

## Appendix - 5G WiFi

### 1. Duty Cycle

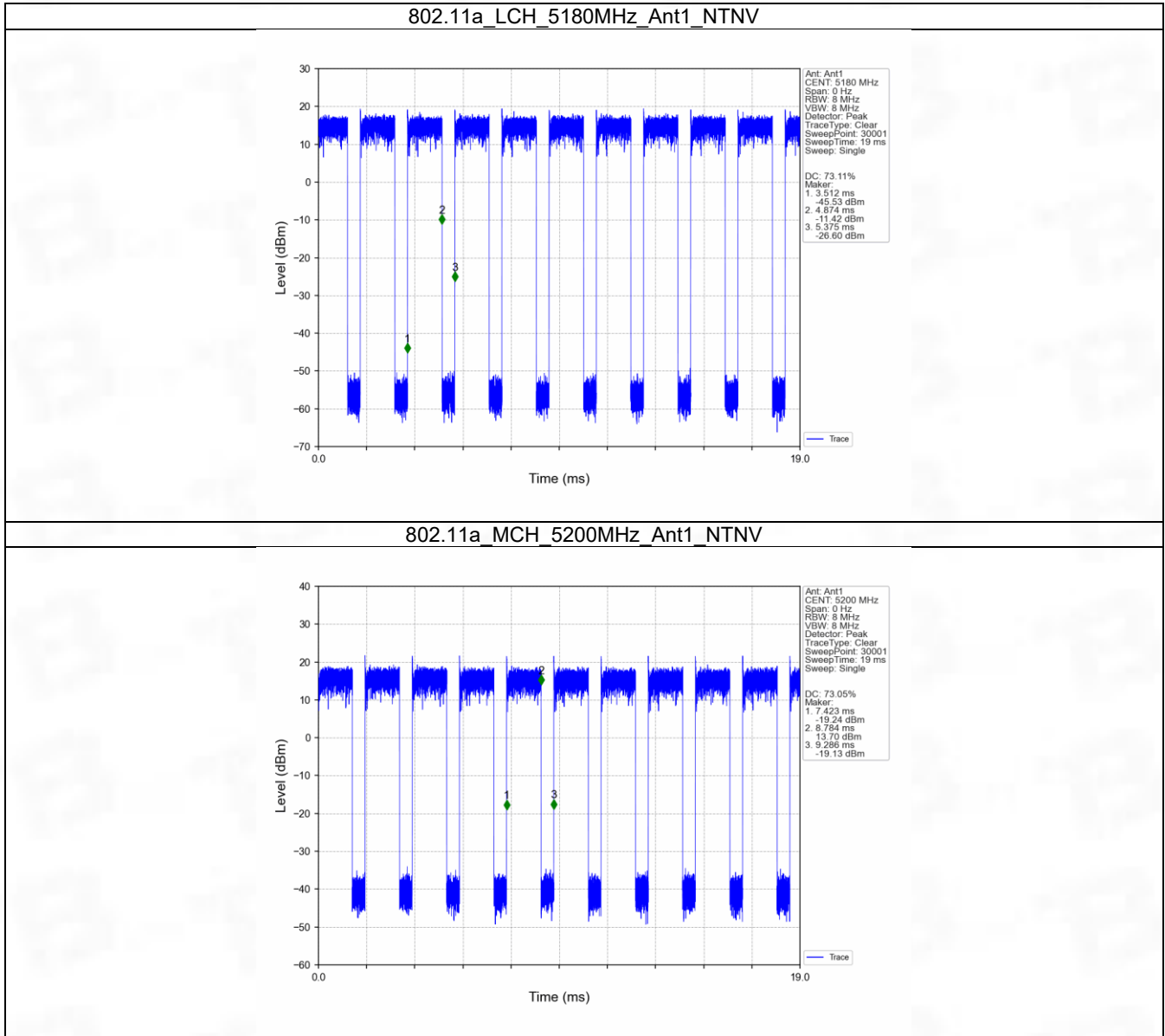
#### 1.1 Test Result

##### 1.1.1 Ant1

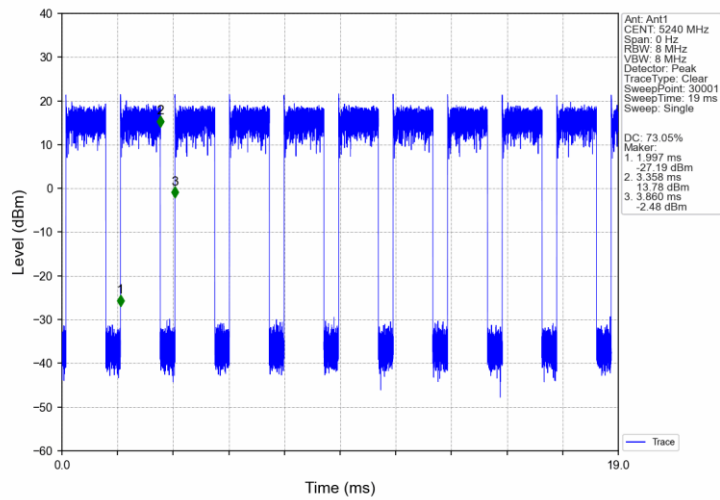
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5180	1.362	1.863	73.11	1.36	0.02
		5200	1.361	1.863	73.05	1.36	0.03
		5240	1.361	1.863	73.05	1.36	0.02
		5745	1.361	1.862	73.09	1.36	0.03
		5785	1.361	1.862	73.09	1.36	0.02
		5825	1.361	1.863	73.05	1.36	0.02
802.11n (HT20)	SISO	5180	1.272	1.774	71.70	1.44	0.03
		5200	1.273	1.775	71.72	1.44	0.02
		5240	1.273	1.774	71.76	1.44	0.03
		5745	1.274	1.775	71.77	1.44	0.02
		5785	1.273	1.774	71.76	1.44	0.03
		5825	1.272	1.774	71.70	1.44	0.03

## 1.2 Test Graph

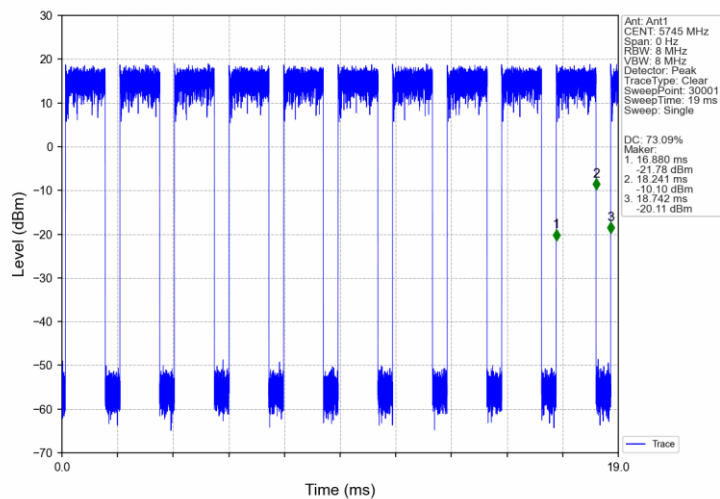
### 1.2.1 Ant1



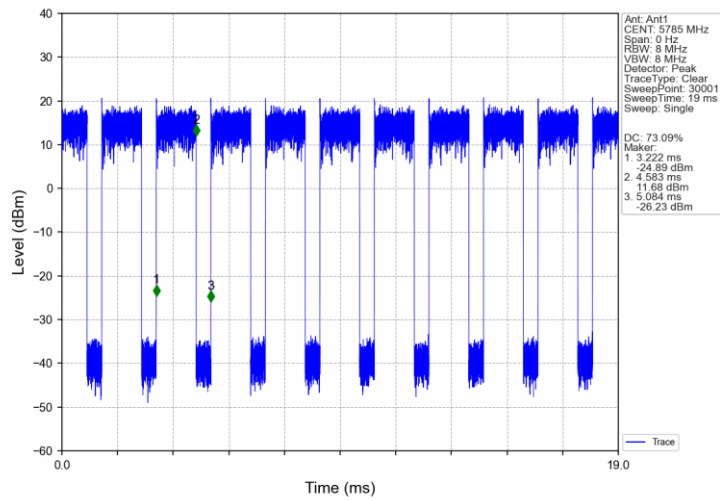
802.11a\_HCH\_5240MHz\_Ant1\_NTNV



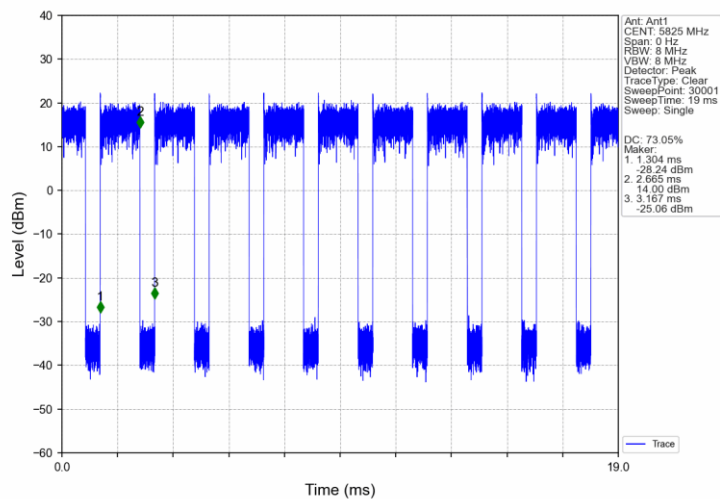
802.11a\_LCH\_5745MHz\_Ant1\_NTNV



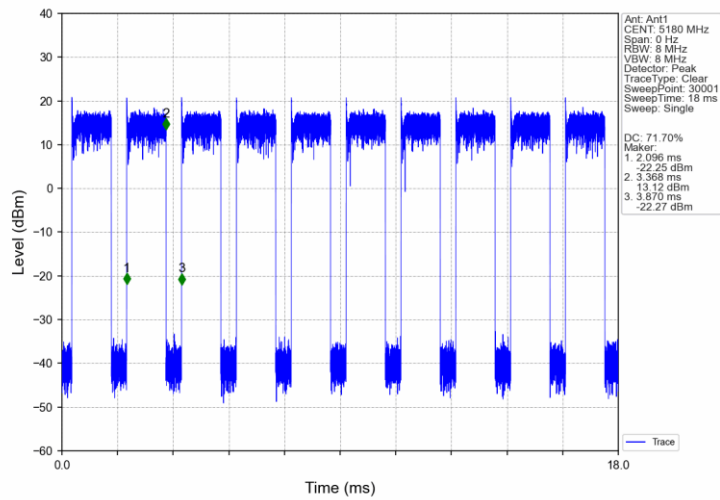
802.11a\_MCH\_5785MHz\_Ant1\_NTNV



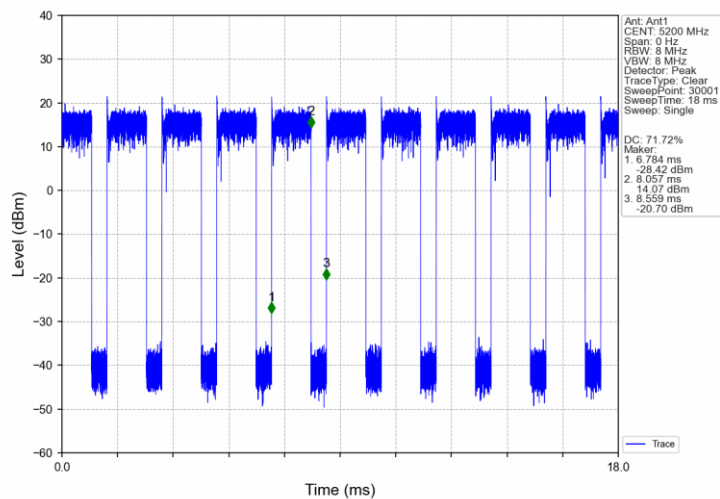
802.11a\_HCH\_5825MHz\_Ant1\_NTNV



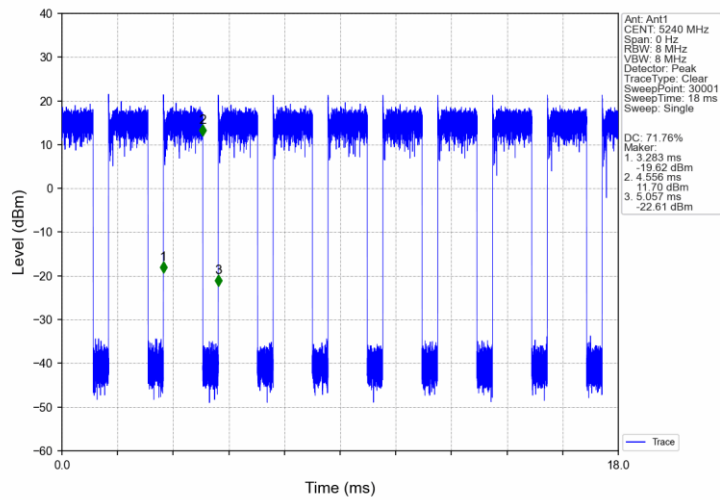
802.11n(HT20)\_LCH\_5180MHz\_Ant1\_NTNV



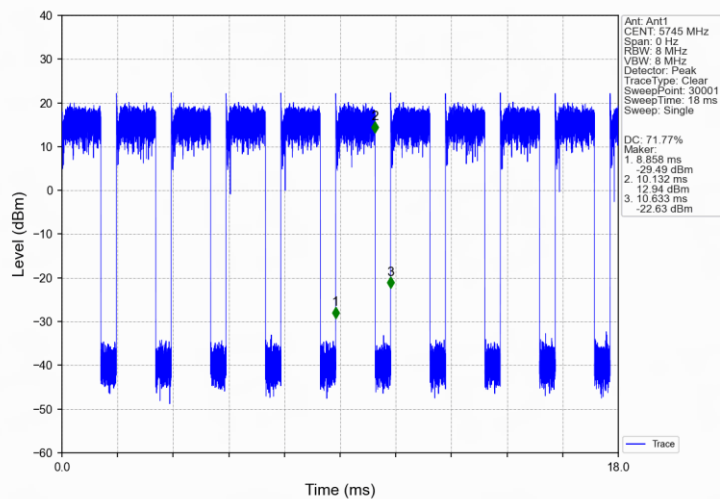
802.11n(HT20)\_MCH\_5200MHz\_Ant1\_NTNV



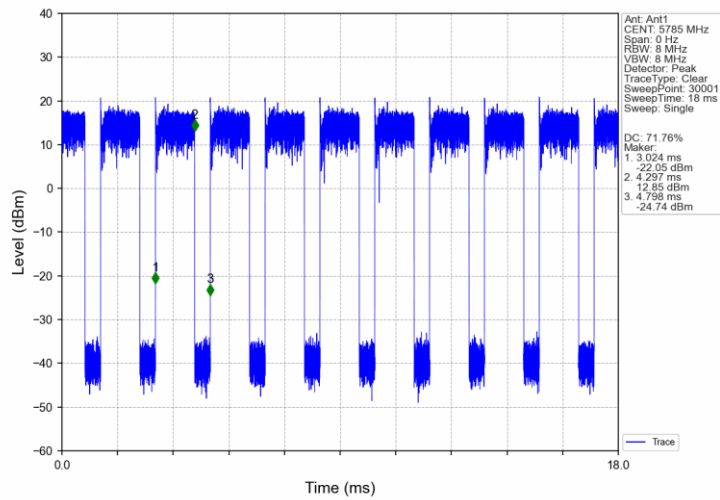
802.11n(HT20) HCH 5240MHz\_Ant1\_NTNV



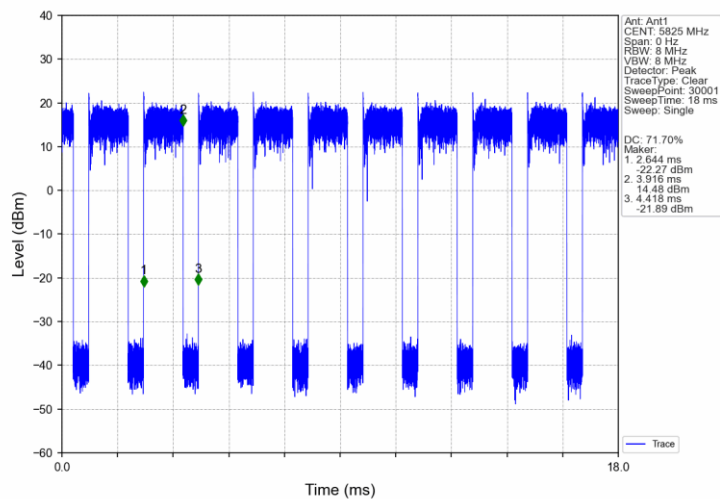
802.11n(HT20) LCH 5745MHz\_Ant1\_NTNV



802.11n(HT20) MCH\_5785MHz\_Ant1\_NTNV



802.11n(HT20) HCH\_5825MHz\_Ant1\_NTNV



## 2. Bandwidth

### 2.1 Test Result

#### 2.1.1 OBW

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	17.647	/	Pass
		5200	1	17.657	/	Pass
		5240	1	17.603	/	Pass
		5745	1	17.076	/	Pass
		5785	1	17.147	/	Pass
		5825	1	17.176	/	Pass
802.11n (HT20)	SISO	5180	1	17.357	/	Pass
		5200	1	17.475	/	Pass
		5240	1	17.461	/	Pass
		5745	1	17.992	/	Pass
		5785	1	18.029	/	Pass
		5825	1	18.051	/	Pass

#### 2.1.2 26dB BW

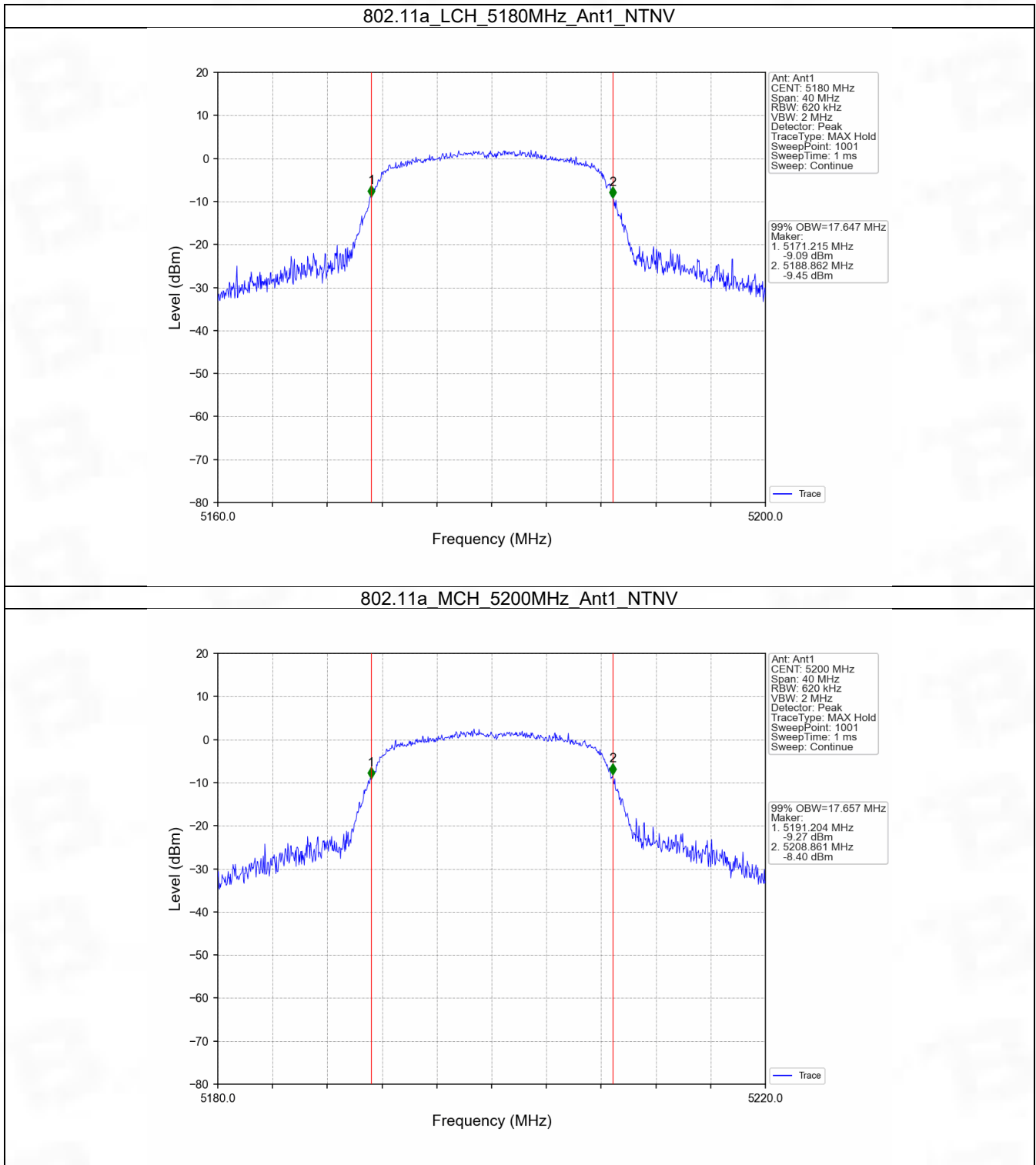
Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	34.234	/	Pass
		5200	1	30.800	/	Pass
		5240	1	28.721	/	Pass
802.11n (HT20)	SISO	5180	1	33.738	/	Pass
		5200	1	32.635	/	Pass
		5240	1	31.334	/	Pass

#### 2.1.3 6dB BW

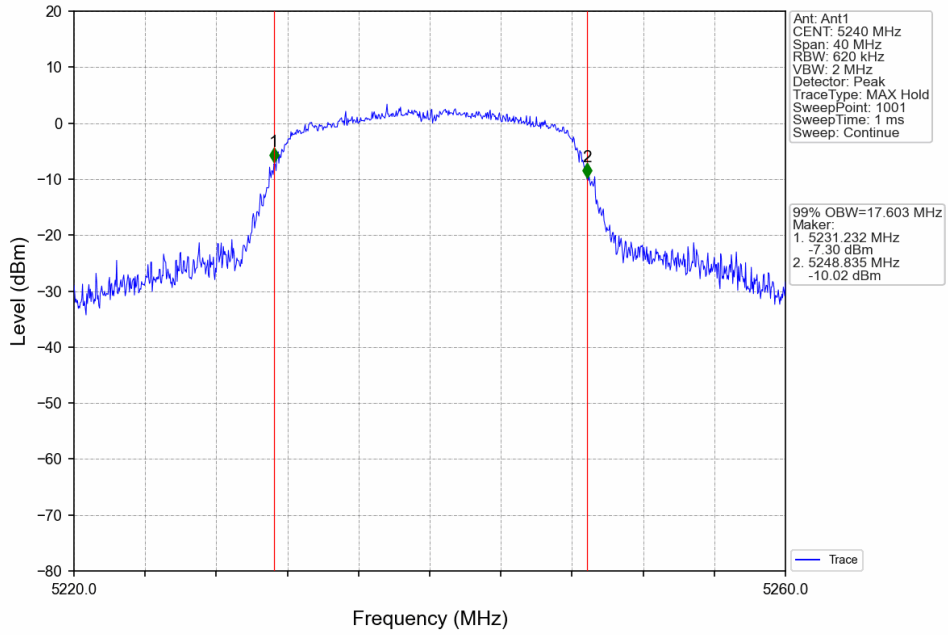
Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5745	1	13.893	>=0.5	Pass
		5785	1	12.643	>=0.5	Pass
		5825	1	12.637	>=0.5	Pass
802.11n (HT20)	SISO	5745	1	13.829	>=0.5	Pass
		5785	1	14.976	>=0.5	Pass
		5825	1	15.118	>=0.5	Pass

## 2.2 Test Graph

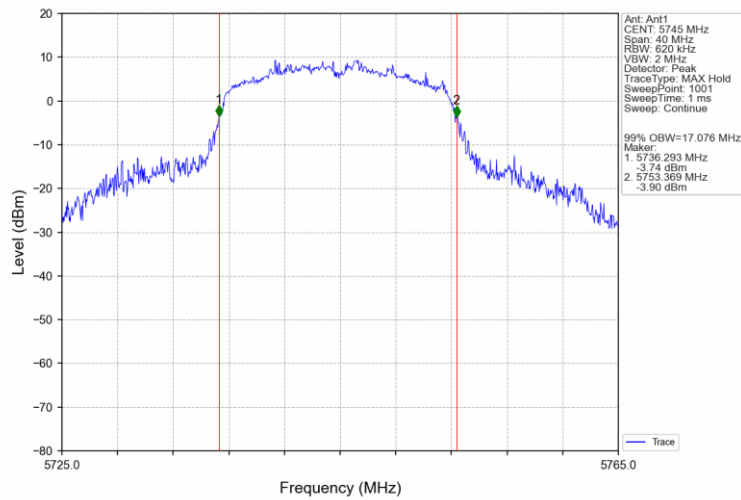
### 2.2.1 OBW



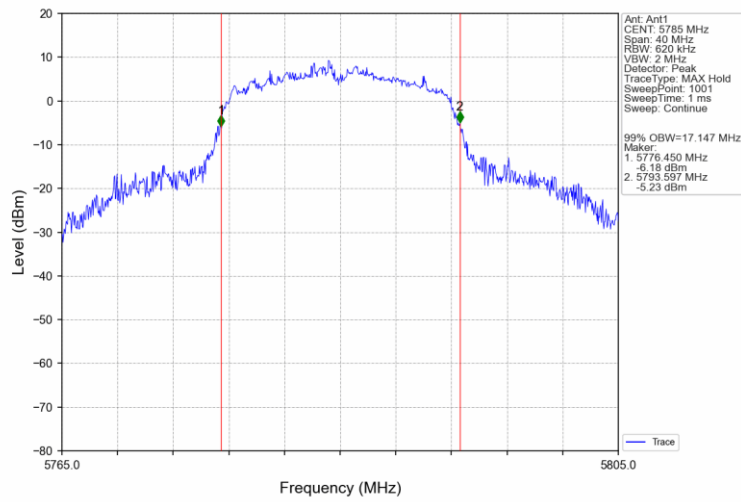
802.11a HCH 5240MHz Ant1 NTN



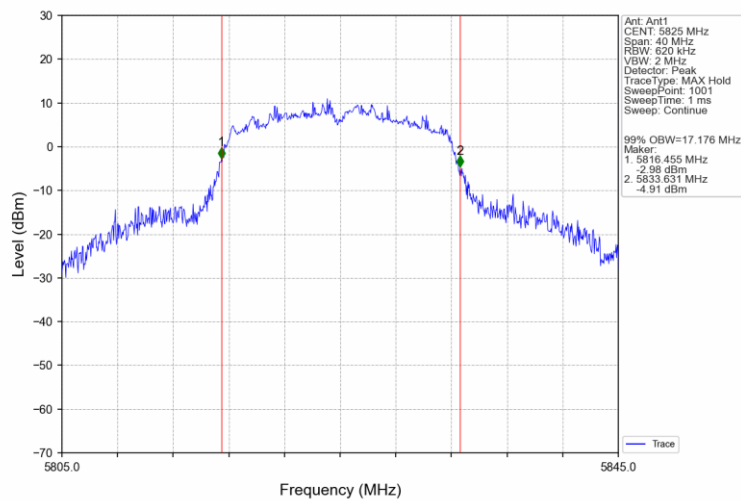
802.11a LCH 5745MHz Ant1 NTN



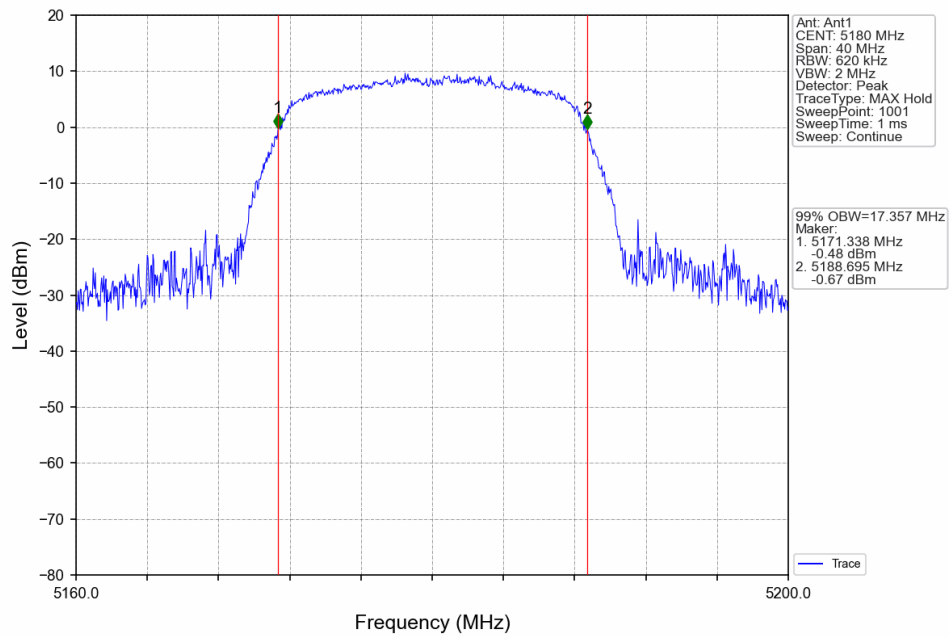
802.11a\_MCH\_5785MHz\_Ant1\_NTNV



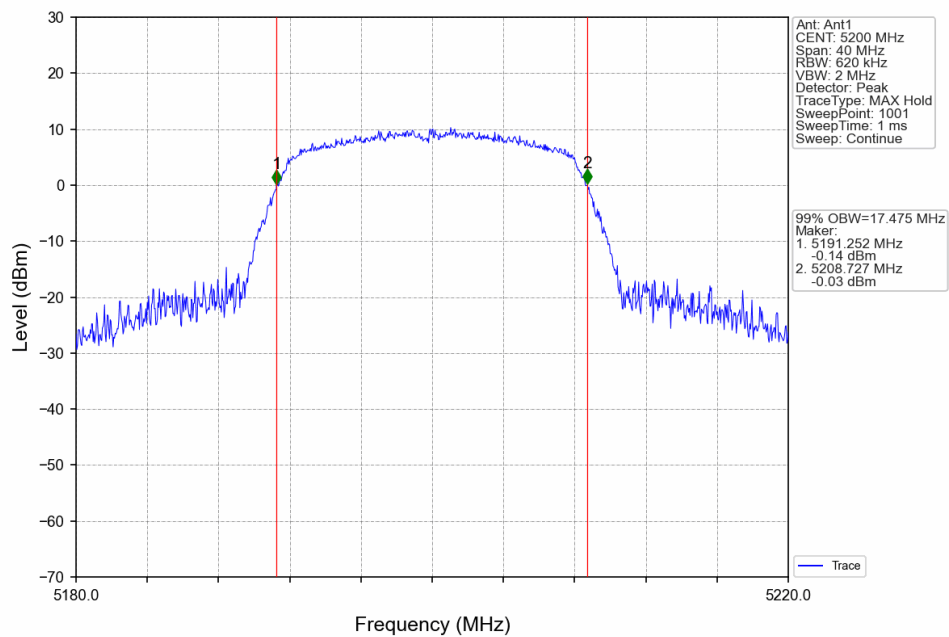
802.11a\_HCH\_5825MHz\_Ant1\_NTNV



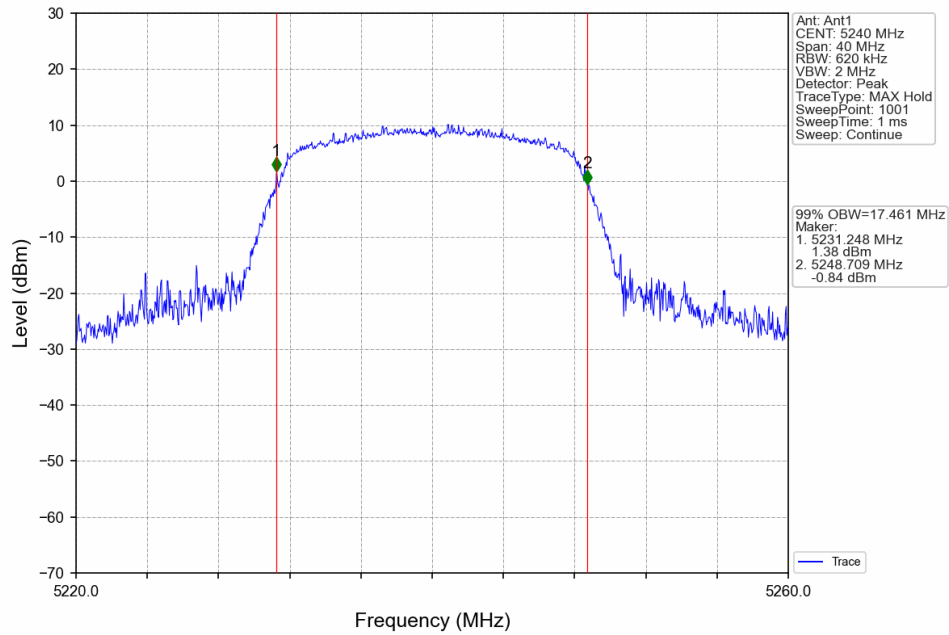
802.11n(HT20) LCH 5180MHz Ant1\_NTNV



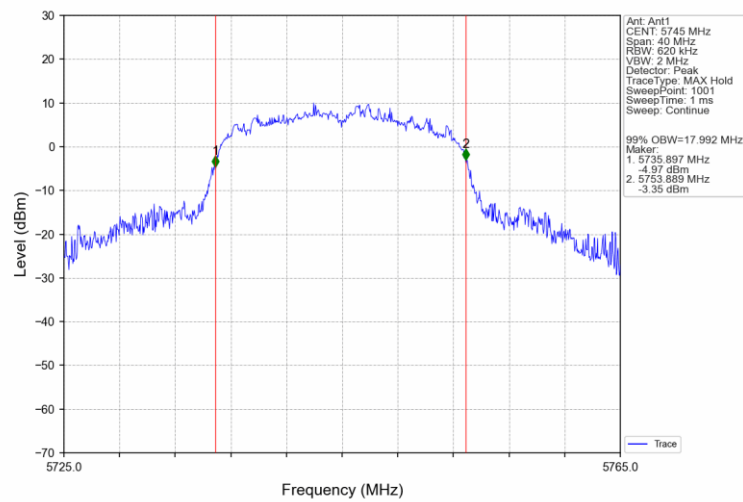
802.11n(HT20) MCH 5200MHz Ant1\_NTNV



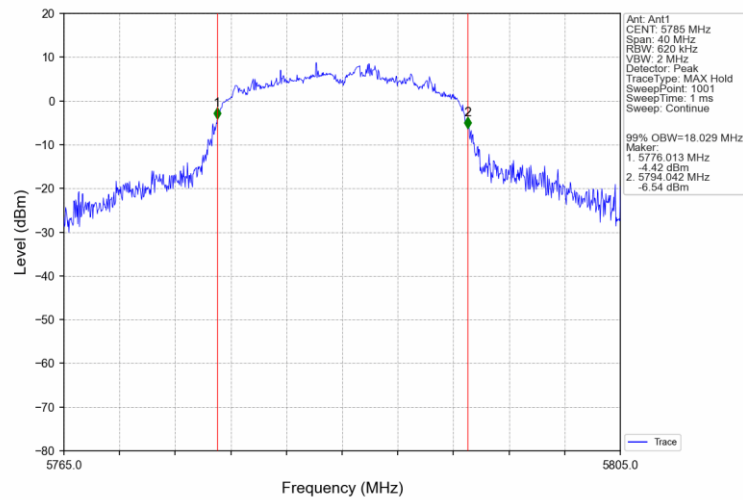
802.11n(HT20) HCH 5240MHz Ant1\_NTNV



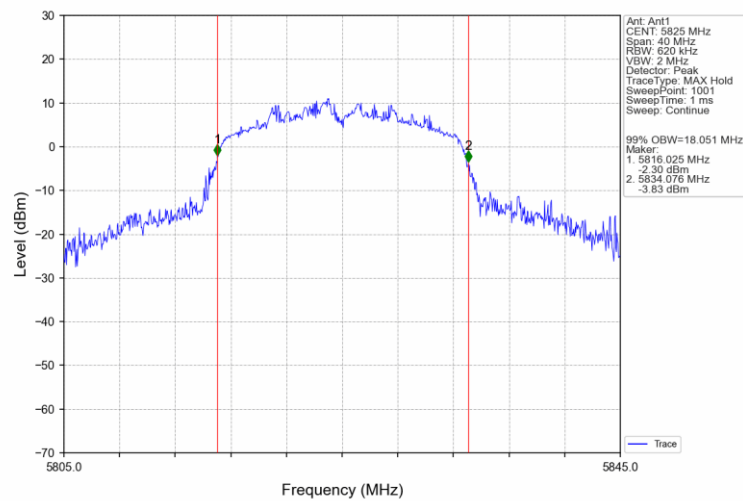
802.11n(HT20) LCH 5745MHz Ant1\_NTNV



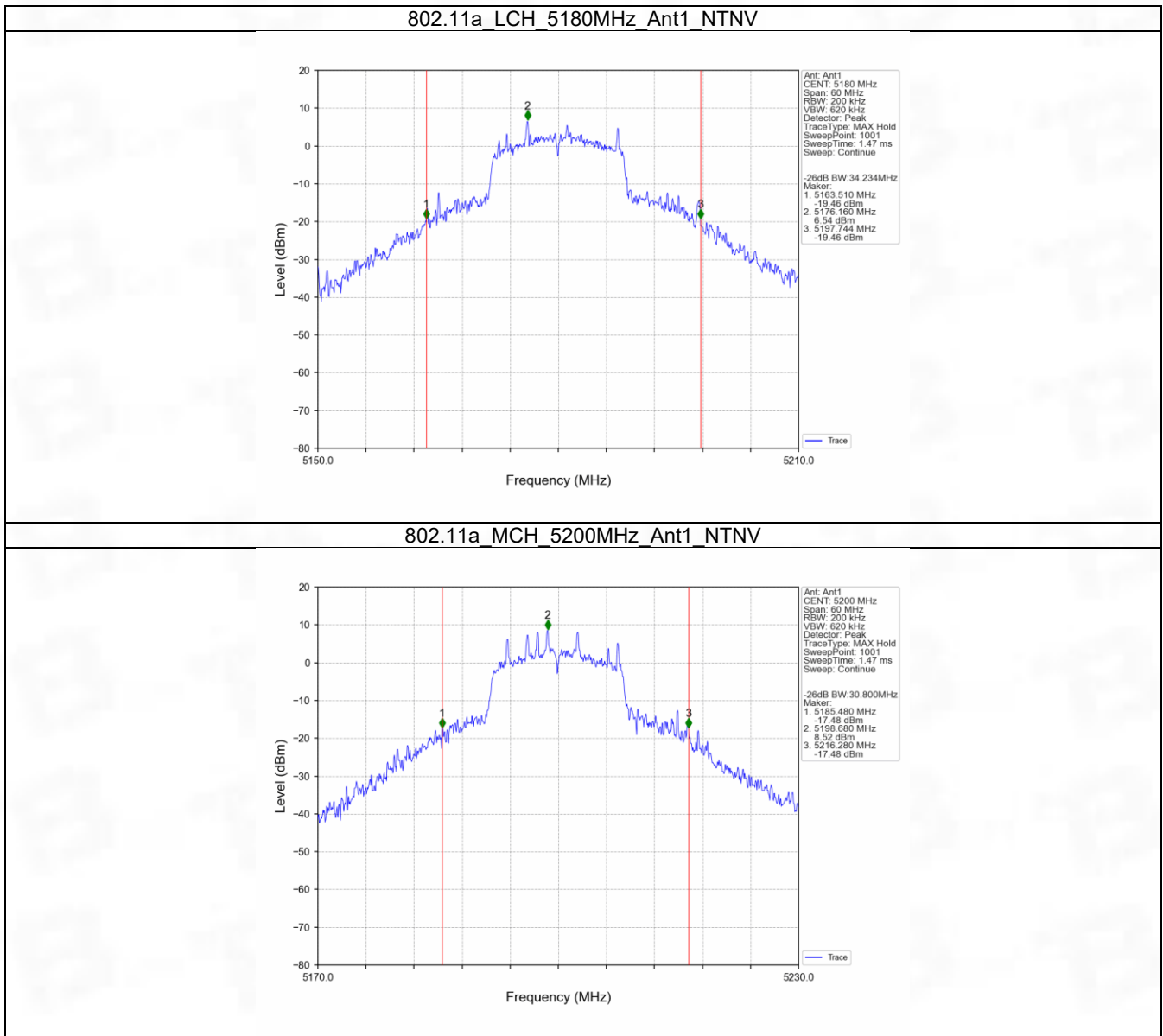
802.11n(HT20) MCH\_5785MHz\_Ant1\_NTNV



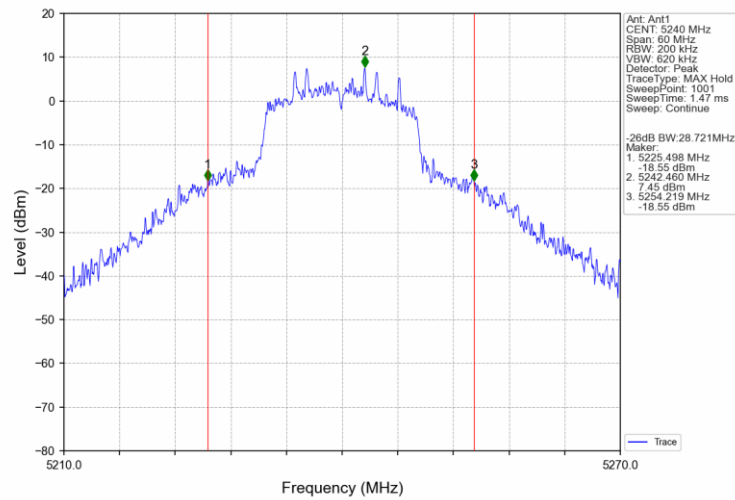
802.11n(HT20) HCH\_5825MHz\_Ant1\_NTNV



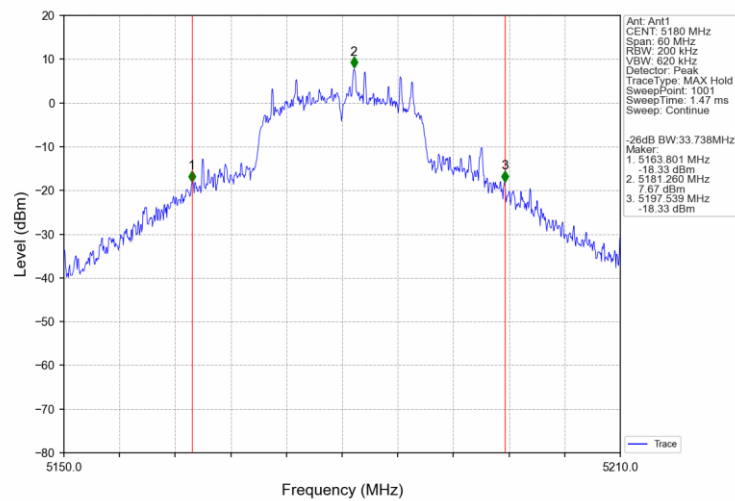
## 2.2.2 26dB BW



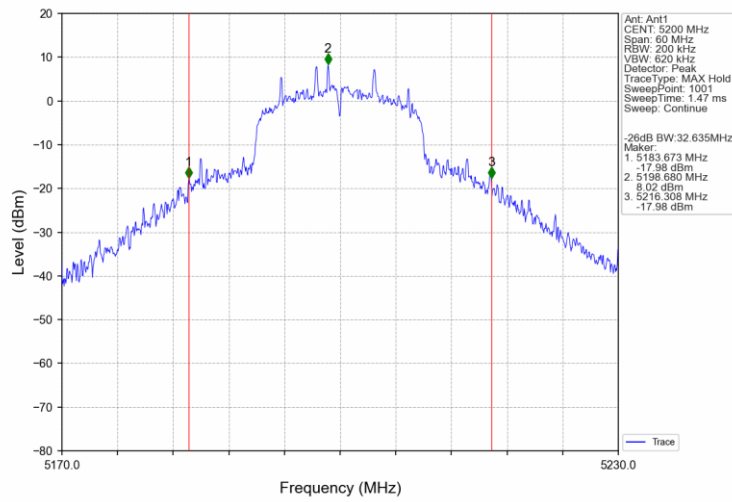
## 802.11a HCH 5240MHz\_Ant1\_NTNV



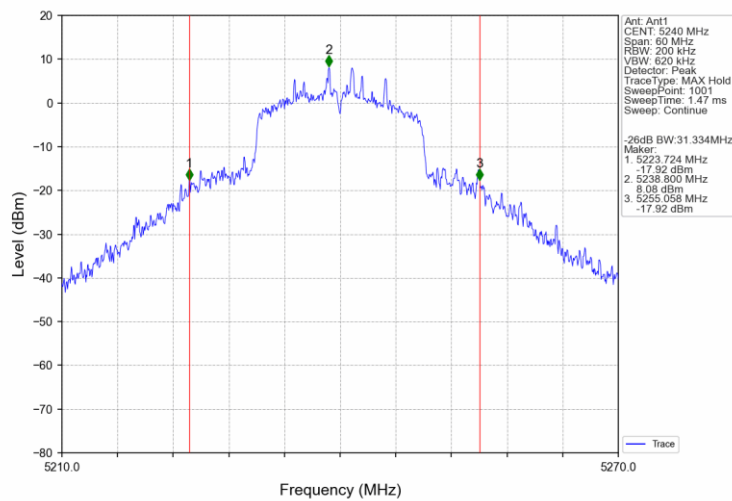
## 802.11n(HT20) LCH 5180MHz\_Ant1\_NTNV



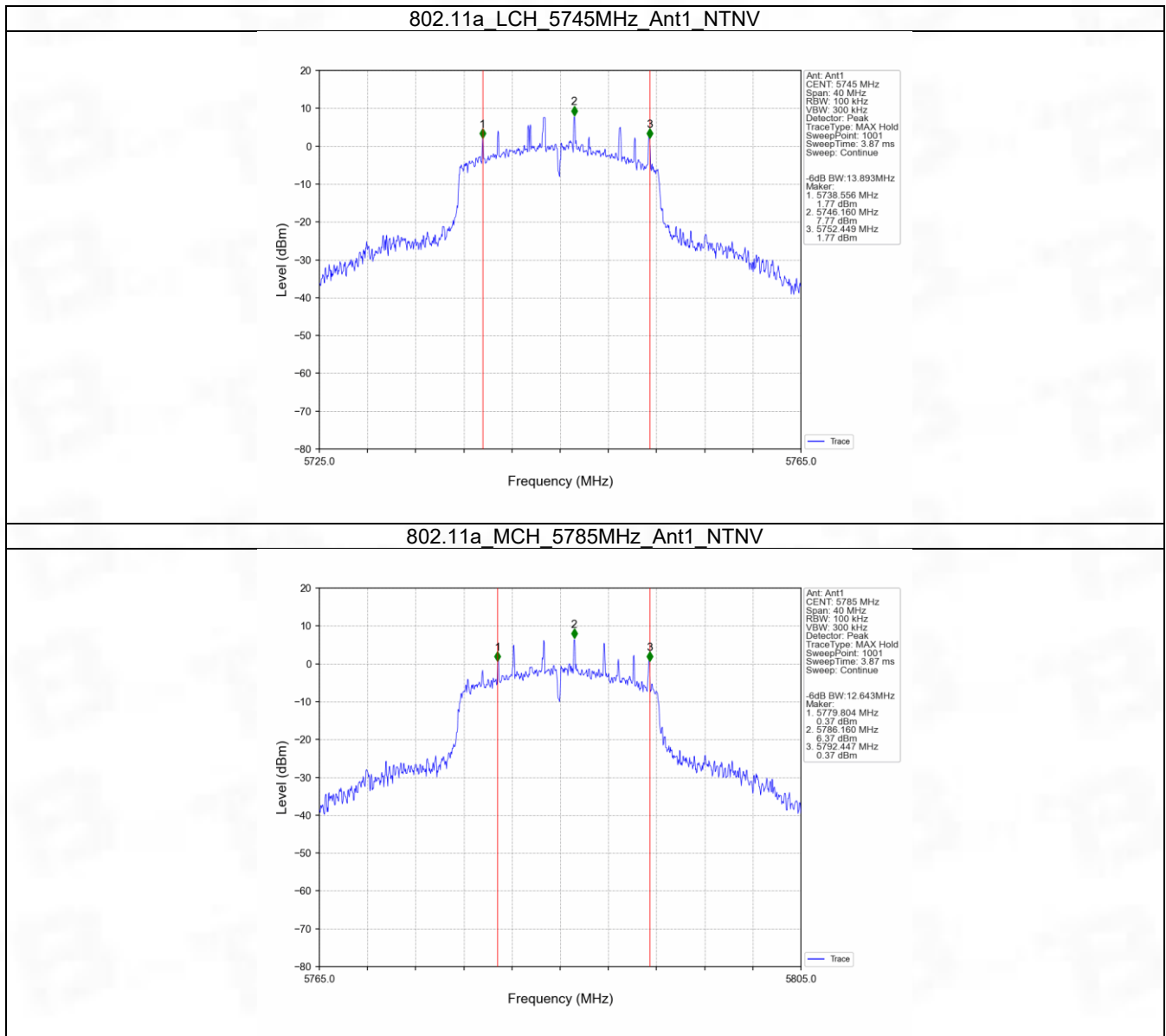
802.11n(HT20) MCH\_5200MHz\_Ant1\_NTNV



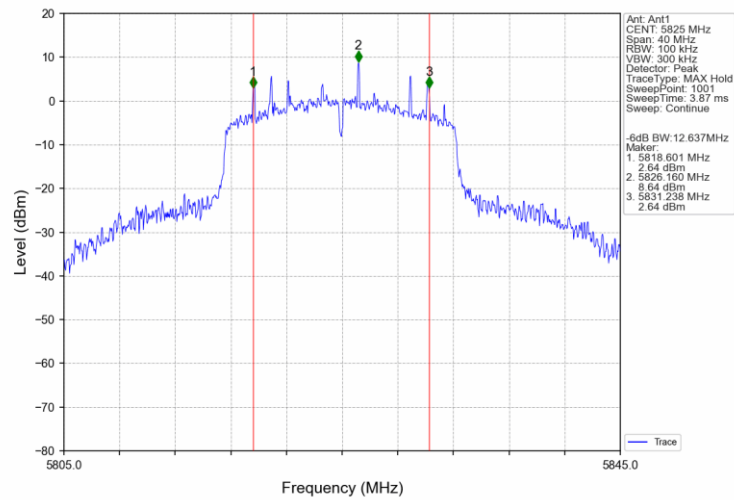
802.11n(HT20) HCH\_5240MHz\_Ant1\_NTNV



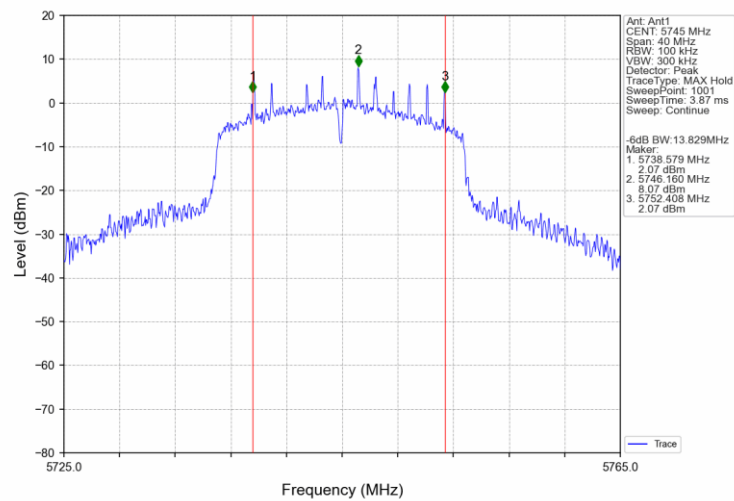
## 2.2.3 6dB BW



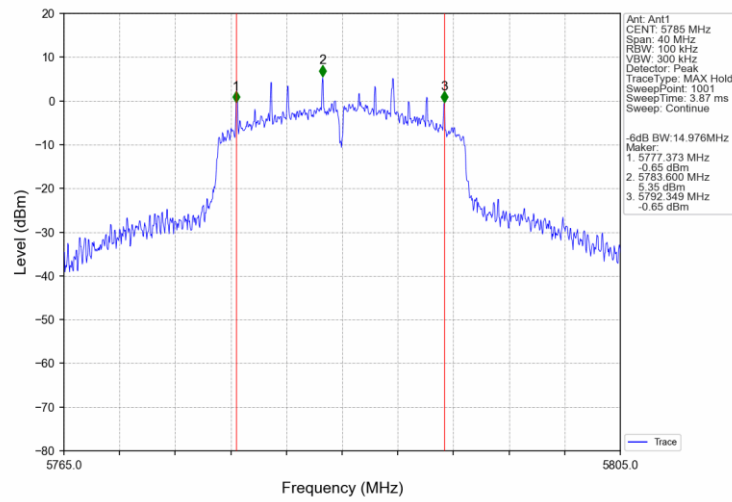
## 802.11a HCH 5825MHz\_Ant1\_NTNV



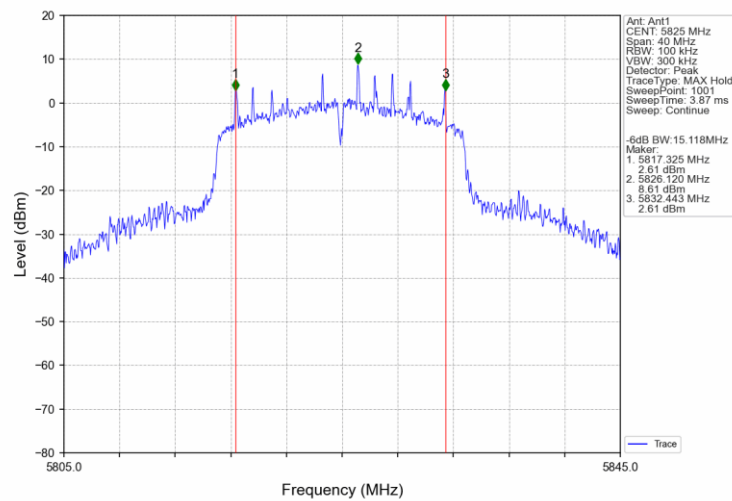
## 802.11n(HT20) LCH 5745MHz\_Ant1\_NTNV



802.11n(HT20) MCH\_5785MHz\_Ant1\_NTNV



802.11n(HT20) HCH\_5825MHz\_Ant1\_NTNV



### 3. Maximum Conducted Output Power

#### 3.1 Test Result

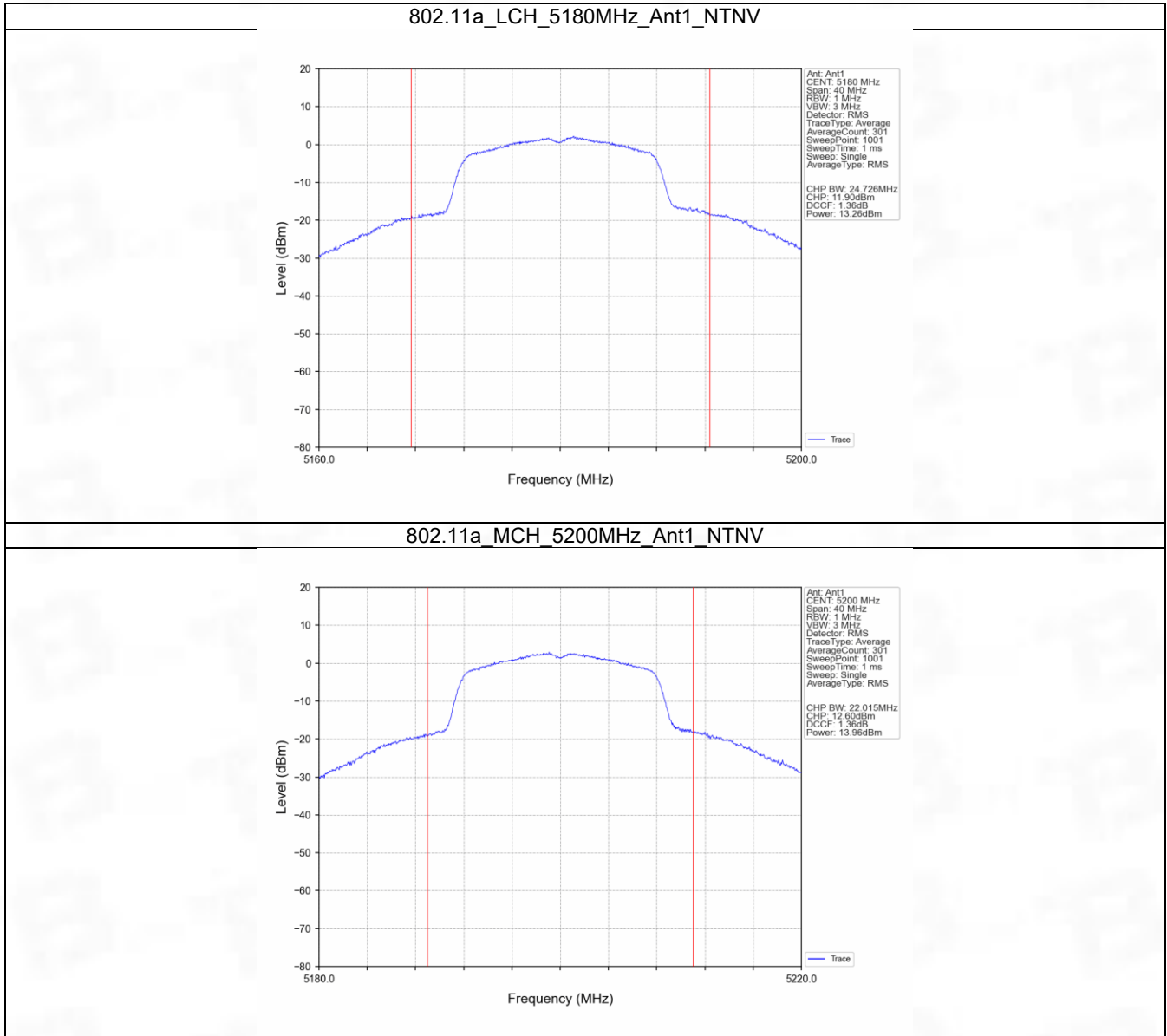
##### 3.1.1 Power

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11a	SISO	5180	13.26	<=23.98	Pass
		5200	13.96	<=23.98	Pass
		5240	13.61	<=23.98	Pass
		5745	13.55	<=30	Pass
		5785	12.10	<=30	Pass
		5825	13.47	<=30	Pass
802.11n (HT20)	SISO	5180	12.89	<=23.98	Pass
		5200	13.58	<=23.98	Pass
		5240	13.48	<=23.98	Pass
		5745	13.47	<=30	Pass
		5785	11.99	<=30	Pass
		5825	13.67	<=30	Pass

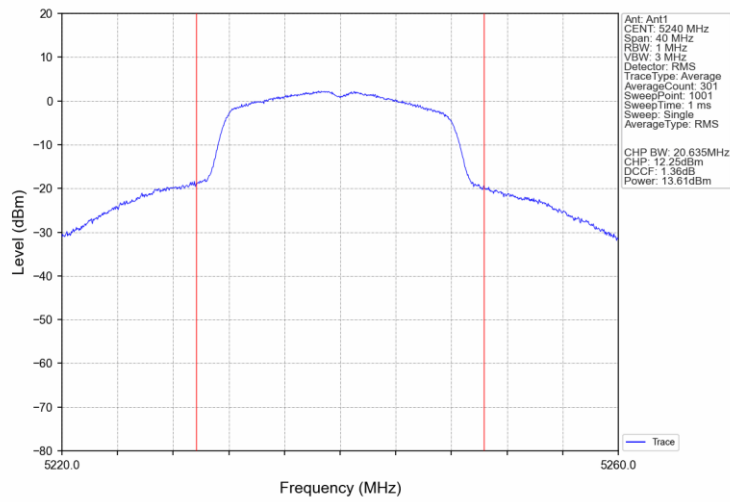
Note1: Antenna Gain:  
- Band: 1 Ant1: 2.00dBi;  
- Band: 3 Ant1: 2.00dBi;

### 3.2 Test Graph

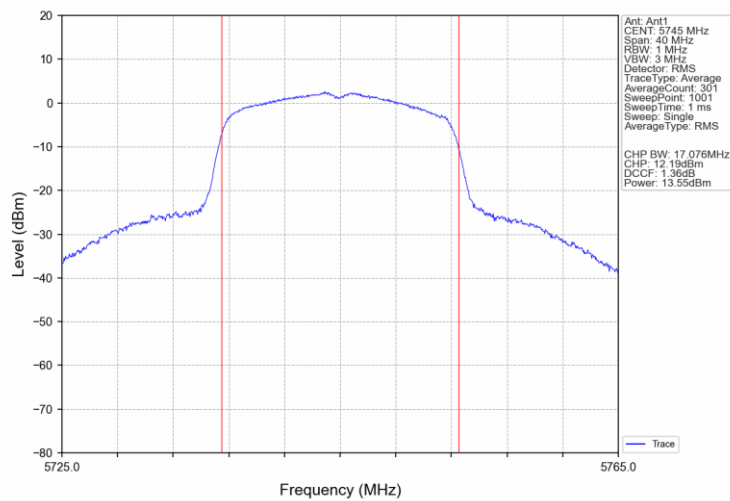
#### 3.2.1 Power



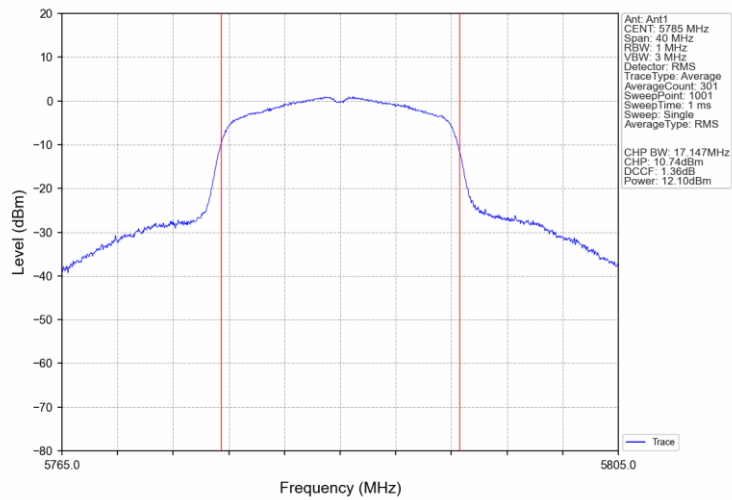
802.11a\_HCH\_5240MHz\_Ant1\_NTNV



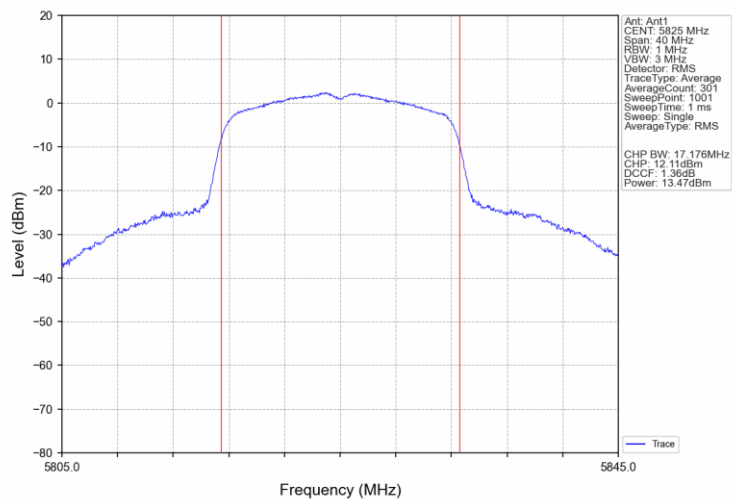
802.11a\_LCH\_5745MHz\_Ant1\_NTNV



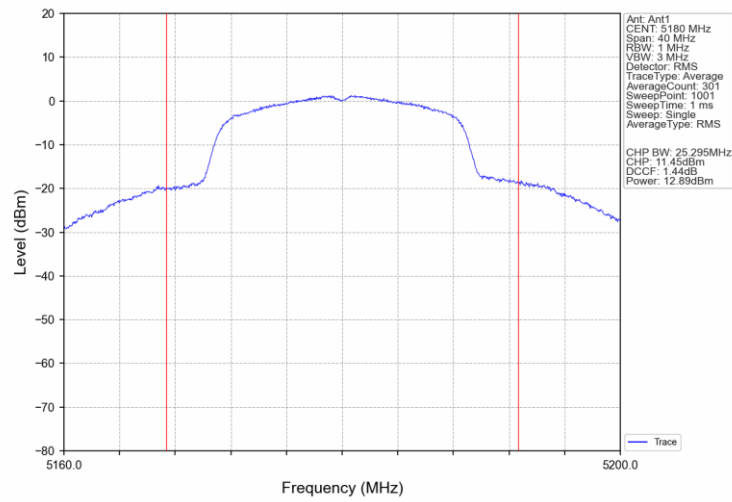
802.11a\_MCH\_5785MHz\_Ant1\_NTNV



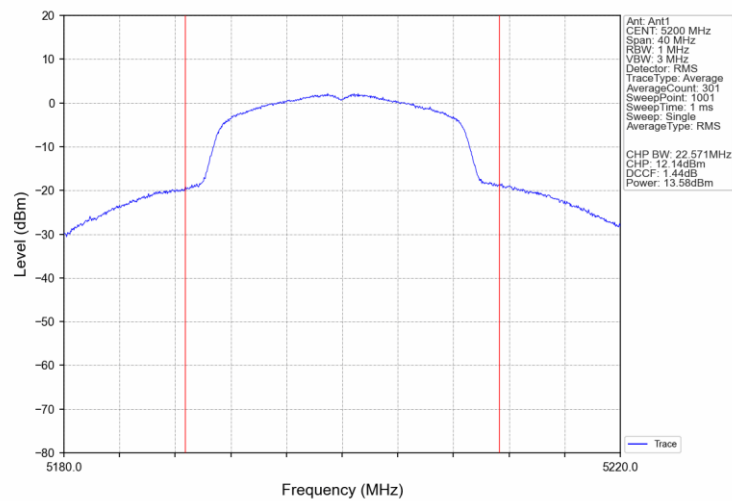
802.11a\_HCH\_5825MHz\_Ant1\_NTNV



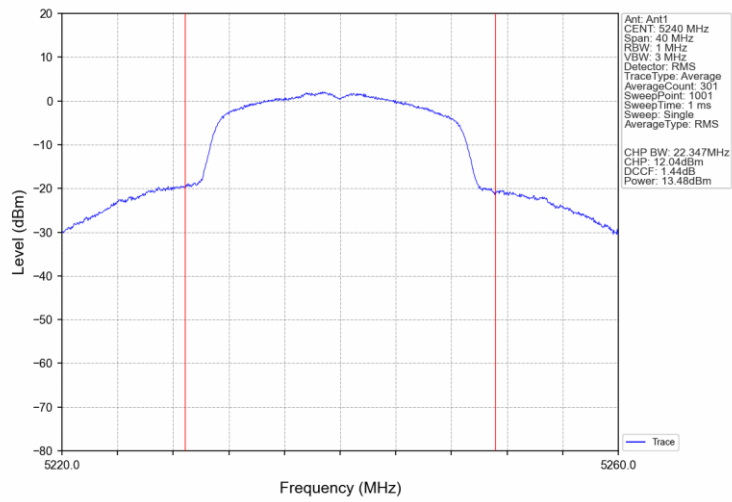
802.11n(HT20) LCH 5180MHz\_Ant1\_NTNV



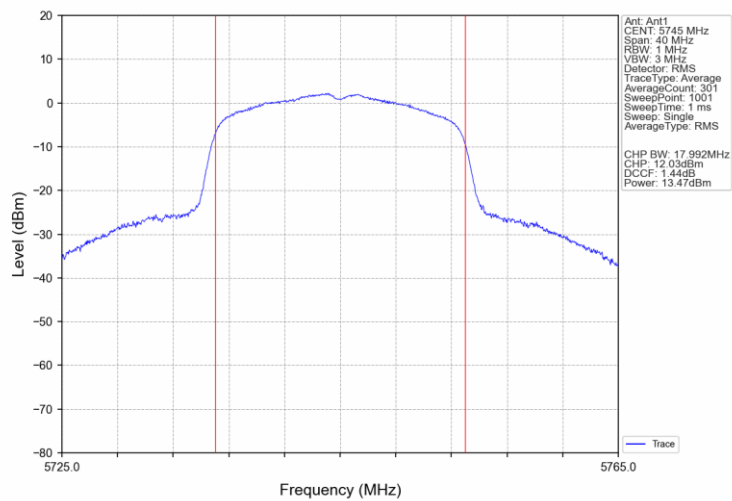
802.11n(HT20) MCH 5200MHz\_Ant1\_NTNV



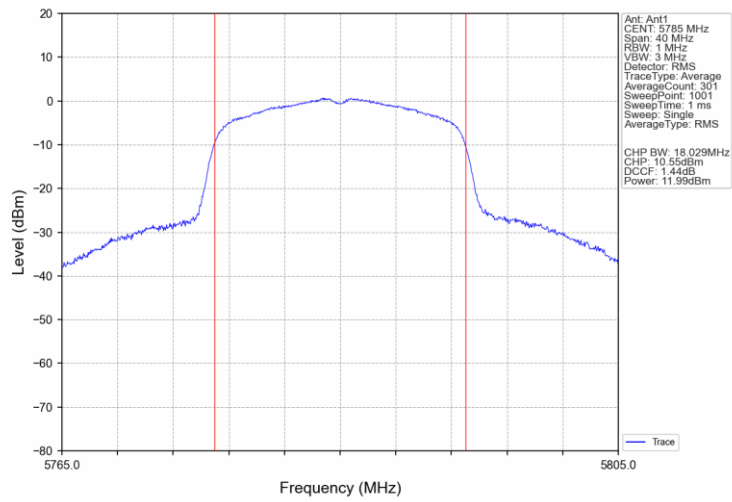
802.11n(HT20) HCH 5240MHz Ant1\_NTNV



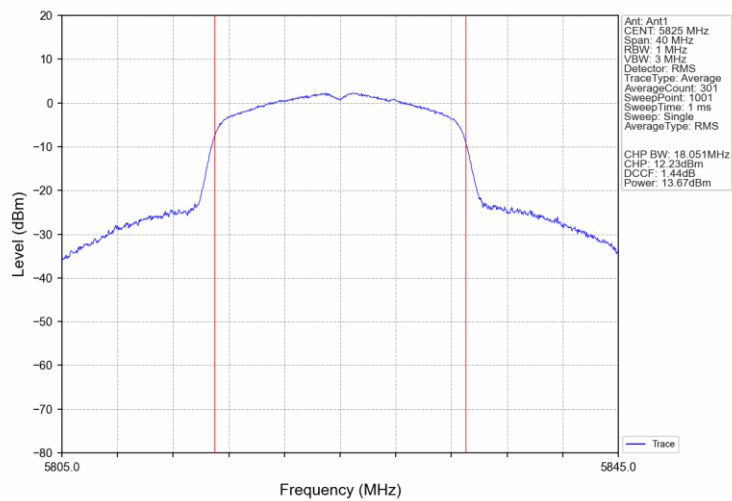
802.11n(HT20) LCH 5745MHz Ant1\_NTNV



802.11n(HT20) MCH\_5785MHz\_Ant1\_NTNV



802.11n(HT20) HCH\_5825MHz\_Ant1\_NTNV



## 4. Maximum Power Spectral Density

### 4.1 Test Result

#### 4.1.1 PSD

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/MHz)		Verdict
			ANT1	Limit	
802.11a	SISO	5180	3.15	<=11	Pass
		5200	4.13	<=11	Pass
		5240	3.63	<=11	Pass
802.11n (HT20)	SISO	5180	3.09	<=11	Pass
		5200	3.63	<=11	Pass
		5240	3.36	<=11	Pass

Note1: Antenna Gain:  
- Band: 1 Ant1: 2.00dBi;  
- Band: 3 Ant1: 2.00dBi;

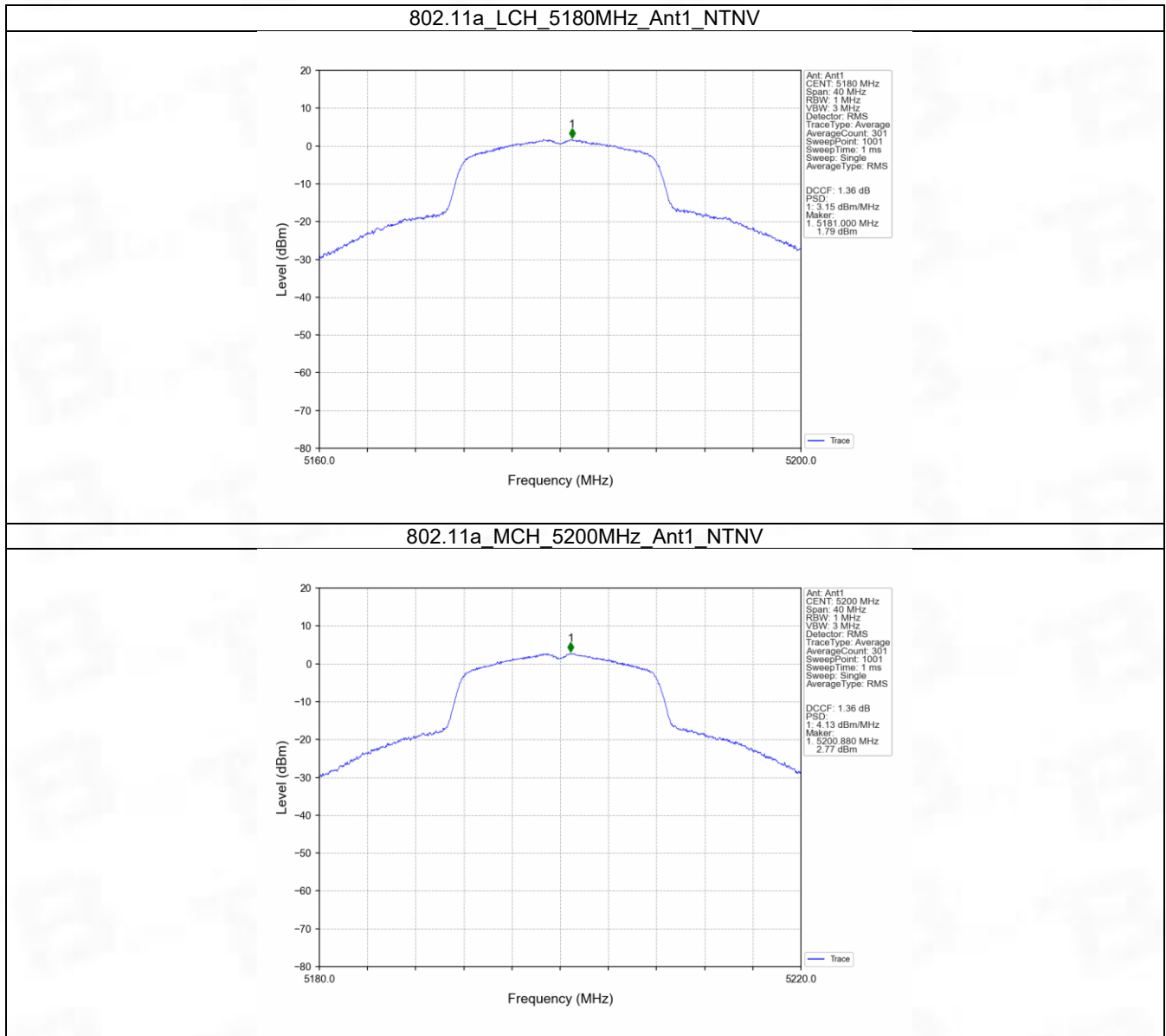
#### 4.1.2 PSD-Band3

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/500kHz)		Verdict
			ANT1	Limit	
802.11a	SISO	5745	1.01	<=30	Pass
		5785	-0.32	<=30	Pass
		5825	1.02	<=30	Pass
802.11n (HT20)	SISO	5745	1.12	<=30	Pass
		5785	-0.33	<=30	Pass
		5825	0.98	<=30	Pass

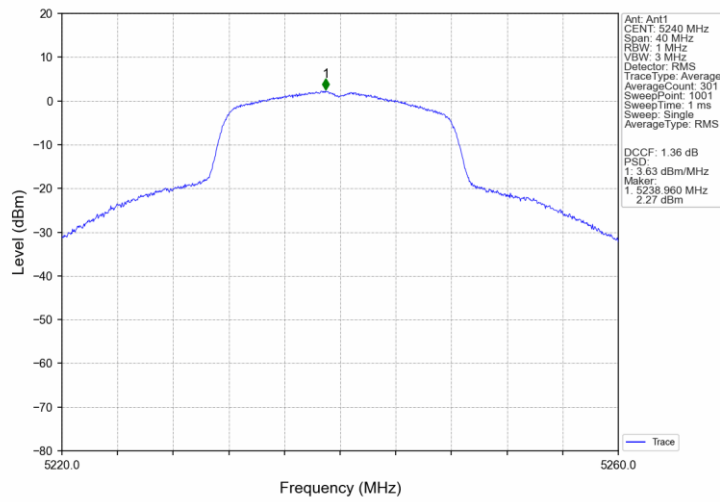
Note1: Antenna Gain:  
- Band: 1 Ant1: 2.00dBi;  
- Band: 3 Ant1: 2.00dBi;

## 4.2 Test Graph

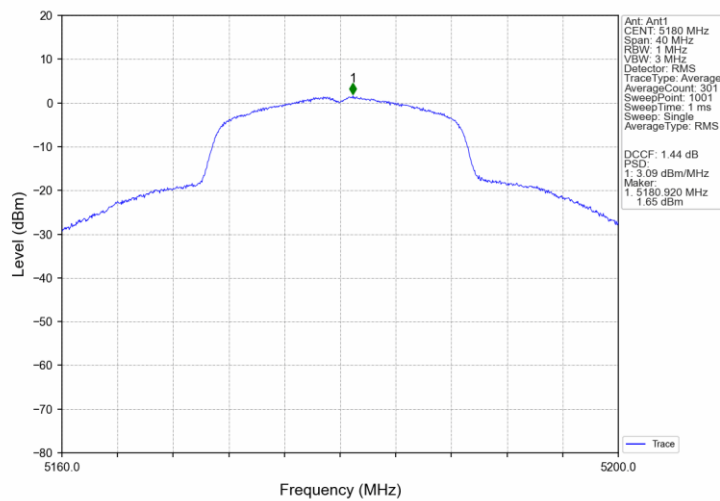
### 4.2.1 PSD



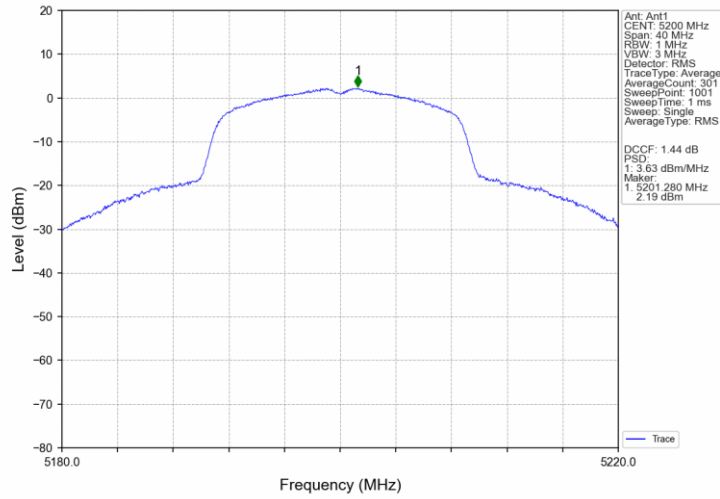
802.11a HCH 5240MHz\_Ant1\_NTNV



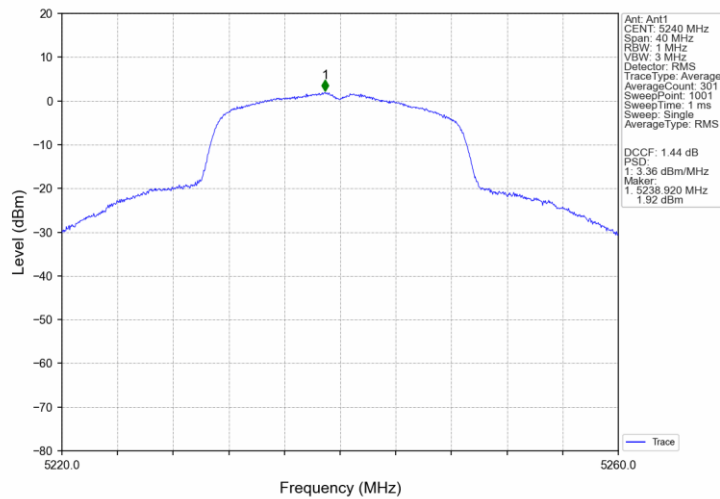
802.11n(HT20) LCH 5180MHz\_Ant1\_NTNV



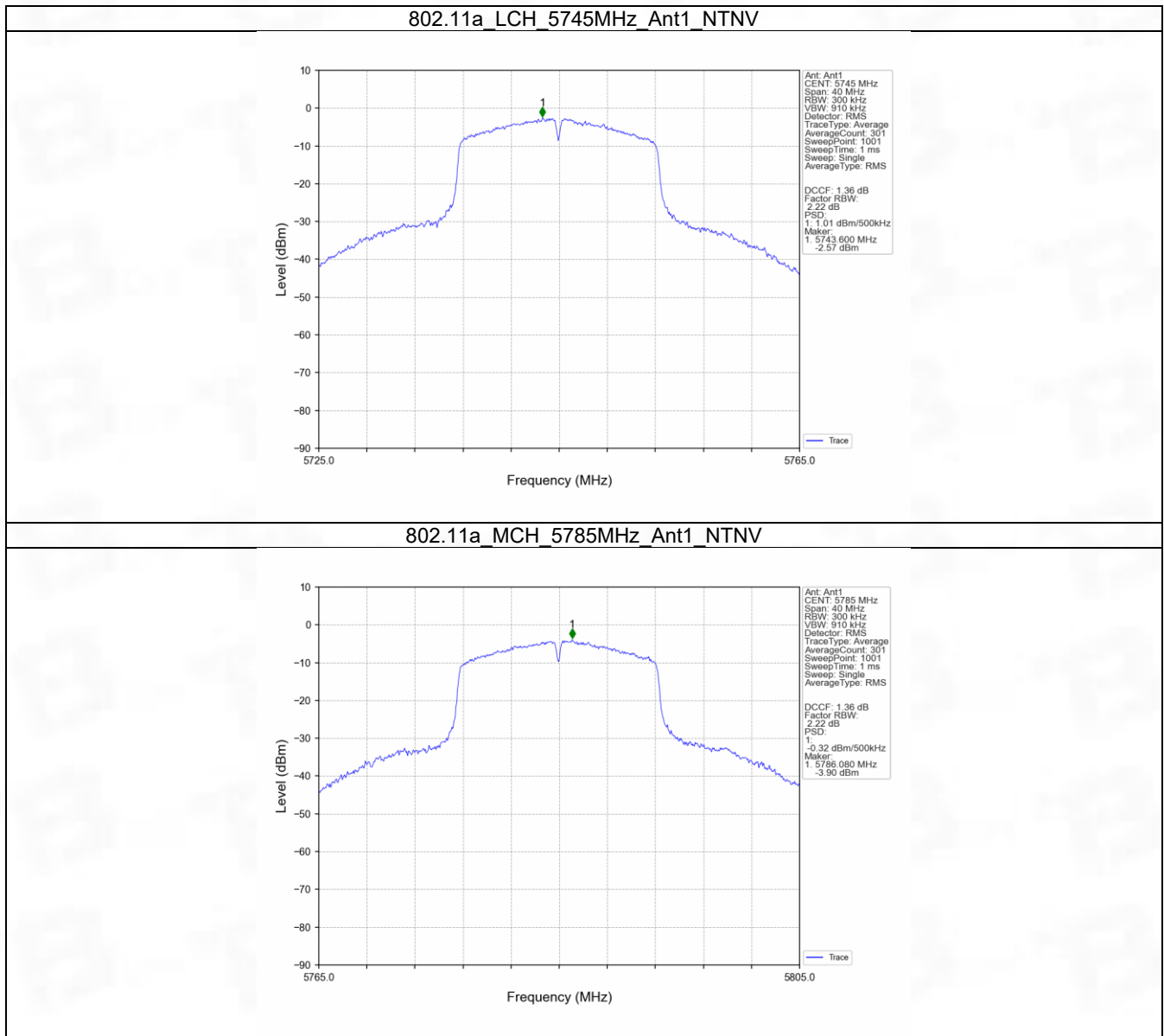
802.11n(HT20) MCH 5200MHz Ant1\_NTNV



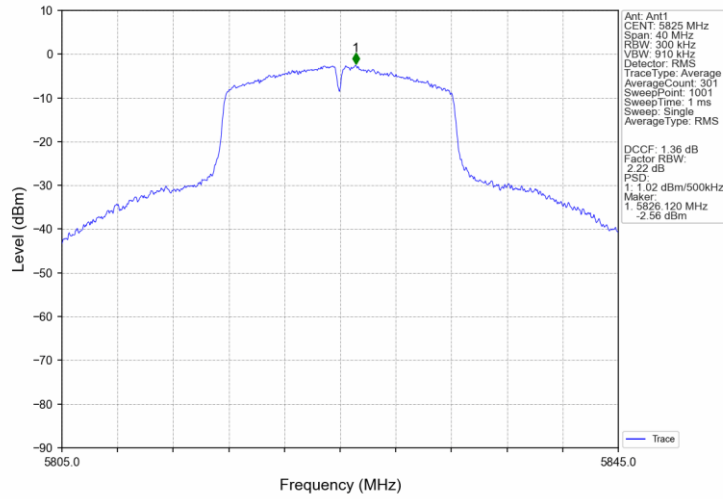
802.11n(HT20) HCH 5240MHz Ant1\_NTNV



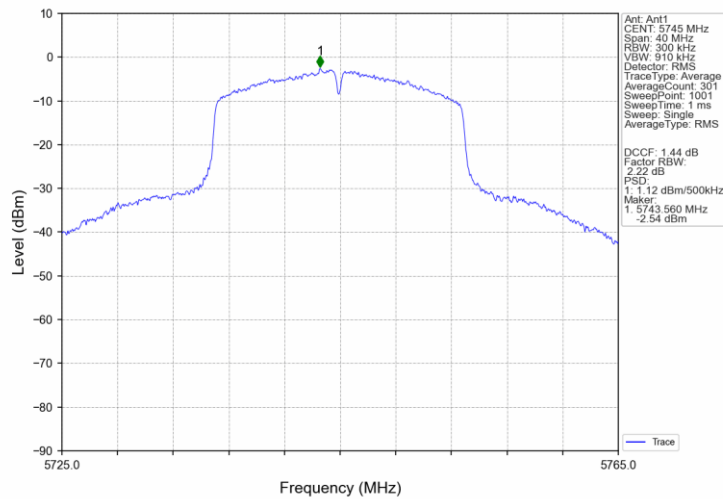
## 4.2.2 PSD-Band3



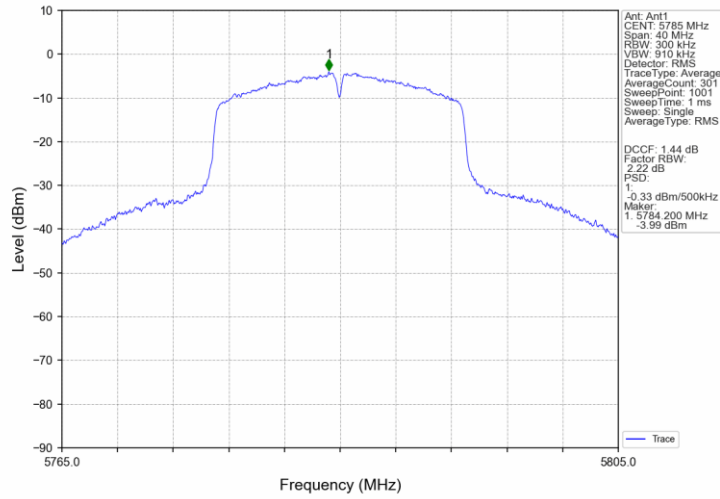
802.11a HCH 5825MHz\_Ant1\_NTNV



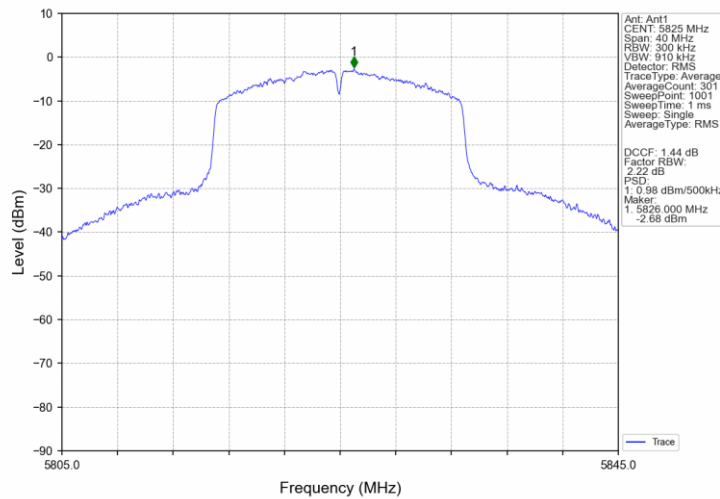
802.11n(HT20) LCH 5745MHz\_Ant1\_NTNV



802.11n(HT20) MCH\_5785MHz\_Ant1\_NTNV



802.11n(HT20) HCH\_5825MHz\_Ant1\_NTNV



## 5. Frequency Stability

### 5.1 Test Result

#### 5.1.1 Ant1

Ant1								
Mode	TX Type	Frequency (MHz)	Temperature (°C)	Voltage (VAC)	Measured Frequency (MHz)	Limit (MHz)	Verdict	
802.11a	SISO	5180	20	102	5179.960	5150 to 5250	Pass	
				120	5179.960	5150 to 5250	Pass	
				138	5179.920	5150 to 5250	Pass	
			-30	120	5179.960	5150 to 5250	Pass	
				-20	120	5180.060	5150 to 5250	Pass
					120	5180.020	5150 to 5250	Pass
				0	120	5179.960	5150 to 5250	Pass
				10	120	5179.940	5150 to 5250	Pass
				30	120	5180.000	5150 to 5250	Pass
		40		120	5179.980	5150 to 5250	Pass	
		50	120	5179.920	5150 to 5250	Pass		
		5200	20	102	5200.000	5150 to 5250	Pass	
				120	5199.980	5150 to 5250	Pass	
				138	5199.980	5150 to 5250	Pass	
			-30	120	5199.960	5150 to 5250	Pass	
				-20	120	5199.940	5150 to 5250	Pass
					120	5199.920	5150 to 5250	Pass
				0	120	5199.960	5150 to 5250	Pass
				10	120	5199.940	5150 to 5250	Pass
				30	120	5199.940	5150 to 5250	Pass
		40		120	5199.940	5150 to 5250	Pass	
		50	120	5200.040	5150 to 5250	Pass		
		5240	20	102	5239.760	5150 to 5250	Pass	
				120	5239.800	5150 to 5250	Pass	
				138	5239.860	5150 to 5250	Pass	
			-30	120	5239.940	5150 to 5250	Pass	
				-20	120	5239.740	5150 to 5250	Pass
					120	5239.940	5150 to 5250	Pass
				0	120	5239.860	5150 to 5250	Pass
				10	120	5239.820	5150 to 5250	Pass
				30	120	5239.900	5150 to 5250	Pass
		40		120	5239.840	5150 to 5250	Pass	
		50	120	5239.860	5150 to 5250	Pass		
		5745	20	102	5744.760	5725 to 5850	Pass	
				120	5744.600	5725 to 5850	Pass	
				138	5744.780	5725 to 5850	Pass	
			-30	120	5744.680	5725 to 5850	Pass	
				-20	120	5744.760	5725 to 5850	Pass
					120	5744.780	5725 to 5850	Pass
				0	120	5744.720	5725 to 5850	Pass
				10	120	5744.840	5725 to 5850	Pass
				30	120	5744.840	5725 to 5850	Pass
		40		120	5744.940	5725 to 5850	Pass	
		50	120	5744.940	5725 to 5850	Pass		
		5785	20	102	5785.020	5725 to 5850	Pass	
				120	5784.960	5725 to 5850	Pass	
				138	5784.820	5725 to 5850	Pass	
			-30	120	5784.860	5725 to 5850	Pass	
-20	120		5784.980	5725 to 5850	Pass			

			-10	120	5784.900	5725 to 5850	Pass
			0	120	5784.860	5725 to 5850	Pass
			10	120	5784.960	5725 to 5850	Pass
			30	120	5784.880	5725 to 5850	Pass
			40	120	5784.980	5725 to 5850	Pass
			50	120	5784.900	5725 to 5850	Pass
		5825	20	102	5824.940	5725 to 5850	Pass
				120	5824.800	5725 to 5850	Pass
				138	5824.960	5725 to 5850	Pass
			-30	120	5824.940	5725 to 5850	Pass
			-20	120	5824.860	5725 to 5850	Pass
			-10	120	5824.900	5725 to 5850	Pass
			0	120	5824.800	5725 to 5850	Pass
			10	120	5824.840	5725 to 5850	Pass
			30	120	5824.980	5725 to 5850	Pass
			40	120	5824.860	5725 to 5850	Pass
			50	120	5824.940	5725 to 5850	Pass
			802.11n (HT20)	SISO	5180	20	102
120	5180.040	5150 to 5250					Pass
138	5179.920	5150 to 5250					Pass
-30	120	5180.040				5150 to 5250	Pass
-20	120	5180.020				5150 to 5250	Pass
-10	120	5179.960				5150 to 5250	Pass
0	120	5179.980				5150 to 5250	Pass
10	120	5179.980				5150 to 5250	Pass
30	120	5180.060				5150 to 5250	Pass
40	120	5180.040			5150 to 5250	Pass	
50	120	5179.960			5150 to 5250	Pass	
5200	20	102			5200.160	5150 to 5250	Pass
		120			5199.940	5150 to 5250	Pass
		138			5199.920	5150 to 5250	Pass
	-30	120			5199.940	5150 to 5250	Pass
	-20	120			5199.840	5150 to 5250	Pass
	-10	120			5200.040	5150 to 5250	Pass
	0	120			5199.980	5150 to 5250	Pass
	10	120	5200.040	5150 to 5250	Pass		
	30	120	5200.040	5150 to 5250	Pass		
40	120	5200.020	5150 to 5250	Pass			
50	120	5199.980	5150 to 5250	Pass			
5240	20	102	5239.880	5150 to 5250	Pass		
		120	5239.820	5150 to 5250	Pass		
		138	5239.920	5150 to 5250	Pass		
	-30	120	5239.780	5150 to 5250	Pass		
	-20	120	5239.680	5150 to 5250	Pass		
	-10	120	5239.860	5150 to 5250	Pass		
	0	120	5239.800	5150 to 5250	Pass		
	10	120	5239.800	5150 to 5250	Pass		
	30	120	5239.780	5150 to 5250	Pass		
40	120	5239.720	5150 to 5250	Pass			
50	120	5239.760	5150 to 5250	Pass			
5745	20	102	5744.840	5725 to 5850	Pass		
		120	5744.820	5725 to 5850	Pass		
		138	5744.340	5725 to 5850	Pass		
	-30	120	5744.720	5725 to 5850	Pass		
	-20	120	5744.640	5725 to 5850	Pass		
	-10	120	5744.900	5725 to 5850	Pass		
	0	120	5744.640	5725 to 5850	Pass		
	10	120	5744.560	5725 to 5850	Pass		
	30	120	5744.660	5725 to 5850	Pass		
40	120	5744.800	5725 to 5850	Pass			

	5785	50	120	5744.980	5725 to 5850	Pass
		20	102	5784.980	5725 to 5850	Pass
			120	5784.940	5725 to 5850	Pass
			138	5784.760	5725 to 5850	Pass
		-30	120	5784.800	5725 to 5850	Pass
		-20	120	5784.800	5725 to 5850	Pass
		-10	120	5785.300	5725 to 5850	Pass
		0	120	5785.020	5725 to 5850	Pass
		10	120	5785.060	5725 to 5850	Pass
		30	120	5784.680	5725 to 5850	Pass
	40	120	5785.040	5725 to 5850	Pass	
	50	120	5785.140	5725 to 5850	Pass	
	5825	20	102	5824.920	5725 to 5850	Pass
			120	5825.100	5725 to 5850	Pass
			138	5824.840	5725 to 5850	Pass
		-30	120	5824.860	5725 to 5850	Pass
		-20	120	5824.980	5725 to 5850	Pass
		-10	120	5824.700	5725 to 5850	Pass
		0	120	5824.980	5725 to 5850	Pass
		10	120	5825.080	5725 to 5850	Pass
30		120	5825.020	5725 to 5850	Pass	
40		120	5824.780	5725 to 5850	Pass	
50	120	5824.980	5725 to 5850	Pass		

## 6. Form731

### 6.1 Test Result

#### 6.1.1 Form731

Lower Freq (MHz)	High Freq (MHz)	MAX Power (W)	MAX Power (dBm)
5180	5240	0.0249	13.96
5745	5825	0.0233	13.67