78.2 \text{ dB}\mu\text{V}/\text{m}</math>, for <math>\text{EIRP}(\text{dBm}) = -17\text{dBm}</math></p>			
<b>Test Setup:</b>			
<b>Test Mode:</b>	Transmitting mode with modulation		
<b>Test Procedure:</b>	<ol style="list-style-type: none"> <li>1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li> <li>3. 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.</li> <li>4. 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 and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.</li> <li>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> </ol>		

	6. 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, quasipeak or average method as specified and then reported in a data sheet.
<b>Test Result:</b>	PASS

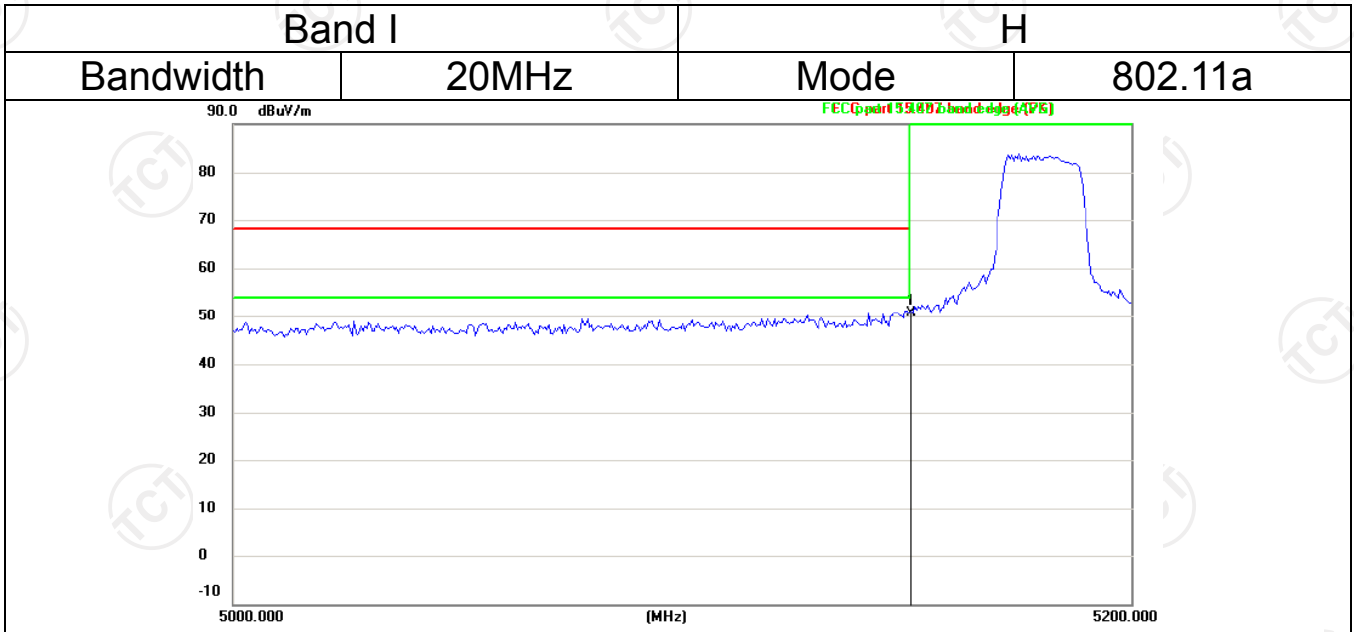
6.7.2. Test Instruments

Radiated Emission Test Site (966)				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
ESPI Test Receiver	ROHDE&SCHW ARZ	ESVD	100008	Aug. 11, 2017
Spectrum Analyzer	ROHDE&SCHW ARZ	FSEM	848597/001	Aug. 11, 2017
Spectrum Analyzer	ROHDE&SCHW ARZ	FSP40	100056	Aug. 11, 2017
Spectrum Analyzer	R&S	FSQ	200061	Aug. 12, 2017
Pre-amplifier	EM Electronics Corporation CO.,LTD	EM30265	07032613	Aug. 11, 2017
Pre-amplifier	HP	8447D	2727A05017	Aug. 11, 2017
Loop antenna	ZHINAN	ZN30900A	12024	Aug. 13, 2017
Broadband Antenna	Schwarzbeck	VULB9163	340	Aug. 13, 2017
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Aug. 13, 2017
Horn Antenna	Schwarzbeck	BBHA 9170	373	Aug. 13, 2017
Coax cable	TCT	RE-low-01	N/A	Aug. 11, 2017
Coax cable	TCT	RE-high-02	N/A	Aug. 11, 2017
Coax cable	TCT	RE-low-03	N/A	Aug. 11, 2017
Coax cable	TCT	RE-High-04	N/A	Aug. 11, 2017
Antenna Mast	CCS	CC-A-4M	N/A	Aug. 12, 2017
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A
Semi anechoic chamber	SAEMC	Chamber-#1	DQM0274	Aug. 12, 2017

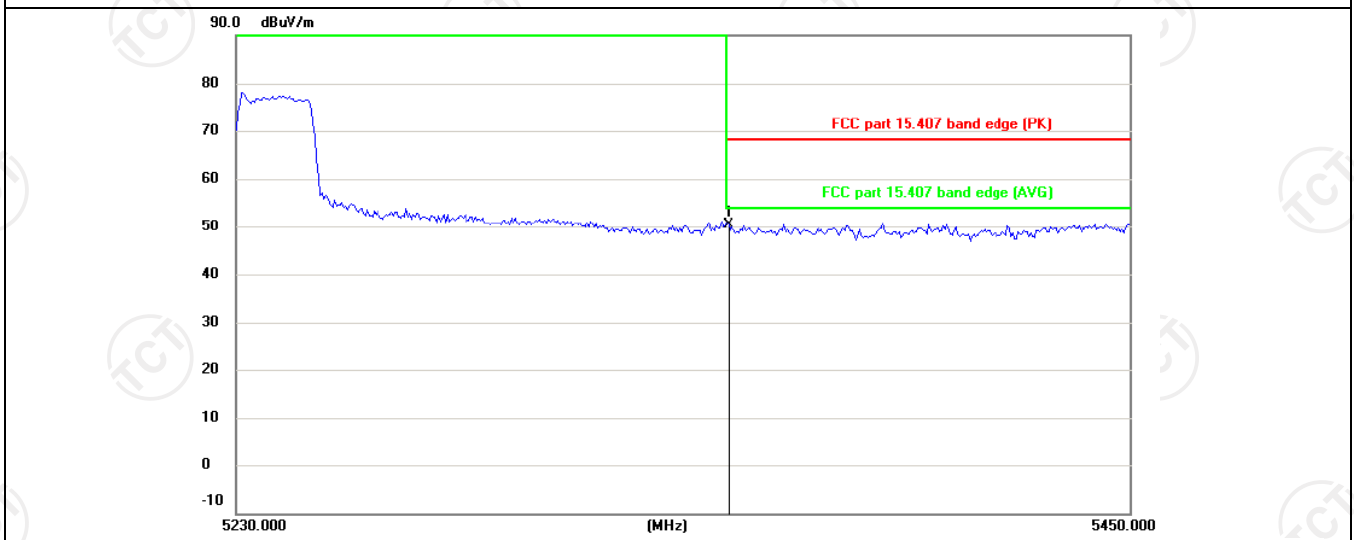
**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).



## 6.7.3. Test Data

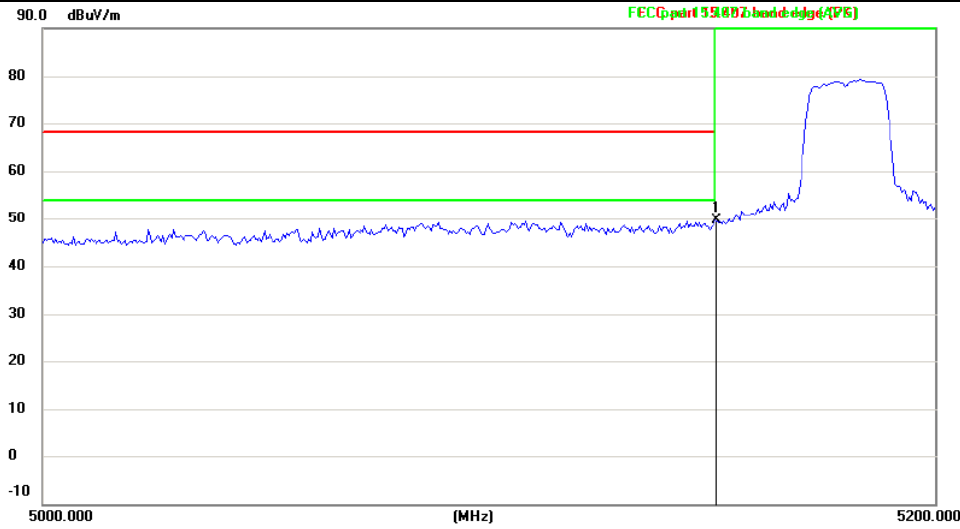


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	5150.000	44.89	5.82	50.71	68.20	-17.49	peak		

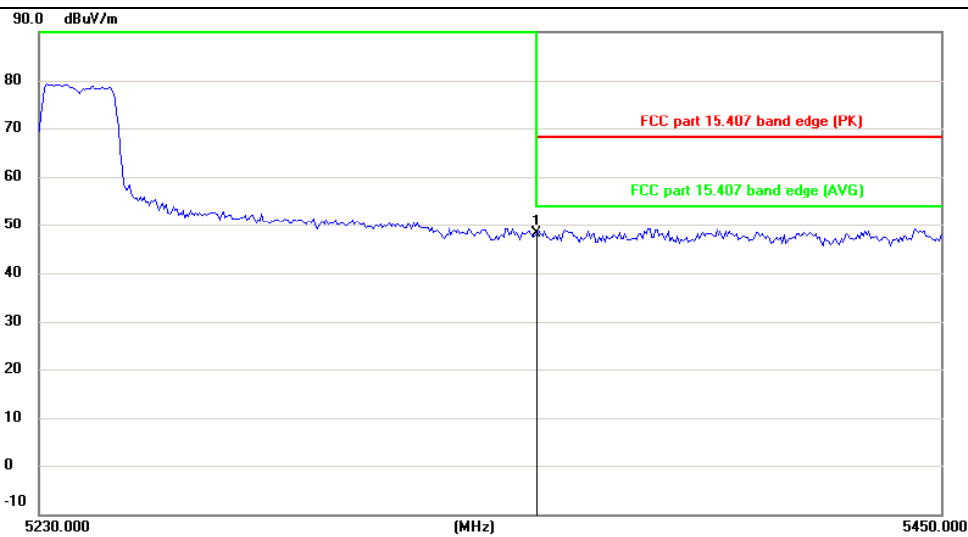


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	5350.000	43.86	6.52	50.38	68.20	-17.82	peak		

Band I		V	
Bandwidth	20MHz	Mode	802.11a



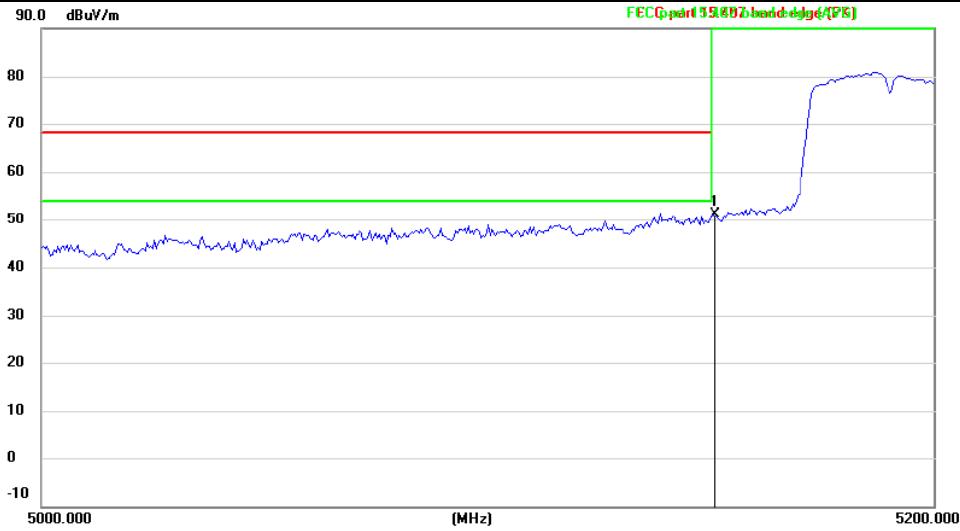
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	5150.000	43.70	5.82	49.52	68.20	-18.68	peak		



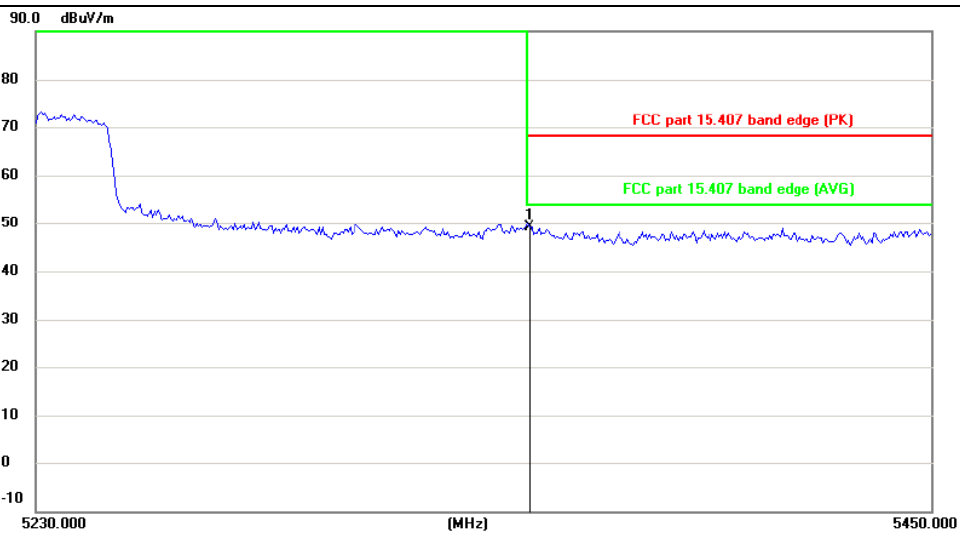
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	5350.000	41.49	6.52	48.01	68.20	-20.19	peak		

**Note:** All the 20MHz bandwidth modulation are tested, the 802.11a was the worst and record in the report.

Band I		H	
Bandwidth	40MHz	Mode	802.11n(HT40)

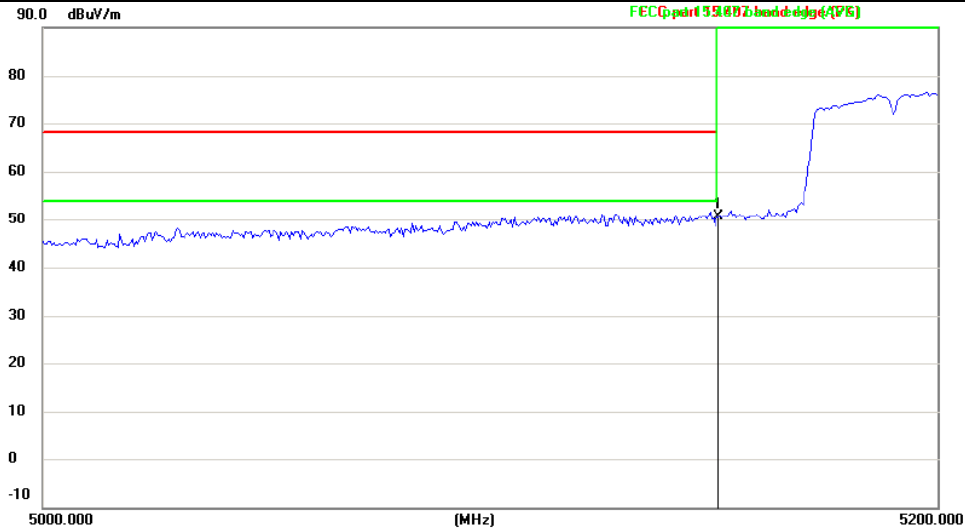


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	5150.000	45.25	5.82	51.07	68.20	-17.13	peak		

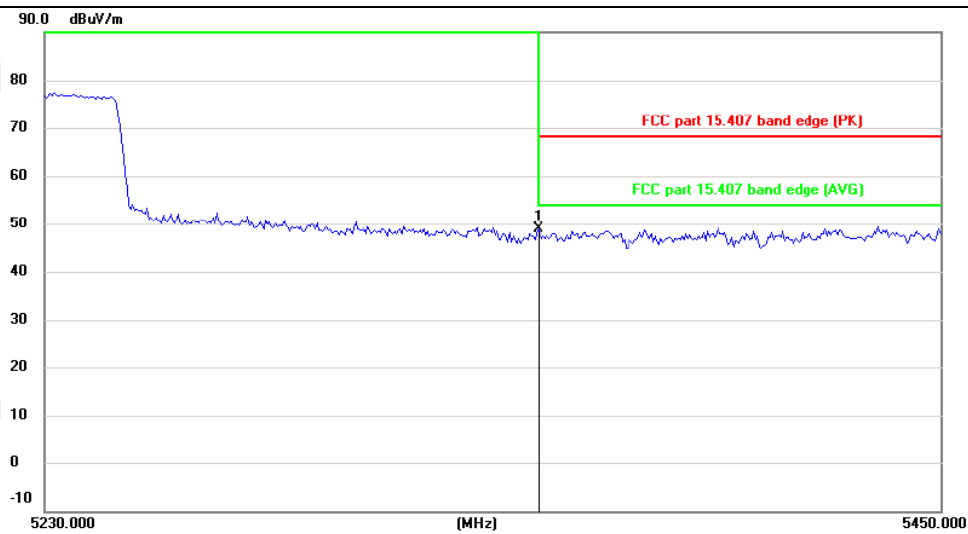


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	5350.000	42.57	6.52	49.09	68.20	-19.11	peak		

Band I		V	
Bandwidth	40MHz	Mode	802.11n(HT40)



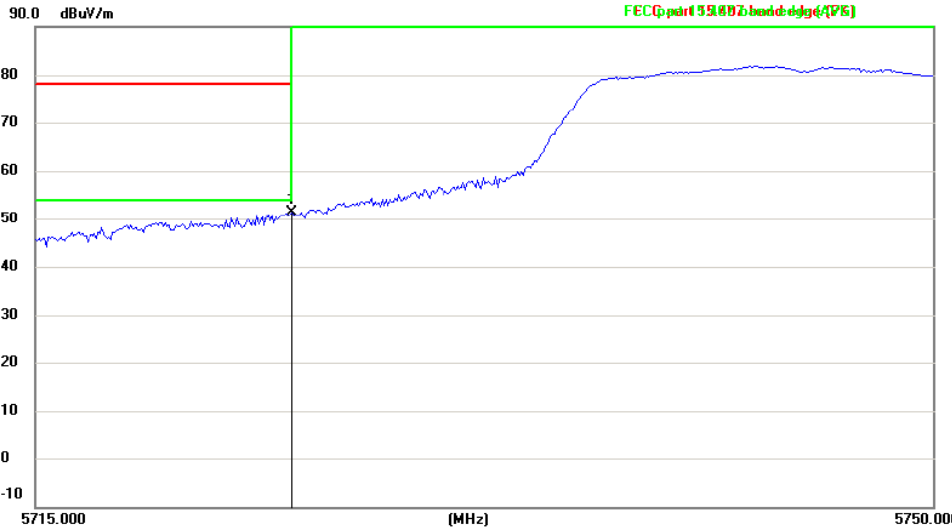
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1	*	5350.000	42.57	6.52	49.09	68.20	-19.11	peak	



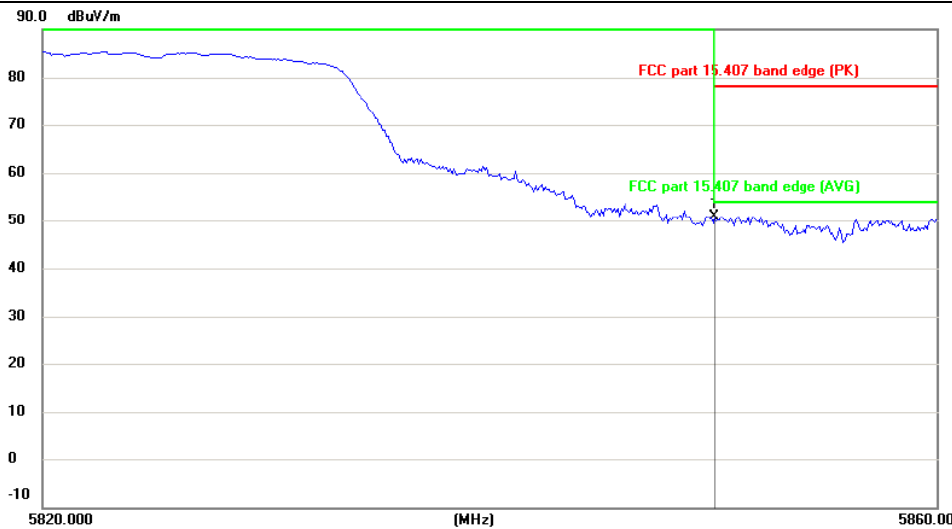
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1	*	5350.000	42.38	6.52	48.90	68.20	-19.30	peak	

**Note:** All the 40MHz bandwidth modulation are tested, the 802.11n (HT40) was the worst and record in the report.

Band IV		H	
Bandwidth	20MHz	Mode	802.11a

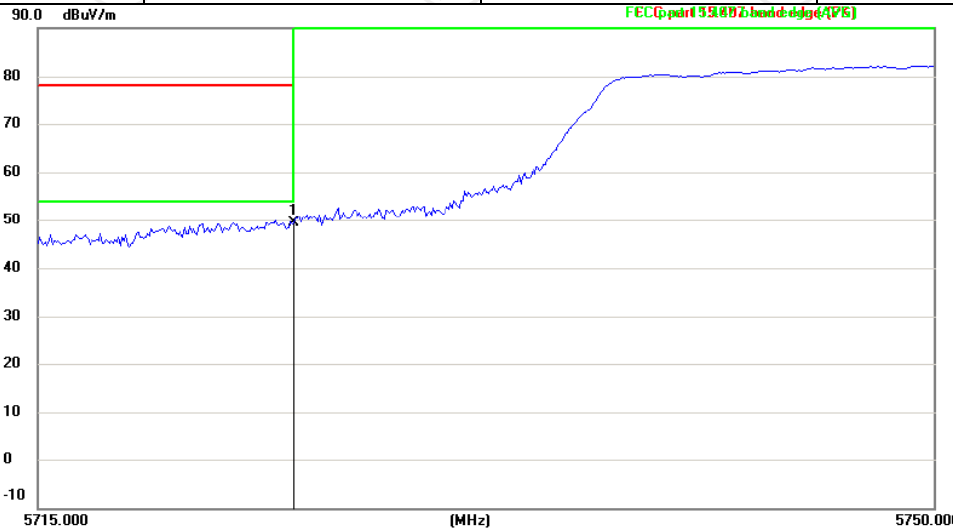


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	5725.000	43.13	8.21	51.34	78.20	-26.86			peak

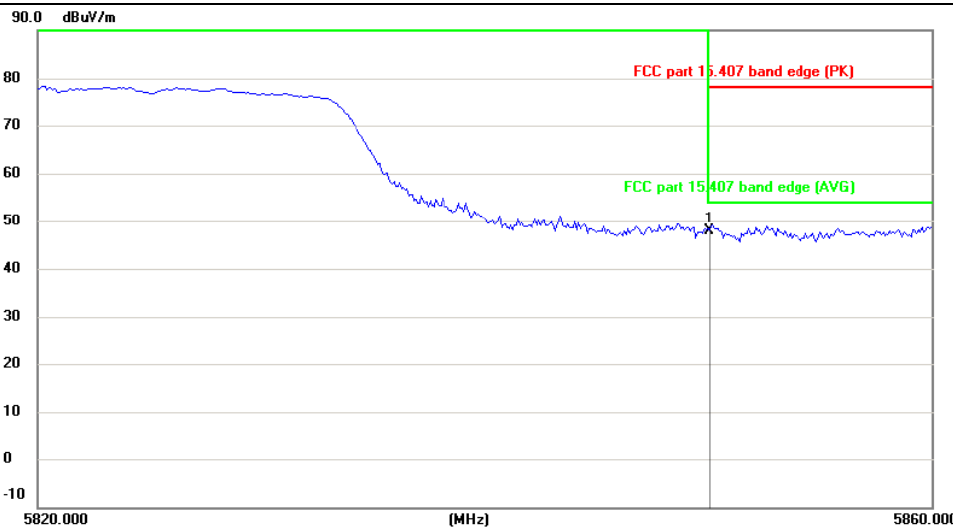


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	5850.000	42.03	8.87	50.90	78.20	-27.30			peak

Band IV		V	
Bandwidth	20MHz	Mode	802.11a



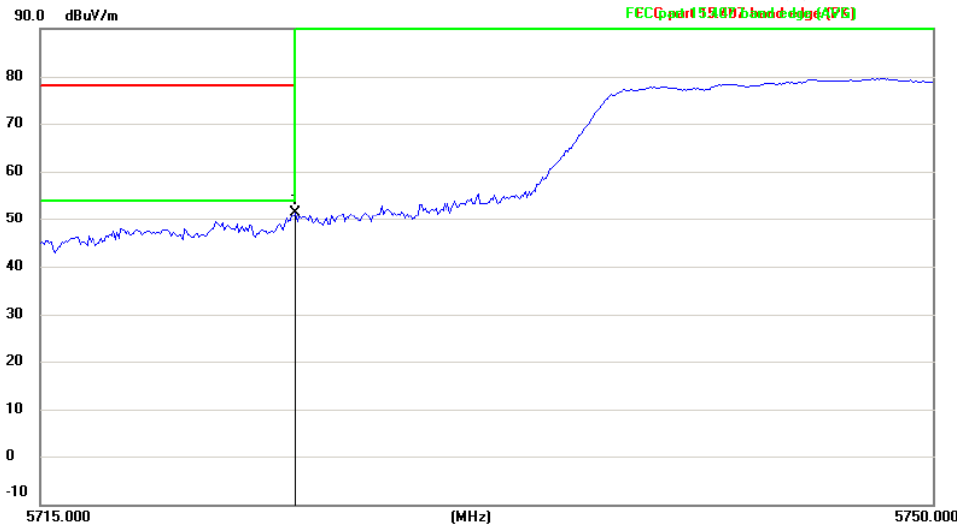
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	5725.000	41.13	8.21	49.34	78.20	-28.86			peak



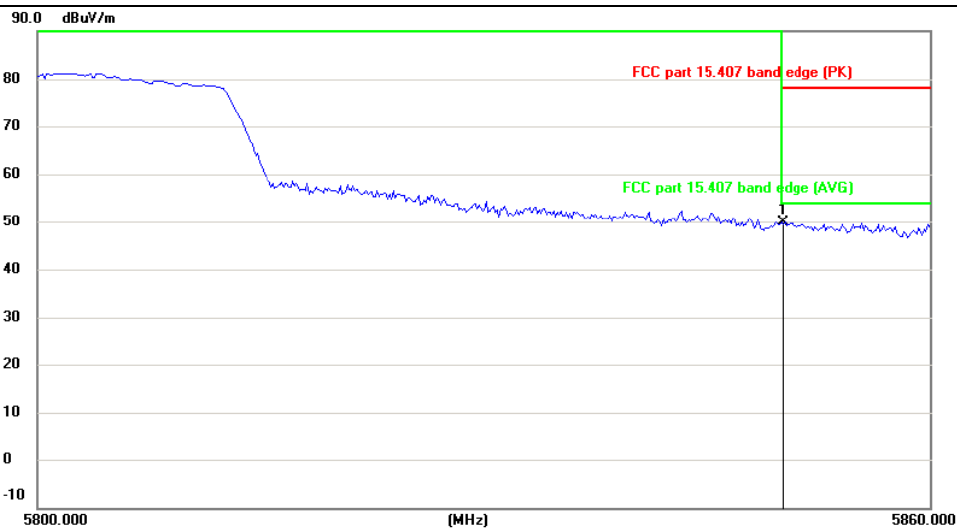
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	5850.000	39.10	8.87	47.97	78.20	-30.23			peak

**Note:** All the 20MHz bandwidth modulation are tested, the 802.11a was the worst and record in the report.

Band IV		H	
Bandwidth	40MHz	Mode	802.11n(HT40)

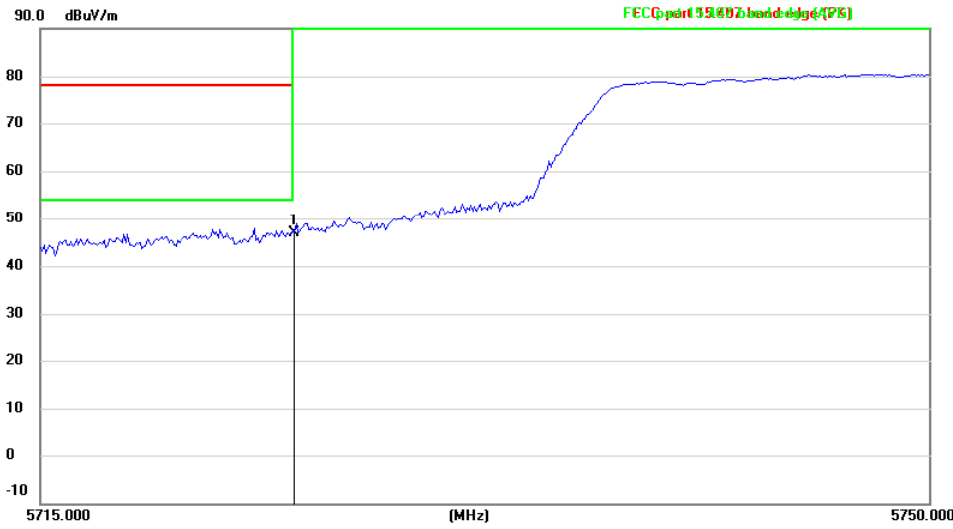


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	5725.000	43.07	8.21	51.28	78.20	-26.92	peak		Comment

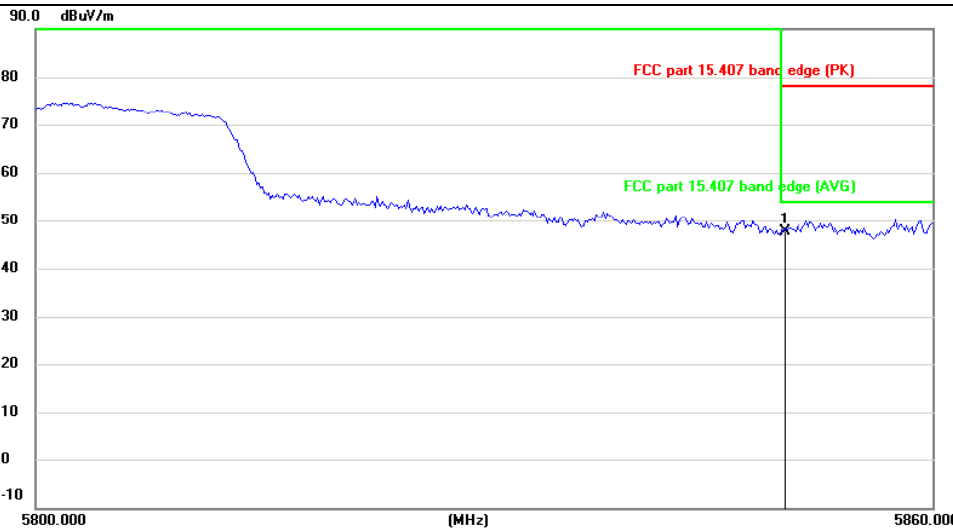


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	5850.000	40.93	8.87	49.80	78.20	-28.40	peak		Comment

Band IV		V	
Bandwidth	40MHz	Mode	802.11n(HT40)



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	5725.000	38.72	8.21	46.93	78.20	-31.27	peak		



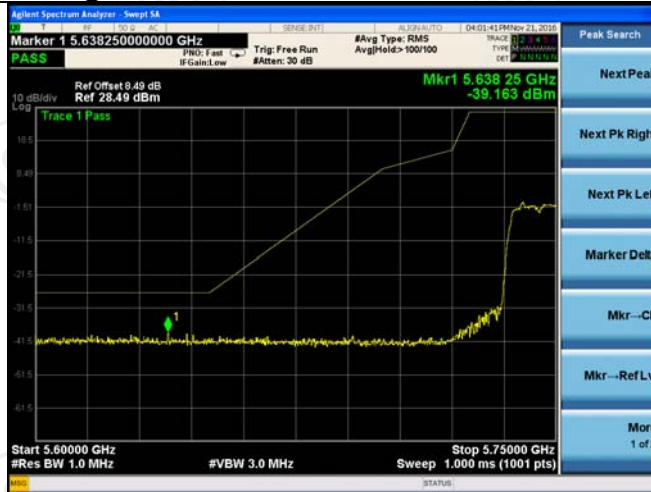
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	5850.000	38.86	8.87	47.73	78.20	-30.47	peak		

**Note:** All the 40MHz bandwidth modulation are tested, the 802.11n (HT40) was the worst and record in the report.



### Band IV Band-edge for RF Conducted Emissions

802.11a / LCH



802.11a / HCH

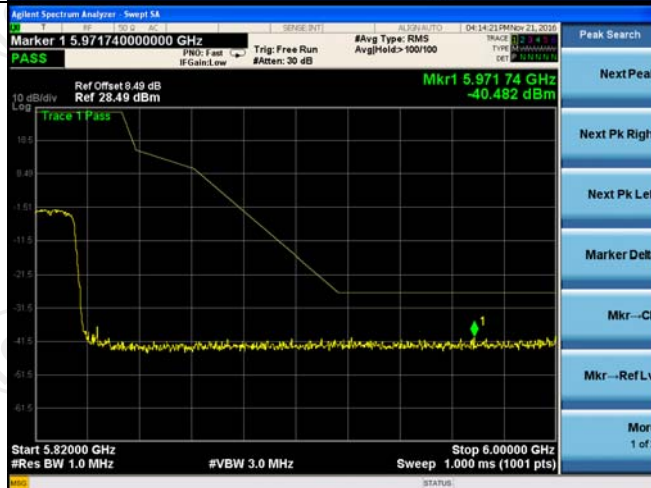


### Band IV Band-edge for RF Conducted Emissions

802.11n  
HT20 / LCH



802.11n  
HT20 / HCH



### Band IV Band-edge for RF Conducted Emissions

802.11n  
HT40 / LCH



802.11n  
HT40 / HCH

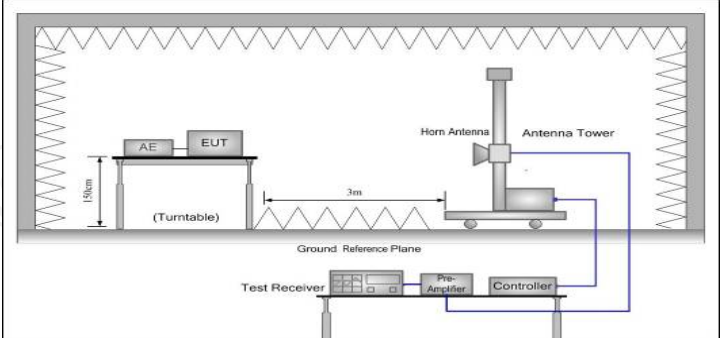


**Note: The test of all antennas are tested, but only the worst (ANT0) is reported.**

## 6.8. Spurious Emission

### 6.8.1. Restrict Bands Measurement

#### 6.8.1.1. Test Specification

<b>Test Requirement:</b>	FCC CFR47 Part 15 Section 15.407 & 15.209 & 15.205				
<b>Test Method:</b>	KDB 789033 D02 v01r03				
<b>Frequency Range:</b>	Band I & II: 4.5 GHz to 5.15 GHz and 5.35GHz to 5.46GHz Band III & IV: 5.35 GHz to 5.46 GHz				
<b>Measurement Distance:</b>	3 m				
<b>Antenna Polarization:</b>	Horizontal & Vertical				
<b>Operation mode:</b>	Transmitting mode with modulation				
<b>Receiver Setup:</b>	Frequency	Detector	RBW	VBW	Remark
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		RMS	1MHz	3MHz	Average Value
<b>Limit:</b>	Frequency	Limit (dBuV/m @3m)	Remark		
	Above 1GHz	74	Peak Value		
		54	Average Value		
<b>Test setup:</b>	<p>Above 1GHz</p> 				
<b>Test Procedure:</b>	<ol style="list-style-type: none"> <li>1. The testing follows FCC KDB Publication No. 789033 D02 General UNII Test Procedures New Rules v01r03. Section G) Unwanted emissions measurement.</li> <li>2. For the radiated emission test above 1GHz: Place the measurement antenna on a turntable with 1.5 meter above ground, which is away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of</li> </ol>				

	<p>significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.</p> <ol style="list-style-type: none"> <li>3. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level</li> <li>4. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.</li> <li>5. Use the following spectrum analyzer settings:             <ol style="list-style-type: none"> <li>(1) Span shall wide enough to fully capture the emission being measured;</li> <li>(2) Set RBW=100 kHz for <math>f &lt; 1 \text{ GHz}</math>; <math>\text{VBW} \geq \text{RBW}</math>; Sweep = auto; Detector function = peak; Trace = max hold;</li> <li>(3) Set RBW = 1 MHz, VBW= 3MHz for <math>f &gt; 1 \text{ GHz}</math> for peak measurement.</li> </ol> <p>For average measurement: <math>\text{VBW} = 10 \text{ Hz}</math>, when duty cycle is no less than 98 percent. <math>\text{VBW} \geq 1/T</math>, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.</p> <li>(4) A 5.8GHz high -PASS filter is used during radiated emissions above 1GHz measurement.</li> </li></ol>
<p><b>Test results:</b></p>	<p>PASS</p>

6.8.1.1 Test Instruments

Radiated Emission Test Site (966)				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
ESPI Test Receiver	ROHDE&SCHW ARZ	ESVD	100008	Aug. 11, 2017
Spectrum Analyzer	ROHDE&SCHW ARZ	FSEM	848597/001	Aug. 11, 2017
Spectrum Analyzer	ROHDE&SCHW ARZ	FSP40	100056	Aug. 11, 2017
Spectrum Analyzer	R&S	FSQ	200061	Aug. 12, 2017
Pre-amplifier	EM Electronics Corporation CO.,LTD	EM30265	07032613	Aug. 11, 2017
Pre-amplifier	HP	8447D	2727A05017	Aug. 11, 2017
Loop antenna	ZHINAN	ZN30900A	12024	Aug. 13, 2017
Broadband Antenna	Schwarzbeck	VULB9163	340	Aug. 13, 2017
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Aug. 13, 2017
Horn Antenna	Schwarzbeck	BBHA 9170	373	Aug. 13, 2017
Coax cable	TCT	RE-low-01	N/A	Aug. 11, 2017
Coax cable	TCT	RE-high-02	N/A	Aug. 11, 2017
Coax cable	TCT	RE-low-03	N/A	Aug. 11, 2017
Coax cable	TCT	RE-High-04	N/A	Aug. 11, 2017
Antenna Mast	CCS	CC-A-4M	N/A	Aug. 12, 2017
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A
Semi anechoic chamber	SAEMC	Chamber-#1	DQM0274	Aug. 12, 2017

**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).



**6.8.1.2 Test Data**

**Restrict band around fundamental**

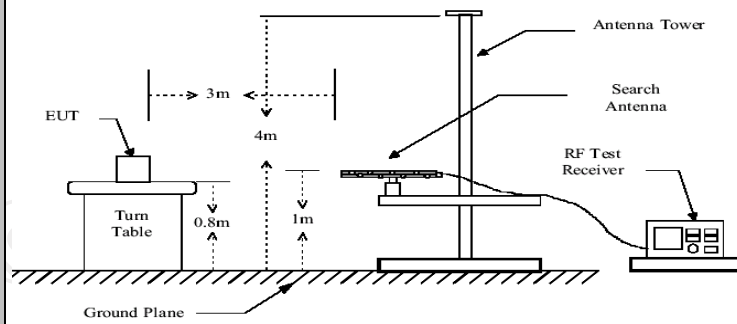
11a CH36: 5180MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB $\mu$ V)	AV reading (dB $\mu$ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB $\mu$ V/m)	AV limit (dB $\mu$ V/m)	Margin (dB)
					Peak (dB $\mu$ V/m)	AV (dB $\mu$ V/m)			
5137.57	H	49.07	---	0.53	49.6	---	74	54	-4.4
5187.19	H	49.21	---	0.59	49.8	---	74	54	-4.2
5186.28	H	48.69	---	0.57	49.26	---	74	54	-4.74
5137.09	V	50.67	---	0.53	51.2	---	74	54	-2.8
5186.28	V	51.42	---	0.54	51.96	---	74	54	-2.04
5186.28	V	50.35	---	0.57	50.92	---	74	54	-3.08
11n (HT20) CH36: 5180MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (Db $\mu$ V)	AV reading (dB $\mu$ V)	Correction Factor (Db/m)	Emission Level		Peak limit (Db $\mu$ V/m)	AV limit (Db $\mu$ V/m)	Margin (Db)
					Peak (Db $\mu$ V/m)	AV (Db $\mu$ V/m)			
5142.20	H	49.66	---	0.55	50.21	---	74	54	-3.79
5150.00	H	51.63	---	0.66	52.29	---	74	54	-1.71
5183.20	H	48.62	---	0.86	49.48	---	74	54	-4.52
5150.00	H	48.02	---	0.66	48.68	---	74	54	-5.32
5187.19	H	47.96	---	0.85	48.81	---	74	54	-5.19
5142.65	V	49.21	---	0.55	49.76	---	74	54	-4.24
5150.03	V	50.02	---	0.66	50.68	---	74	54	-3.32
5183.29	V	49.51	---	0.58	50.09	---	74	54	-3.91
5150.00	V	48.78	---	0.66	49.44	---	74	54	-4.56
5187.28	V	49.16	---	0.57	49.73	---	74	54	-4.27
11n(HT40) CH38: 5190MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB $\mu$ V)	AV reading (dB $\mu$ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB $\mu$ V/m)	AV limit (dB $\mu$ V/m)	Margin (dB)
					Peak (dB $\mu$ V/m)	AV (dB $\mu$ V/m)			
5135.98	H	49.32	---	0.57	49.89	---	74	54	-4.11
5207.33	H	49.18	---	0.86	50.04	---	74	54	-3.96
5135.98	V	49.83	---	0.57	50.4	---	74	54	-3.6
5207.33	V	49.31	---	0.85	50.16	---	74	54	-3.84

**6.8.2. Unwanted Emissions out of the Restricted Bands**

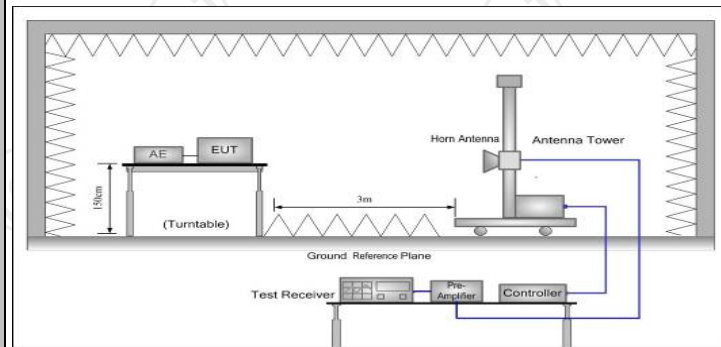
**6.8.2.1. Test Specification**

<b>Test Requirement:</b>	FCC CFR47 Part 15 Section 15.407 & 15.209 & 15.205				
<b>Test Method:</b>	KDB 789033 D02 v01r03				
<b>Frequency Range:</b>	9kHz to 40GHz				
<b>Measurement Distance:</b>	3 m				
<b>Antenna Polarization:</b>	Horizontal & Vertical				
<b>Operation mode:</b>	Transmitting mode with modulation				
<b>Receiver Setup:</b>	Frequency	Detector	RBW	VBW	Remark
	9kHz- 150kHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value
	150kHz- 30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		Peak	1MHz	10Hz	Average Value
<b>Limit:</b>	Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table,				
	Frequency	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	30	30		
	30-88	100	3		
	88-216	150	3		
	216-960	200	3		
	Above 960	500	3		
		Frequency	Limit (dBuV/m @3m)	Detector	
	Above 1G	74.0	Peak		
		54.0	Average		
<b>Test setup:</b>	For radiated emissions below 30MHz				
	<p>The diagram illustrates the test setup for radiated emissions below 30MHz. It shows an Equipment Under Test (EUT) placed on a turn table. A distance of 3m is maintained between the EUT and the antenna. The antenna is positioned above a ground plane. The receiver chain consists of a pre-amplifier and a receiver, which are connected to a computer for data processing.</p>				
	30MHz to 1GHz				





Above 1GHz



**Test Procedure:**

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. 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.
4. 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 and the rotatable was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. 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.

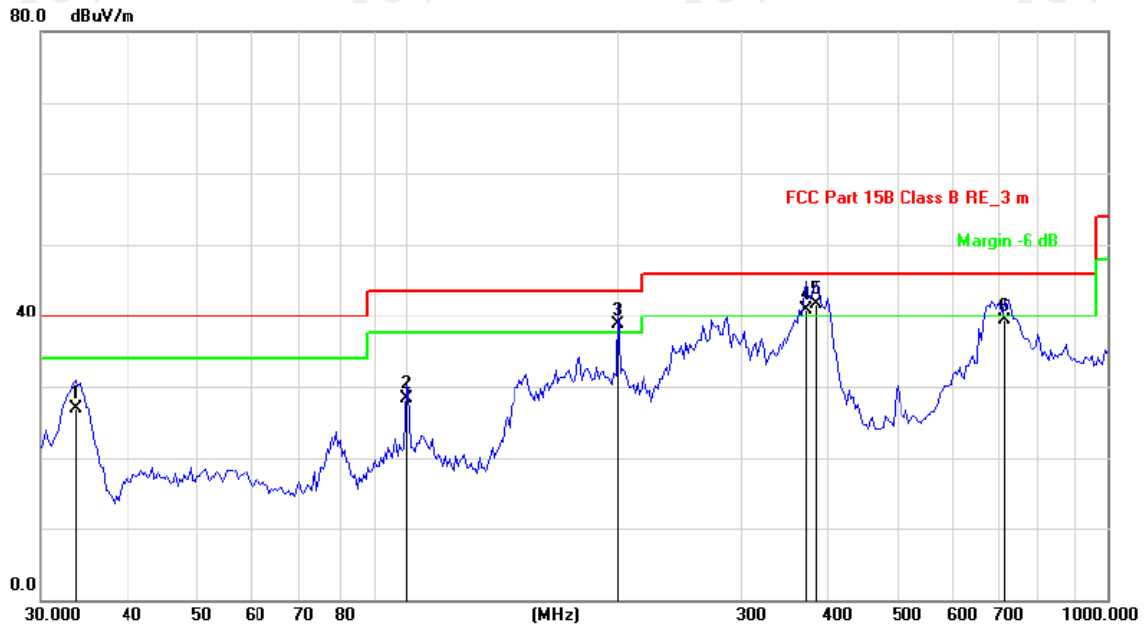
**Test results:**

PASS

6.8.3. Test Data

Please refer to following diagram for individual  
Below 1GHz

Horizontal:



Site Chamber #2

Polarization: **Horizontal**

Temperature: 23

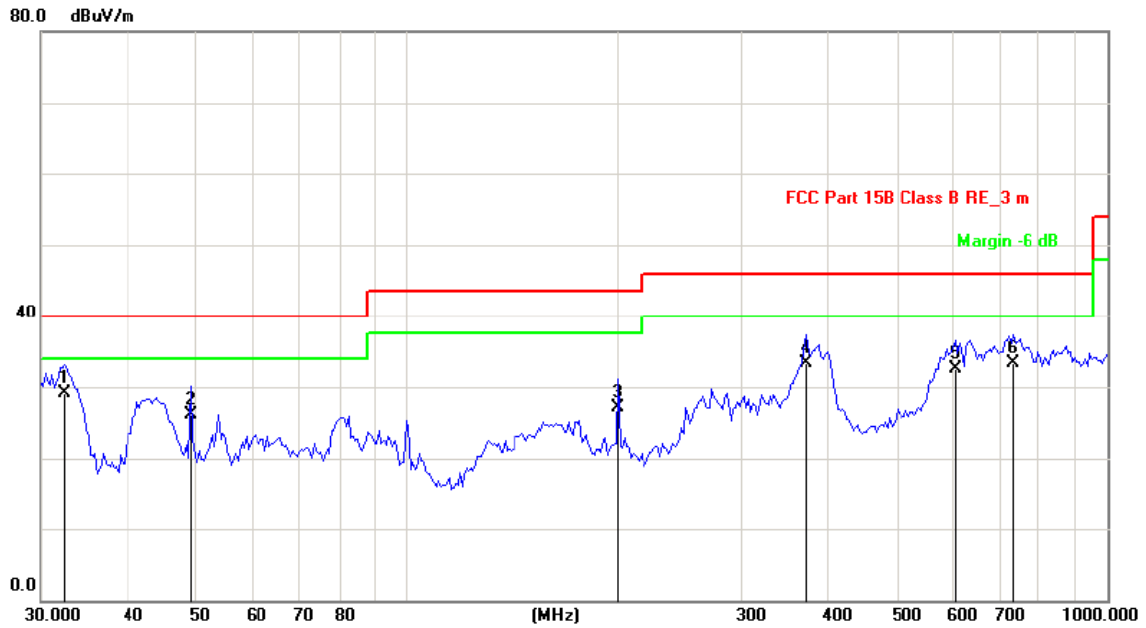
Limit: FCC Part 15B Class B RE\_3 m

Power: AC 120V/60Hz

Humidity: 54 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1		33.5700	39.73	-12.90	26.83	40.00	-13.17	QP		
2		99.7676	39.49	-11.20	28.29	43.50	-15.21	QP		
3	!	200.0432	48.47	-9.82	38.65	43.50	-4.85	QP		
4	!	371.2679	46.17	-5.18	40.99	46.00	-5.01	QP		
5	*	384.5446	46.15	-4.36	41.79	46.00	-4.21	QP		
6		713.6916	35.65	3.64	39.29	46.00	-6.71	QP		

Vertical:



Site Chamber #2

Polarization: **Vertical**

Temperature: 23

Limit: FCC Part 15B Class B RE\_3 m

Power: AC 120V/60Hz

Humidity: 54 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1	*	32.4107	41.71	-12.69	29.02	40.00	-10.98	QP			
2		49.0626	35.88	-9.71	26.17	40.00	-13.83	QP			
3		200.0432	36.88	-9.82	27.06	43.50	-16.44	QP			
4		371.2679	38.58	-5.18	33.40	46.00	-12.60	QP			
5		607.1806	31.56	0.89	32.45	46.00	-13.55	QP			
6		734.0372	27.82	5.44	33.26	46.00	-12.74	QP			

**Note:** 1. The low frequency, which started from 9KHz~30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported

2. Measurements were conducted in all three channels (high, middle, low) and all modulation (802.11a, 802.11n), and the worst case Mode (Lowest channel and 802.11a) was submitted only.

Modulation Type: Band I

11a CH36: 5180MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB $\mu$ V)	AV reading (dB $\mu$ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB $\mu$ V/m)	AV limit (dB $\mu$ V/m)	Margin (dB)
					Peak (dB $\mu$ V/m)	AV (dB $\mu$ V/m)			
10360	H	50.62	---	0.75	51.37	---	74	54	-2.63
15540	H	41.33	---	9.87	51.2	---	74	54	-2.8
---	H	---	---	---	---	---	---	---	---
10360	V	49.57	---	0.75	50.32	---	74	54	-3.68
15540	V	41.42	---	9.87	51.29	---	74	54	-2.71
---	V	---	---	---	---	---	---	---	---

11a CH44: 5220MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB $\mu$ V)	AV reading (dB $\mu$ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB $\mu$ V/m)	AV limit (dB $\mu$ V/m)	Margin (dB)
					Peak (dB $\mu$ V/m)	AV (dB $\mu$ V/m)			
10440	H	49.51	---	0.97	50.48	---	74	54	-3.52
15660	H	40.99	---	9.83	50.82	---	74	54	-3.18
---	H	---	---	---	---	---	---	---	---
10440	V	49.31	---	0.97	50.28	---	74	54	-3.72
15660	V	40.85	---	9.83	50.68	---	74	54	-3.32
---	V	---	---	---	---	---	---	---	---

11a CH48: 5240MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB $\mu$ V)	AV reading (dB $\mu$ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB $\mu$ V/m)	AV limit (dB $\mu$ V/m)	Margin (dB)
					Peak (dB $\mu$ V/m)	AV (dB $\mu$ V/m)			
10480	H	49.57	---	1.18	50.75	---	74	54	-3.25
15720	H	39.65	---	10.07	49.72	---	74	54	-4.28
---	H	---	---	---	---	---	---	---	---
10480	V	49.99	---	1.18	51.17	---	74	54	-2.83
15720	V	40.53	---	10.07	50.60	---	74	54	-3.40
---	V	---	---	---	---	---	---	---	---

11n(HT20) CH36: 5180MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB $\mu$ V)	AV reading (dB $\mu$ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB $\mu$ V/m)	AV limit (dB $\mu$ V/m)	Margin (dB)
					Peak (dB $\mu$ V/m)	AV (dB $\mu$ V/m)			
10360	H	49.42	---	1.18	50.6	---	74	54	-3.4
15540	H	39.56	---	10.07	49.63	---	74	54	-4.37
---	H	---	---	---	---	---	---	---	---
10360	V	49.93	---	1.18	51.11	---	74	54	-2.89
15540	V	40.39	---	10.07	50.46	---	74	54	-3.54
---	V	---	---	---	---	---	---	---	---

11n(HT20) CH44: 5220MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB $\mu$ V)	AV reading (dB $\mu$ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB $\mu$ V/m)	AV limit (dB $\mu$ V/m)	Margin (dB)
					Peak (dB $\mu$ V/m)	AV (dB $\mu$ V/m)			
10440	H	47.99	---	0.97	48.96	---	74	54	-5.04
15660	H	40.06	---	9.83	49.89	---	74	54	-4.11
---	H	---	---	---	---	---	---	---	---
10440	V	47.2	---	0.97	48.17	---	74	54	-5.83
15660	V	40.49	---	9.83	50.32	---	74	54	-3.68

---	V	---	---	---	---	---	---	---	---
-----	---	-----	-----	-----	-----	-----	-----	-----	-----

11n(HT20) CH48: 5240MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB $\mu$ V)	AV reading (dB $\mu$ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB $\mu$ V/m)	AV limit (dB $\mu$ V/m)	Margin (dB)
					Peak (dB $\mu$ V/m)	AV (dB $\mu$ V/m)			
10480	H	47.65	---	1.18	48.83	---	74	54	-5.17
15720	H	39.88	---	10.07	49.95	---	74	54	-4.05
---	H	---	---	---	---	---	---	---	---
10480	V	46.49	---	1.18	47.67	---	74	54	-6.33
15720	V	40.07	---	10.07	50.14	---	74	54	-3.86
---	V	---	---	---	---	---	---	---	---

11n(HT40) CH38: 5190MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB $\mu$ V)	AV reading (dB $\mu$ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB $\mu$ V/m)	AV limit (dB $\mu$ V/m)	Margin (dB)
					Peak (dB $\mu$ V/m)	AV (dB $\mu$ V/m)			
10380	H	48.85	---	0.75	49.6	---	74	54	-4.4
15570	H	40.41	---	9.87	50.28	---	74	54	-3.72
---	H	---	---	---	---	---	---	---	---
10380	V	47.44	---	0.75	48.19	---	74	54	-5.81
15570	V	40.1	---	9.87	49.97	---	74	54	-4.03
---	V	---	---	---	---	---	---	---	---

11n(HT40) CH46: 5230MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB $\mu$ V)	AV reading (dB $\mu$ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB $\mu$ V/m)	AV limit (dB $\mu$ V/m)	Margin (dB)
					Peak (dB $\mu$ V/m)	AV (dB $\mu$ V/m)			
10460	H	47.14	---	0.97	48.11	---	74	54	-5.89
15690	H	40.33	---	9.83	50.16	---	74	54	-3.84
---	H	---	---	---	---	---	---	---	---
10460	V	47.33	---	0.97	48.3	---	74	54	-5.7
15690	V	39.78	---	9.83	49.61	---	74	54	-4.39
---	V	---	---	---	---	---	---	---	---

**Note:**

1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss – Pre-amplifier
2. Margin (dB) = Emission Level (Peak) (dB $\mu$ V/m)-Average limit (dB $\mu$ V/m)
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency. The highest test frequency is 40GHz.
5. Data of measurement shown "----" in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.

Modulation Type: Band IV

11a CH149: 5745MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB $\mu$ V)	AV reading (dB $\mu$ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB $\mu$ V/m)	AV limit (dB $\mu$ V/m)	Margin (dB)
					Peak (dB $\mu$ V/m)	AV (dB $\mu$ V/m)			
11490	H	45.97	---	0.66	46.63	---	74	54	-7.37
17235	H	38.52	---	9.5	48.02	---	74	54	-5.98
---	H	---	---	---	---	---	---	---	---
11490	V	44.56	---	0.66	45.22	---	74	54	-8.78
17235	V	35.6	---	9.5	45.1	---	74	54	-8.9
---	V	---	---	---	---	---	---	---	---

11a CH157: 5785MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB $\mu$ V)	AV reading (dB $\mu$ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB $\mu$ V/m)	AV limit (dB $\mu$ V/m)	Margin (dB)
					Peak (dB $\mu$ V/m)	AV (dB $\mu$ V/m)			
11570	H	42.95	---	0.99	43.94	---	74	54	-10.06
17355	H	34.61	---	9.85	44.46	---	74	54	-9.54
---	H	---	---	---	---	---	---	---	---
11570	V	43.7	---	0.99	44.69	---	74	54	-9.31
17355	V	37.35	---	9.85	47.2	---	74	54	-6.8
---	V	---	---	---	---	---	---	---	---

11a CH165: 5825MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB $\mu$ V)	AV reading (dB $\mu$ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB $\mu$ V/m)	AV limit (dB $\mu$ V/m)	Margin (dB)
					Peak (dB $\mu$ V/m)	AV (dB $\mu$ V/m)			
11650	H	47.45	---	1.33	48.78	---	74	54	-5.22
17475	H	37.81	---	10.22	48.03	---	74	54	-5.97
---	H	---	---	---	---	---	---	---	---
11650	V	43.5	---	1.33	44.83	---	74	54	-9.17
17475	V	36.81	---	10.22	47.03	---	74	54	-6.97
---	V	---	---	---	---	---	---	---	---

11n(HT20) CH149: 5745MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB $\mu$ V)	AV reading (dB $\mu$ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB $\mu$ V/m)	AV limit (dB $\mu$ V/m)	Margin (dB)
					Peak (dB $\mu$ V/m)	AV (dB $\mu$ V/m)			
11490	H	44.49	---	0.66	45.15	---	74	54	-8.85
17235	H	35.78	---	9.5	45.28	---	74	54	-8.72
---	H	---	---	---	---	---	---	---	---
11490	V	45.81	---	0.66	46.47	---	74	54	-7.53
17235	V	34.63	---	9.5	44.13	---	74	54	-9.87
---	V	---	---	---	---	---	---	---	---

11n(HT20) CH157: 5785MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB $\mu$ V)	AV reading (dB $\mu$ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB $\mu$ V/m)	AV limit (dB $\mu$ V/m)	Margin (dB)
					Peak (dB $\mu$ V/m)	AV (dB $\mu$ V/m)			
11570	H	45.26	---	0.66	45.92	---	74	54	-8.08
17355	H	32.83	---	9.5	42.33	---	74	54	-11.67
---	H	---	---	---	---	---	---	---	---
11570	V	47.65	---	0.66	48.31	---	74	54	-5.69
17355	V	35.21	---	9.5	44.71	---	74	54	-9.29
---	V	---	---	---	---	---	---	---	---

11n(HT20) CH165: 5825MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB $\mu$ V)	AV reading (dB $\mu$ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB $\mu$ V/m)	AV limit (dB $\mu$ V/m)	Margin (dB)
					Peak (dB $\mu$ V/m)	AV (dB $\mu$ V/m)			
11650	H	45.57	---	0.99	46.56	---	74	54	-7.44
17475	H	35.35	---	9.85	45.2	---	74	54	-8.8
---	H	---	---	---	---	---	---	---	---
11650	V	42.8	---	0.99	43.79	---	74	54	-10.21
17475	V	32.71	---	9.85	42.56	---	74	54	-11.44
---	V	---	---	---	---	---	---	---	---

11n(HT40) CH151: 5755MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB $\mu$ V)	AV reading (dB $\mu$ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB $\mu$ V/m)	AV limit (dB $\mu$ V/m)	Margin (dB)
					Peak (dB $\mu$ V/m)	AV (dB $\mu$ V/m)			
11510	H	43.57	---	1.33	44.9	---	74	54	-9.1
17265	H	36.9	---	10.22	47.12	---	74	54	-6.88
---	H	---	---	---	---	---	---	---	---
11510	V	42.66	---	1.33	43.99	---	74	54	-10.01
17265	V	32.46	---	10.22	42.68	---	74	54	-11.32
---	V	---	---	---	---	---	---	---	---

11n(HT40) CH159: 5795MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB $\mu$ V)	AV reading (dB $\mu$ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB $\mu$ V/m)	AV limit (dB $\mu$ V/m)	Margin (dB)
					Peak (dB $\mu$ V/m)	AV (dB $\mu$ V/m)			
11590	H	44.51	---	0.66	45.17	---	74	54	-8.83
17385	H	33.42	---	9.5	42.92	---	74	54	-11.08
---	H	---	---	---	---	---	---	---	---
11590	V	45.89	---	0.66	46.55	---	74	54	-7.45
17385	V	34.69	---	9.5	44.19	---	74	54	-9.81
---	V	---	---	---	---	---	---	---	---

**Note:**

1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss – Pre-amplifier
2. Margin (dB) = Emission Level (Peak) (dB $\mu$ V/m)-Average limit (dB $\mu$ V/m)
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency. The highest test frequency is 40GHz.
5. Data of measurement shown "—" in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.



## 6.9. Frequency Stability Measurement

### 6.9.1. Test Specification

<b>Test Requirement:</b>	FCC Part15 Section 15.407(g) &Part2 J Section 2.1055
<b>Test Method:</b>	ANSI C63.10: 2013
<b>Limit:</b>	The frequency tolerance shall be maintained within the band of operation frequency over a temperature variation of 0 degrees to 45 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.
<b>Test Setup:</b>	<pre> graph LR     SA[Spectrum Analyzer] --- EUT[EUT]     subgraph TC [Temperature Chamber]         EUT     end     P[AC/DC Power supply] --- EUT     </pre>
<b>Test Procedure:</b>	<p>a. The EUT was placed inside the environmental test chamber and powered by nominal AC/DC voltage.</p> <p>b. Turn the EUT on and couple its output to a spectrum analyzer.</p> <p>c. Turn the EUT off and set the chamber to the highest temperature specified.</p> <p>d. Turn the EUT on and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized.</p> <p>e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature by not more that 10 °C.</p> <p>f. The test chamber was allowed to stabilize at +20 degree C. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.</p>
<b>Test Result:</b>	<b>PASS</b>
<b>Remark:</b>	Pre-scan was performed at Antenna 0, Antenna 1 and Antenna 2, no worst case was found. Only the test data of Antenna 0 was shown in this report. For the test data of varying temperature, only the result for 10minutes was shown in this report.



**6.9.2. Test Instruments**

RF Test Room				
Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	R&S	FSQ	200061	Aug. 12, 2017
DC power supply	Kingrang	KR3005K 30V/5A	N/A	Aug. 12, 2017
Programable tempratuce and humidity chamber	JQ	JQ-2000	N/A	Aug. 12, 2017
RF cable	TCT	RE-06	N/A	Aug. 12, 2017
Antenna Connector	TCT	RFC-01	N/A	Aug. 12, 2017

**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

Test plots as follows:

Test mode:		802.11a	Frequency(MHz):	5180
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3	5180.0071	7100	PASS
35		5180.0059	5900	PASS
25		5179.9894	-10600	PASS
15		5180.0010	1000	PASS
5		5180.0073	7300	PASS
0		5180.0046	4600	PASS
20	3.795	5179.9845	-15500	PASS
	3.3	5180.0055	5500	PASS
	2.805	5179.9847	-15300	PASS

Test mode:		802.11a	Frequency(MHz):	5220
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3	5220.0048	4800	PASS
35		5220.0048	4800	PASS
25		5220.0053	5300	PASS
15		5220.0030	3000	PASS
5		5219.9957	-4300	PASS
0		5219.9921	-7900	PASS
20	3.795	5219.9970	-3000	PASS
	3.3	5220.0017	1700	PASS
	2.805	5220.0061	6100	PASS

Test mode:		802.11a	Frequency(MHz):	5240
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3	5240.0056	5600	PASS
35		5240.0064	6400	PASS
25		5240.0051	5100	PASS
15		5239.9975	-2500	PASS
5		5239.9974	-2600	PASS
0		5239.9963	-3700	PASS
20	3.795	5240.0024	2400	PASS
	3.3	5240.0047	4700	PASS
	2.805	5239.9948	-5200	PASS

Test mode:		802.11a	Frequency(MHz):	5745
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3	5745.0111	11100	PASS
35		5745.0089	8900	PASS
25		5745.0077	7700	PASS
15		5745.0021	2100	PASS
5		5744.9960	-4000	PASS
0		5744.9982	-1800	PASS
20		3.795	5745.0014	1400
	3.3	5745.0013	1300	PASS
	2.805	5745.0027	2700	PASS

Test mode:		802.11a	Frequency(MHz):	5785
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3	5785.0035	3500	PASS
35		5785.0027	2700	PASS
25		5785.0021	2100	PASS
15		5785.0006	600	PASS
5		5785.0012	1200	PASS
0		5785.0034	3400	PASS
20		3.795	5785.0021	2100
	3.3	5785.0042	4200	PASS
	2.805	5784.9955	-4500	PASS

Test mode:		802.11a	Frequency(MHz):	5825
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3	5825.0079	7900	PASS
35		5825.0035	3500	PASS
25		5825.0020	2000	PASS
15		5824.9972	-2800	PASS
5		5824.9965	-3500	PASS
0		5824.9940	-6000	PASS
20		3.795	5825.0039	3900
	3.3	5825.0010	1000	PASS
	2.805	5825.0027	2700	PASS

Test mode:		802.11n(HT20)	Frequency(MHz):	5180
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3	5180.0054	5400	PASS
35		5180.0016	1600	PASS
25		5179.9967	-3300	PASS
15		5179.9965	-3500	PASS
5		5180.0035	3500	PASS
0		5180.0052	5200	PASS
20		3.795	5180.0033	3300
	3.3	5179.9957	-4300	PASS
	2.805	5179.9969	-3100	PASS

Test mode:		802.11n(HT20)	Frequency(MHz):	5220
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3	5220.0037	3700	PASS
35		5220.0037	3700	PASS
25		5220.0059	5900	PASS
15		5220.005	5000	PASS
5		5220.0016	1600	PASS
0		5220.0053	5300	PASS
20		3.795	5219.9977	-2300
	3.3	5219.9955	-4500	PASS
	2.805	5220.0028	2800	PASS

Test mode:		802.11n(HT20)	Frequency(MHz):	5240
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3	5240.0074	7400	PASS
35		5240.0052	5200	PASS
25		5240.0047	4700	PASS
15		5239.9983	-1700	PASS
5		5239.9988	-1200	PASS
0		5239.9982	-1800	PASS
20		3.795	5240.0054	5400
	3.3	5240.0021	2100	PASS
	2.805	5240.0021	2100	PASS

Test mode:		802.11n(HT20)	Frequency(MHz):	5745
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3	5745.0067	6700	PASS
35		5745.0028	2800	PASS
25		5745.0031	3100	PASS
15		5745.0019	1900	PASS
5		5745.0013	1300	PASS
0		5745.0074	7400	PASS
20		3.795	5745.0042	4200
	3.3	5744.9940	-6000	PASS
	2.805	5745.0028	2800	PASS

Test mode:		802.11n(HT20)	Frequency(MHz):	5785
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3	5785.0101	10100	PASS
35		5785.0045	4500	PASS
25		5785.0029	2900	PASS
15		5784.9987	-1300	PASS
5		5784.9932	-6800	PASS
0		5785.0021	2100	PASS
20		3.795	5785.0038	3800
	3.3	5785.0033	3300	PASS
	2.805	5785.0050	5000	PASS

Test mode:		802.11n(HT20)	Frequency(MHz):	5825
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3	5824.9815	-18500	PASS
35		5824.9935	-6500	PASS
25		5824.9959	-4100	PASS
15		5824.9973	-2700	PASS
5		5825.0016	1600	PASS
0		5825.0046	4600	PASS
20		3.795	5825.0042	4200
	3.3	5824.9987	-1300	PASS
	2.805	5825.0026	2600	PASS

Test mode:		802.11n(HT40)	Frequency(MHz):	5190
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3	5190.0081	8100	PASS
35		5190.0077	7700	PASS
25		5190.0088	8800	PASS
15		5190.0023	2300	PASS
5		5190.0075	7500	PASS
0		5190.0052	5200	PASS
20		3.795	5189.993	-7000
	3.3	5189.9952	-4800	PASS
	2.805	5190.0062	6200	PASS

Test mode:		802.11n(HT40)	Frequency(MHz):	5230
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3	5230.0074	7400	PASS
35		5230.0072	7200	PASS
25		5230.0082	8200	PASS
15		5229.9944	-5600	PASS
5		5229.9926	-7400	PASS
0		5229.9956	-4400	PASS
20		3.795	5230.0037	3700
	3.3	5230.0061	6100	PASS
	2.805	5230.0043	4300	PASS

Test mode:		802.11n(HT40)	Frequency(MHz):	5755
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3	5755.0211	21100	PASS
35		5755.0122	12200	PASS
25		5755.0104	10400	PASS
15		5755.0059	5900	PASS
5		5755.0035	3500	PASS
0		5755.0075	7500	PASS
20		3.795	5755.0046	4600
	3.3	5755.0032	3200	PASS
	2.805	5755.0065	6500	PASS

Test mode:		802.11n(HT40)	Frequency(MHz):	5795
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3	5794.9866	-13400	PASS
35		5794.9849	-15100	PASS
25		5795.0046	4600	PASS
15		5795.0021	2100	PASS
5		5795.0060	6000	PASS
0		5795.0081	8100	PASS
20		3.795	5795.0092	9200
	3.3	5794.9955	-4500	PASS
	2.805	5795.0068	6800	PASS



## 7. Appendix A: Photographs of Test Setup

Product: Wi-Fi® Radio Transceiver  
Model: NM-DB-3  
Radiated Emission





Conducted Emission



**8. Photographs of EUT**

Refer to the test report No. TCT170221E009

**\*\*\*\*\*END OF REPORT\*\*\*\*\***