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Appendix B:  
802.11ax  
Test Plot

FCC ID  
A3LSMG991U

**REVISION HISTORY**

The revision history for this document is shown in table.

Revision No.	Date of Issue	Description
0	October 29, 2020	Initial Release

**Note:**

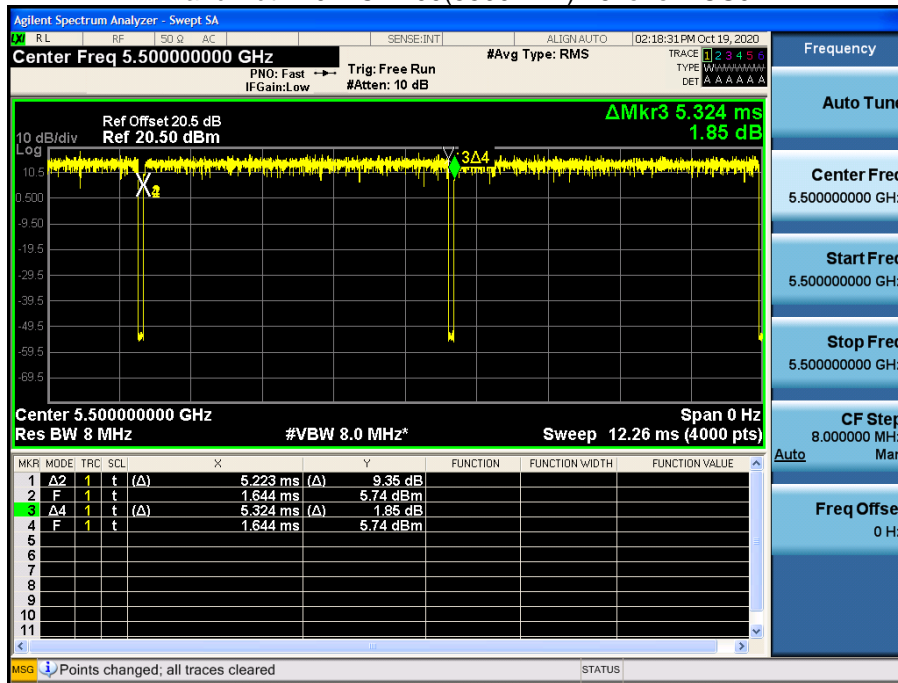
In order to simplify the report, attached plots were only the most lowest datarate.

## 1. Duty Cycle

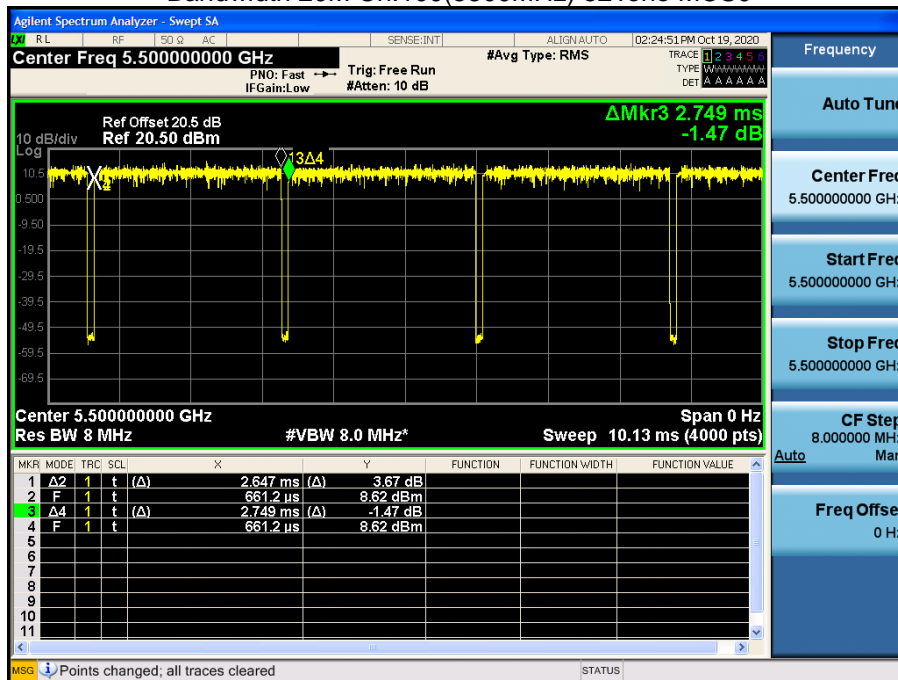
**Note:**

In order to simplify the report, attached plots were only the most lowest datarate.

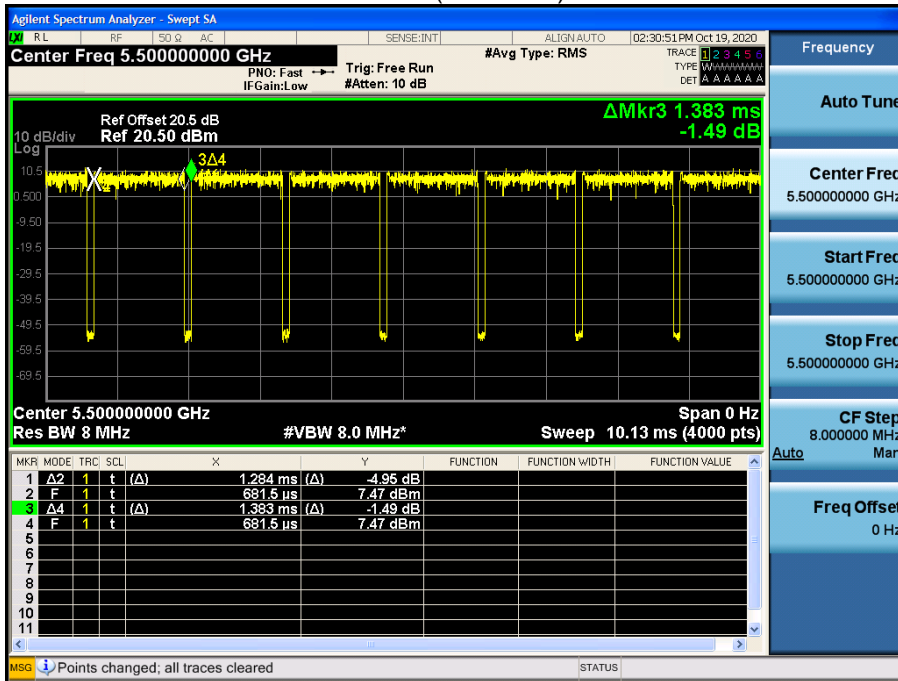
Bandwidth 20M Ch.100(5500MHz) 26Tone MCS0



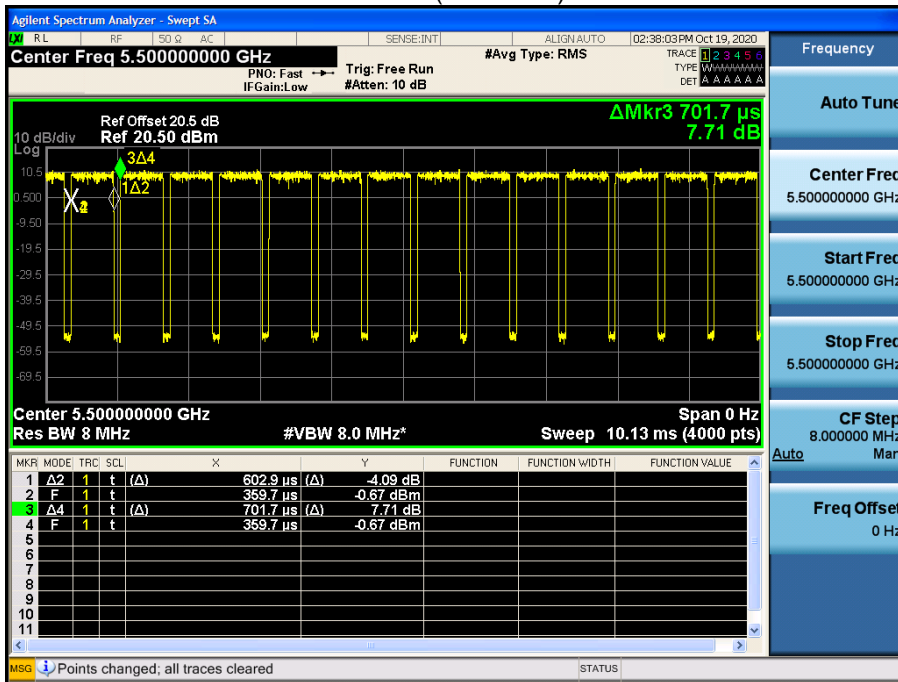
Bandwidth 20M Ch.100(5500MHz) 52Tone MCS0



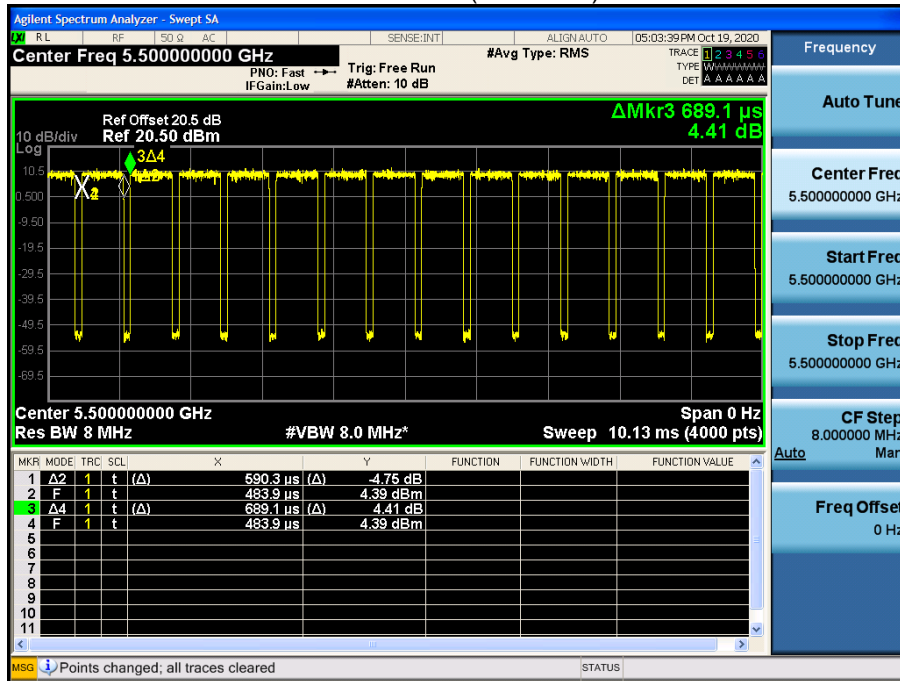
Bandwidth 20M Ch.100(5500MHz) 106Tone MCS0



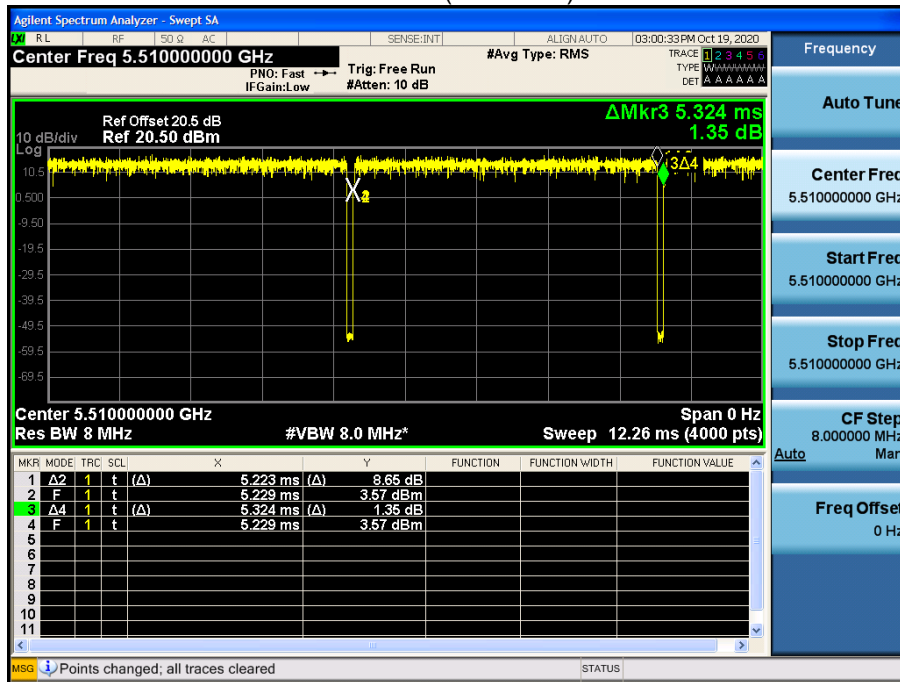
Bandwidth 20M Ch.100(5500MHz) 242Tone MCS0



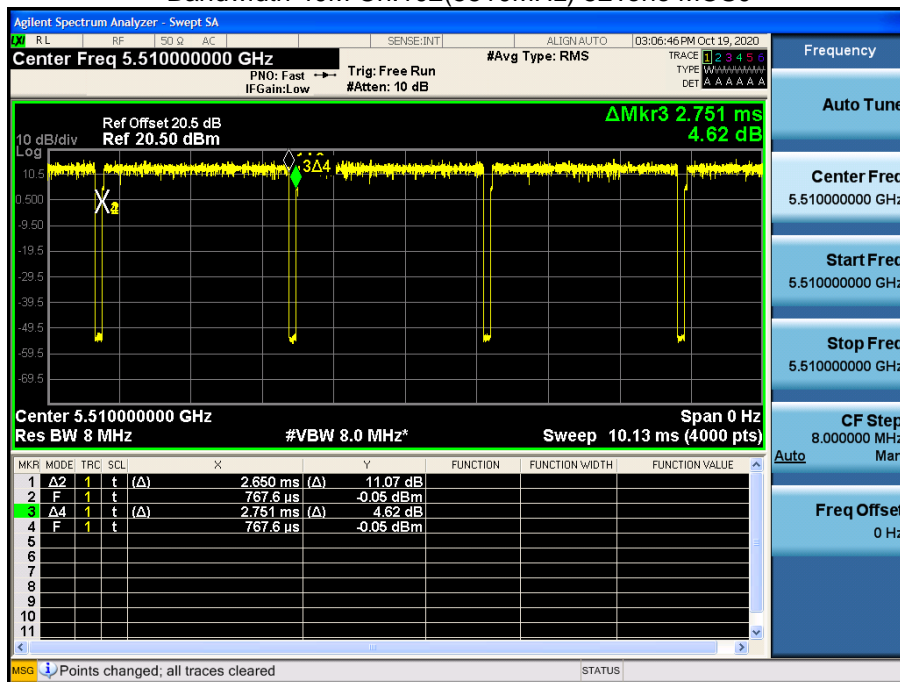
Bandwidth 20M Ch.100(5500MHz) SU MCSO



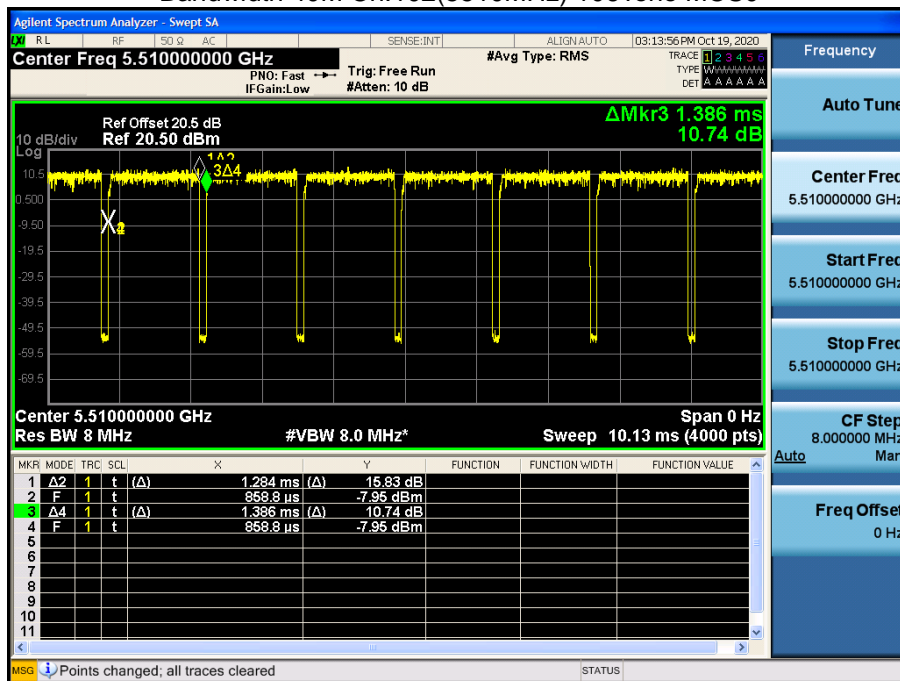
Bandwidth 40M Ch.102(5510MHz) 26Tone MCSO



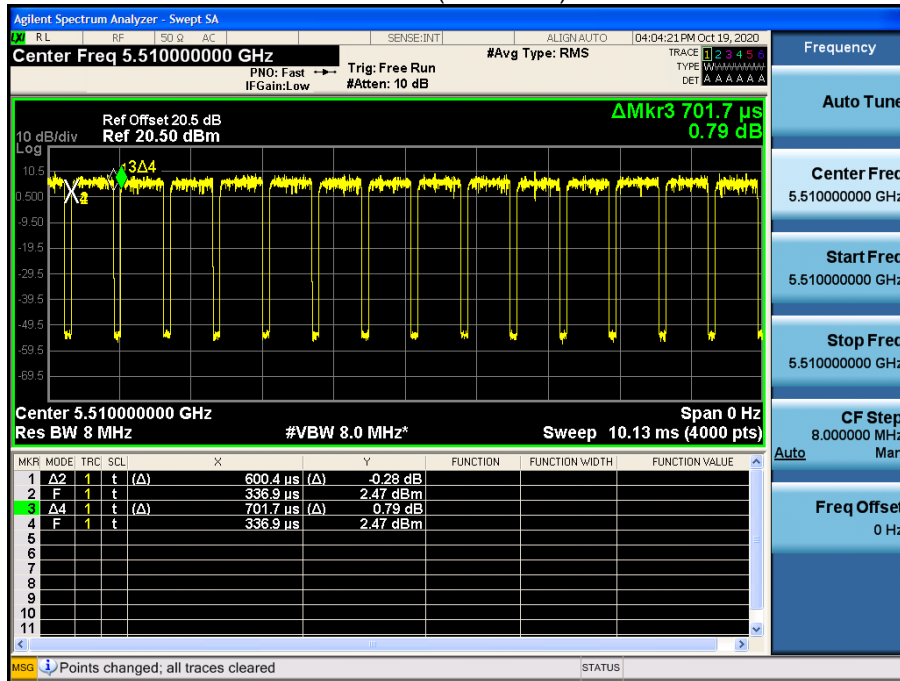
Bandwidth 40M Ch.102(5510MHz) 52Tone MCS0



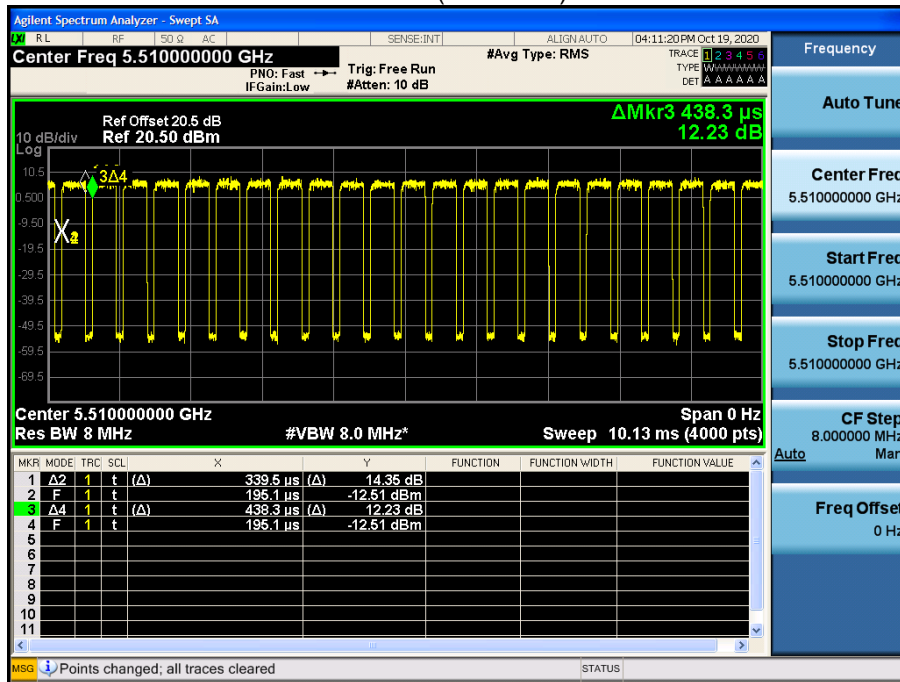
Bandwidth 40M Ch.102(5510MHz) 106Tone MCS0



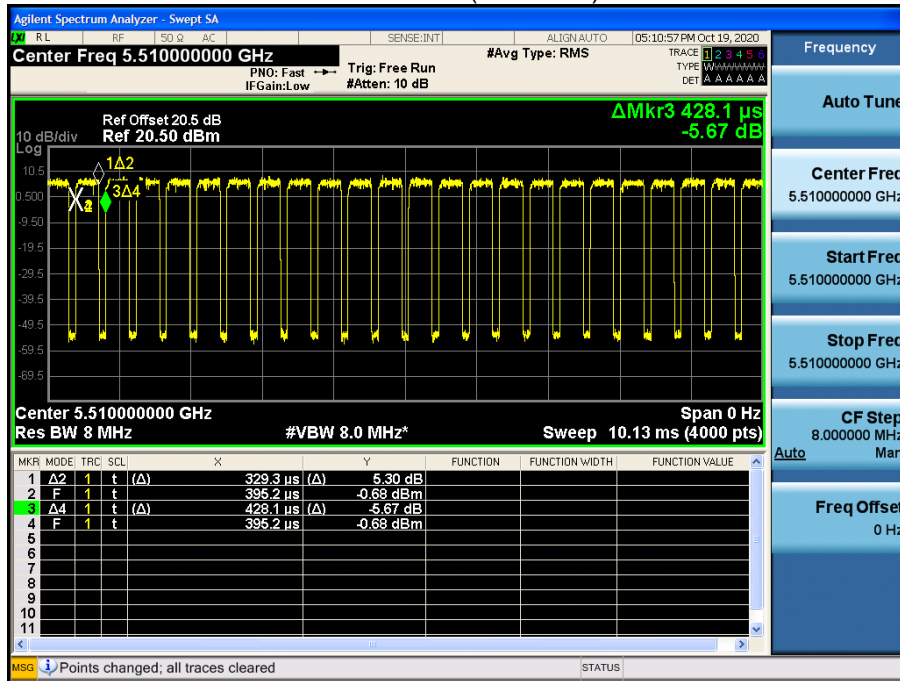
Bandwidth 40M Ch.102(5510MHz) 242Tone MCS0



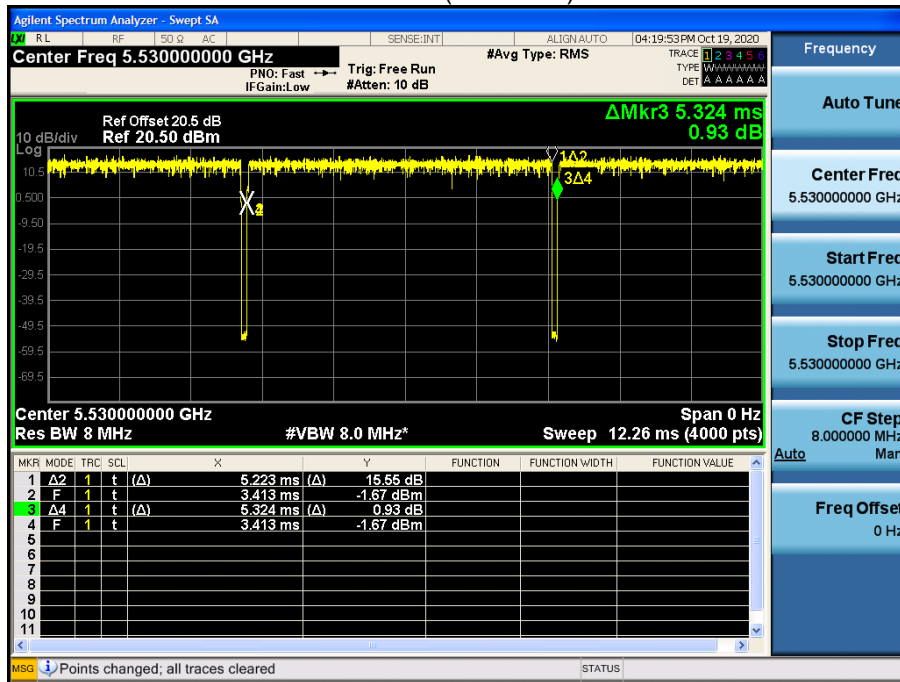
Bandwidth 40M Ch.102(5510MHz) 484Tone MCS0



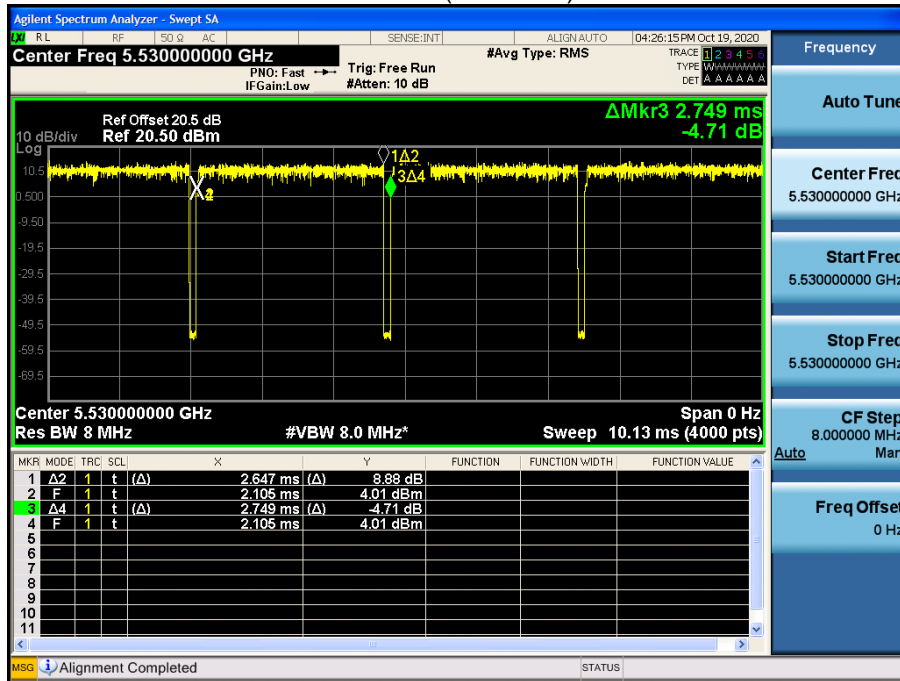
Bandwidth 40M Ch.102(5510MHz) SU MCSO



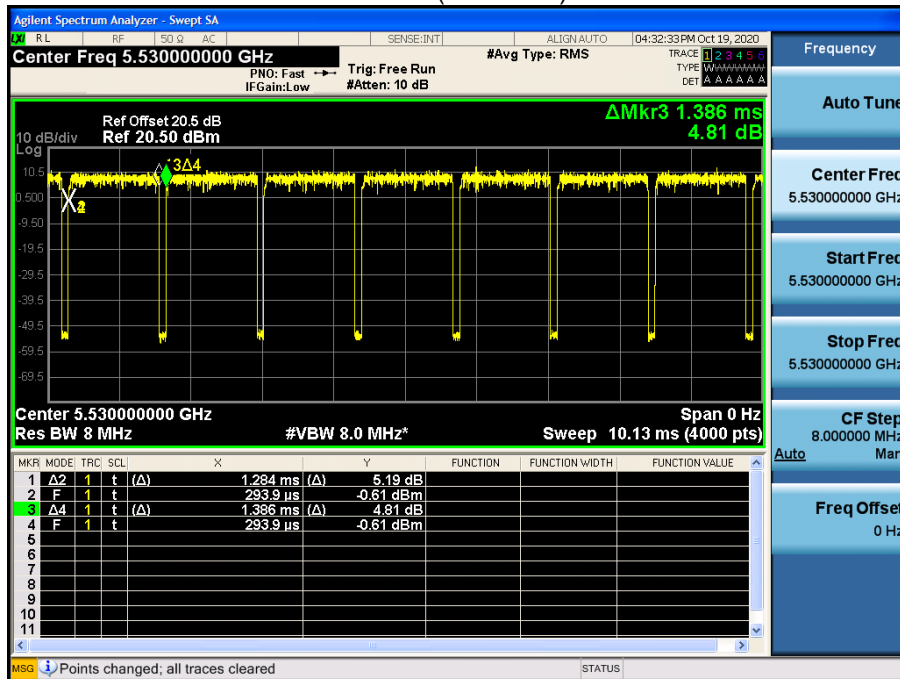
Bandwidth 80M Ch.106(5530MHz) 26Tone MCSO



Bandwidth 80M Ch.106(5530MHz) 52Tone MCS0

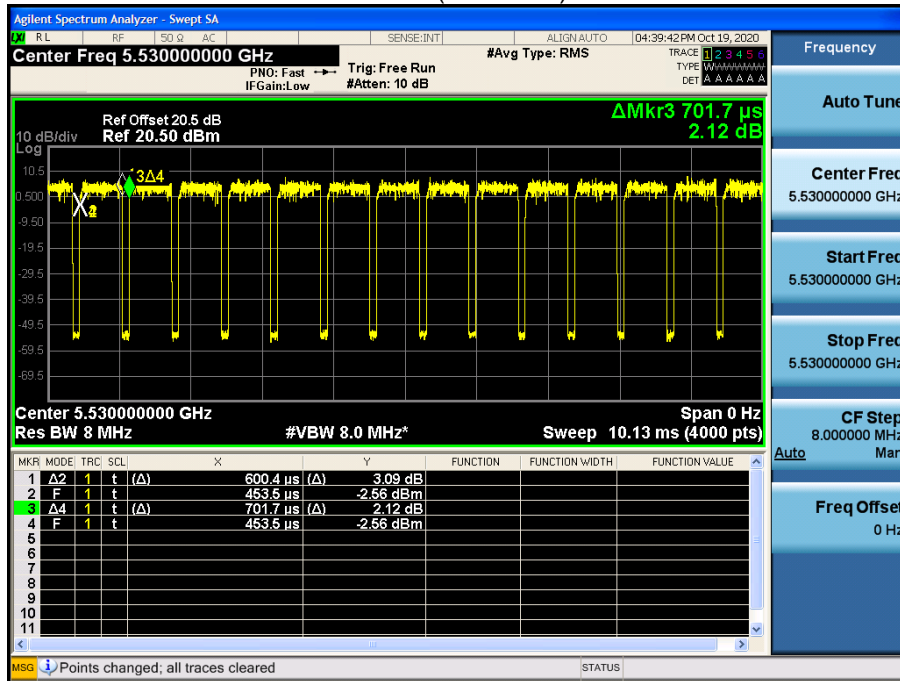


Bandwidth 80M Ch.106(5530MHz) 106Tone MCS0

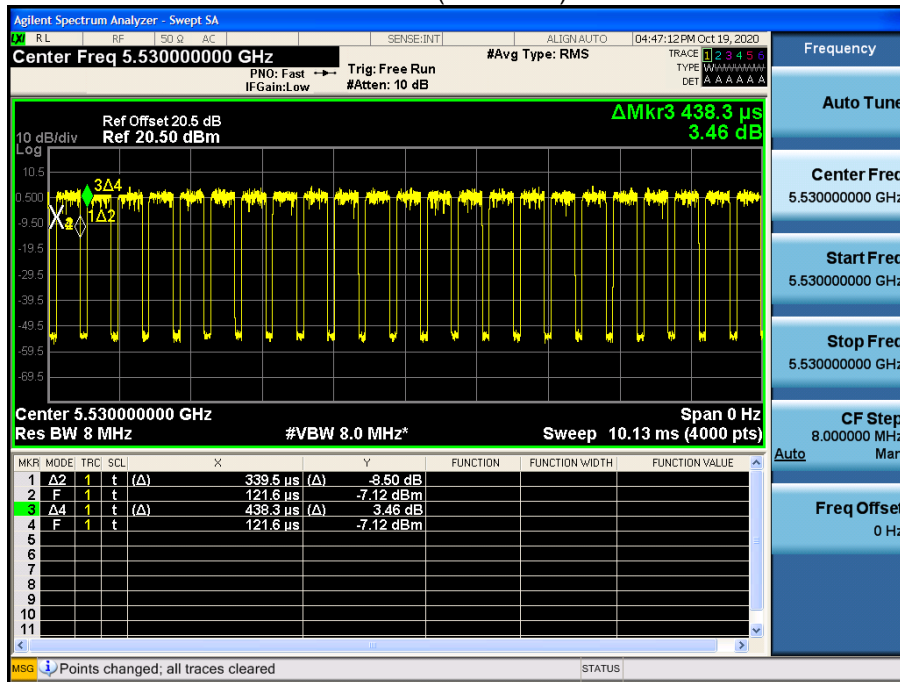




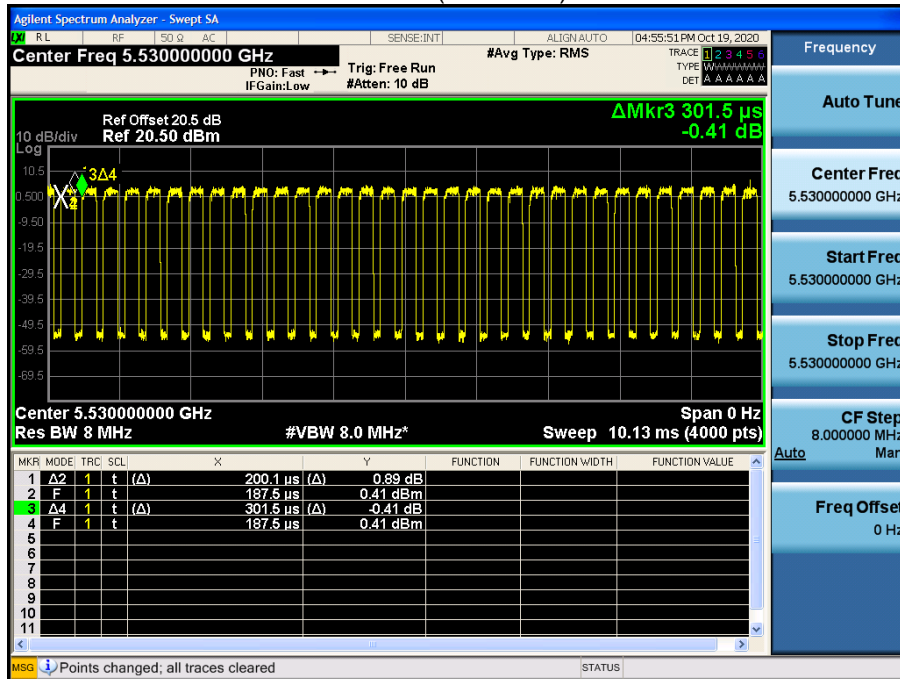
Bandwidth 80M Ch.106(5530MHz) 242Tone MCS0



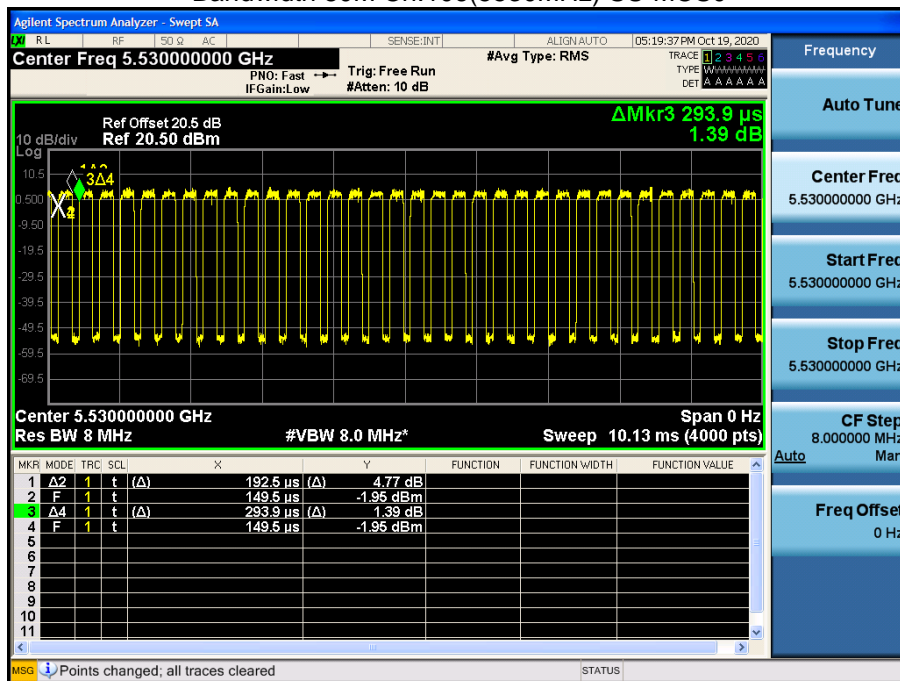
Bandwidth 80M Ch.106(5530MHz) 484Tone MCS0



Bandwidth 80M Ch.106(5530MHz) 996Tone MCS0



Bandwidth 80M Ch.106(5530MHz) SU MCS0

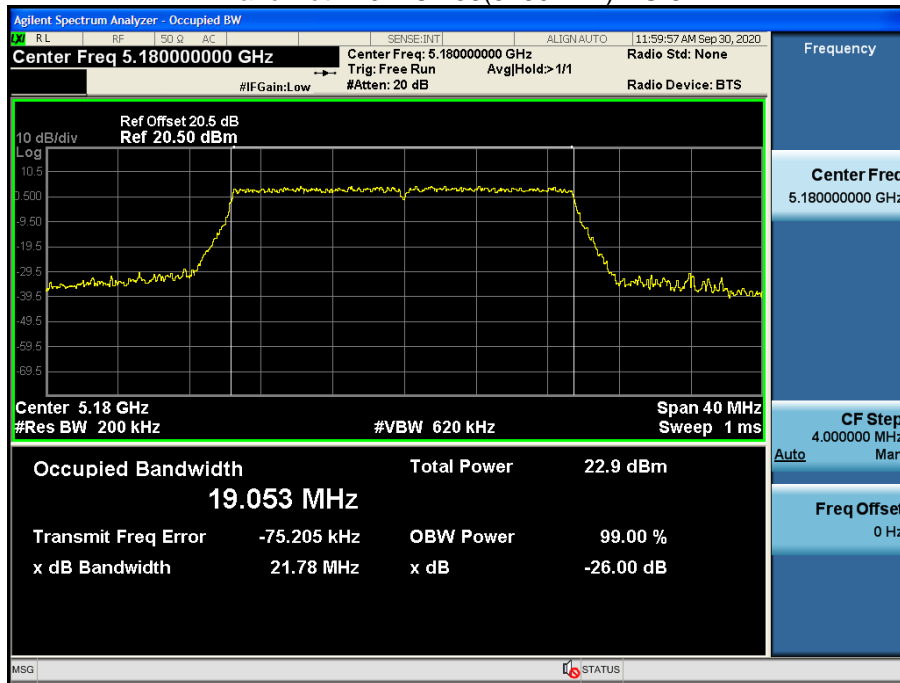


## 2. 26dB Bandwidth

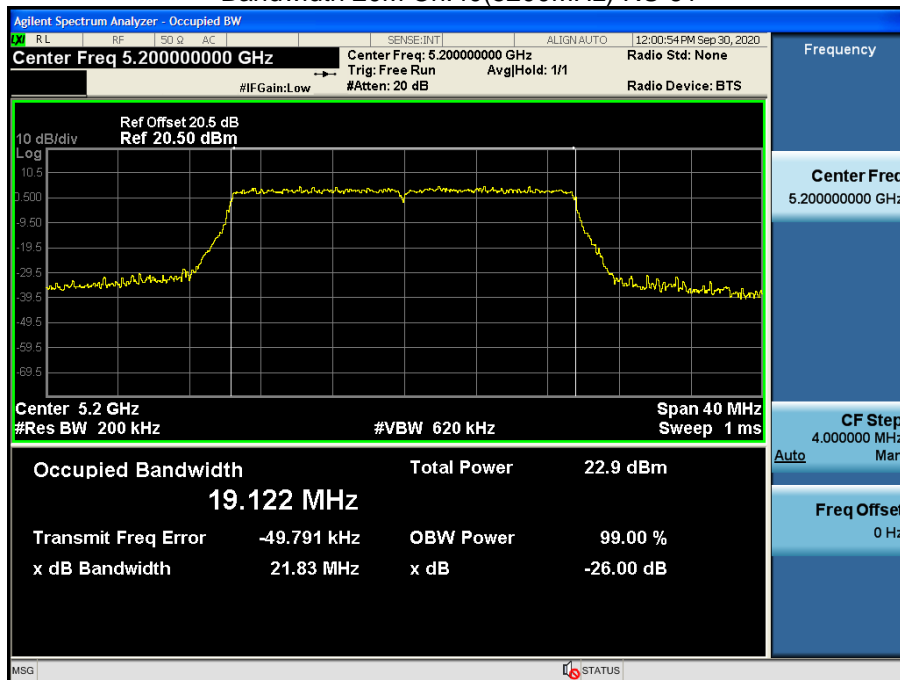
**Note:**

1. In order to simplify the report, attached plots were only MIMO Ant.1 (Worst Case: Ant.1).
2. In order to simplify the report, attached plots were only the most wide channel.

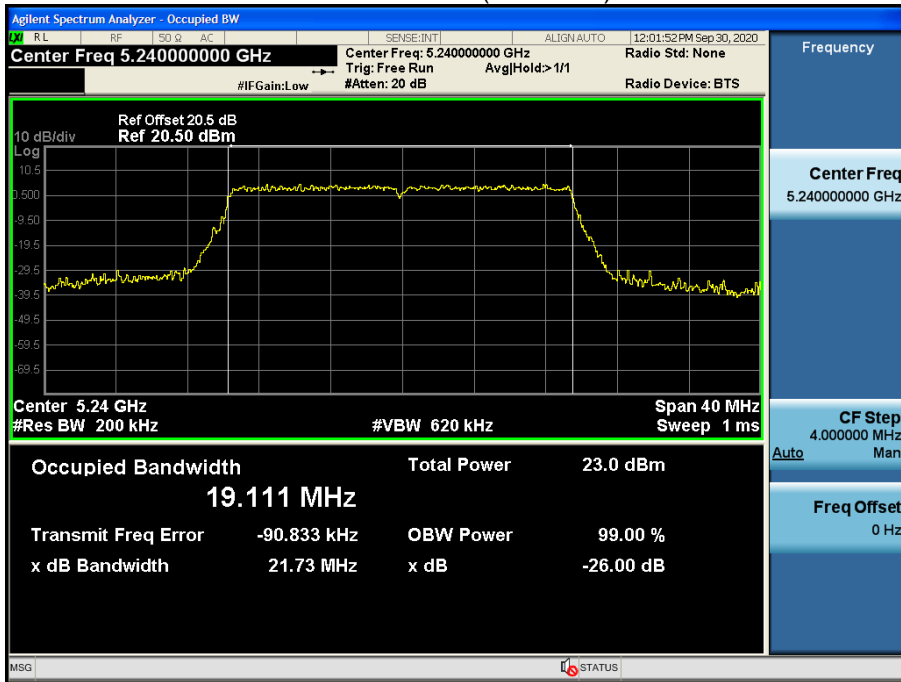
Bandwidth 20M Ch.36(5180MHz) RU 61



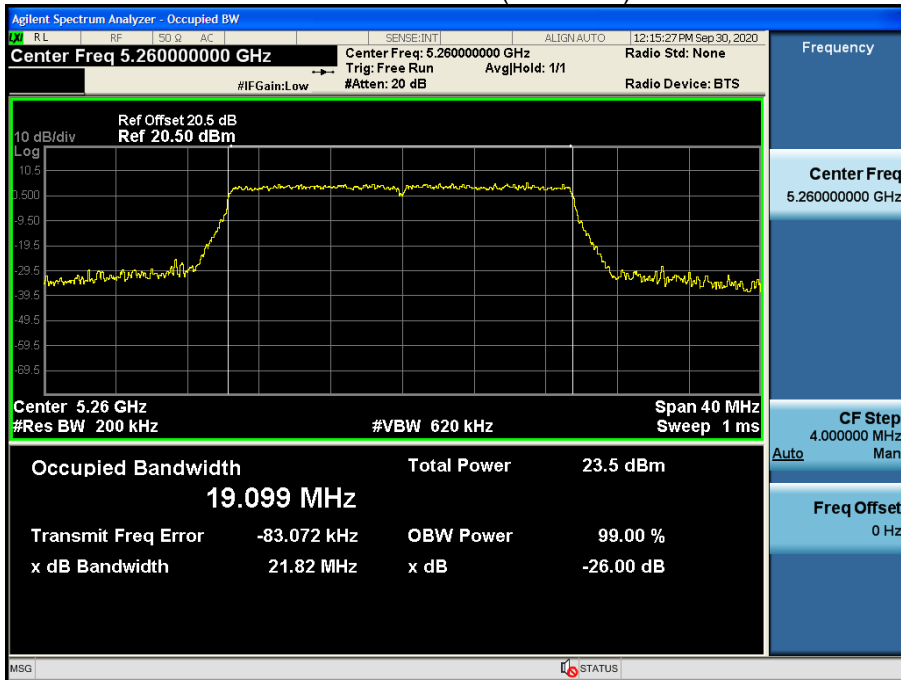
Bandwidth 20M Ch.40(5200MHz) RU 61



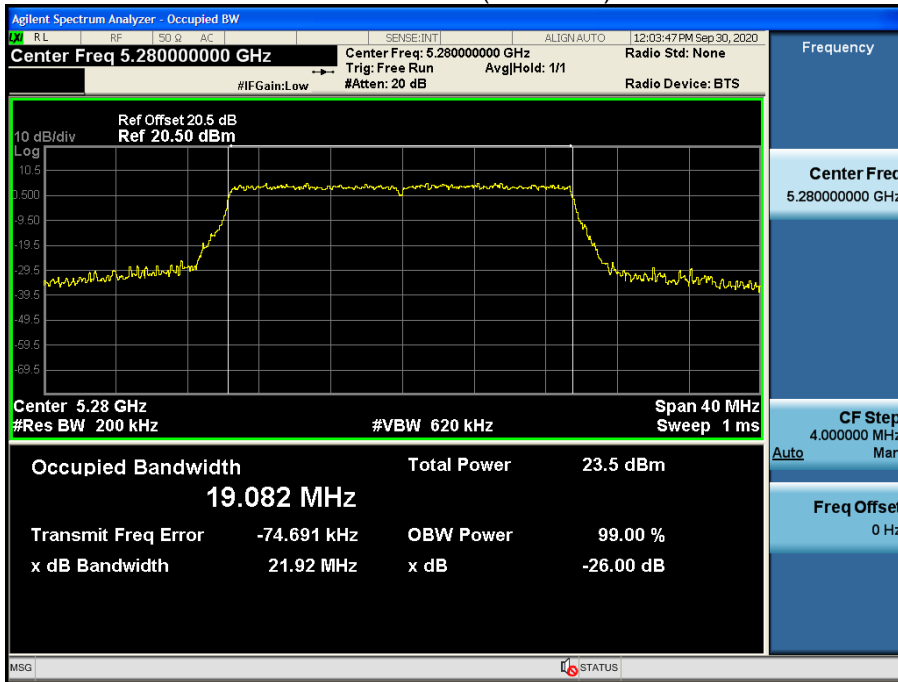
Bandwidth 20M Ch.48(5240MHz) RU 61



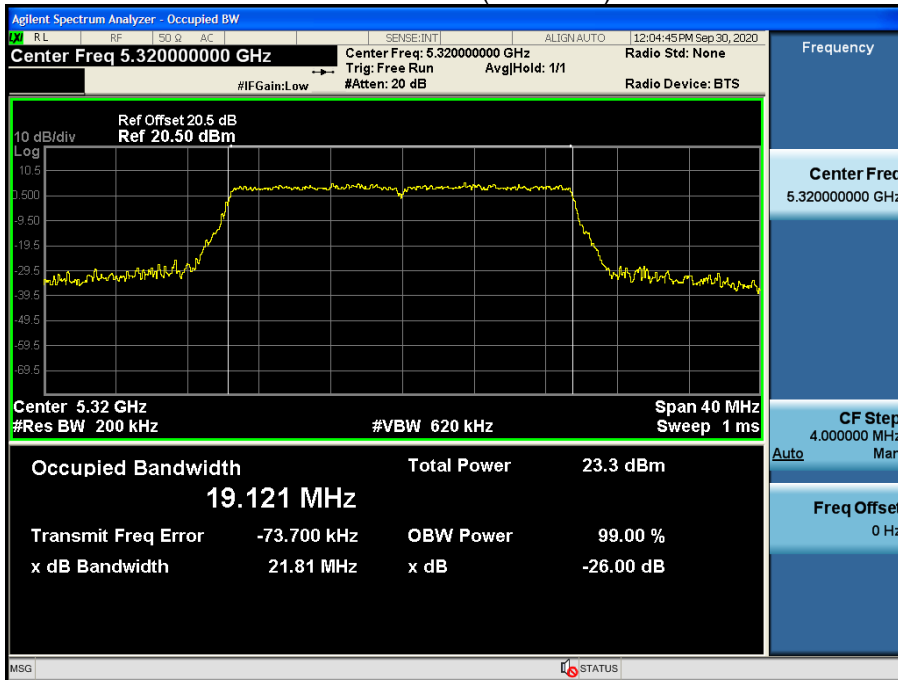
Bandwidth 20M Ch.52(5260MHz) SU



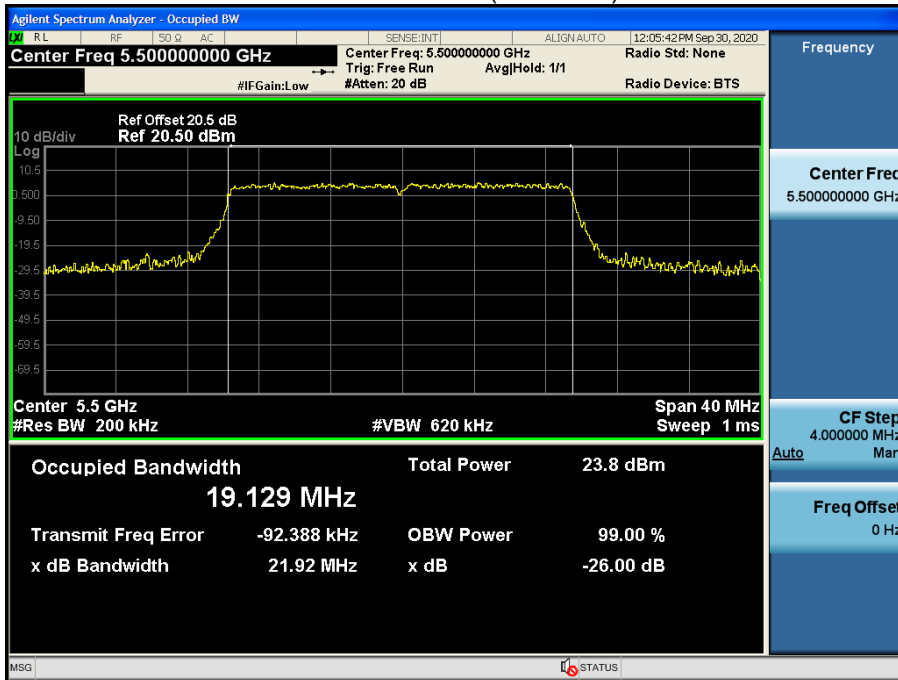
Bandwidth 20M Ch.56(5280MHz) RU 61



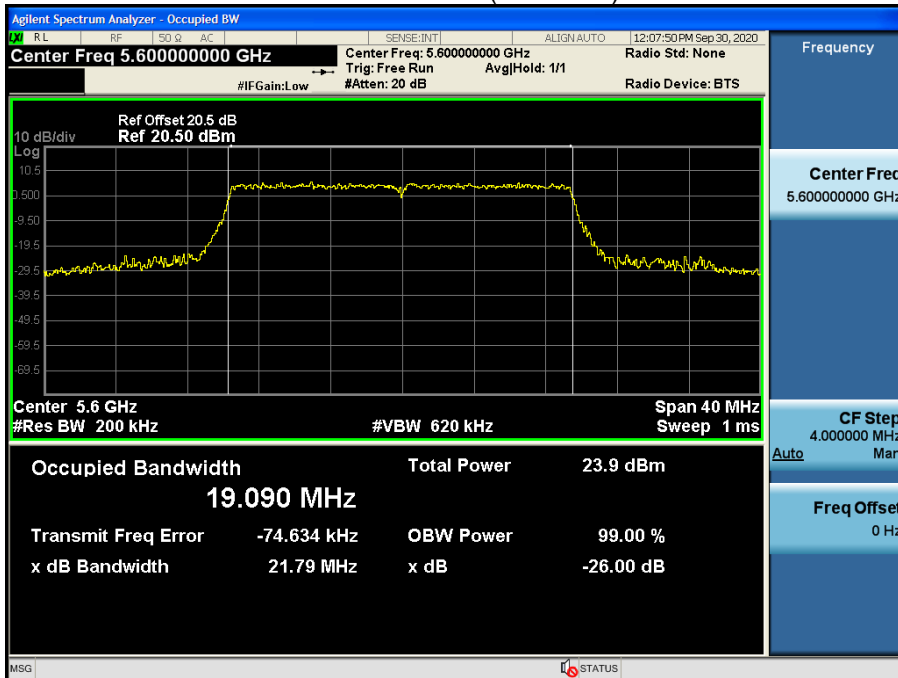
Bandwidth 20M Ch.64(5320MHz) RU 61



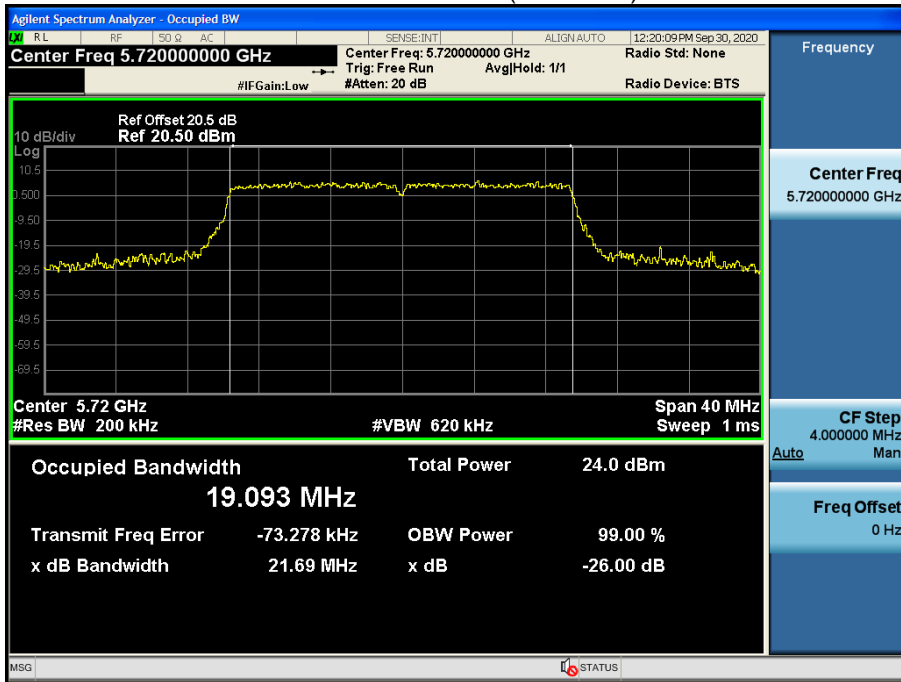
Bandwidth 20M Ch.100(5500MHz) RU 61



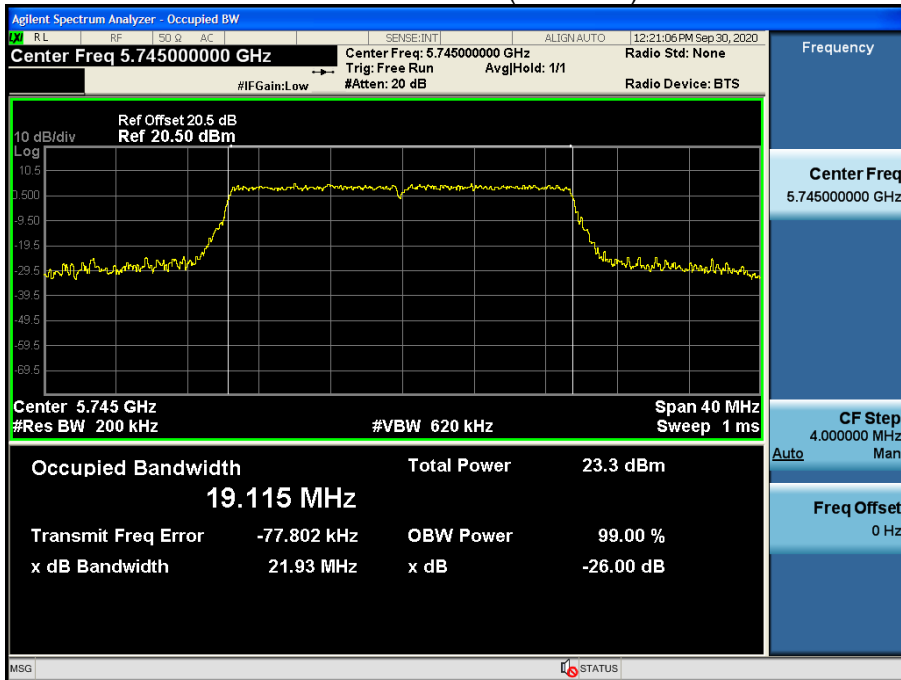
Bandwidth 20M Ch.120(5600MHz) RU 61



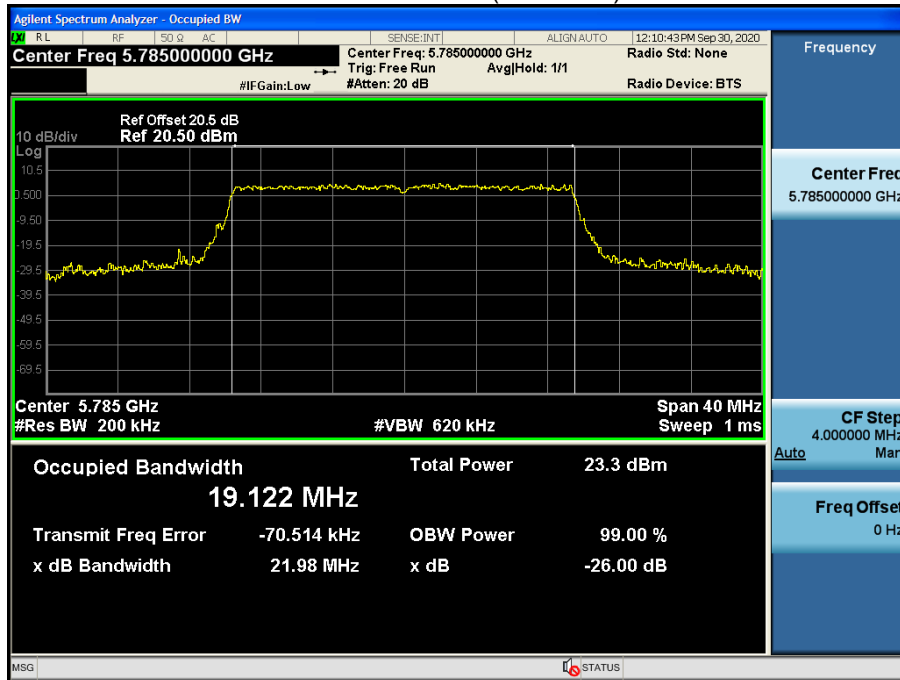
Bandwidth 20M Ch.144(5720MHz) SU



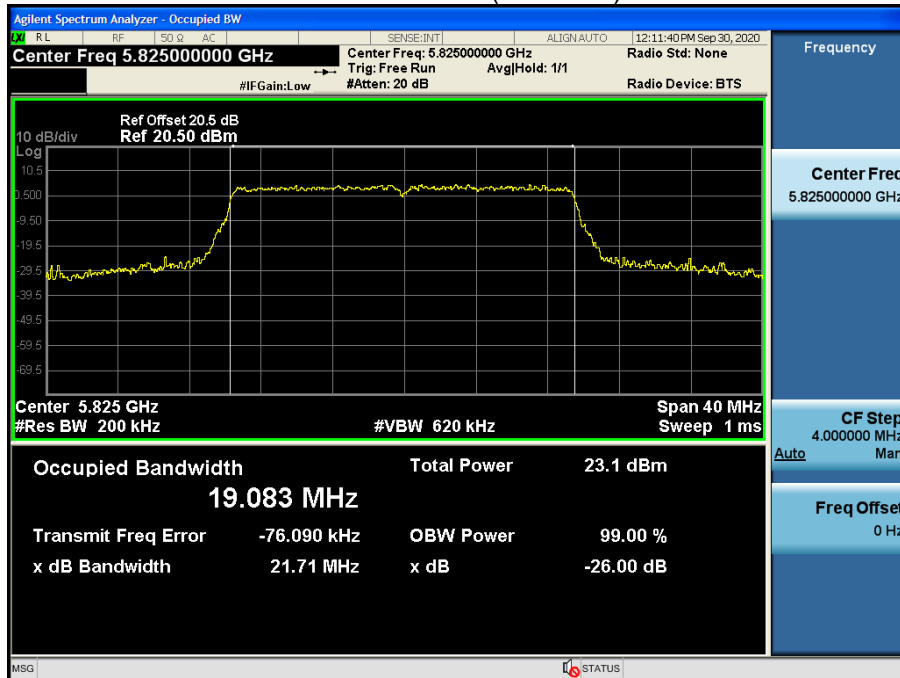
Bandwidth 20M Ch.149(5745MHz) SU



Bandwidth 20M Ch.157(5785MHz) RU 61

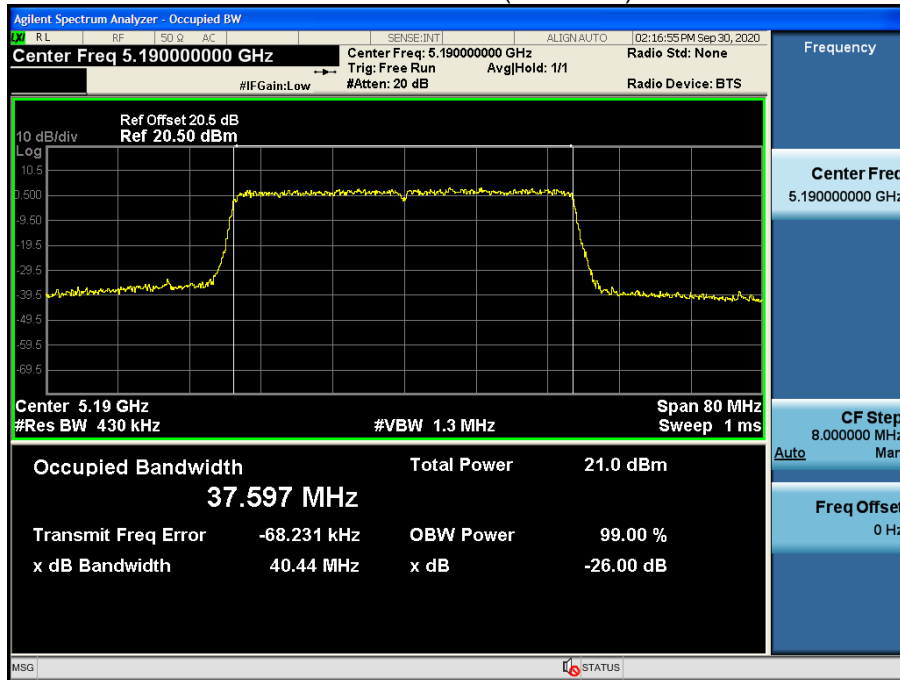


Bandwidth 20M Ch.165(5825MHz) RU 61

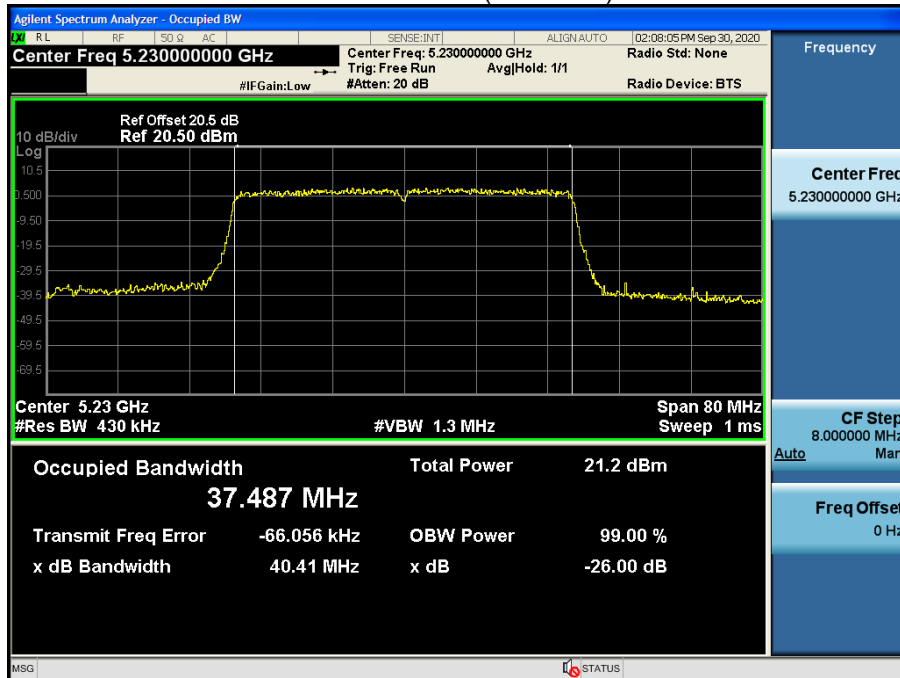




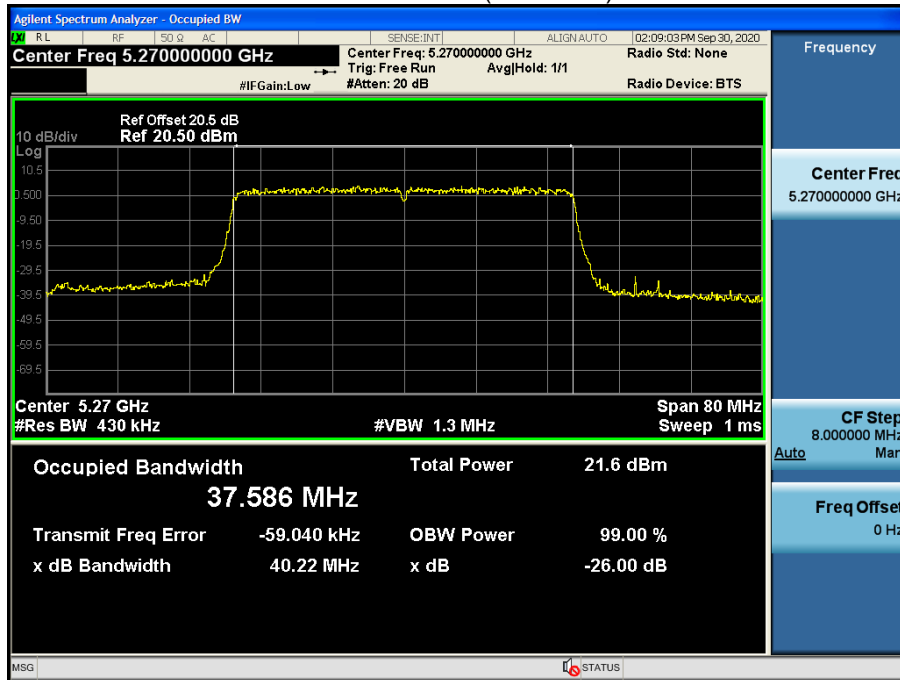
Bandwidth 40M Ch.38(5190MHz) SU



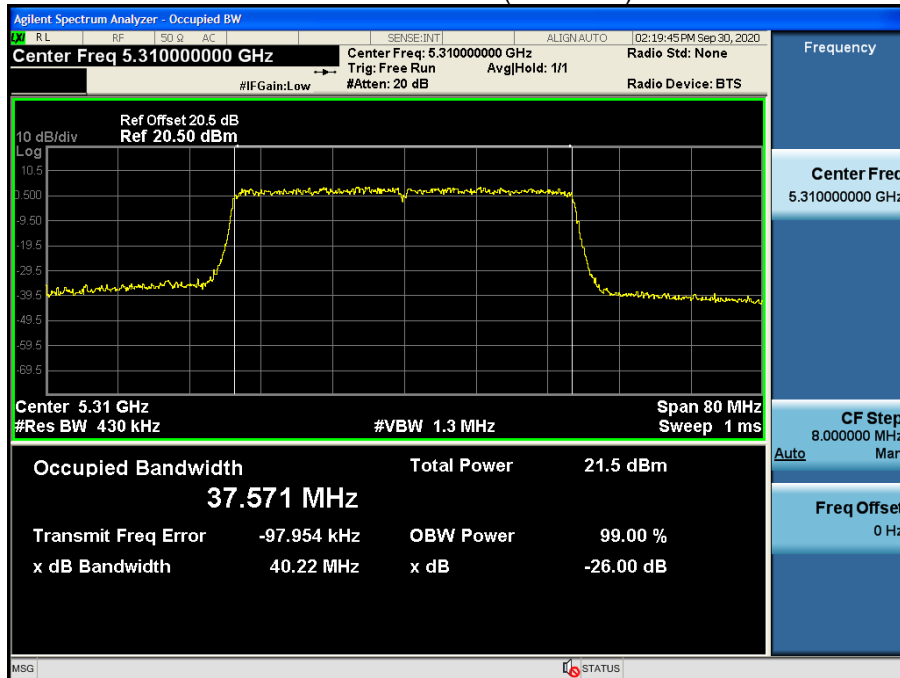
Bandwidth 40M Ch.46(5230MHz) RU 65



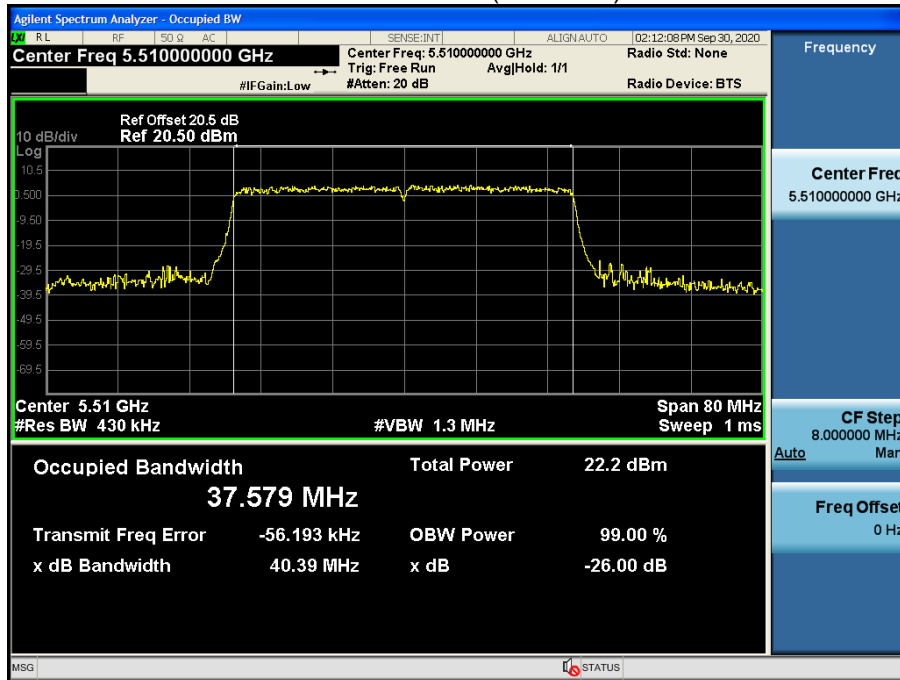
Bandwidth 40M Ch.54(5270MHz) RU 65



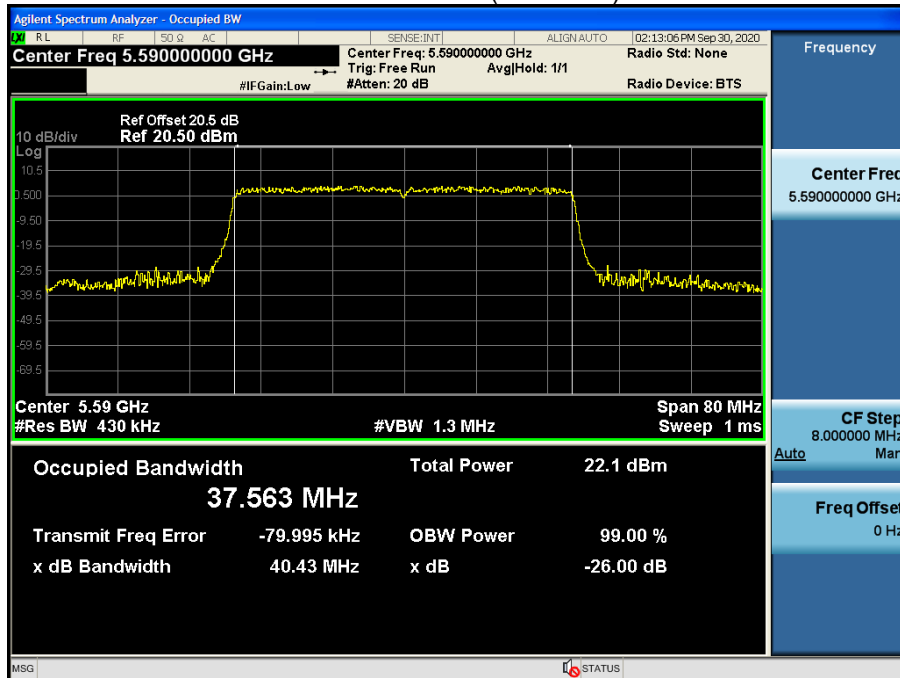
Bandwidth 40M Ch.62(5310MHz) SU



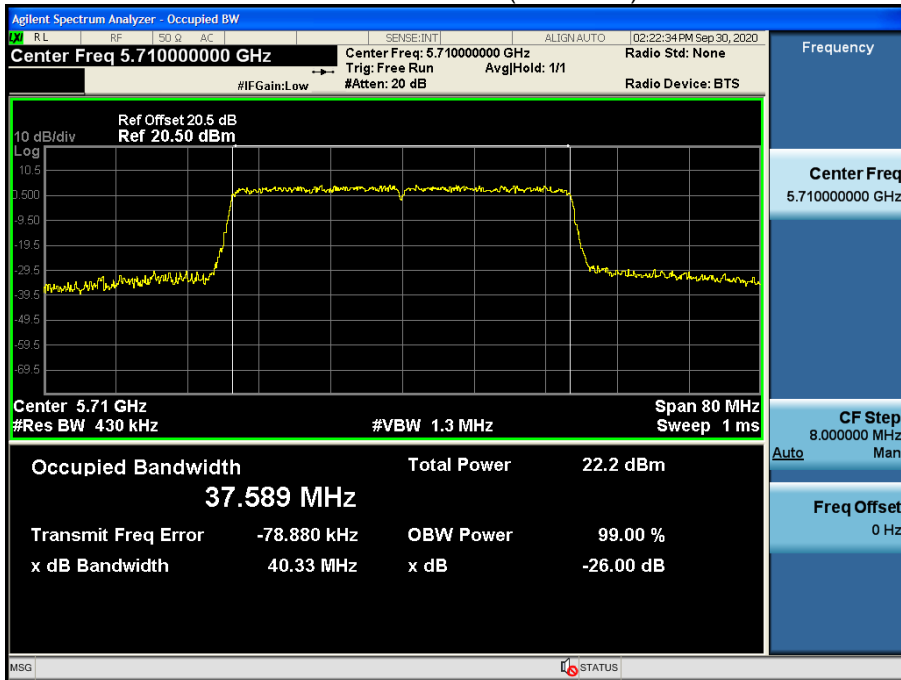
Bandwidth 40M Ch.102(5510MHz) RU 65



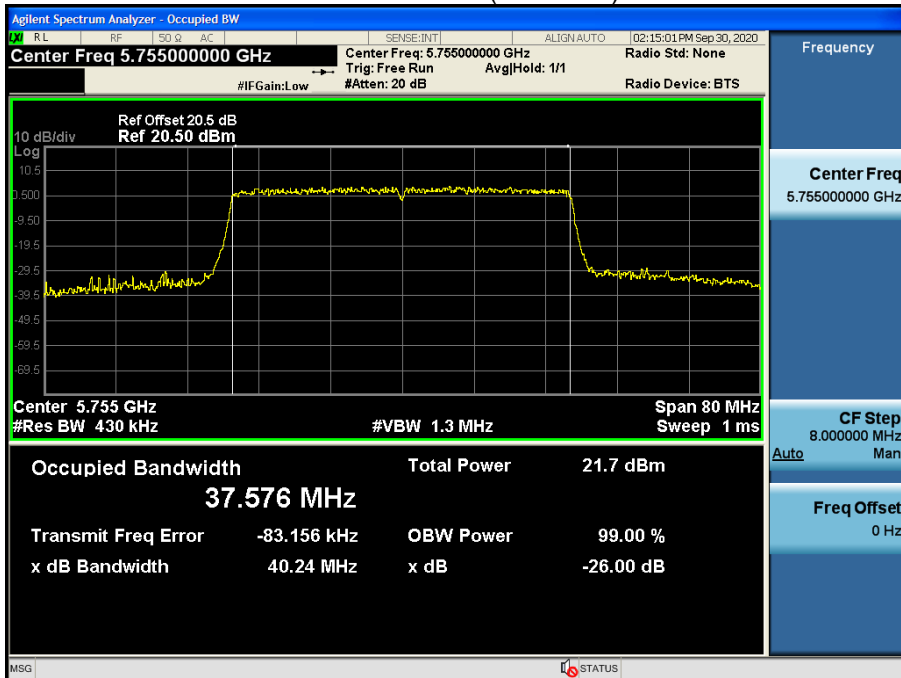
Bandwidth 40M Ch.118(5590MHz) RU 65



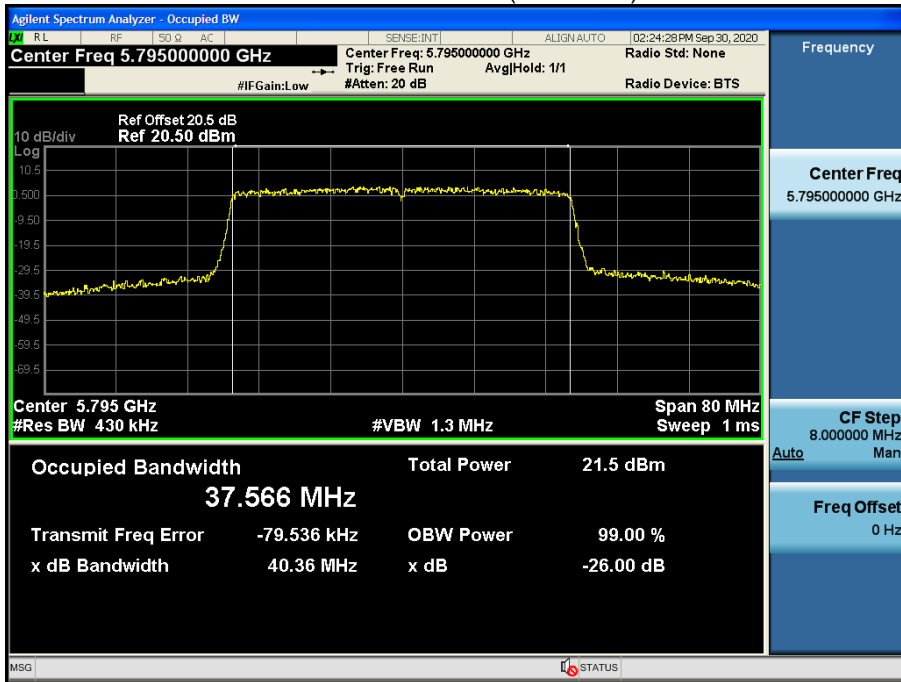
Bandwidth 40M Ch.142(5710MHz) SU



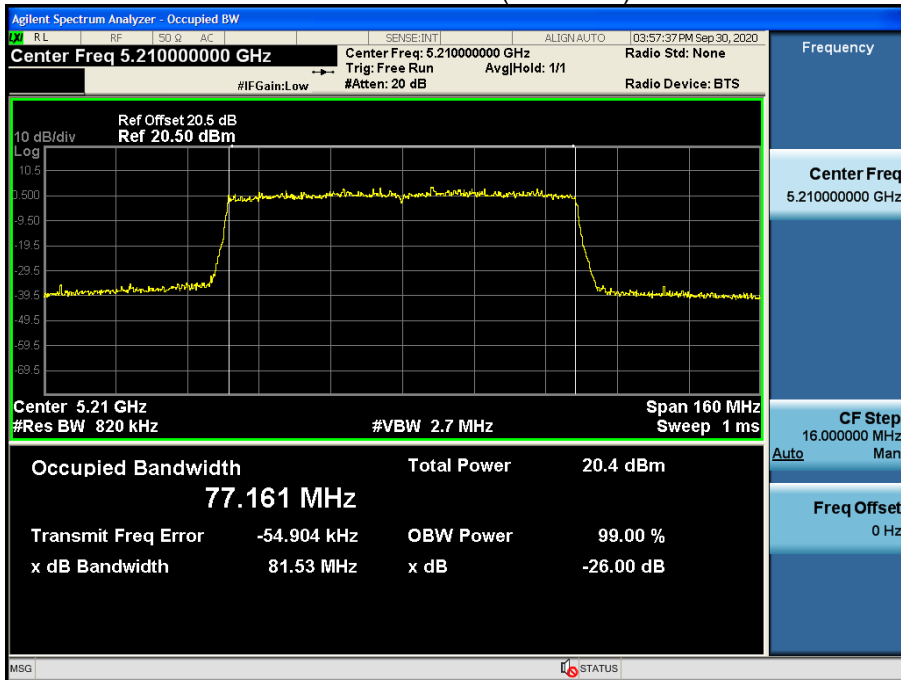
Bandwidth 40M Ch.151(5755MHz) RU 65



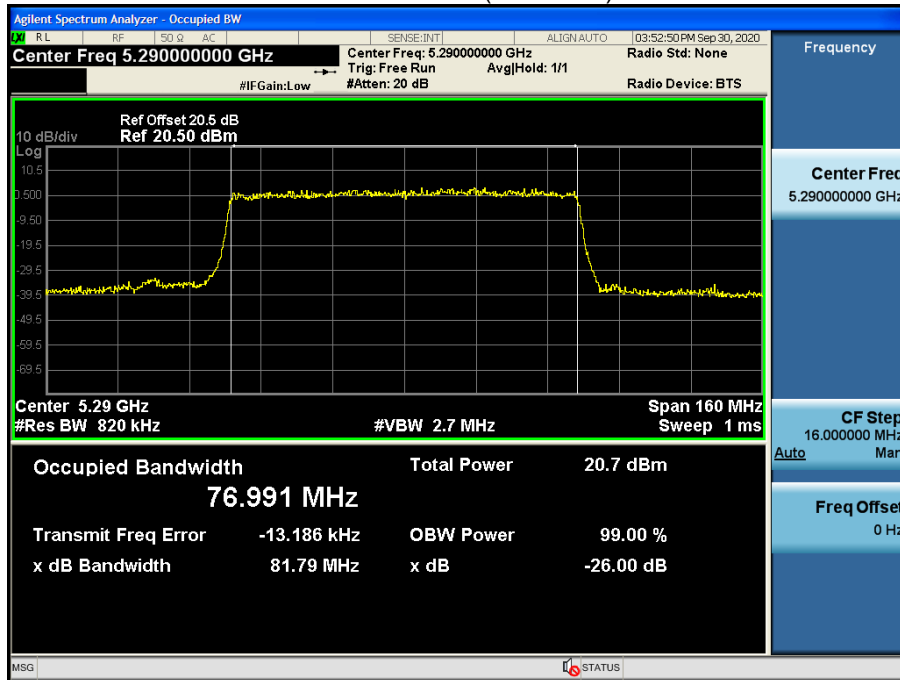
Bandwidth 40M Ch.159(5795MHz) SU



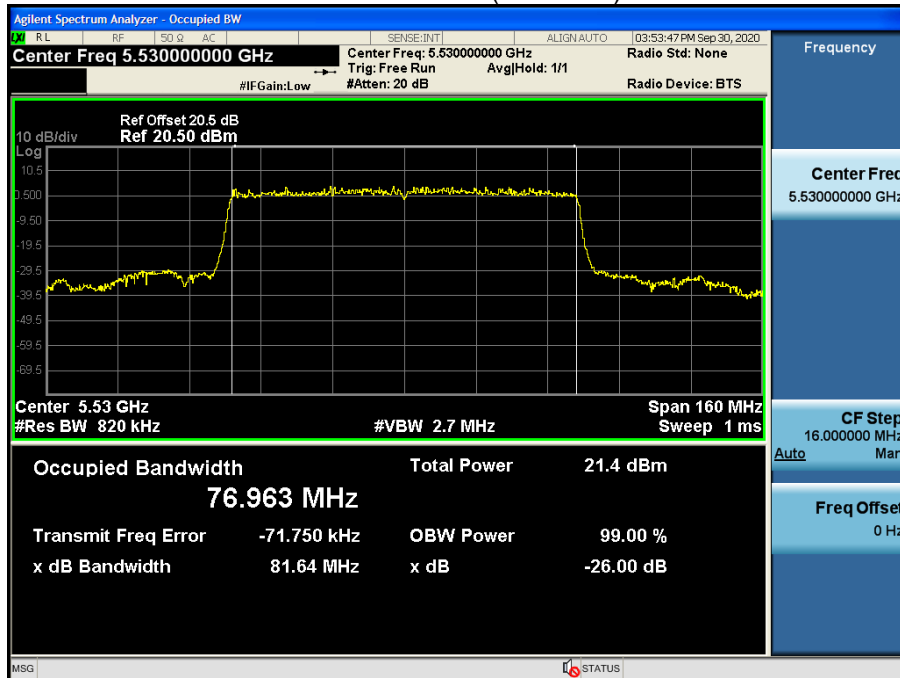
Bandwidth 80M Ch.42(5210MHz) SU



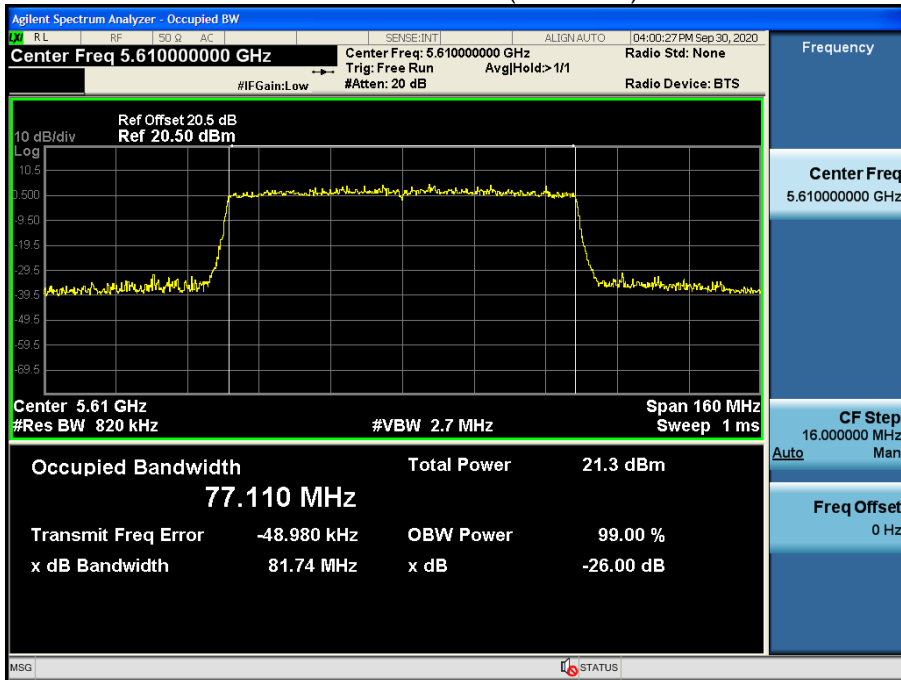
Bandwidth 80M Ch.58(5290MHz) RU 67



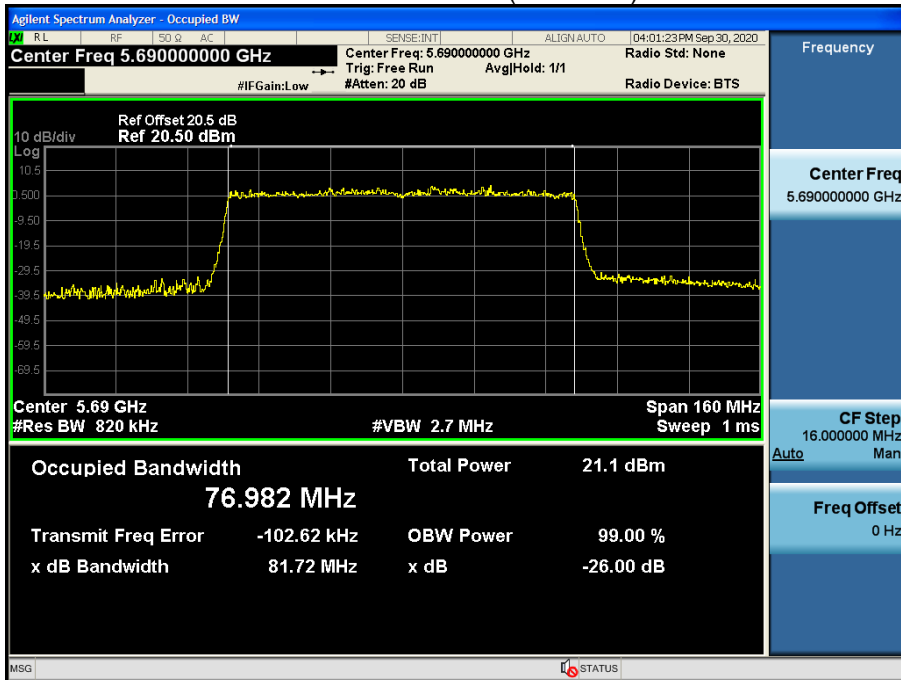
Bandwidth 80M Ch.106(5530MHz) RU 67



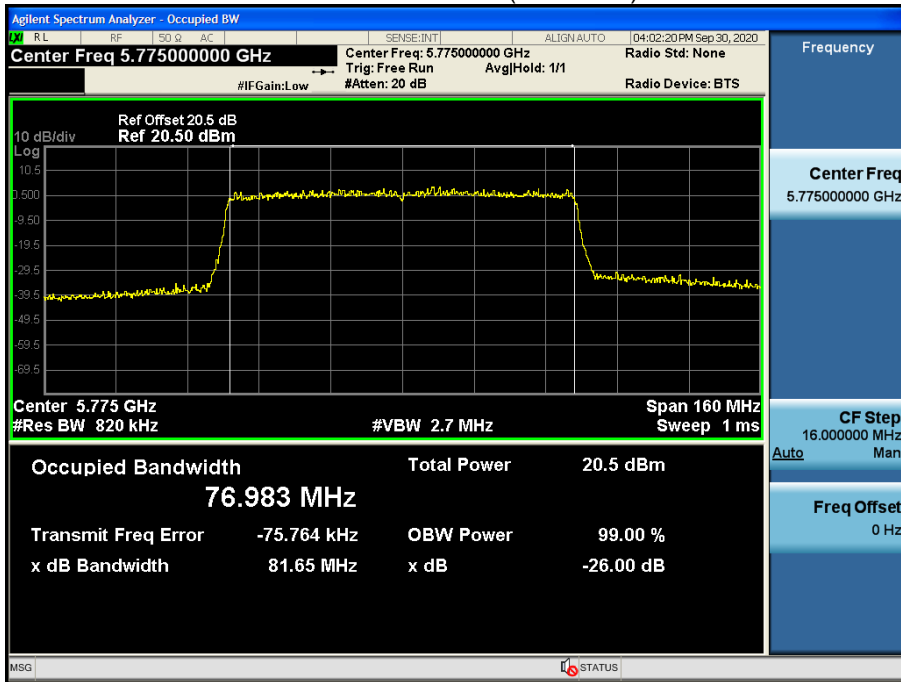
Bandwidth 80M Ch.122(5610MHz) SU



Bandwidth 80M Ch.138(5690MHz) SU



Bandwidth 80M Ch.155(5775MHz) SU





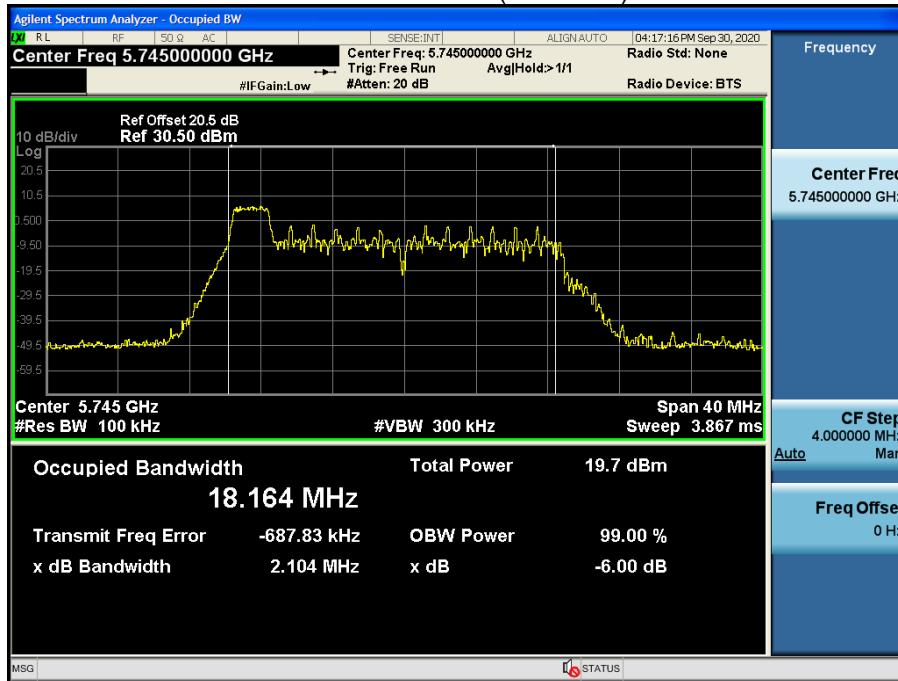
### 3. 6dB Bandwidth

**Note:**

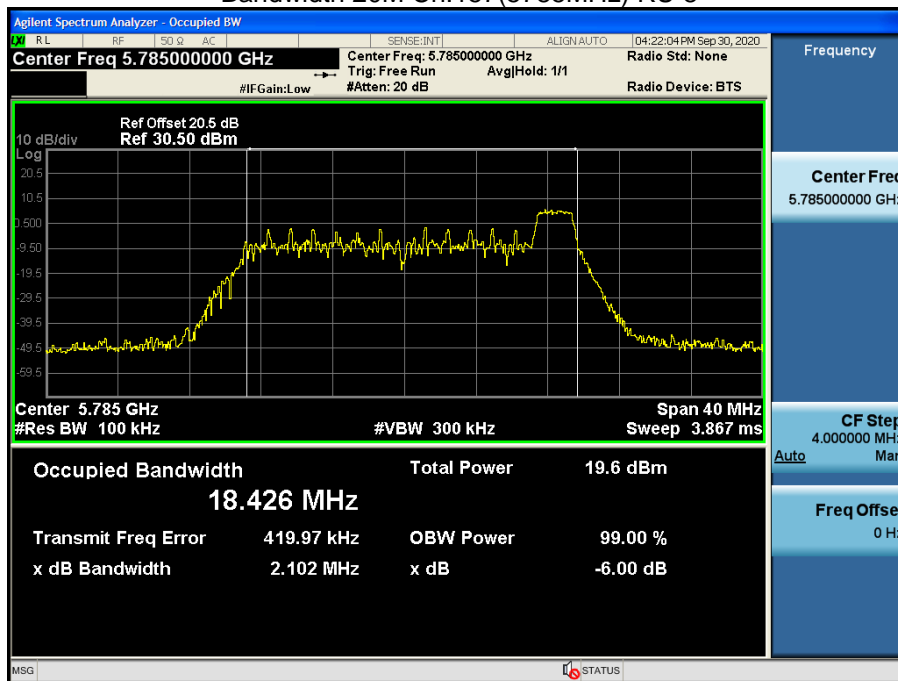
1. In order to simplify the report, attached plots were only the most narrow channel.

#### 3.1 MIMO Ant1

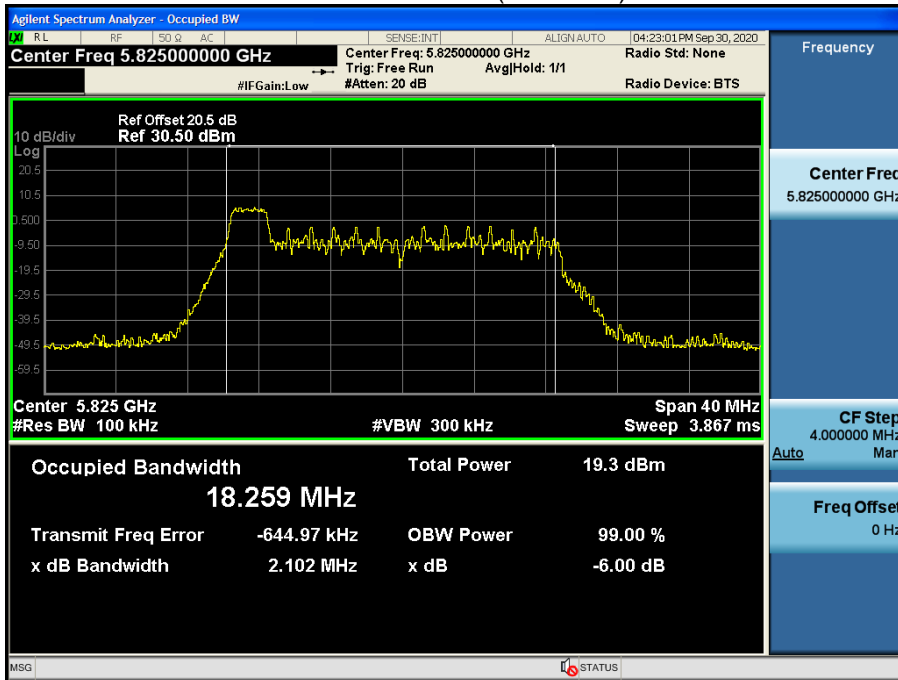
Bandwidth 20M Ch.149(5745MHz) RU 0



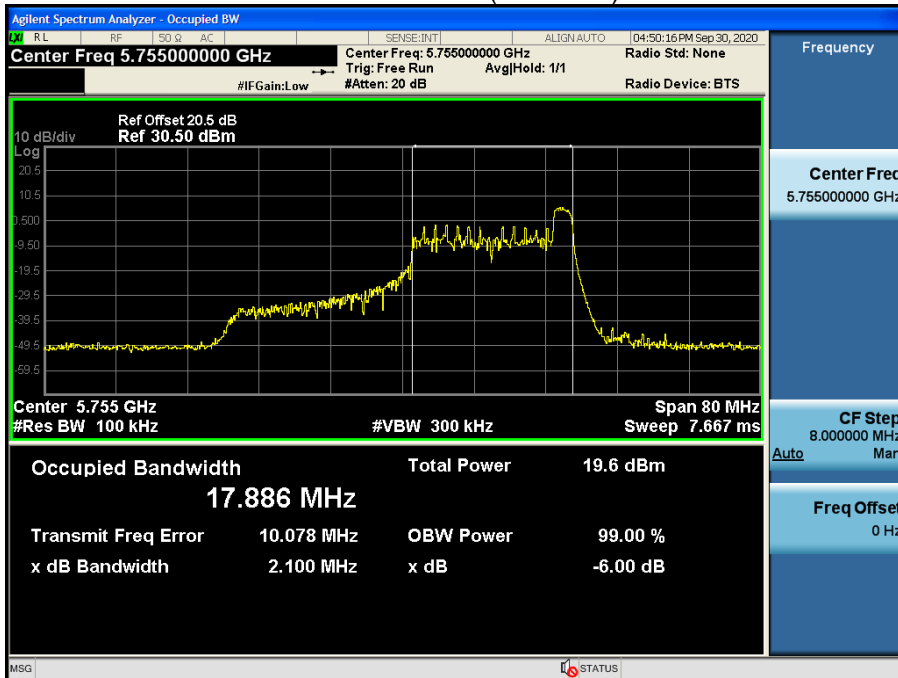
Bandwidth 20M Ch.157(5785MHz) RU 8



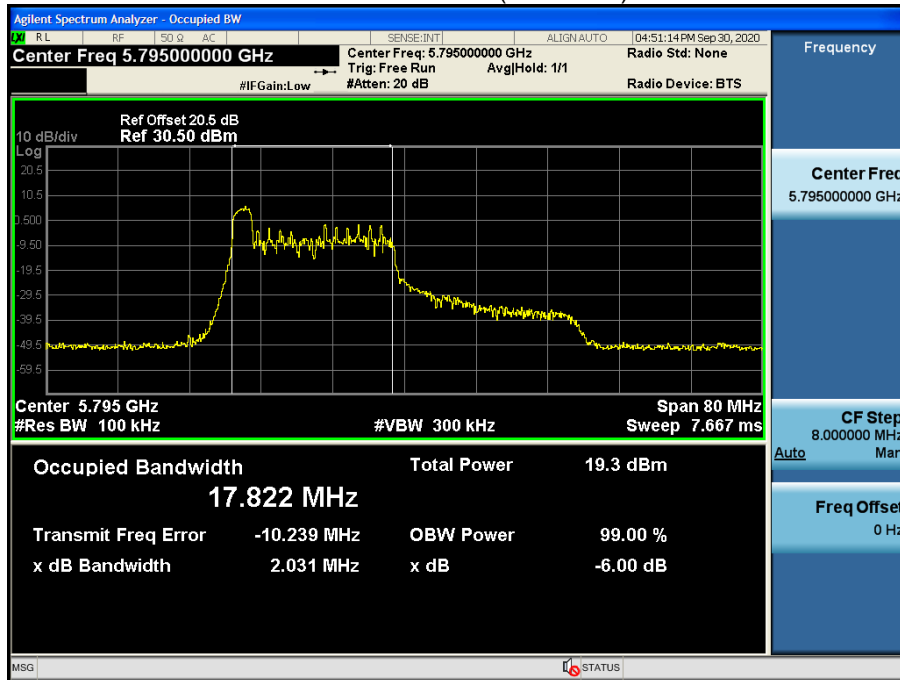
Bandwidth 20M Ch.165(5825MHz) RU 0



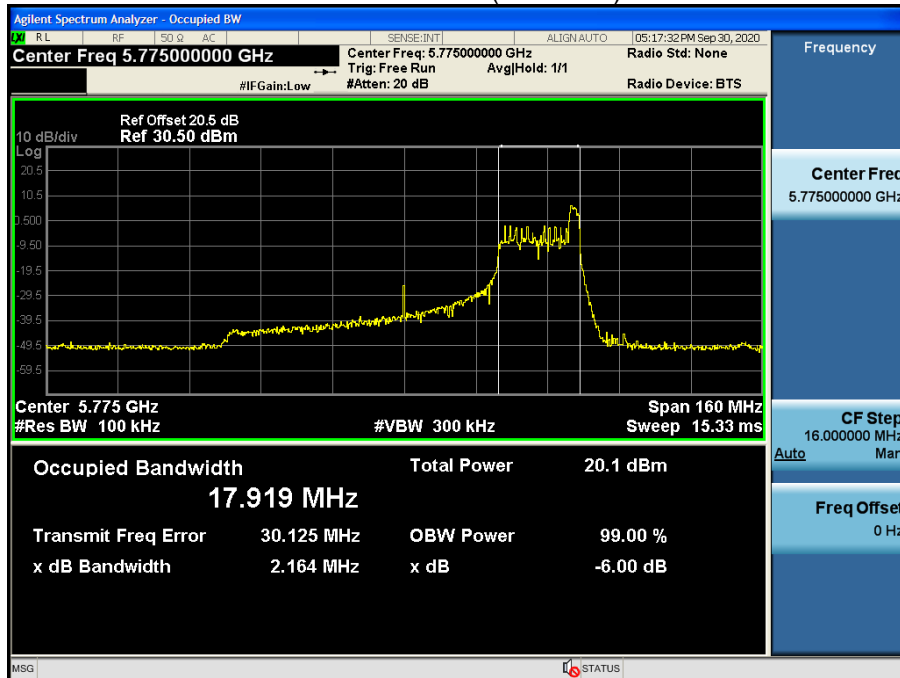
Bandwidth 40M Ch.151(5755MHz) RU 17



Bandwidth 40M Ch.159(5795MHz) RU 0

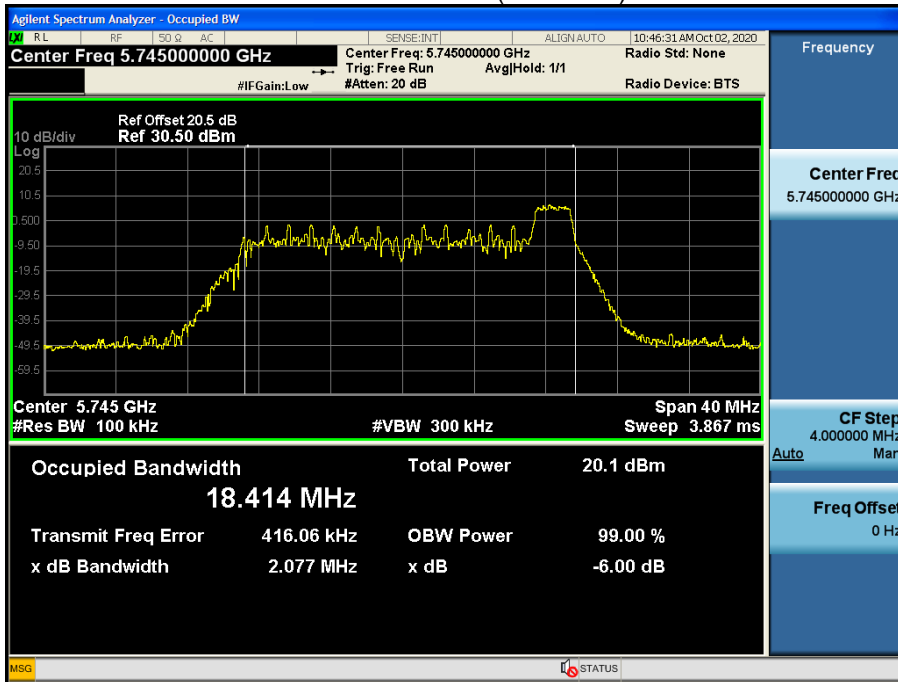


Bandwidth 80M Ch.155(5775MHz) RU 36

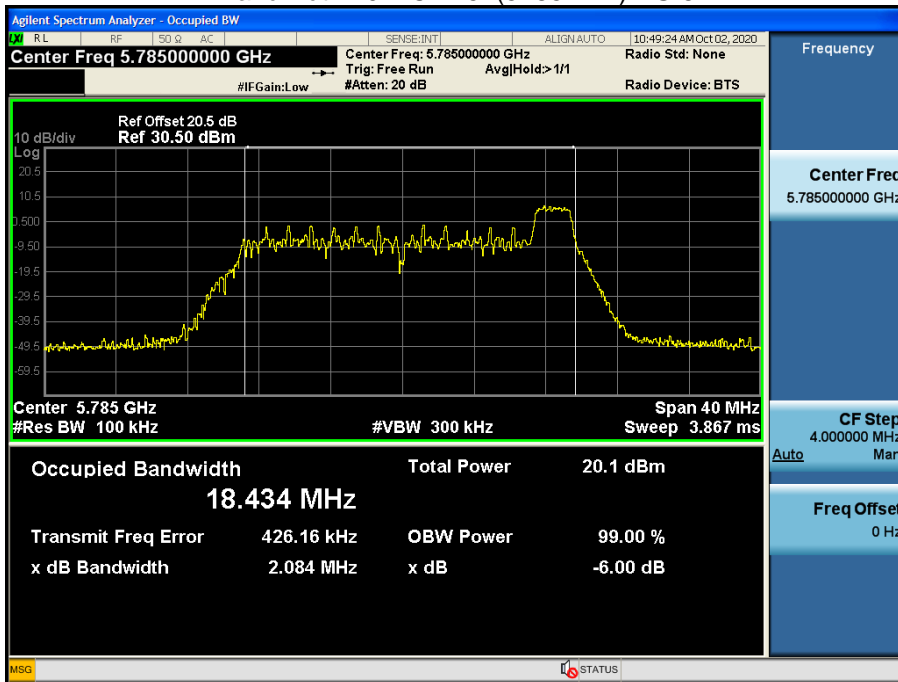


### 3.2 MIMO Ant2

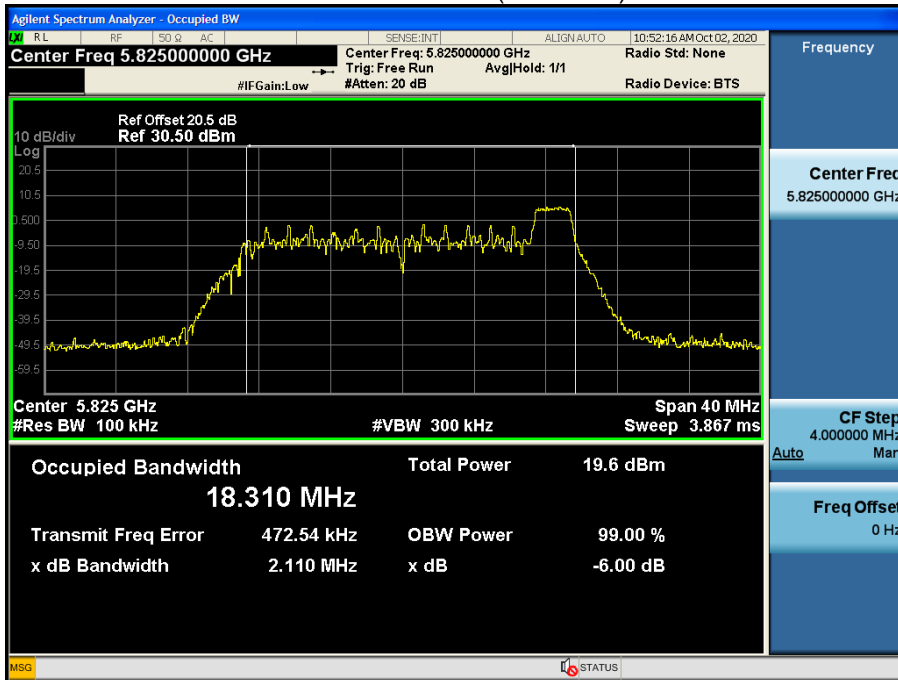
Bandwidth 20M Ch.149(5745MHz) RU 8



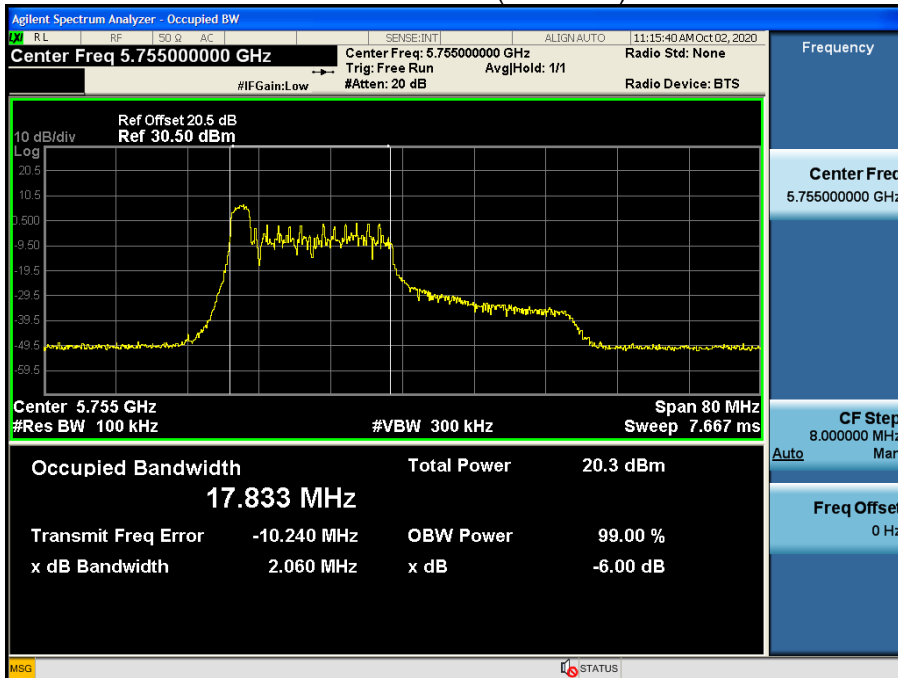
Bandwidth 20M Ch.157(5785MHz) RU 8



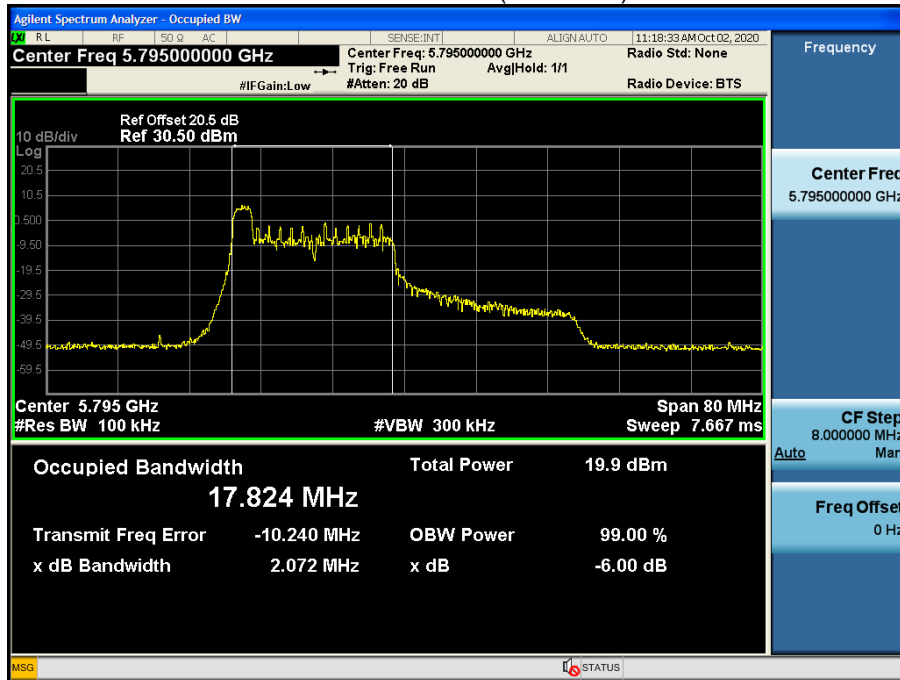
Bandwidth 20M Ch.165(5825MHz) RU 8



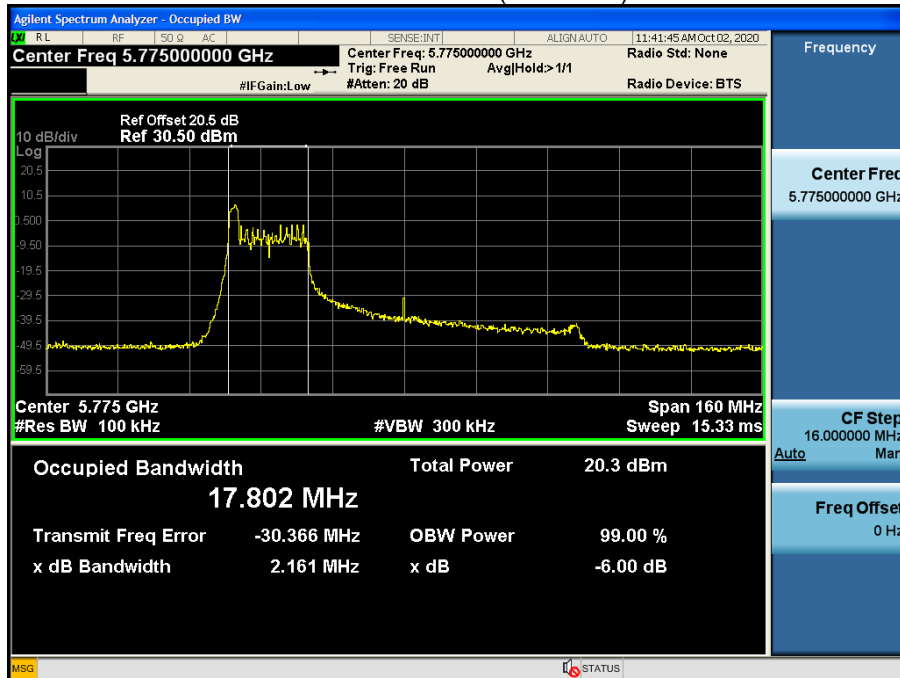
Bandwidth 40M Ch.151(5755MHz) RU 0



Bandwidth 40M Ch.159(5795MHz) RU 0



Bandwidth 80M Ch.155(5775MHz) RU 0



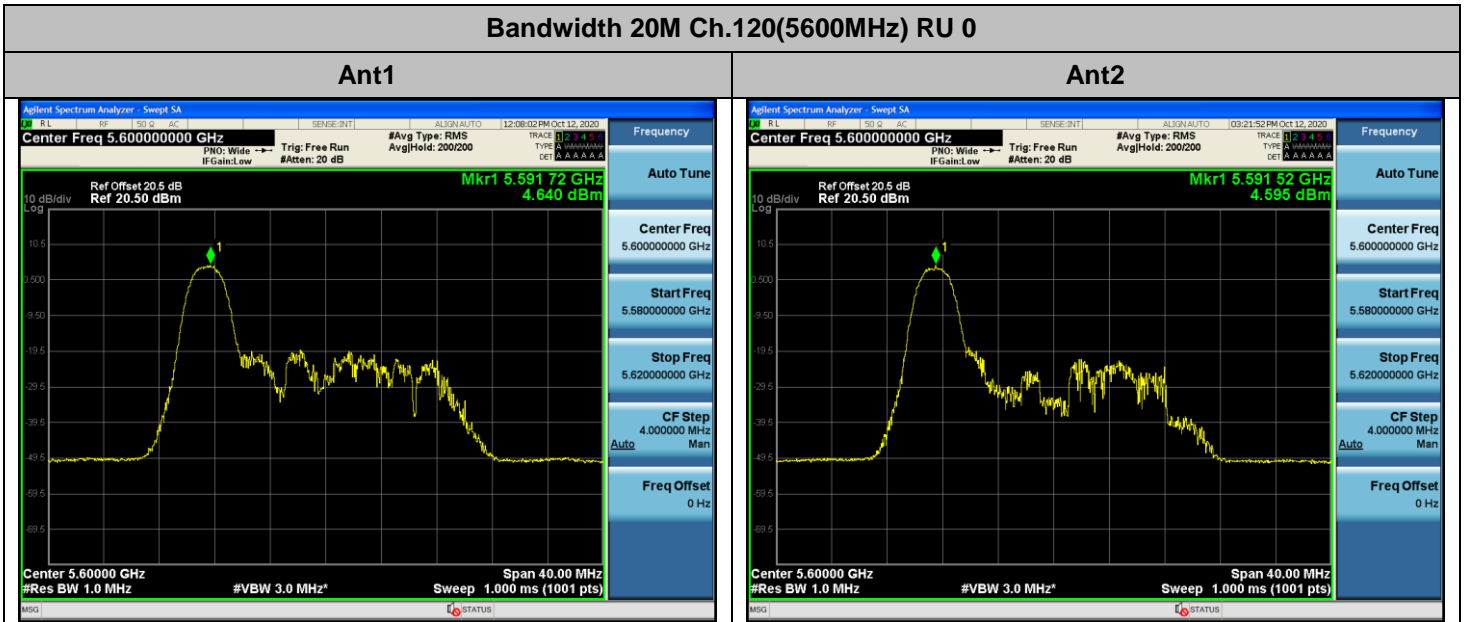
### 4. Power Spectral Density

**Note:**

1. In order to simplify the report, attached plots were only channel of highest PSD.

#### 4.1 SUM (MIMO Ant 1 + MIMO Ant 2)

Bandwidth 20M Ch.120(5600MHz) RU 0

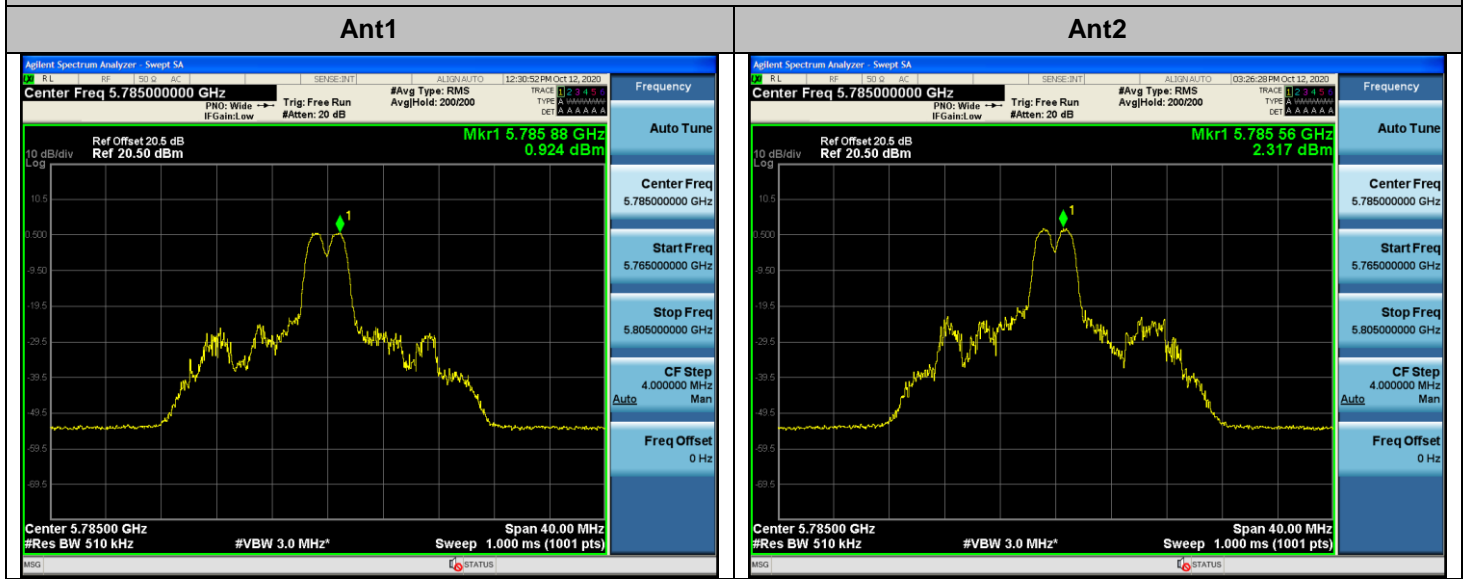


SUM PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
7.628	0.083	7.711

**Note:**

Total PSD (dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

**Bandwidth 20M Ch.157 (5785MHz) RU 4**



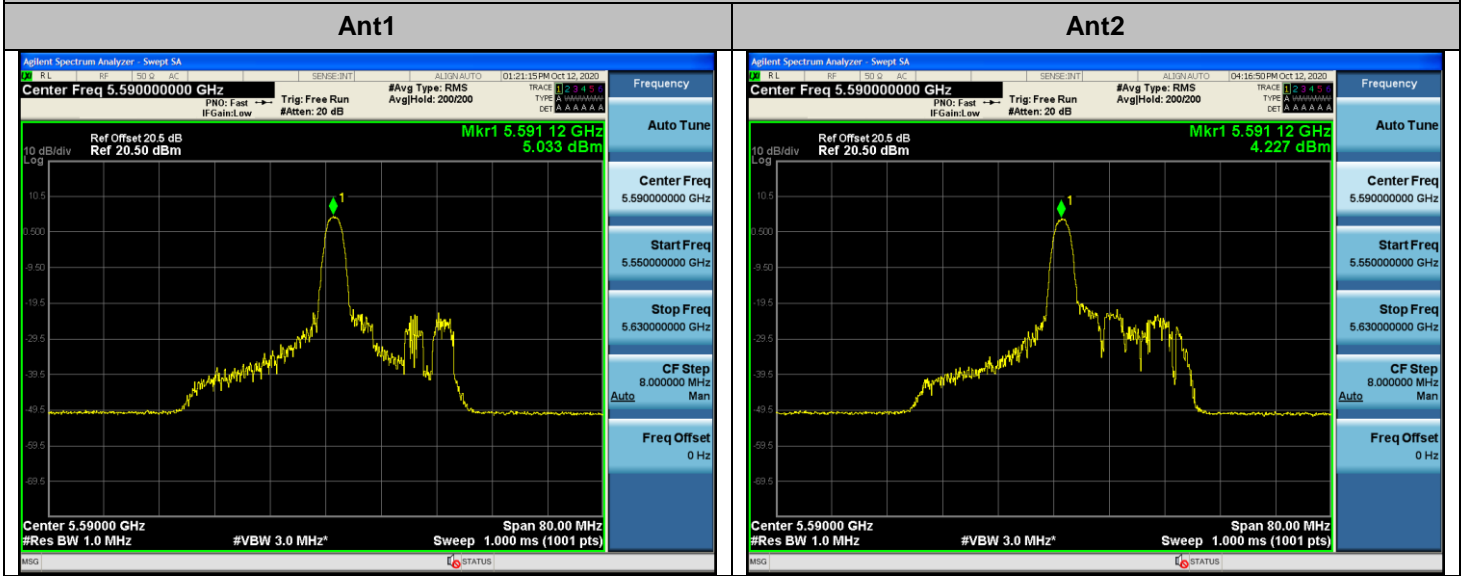
SUM PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
4.686	0.083	4.770

**Note:**

Total PSD (dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)



**Bandwidth 40M Ch.118 (5590MHz) RU 9**



SUM PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
7.659	0.083	7.742

**Note:**

Total PSD (dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

**Bandwidth 40M Ch.151 (5755MHz) RU 9**

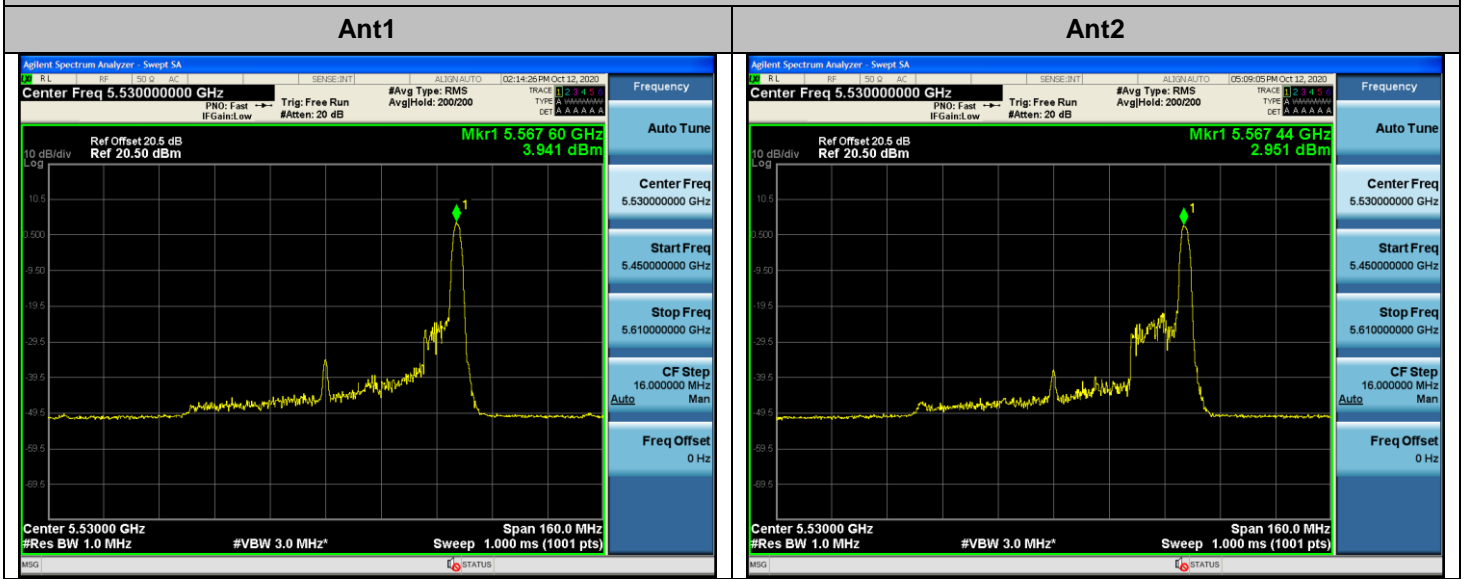


SUM PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
5.256	0.083	5.339

**Note:**

Total PSD (dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

**Bandwidth 80M Ch.106(5530MHz) RU 36**

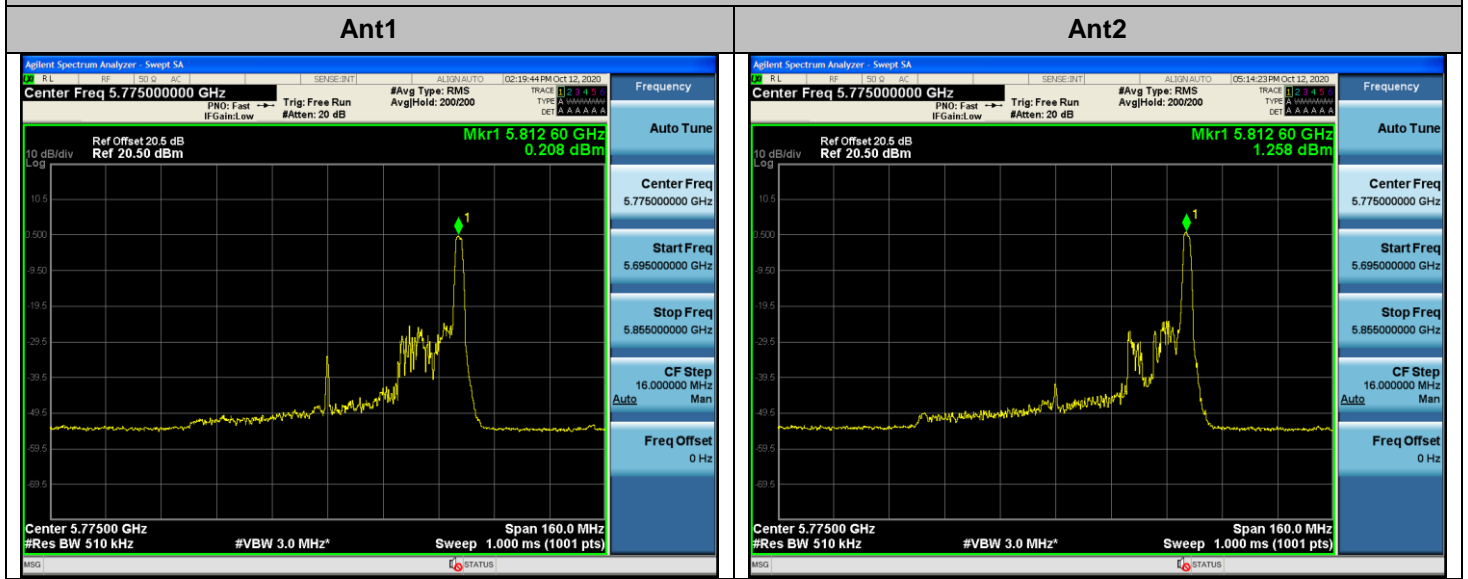


SUM PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
6.484	0.083	6.568

**Note:**

Total PSD (dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

**Bandwidth 80M Ch.155(5775MHz) RU 36**



SUM PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
3.775	0.083	3.858

**Note:**

Total PSD (dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

## 5. Straddle Channel

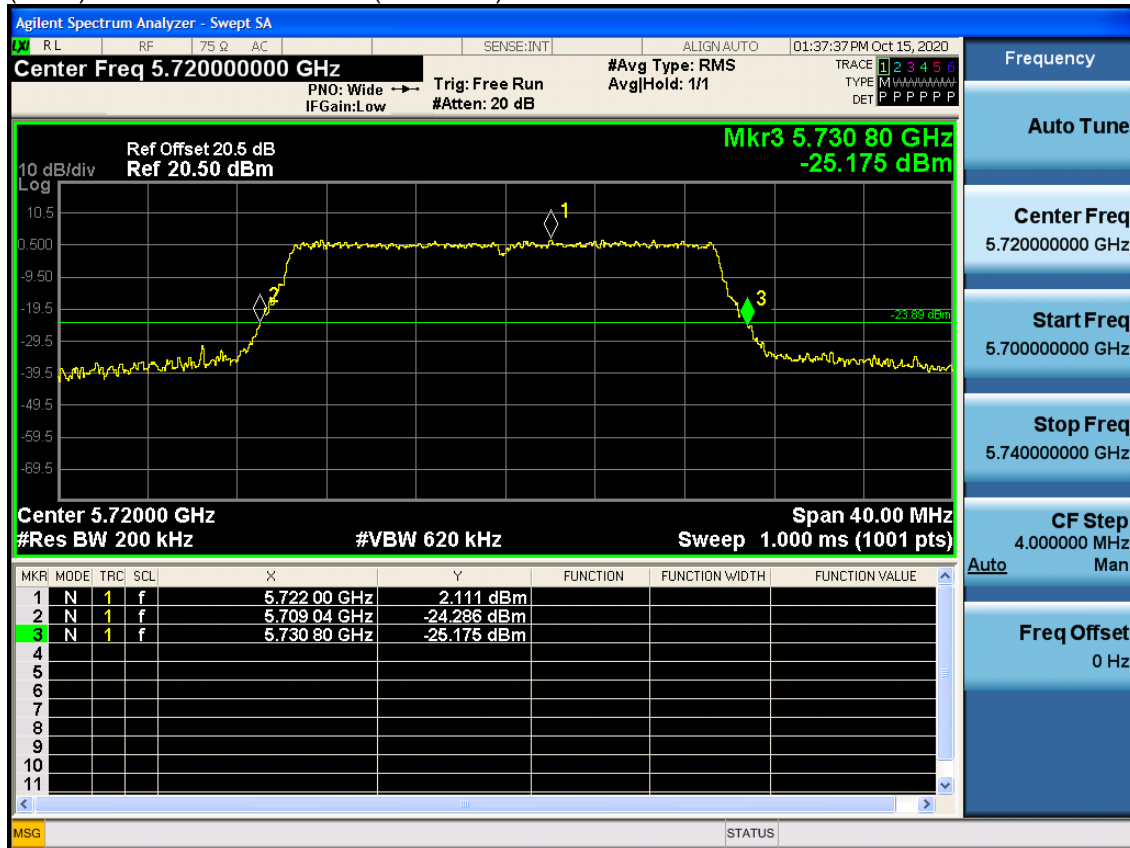
### 5.1 26dB Bandwidth

**Note:**

1. In order to simplify the report, attached plots were only the most wide channel.

#### 5.1.1 MIMO Ant1

(26dB) Bandwidth 20M Ch.144(5720MHz) RU 61

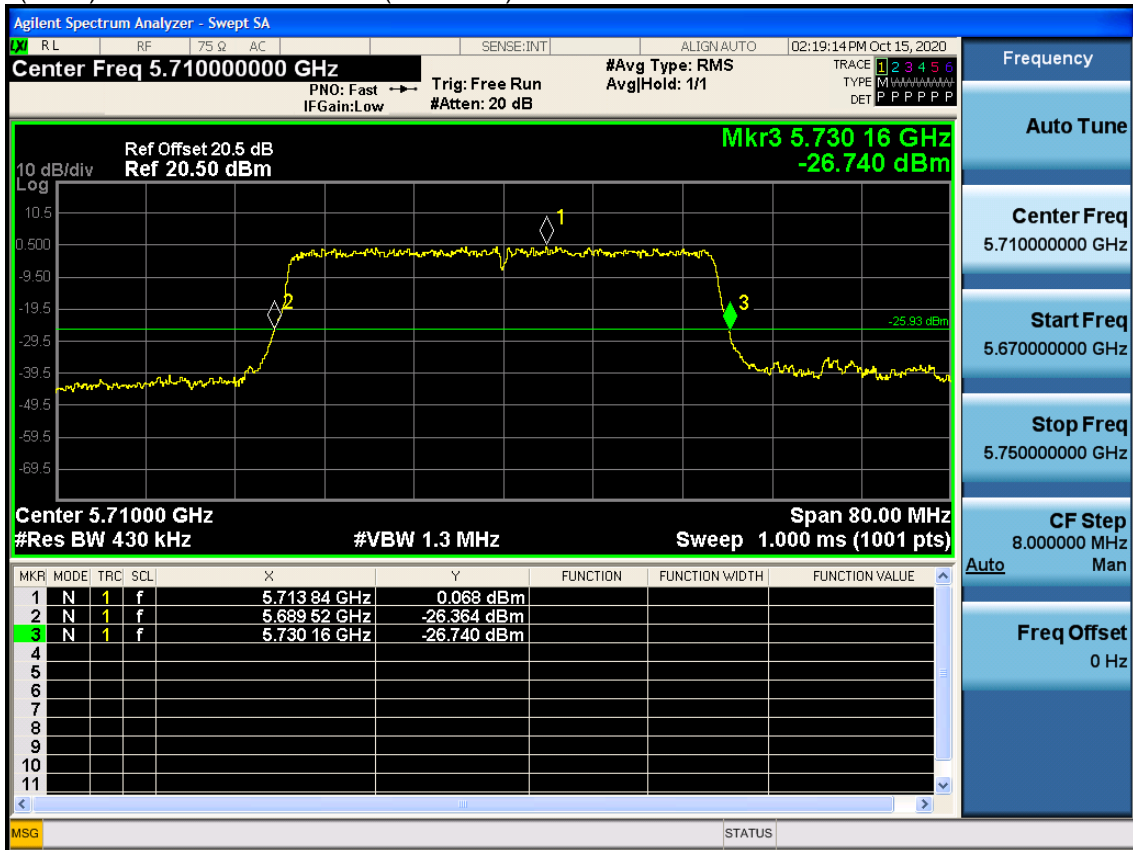


UNII 2C	5725 [MHz]	Measured Frequency [MHz]	26dB Bandwidth [MHz]
		5725	5709.04
UNII 3	Measured Frequency [MHz]	5725 [MHz]	26dB Bandwidth [MHz]
		5730.8	5725

**Note:**

1. [UNII 2C] 26dB Bandwidth = 5725MHz - Measured Frequency[MHz]
2. [UNII 3] 26dB Bandwidth = Measured Frequency[MHz] -5725MHz

(26dB) Bandwidth 40M Ch.142(5710MHz) RU 65



UNII 2C	5725 [MHz]	Measured Frequency [MHz]	26dB Bandwidth [MHz]
		5725	5689.52
UNII 3	Measured Frequency [MHz]	5725 [MHz]	26dB Bandwidth [MHz]
		5730.16	5725

**Note:**

1. [UNII 2C] 26dB Bandwidth = 5725MHz - Measured Frequency[MHz]
2. [UNII 3] 26dB Bandwidth = Measured Frequency[MHz] -5725MHz

(26dB) Bandwidth 80M Ch.138(5690MHz) RU 67



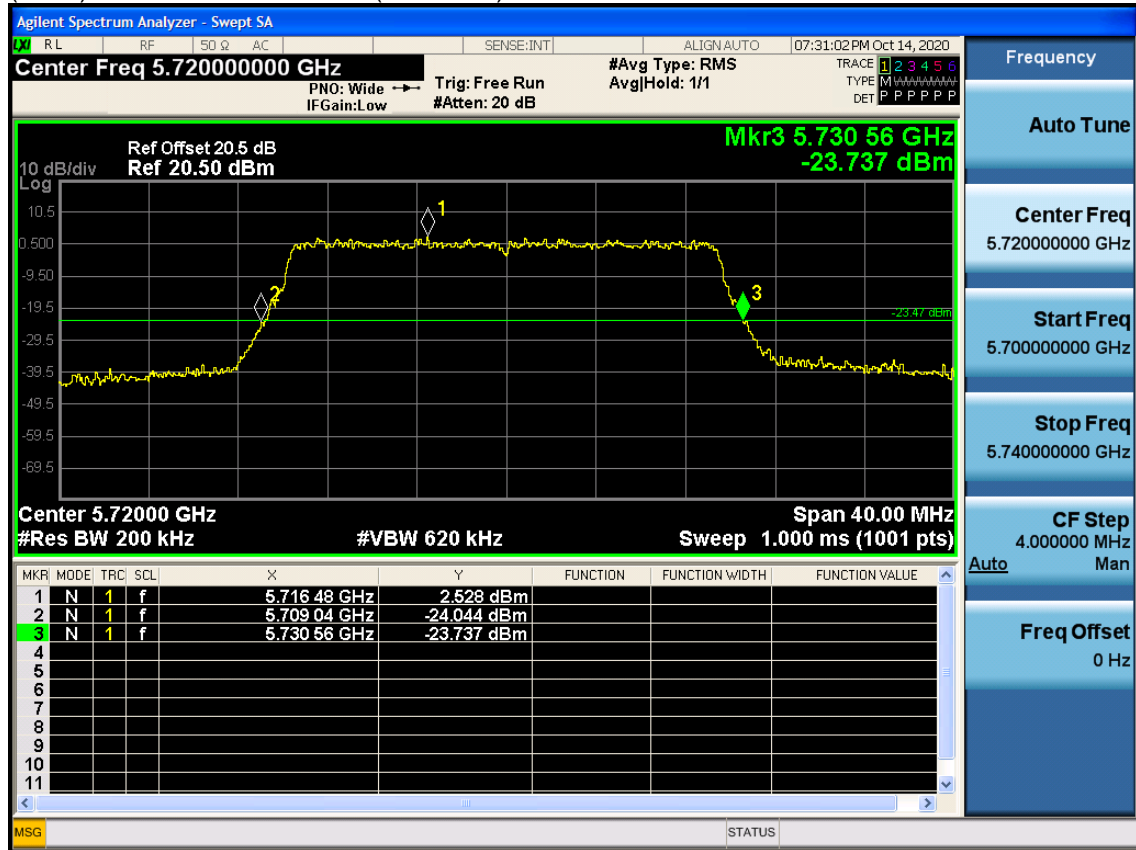
UNII 2C	5725 [MHz]	Measured Frequency [MHz]	26dB Bandwidth [MHz]
		5725	5648.72
UNII 3	Measured Frequency [MHz]	5725 [MHz]	26dB Bandwidth [MHz]
		5731.12	5725

**Note:**

1. [UNII 2C] 26dB Bandwidth = 5725MHz - Measured Frequency[MHz]
2. [UNII 3] 26dB Bandwidth = Measured Frequency[MHz] -5725MHz

### 5.1.2 MIMO Ant2

(26dB) Bandwidth 20M Ch.144(5720MHz) SU



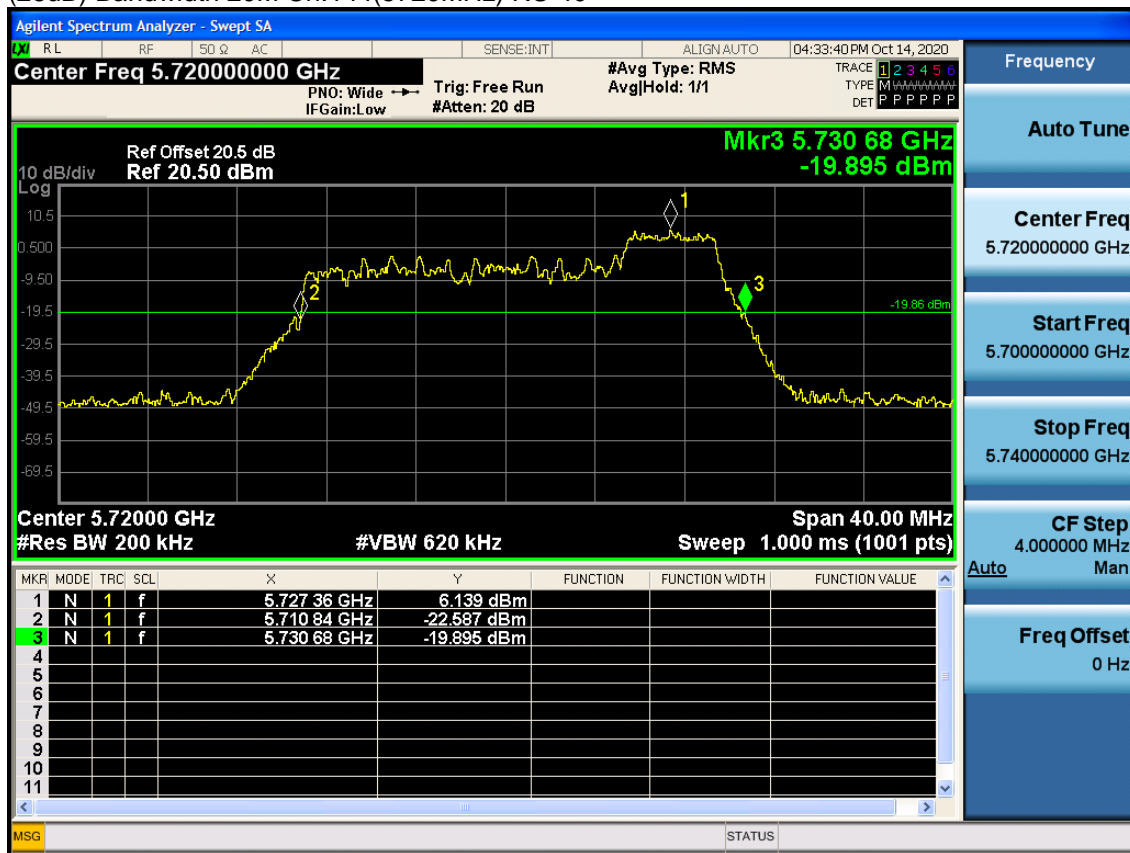
UNII 2C	5725 [MHz]	Measured Frequency [MHz]	26dB Bandwidth [MHz]
	5725	5709.04	15.96

**Note:**

1. [UNII 2C] 26dB Bandwidth = 5725MHz - Measured Frequency[MHz]



(26dB) Bandwidth 20M Ch.144(5720MHz) RU 40



UNII 3	Measured Frequency [MHz]	5725 [MHz]	26dB Bandwidth [MHz]
		5730.68	5725

**Note:**

1. [UNII 3] 26dB Bandwidth = Measured Frequency[MHz] -5725MHz

(26dB) Bandwidth 40M Ch.142(5710MHz) RU 65

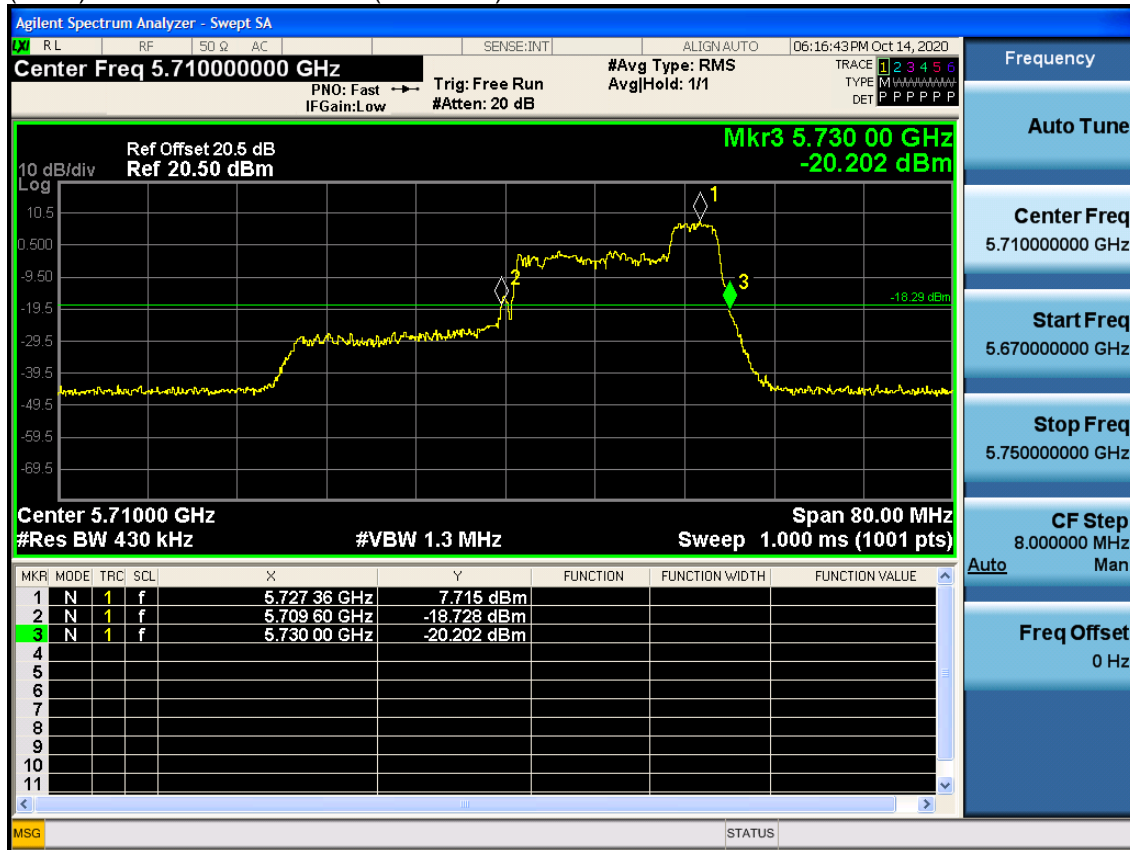


UNII 2C	5725 [MHz]	Measured Frequency [MHz]	26dB Bandwidth [MHz]
	5725	5689.92	35.08

**Note:**

1. [UNII 2C] 26dB Bandwidth = 5725MHz - Measured Frequency[MHz]

(26dB) Bandwidth 40M Ch.142(5710MHz) RU 44

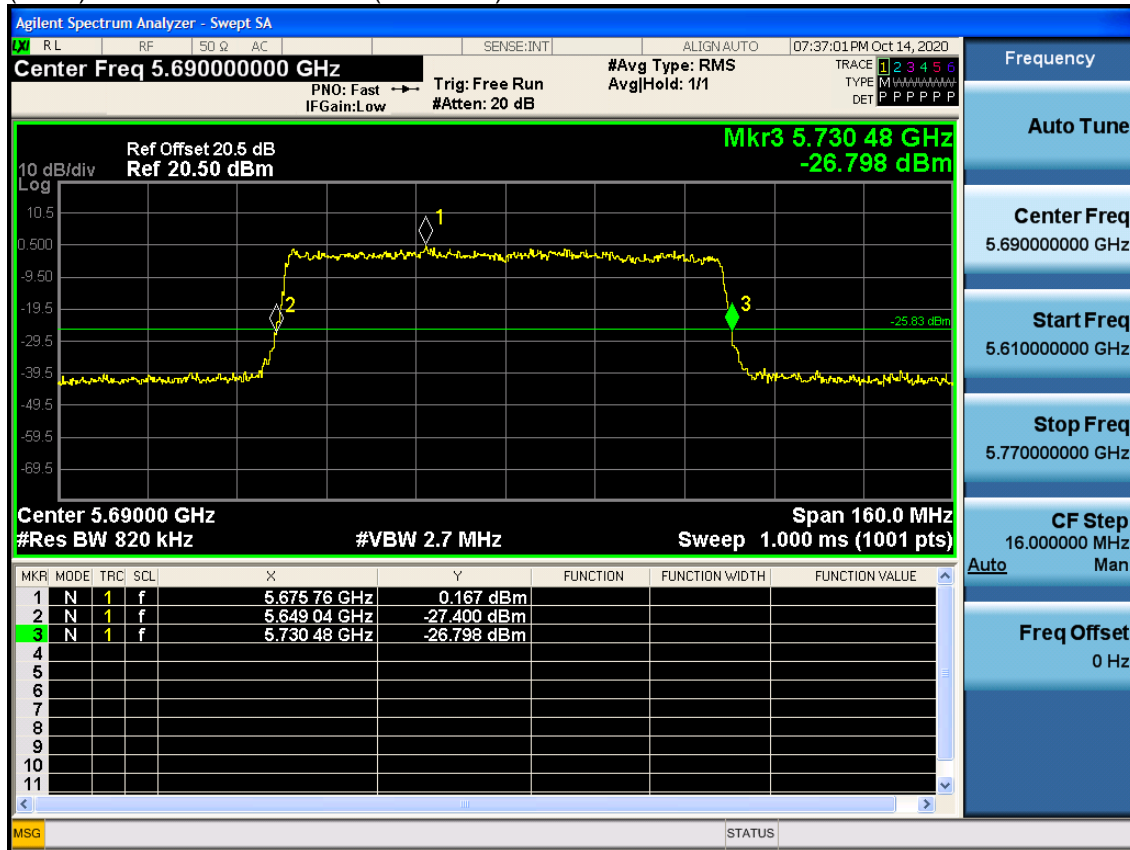


UNII 3	Measured Frequency [MHz]	5725 [MHz]	26dB Bandwidth [MHz]
		5730	5725

**Note:**

1. [UNII 3] 26dB Bandwidth = Measured Frequency[MHz] -5725MHz

(26dB) Bandwidth 80M Ch.138(5690MHz) SU



UNII 2C	5725 [MHz]	Measured Frequency [MHz]	26dB Bandwidth [MHz]
	5725	5649.04	75.96

**Note:**

1. [UNII 2C] 26dB Bandwidth = 5725MHz - Measured Frequency[MHz]

(26dB) Bandwidth 80M Ch.138(5690MHz) RU 64



UNII 3	Measured Frequency [MHz]	5725 [MHz]	26dB Bandwidth [MHz]
		5730.8	5725

**Note:**

1. [UNII 3] 26dB Bandwidth = Measured Frequency[MHz] -5725MHz

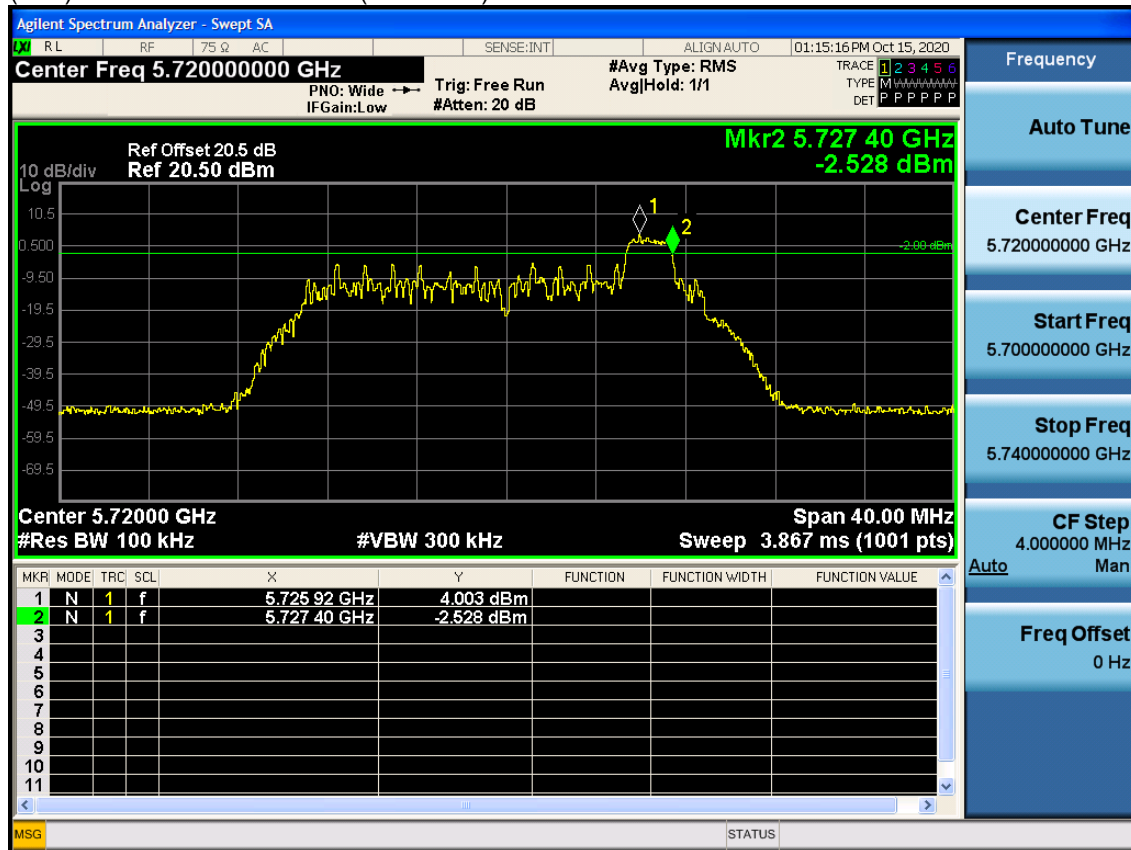
## 5.2 6dB Bandwidth

**Note:**

1. In order to simplify the report, attached plots were only the most narrow channel.

### 5.2.1 MIMO Ant1

(6dB) Bandwidth 20M Ch.144(5720MHz) RU 7

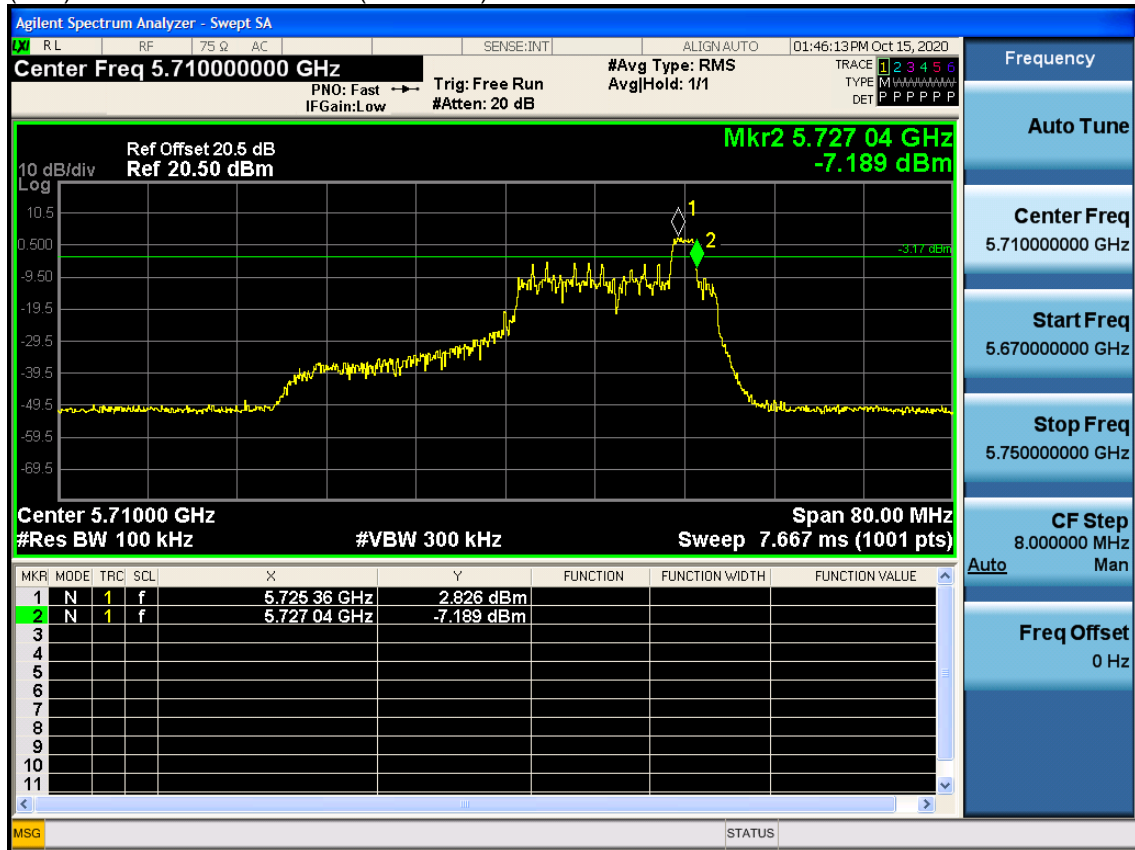


Measured Frequency [MHz]	5725 [MHz]	6dB Bandwidth [MHz]
5727.4	5725	2.40

**Note:**

6dB Bandwidth = Measured Frequency[MHz] – 5725MHz

(6dB) Bandwidth 40M Ch.142(5710MHz) RU 16



Measured Frequency [MHz]	5725 [MHz]	6dB Bandwidth [MHz]
5727.04	5725	2.04

**Note:**

6dB Bandwidth = Measured Frequency[MHz] – 5725MHz

(6dB) Bandwidth 80M Ch.138(5690MHz) RU 35



Measured Frequency [MHz]	5725 [MHz]	6dB Bandwidth [MHz]
5727.12	5725	2.12

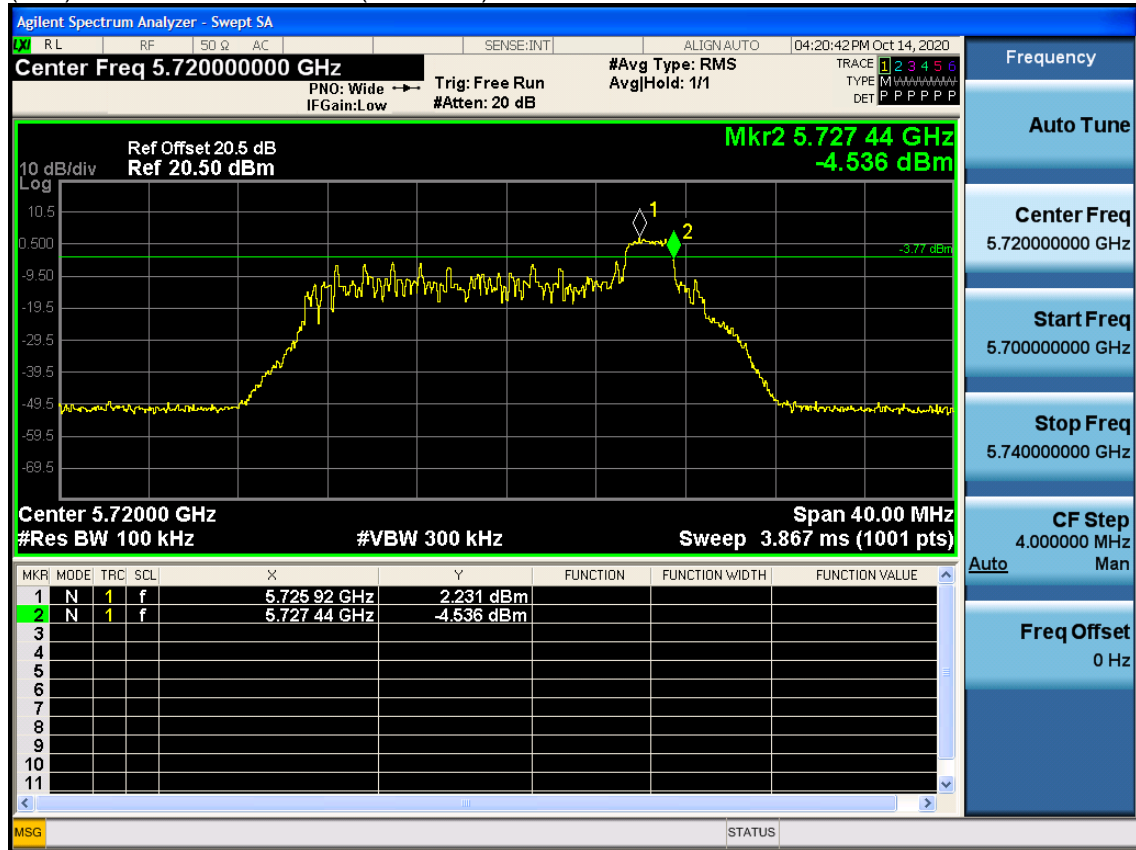
**Note:**

6dB Bandwidth = Measured Frequency[MHz] – 5725MHz



### 5.2.2 MIMO Ant2

(6dB) Bandwidth 20M Ch.144(5720MHz) RU 7

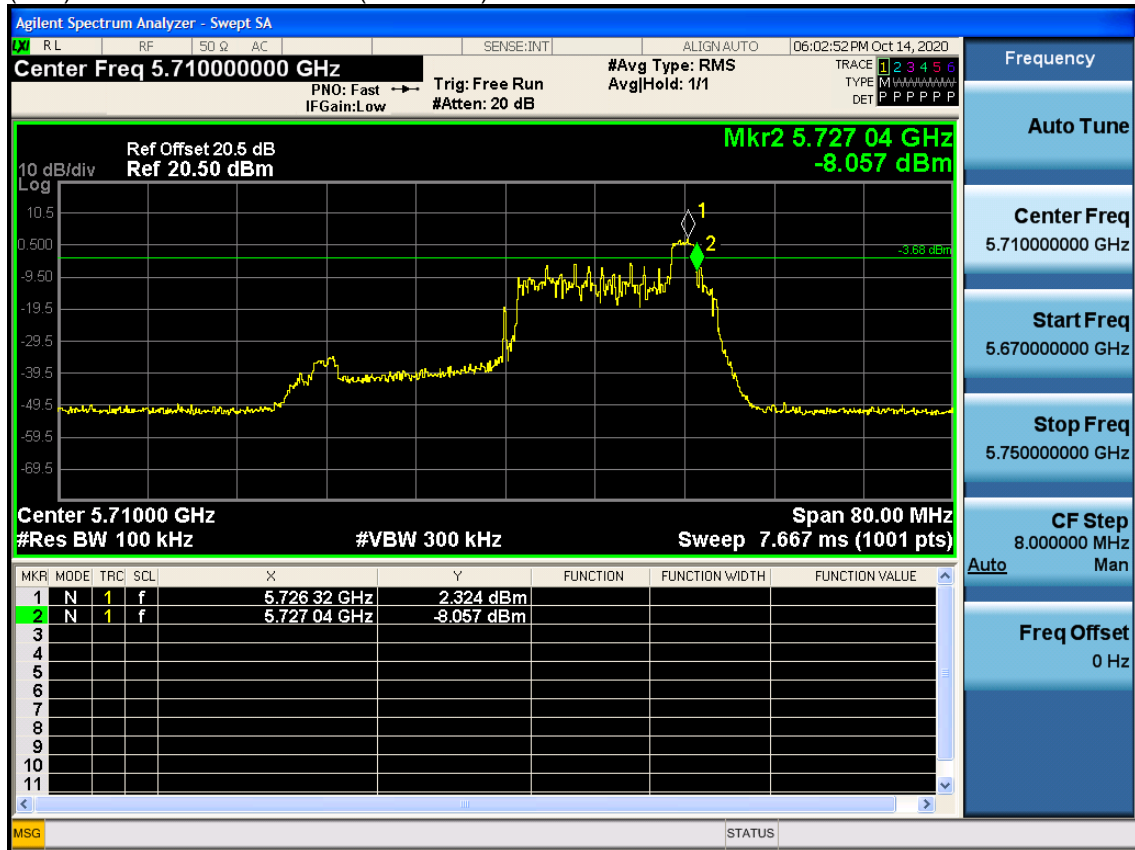


Measured Frequency [MHz]	5725 [MHz]	6dB Bandwidth [MHz]
5727.44	5725	2.44

**Note:**

6dB Bandwidth = Measured Frequency[MHz] – 5725MHz

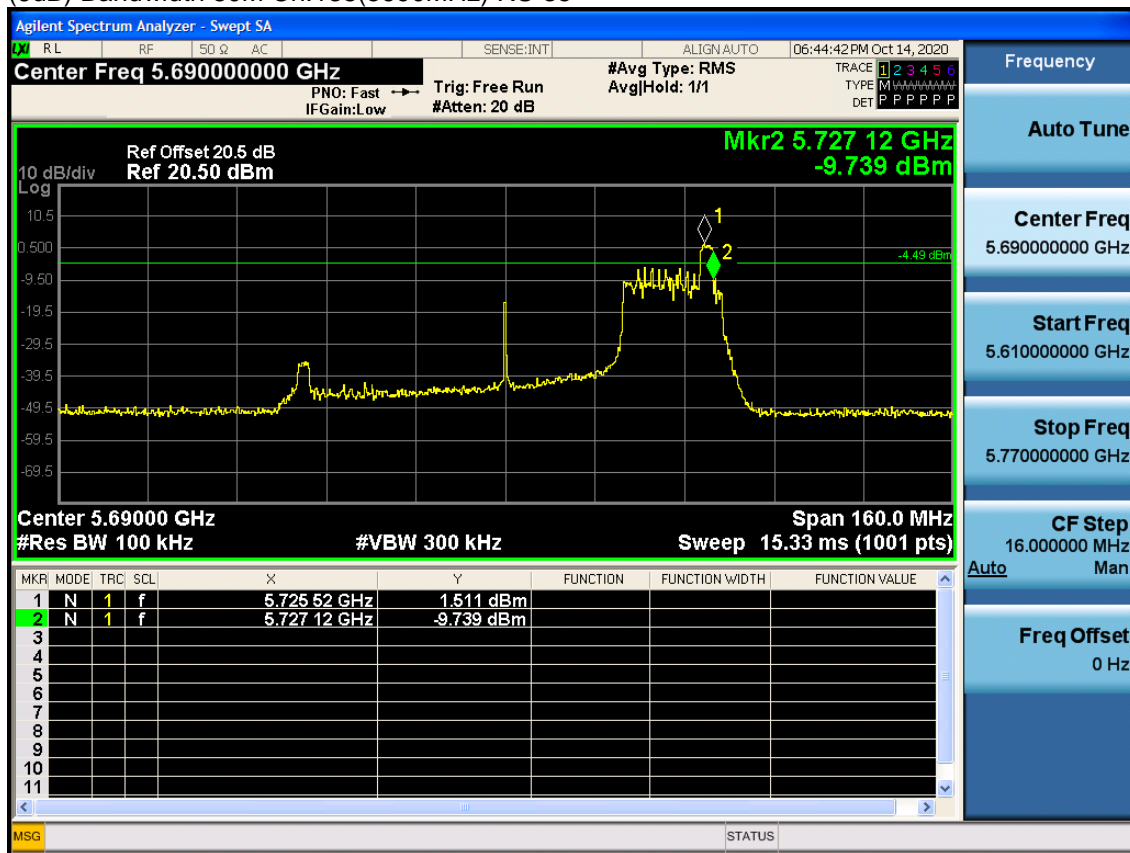
(6dB) Bandwidth 40M Ch.142(5710MHz) RU 16



Measured Frequency [MHz]	5725 [MHz]	6dB Bandwidth [MHz]
5727.04	5725	2.04

**Note:**  
 6dB Bandwidth = Measured Frequency[MHz] – 5725MHz

(6dB) Bandwidth 80M Ch.138(5690MHz) RU 35



Measured Frequency [MHz]	5725 [MHz]	6dB Bandwidth [MHz]
5727.12	5725	2.12

**Note:**

6dB Bandwidth = Measured Frequency[MHz] – 5725MHz

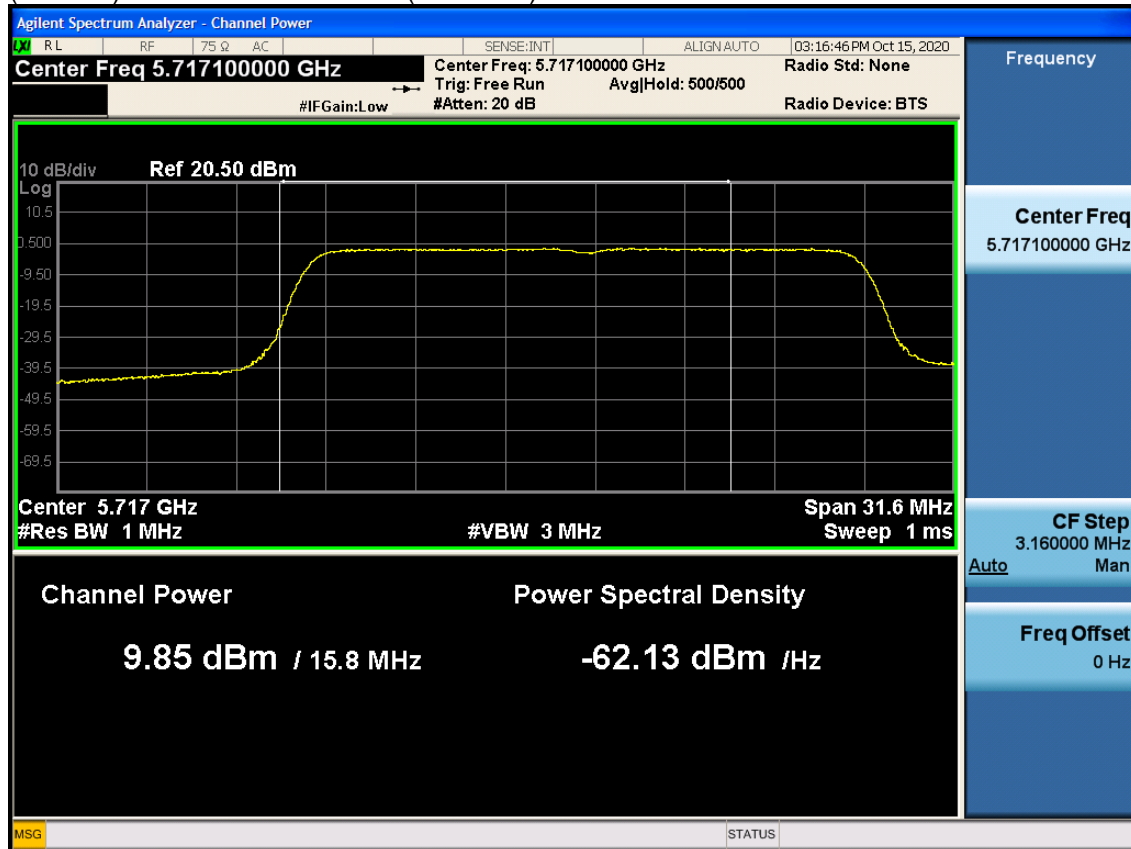
### 5.3 Output Power

**Note:**

1. In order to simplify the report, attached plots were only channel of highest Power.

#### 5.3.1 MIMO Ant1

(UNII 2C) Bandwidth 20M Ch.144(5720MHz) SU

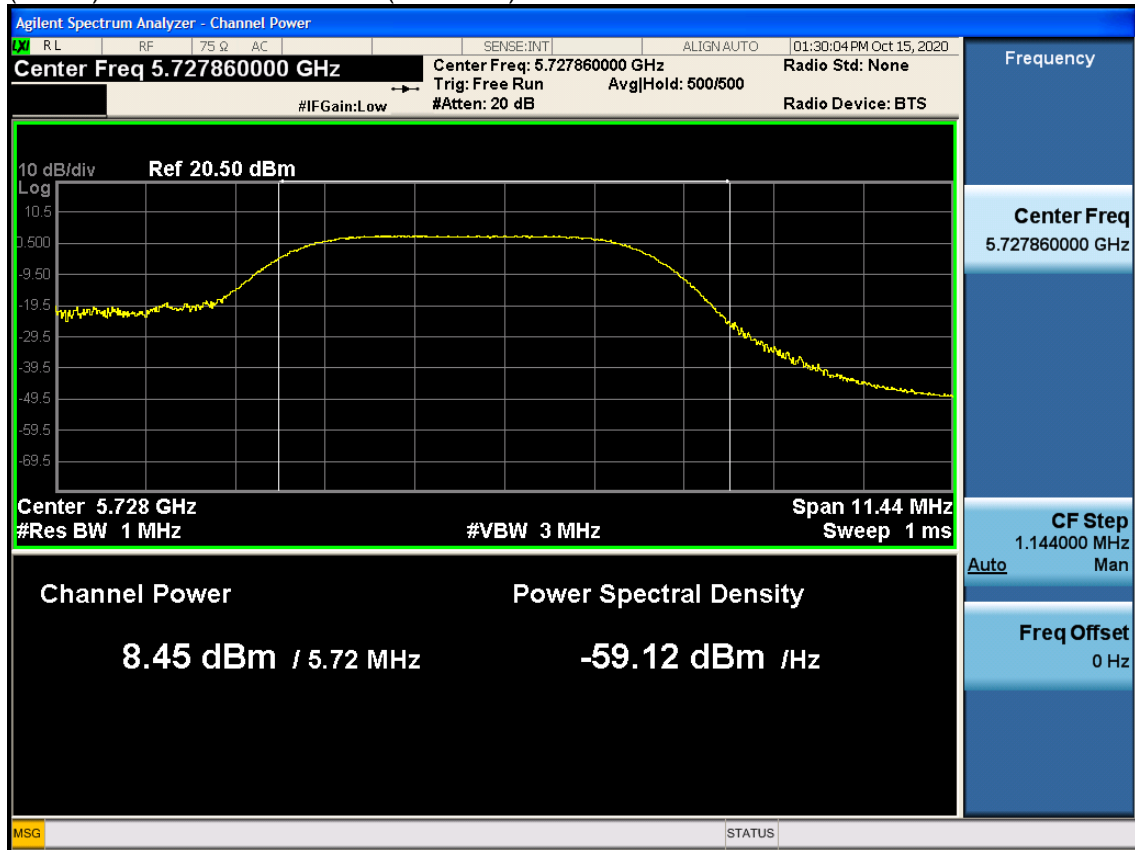


Reading Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
9.85	0.67	10.52

**Note:**

$$\text{Total Power(dBm)} = \text{Reading Value(dBm)} + \text{Duty Cycle Factor(dB)}$$

(UNII 3) Bandwidth 20M Ch.144(5720MHz) RU 40

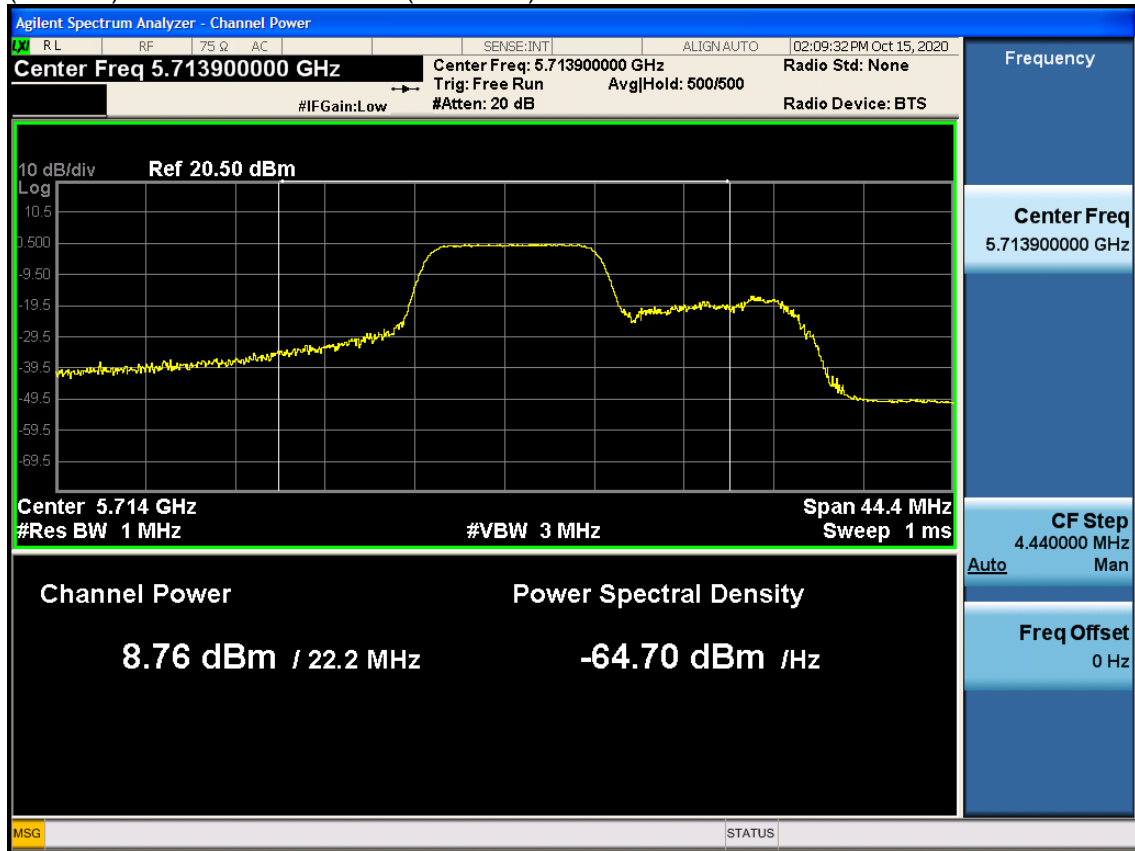


Reading Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
8.45	0.16	8.61

**Note:**

Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

(UNII 2C) Bandwidth 40M Ch.142(5710MHz) RU 55

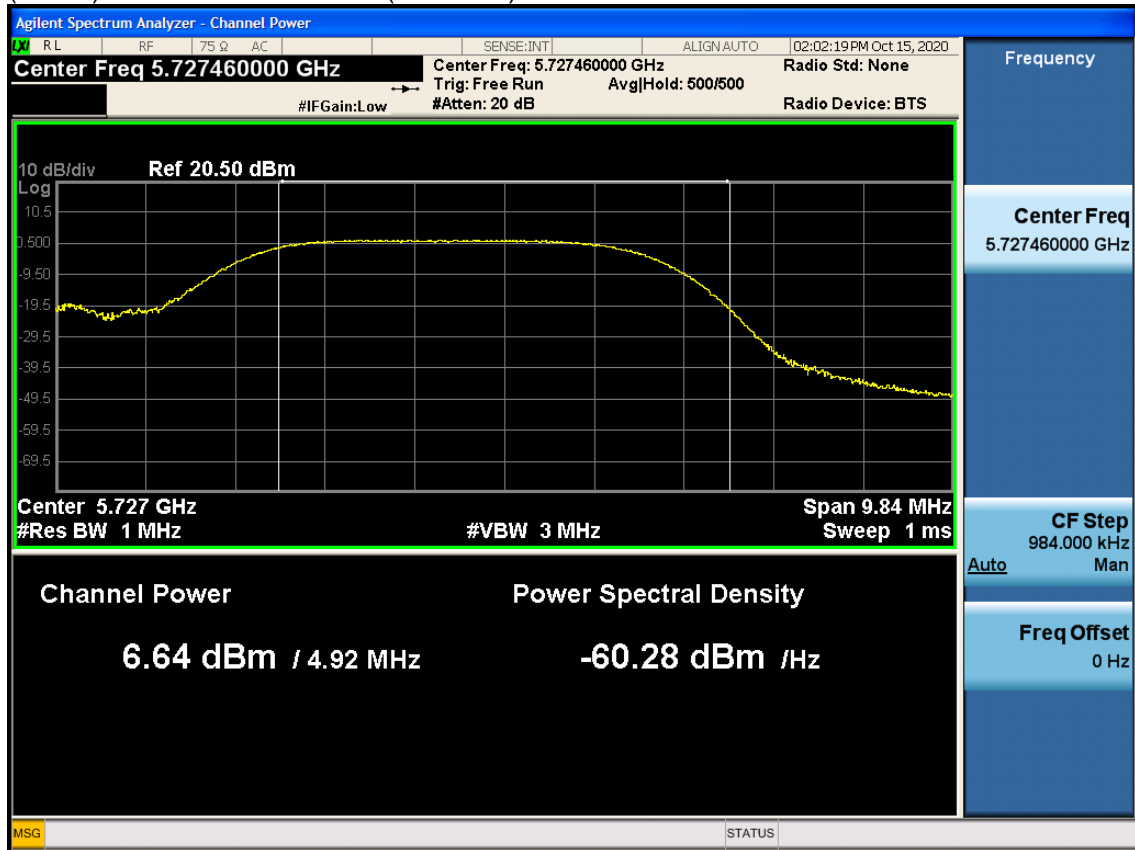


Reading Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
8.76	0.33	9.09

**Note:**

Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

(UNII 3) Bandwidth 40M Ch.142(5710MHz) RU 44

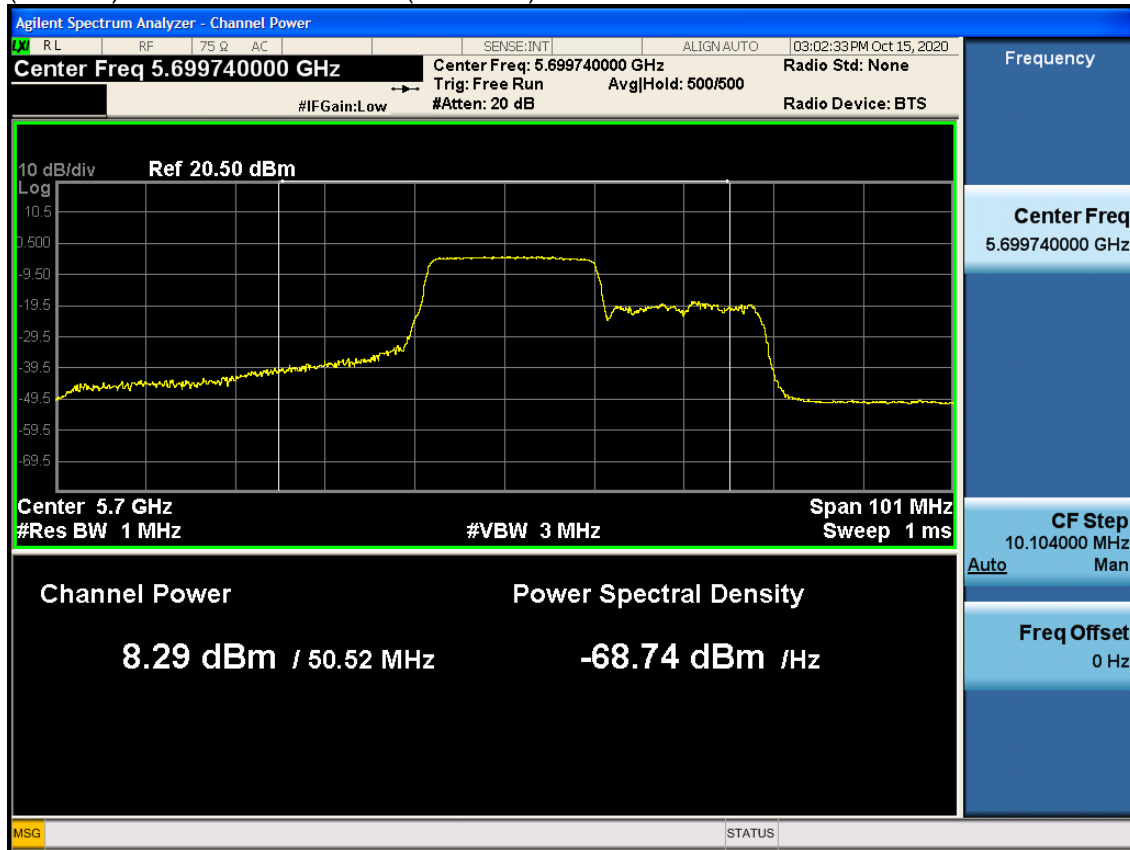


Reading Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
6.64	0.16	6.80

**Note:**

Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

(UNII 2C) Bandwidth 80M Ch.138(5690MHz) RU 63



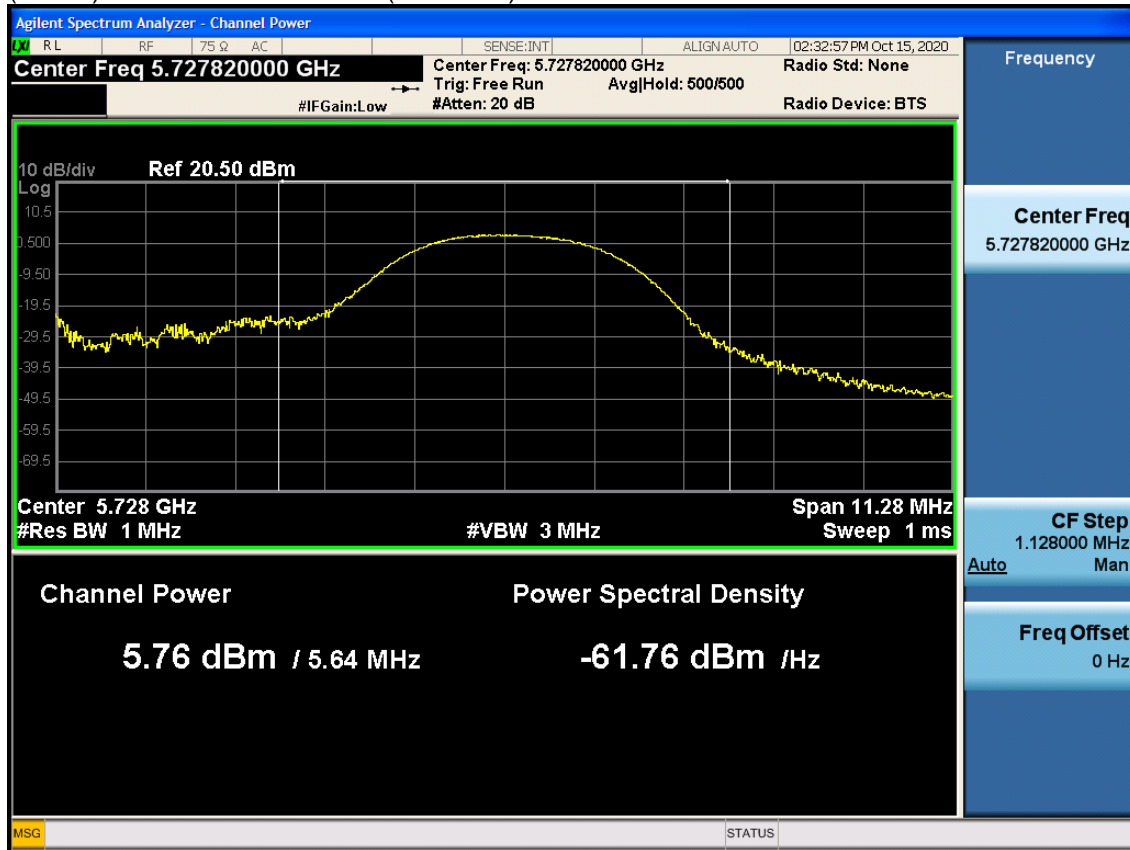
Reading Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
8.29	0.68	8.97

**Note:**

Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)



(UNII 3) Bandwidth 80M Ch.138(5690MHz) RU 36



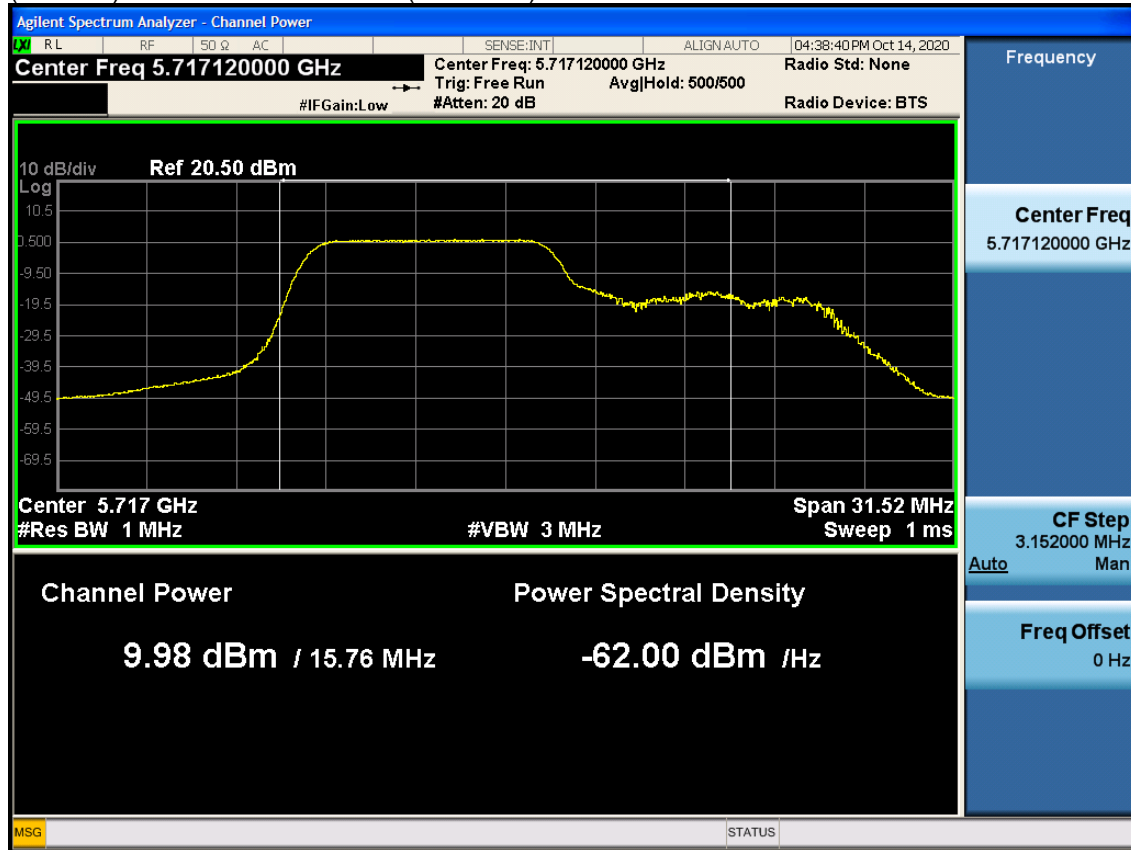
Reading Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
5.76	0.08	5.84

**Note:**

Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

### 5.3.2 MIMO Ant2

(UNII 2C) Bandwidth 20M Ch.144(5720MHz) RU 53

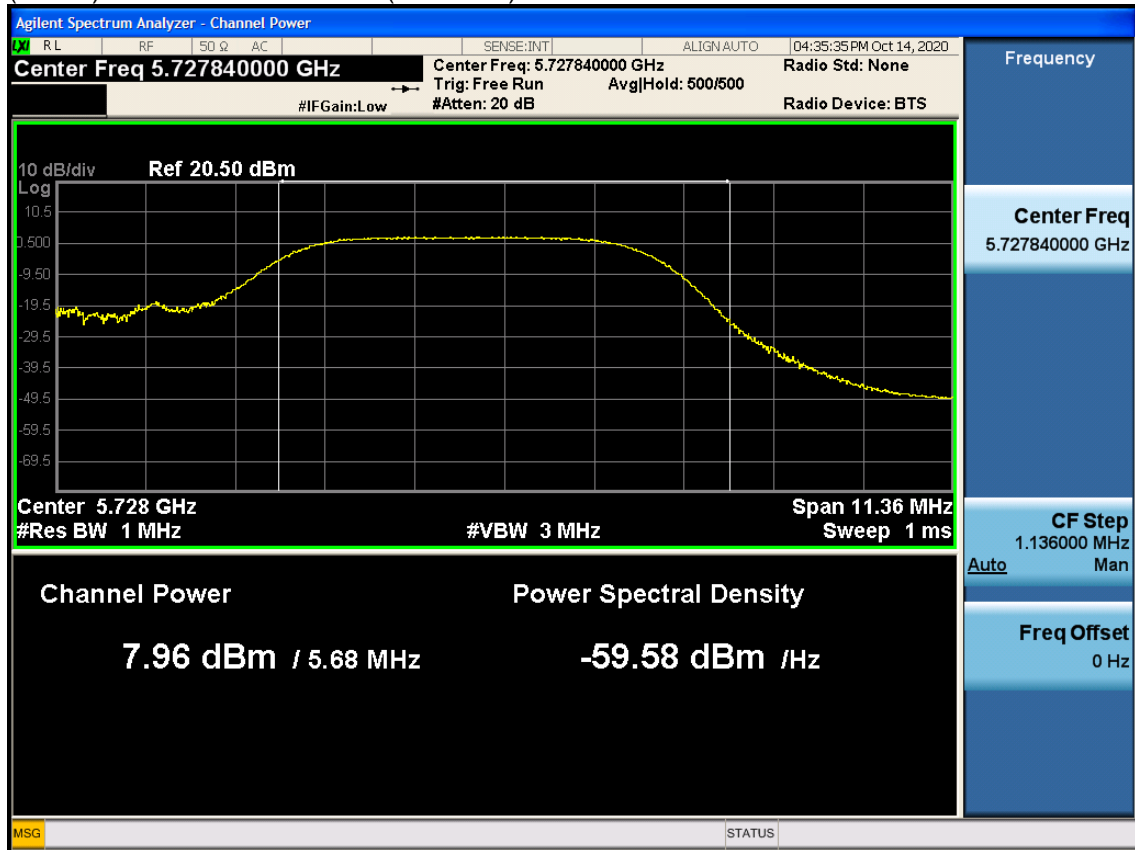


Reading Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
9.98	0.32	10.30

**Note:**

Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

(UNII 3) Bandwidth 20M Ch.144(5720MHz) RU 40

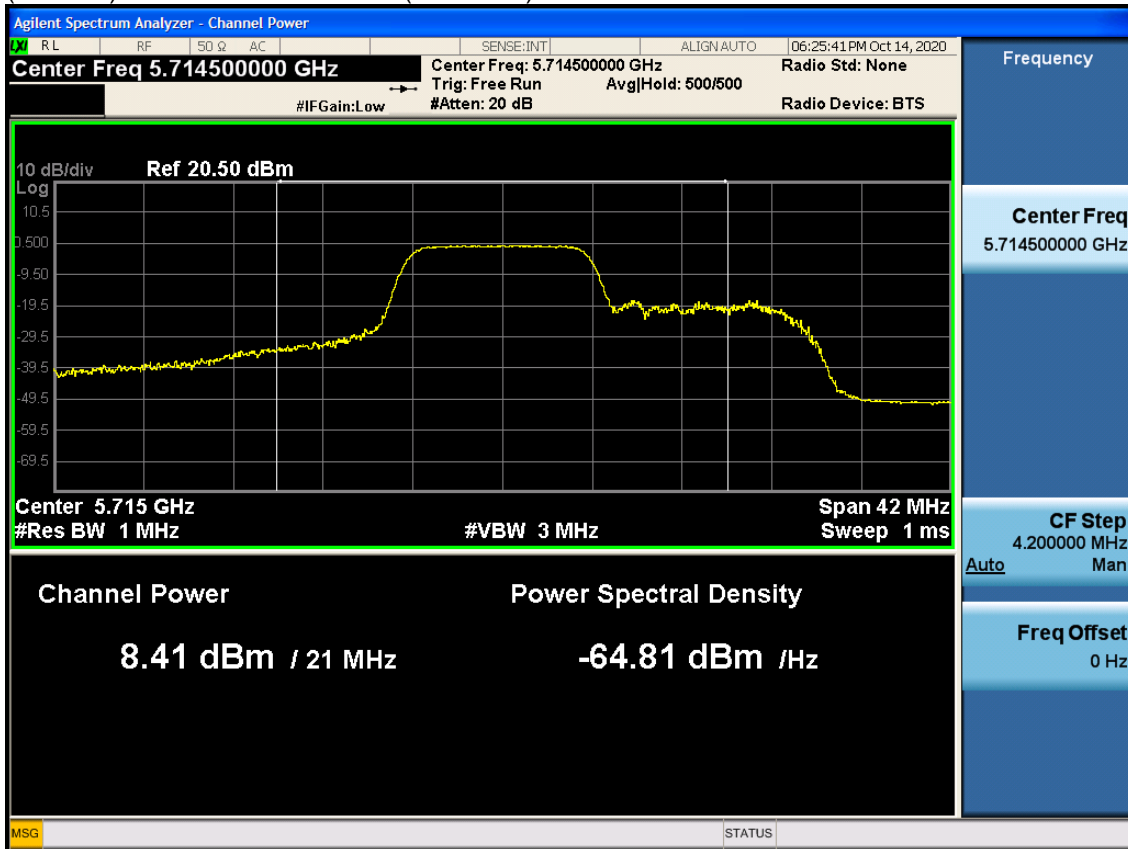


Reading Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
7.96	0.16	8.12

**Note:**

Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

(UNII 2C) Bandwidth 40M Ch.142(5710MHz) RU 55

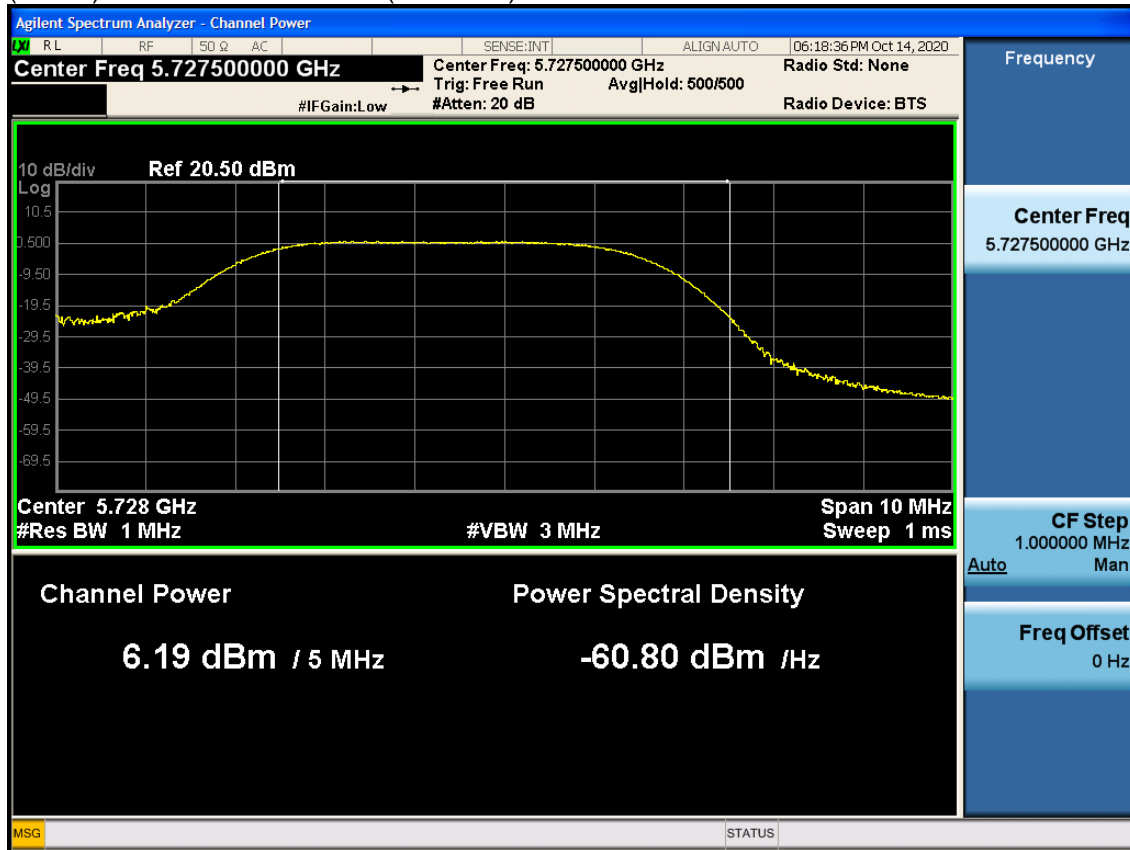


Reading Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
8.41	0.33	8.74

**Note:**

Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

(UNII 3) Bandwidth 40M Ch.142(5710MHz) RU 44

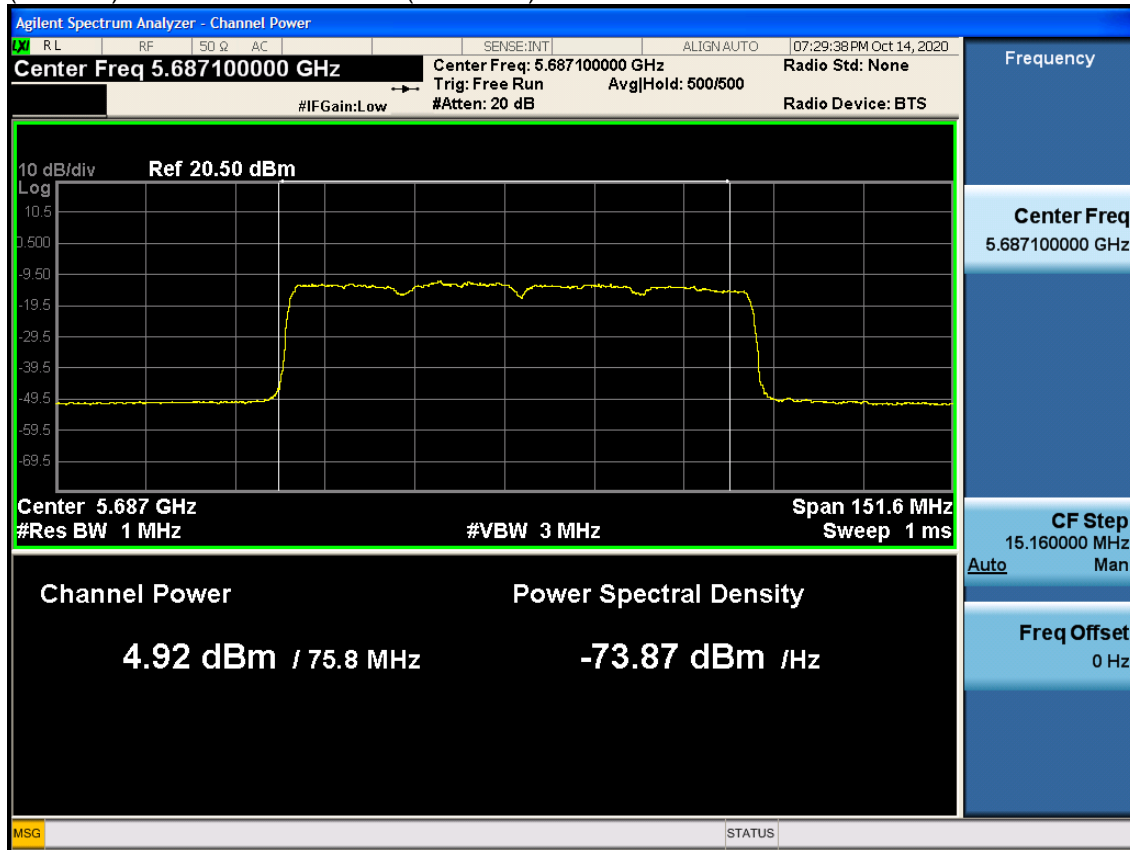


Reading Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
6.19	0.16	6.35

**Note:**

Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

(UNII 2C) Bandwidth 80M Ch.138(5690MHz) RU 67



Reading Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
4.92	3.52	8.44

**Note:**

Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

(UNII 3) Bandwidth 80M Ch.138(5690MHz) RU 36



Reading Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
5.19	0.08	5.27

**Note:**

Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

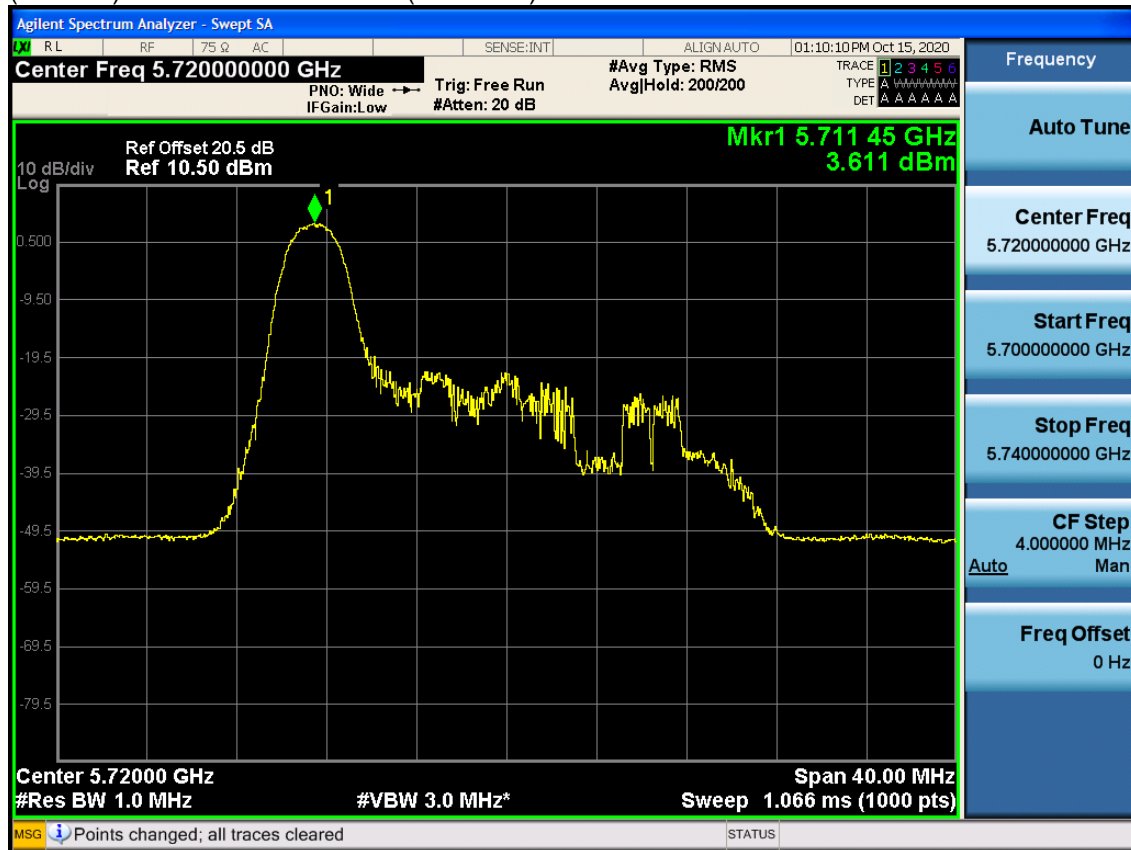
### 5.4 Power Spectral Density

**Note:**

1. In order to simplify the report, attached plots were only channel of highest PSD.

#### 5.4.1 MIMO Ant1

(UNII 2C) Bandwidth 20M Ch.144(5720MHz) RU 0



Reading Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
3.611	0.083	3.694

**Note:**

Total PSD (dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)



(UNII 3) Bandwidth 20M Ch.144(5720MHz) RU 7



Reading Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
1.245	0.083	1.328

**Note:**

Total PSD (dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

(UNII 2C) Bandwidth 40M Ch.142(5710MHz) RU 9



Reading Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
4.158	0.083	4.241

**Note:**

Total PSD (dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

(UNII 3) Bandwidth 40M Ch.142(5710MHz) RU 17

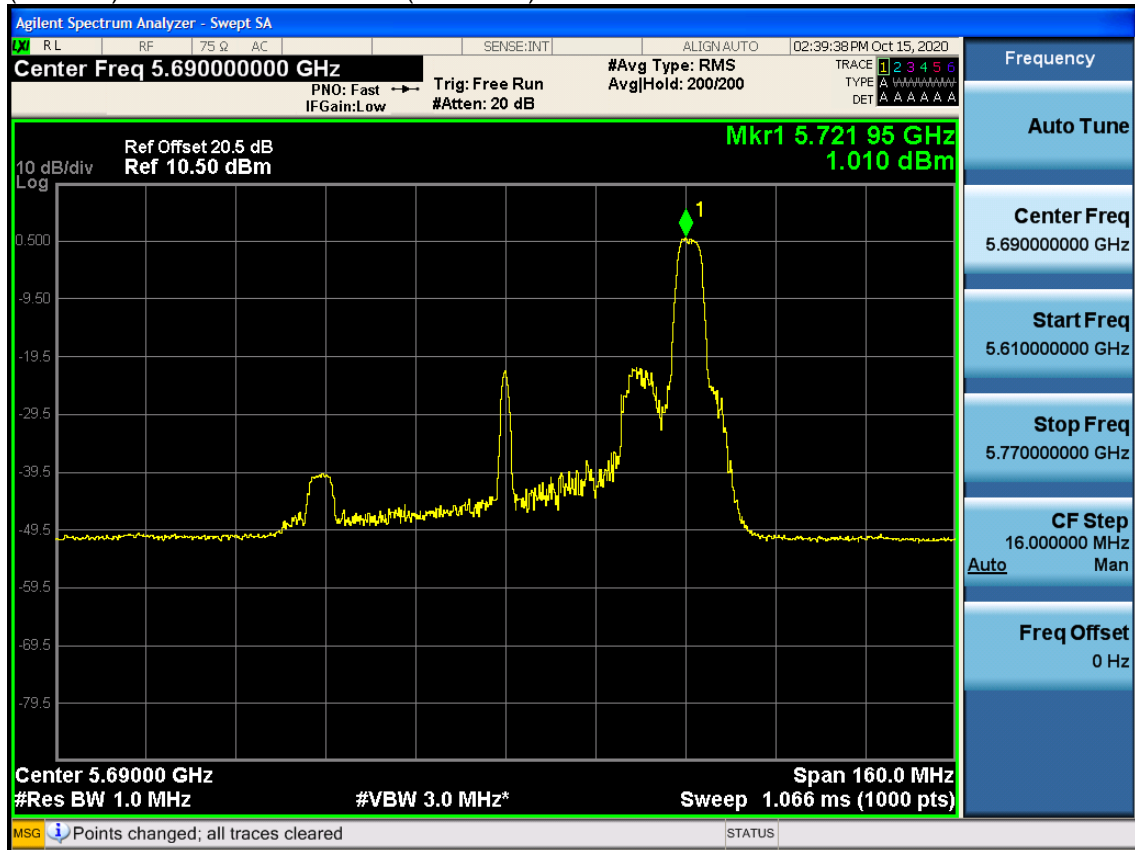


Reading Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
1.104	0.083	1.187

**Note:**

Total PSD (dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

(UNII 2C) Bandwidth 80M Ch.138(5690MHz) RU 51



Reading Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
1.010	0.163	1.173

**Note:**

Total PSD (dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

(UNII 3) Bandwidth 80M Ch.138(5690MHz) RU 36



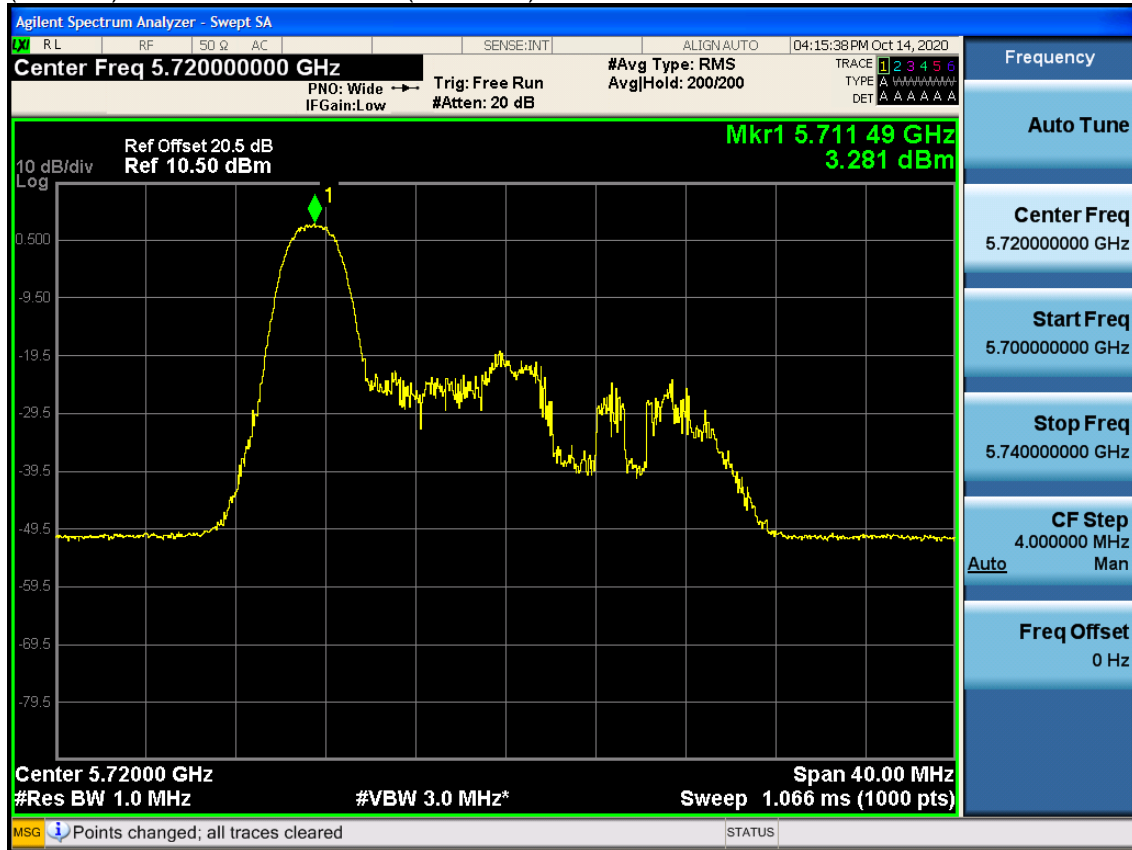
Reading Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
0.967	0.083	1.050

**Note:**

Total PSD (dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

### 5.4.2 MIMO Ant2

(UNII 2C) Bandwidth 20M Ch.144(5720MHz) RU 0

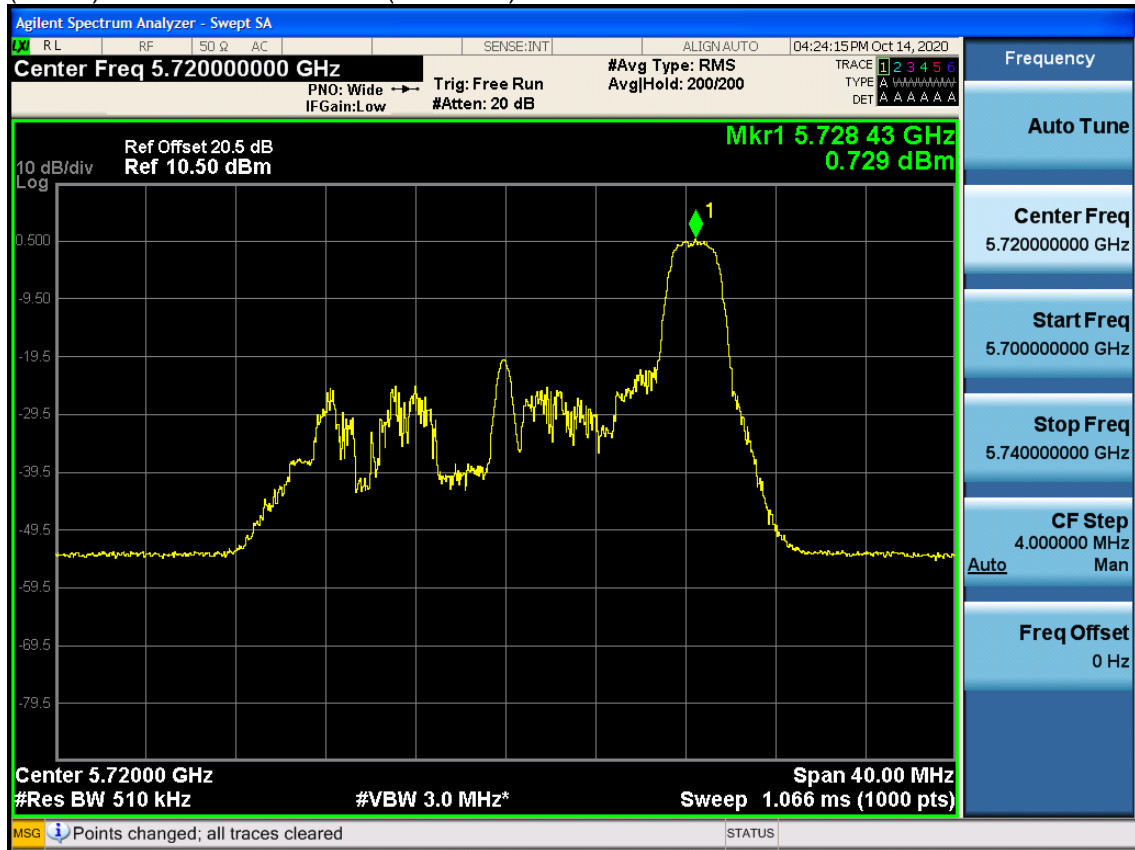


Reading Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
3.281	0.083	3.364

**Note:**

Total PSD (dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

(UNII 3) Bandwidth 20M Ch.144(5720MHz) RU 8



Reading Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
0.729	0.083	0.812

**Note:**

Total PSD (dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

(UNII 2C) Bandwidth 40M Ch.142(5710MHz) RU 9



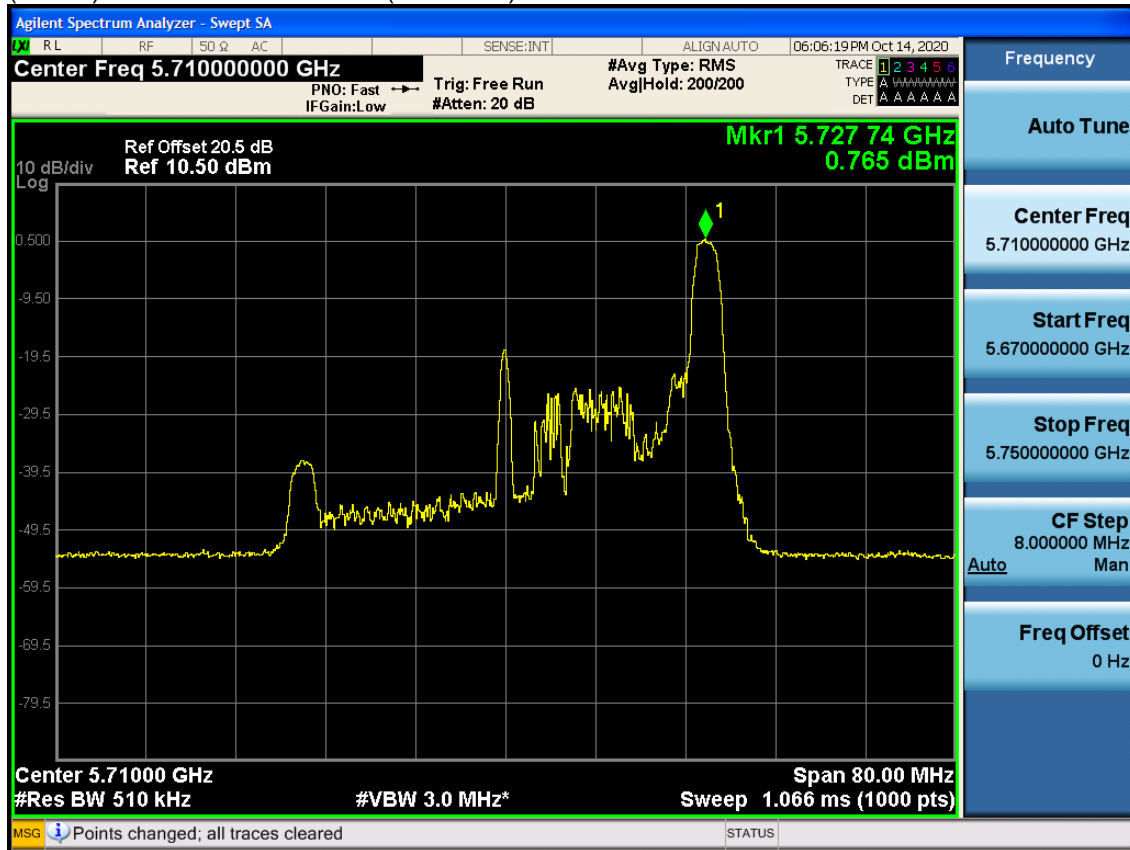
Reading Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
4.151	0.083	4.234

**Note:**

Total PSD (dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)



(UNII 3) Bandwidth 40M Ch.142(5710MHz) RU 17

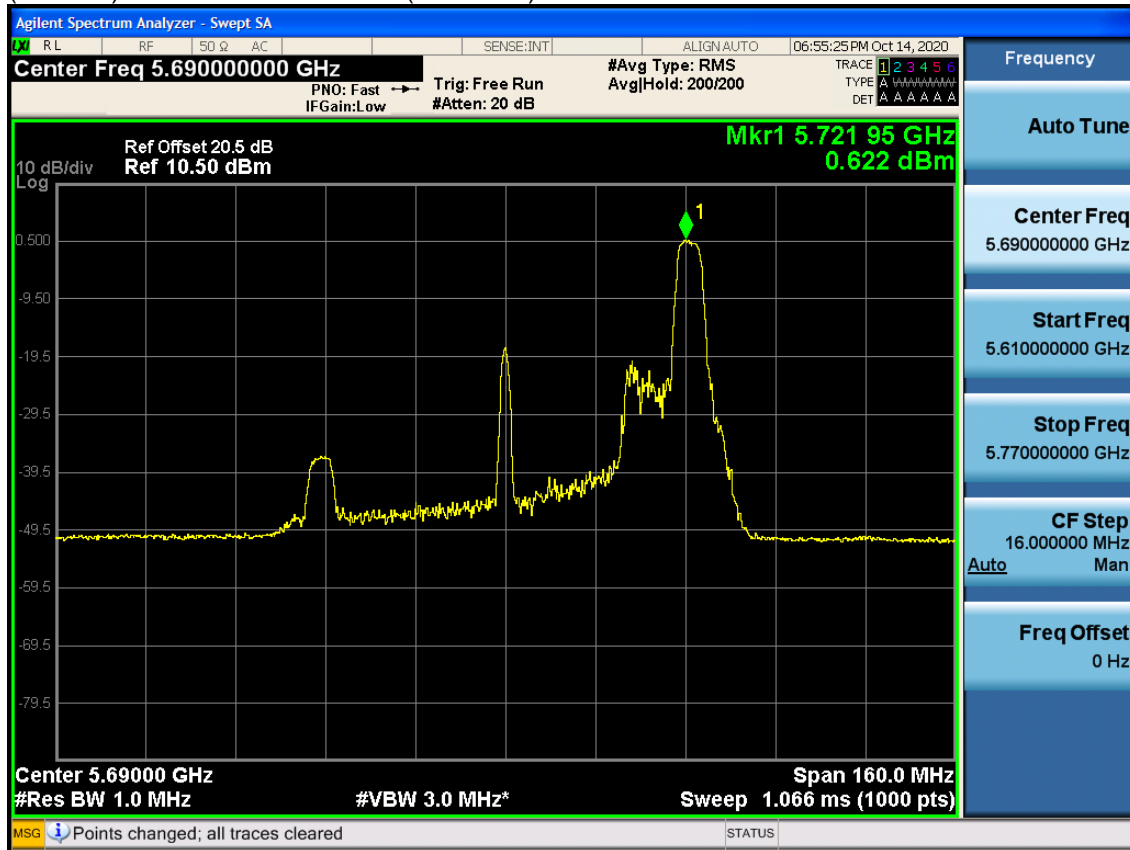


Reading Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
0.765	0.083	0.848

**Note:**

Total PSD (dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

(UNII 2C) Bandwidth 80M Ch.138(5690MHz) RU 51

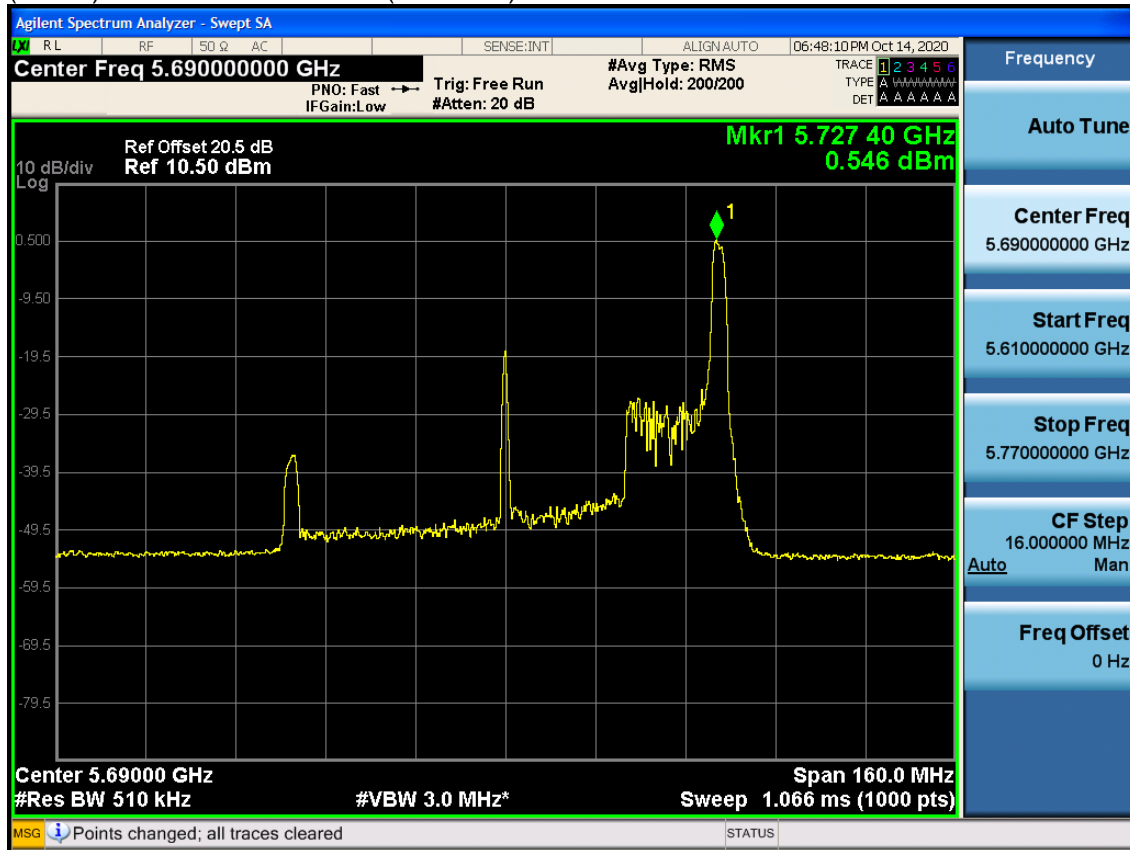


Reading Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
0.622	0.163	0.785

**Note:**

Total PSD (dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)

(UNII 3) Bandwidth 80M Ch.138(5690MHz) RU 36



Reading Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
0.546	0.083	0.629

**Note:**

Total PSD (dBm) = Reading Value(dBm) + Duty Cycle Factor(dB)