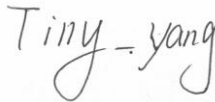



RF Test Report

For

Beijing Inhand Networks Technology Co., Ltd.

Test Standards:	<u>FCC Part 15 Subpart E §15. 407</u> <u>IC RSS-247 Issue 2</u>
Product Description:	<u>InVehicle Gateway</u>
Tested Model:	<u>VG710</u>
Brand Name:	<u>InHand</u>
FCC ID:	<u>2AANYVG710</u>
IC:	<u>11594A-VG710</u>
Classification	<u>(NII)Unlicensed National Information Infrastructure</u>
Report No.:	<u>EC2001002RF02</u>
Tested Date:	<u>2020-03-05 to 2020-03-13</u>
Issued Date:	<u>2020-03-16</u>
Prepared By:	<u></u> Tiny Yang/ Engineer
Approved By:	<u></u> Bacon Wu / RF Manager

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Note: The test results in this report apply exclusively to the tested model / sample. Without written approval of Hunan Ecloud Testing Technology Co., Ltd., the test report shall not be reproduced except in full.

Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	2020.03.16	Valid	Original Report

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Summary of Test Result

FCC Rule	IC Rule	Description	Limit	Result	Remark
2.1049 15.403(i)	RSS-247 Section 6	6dB & 99% Bandwidth	-	Pass	U-NII-1
			>500kHz	Pass	U-NII-3
15.407(a)	RSS-247 Section 6	Maximum Conducted Output Power	≤30dBm	Pass	U-NII-1
			≤30dBm	Pass	U-NII-3
15.407(a)	RSS-247 Section 6	E.I.R.P. Power Spectral Density	≤10dBm/MHz	Pass	U-NII-1
		Power Spectral Density	≤30dBm/500kHz	Pass	U-NII-3
15.407(b)	RSS-247 Section 6	Unwanted Emissions	15.407(b) 15.209(a)	Pass	Under limit 2.52 dB at 17325 MHz
15.207	RSS-Gen 8.8	AC Conducted Emission	15.207(a)	N/A	Note 1
15.407(g)	RSS-Gen 6.11	Frequency Stability	Within Operation Band	Pass	-
15.407(c)	RSS-247 6.4(a)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
15.203 & 15.407(a)	RSS-Gen 6.8	Antenna Requirement	N/A	Pass	-

Note 1: This device is a vehicle-mounted device, so there is no need to be tested.

1 Test Laboratory

1.1 Test facility

CNAS (accreditation number: L11138)

Hunan Ecloud Testing Technology Co., Ltd. has obtained the accreditation of China National Accreditation Service for Conformity Assessment (CNAS).

FCC (Designation number: CN1244 , Test Firm Registration Number: 793308)

Hunan Ecloud Testing Technology Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

ISED(CAB identifier: CN0012, ISED# :24347)

Hunan Ecloud Testing Technology Co., Ltd. has been listed on the Wireless Device Testing Laboratories list of innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements.

A2LA (Certificate Code: 4895.01)

Hunan Ecloud Testing Technology Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

2 General Description

2.1 Applicant

Beijing Inhand Networks Technology Co., Ltd.

Room 501, floor 5, building 3, yard 18, ziyue road, chaoyang district, Beijing

2.2 Manufacturer

Beijing Inhand Networks Technology Co., Ltd.

Room 501, floor 5, building 3, yard 18, ziyue road, chaoyang district, Beijing

2.3 General Description Of EUT

Product	InVehicle Gateway
Model No.	VG710
FCC ID:	2AANYVG710
IC:	11594A-VG710
HW Version	V12
SW Version	V1.0.0
Power Supply	24Vdc (DC Source)
Extreme Voltage	9V DC~36V DC
Extreme temperature	-30°C~70°C
Modulation Technology	256QAM,64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Type	802.11a/n/ac : OFDM
Operating Frequency	U-NII-1:5150~5250MHz U-NII-3:5725~5850MHz
Max. Average Output Power	U-NII-1: 802.11a : 13.92 dBm (0.0247 W) 802.11n HT20 : 16.90 dBm (0.0490 W) 802.11n HT40 : 17.10 dBm (0.0513 W) 802.11ac VHT20 : 16.80 dBm (0.0479 W) 802.11ac VHT40 : 17.20 dBm (0.0525 W) 802.11ac VHT80 : 17.00 dBm (0.0501 W) U-NII-3: 802.11a : 16.87 dBm (0.0486 W) 802.11n HT20 : 18.60 dBm (0.0724 W) 802.11n HT40 : 19.50 dBm (0.0891 W) 802.11ac VHT20 : 19.20 dBm (0.0832 W) 802.11ac VHT40 : 19.60 dBm (0.0912 W) 802.11ac VHT80 : 19.20 dBm (0.0832 W)
Antenna Type	Dipole Antenna type
Antenna Gain (dBi)	3at U-NII-1 3at U-NII-3

I/O Ports	Refer to user's manual
Cable Supplied	Refer to user's manual

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
3. Antenna listed as below

Cable No.	Description	Connector	Length	Supplied by
1	WIFI Antenna	RP-SMA-J	20cm	Applicant
2	WIFI Antenna	RP-SMA-J	20cm	Applicant
3	GPS Antenna	SMA-J	2.0m	Applicant
4	4G Antenna	SMA-J	2.0m	Applicant
5	4G Antenna	SMA-J	2.0m	Applicant

2.4 Modification of EUT

No modifications are made to the EUT during all test items.

2.5 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ FCC Part 15 Subpart E §15.407
- ♦ ANSI C63.10-2013
- ♦ FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01
- ♦ IC RSS-247 Issue 2
- ♦ IC RSS-Gen Issue 5

Remark:

1. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, ICES-003 recorded in a separate test report.

3 Test Configuration of Equipment Under Test

3.1 Carrier Frequency and Channel

U-NII-1

Channel	Frequency	Channel	Frequency
36	5180 MHz	40	5200 MHz
38	5190 MHz	46	5230 MHz
40	5200 MHz	48	5240 MHz
42	5210 MHz		

U-NII-3

Channel	Frequency	Channel	Frequency
149	5745 MHz	157	5785 MHz
151	5755 MHz	159	5795 MHz
153	5765 MHz	161	5805 MHz
155	5775 MHz	165	5825 MHz

3.2 Test Mode

Based on the baseline scan, the worst - case data rates were:

802.11a mode: 6 Mbps

802.11n HT20 mode: MCS8

802.11n HT40 mode: MCS8

802.11n VHT20 mode: MCS8

802.11n VHT40 mode: MCS8

802.11n VHT80 mode: MCS8

3.2.1 Antenna Port Conducted Measurement

Summary table of Test Cases				
Test Item	Modulation			
	802.11 a	802.11n HT20/ 802.11ac VHT20	802.11n HT40/ 802.11ac VHT40	802.11ac VHT80
U-NII-1	Mode 1: CH36 Mode 2: CH40 Mode 3: CH48	Mode 1: CH36 Mode 2: CH40 Mode 3: CH48	Mode 1: CH38 Mode 2: CH46 Mode 3: -	Mode 1: CH42 Mode 2: - Mode 3: -

Summary table of Test Cases				
Test Item	Modulation			
	802.11 a	802.11n HT20/ 802.11ac VHT20	802.11n HT40/ 802.11ac VHT40	802.11ac VHT80
U-NII-3	Mode 1: CH149 Mode 2: CH157 Mode 3: CH165	Mode 1: CH149 Mode 2: CH157 Mode 3: CH165	Mode 1: CH151 Mode 2: CH159	Mode 1: CH155 Mode 2: - Mode 3: -

3.2.2 Radiated Emission Test (Below 1GHz)

Radiated Test Cases	Modulation
	Ant 2: 802.11a CH36

Note : 1. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis, antenna ports (if EUT with antenna diversity architecture) and packet type. It was determined that Y orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in Y orientation.

2. Following channel(s) was (were) selected for the final test as listed above.

3. All the below test modes were conducted, only reported the worst case mode Ant 2 802.11a CH36.

3.2.3 Radiated Bandedge and Radiated Emission Test (Above 1GHz)

Summary table of Test Cases				
Test Item	Modulation			
	802.11 a	802.11n HT20/ 802.11ac VHT20	802.11n HT40/ 802.11ac VHT40	802.11ac VHT80
U-NII-1	Mode 1: CH36 Mode 2: CH40 Mode 3: CH48	Mode 1: CH36 Mode 2: CH40 Mode 3: CH48	Mode 1: CH38 Mode 2: CH46 Mode 3: -	Mode 1: CH42 Mode 2: - Mode 3: -

Summary table of Test Cases				
Test Item	Modulation			
	802.11 a	802.11n HT20/ 802.11ac VHT20	802.11n HT40/ 802.11ac VHT40	802.11ac VHT80
U-NII-3	Mode 1: CH149 Mode 2: CH157	Mode 1: CH149 Mode 2: CH157	Mode 1: CH151 Mode 2: CH159	Mode 1: CH155 Mode 2: -

	Mode 3: CH165	Mode 3: CH165		Mode 3: -
--	---------------	---------------	--	-----------

- Note :
1. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis, antenna ports (if EUT with antenna diversity architecture) and packet type. It was determined that Y orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in Y orientation.
 2. Following channel(s) was (were) selected for the final test as listed above
 3. For frequency above 18GHz, the measured value is much lower than the limit, therefore, it is not reflected in the report.

3.3 Support Equipment

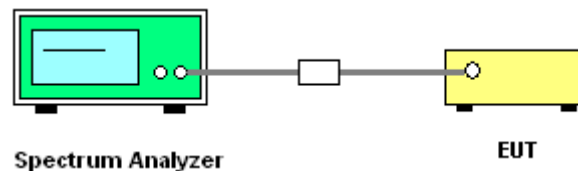
Support equipment

Manufacturer	Description	Model	Serial Number	Certificate	Supplied by
Lenovo	PC	Xiaoxinchao5000	PF0QPQMH	DOC	Ecloud

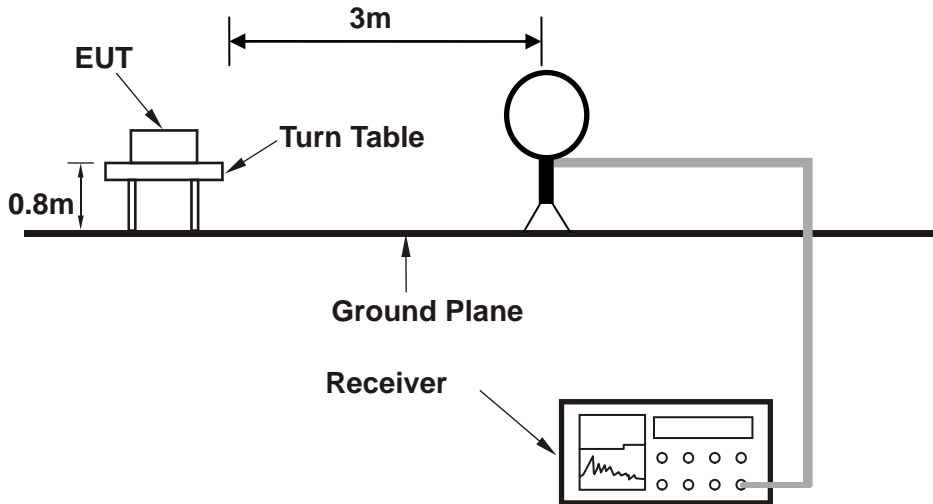
3.4 Test Setup

The EUT is continuously communicating to the Bluetooth tester during the tests.
 EUT was set in the Hidden menu mode to enable BT communications.

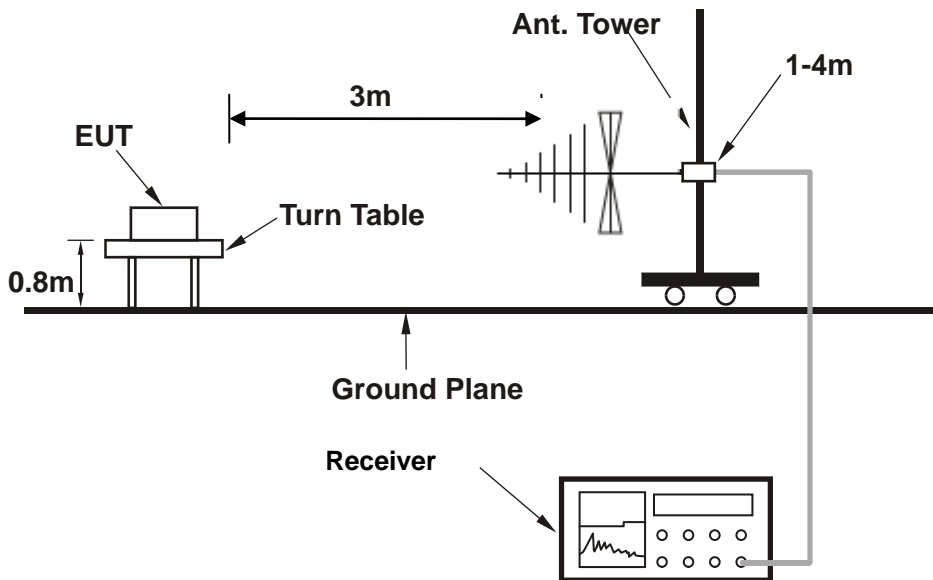
Setup diagram for Conducted Test



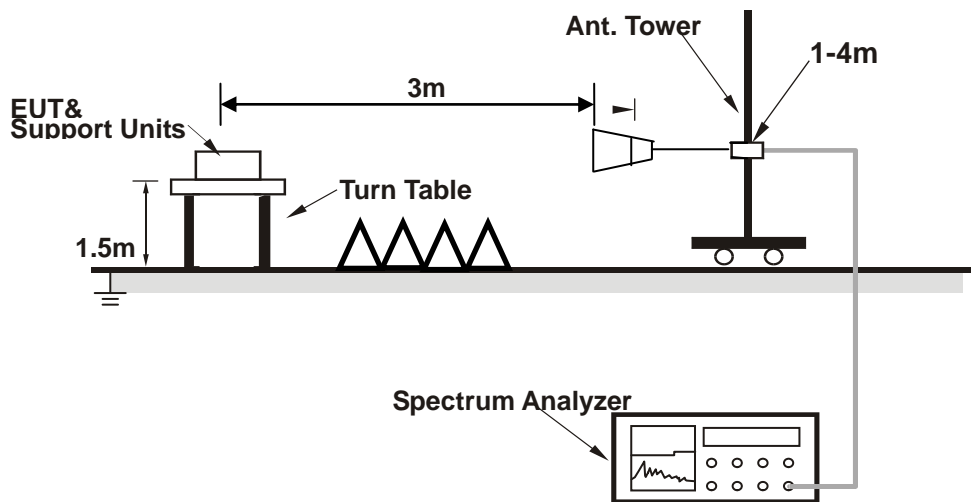
Setup diagram for Radiation(9KHz~30MHz) Test



Setup diagram for Radiation(Below 1G) Test



Setup diagram for Radiation(Above1G) Test



3.5 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 5 dB and 10dB attenuator.

$$\begin{aligned}
 \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\
 &= 5 + 10 = 15 \text{ (dB)}
 \end{aligned}$$

4 Test Result

4.1 6dB 26dB and 99% Occupied Bandwidth Measurement

4.1.1 Limit of 6dB 26dB and 99% Bandwidth

There is no limit bandwidth for U-NII-1, U-NII-2-A and U-NII-2-C.

The minimum 6 dB bandwidth shall be at least 500 kHz for U-NII-3.

4.1.2 Test Procedures

1. Place the EUT on the table and set it in transmitting mode.
2. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules .
3. Remove the antenna from the EUT and then connect a low loss RF cable from the Antenna port to the spectrum analyzer.
4. 26dB Band width Measurement: Set the spectrum analyzer as 1% of emission BW Sweep=auto,Detector = Peak, Trace Mode = Max Hold, VBW>RBW, Manually readjust RBW until the RBW/EBW ratio is 1% based on EBW as observed on the result of pre-sequence measurement.
5. 99% Band width Measurement: Set the spectrum analyzer as 1%~5% of emission BW Sweep=auto,Detector = Peak, Trace Mode = Max Hold, VBW \geq 3*RBW, span=1.5 times to 5.0 times the OBW, Manually readjust RBW until the RBW/EBW ratio is 1% based on EBW as observed on the result of pre-sequence measurement.
6. Minimum Emission Bandwidth Measurement: Set the spectrum analyzer RBW=100KHz, VBW \geq 3*RBW, Sweep=auto,Detector = Peak, Trace Mode = Max Hold,
7. Mark the peak frequency and -6dB (upper and lower) frequency.
8. Repeat the procedures as list above until all test default channels (low, middle, and high) are completed.
9. Measure and record the results in the test report.

4.1.3 Test Result of 6dB Bandwidth, 26dB and 99% Bandwidth

26dB Bandwidth: Refer to Appendix A1

99% Bandwidth: Refer to Appendix A2

6dB Bandwidth: Refer to Appendix A3

4.2 Maximum Conducted Output Power Measurement

4.2.1 Limit of Output Power

FCC

Operation Band	EUT Category		Limit
U-NII-1	√	Access Point(Mater Device)	1 Watt(30dBm)
		Fixed point-to-point Acss Ponit	1 Watt(30dBm)
		Mobile and portable client device	250mW(23.98dBm)
U-NII-2A	√		250mW(23.98dBm) or 11dBm+10 log B
U-NII-2C	√		250mW(23.98dBm) or 11dBm+10 log B
U-NII-3	√		1 W(30dBm)

IC

Operation Frequency Band	Limit
5150~5250 MHz	EIRP shall not exceed 200 mW or 10 + 10 logB, dBm
5250~5350 MHz	Conducted output power shall not exceed 250 mW or 11 +10 logB EIRP shall not exceed 1.0 W or 17 + 10 logB, dBm
5470~5600 MHz and 5650~5725 MHz	Conducted output power shall not exceed 250 mW or 11 +10 logB EIRP shall not exceed 1.0 W or 17 + 10 logB, dBm
5725~5850 MHz	The maximum conducted output power over the frequency band of operation shall not exceed 1 W.

If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the direction-al gain of the antenna exceeds 6 dBi.

B is the 99% emission bandwidth in megahertz.

4.2.2 Test Procedures

1. Place the EUT on the table and set it in transmitting mode.
2. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules .
3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the Spectrum Analyzer.
4. Spectrum Analyzer is used as the auxiliary test equipment to conduct the output power measurement.
5. Set span to encompass the entire emission bandwidth (EBW) of the signal. Set sweep trigger to “free run.”, RBW = 1 MHz, Set VBW \geq 3MHz, Number of points in sweep \geq 2 x span / RBW, Sweep time = auto, Detector = = power averaging (rms).
6. Video filtering shall be applied to power signal (rms), it shall be set to operate on a linear voltage signal.
7. Trace average at least 100 traces in power averaging (rms) mode.
8. Repeat above procedures until all frequency (low, middle, and high channel) measured were complete.

4.2.3 Test Result of Output Power

Refer to Appendix B1

4.2.4 Test Result of E.I.R.P.

Refer to Appendix B2

4.3 Power Spectral Density Measurement

4.3.1 Limits of Power Spectral Density

FCC

Operation Band	EUT Category		Limit
U-NII-1	√	Access Point(Mater Device)	17dBm/MHz
		Fixed point-to-point Access Ponit	
		Mobile and portable client device	11dBm/ MHz
U-NII-2A	√		11dBm/ MHz
U-NII-2C	√		11dBm/ MHz
U-NII-3	√		30 dBm/500kHz

IC

Operation Frequency Band	Limit
5150~5250 MHz	EIRP spectral density 10 dBm / MHz
5250~5350 MHz	11dBm / MHz
5470~5600 MHz and 5650~5725 MHz	11dBm / MHz
5725~5850 MHz	30 dBm/500kHz

If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

4.3.2 Test Procedure

1. Place the EUT on the table and set it in transmitting mode.
2. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules .
3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to Spectrum.
4. For UNII-1: Set RBW=1MHz, VBW=3MHz, where span is enough to capture the entire bandwidth, Sweep time = Auto (601 pts), detector = RMS, traces 100 sweeps of video averaging(SA-2 with the omission of procedure x, the integration with 26dB EBW bandwidth)
5. For UNII-3: Set RBW=300KHz, VBW=1.5MHz, where span is enough to capture the entire bandwidth, Sweep time = Auto (601 pts), detector = RMS, traces 100 sweeps of video averaging(SA-2 with the omission of procedure x, the integration with 26dB EBW bandwidth)
6. Use the cursor on spectrum to peak search the highest level of trace.
7. Record the max. reading and add 10 log(1/duty cycle).
8. Repeat above procedures until all default test channel (low, middle, and high) was complete.

4.3.3 Test Result of Power Spectral Density

Refer to Appendix C1

4.3.4 Test Result of E.I.R.P. Power Spectral Density

Refer to Appendix C2

4.4 Unwanted Emissions Measurement

This section as specified in FCC Part 15.407(b) is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement. The unwanted emissions shall comply with 15.407(b)(1) to (6), and restricted bands per FCC Part15.205.

4.4.1 Limit of Unwanted Emissions

(1) For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350MHz band shall not exceed an EIRP of -27dBm/MHz .

For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350MHz band shall not exceed an EIRP of -27 dBm/MHz . Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

For transmitters operating in the 5470-5600 MHz and 5650-5725MHz band: all emissions outsideof the 5470-5600 MHz and 5650-5725MHz band shall not exceed an EIRP of -27 dBm/MHz .

For transmitters operating in the 5.725-5.85 GHz band:

15.407(b)(4)(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(2) Unwanted spurious emissions fallen in restricted bands shall comply with the general field strength limits as below table

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

Note: The following formula is used to convert the EIRP to field strength.

$$E = \frac{1000000 \sqrt{30P}}{3} \quad \mu\text{V/m, where P is the eirp (Watts)}$$

EIRP (dBm)	Field Strength at 3m (dBμV/m)
-17	78.3
-27	68.3

(3) KDB789033 D02 v02r01 G)2)c) As specified in 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in 15.407(b)(4)). However, an out-of-band emission that complies with both the average and peak limits of 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz peak emission limit.

4.4.2 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.

(1) Procedure for Unwanted Emissions Measurements Below 1000MHz

- RBW = 120 kHz
- VBW = 300 kHz
- Detector = Peak
- Trace mode = max hold

(2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz

- RBW = 1 MHz
- VBW ≥ 3 MHz
- Detector = Peak
- Sweep time = auto

- Trace mode = max hold

(3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

- RBW = 1 MHz
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - $VBW \geq 1/T$, 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.
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground..
 3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
 4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
 5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
 6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
 7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	96.05	2.06	0.49	1KHz
802.11n HT20	98.06	4.49	-	10Hz
802.11n HT40	97.14	3.27	0.31	1KHz
802.11ac HT20	77.86	2.28	0.44	1KHz
802.11ac HT40	83.40	3.27	0.31	1KHz
802.11ac HT80	84.31	3.52	0.28	1KHz

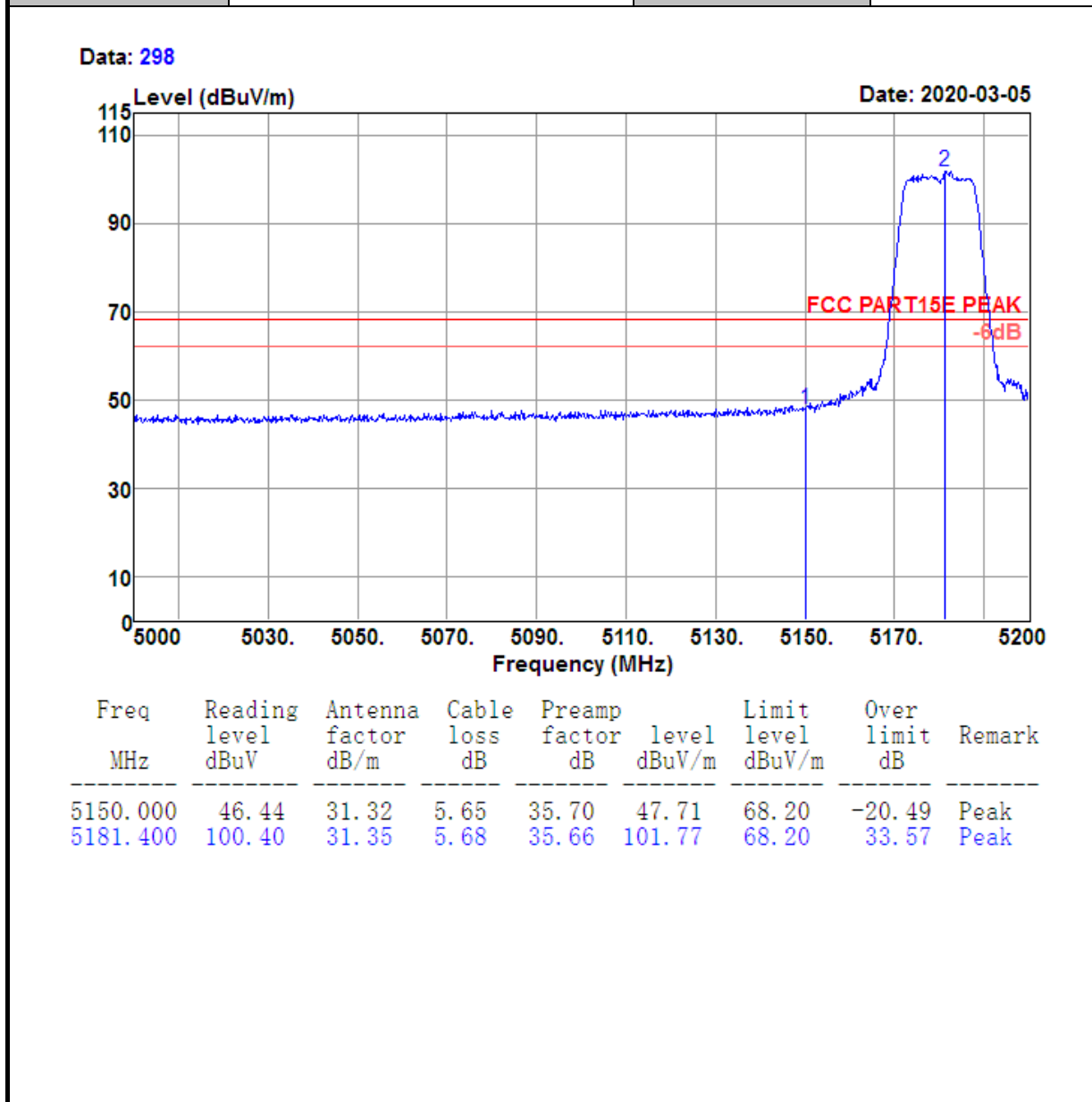
8. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

4.4.3 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

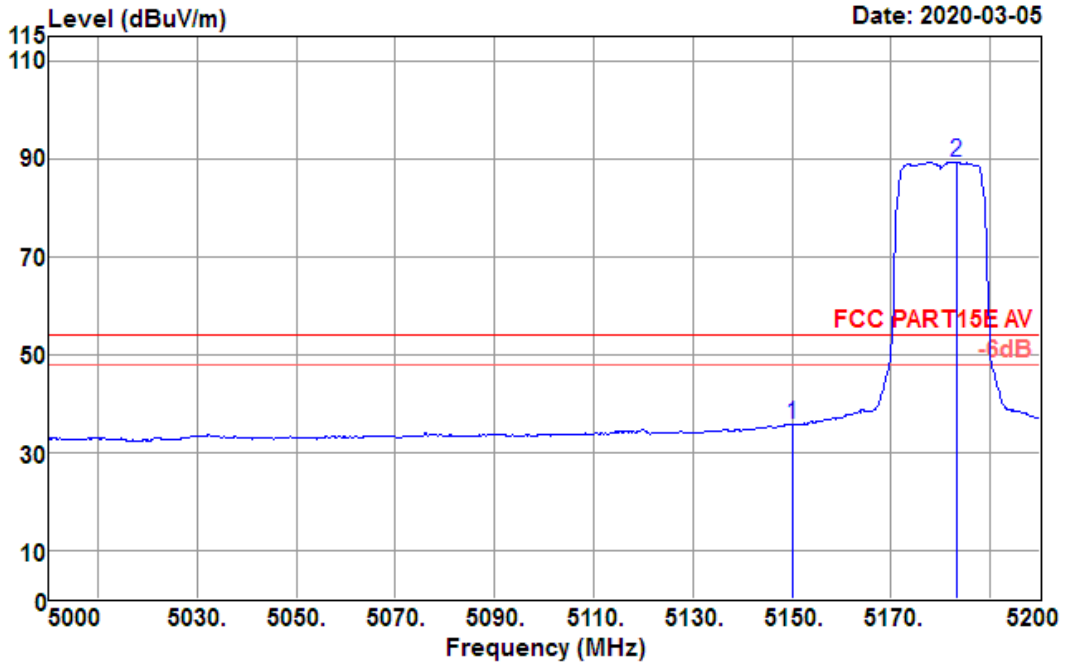
4.4.4 Test Result of Radiated Spurious at Band Edges

Test Mode :	802.11a CH36 5180MHz	Temperature :	21~23°C
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.00GHz~5.20GHz	Polarization :	Horizontal



Test Mode :	802.11a CH36 5180MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.00GHz~5.20GHz	Polarization :	Horizontal

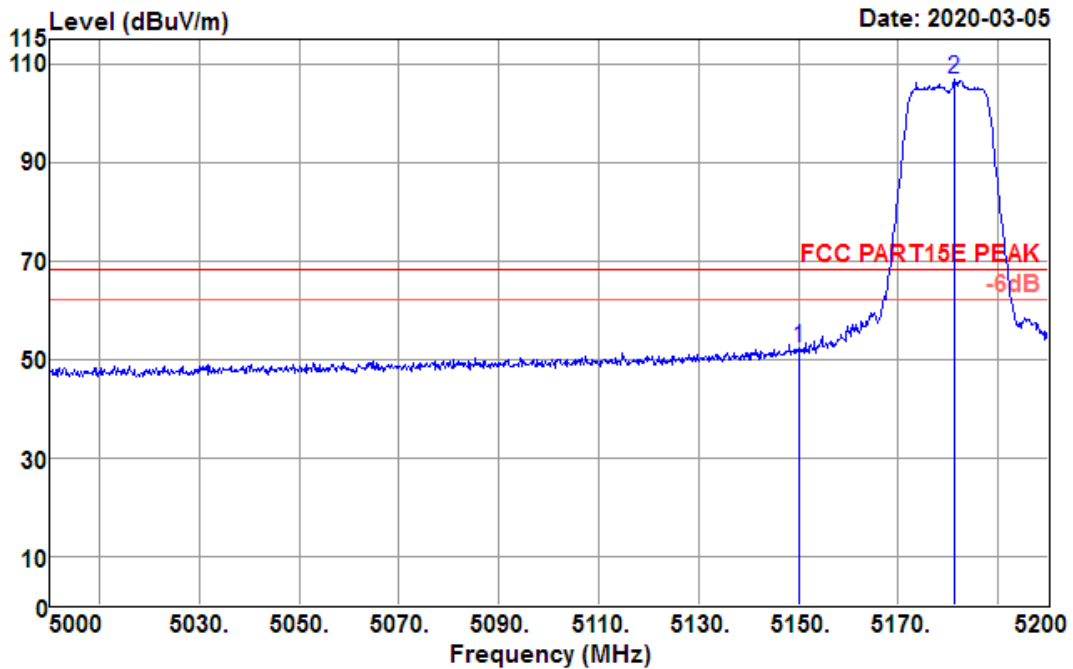
Data: 299



Freq MHz	Reading level dBUV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBUV/m	Limit level dBUV/m	Over limit dB	Remark
5150.000	34.33	31.32	5.65	35.70	35.60	54.00	-18.40	Average
5183.200	87.89	31.35	5.68	35.66	89.26	54.00	35.26	Average

Test Mode :	802.11a CH36 5180MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.00GHz~5.20GHz	Polarization :	Vertical

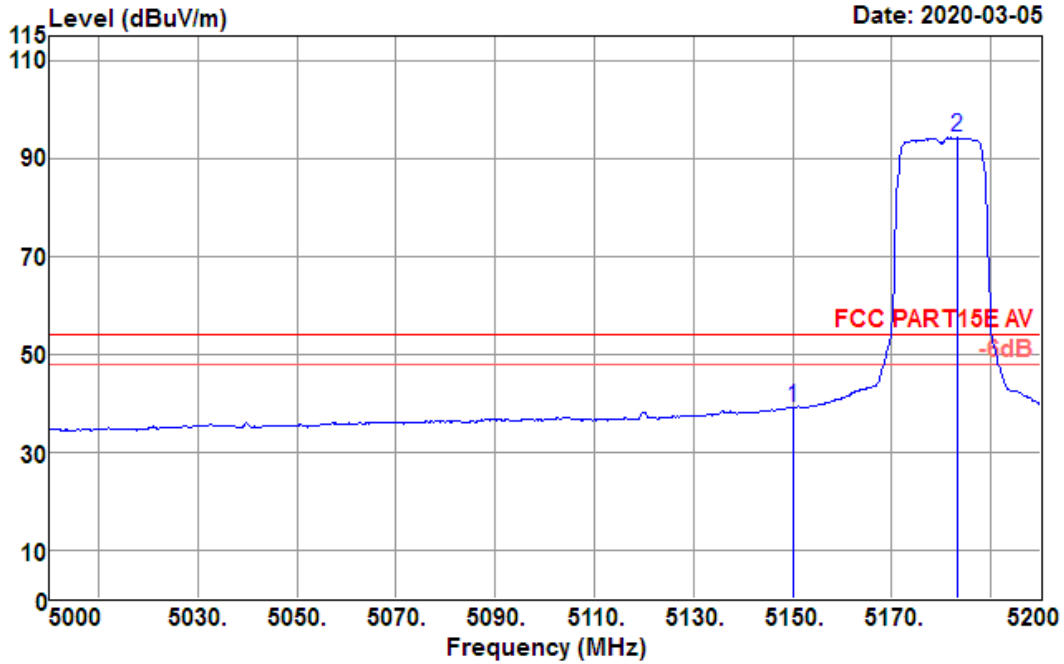
Data: 301



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5150.000	51.10	31.32	5.65	35.70	52.37	68.20	-15.83	Peak
5181.400	105.52	31.35	5.68	35.66	106.89	68.20	38.69	Peak

Test Mode :	802.11a CH36 5180MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.00GHz~5.20GHz	Polarization :	Vertical

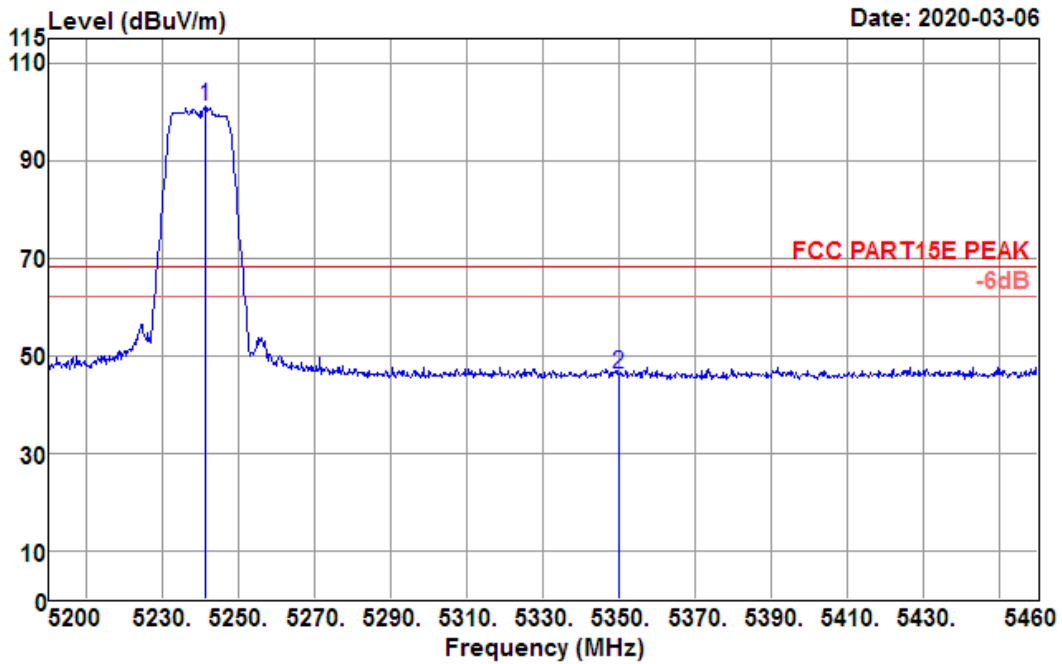
Data: 302



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5150.000	37.66	31.32	5.65	35.70	38.93	54.00	-15.07	Average
5183.200	92.85	31.35	5.68	35.66	94.22	54.00	40.22	Average

Test Mode :	802.11a CH48 5240MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.20GHz~5.46GHz	Polarization :	Horizontal

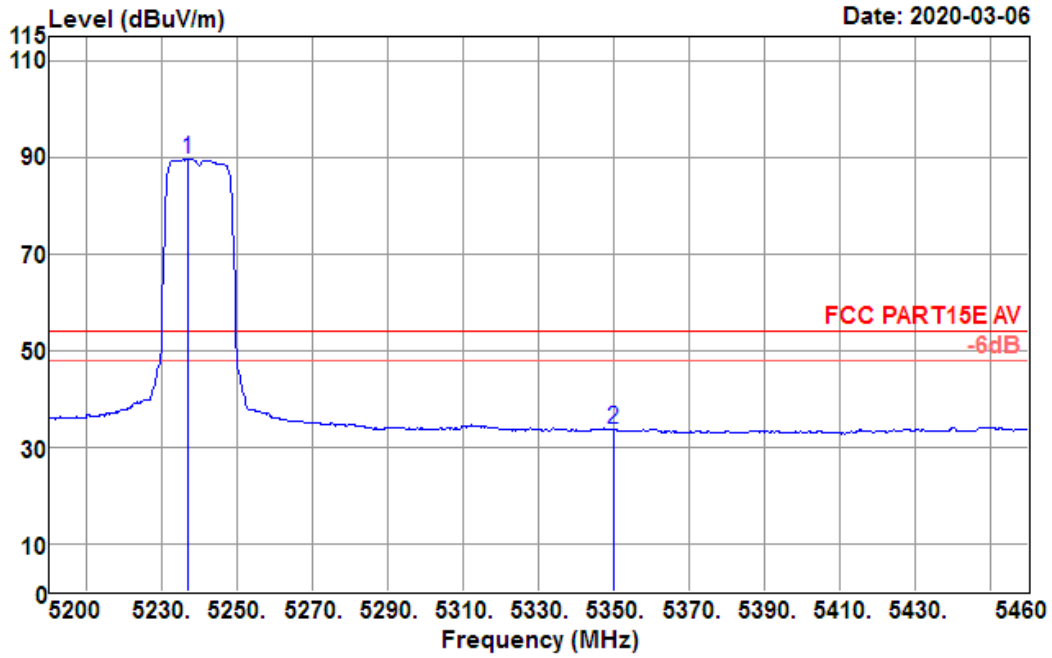
Data: 306



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5241.080	99.56	31.39	5.70	35.58	101.07	68.20	32.87	Peak
5350.000	44.50	31.48	5.71	35.43	46.26	68.20	-21.94	Peak

Test Mode :	802.11a CH48 5240MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.20GHz~5.46GHz	Polarization :	Horizontal

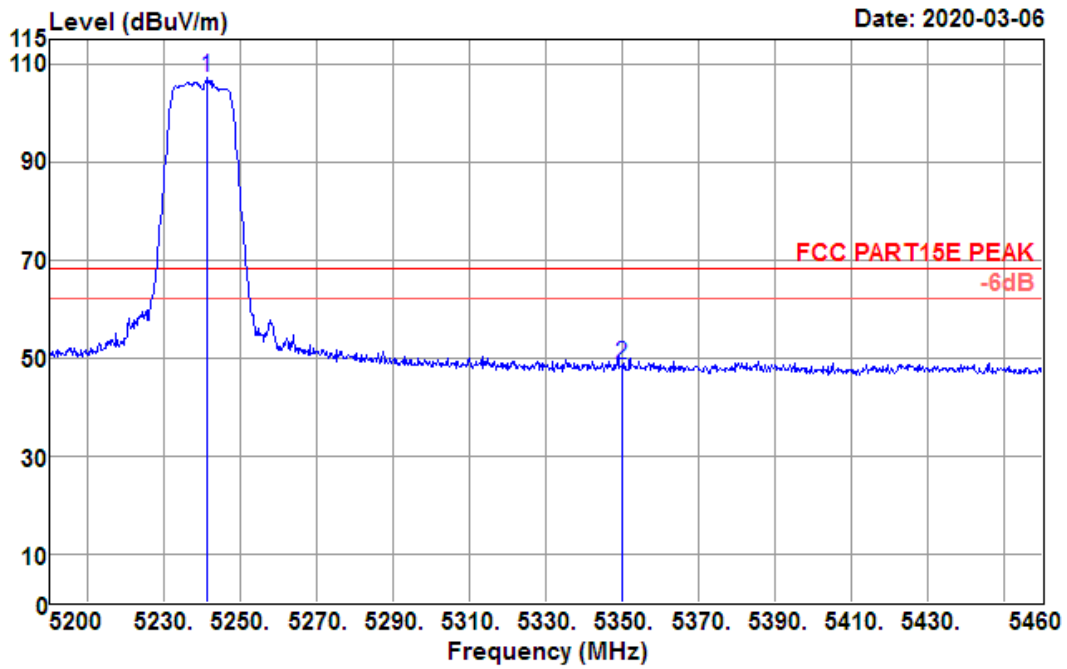
Data: 307



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5236.920	88.12	31.39	5.70	35.58	89.63	54.00	35.63	Average
5350.000	31.68	31.48	5.71	35.43	33.44	54.00	-20.56	Average

Test Mode :	802.11a CH48 5240MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.20GHz~5.46GHz	Polarization :	Vertical

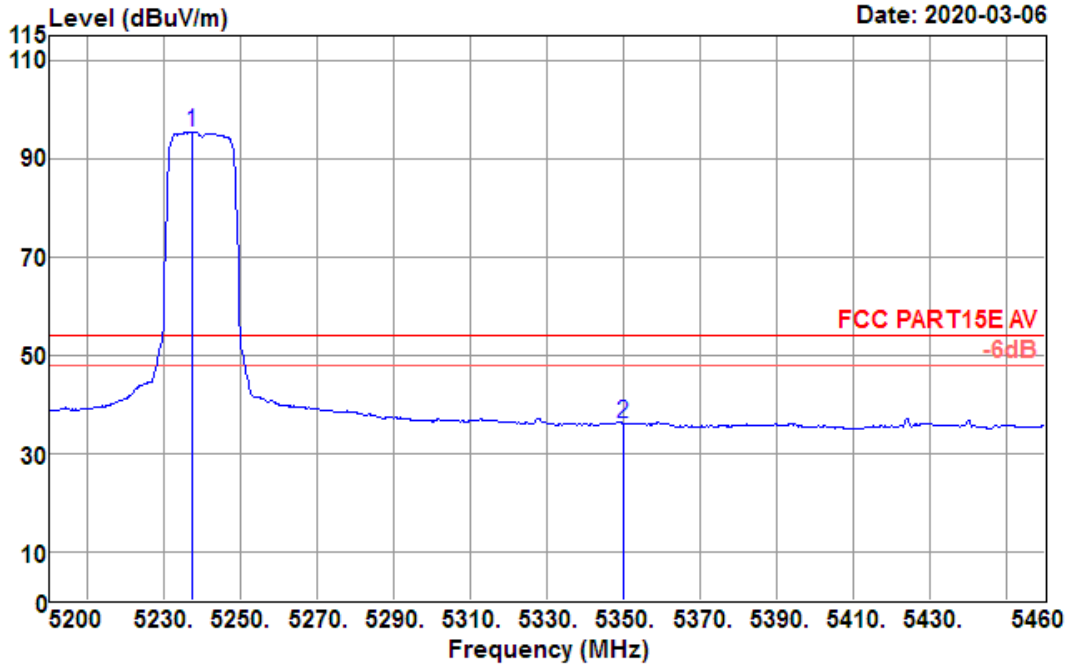
Data: 311



Freq MHz	Reading level dBUV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBUV/m	Limit level dBUV/m	Over limit dB	Remark
5241.340	105.57	31.39	5.70	35.58	107.08	68.20	38.88	Peak
5350.000	46.69	31.48	5.71	35.43	48.45	68.20	-19.75	Peak

Test Mode :	802.11a CH48 5240MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.20GHz~5.46GHz	Polarization :	Vertical

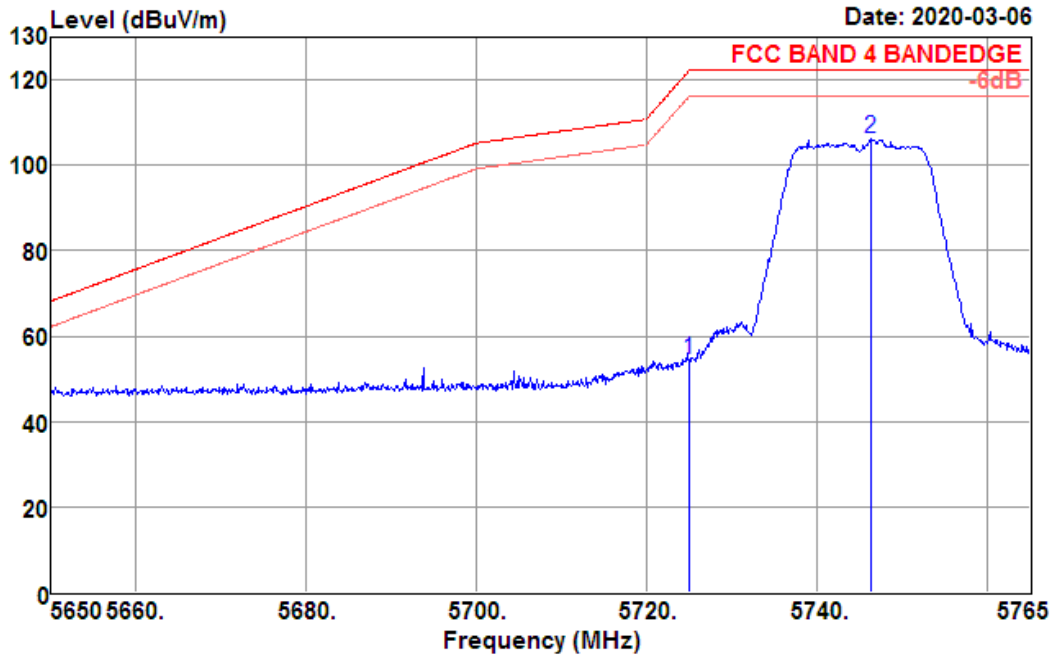
Data: 309



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5237.180	93.94	31.39	5.70	35.58	95.45	54.00	41.45	Average
5350.000	34.23	31.48	5.71	35.43	35.99	54.00	-18.01	Average

Test Mode :	802.11a CH149 5745MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.650GHz~5.765GHz	Polarization :	Horizontal

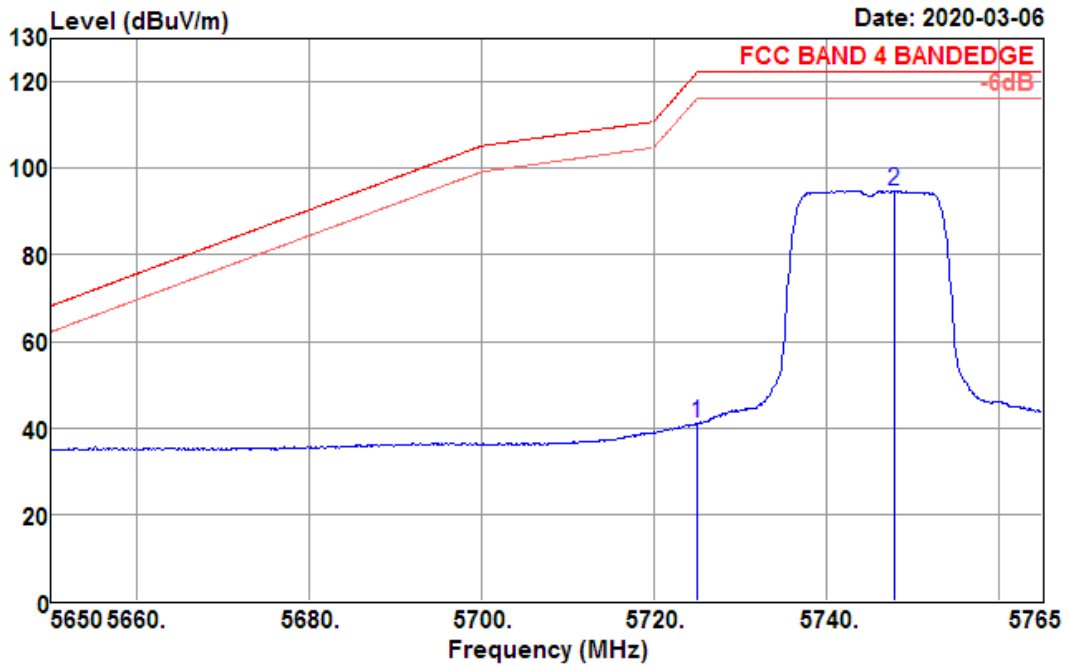
Data: 135



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5725.000	51.38	31.96	6.04	34.91	54.47	122.20	-67.73	Peak
5746.370	102.94	31.99	6.06	34.88	106.11	122.20	-16.09	Peak

Test Mode :	802.11a CH149 5745MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.650GHz~5.765GHz	Polarization :	Horizontal

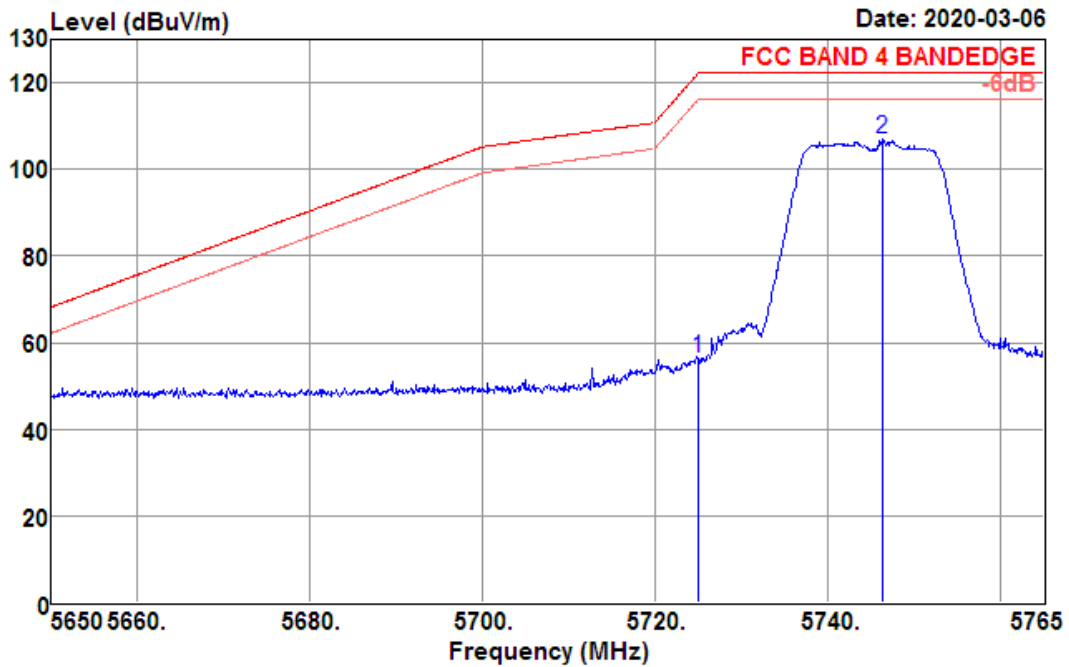
Data: 136



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5725.000	37.91	31.96	6.04	34.91	41.00	122.20	-81.20	Average
5747.865	91.61	32.00	6.06	34.88	94.79	122.20	-27.41	Average

Test Mode :	802.11a CH149 5745MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.650GHz~5.765GHz	Polarization :	Vertical

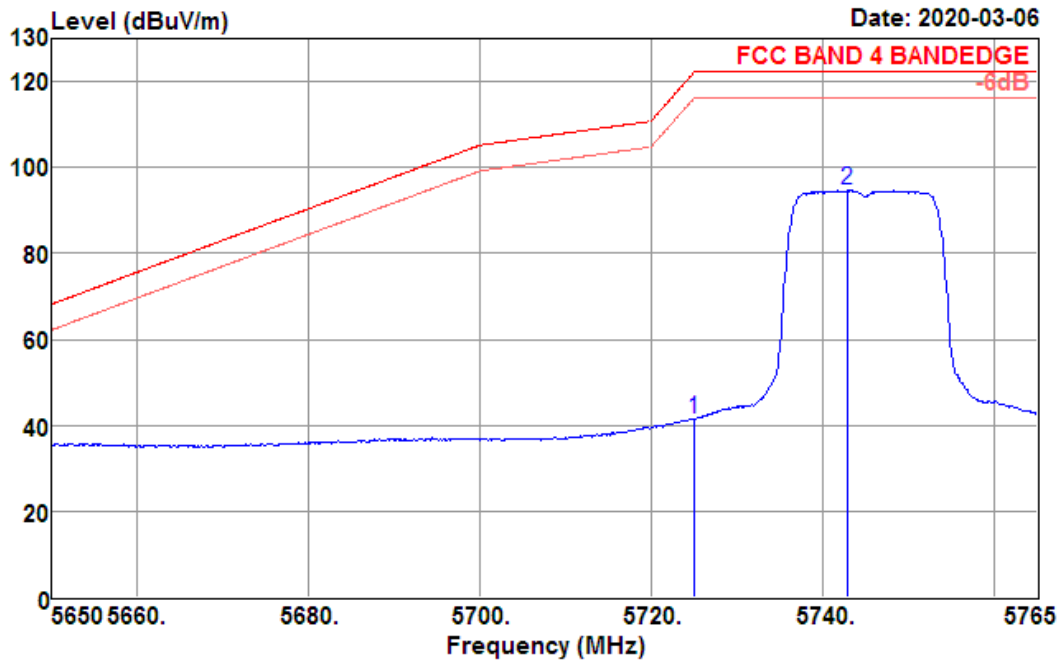
Data: 138



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5725.000	53.35	31.96	6.04	34.91	56.44	122.20	-65.76	Peak
5746.370	103.70	31.99	6.06	34.88	106.87	122.20	-15.33	Peak

Test Mode :	802.11a CH149 5745MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.650GHz~5.765GHz	Polarization :	Vertical

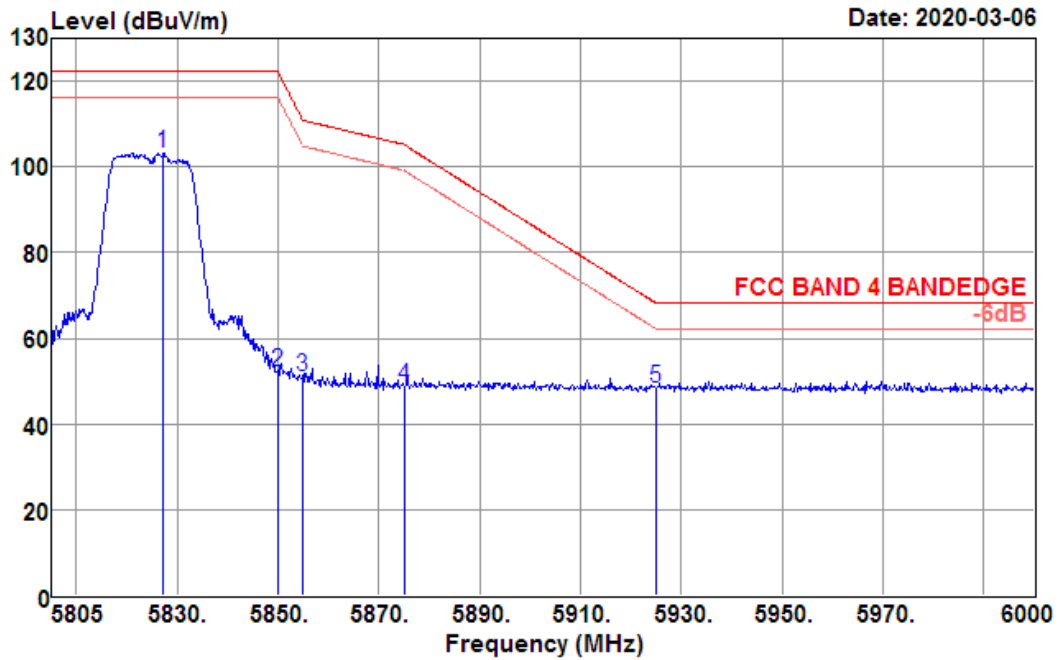
Data: 139



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5725.000	38.52	31.96	6.04	34.91	41.61	122.20	-80.59	Average
5742.805	91.47	31.99	6.05	34.88	94.63	122.20	-27.57	Average

Test Mode :	802.11a CH165 5825MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.805GHz~6.00GHz	Polarization :	Horizontal

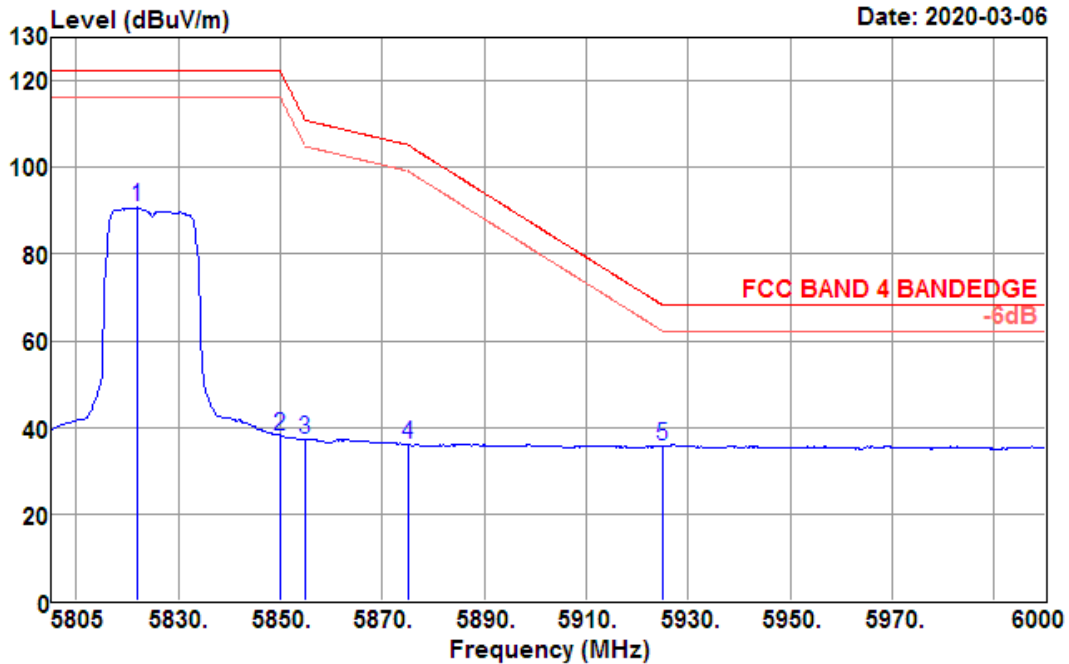
Data: 143



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5827.230	99.65	32.12	6.13	34.77	103.13	122.20	-19.07	Peak
5850.000	48.61	32.16	6.15	34.74	52.18	122.20	-70.02	Peak
5855.000	47.24	32.17	6.16	34.73	50.84	110.80	-59.96	Peak
5875.000	45.01	32.20	6.18	34.70	48.69	105.20	-56.51	Peak
5925.000	44.49	32.28	6.22	34.63	48.36	68.20	-19.84	Peak

Test Mode :	802.11a CH165 5825MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.805GHz~6.00GHz	Polarization :	Horizontal

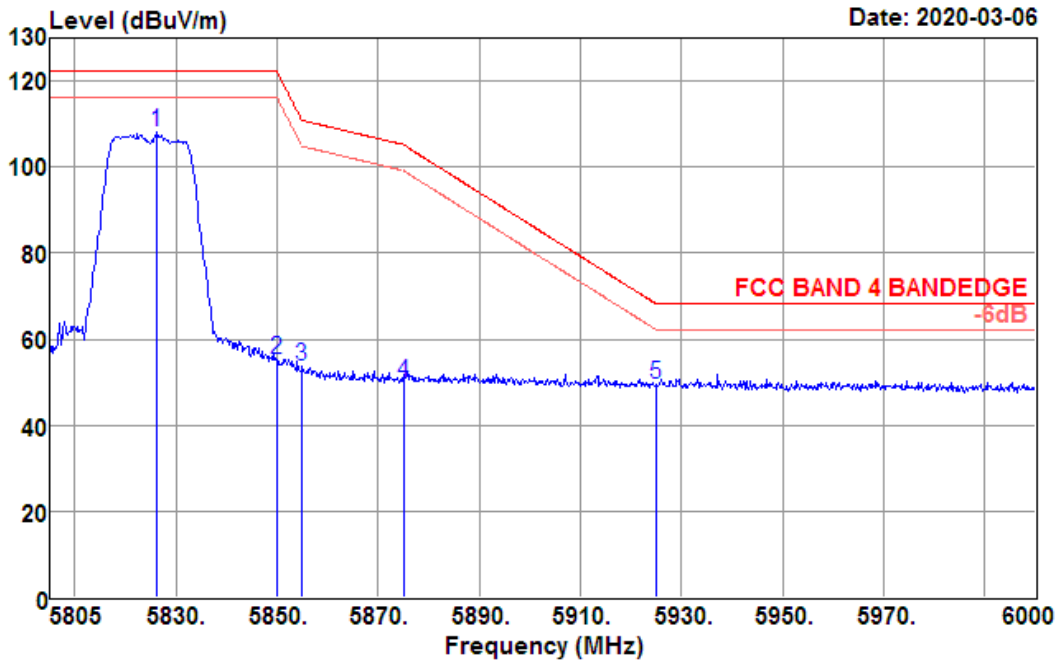
Data: 144



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5821.965	87.26	32.12	6.12	34.78	90.72	122.20	-31.48	Average
5850.000	34.47	32.16	6.15	34.74	38.04	122.20	-84.16	Average
5855.000	33.53	32.17	6.16	34.73	37.13	110.80	-73.67	Average
5875.000	32.25	32.20	6.18	34.70	35.93	105.20	-69.27	Average
5925.000	31.79	32.28	6.22	34.63	35.66	68.20	-32.54	Average

Test Mode :	802.11a CH165 5825MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.805GHz~6.00GHz	Polarization :	Vertical

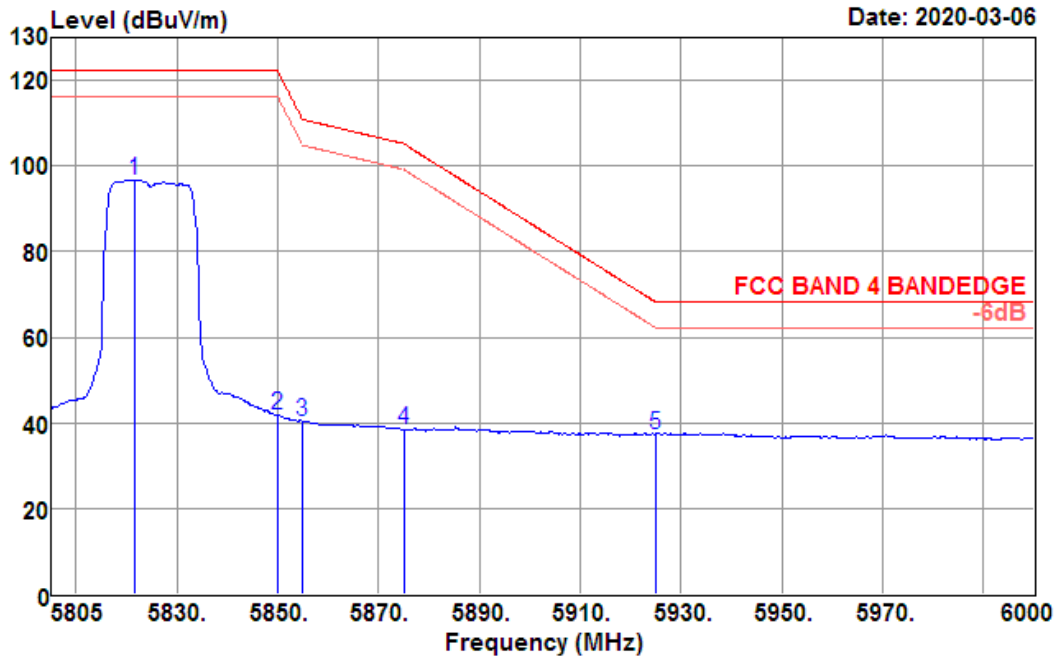
Data: 146



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5826.255	104.52	32.12	6.13	34.77	108.00	122.20	-14.20	Peak
5850.000	51.66	32.16	6.15	34.74	55.23	122.20	-66.97	Peak
5855.000	50.27	32.17	6.16	34.73	53.87	110.80	-56.93	Peak
5875.000	46.16	32.20	6.18	34.70	49.84	105.20	-55.36	Peak
5925.000	45.61	32.28	6.22	34.63	49.48	68.20	-18.72	Peak

Test Mode :	802.11a CH165 5825MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.805GHz~6.00GHz	Polarization :	Vertical

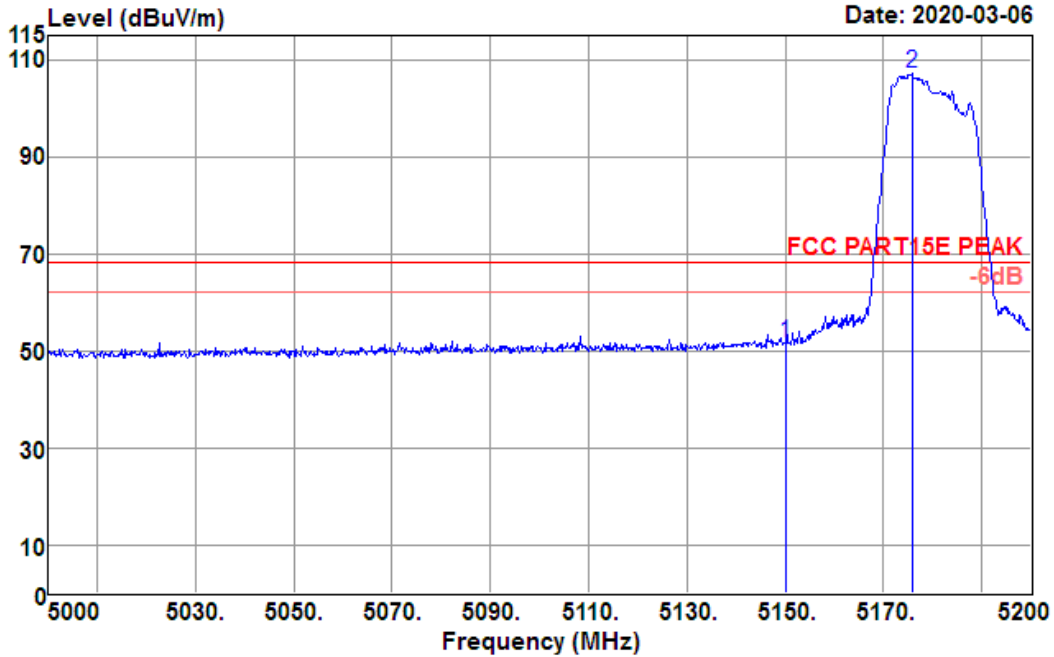
Data: 147



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5821.770	93.13	32.11	6.12	34.78	96.58	122.20	-25.62	Average
5850.000	38.14	32.16	6.15	34.74	41.71	122.20	-80.49	Average
5855.000	36.57	32.17	6.16	34.73	40.17	110.80	-70.63	Average
5875.000	34.79	32.20	6.18	34.70	38.47	105.20	-66.73	Average
5925.000	33.50	32.28	6.22	34.63	37.37	68.20	-30.83	Average

Test Mode :	802.11n HT20 CH36 5180MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.0GHz~5.20GHz	Polarization :	Horizontal

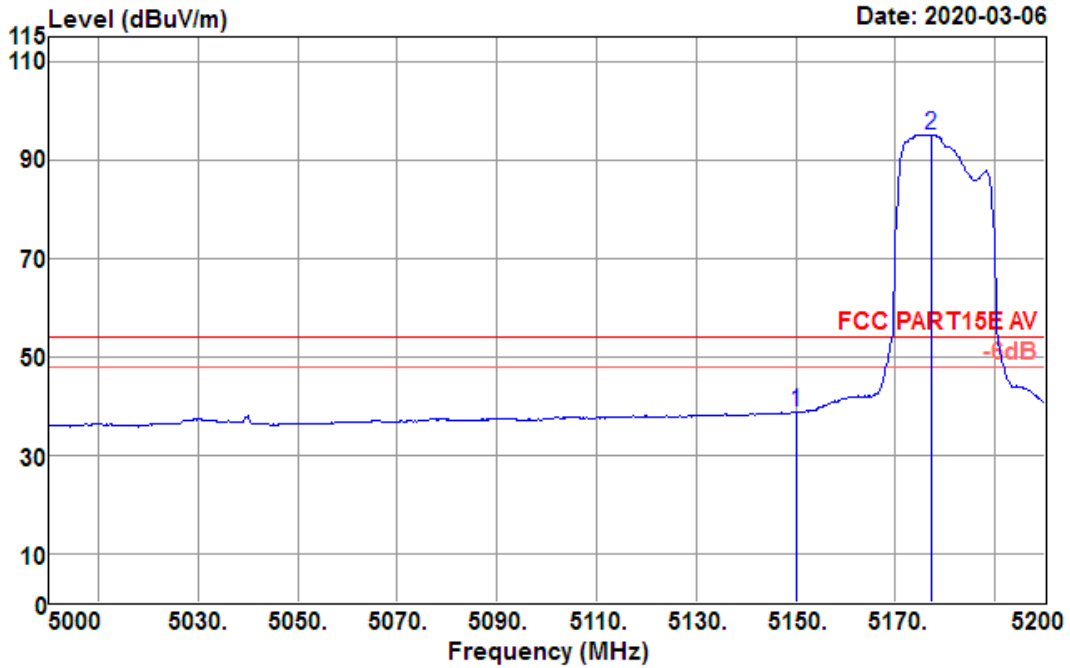
Data: 315



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5150.000	50.36	31.32	5.65	35.70	51.63	68.20	-16.57	Peak
5175.800	105.85	31.34	5.68	35.67	107.20	68.20	39.00	Peak

Test Mode :	802.11n HT20 CH36 5180MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.0GHz~5.20GHz	Polarization :	Horizontal

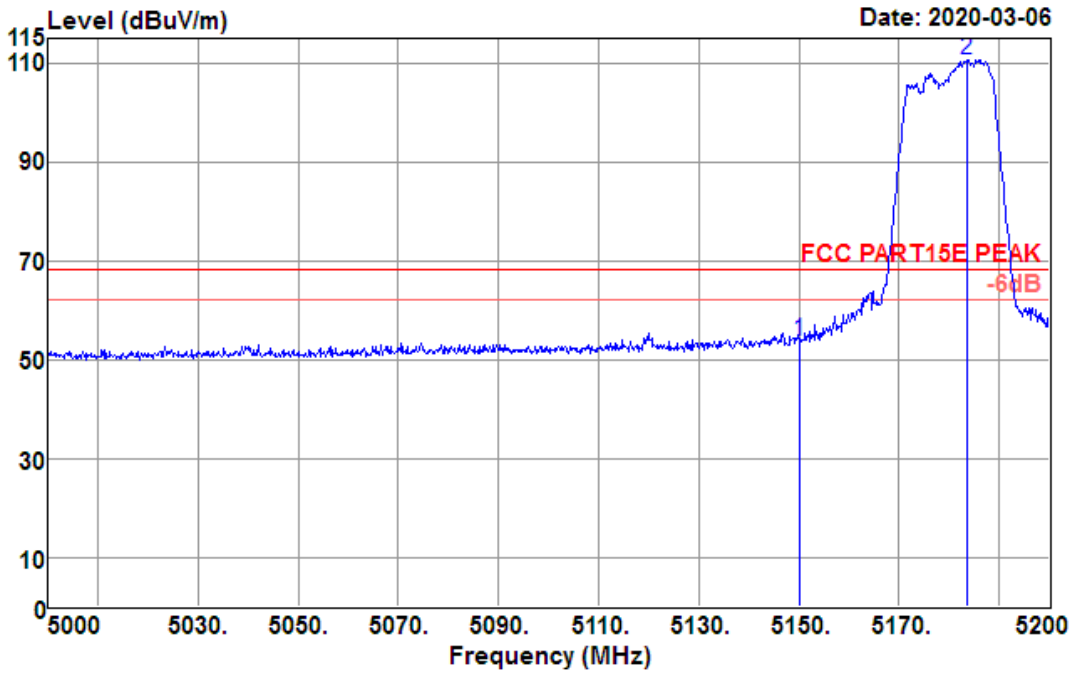
Data: 316



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5150.000	37.40	31.32	5.65	35.70	38.67	54.00	-15.33	Average
5177.200	93.77	31.34	5.68	35.67	95.12	54.00	41.12	Average

Test Mode :	802.11n HT20 CH36 5180MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.0GHz~5.20GHz	Polarization :	Vertical

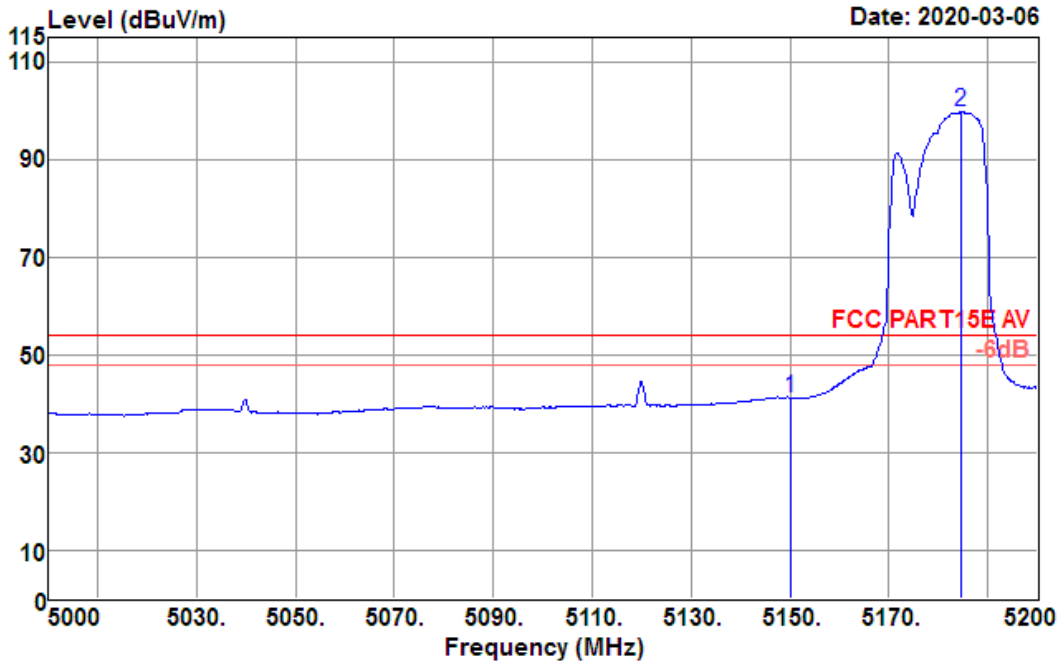
Data: 312



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5150.000	52.39	31.32	5.65	35.70	53.66	68.20	-14.54	Peak
5183.600	109.29	31.35	5.68	35.66	110.66	68.20	42.46	Peak

Test Mode :	802.11n HT20 CH36 5180MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.0GHz~5.20GHz	Polarization :	Vertical

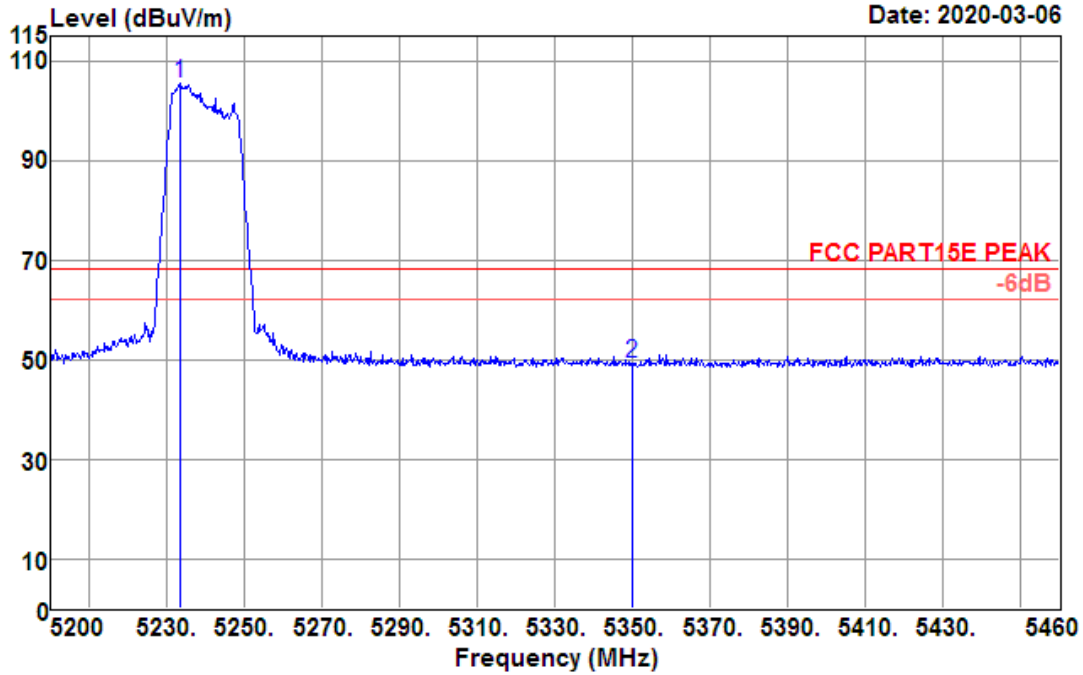
Data: 313



Freq MHz	Reading level dBUV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBUV/m	Limit level dBUV/m	Over limit dB	Remark
5150.000	39.91	31.32	5.65	35.70	41.18	54.00	-12.82	Average
5184.600	98.30	31.35	5.69	35.66	99.68	54.00	45.68	Average

Test Mode :	802.11n HT 20 CH48 5240MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.20GHz~5.46GHz	Polarization :	Horizontal

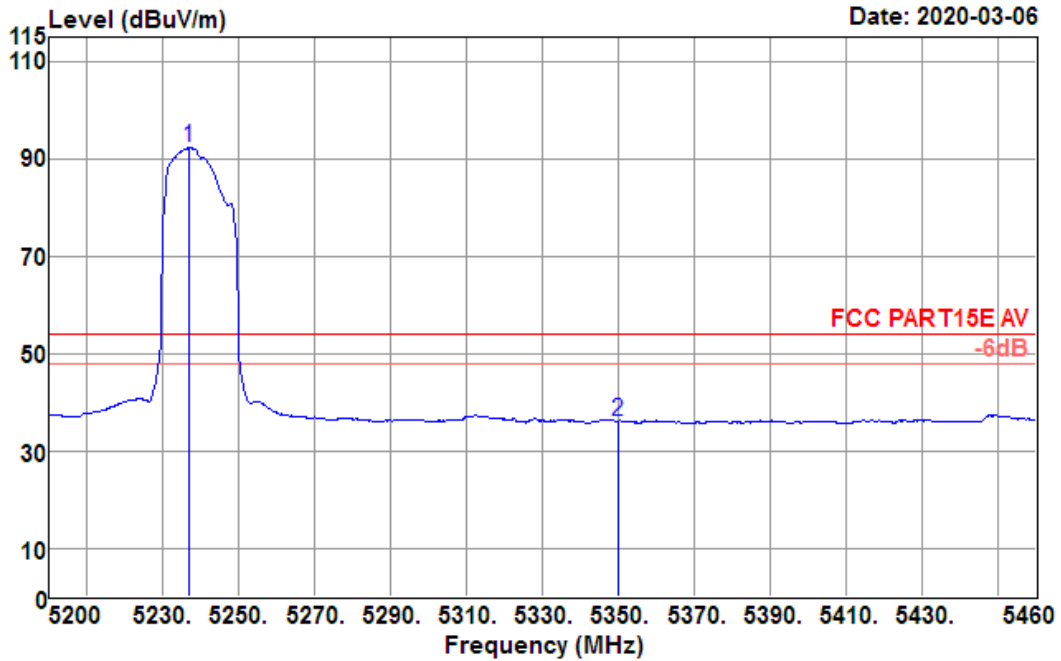
Data: 323



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5233.280	104.06	31.39	5.70	35.59	105.56	68.20	37.36	Peak
5350.000	47.49	31.48	5.71	35.43	49.25	68.20	-18.95	Peak

Test Mode :	802.11 n HT 20 CH48 5240MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.20GHz~5.46GHz	Polarization :	Horizontal

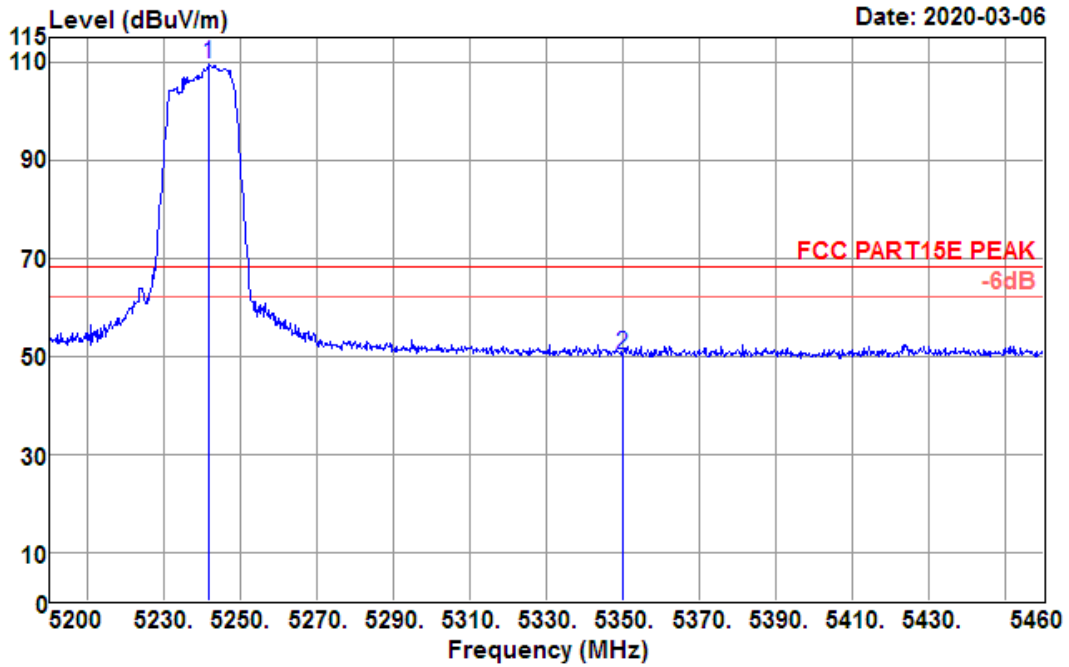
Data: 324



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5236.920	90.79	31.39	5.70	35.58	92.30	54.00	38.30	Average
5350.000	34.35	31.48	5.71	35.43	36.11	54.00	-17.89	Average

Test Mode :	802.11 n HT 20 CH48 5240MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.20GHz~5.46GHz	Polarization :	Vertical

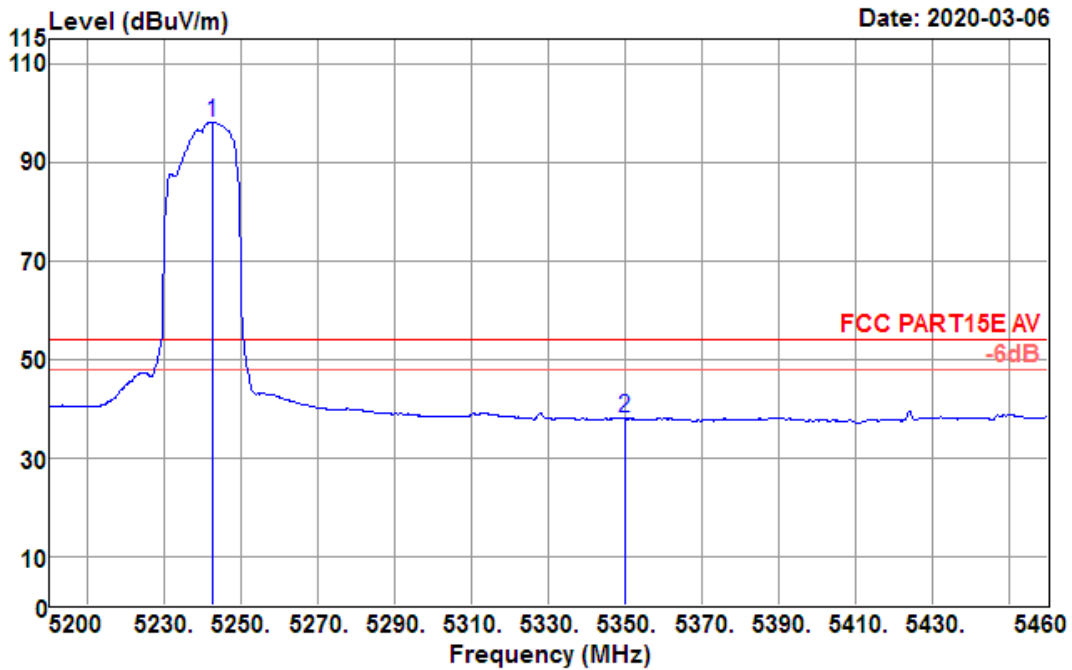
Data: 320



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5241.860	107.95	31.39	5.70	35.58	109.46	68.20	41.26	Peak
5350.000	48.49	31.48	5.71	35.43	50.25	68.20	-17.95	Peak

Test Mode :	802.11 n HT 20 CH48 5240MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.20GHz~5.46GHz	Polarization :	Vertical

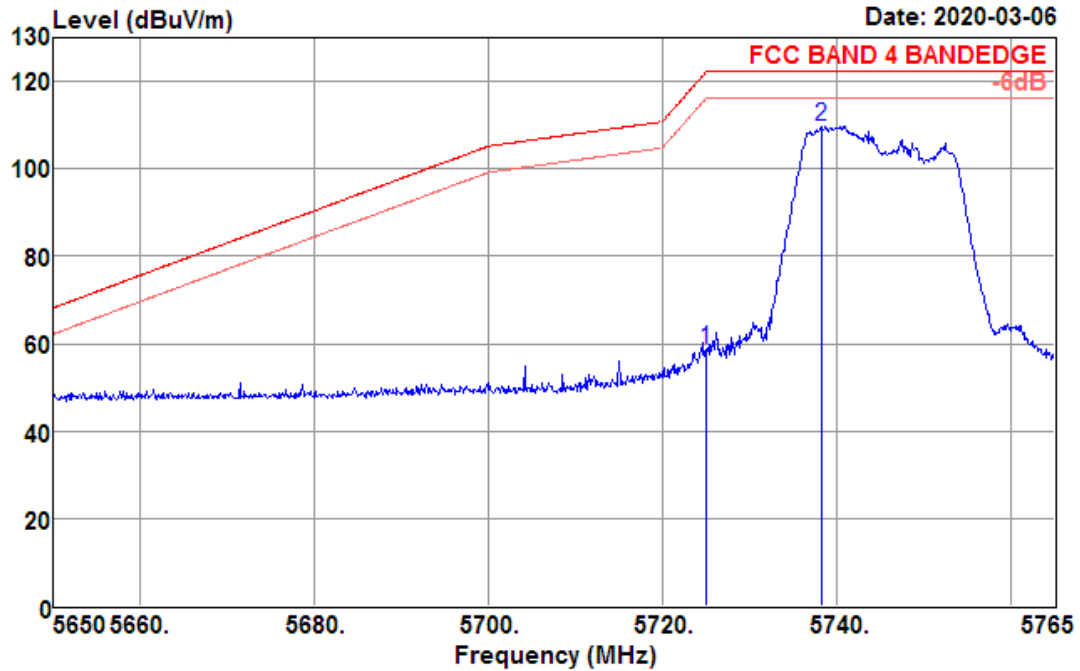
Data: 321



Freq MHz	Reading level dBUV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBUV/m	Limit level dBUV/m	Over limit dB	Remark
5242.380	96.61	31.39	5.70	35.58	98.12	54.00	44.12	Average
5350.000	36.18	31.48	5.71	35.43	37.94	54.00	-16.06	Average

Test Mode :	802.11 n HT 20 CH149 5745MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.65GHz~5.765GHz	Polarization :	Horizontal

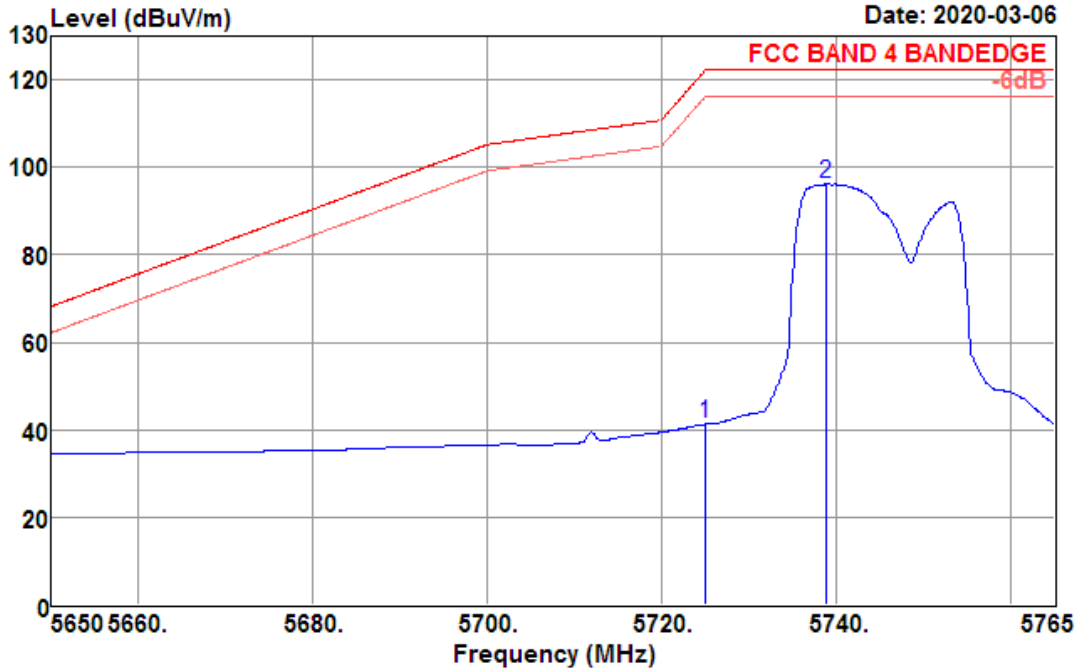
Data: 152



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5725.000	55.68	31.96	6.04	34.91	58.77	122.20	-63.43	Peak
5738.205	106.73	31.98	6.05	34.89	109.87	122.20	-12.33	Peak

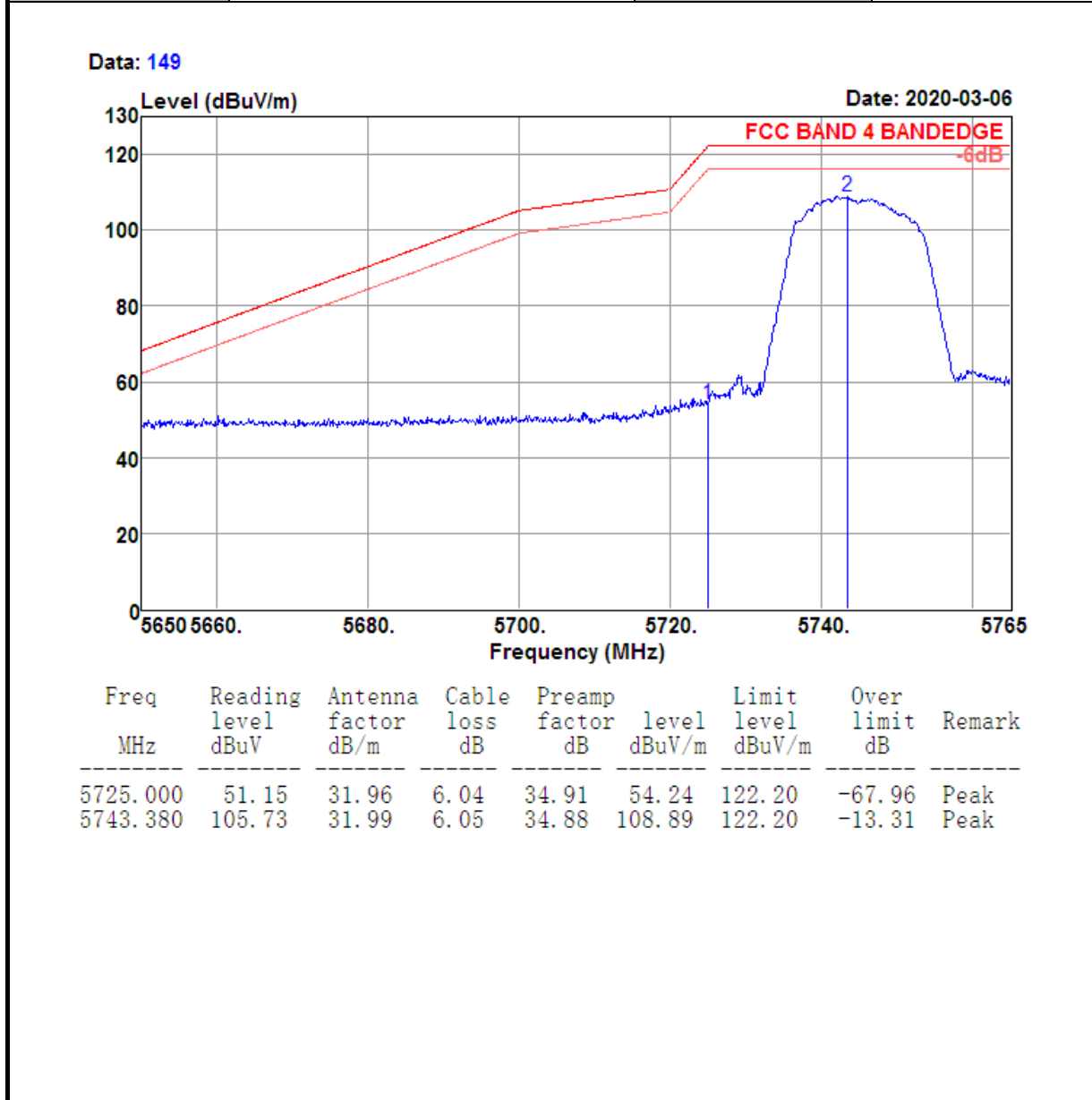
Test Mode :	802.11 n HT 20 CH149 5745MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.65GHz~5.765GHz	Polarization :	Horizontal

Data: 153



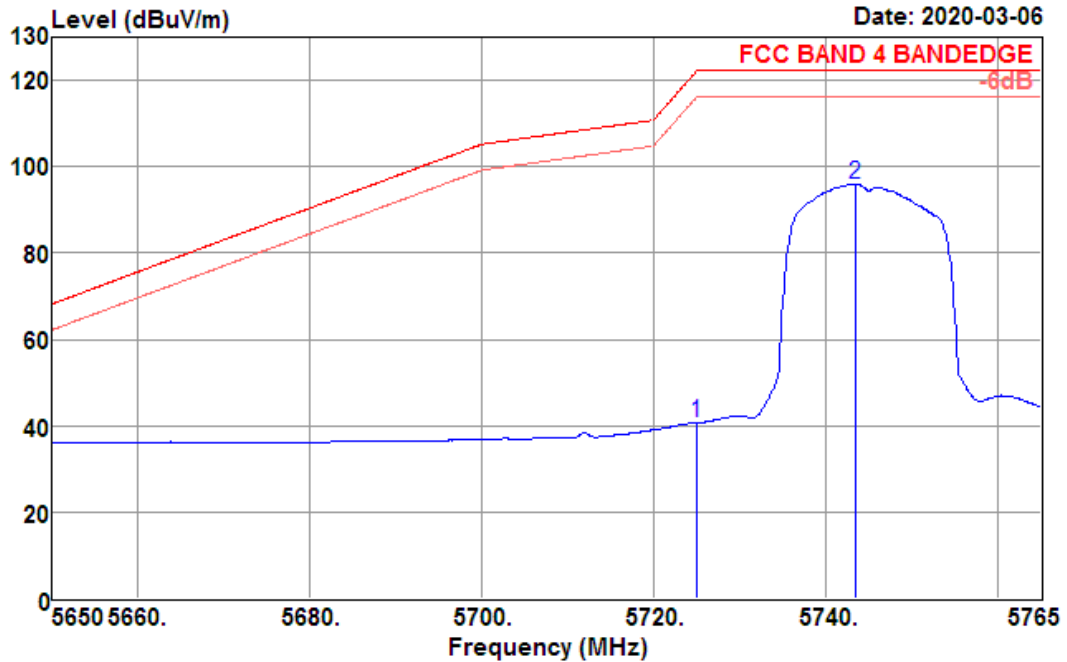
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5725.000	38.17	31.96	6.04	34.91	41.26	122.20	-80.94	Average
5738.895	93.03	31.98	6.05	34.89	96.17	122.20	-26.03	Average

Test Mode :	802.11 n HT 20 CH149 5745MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.65GHz~5.765GHz	Polarization :	Vertical



Test Mode :	802.11 n HT 20 CH149 5745MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.65GHz~5.765GHz	Polarization :	Vertical

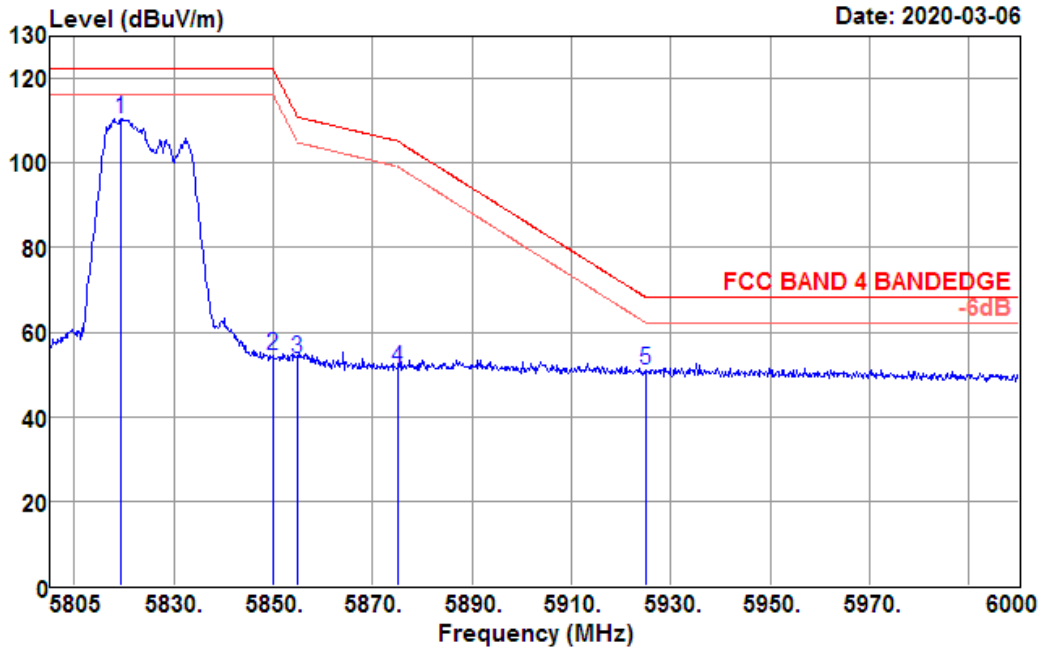
Data: 150



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5725.000	37.63	31.96	6.04	34.91	40.72	122.20	-81.48	Average
5743.380	92.66	31.99	6.05	34.88	95.82	122.20	-26.38	Average

Test Mode :	802.11 n HT 20 CH165 5825MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.75GHz~5.95GHz	Polarization :	Horizontal

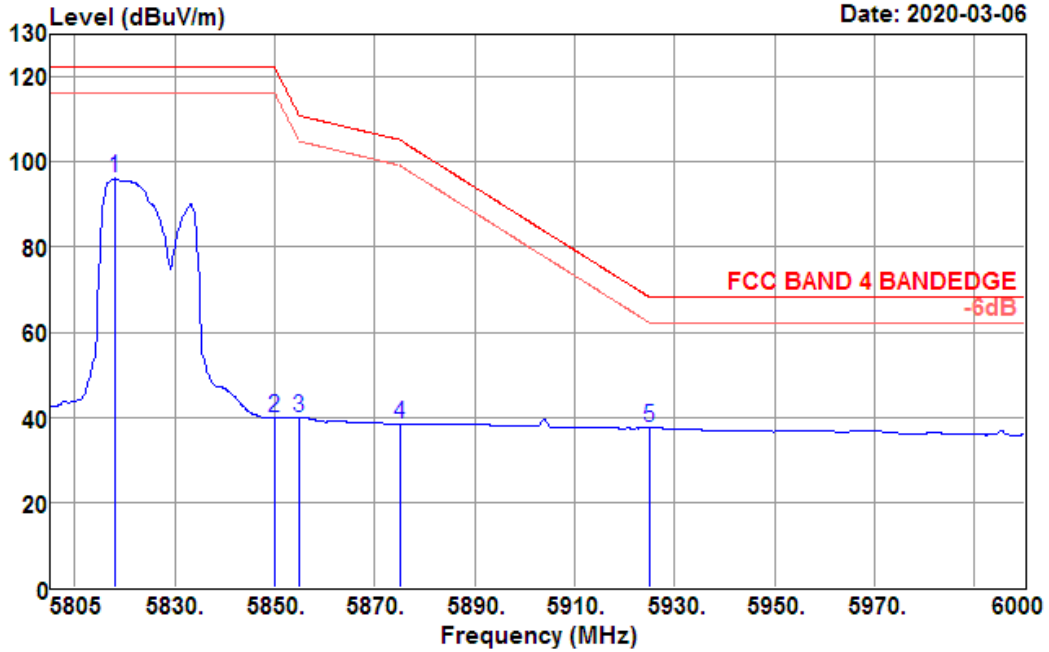
Data: 160



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5819.235	106.92	32.11	6.12	34.78	110.37	122.20	-11.83	Peak
5850.000	50.76	32.16	6.15	34.74	54.33	122.20	-67.87	Peak
5855.000	50.05	32.17	6.16	34.73	53.65	110.80	-57.15	Peak
5875.000	47.69	32.20	6.18	34.70	51.37	105.20	-53.83	Peak
5925.000	47.13	32.28	6.22	34.63	51.00	68.20	-17.20	Peak

Test Mode :	802.11 n HT 20 CH165 5825MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.75GHz~5.95GHz	Polarization :	Horizontal

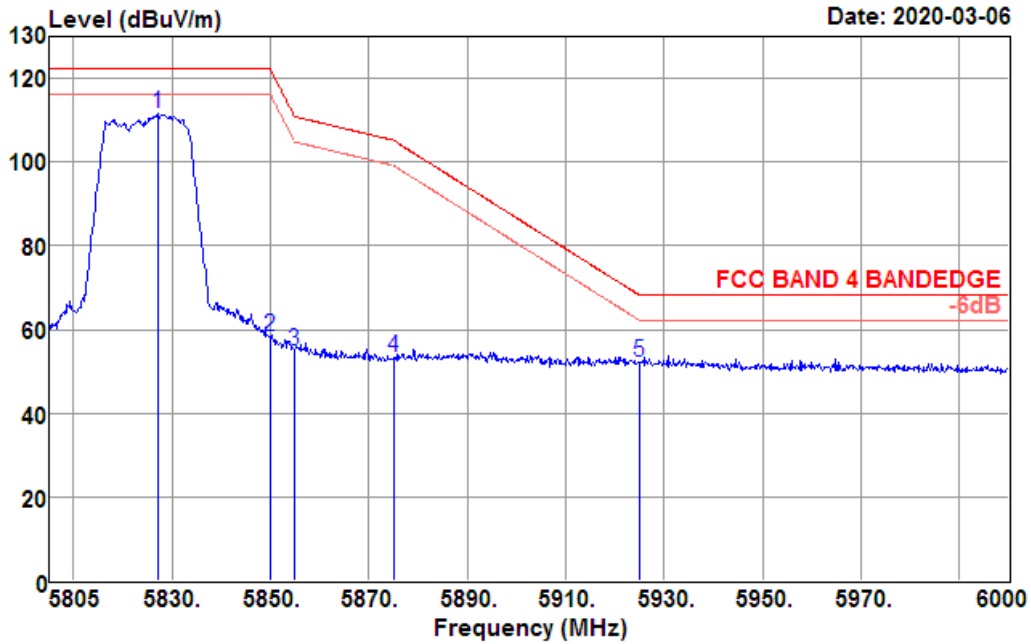
Data: 161



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5818.065	92.67	32.11	6.12	34.78	96.12	122.20	-26.08	Average
5850.000	36.18	32.16	6.15	34.74	39.75	122.20	-82.45	Average
5855.000	36.28	32.17	6.16	34.73	39.88	110.80	-70.92	Average
5875.000	34.67	32.20	6.18	34.70	38.35	105.20	-66.85	Average
5925.000	33.62	32.28	6.22	34.63	37.49	68.20	-30.71	Average

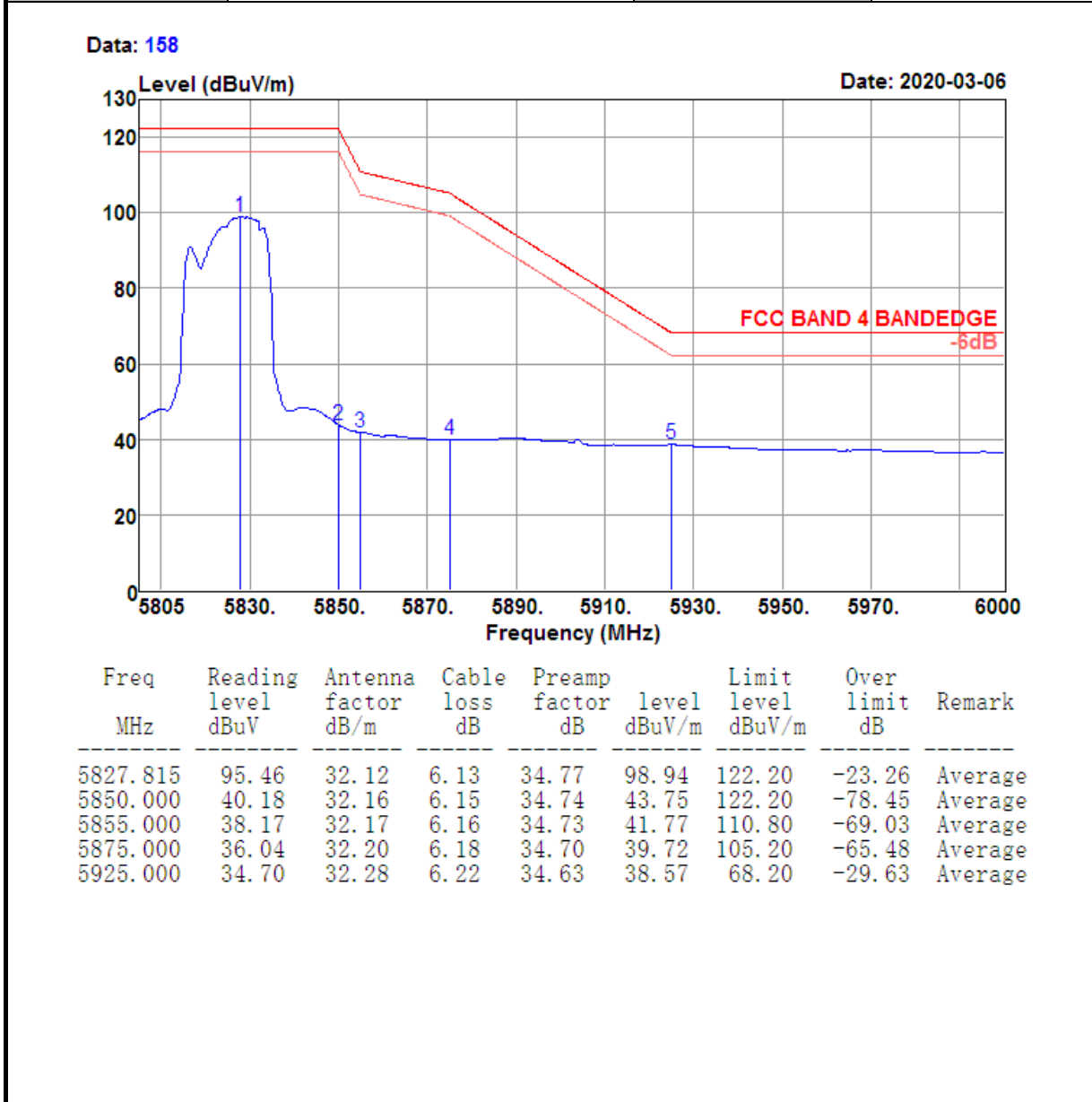
Test Mode :	802.11 n HT 20 CH165 5825MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.75GHz~5.95GHz	Polarization :	Vertical

Data: 157



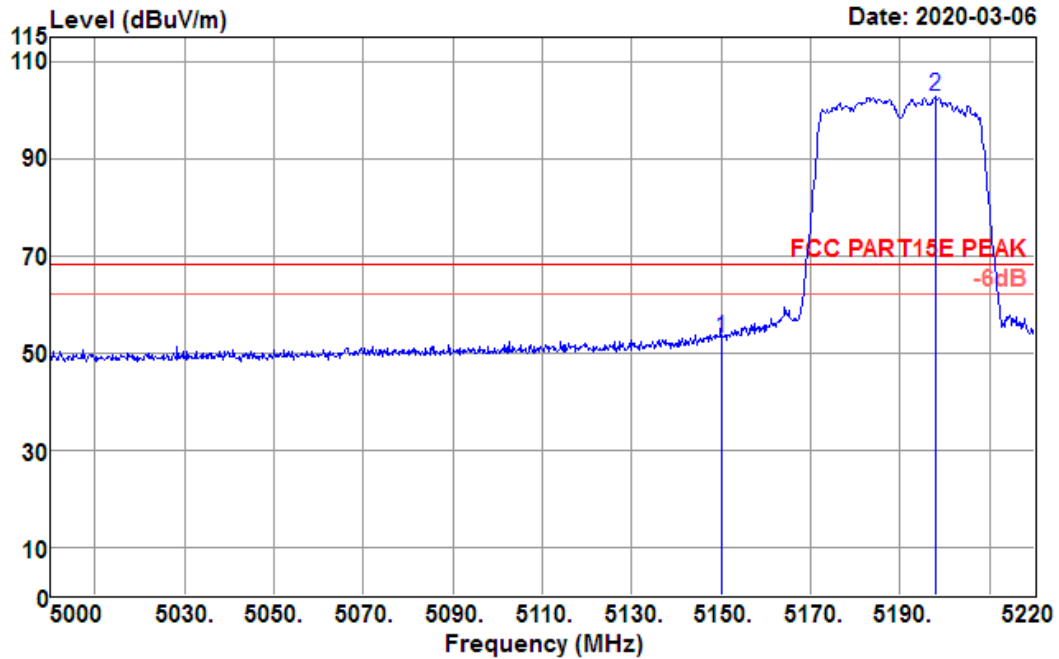
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5827.035	108.11	32.12	6.13	34.77	111.59	122.20	-10.61	Peak
5850.000	54.59	32.16	6.15	34.74	58.16	122.20	-64.04	Peak
5855.000	51.31	32.17	6.16	34.73	54.91	110.80	-55.89	Peak
5875.000	49.61	32.20	6.18	34.70	53.29	105.20	-51.91	Peak
5925.000	48.21	32.28	6.22	34.63	52.08	68.20	-16.12	Peak

Test Mode :	802.11 n HT 20 CH165 5825MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.75GHz~5.95GHz	Polarization :	Vertical



Test Mode :	802.11n HT40 CH38 5190MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.00GHz~5.20GHz	Polarization :	Horizontal

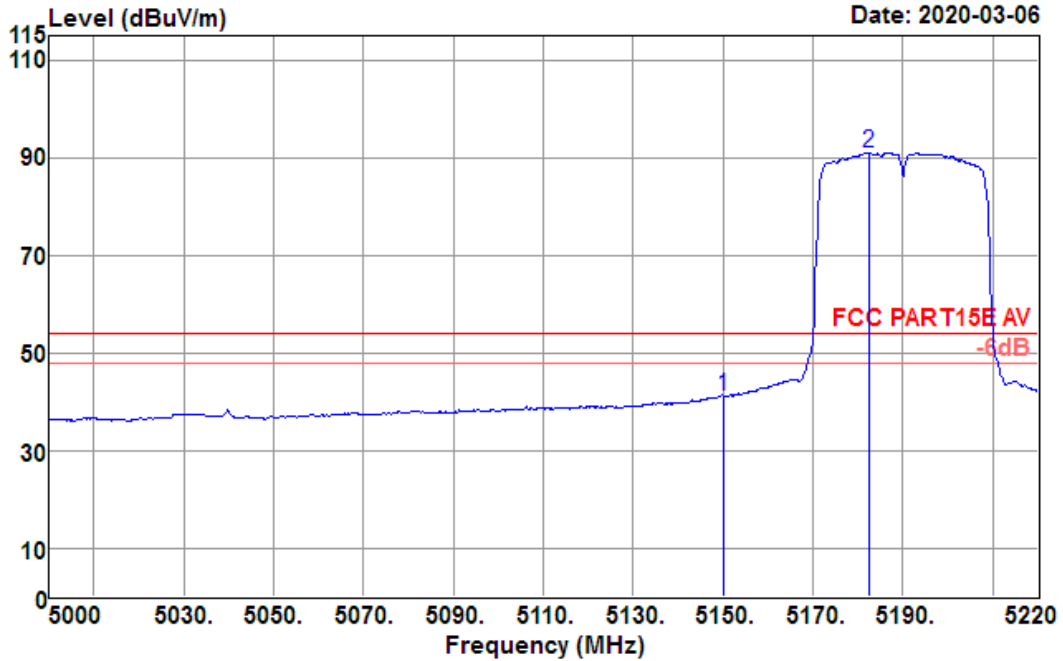
Data: 326



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5150.000	51.80	31.32	5.65	35.70	53.07	68.20	-15.13	Peak
5197.780	101.30	31.36	5.70	35.64	102.72	68.20	34.52	Peak

Test Mode :	802.11n HT40 CH38 5190MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.00GHz~5.20GHz	Polarization :	Horizontal

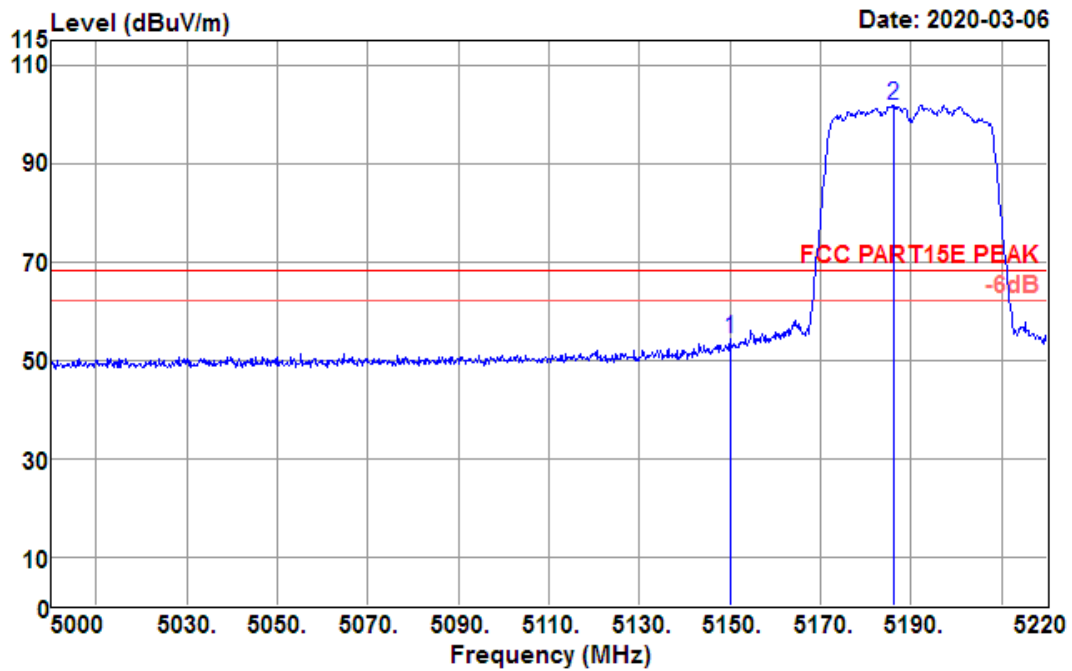
Data: 327



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5150.000	39.89	31.32	5.65	35.70	41.16	54.00	-12.84	Average
5182.380	89.55	31.35	5.68	35.66	90.92	54.00	36.92	Average

Test Mode :	802.11n HT40 CH38 5190MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.00GHz~5.20GHz	Polarization :	Vertical

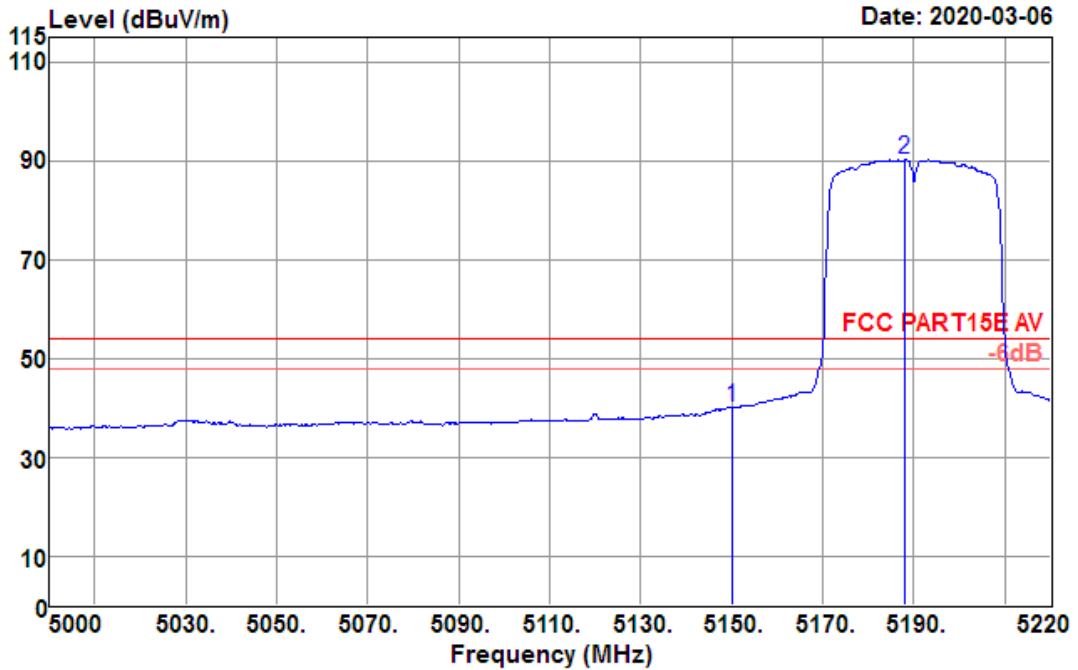
Data: 329



Freq MHz	Reading level dBUV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBUV/m	Limit level dBUV/m	Over limit dB	Remark
5150.000	52.87	31.32	5.65	35.70	54.14	68.20	-14.06	Peak
5186.120	100.50	31.35	5.69	35.65	101.89	68.20	33.69	Peak

Test Mode :	802.11n HT40 CH38 5190MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.00GHz~5.20GHz	Polarization :	Vertical

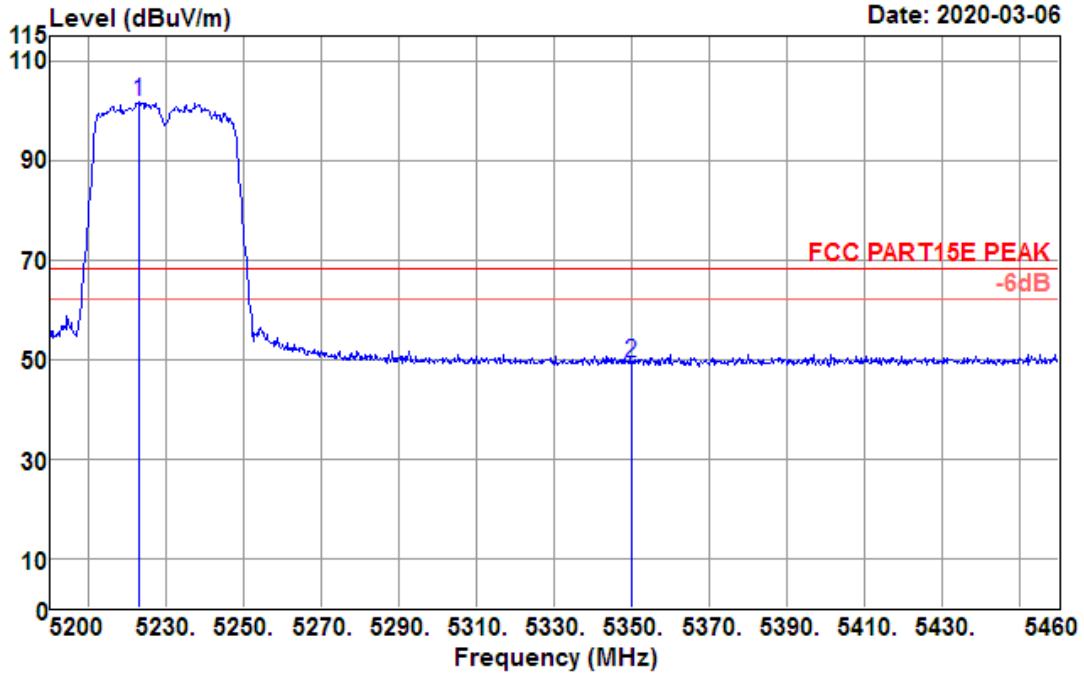
Data: 330



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5150.000	38.77	31.32	5.65	35.70	40.04	54.00	-13.96	Average
5188.100	88.74	31.35	5.69	35.65	90.13	54.00	36.13	Average

Test Mode :	802.11n HT40 CH46 5230MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.20GHz~5.46GHz	Polarization :	Horizontal

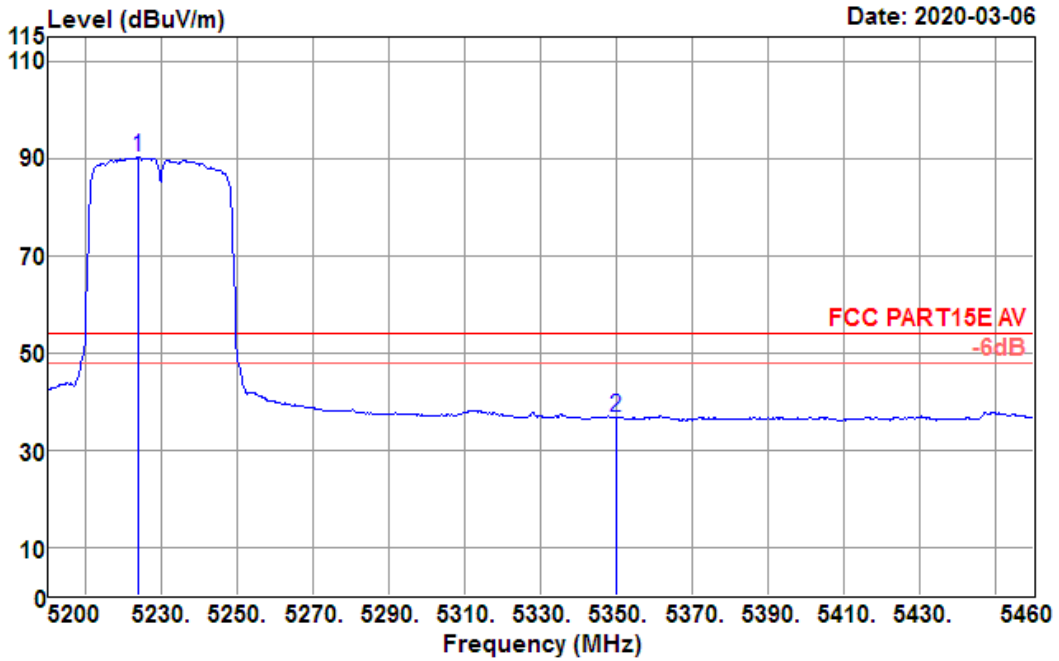
Data: 335



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5222.880	100.15	31.38	5.70	35.60	101.63	68.20	33.43	Peak
5350.000	47.61	31.48	5.71	35.43	49.37	68.20	-18.83	Peak

Test Mode :	802.11n HT40 CH46 5230MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.20GHz~5.46GHz	Polarization :	Horizontal

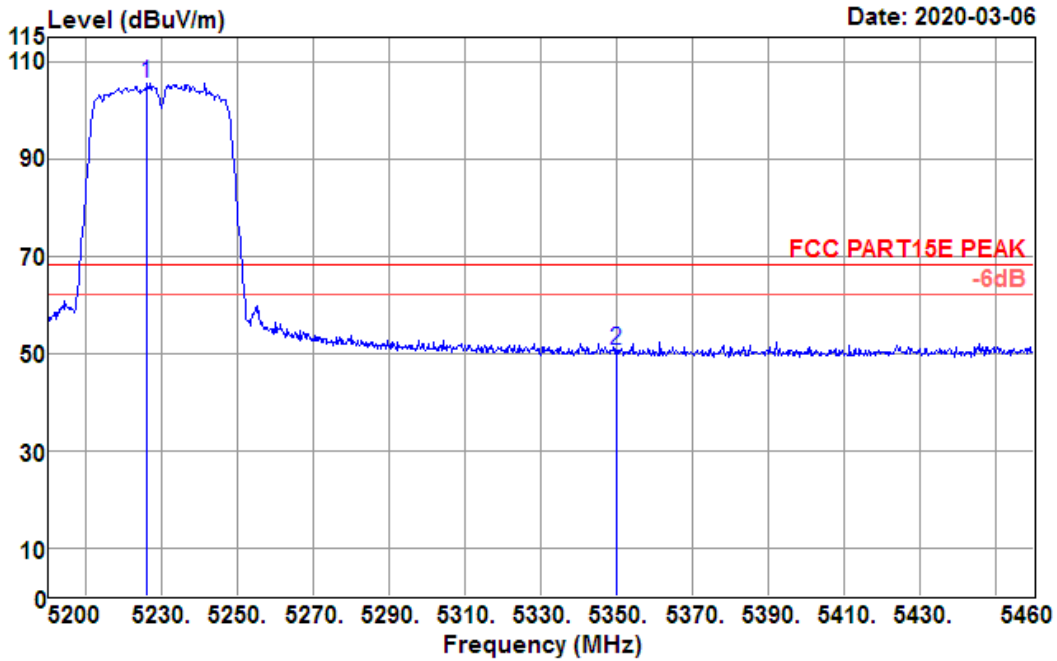
Data: 336



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5223.920	88.92	31.38	5.70	35.60	90.40	54.00	36.40	Average
5350.000	35.03	31.48	5.71	35.43	36.79	54.00	-17.21	Average

Test Mode :	802.11n HT40 CH46 5230MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.20GHz~5.46GHz	Polarization :	Vertical

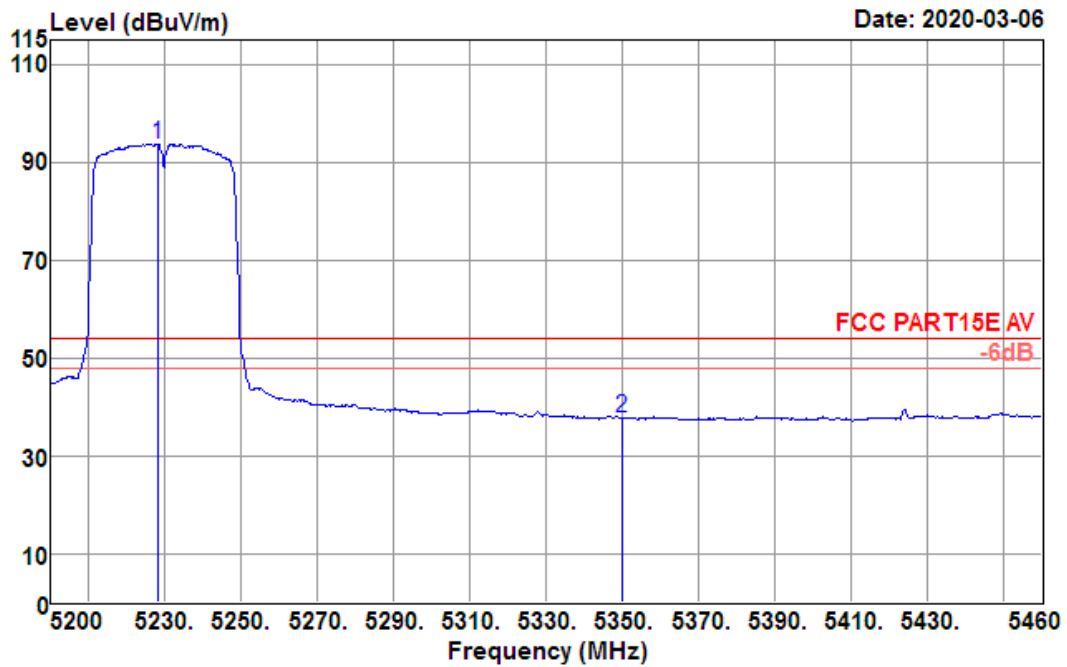
Data: 332



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBUV/m	Limit level dBUV/m	Over limit dB	Remark
5226.260	104.16	31.38	5.70	35.60	105.64	68.20	37.44	Peak
5350.000	48.76	31.48	5.71	35.43	50.52	68.20	-17.68	Peak

Test Mode :	802.11n HT40 CH46 5230MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.20GHz~5.46GHz	Polarization :	Vertical

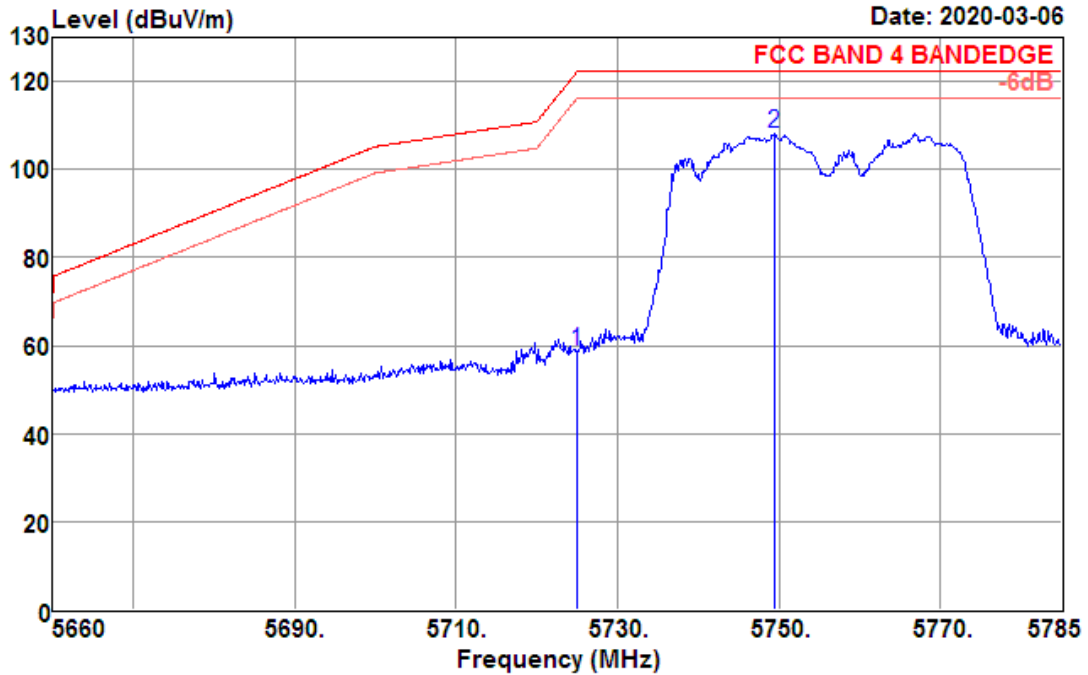
Data: 333



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5228.340	92.31	31.38	5.70	35.59	93.80	54.00	39.80	Average
5350.000	36.06	31.48	5.71	35.43	37.82	54.00	-16.18	Average

Test Mode :	802.11n HT40 CH151 5755MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.6GHz~5.85GHz	Polarization :	Horizontal

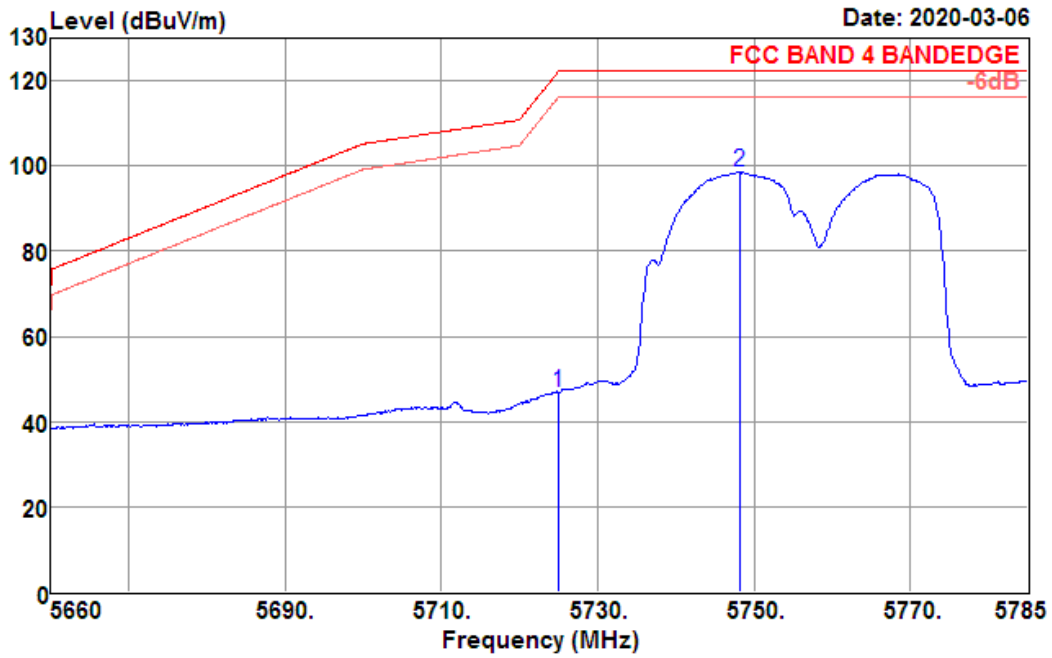
Data: 163



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5725.000	55.78	31.96	6.04	34.91	58.87	122.20	-63.33	Peak
5749.500	104.97	32.00	6.06	34.88	108.15	122.20	-14.05	Peak

Test Mode :	802.11n HT40 CH151 5755MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.6GHz~5.85GHz	Polarization :	Horizontal

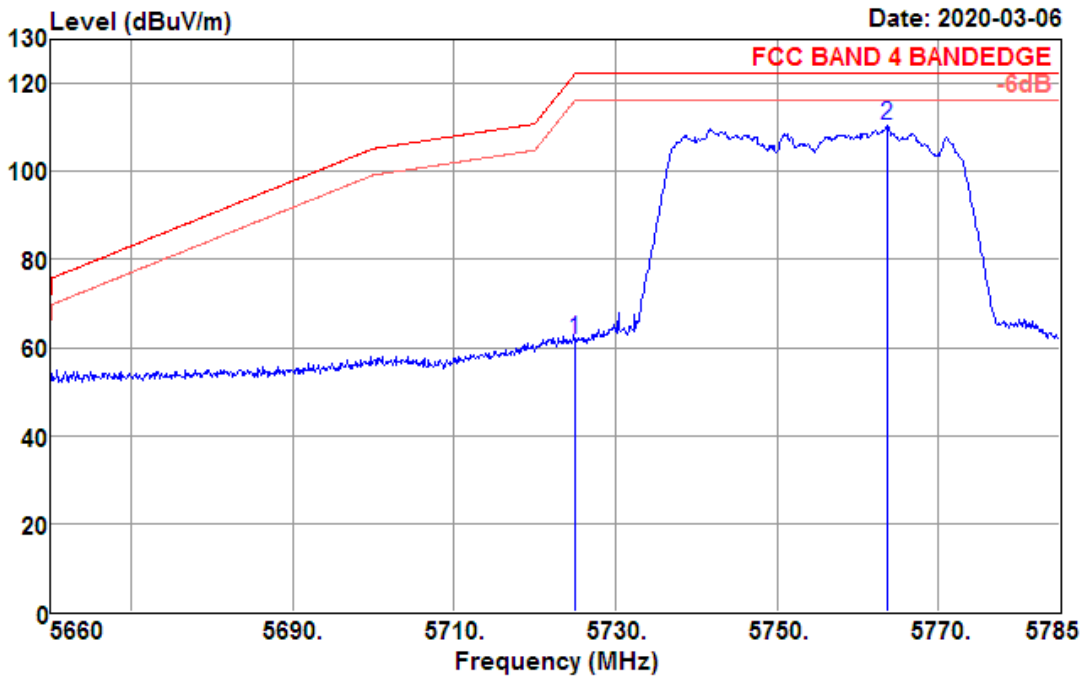
Data: 164



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5725.000	43.83	31.96	6.04	34.91	46.92	122.20	-75.28	Average
5748.125	95.36	32.00	6.06	34.88	98.54	122.20	-23.66	Average

Test Mode :	802.11n HT40 CH151 5755MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.6GHz~5.85GHz	Polarization :	Vertical

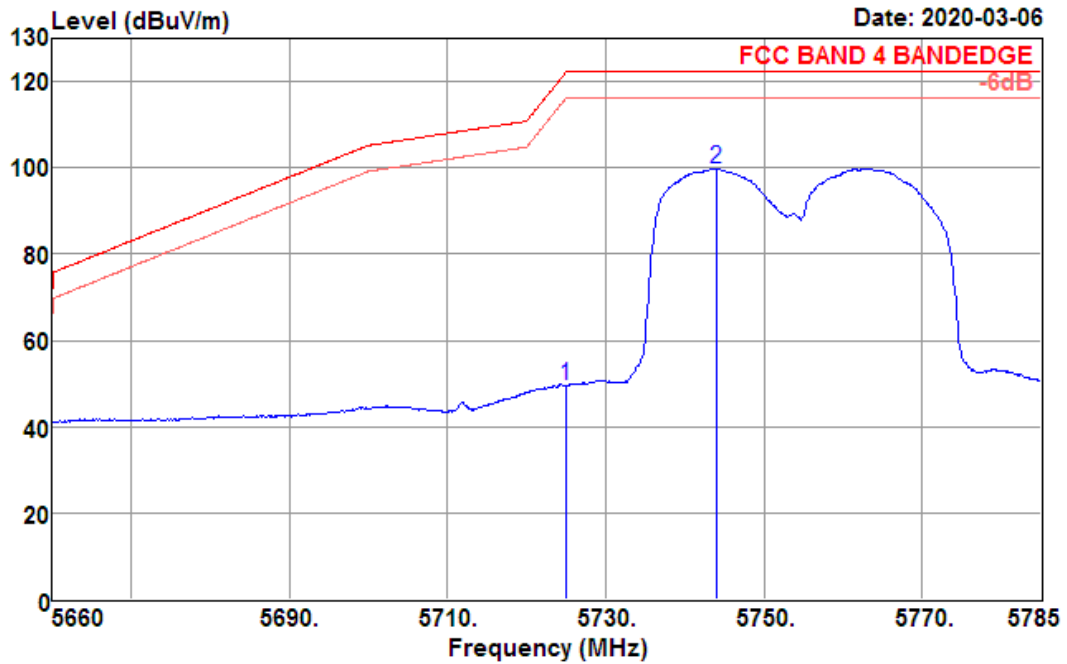
Data: 166



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5725.000	58.54	31.96	6.04	34.91	61.63	122.20	-60.57	Peak
5763.625	107.20	32.02	6.07	34.86	110.43	122.20	-11.77	Peak

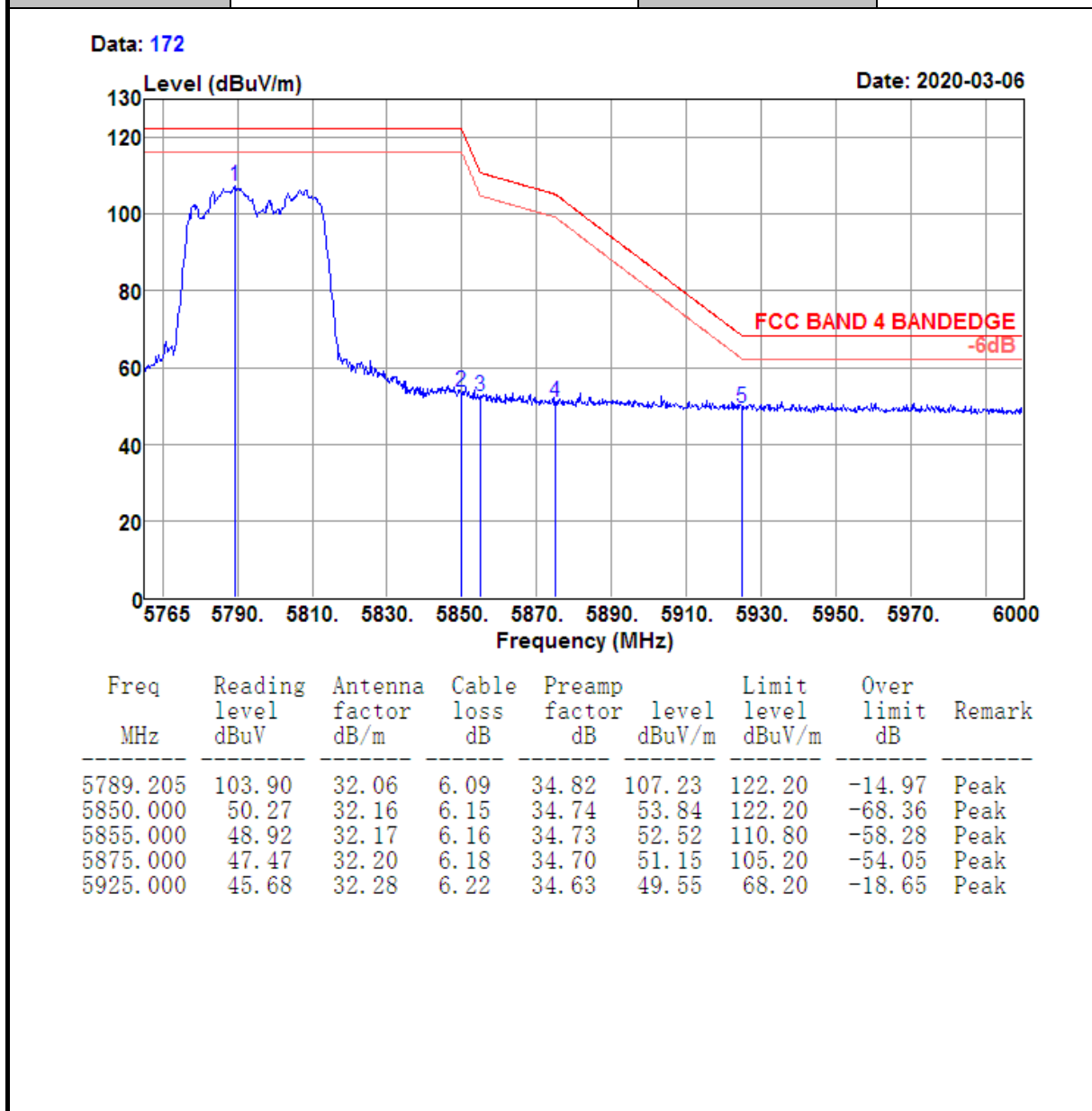
Test Mode :	802.11n HT40 CH151 5755MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.6GHz~5.85GHz	Polarization :	Vertical

Data: 167



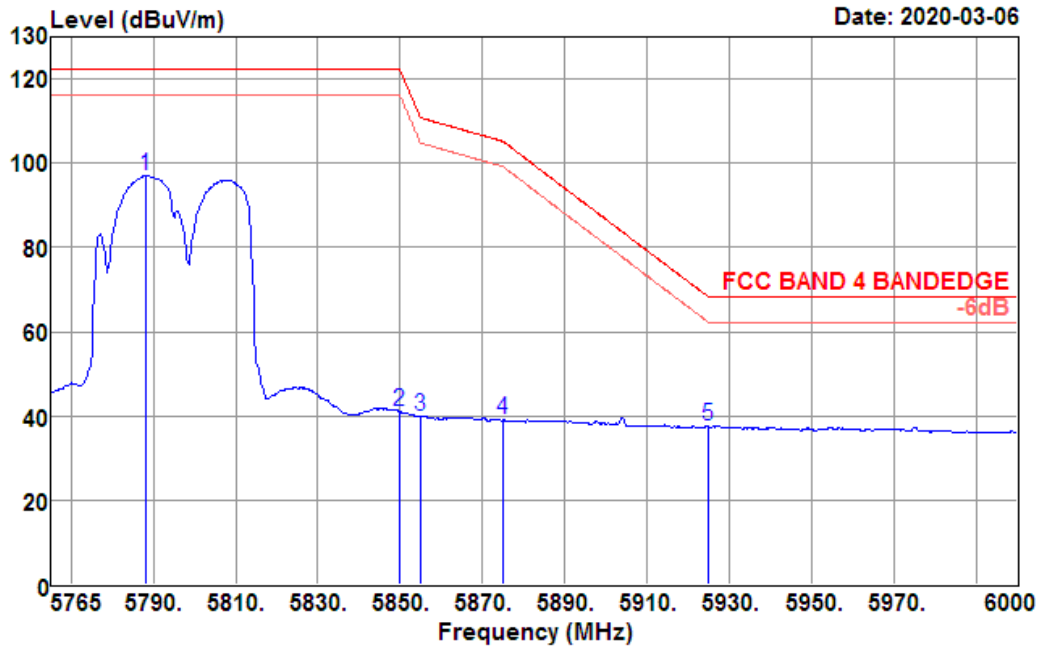
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5725.000	46.35	31.96	6.04	34.91	49.44	122.20	-72.76	Average
5744.125	96.63	31.99	6.06	34.88	99.80	122.20	-22.40	Average

Test Mode :	802.11n HT40 CH159 5795MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.75GHz~5.95GHz	Polarization :	Horizontal



Test Mode :	802.11n HT40 CH159 5795MHz	Temperature :	21~23°C
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.75GHz~5.95GHz	Polarization :	Horizontal

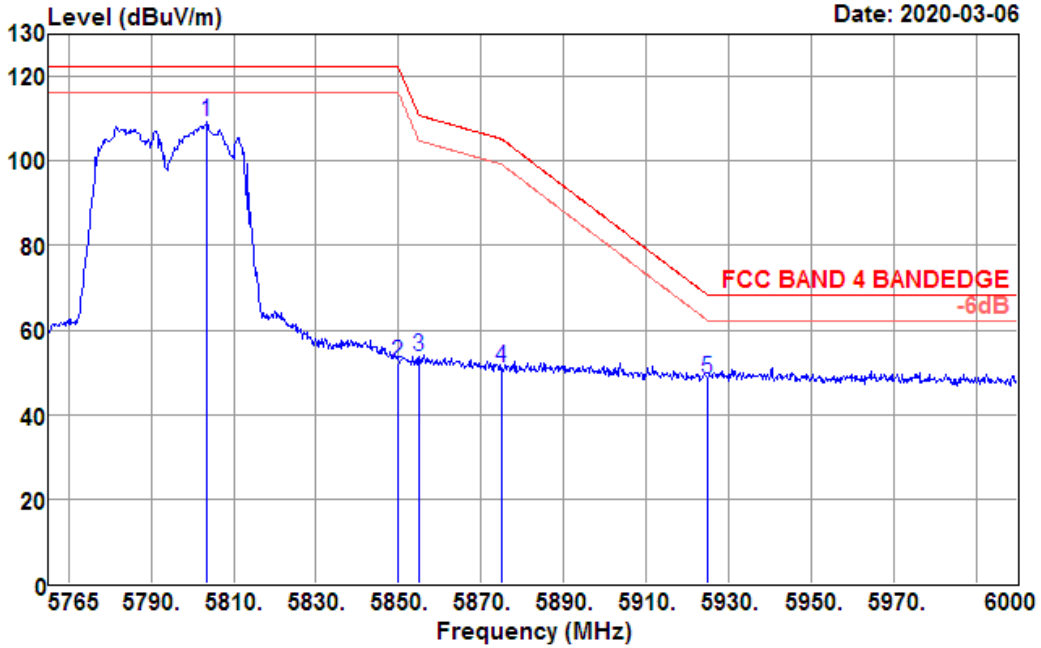
Data: 173



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5788.030	93.84	32.06	6.09	34.82	97.17	122.20	-25.03	Average
5850.000	37.37	32.16	6.15	34.74	40.94	122.20	-81.26	Average
5855.000	36.40	32.17	6.16	34.73	40.00	110.80	-70.80	Average
5875.000	35.36	32.20	6.18	34.70	39.04	105.20	-66.16	Average
5925.000	33.56	32.28	6.22	34.63	37.43	68.20	-30.77	Average

Test Mode :	802.11n HT40 CH159 5795MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.75GHz~5.95GHz	Polarization :	Vertical

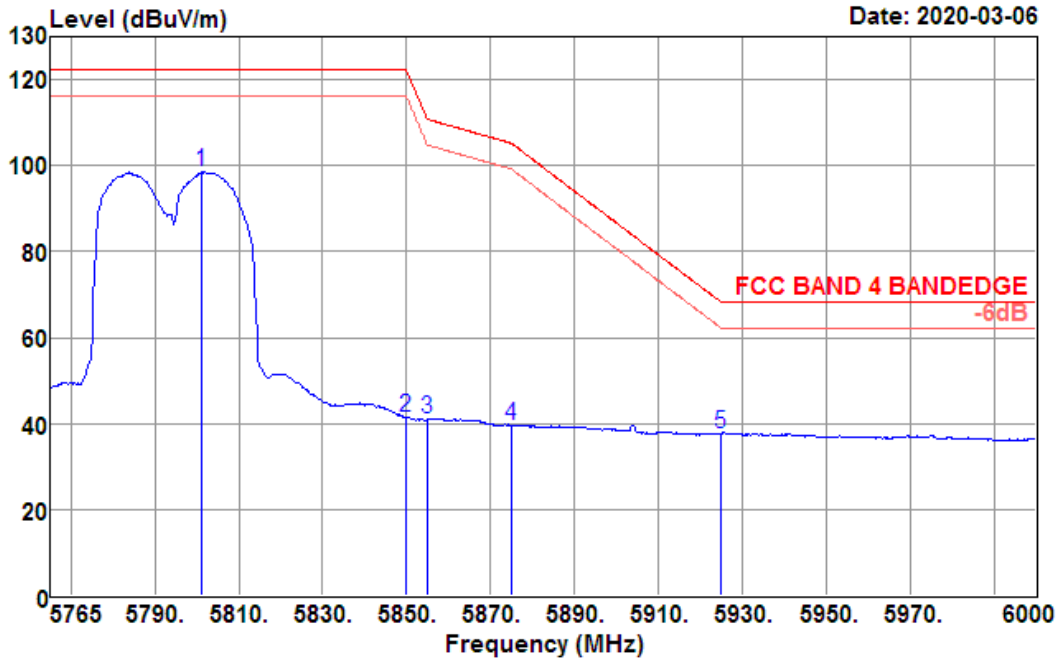
Data: 169



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5803.540	105.80	32.09	6.10	34.80	109.19	122.20	-13.01	Peak
5850.000	48.68	32.16	6.15	34.74	52.25	122.20	-69.95	Peak
5855.000	50.15	32.17	6.16	34.73	53.75	110.80	-57.05	Peak
5875.000	47.27	32.20	6.18	34.70	50.95	105.20	-54.25	Peak
5925.000	44.65	32.28	6.22	34.63	48.52	68.20	-19.68	Peak

Test Mode :	802.11n HT40 CH159 5795MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.75GHz~5.95GHz	Polarization :	Vertical

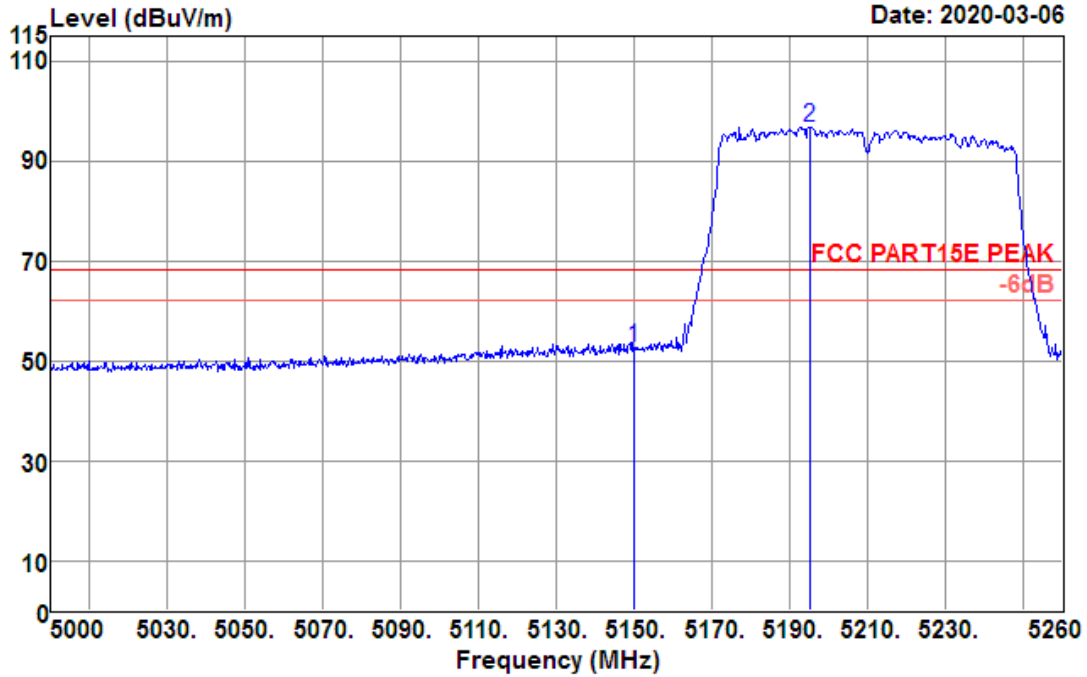
Data: 170



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5800.955	95.06	32.08	6.10	34.80	98.44	122.20	-23.76	Average
5850.000	37.91	32.16	6.15	34.74	41.48	122.20	-80.72	Average
5855.000	37.43	32.17	6.16	34.73	41.03	110.80	-69.77	Average
5875.000	35.76	32.20	6.18	34.70	39.44	105.20	-65.76	Average
5925.000	33.62	32.28	6.22	34.63	37.49	68.20	-30.71	Average

Test Mode :	802.11ac VHT80 CH42 5210MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.20GHz~5.46GHz	Polarization :	Horizontal

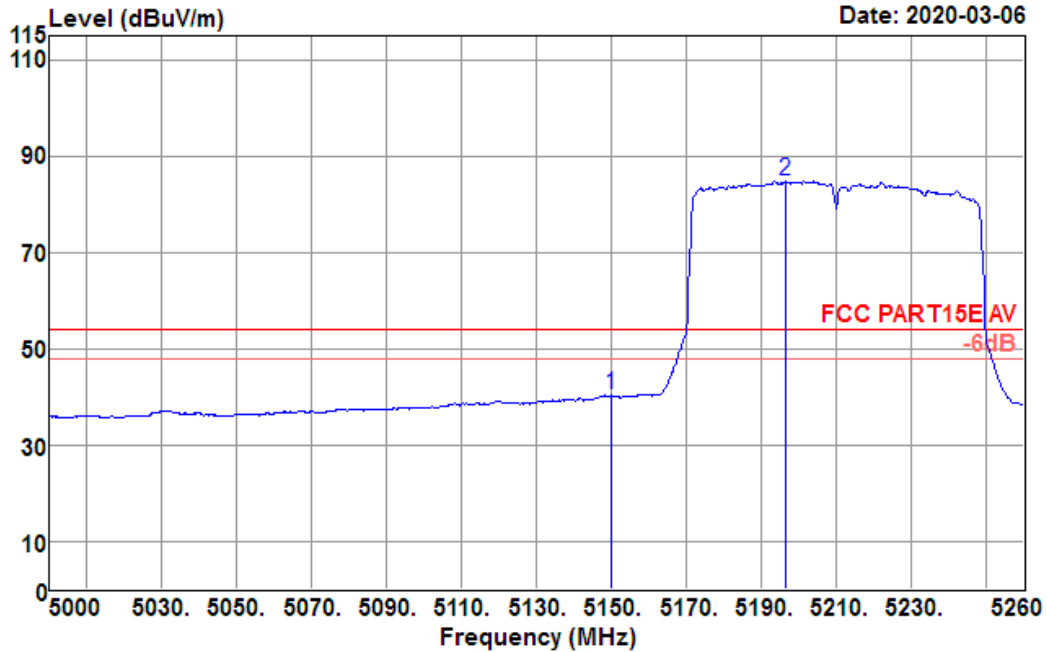
Data: 367



Freq MHz	Reading level dBUV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBUV/m	Limit level dBUV/m	Over limit dB	Remark
5150.000	51.18	31.32	5.65	35.70	52.45	68.20	-15.75	Peak
5195.000	95.38	31.36	5.70	35.64	96.80	68.20	28.60	Peak

Test Mode :	802.11ac VHT80 CH42 5210MHz	Temperature :	21~23°C
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.20GHz~5.46GHz	Polarization :	Horizontal

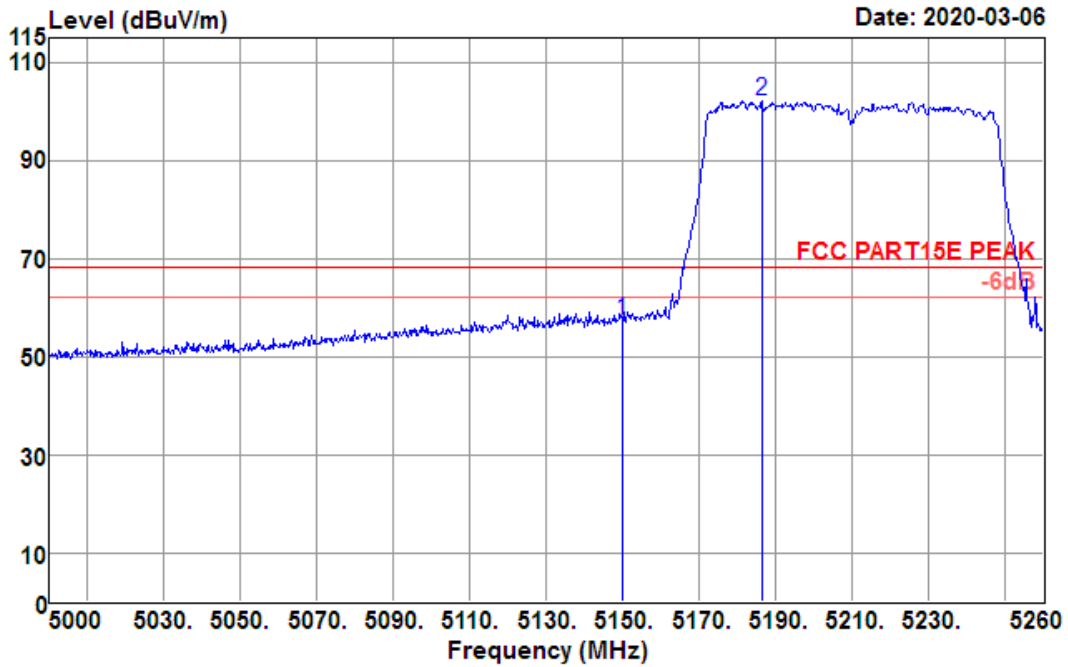
Data: 368



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5150.000	39.03	31.32	5.65	35.70	40.30	54.00	-13.70	Average
5196.560	83.31	31.36	5.70	35.64	84.73	54.00	30.73	Average

Test Mode :	802.11ac VHT80 CH42 5210MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.20GHz~5.46GHz	Polarization :	Vertical

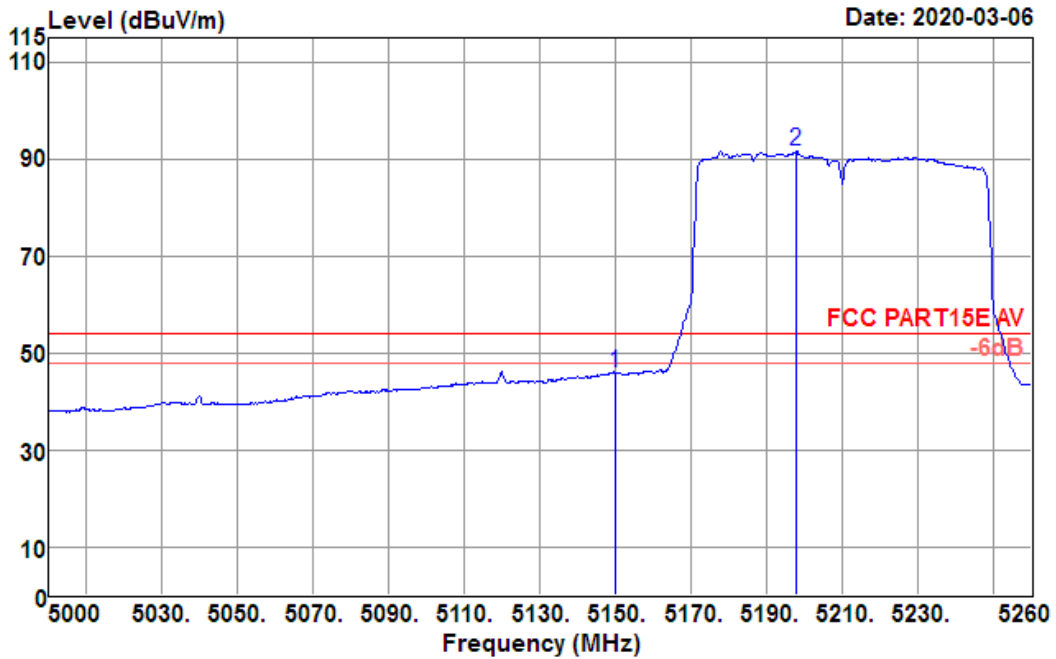
Data: 364



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5150.000	56.00	31.32	5.65	35.70	57.27	68.20	-10.93	Peak
5186.420	100.61	31.35	5.69	35.65	102.00	68.20	33.80	Peak

Test Mode :	802.11ac VHT80 CH42 5210MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.00GHz~5.20GHz	Polarization :	Vertical

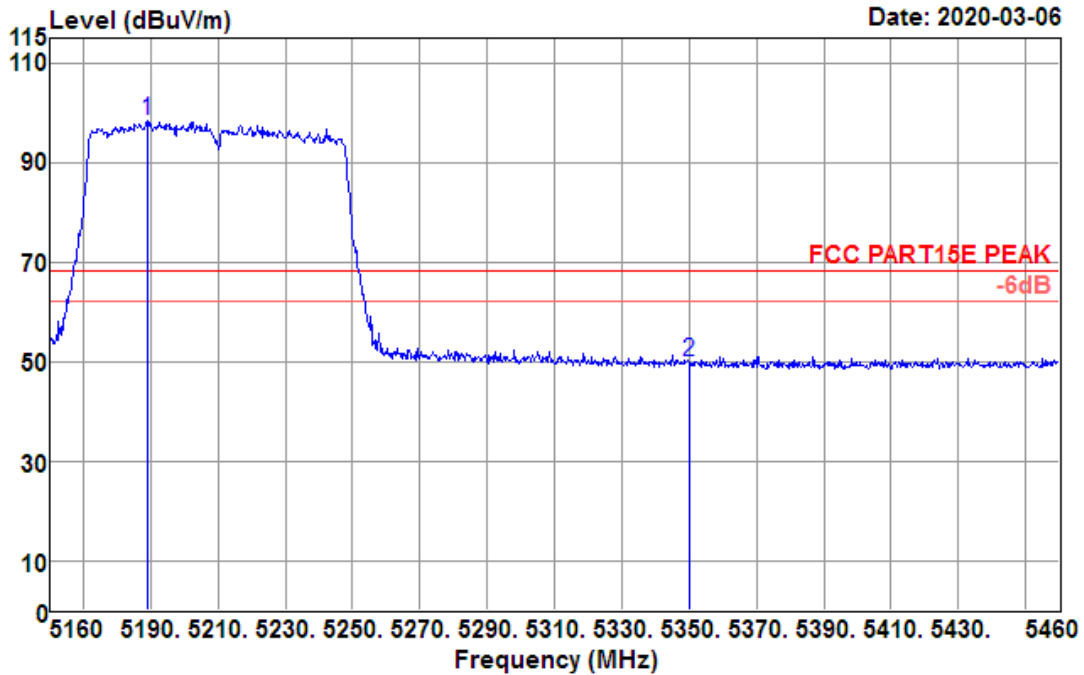
Data: 365



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5150.000	44.62	31.32	5.65	35.70	45.89	54.00	-8.11	Average
5197.860	90.26	31.36	5.70	35.64	91.68	54.00	37.68	Average

Test Mode :	802.11ac VHT80 CH42 5210MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.160GHz~5.46GHz	Polarization :	Horizontal

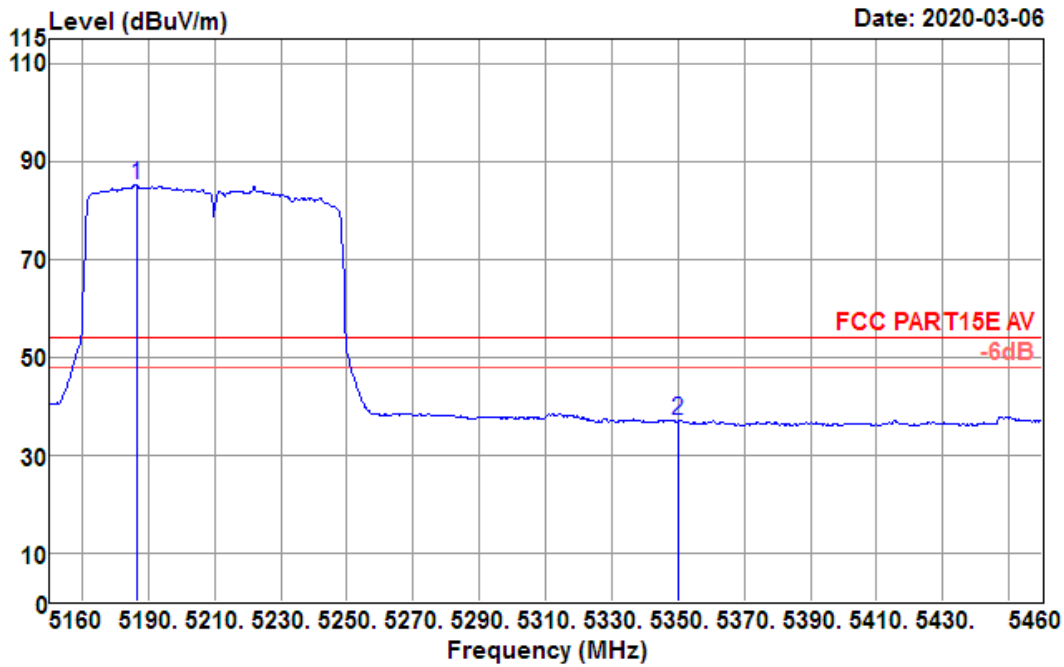
Data: 370



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5189.100	97.05	31.35	5.69	35.65	98.44	68.20	30.24	Peak
5350.000	48.14	31.48	5.71	35.43	49.90	68.20	-18.30	Peak

Test Mode :	802.11ac VHT80 CH42 5210MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.160GHz~5.46GHz	Polarization :	Horizontal

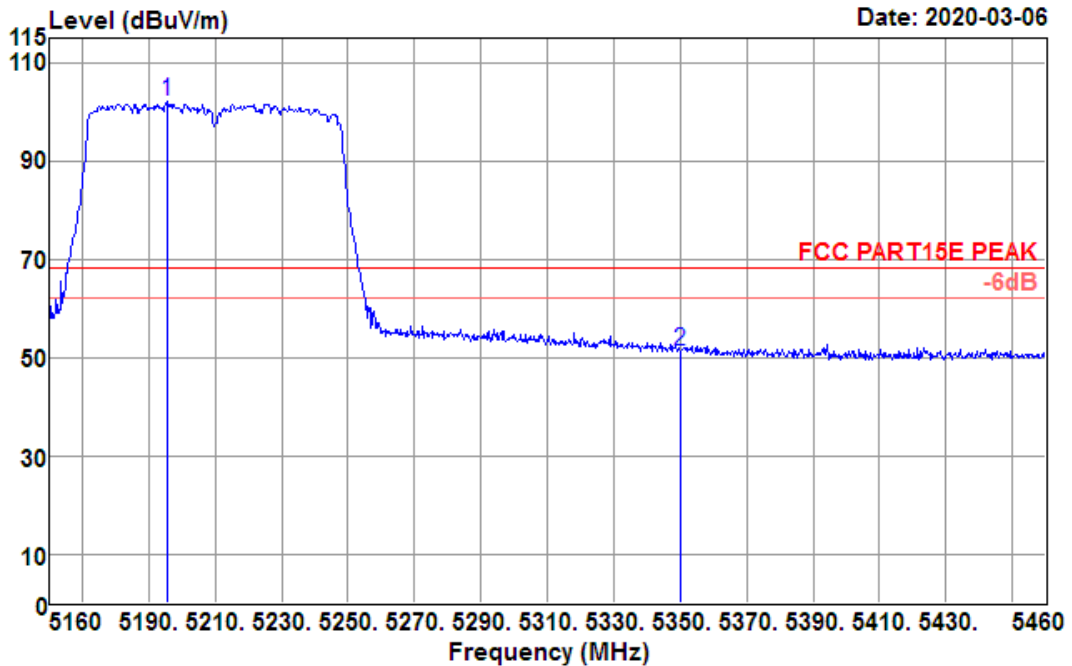
Data: 371



Freq MHz	Reading level dBUV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBUV/m	Limit level dBUV/m	Over limit dB	Remark
5186.400	83.76	31.35	5.69	35.65	85.15	54.00	31.15	Average
5350.000	35.06	31.48	5.71	35.43	36.82	54.00	-17.18	Average

Test Mode :	802.11ac VHT80 CH42 5210MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.160GHz~5.46GHz	Polarization :	Vertical

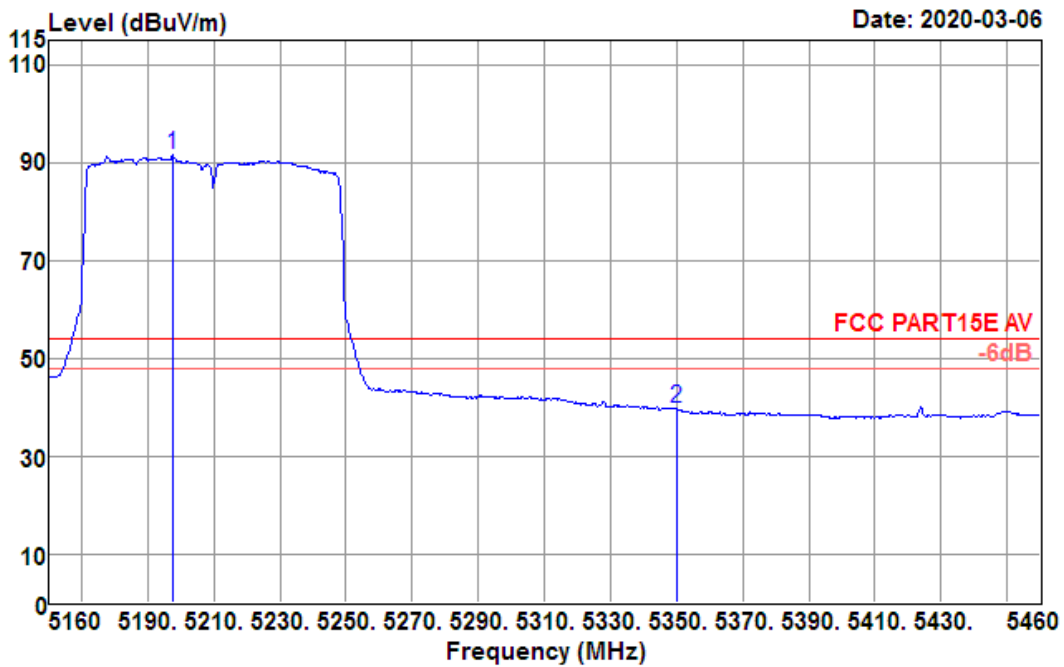
Data: 372



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5195.400	100.62	31.36	5.70	35.64	102.04	68.20	33.84	Peak
5350.000	49.48	31.48	5.71	35.43	51.24	68.20	-16.96	Peak

Test Mode :	802.11ac VHT80 CH42 5210MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.160GHz~5.46GHz	Polarization :	Vertical

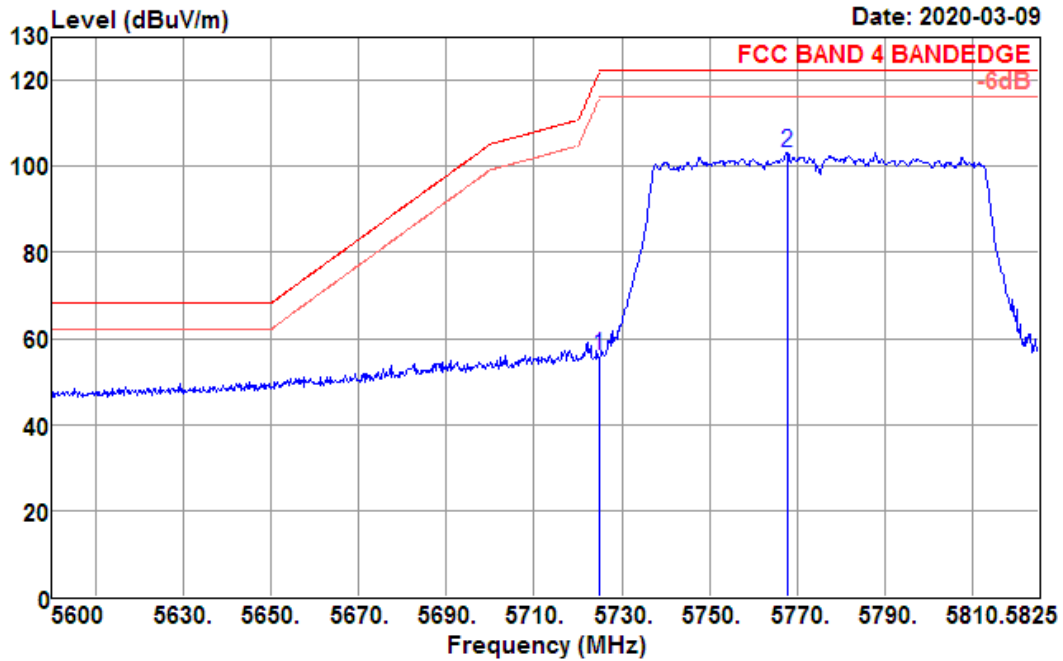
Data: 373



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5197.500	90.14	31.36	5.70	35.64	91.56	54.00	37.56	Average
5350.000	37.88	31.48	5.71	35.43	39.64	54.00	-14.36	Average

Test Mode :	802.11ac VHT80 CH155 5775MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.6GHz~5.825GHz	Polarization :	Horizontal

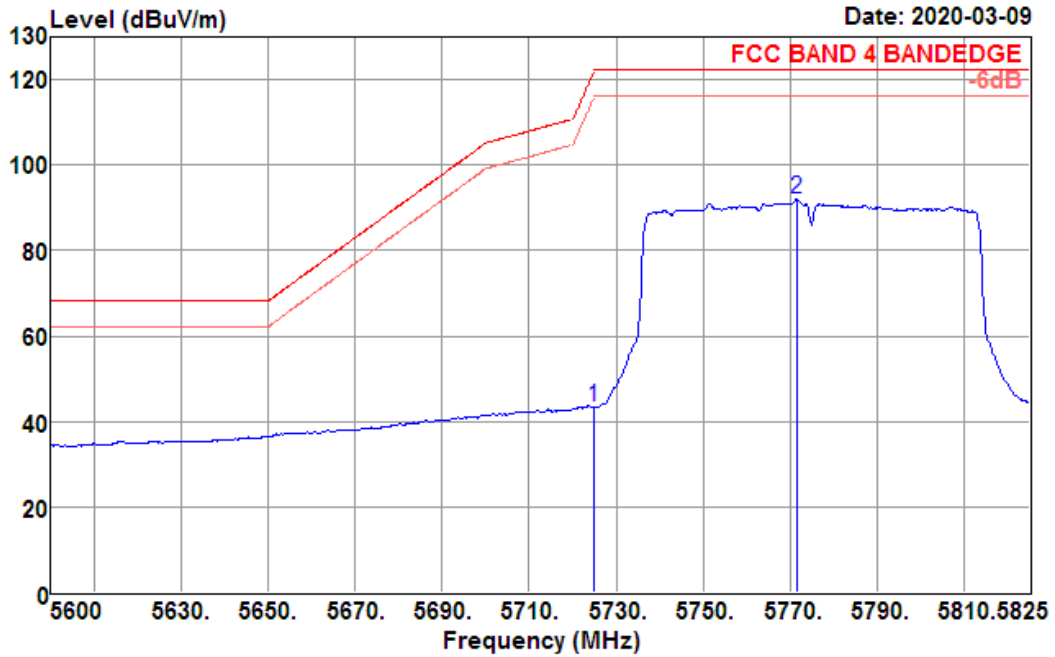
Data: 204



Freq MHz	Reading level dBUV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBUV/m	Limit level dBUV/m	Over limit dB	Remark
5725.000	53.01	31.96	6.04	34.91	56.10	122.20	-66.10	Peak
5767.850	100.06	32.03	6.07	34.85	103.31	122.20	-18.89	Peak

Test Mode :	802.11ac VHT80 CH155 5775MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.6GHz~5.825GHz	Polarization :	Horizontal

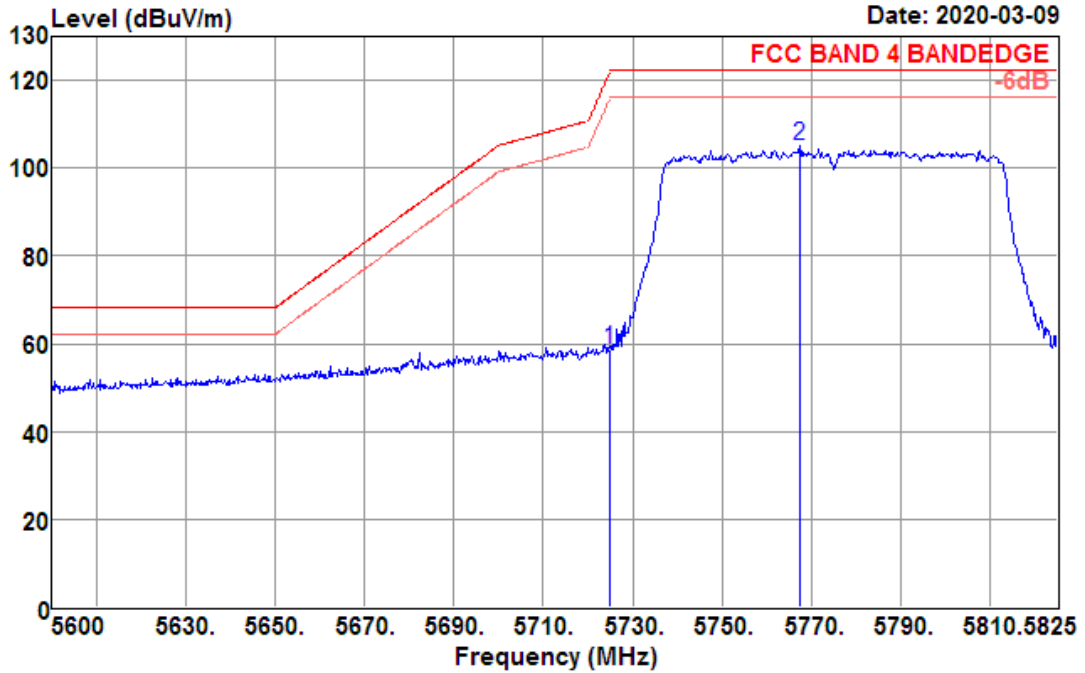
Data: 205



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5725.000	40.17	31.96	6.04	34.91	43.26	122.20	-78.94	Average
5771.675	88.82	32.03	6.08	34.85	92.08	122.20	-30.12	Average

Test Mode :	802.11ac VHT80 CH155 5775MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.6GHz~5.825GHz	Polarization :	Vertical

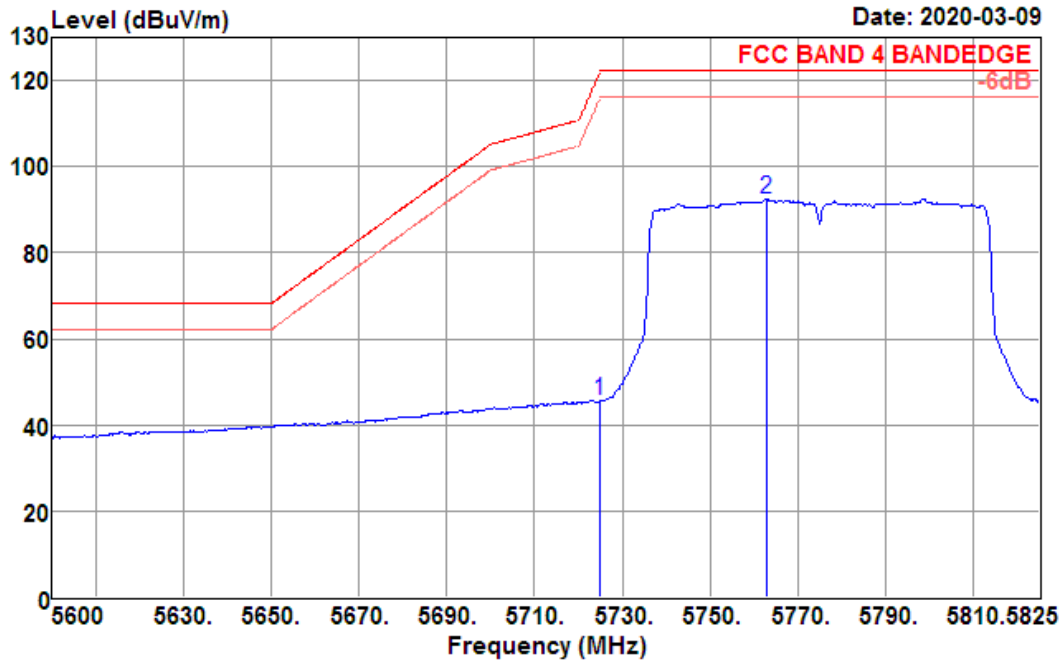
Data: 201



Freq MHz	Reading level dBUV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBUV/m	Limit level dBUV/m	Over limit dB	Remark
5725.000	55.57	31.96	6.04	34.91	58.66	122.20	-63.54	Peak
5767.400	101.91	32.03	6.07	34.85	105.16	122.20	-17.04	Peak

Test Mode :	802.11ac VHT80 CH155 5775MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.6GHz~5.825GHz	Polarization :	Vertical

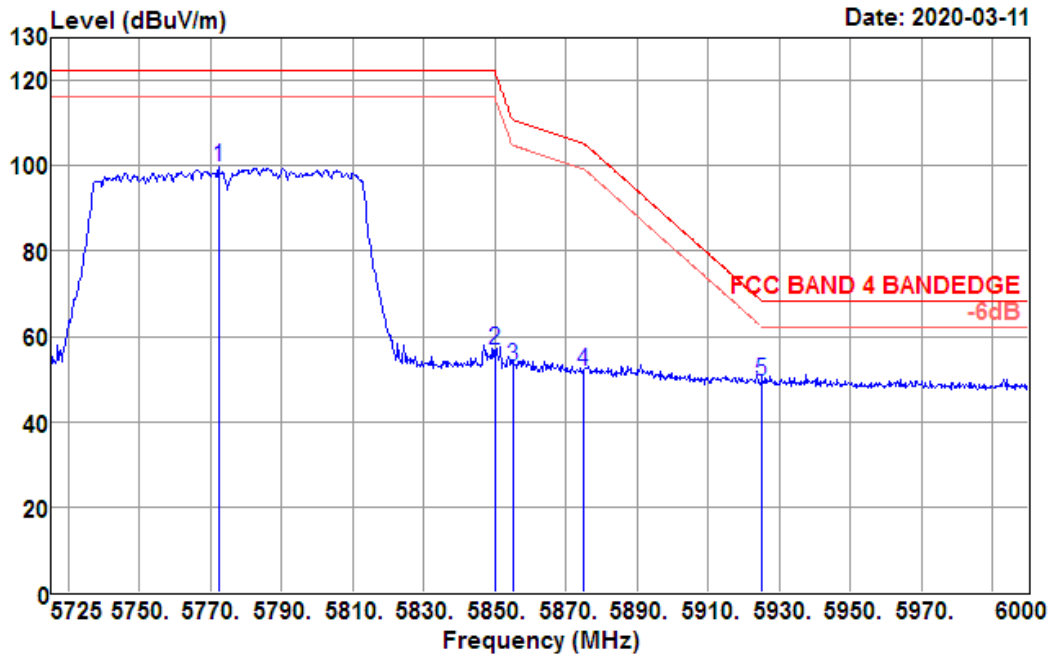
Data: 202



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5725.000	42.49	31.96	6.04	34.91	45.58	122.20	-76.62	Average
5762.900	89.38	32.02	6.07	34.86	92.61	122.20	-29.59	Average

Test Mode :	802.11ac VHT80 CH155 5775MHz	Temperature :	21~23°C
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.75GHz~5.95GHz	Polarization :	Horizontal

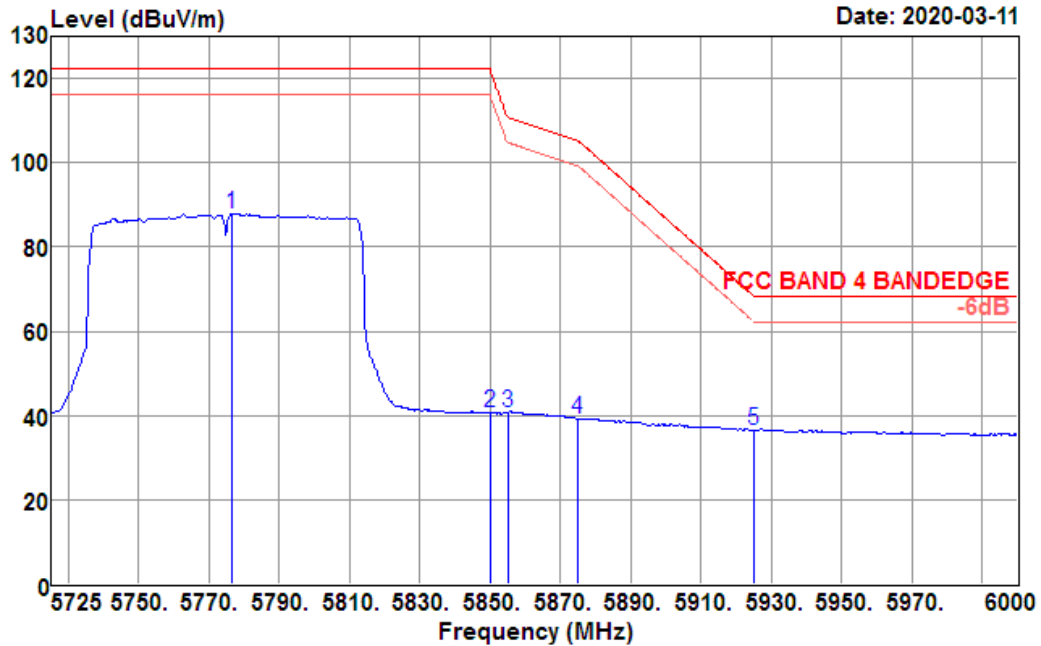
Data: 207



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5772.300	96.31	32.04	6.08	34.84	99.59	122.20	-22.61	Peak
5850.000	53.24	32.16	6.15	34.74	56.81	122.20	-65.39	Peak
5855.000	49.32	32.17	6.16	34.73	52.92	110.80	-57.88	Peak
5875.000	47.96	32.20	6.18	34.70	51.64	105.20	-53.56	Peak
5925.000	45.46	32.28	6.22	34.63	49.33	68.20	-18.87	Peak

Test Mode :	802.11ac VHT80 CH155 5775MHz	Temperature :	21~23°C
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.75GHz~5.95GHz	Polarization :	Horizontal

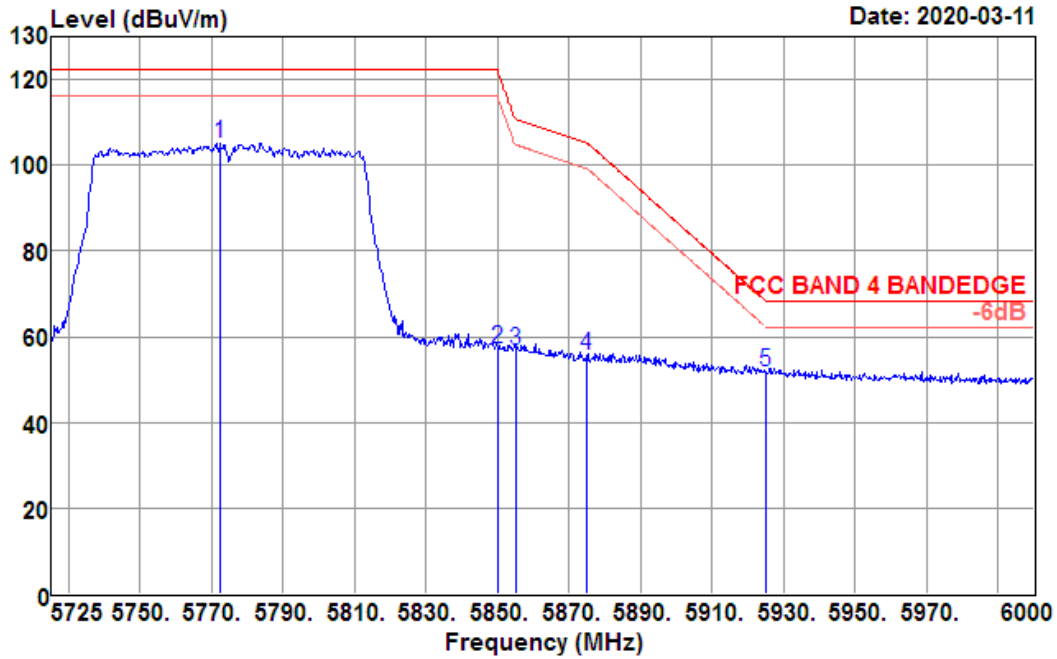
Data: 208



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5776.425	84.56	32.04	6.08	34.84	87.84	122.20	-34.36	Average
5855.000	36.98	32.16	6.15	34.74	40.55	122.20	-81.65	Average
5855.000	37.03	32.17	6.16	34.73	40.63	110.80	-70.17	Average
5875.000	35.59	32.20	6.18	34.70	39.27	105.20	-65.93	Average
5925.000	32.66	32.28	6.22	34.63	36.53	68.20	-31.67	Average

Test Mode :	802.11ac VHT80 CH155 5775MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.75GHz~5.95GHz	Polarization :	Vertical

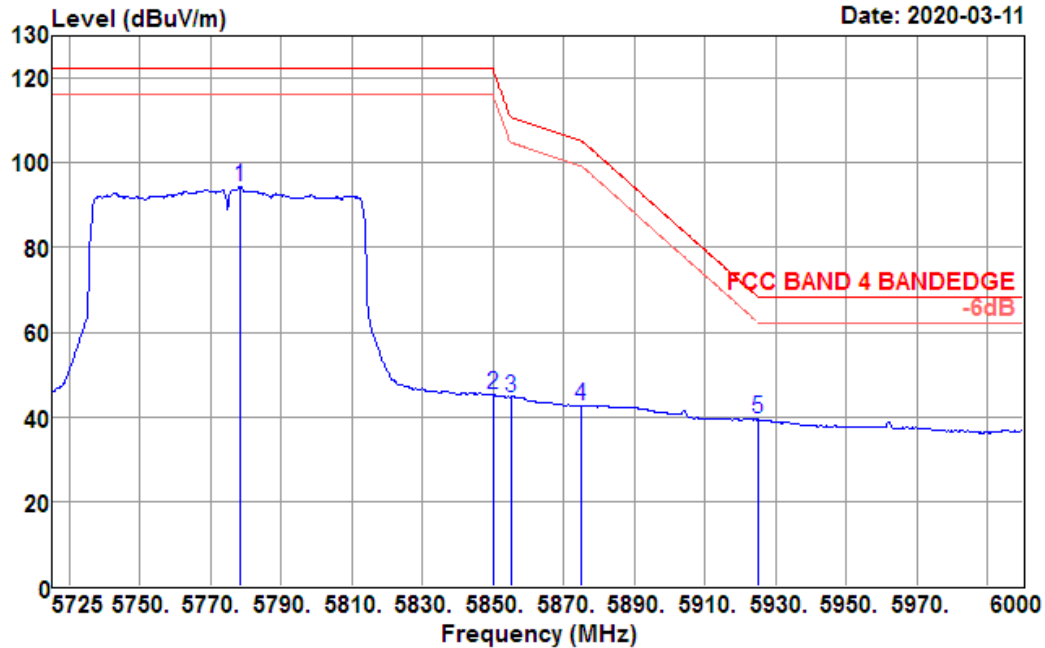
Data: 209



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5772.300	101.77	32.04	6.08	34.84	105.05	122.20	-17.15	Peak
5850.000	53.66	32.16	6.15	34.74	57.23	122.20	-64.97	Peak
5855.000	53.33	32.17	6.16	34.73	56.93	110.80	-53.87	Peak
5875.000	52.01	32.20	6.18	34.70	55.69	105.20	-49.51	Peak
5925.000	47.92	32.28	6.22	34.63	51.79	68.20	-16.41	Peak

Test Mode :	802.11ac VHT80 CH155 5775MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	5.75GHz~5.95GHz	Polarization :	Vertical

Data: 210

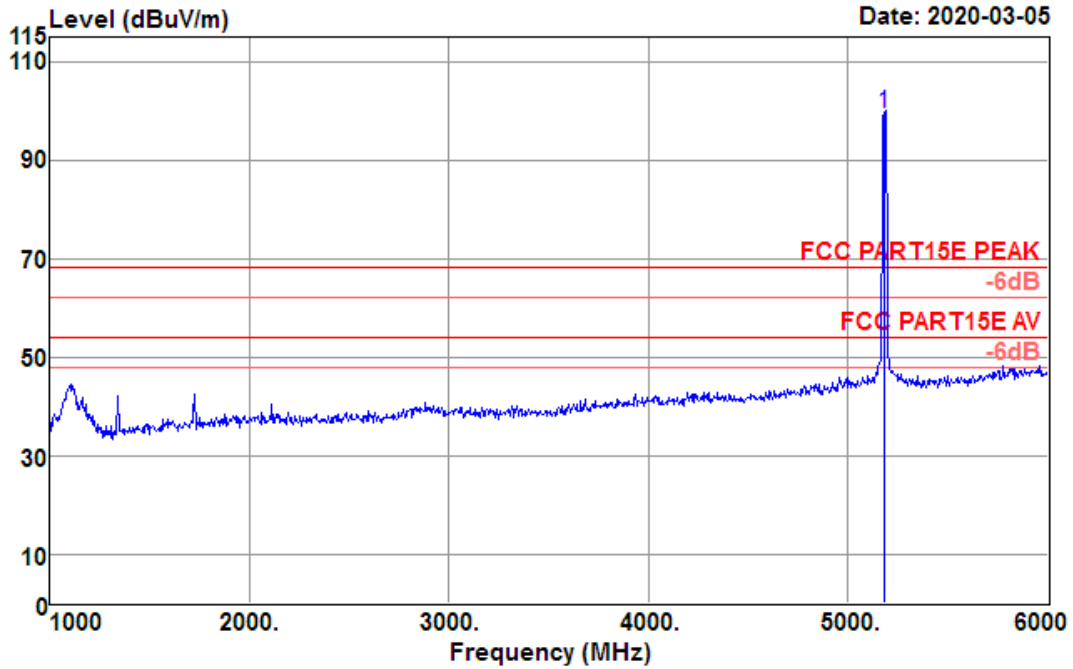


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5778.350	91.04	32.05	6.08	34.84	94.33	122.20	-27.87	Average
5850.000	41.64	32.16	6.15	34.74	45.21	122.20	-76.99	Average
5855.000	41.08	32.17	6.16	34.73	44.68	110.80	-66.12	Average
5875.000	38.92	32.20	6.18	34.70	42.60	105.20	-62.60	Average
5925.000	35.49	32.28	6.22	34.63	39.36	68.20	-28.84	Average

4.4.5 Test Result of Radiated Spurious Emission (1GHz ~ 10th Harmonic)

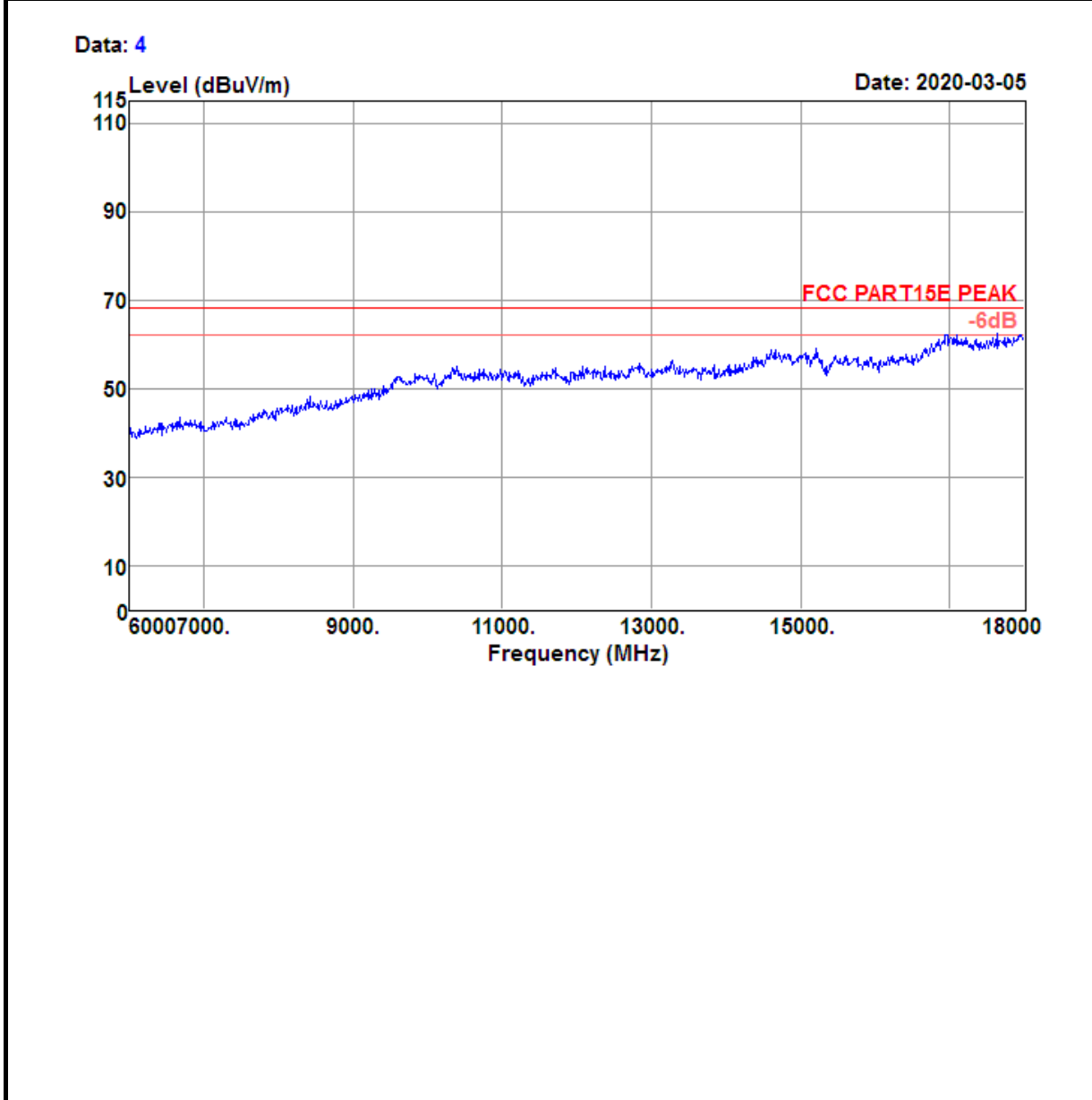
Test Mode :	802.11a CH36 5180MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Horizontal

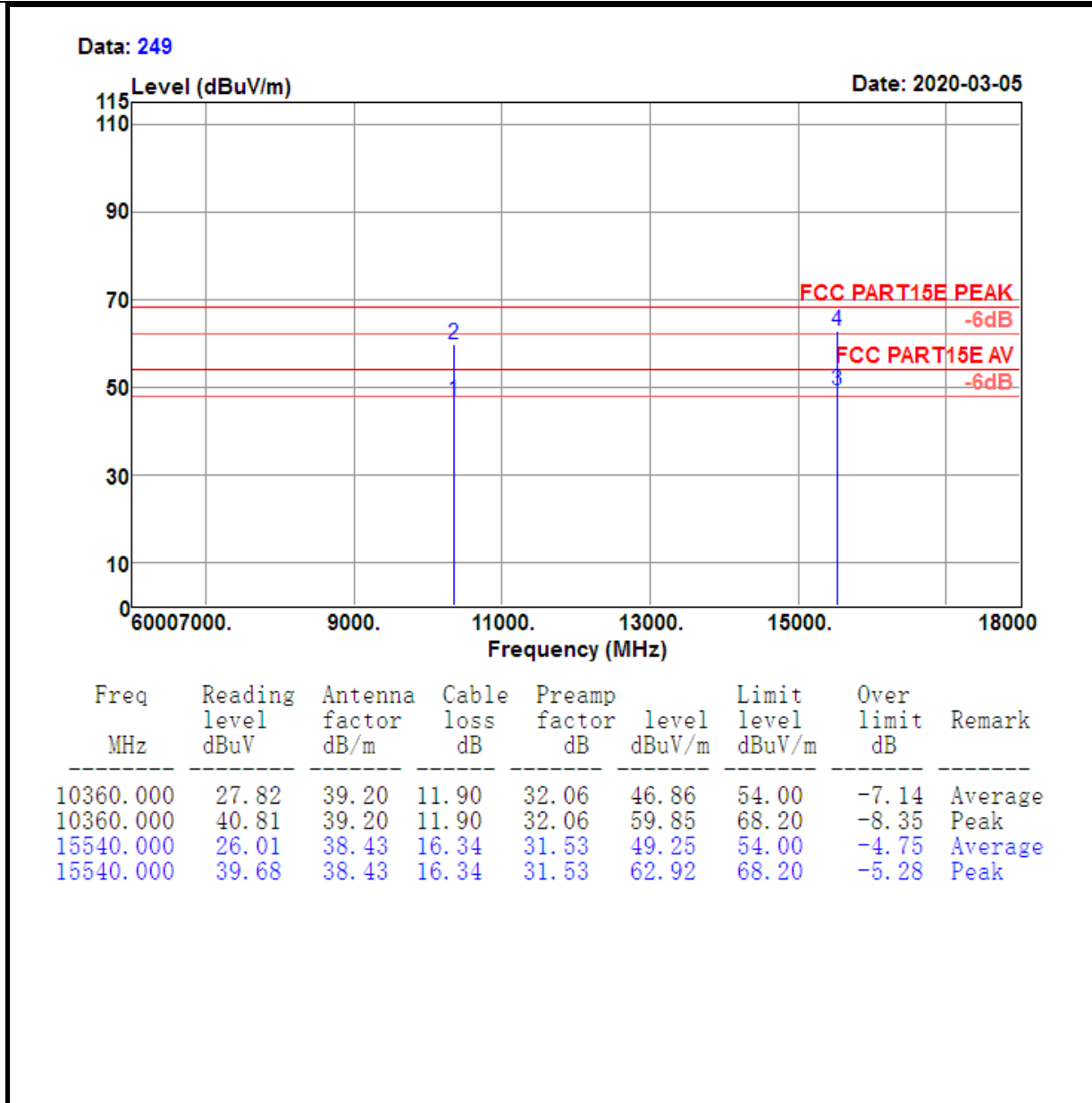
Data: 300



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5180.000	97.92	31.34	5.68	35.66	99.28	68.20	31.08	Peak

Test Mode :	802.11a CH36 5180MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Horizontal

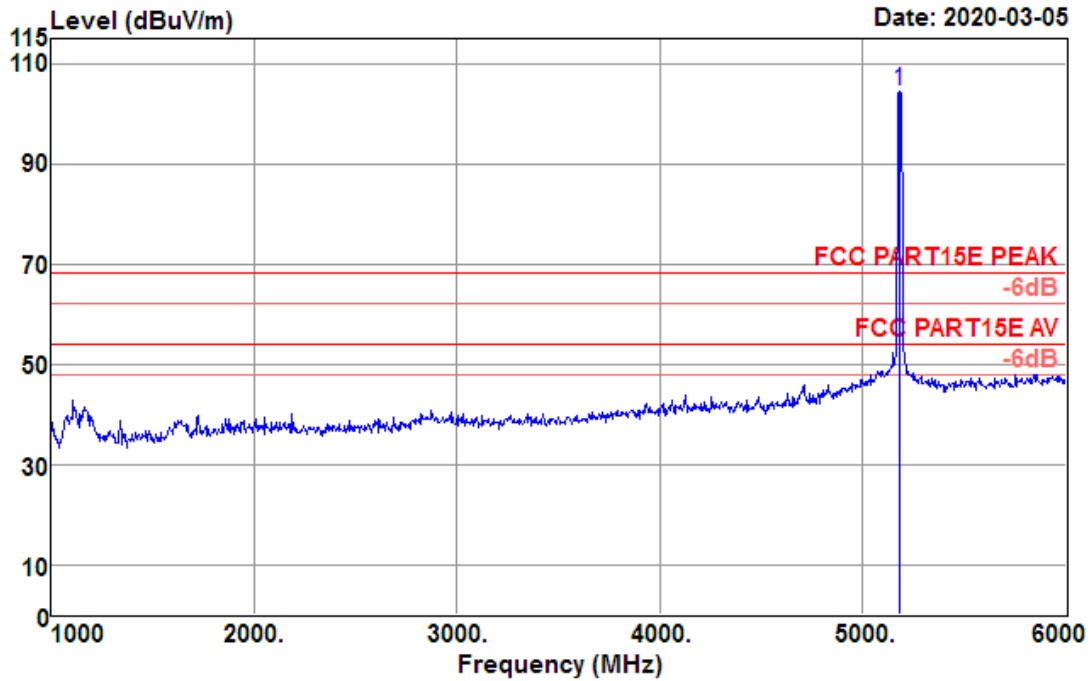




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11a CH36 5180MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Vertical

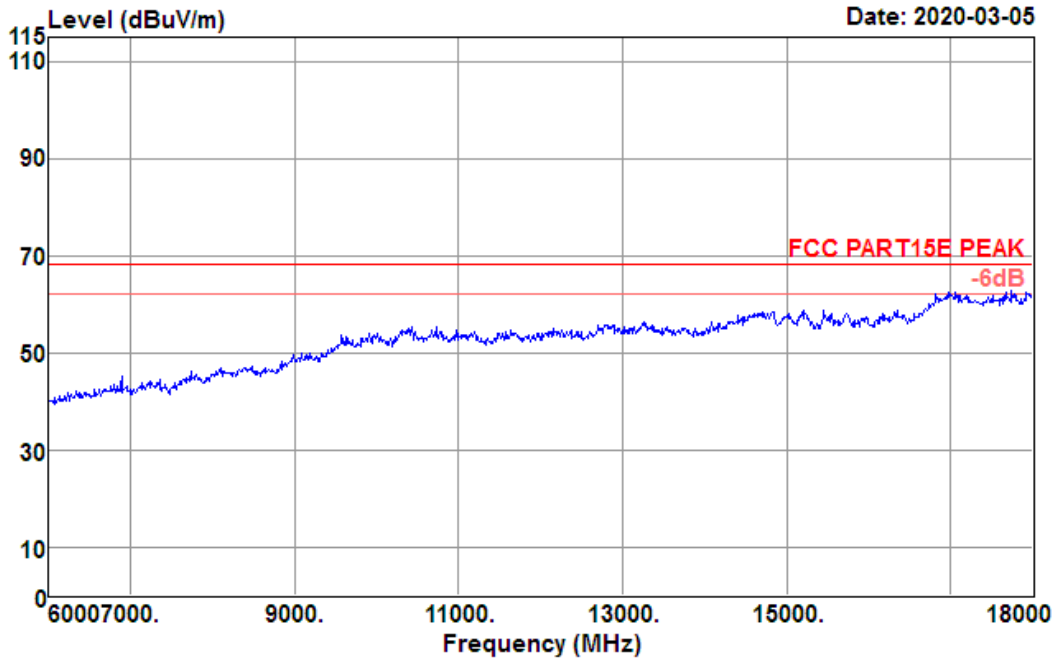
Data: 303

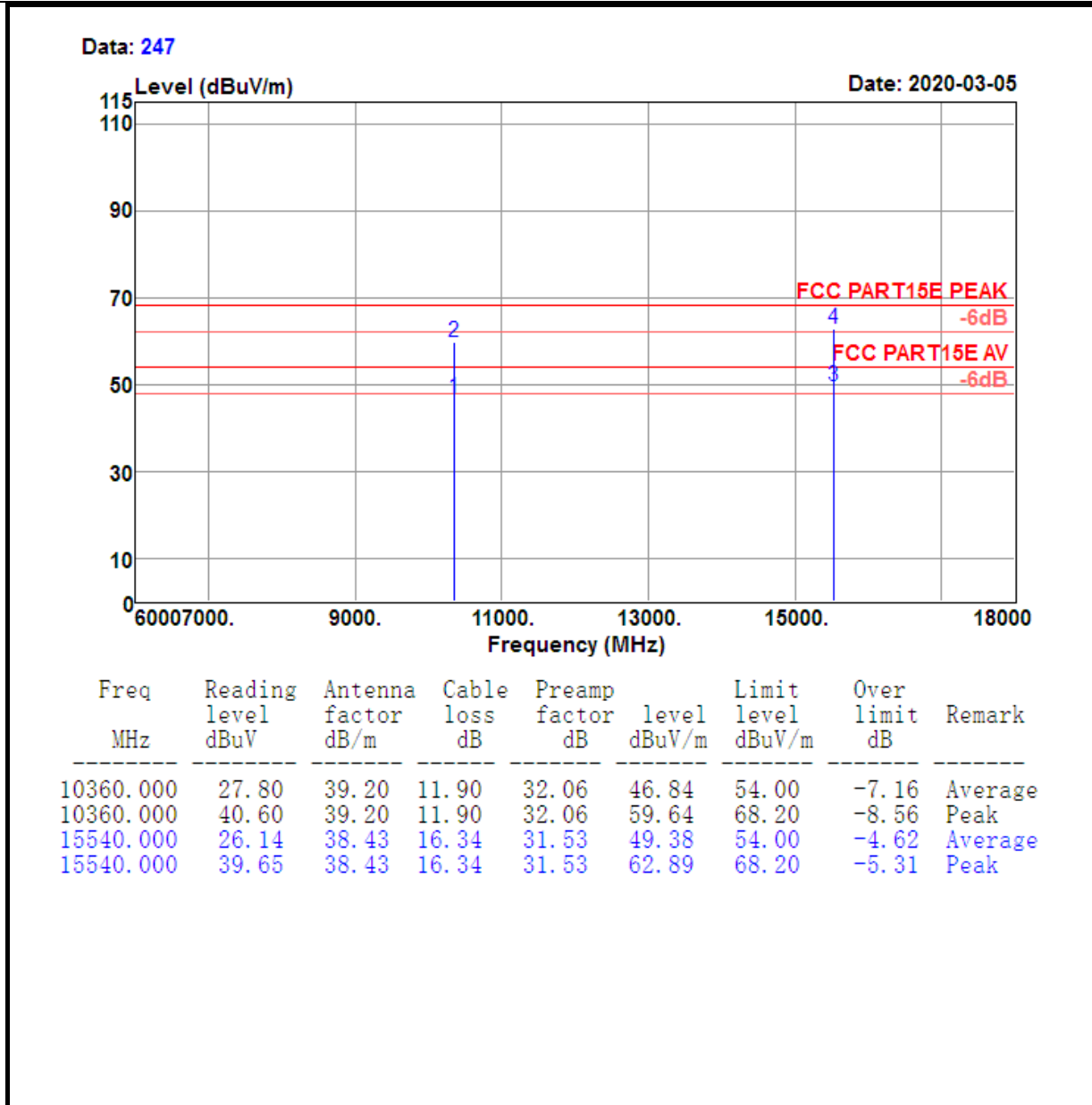


Freq MHz	Reading level dBUV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBUV/m	Limit level dBUV/m	Over limit dB	Remark
5180.000	103.00	31.34	5.68	35.66	104.36	68.20	36.16	Peak

Test Mode :	802.11a CH36 5180MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Vertical

Data: 2

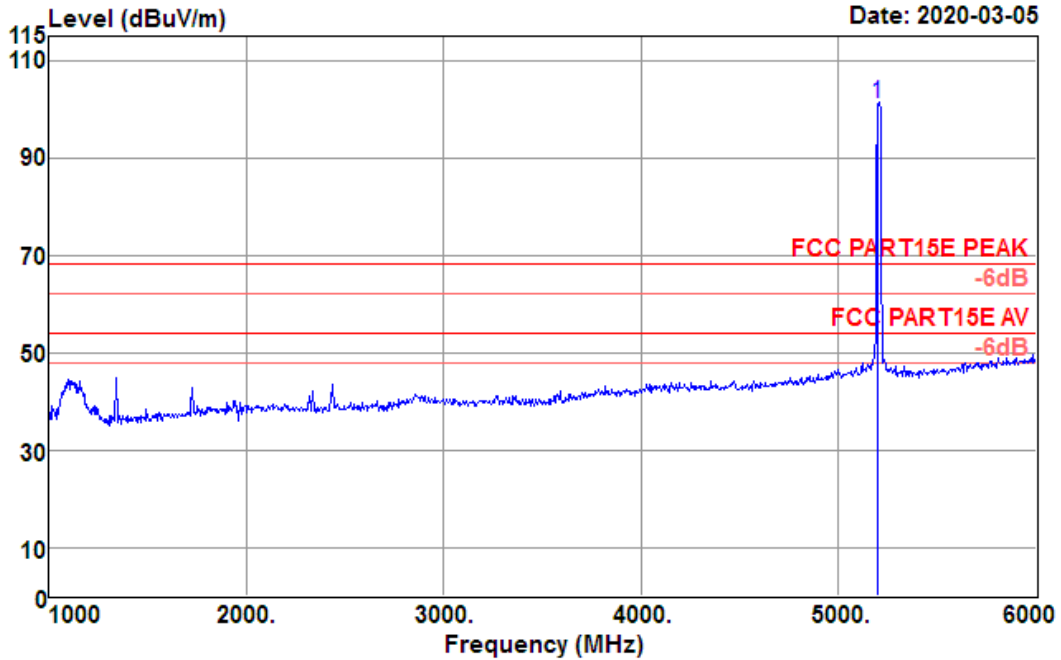




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11a CH40 5200MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Horizontal

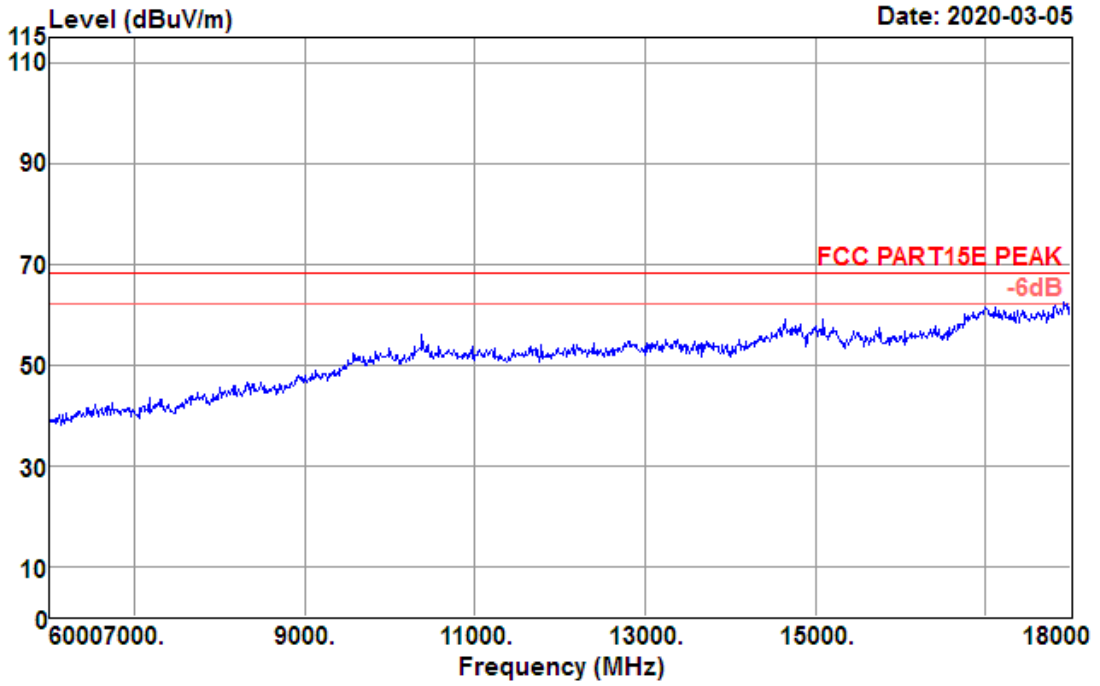
Data: 305

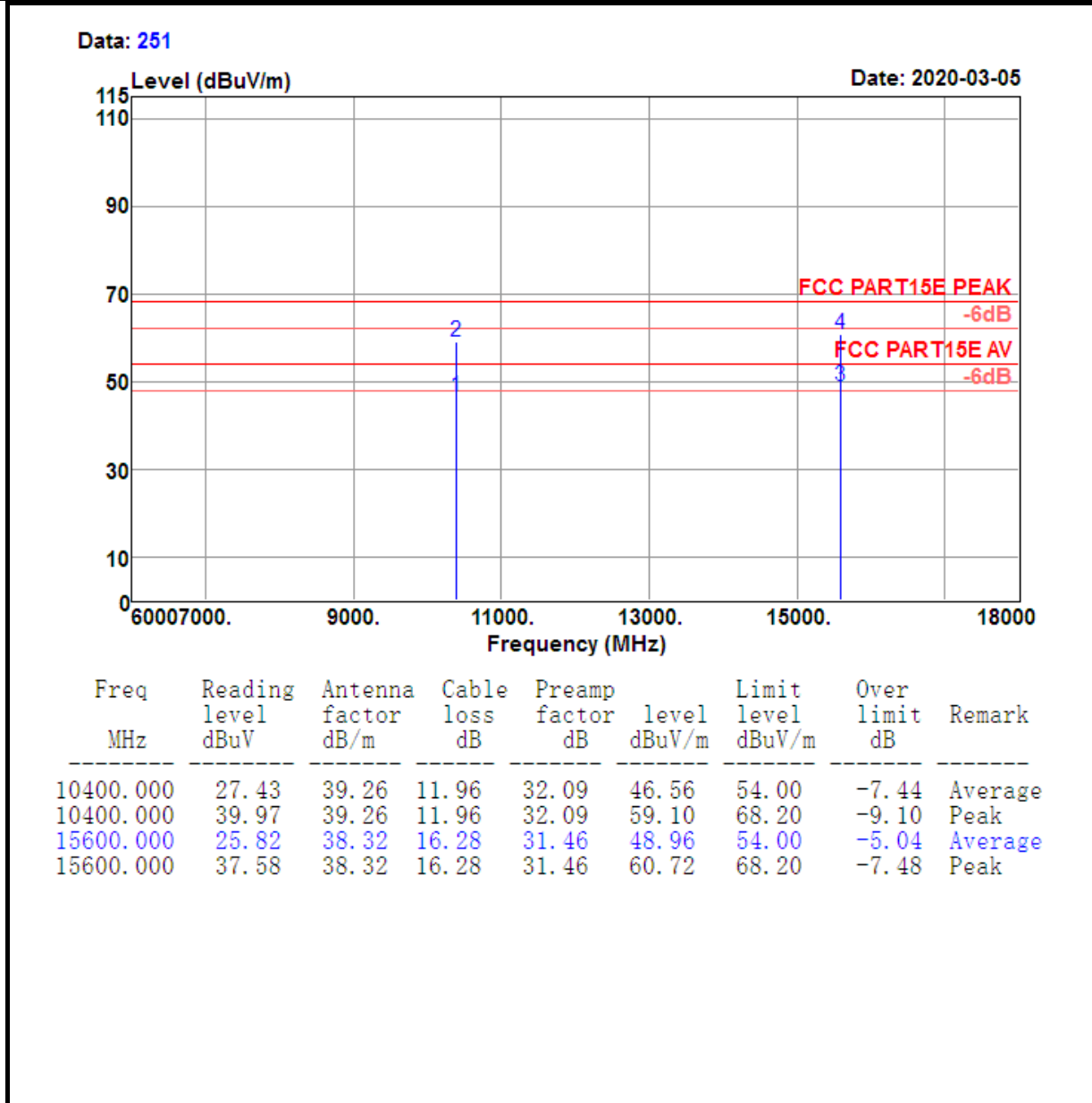


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5200.000	99.81	31.36	5.70	35.63	101.24	68.20	33.04	Peak

Test Mode :	802.11a CH40 5200MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Horizontal

Data: 6

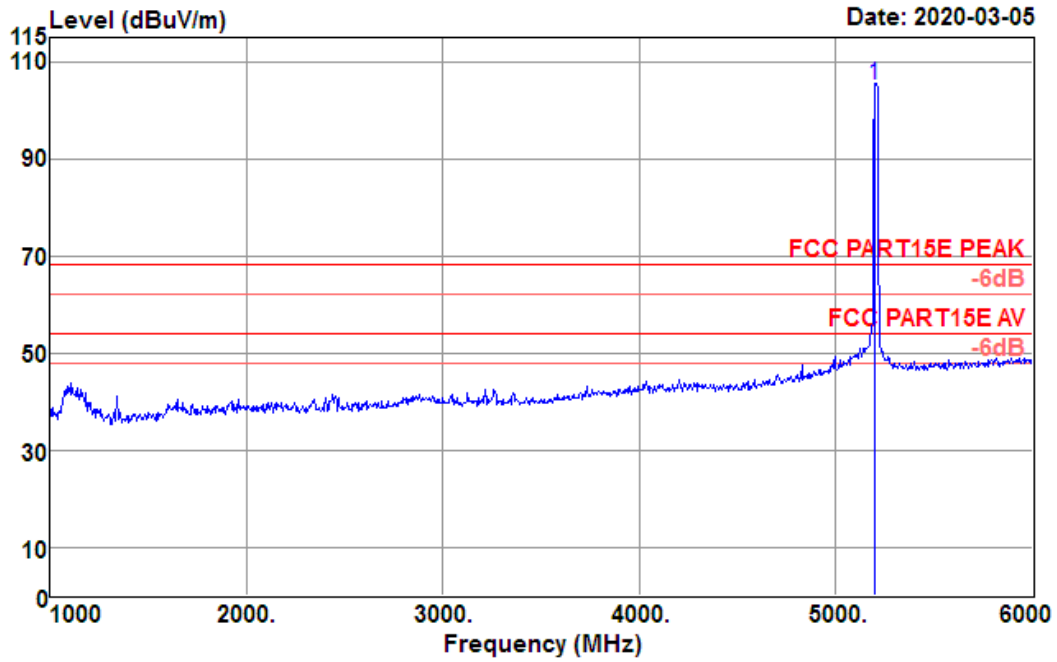




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11a CH40 5200MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Vertical

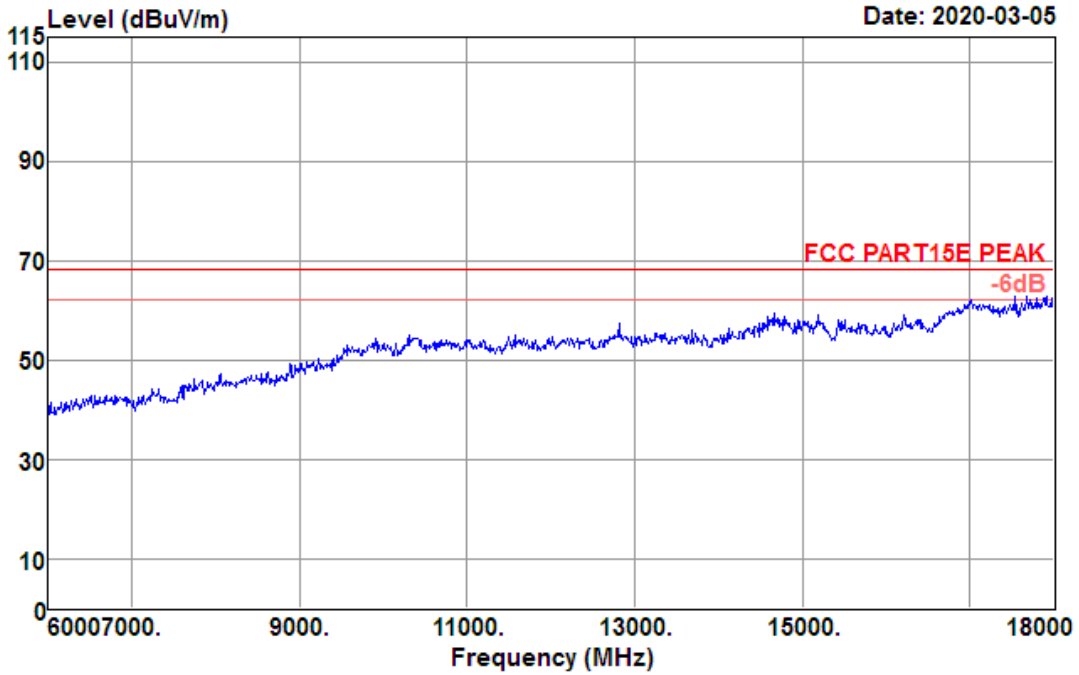
Data: 304

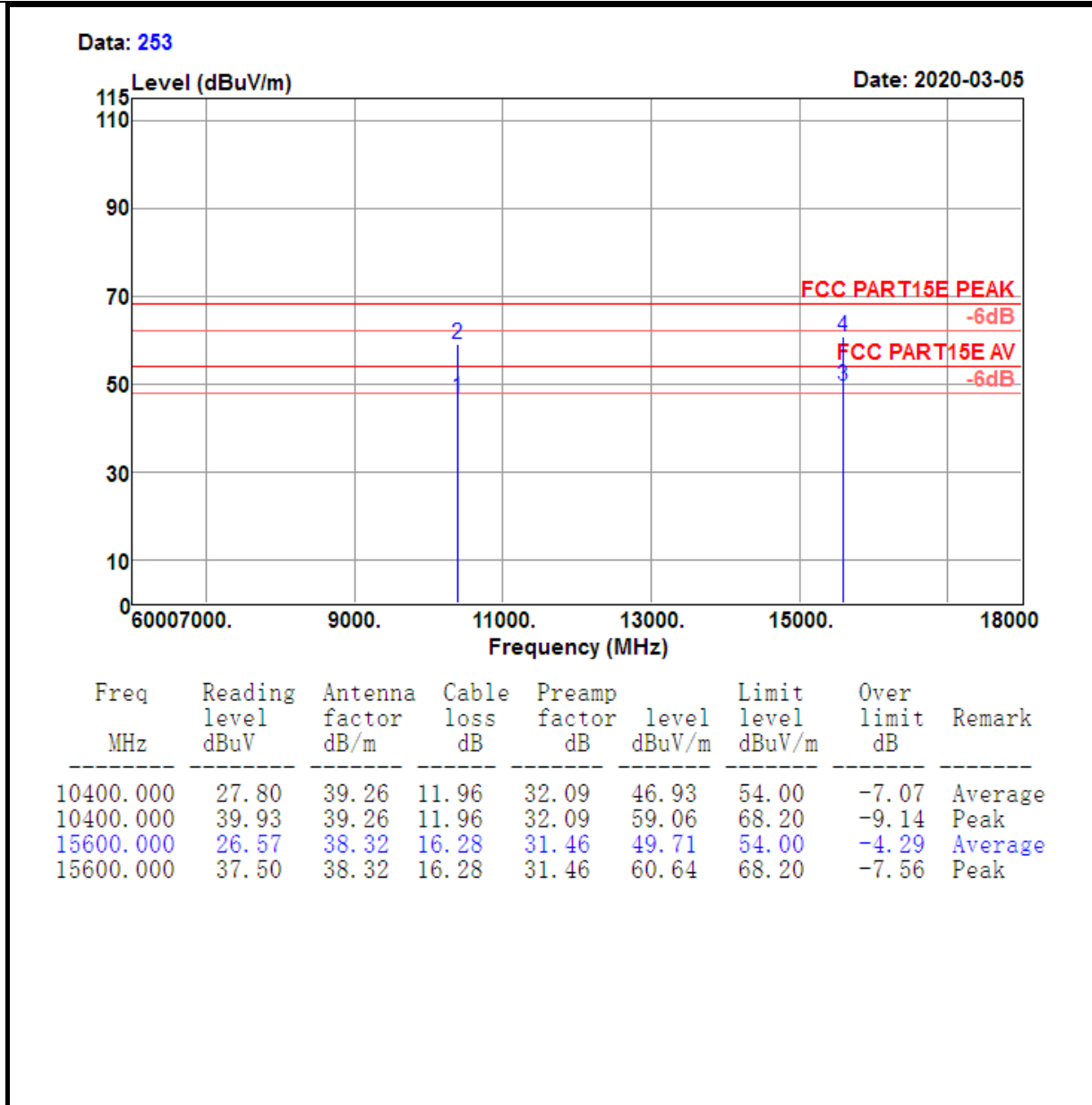


Freq MHz	Reading level dBUV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBUV/m	Limit level dBUV/m	Over limit dB	Remark
5200.000	103.73	31.36	5.70	35.63	105.16	68.20	36.96	Peak

Test Mode :	802.11a CH40 5200MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Vertical

Data: 8

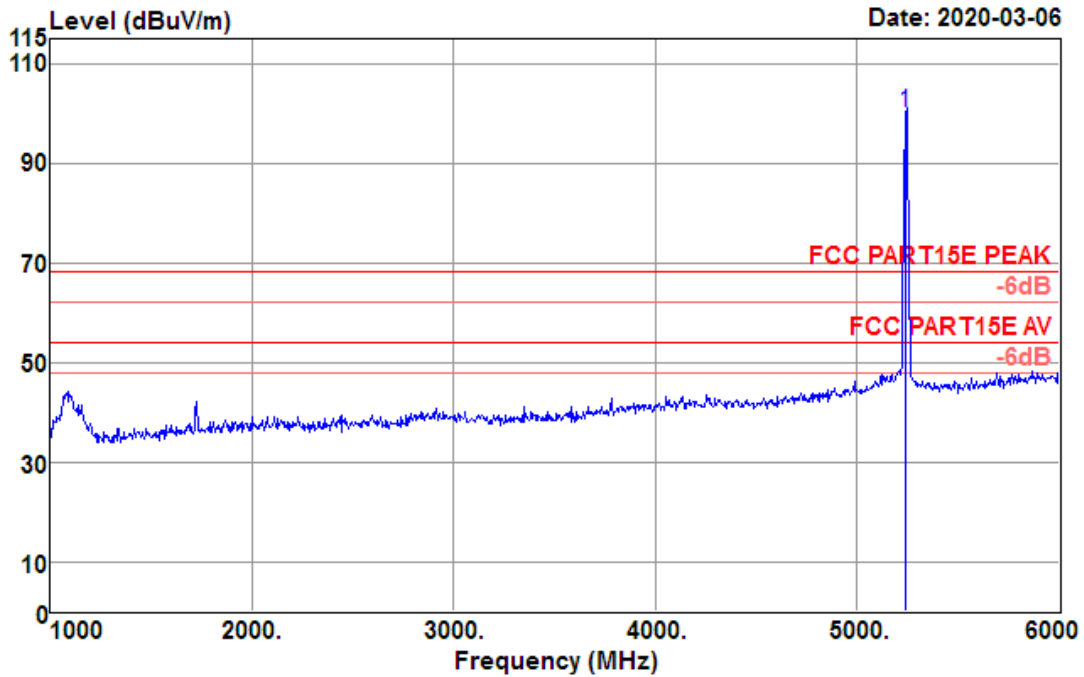




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11a CH48 5240MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Horizontal

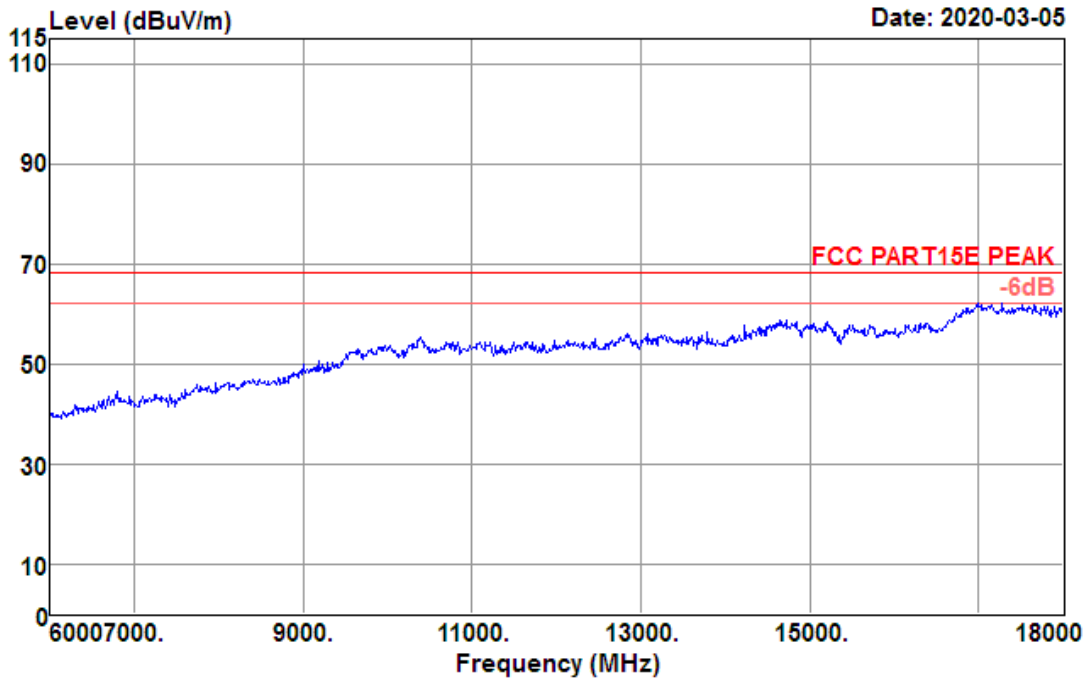
Data: 308

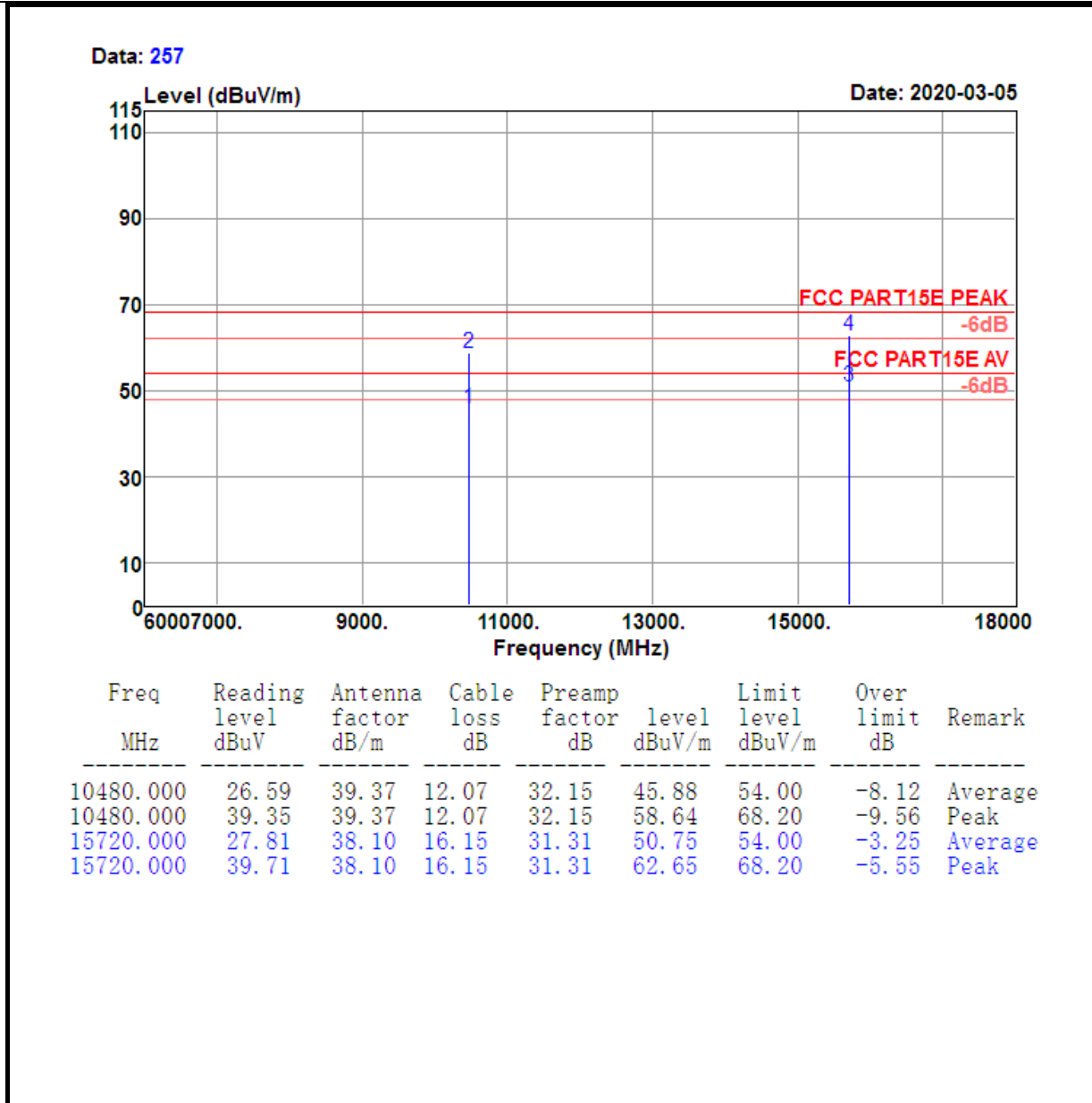


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5240.000	98.69	31.39	5.70	35.58	100.20	68.20	32.00	Peak

Test Mode :	802.11a CH48 5240MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Horizontal

Data: 12

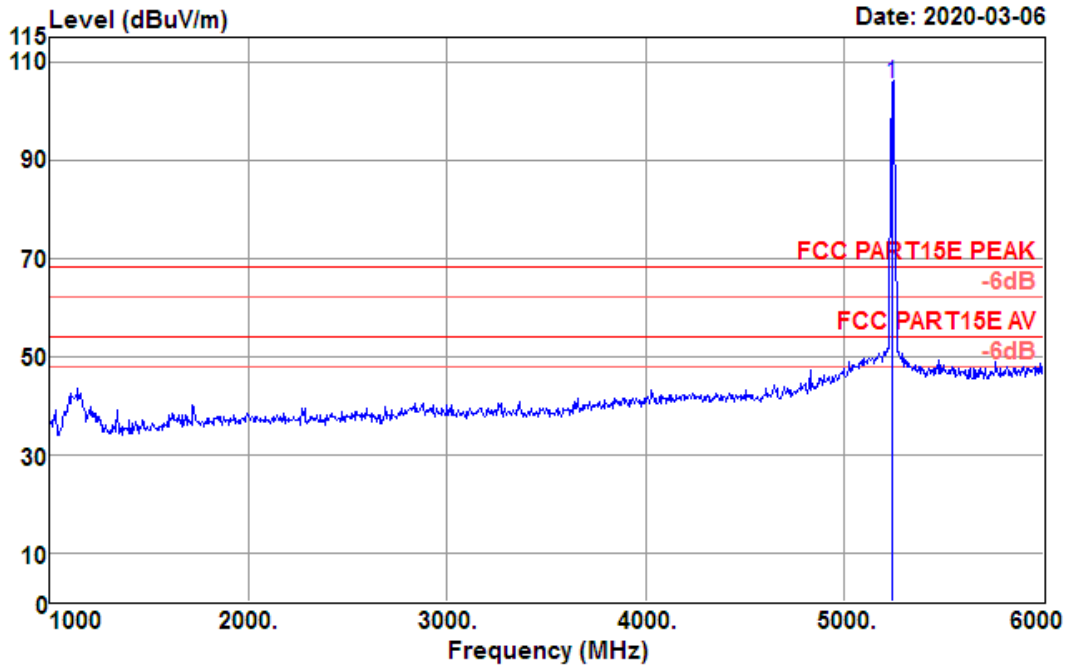




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

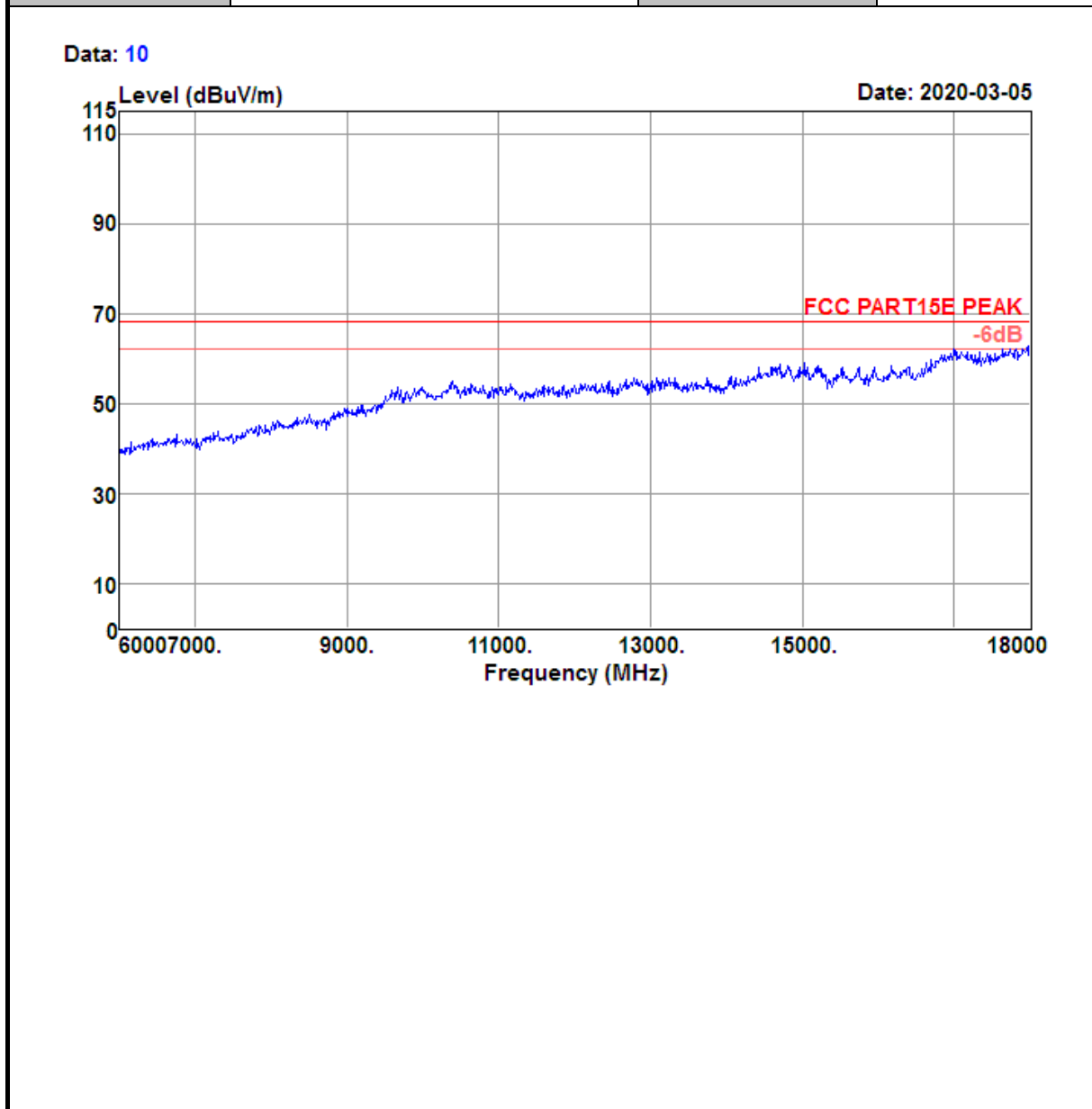
Test Mode :	802.11a CH48 5240MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Vertical

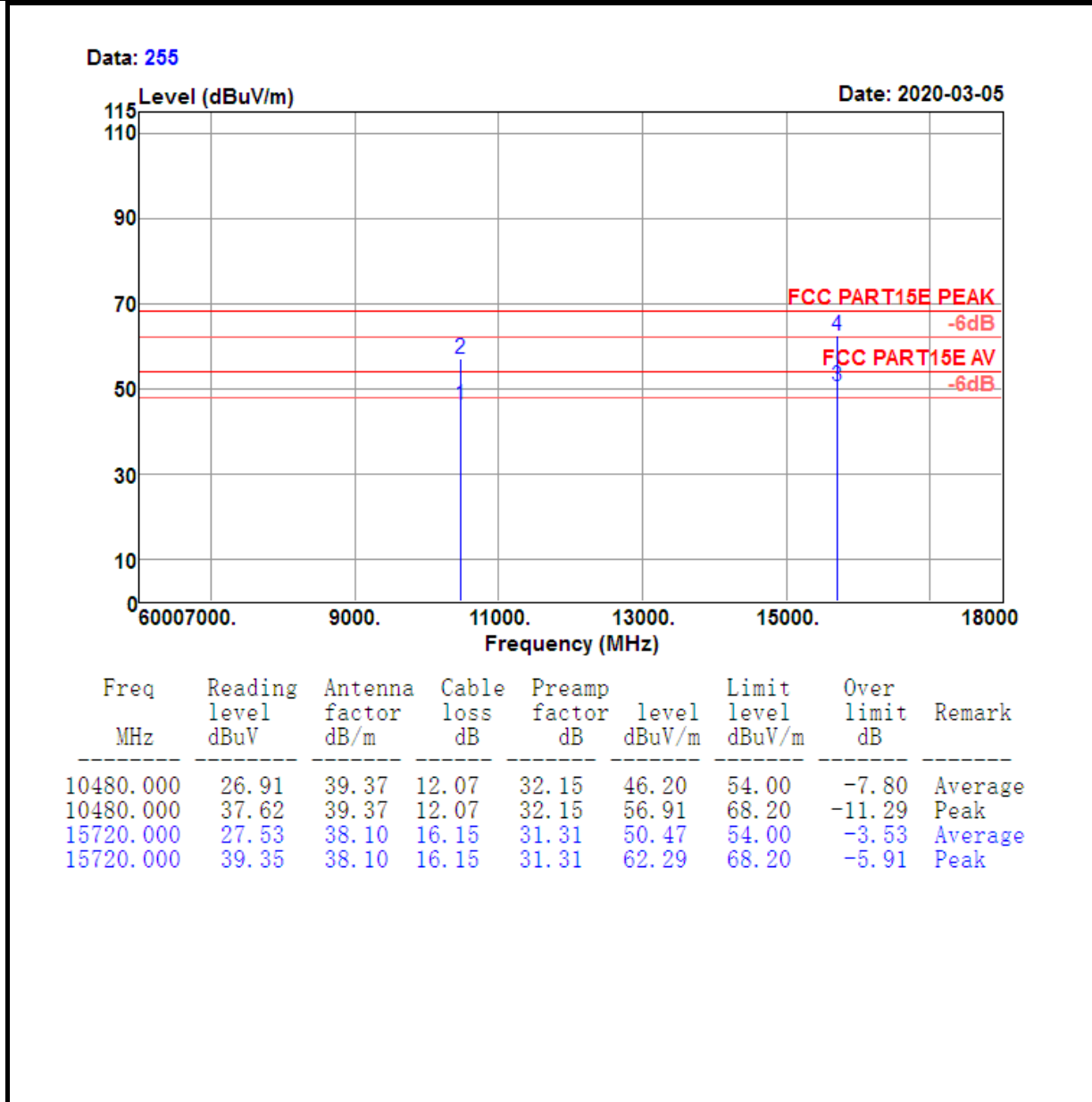
Data: 310



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBUV/m	Limit level dBUV/m	Over limit dB	Remark
5240.000	104.01	31.39	5.70	35.58	105.52	68.20	37.32	Peak

Test Mode :	802.11a CH48 5240MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Vertical

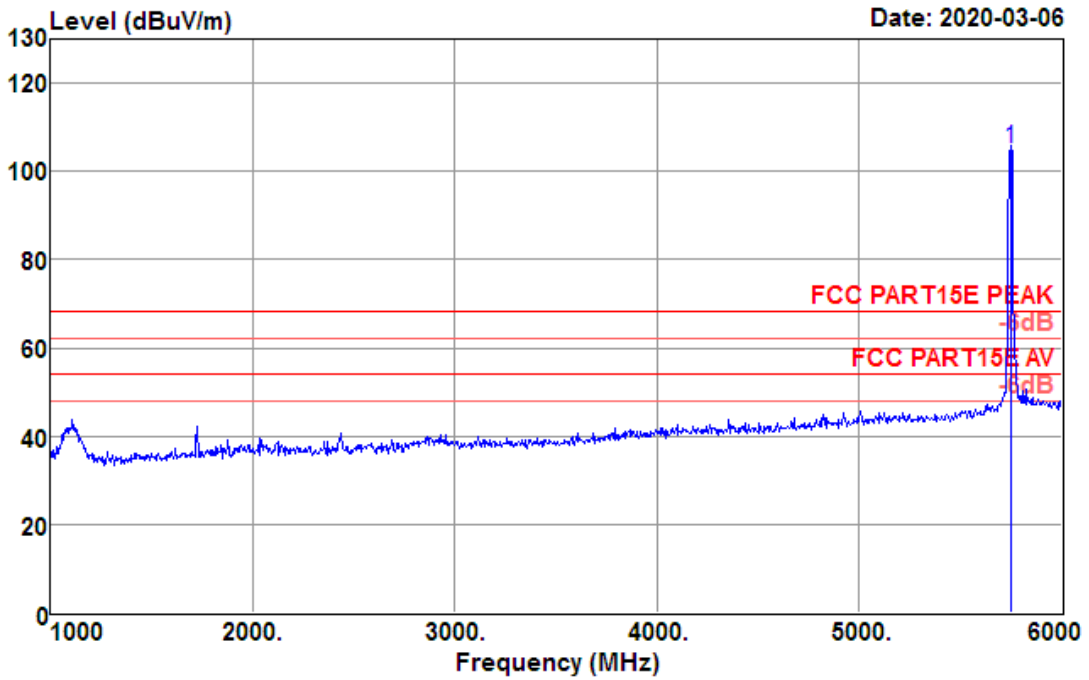




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

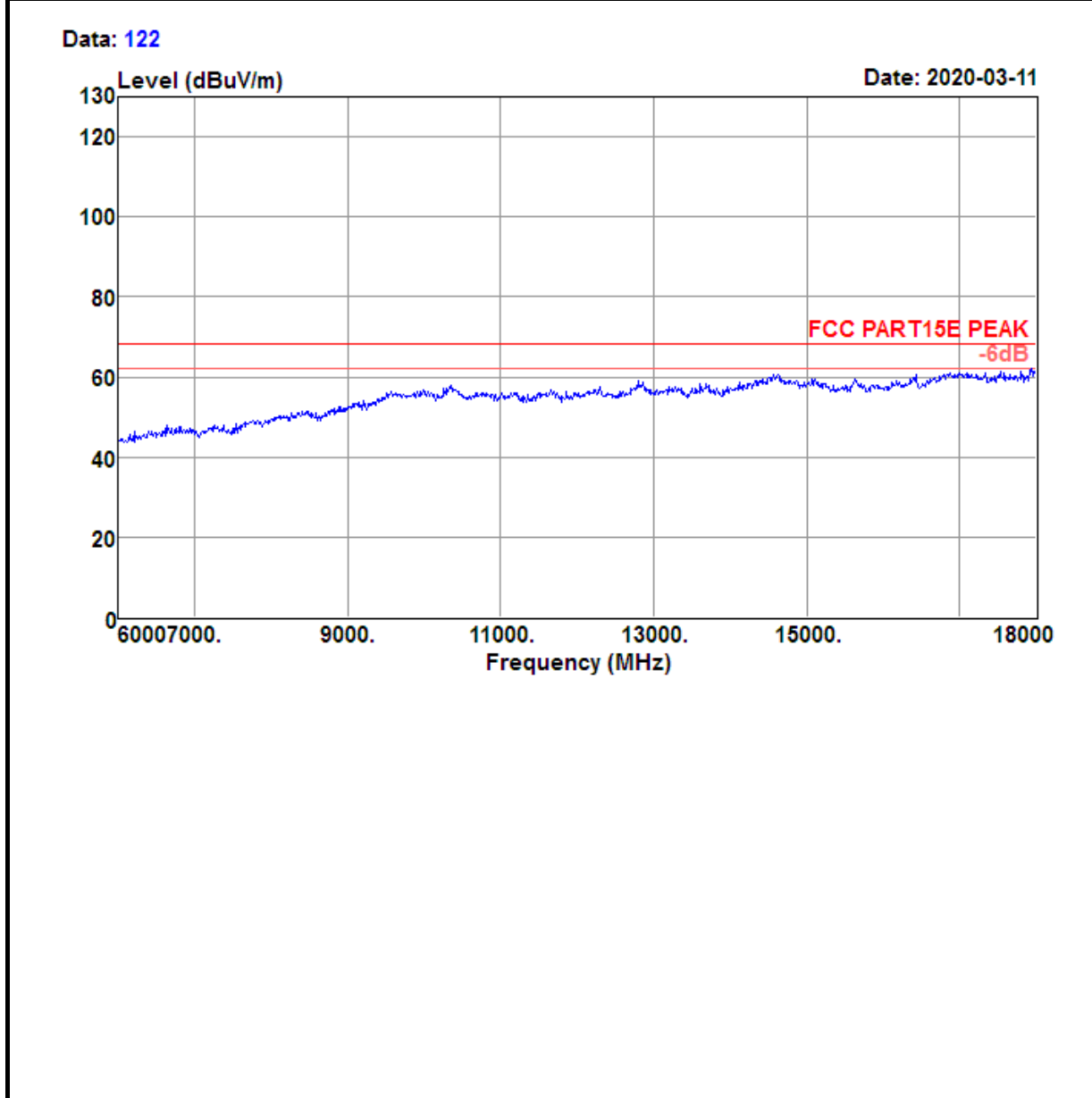
Test Mode :	802.11a CH149 5745MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Horizontal

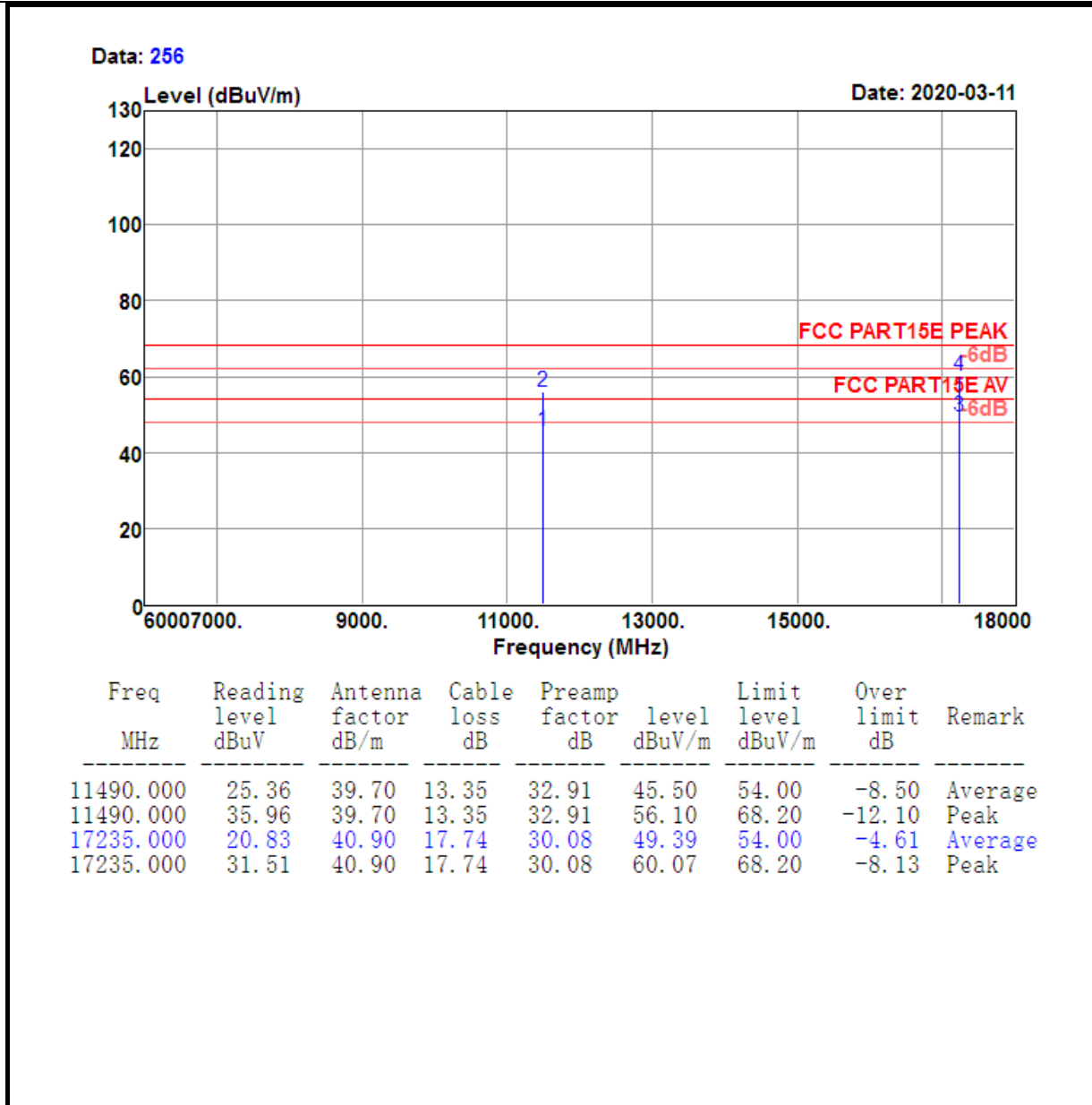
Data: 137



Freq MHz	Reading level dBUV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBUV/m	Limit level dBUV/m	Over limit dB	Remark
5745.000	102.06	31.99	6.06	34.88	105.23	68.20	37.03	Peak

Test Mode :	802.11a CH149 5745MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Horizontal

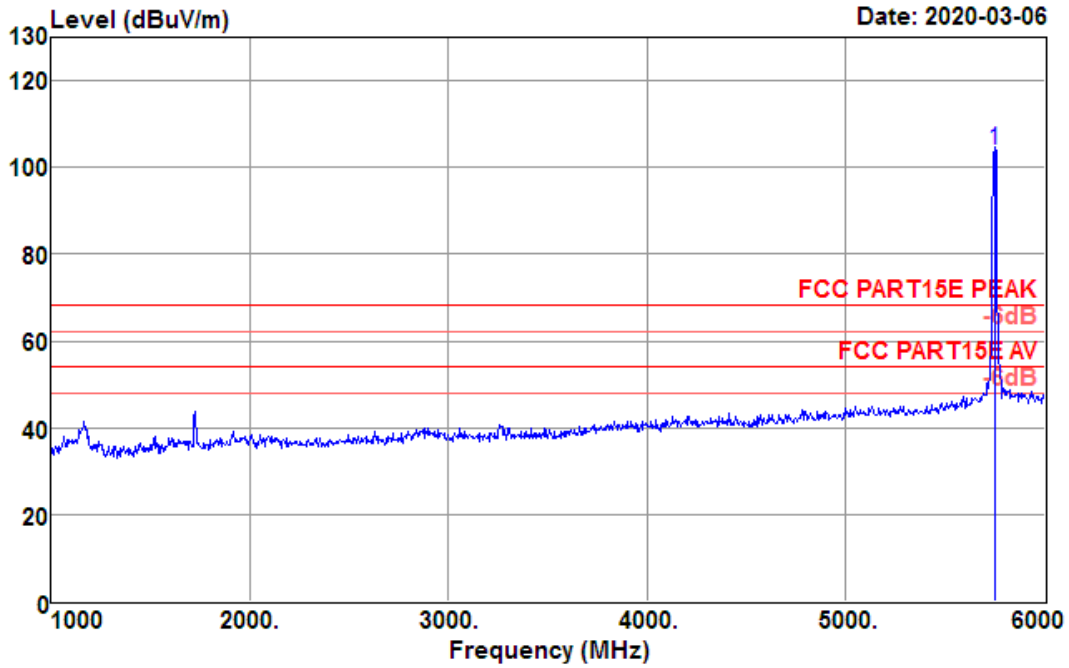




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

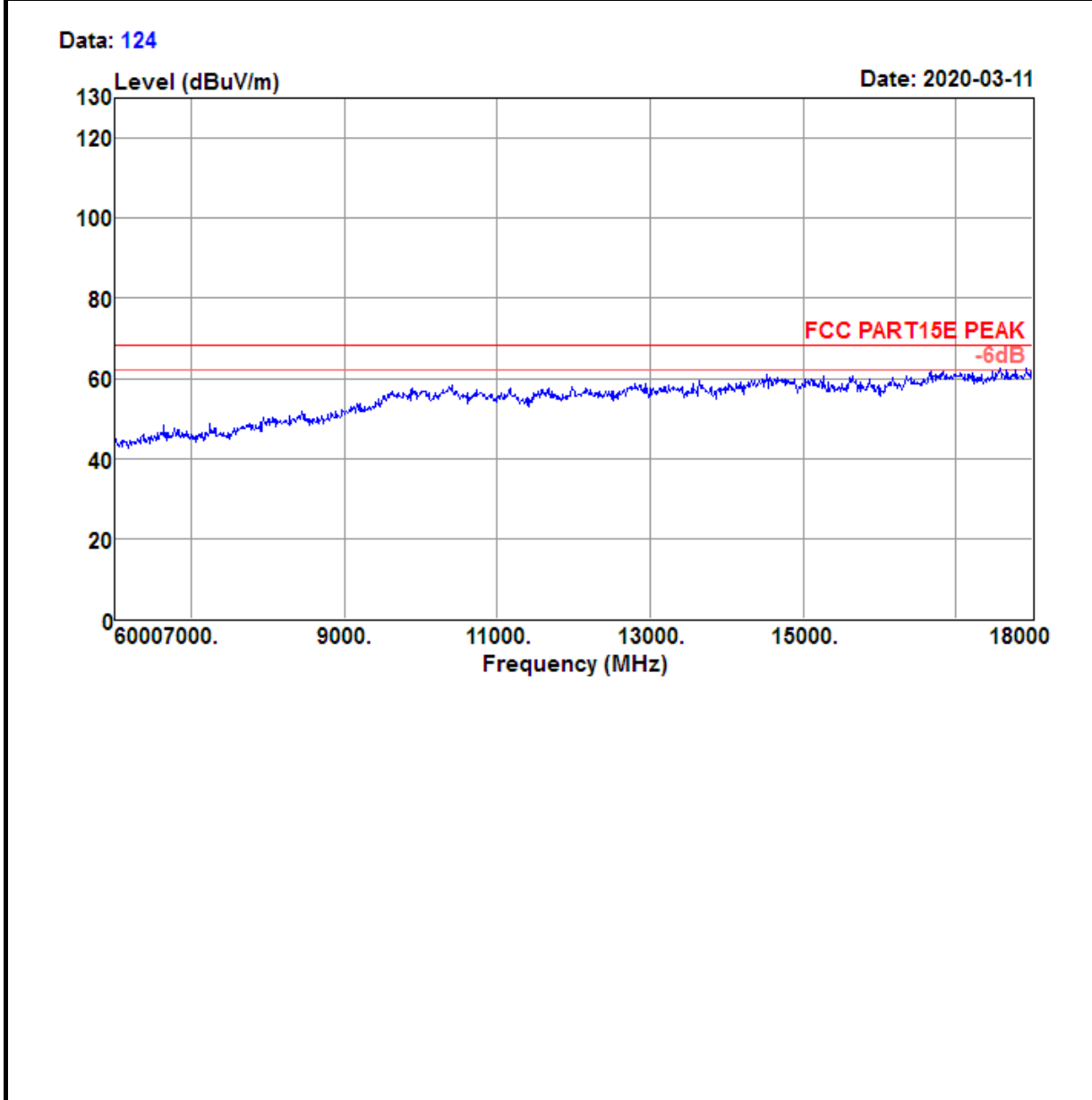
Test Mode :	802.11a CH149 5745MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Vertical

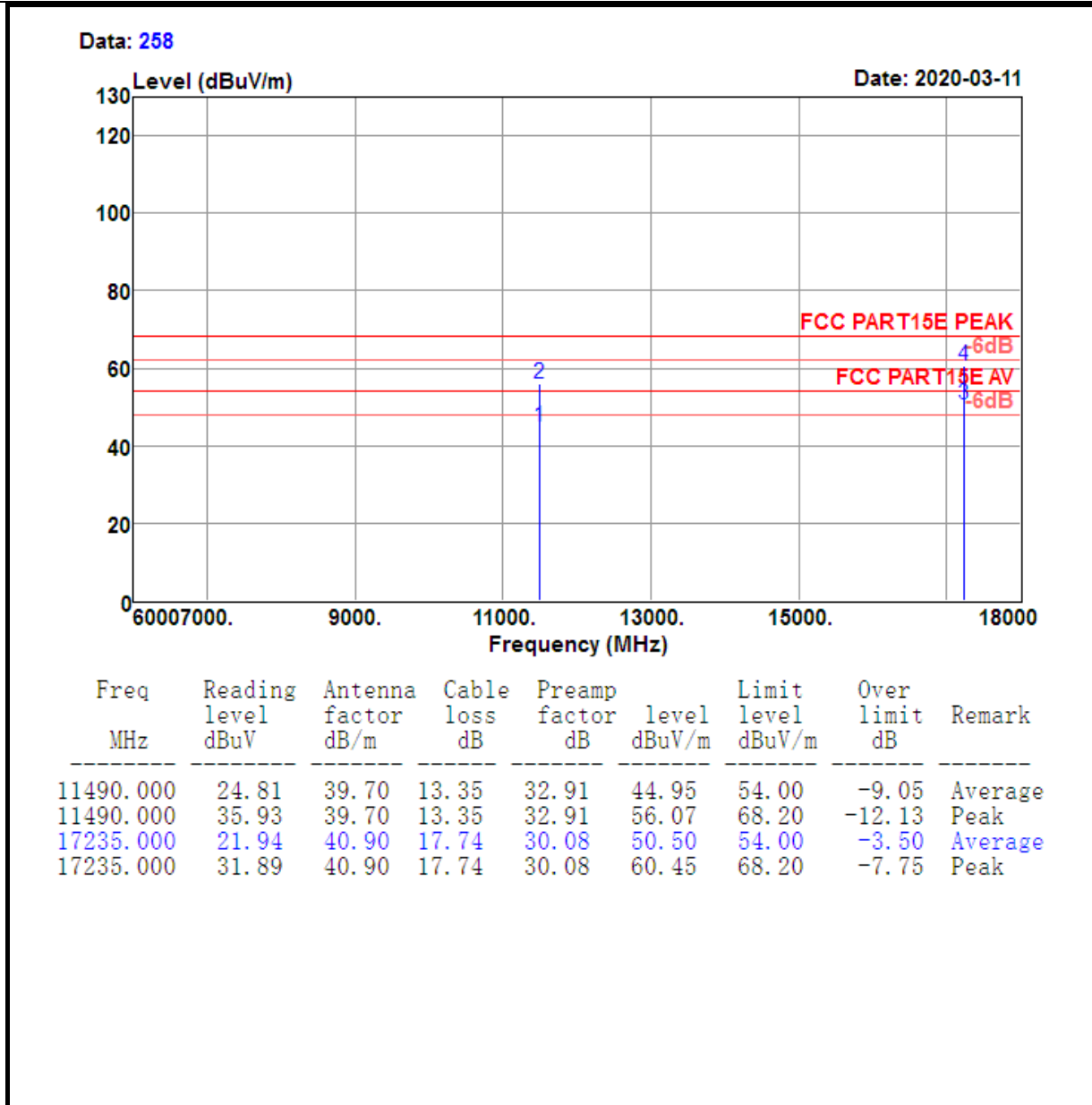
Data: 140



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5745.000	100.92	31.99	6.06	34.88	104.09	68.20	35.89	Peak

Test Mode :	802.11a CH149 5745MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Vertical

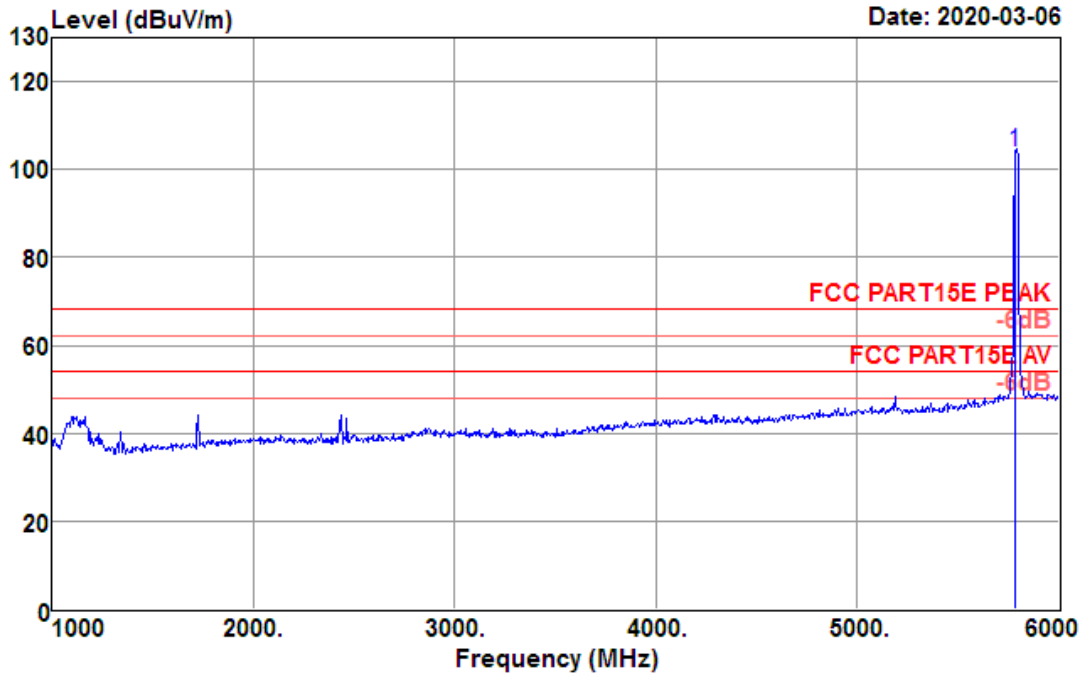




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11a CH157 5785MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Horizontal

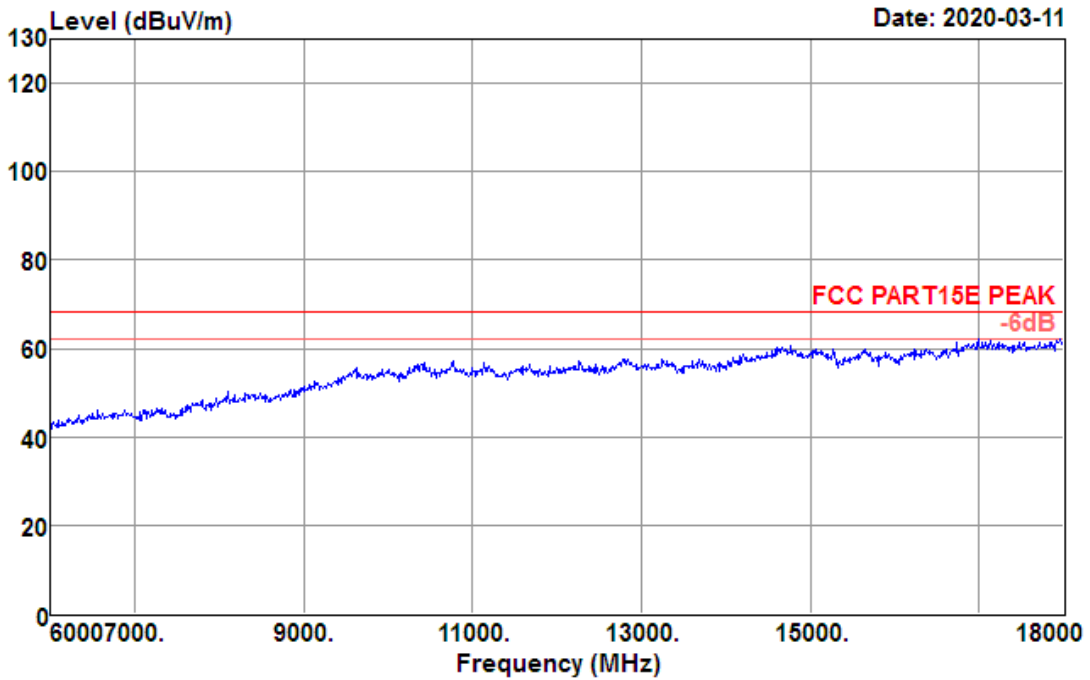
Data: 142

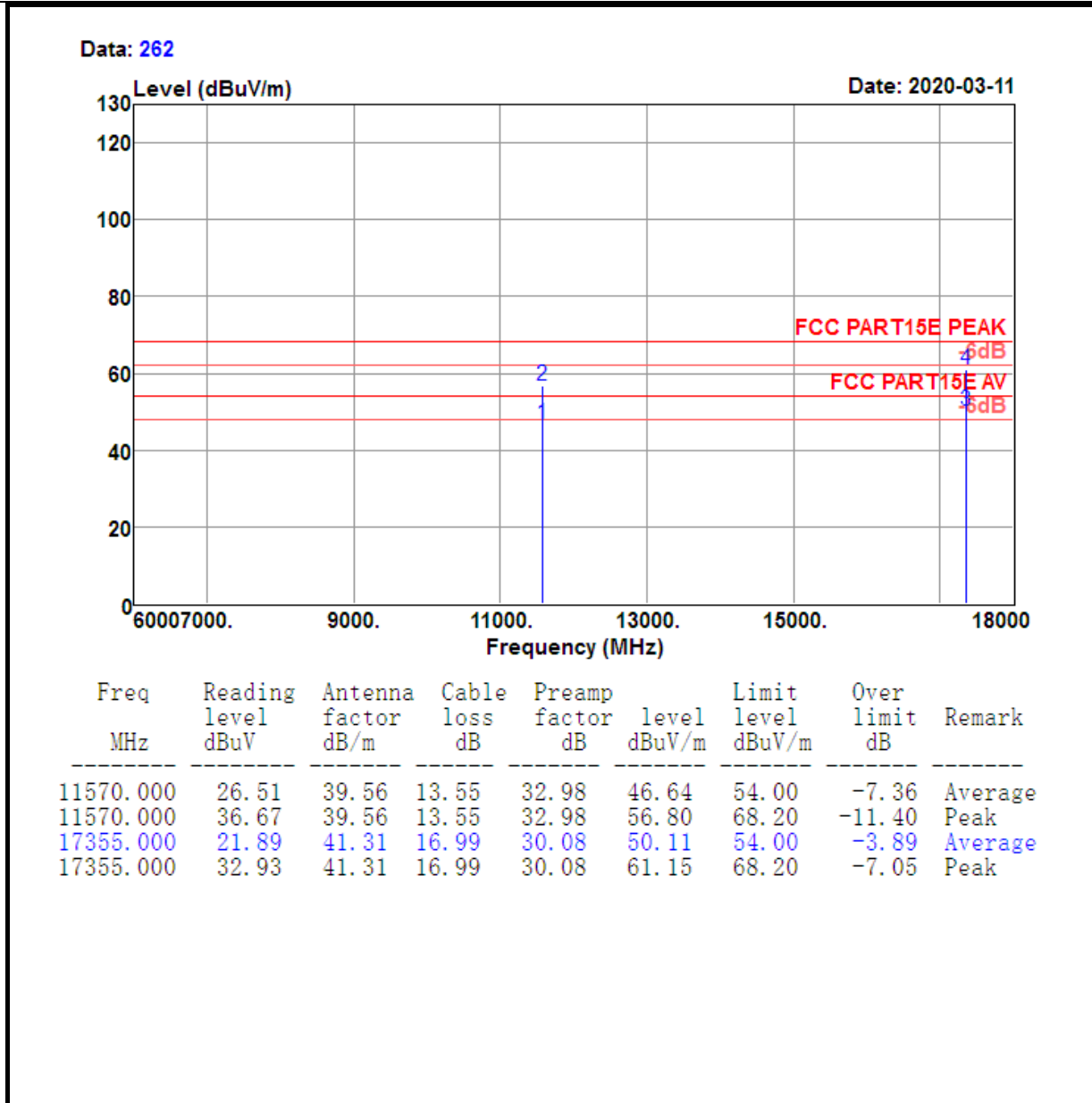


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5785.000	100.65	32.06	6.09	34.83	103.97	68.20	35.77	Peak

Test Mode :	802.11a CH157 5785MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Horizontal

Data: 128

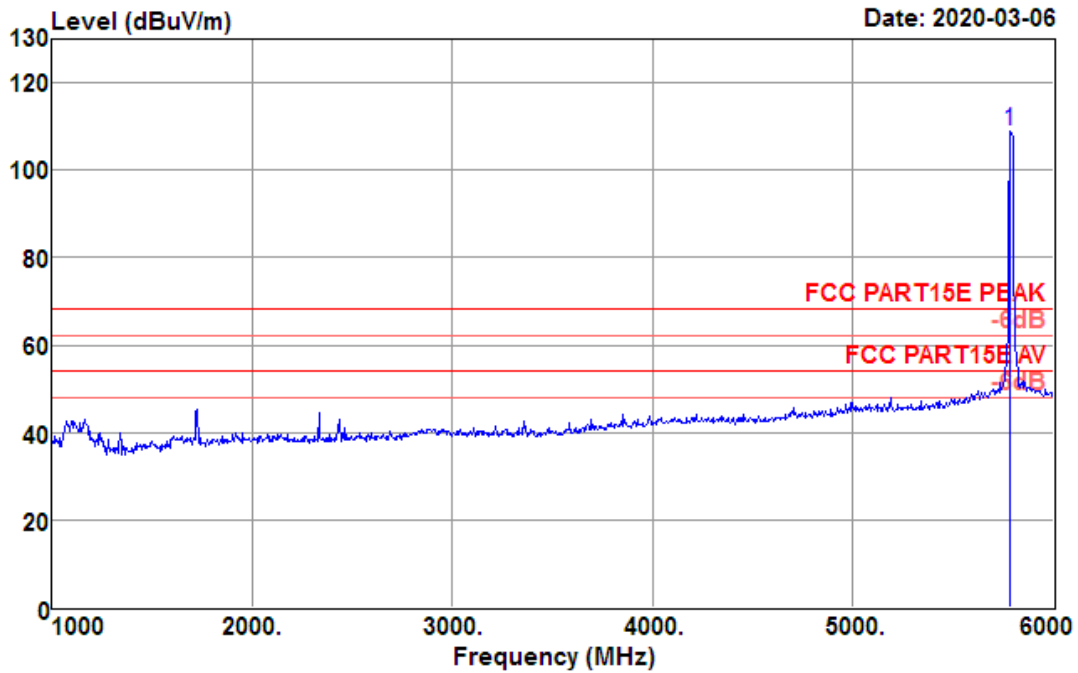




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11a CH157 5785MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Vertical

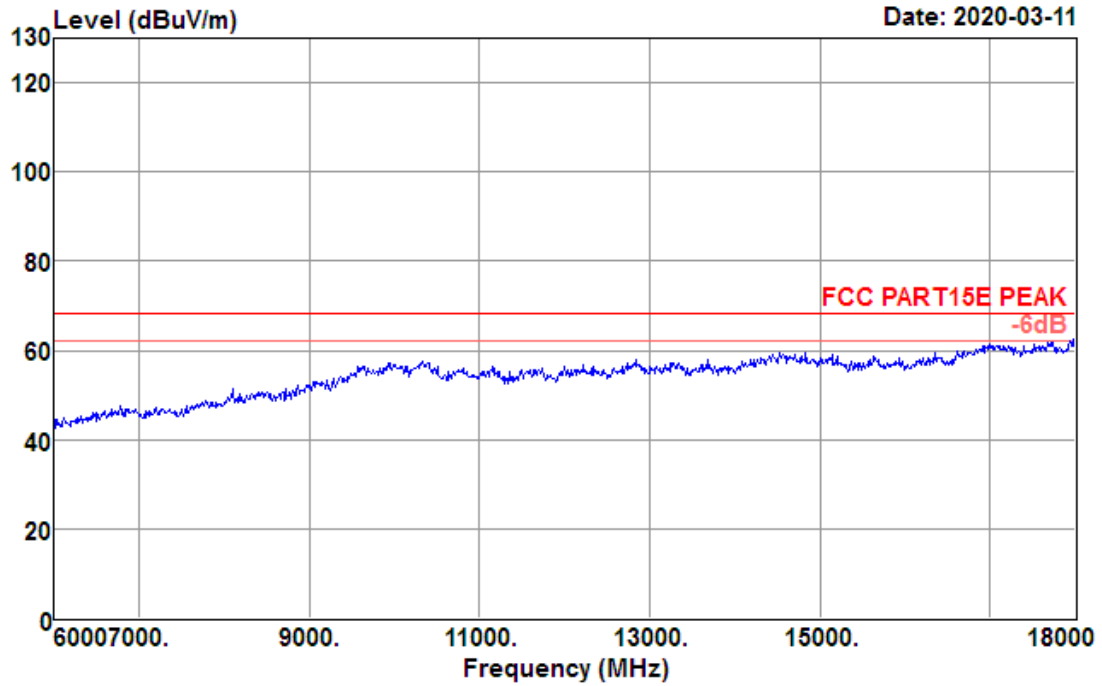
Data: 141

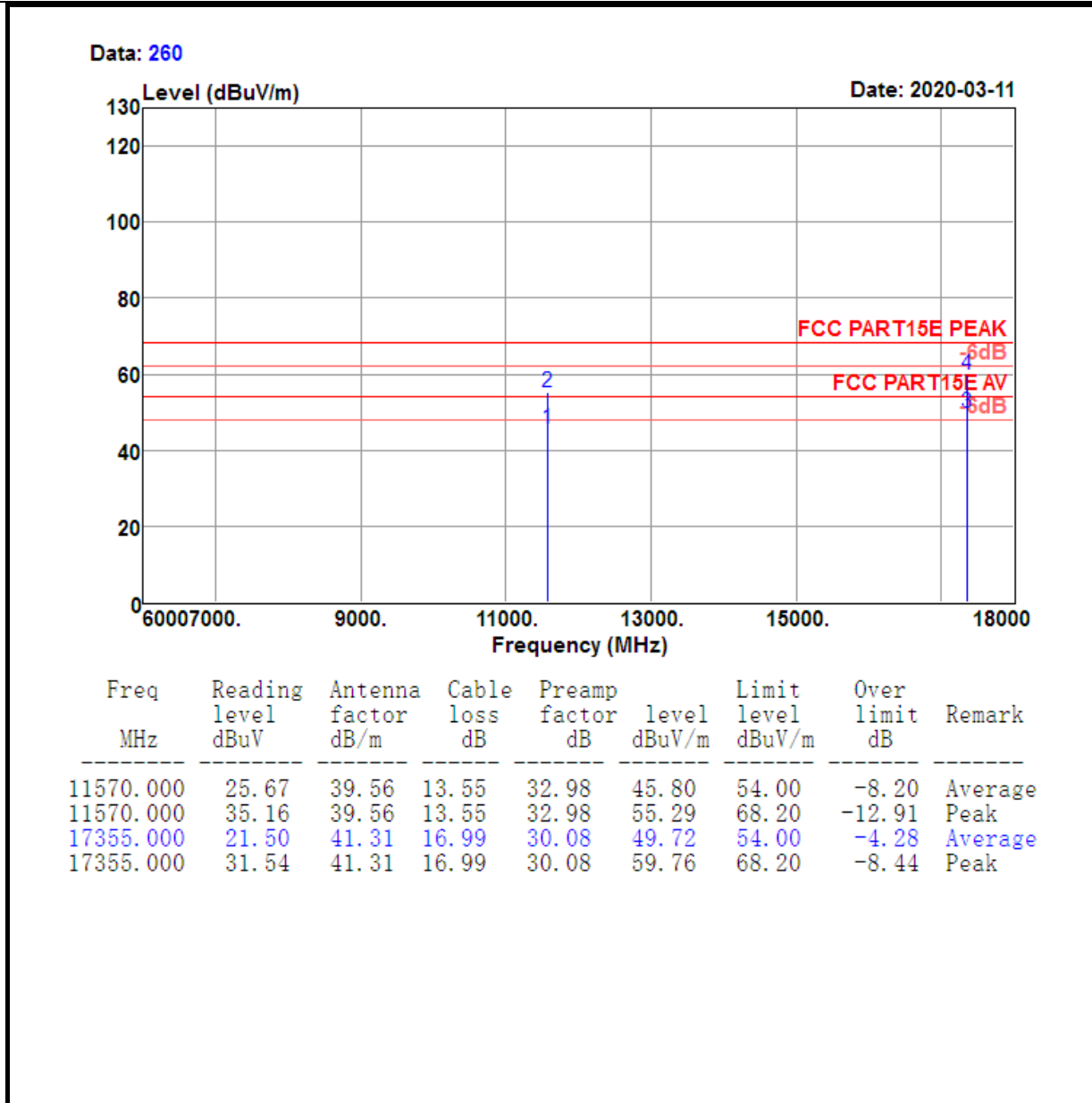


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5785.000	105.44	32.06	6.09	34.83	108.76	68.20	40.56	Peak

Test Mode :	802.11a CH157 5785MHz	Temperature :	21~23°C
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Vertical

Data: 126

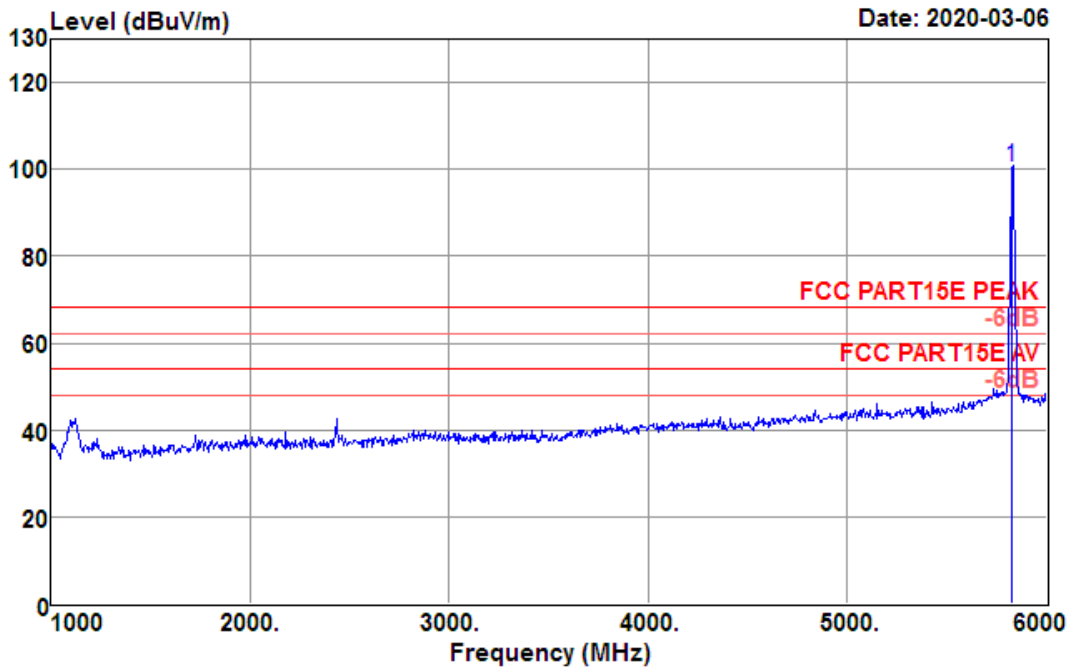




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11a CH165 5825MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Horizontal

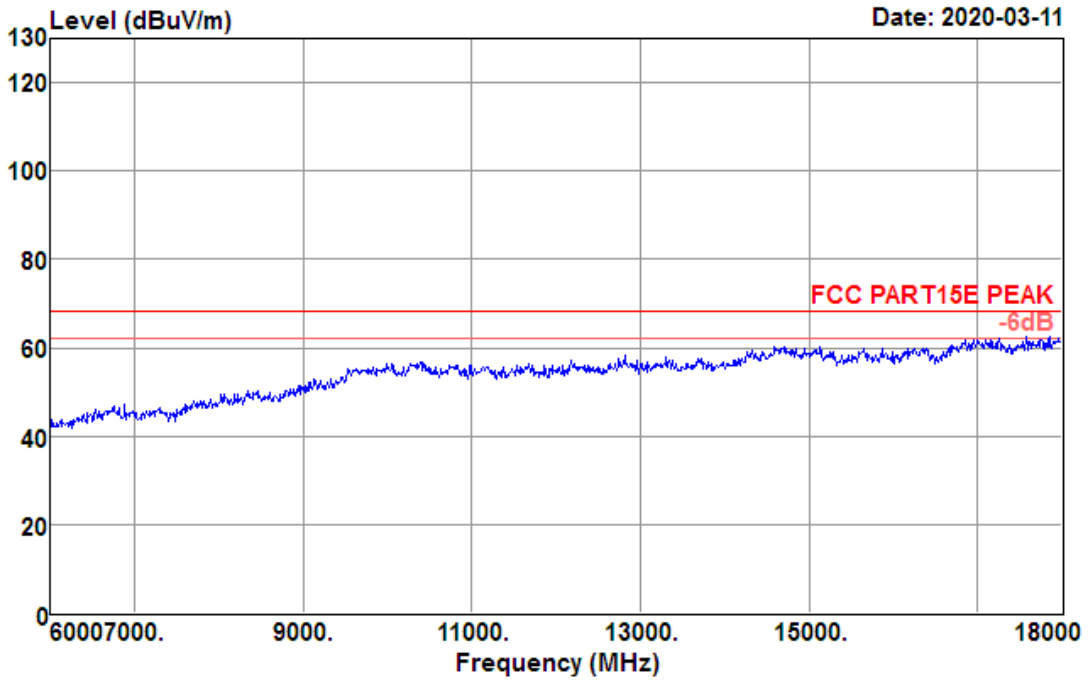
Data: 145

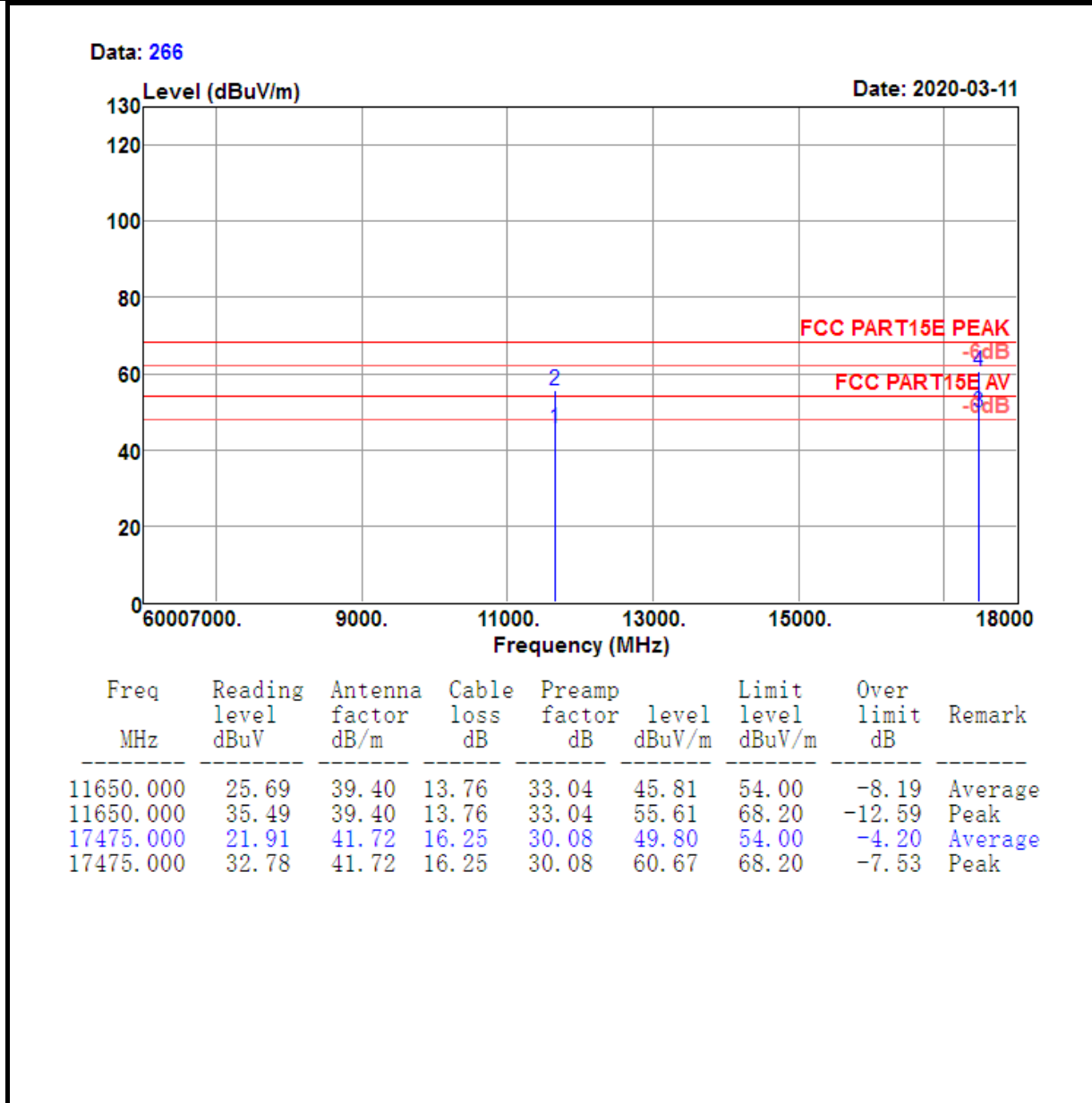


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5825.000	96.96	32.12	6.12	34.77	100.43	68.20	32.23	Peak

Test Mode :	802.11a CH165 5825MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Horizontal

Data: 132

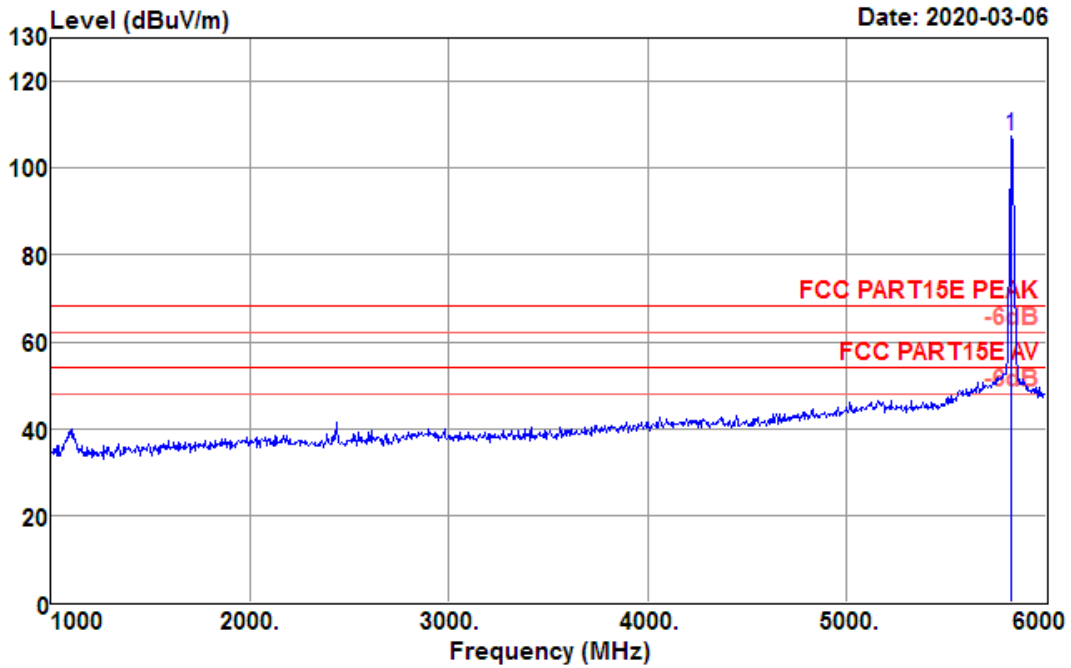




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11a CH165 5825MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Vertical

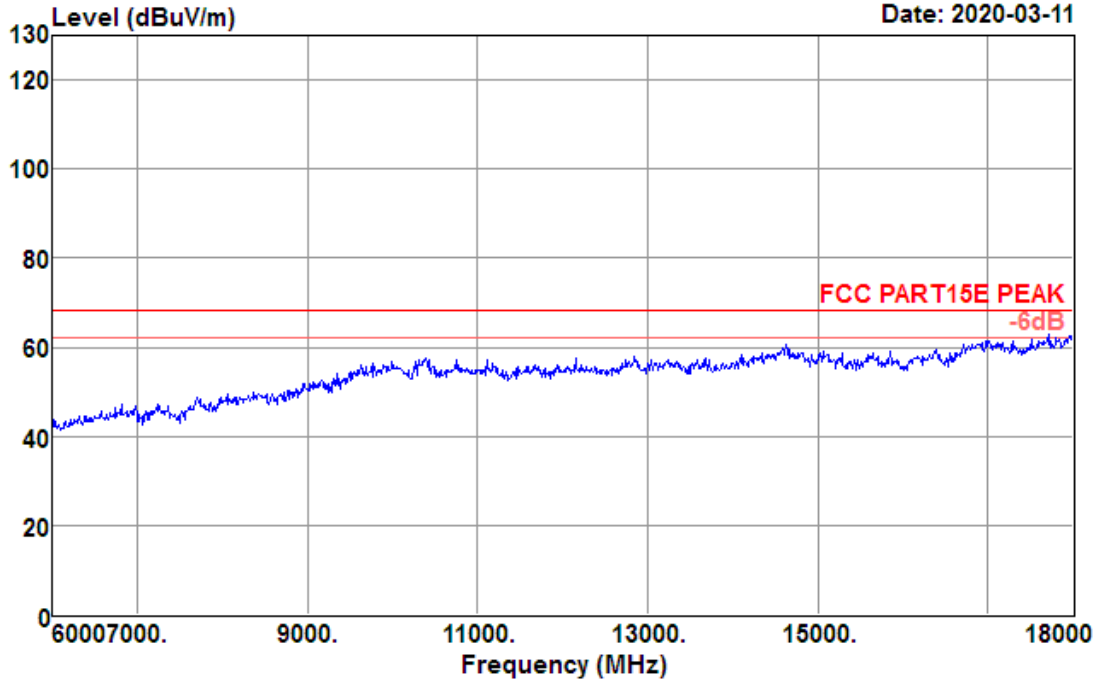
Data: 148

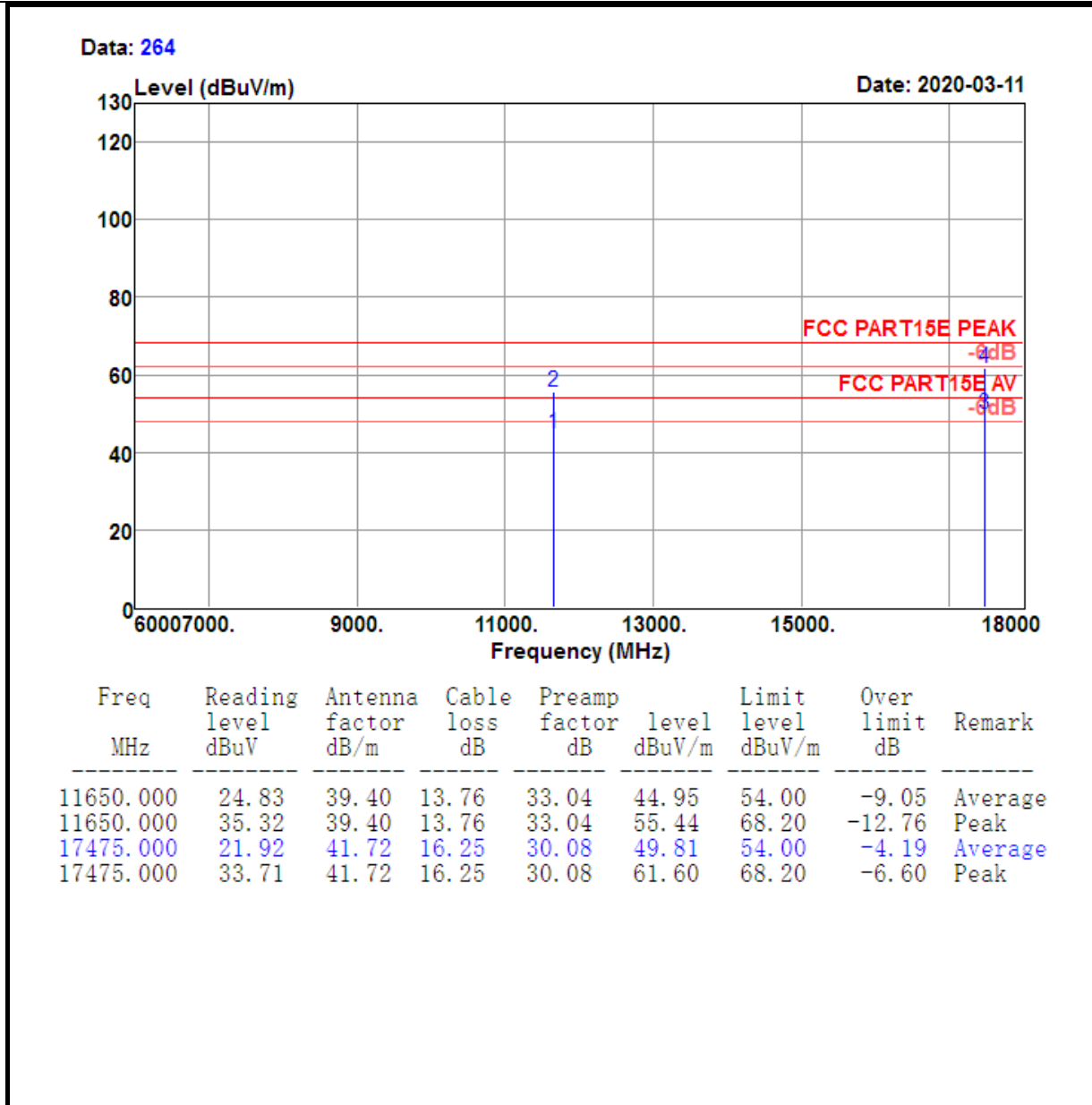


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5825.000	104.02	32.12	6.12	34.77	107.49	68.20	39.29	Peak

Test Mode :	802.11a CH165 5825MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Vertical

Data: 130

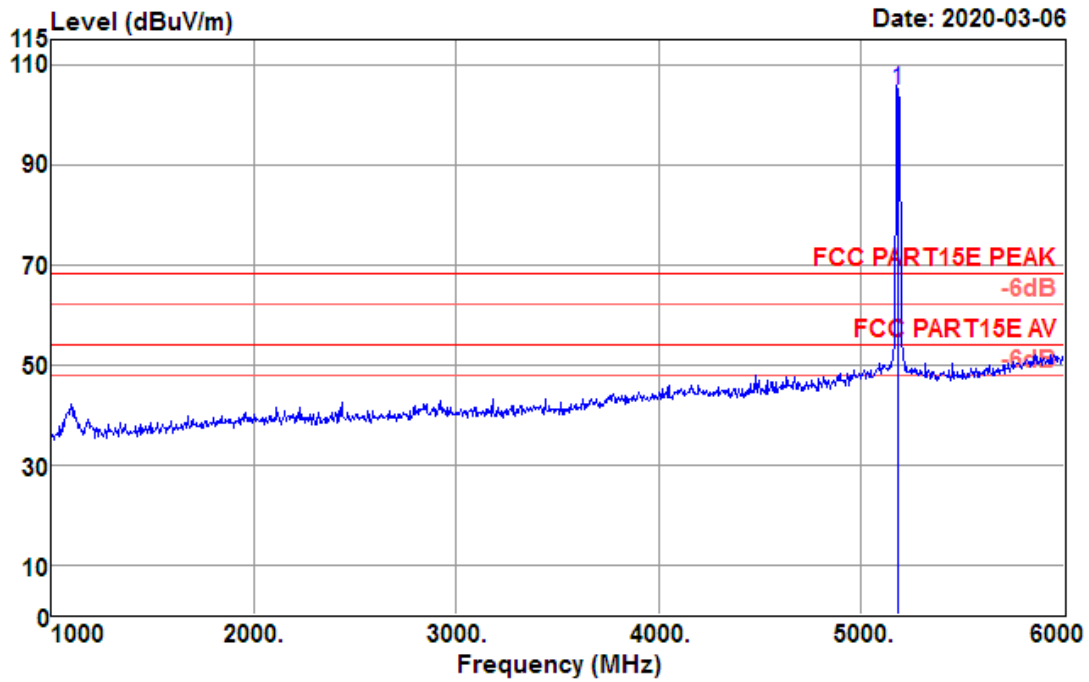




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11n HT20 CH36 5180MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Horizontal

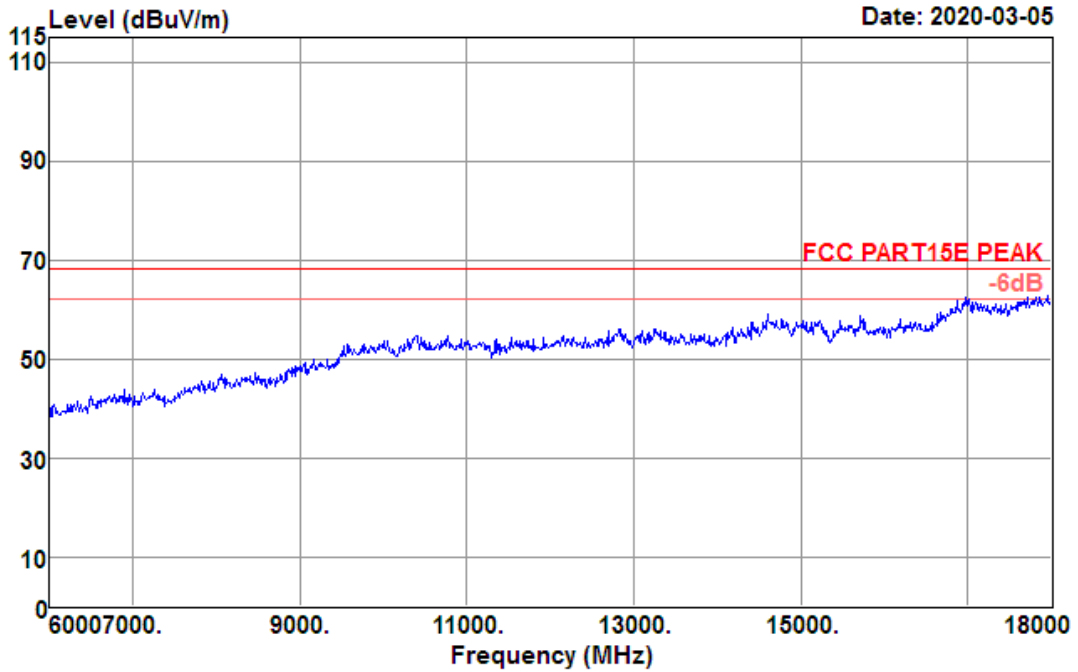
Data: 317

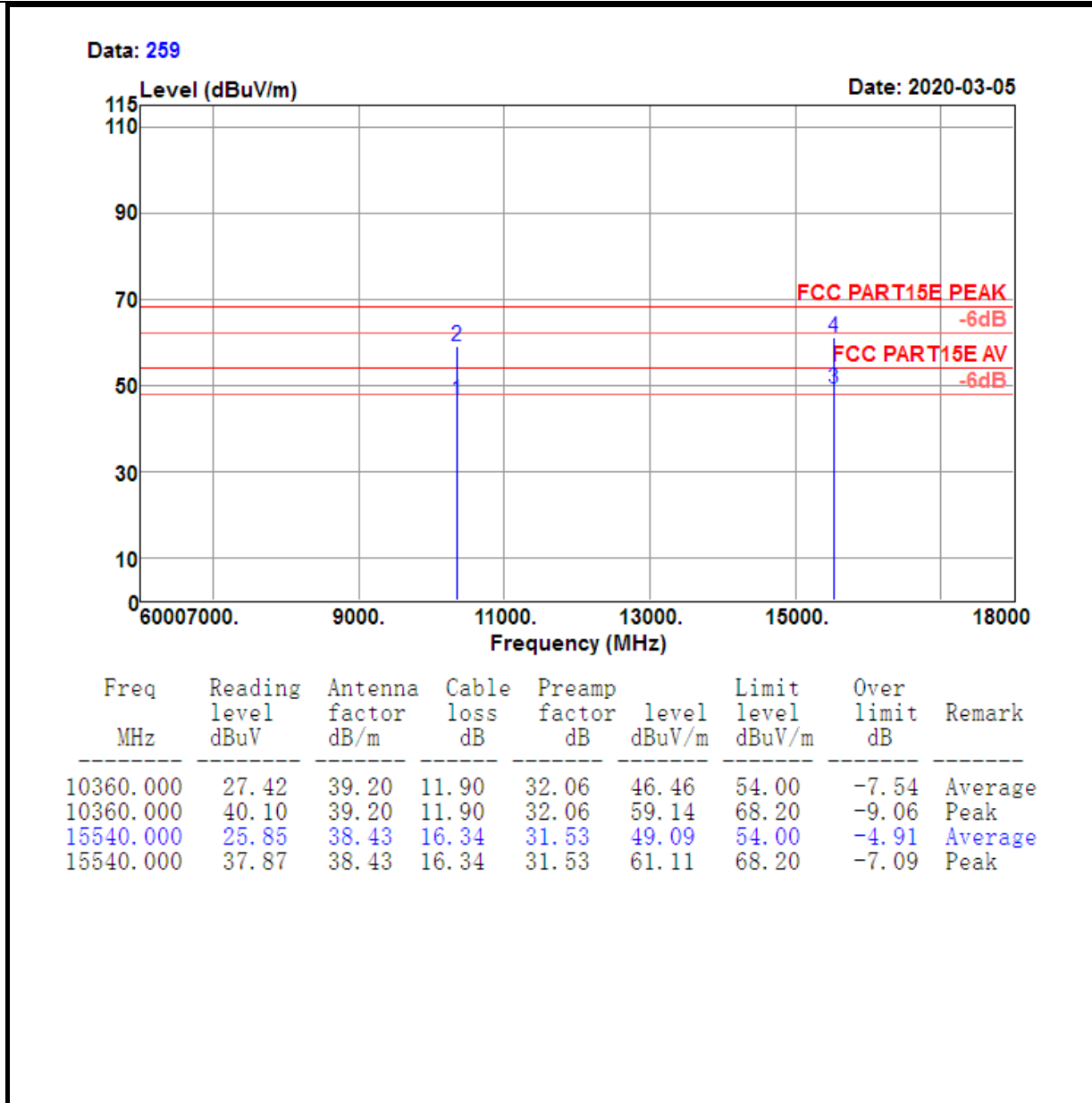


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5180.000	103.43	31.34	5.68	35.66	104.79	68.20	36.59	Peak

Test Mode :	802.11 n HT20 CH36 5180MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Horizontal

Data: 14

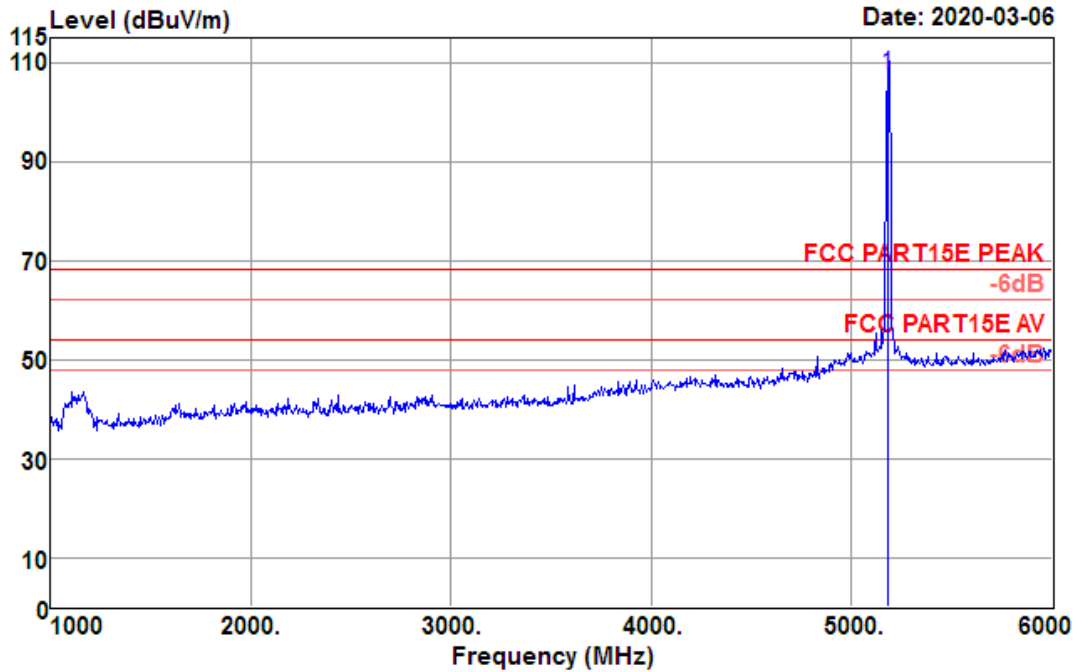




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11 n HT20 CH36 5180MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Vertical

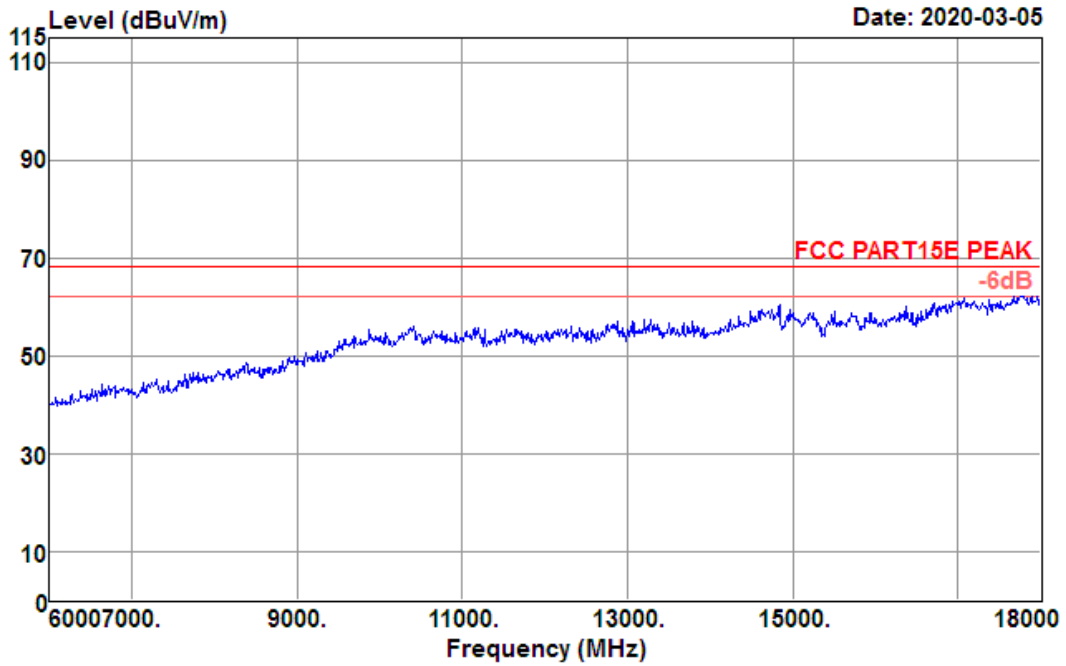
Data: 314

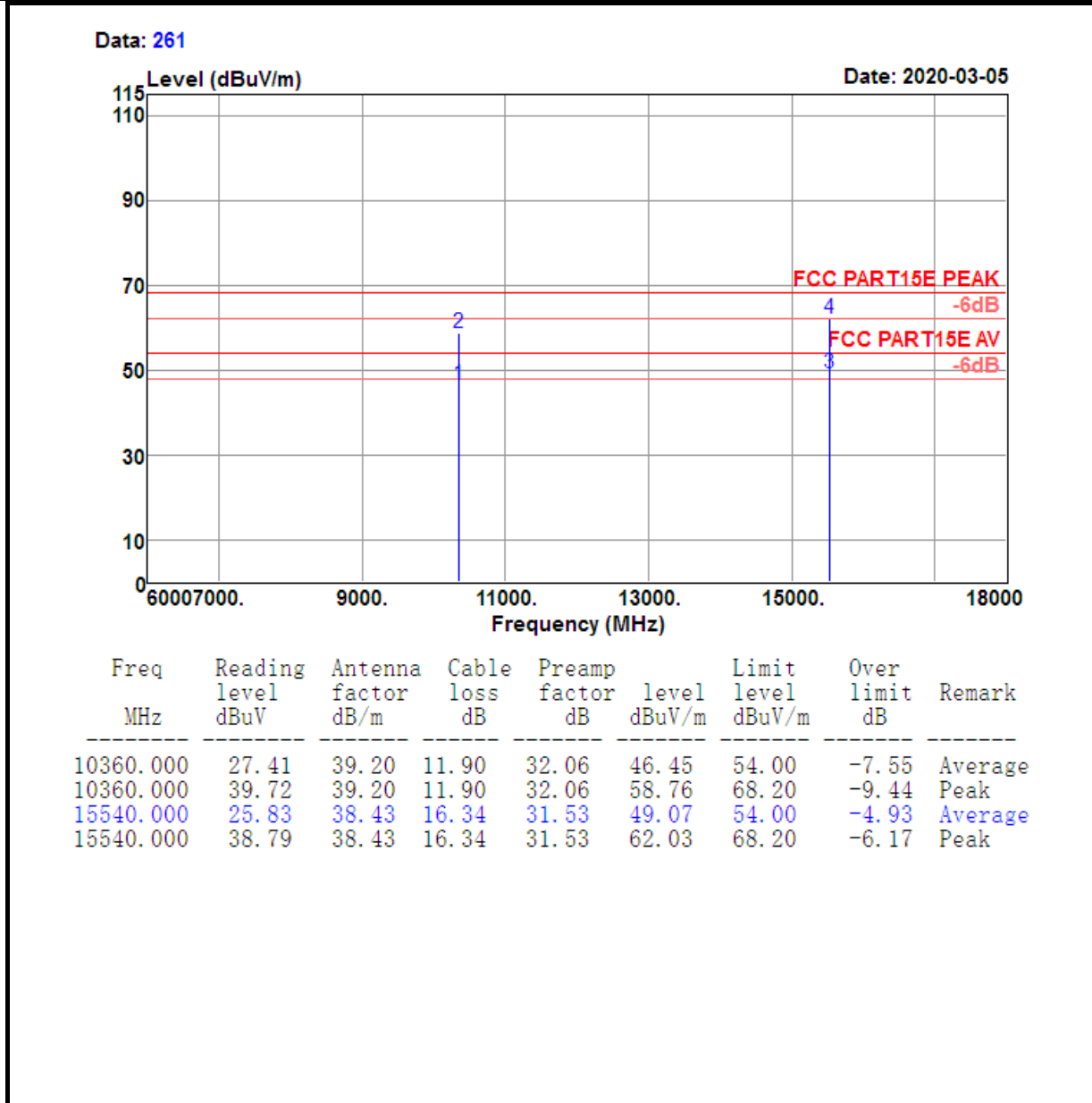


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5180.000	106.34	31.34	5.68	35.66	107.70	68.20	39.50	Peak

Test Mode :	802.11 n HT20 CH36 5180MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Vertical

Data: 16

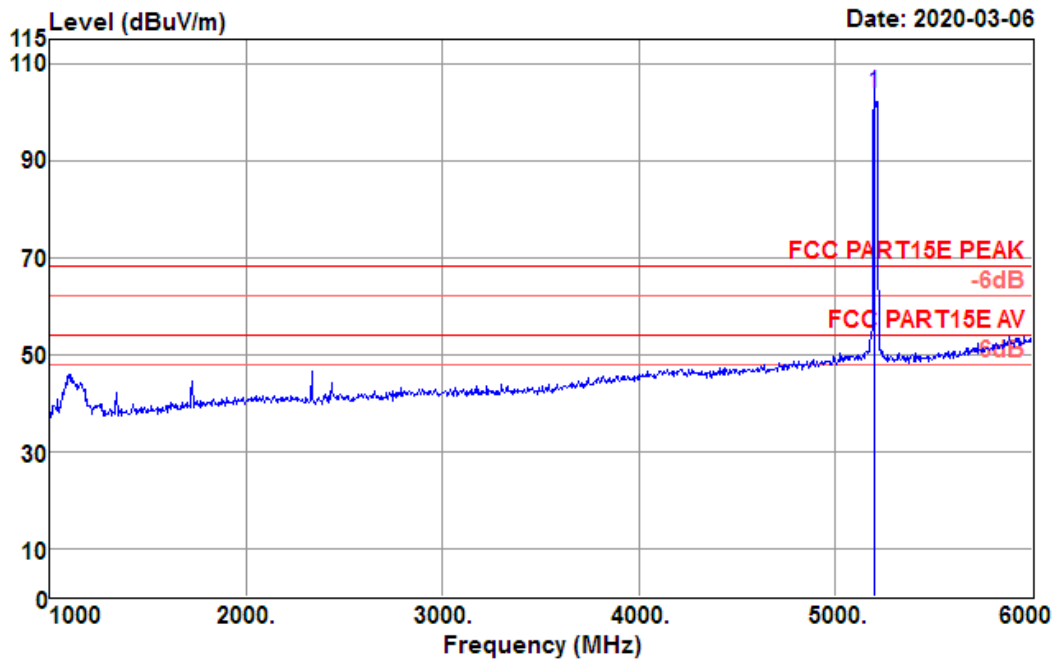




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11 n HT20 CH40 5200MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Horizontal

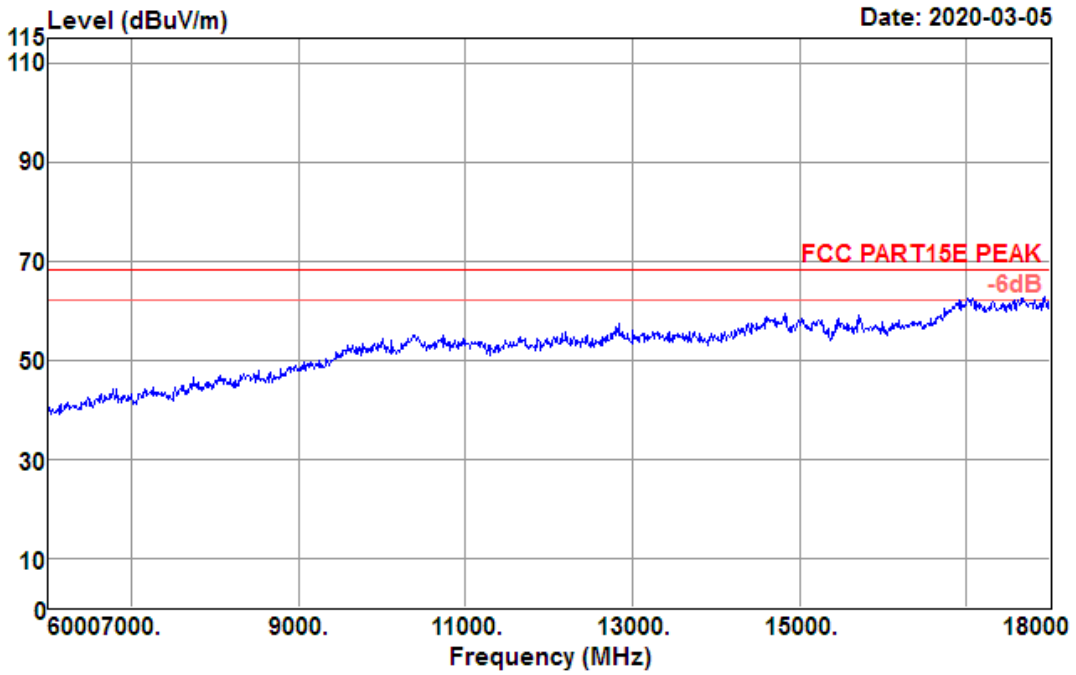
Data: 318

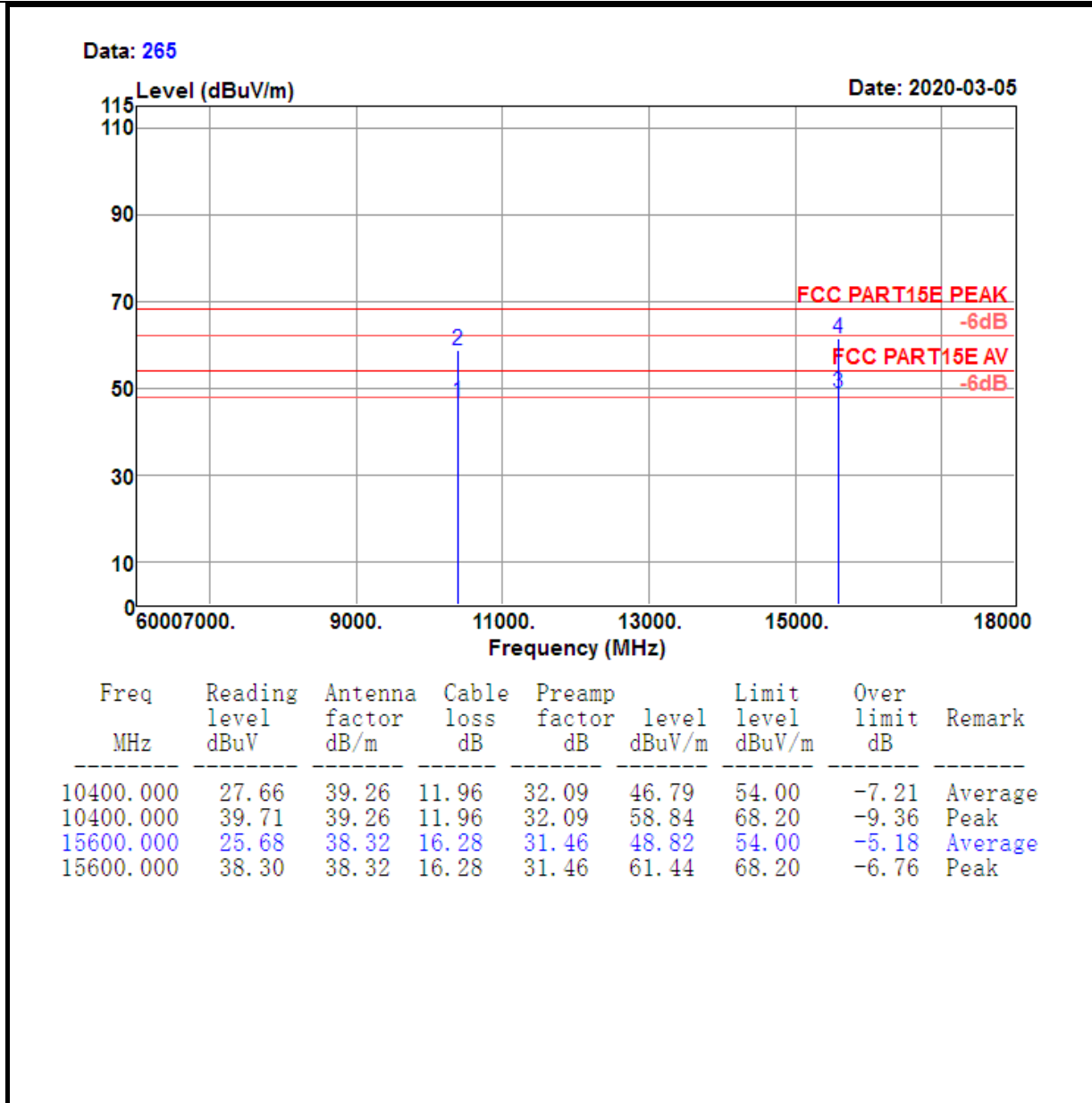


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5200.000	102.40	31.36	5.70	35.63	103.83	68.20	35.63	Peak

Test Mode :	802.11 n HT20 CH40 5200MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Horizontal

Data: 20

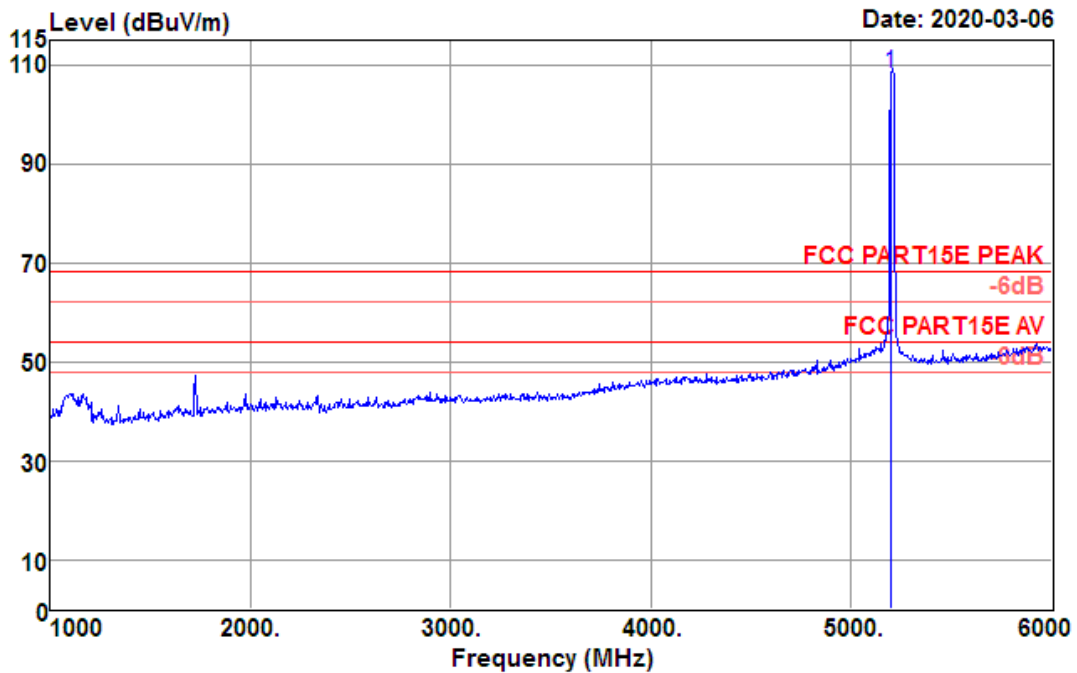




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11 n HT20 CH40 5200MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Vertical

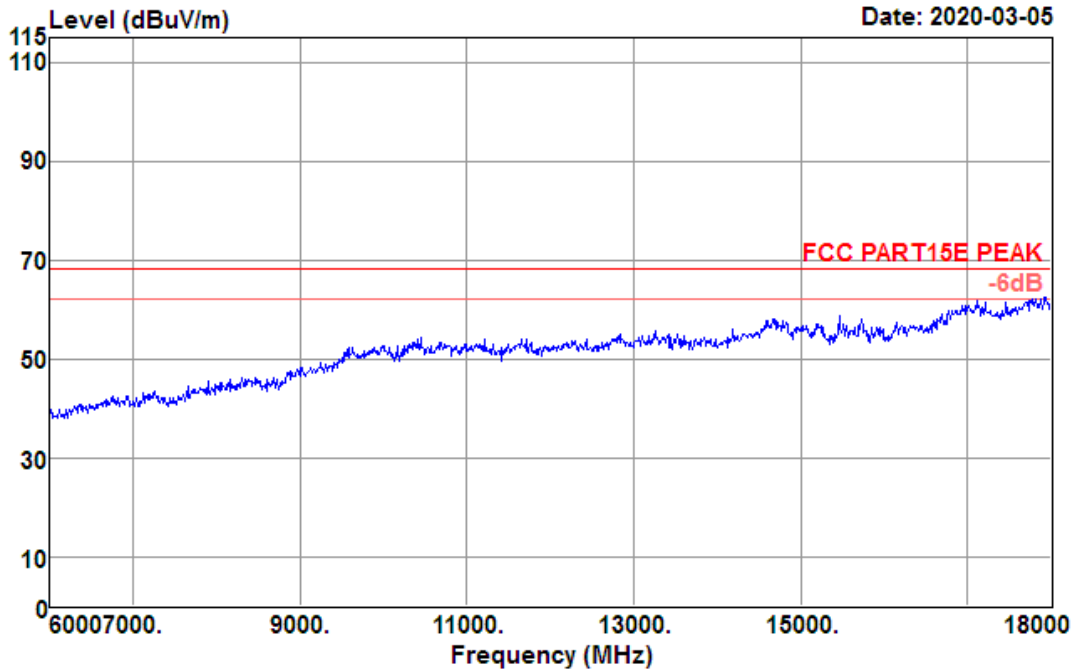
Data: 319

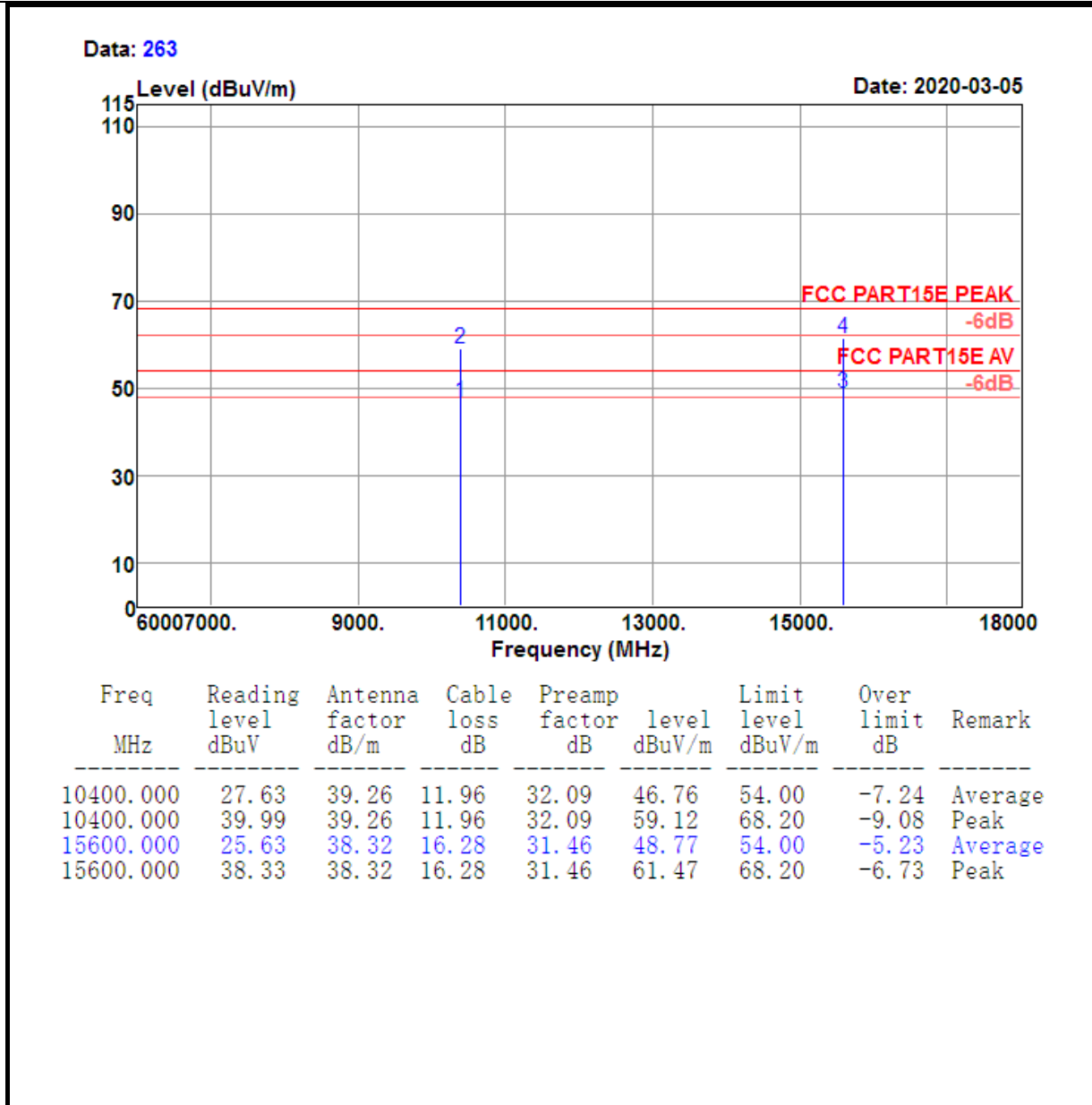


Freq MHz	Reading level dBUV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBUV/m	Limit level dBUV/m	Over limit dB	Remark
5200.000	106.95	31.36	5.70	35.63	108.38	68.20	40.18	Peak

Test Mode :	802.11 n HT20 CH40 5200MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Vertical

Data: 18

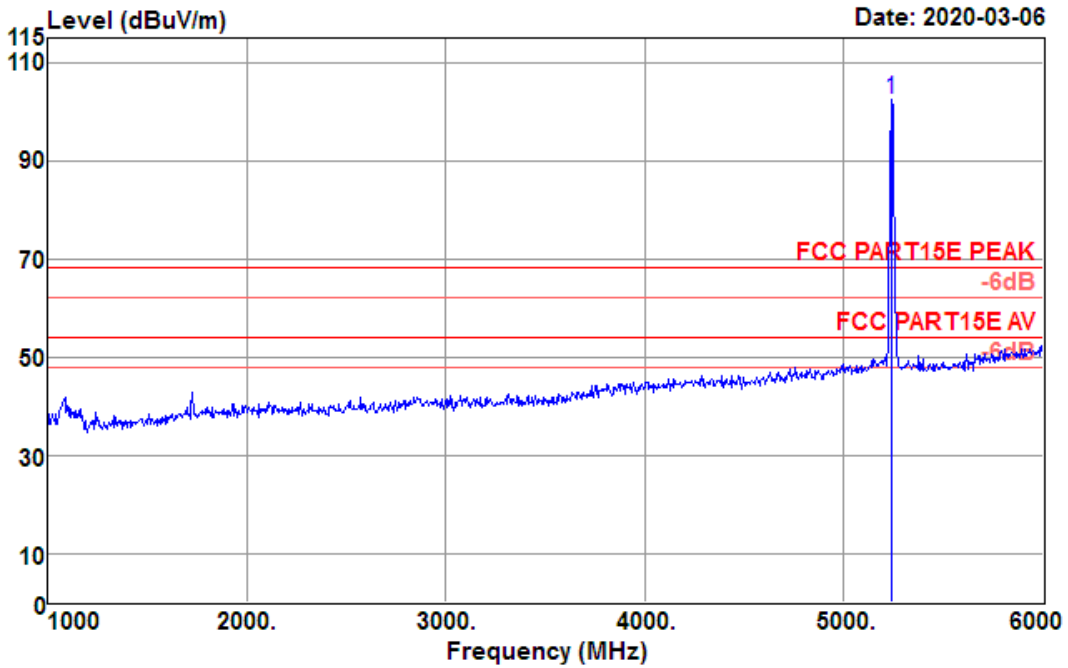




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11 n HT20 CH48 5240MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Horizontal

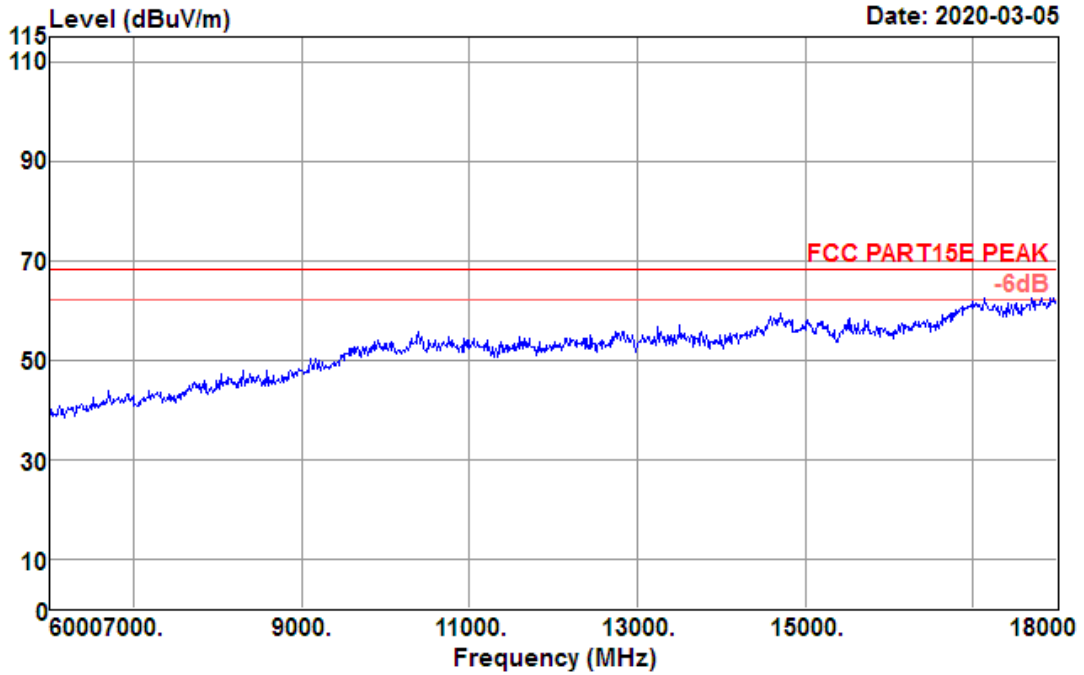
Data: 325

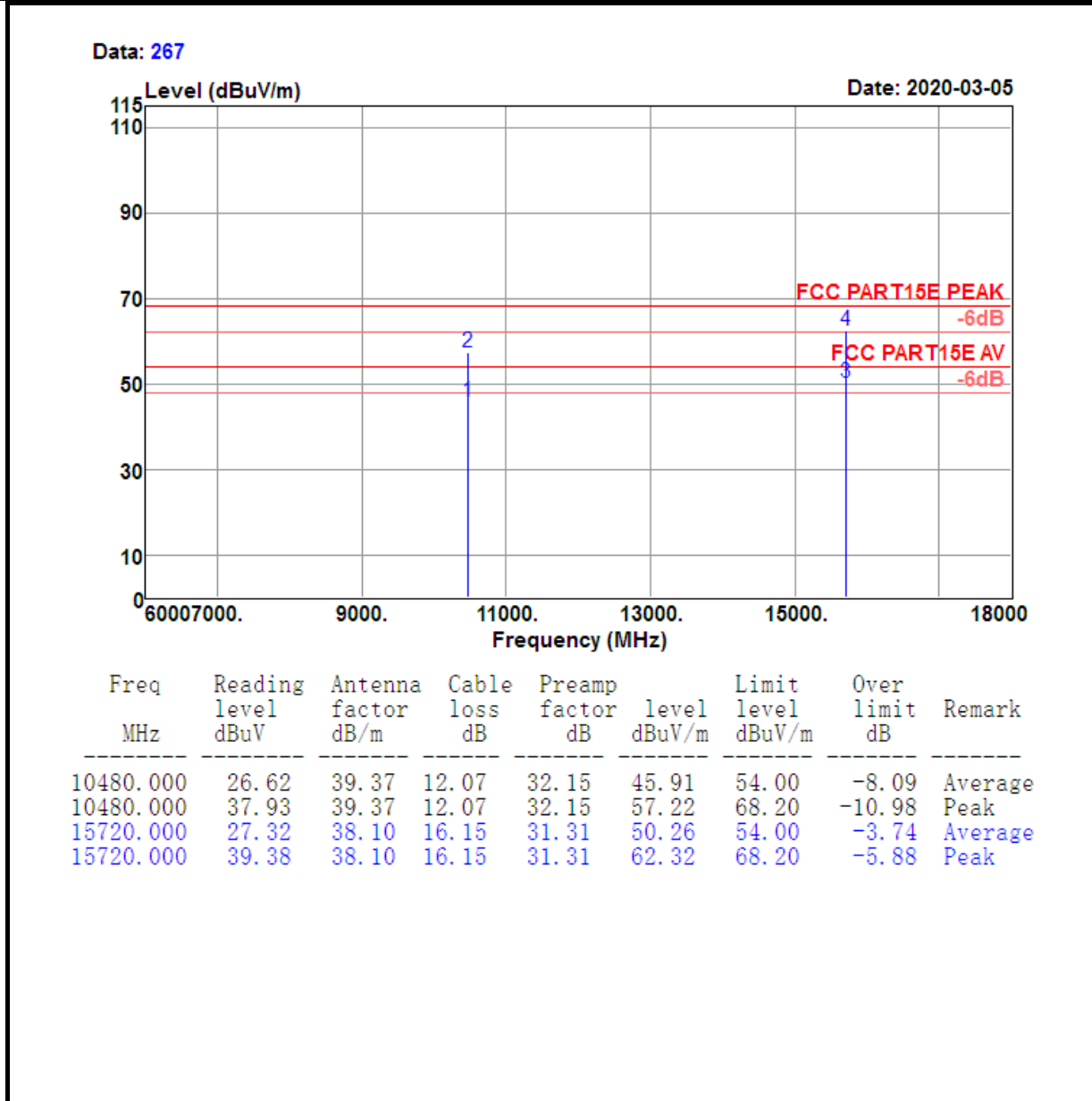


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5240.000	100.85	31.39	5.70	35.58	102.36	68.20	34.16	Peak

Test Mode :	802.11 n HT20 CH48 5240MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Horizontal

Data: 22

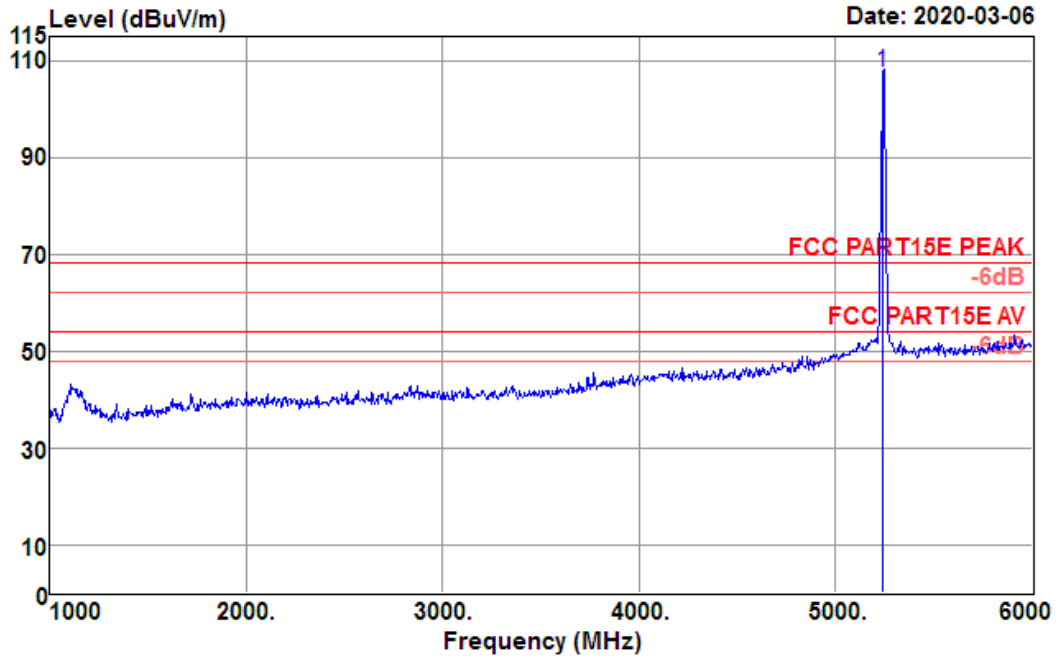




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11 n HT20 CH48 5240MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Vertical

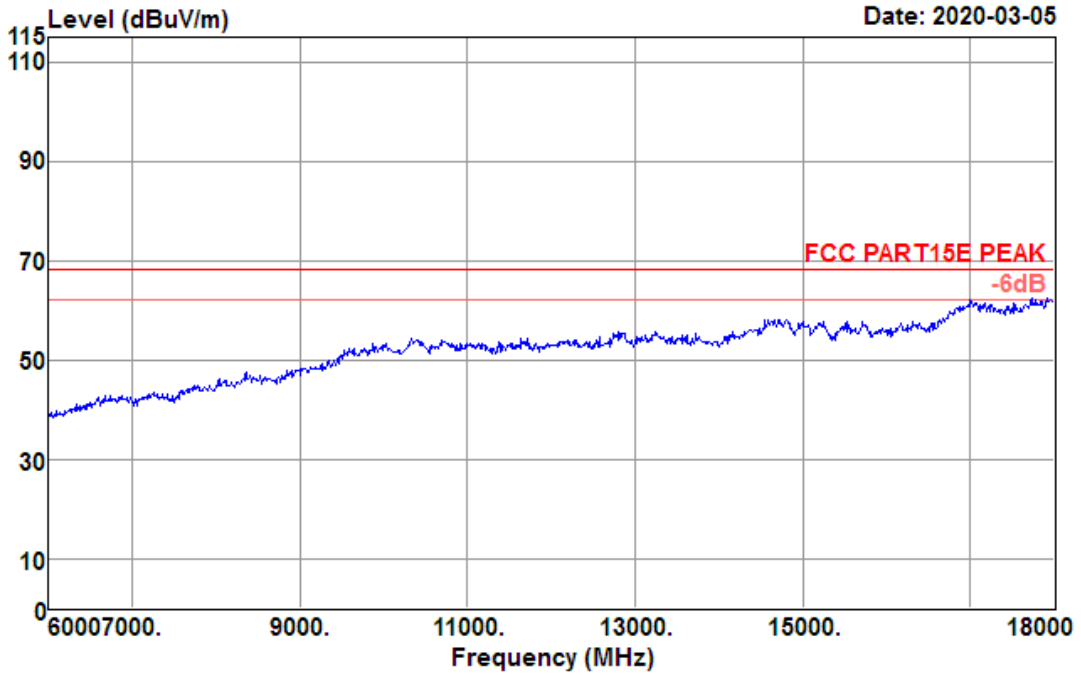
Data: 322

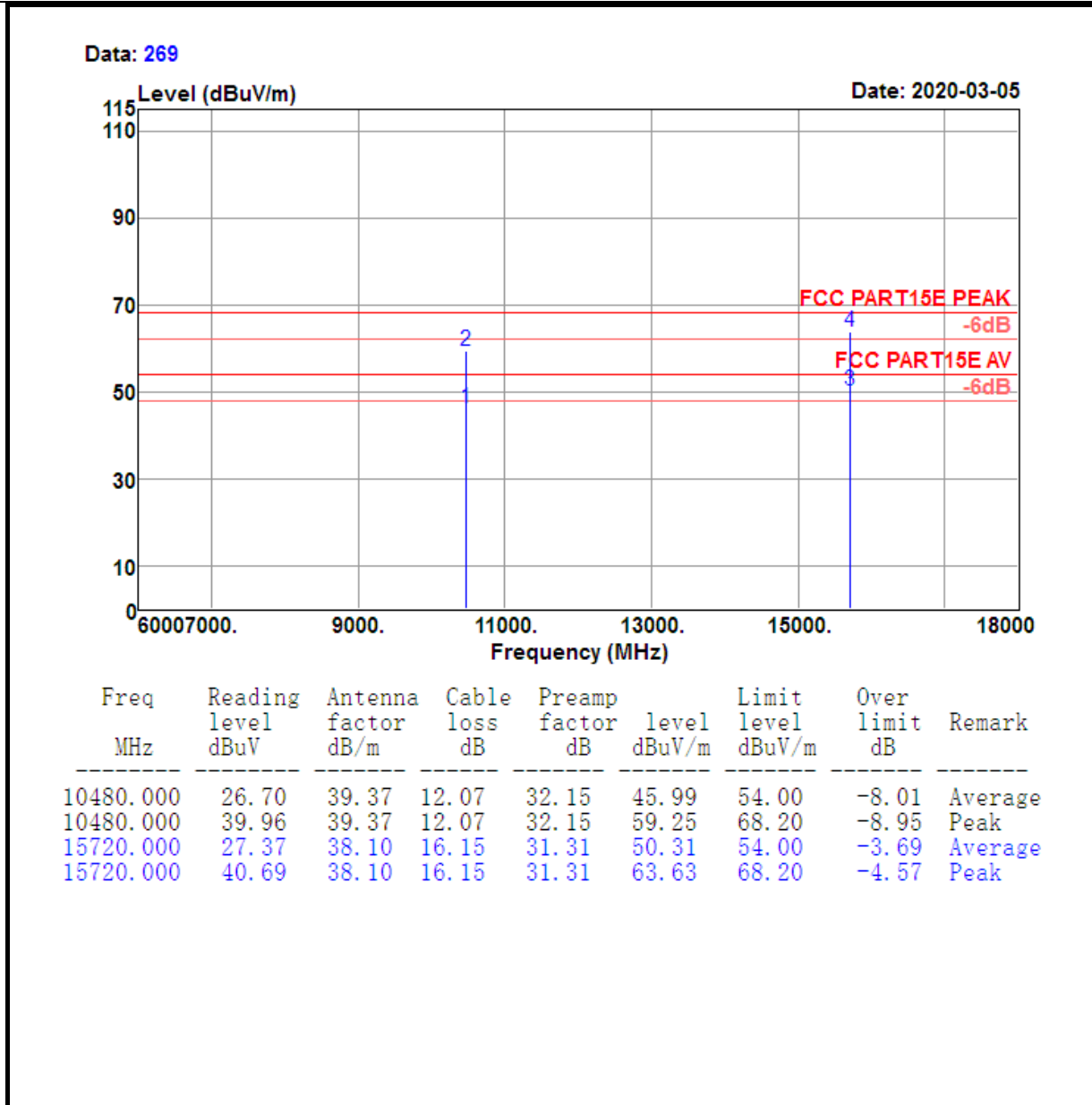


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5240.000	106.15	31.39	5.70	35.58	107.66	68.20	39.46	Peak

Test Mode :	802.11 n HT20 CH48 5240MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Vertical

Data: 24

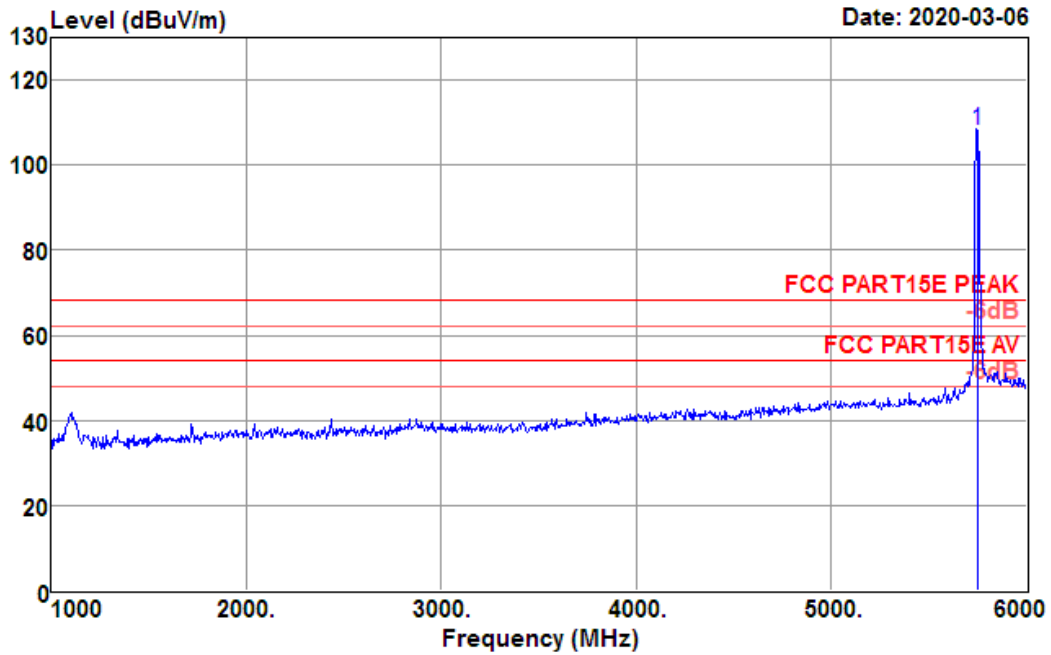




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11 n HT20 CH149 5745MHz	Temperature :	21~23°C
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Horizontal

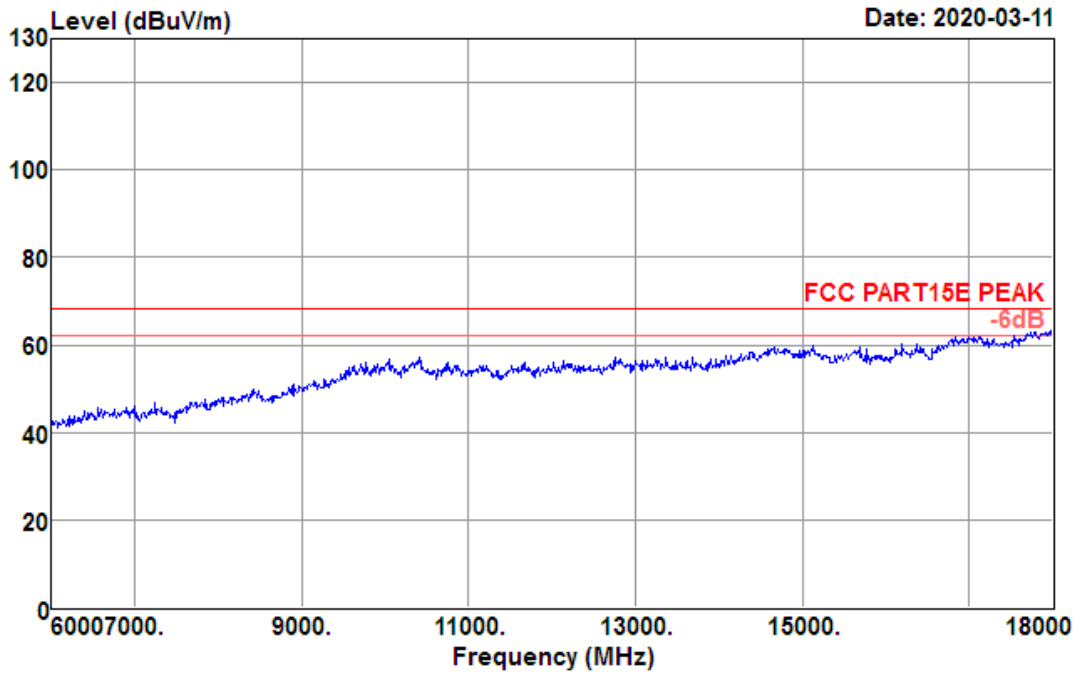
Data: 154

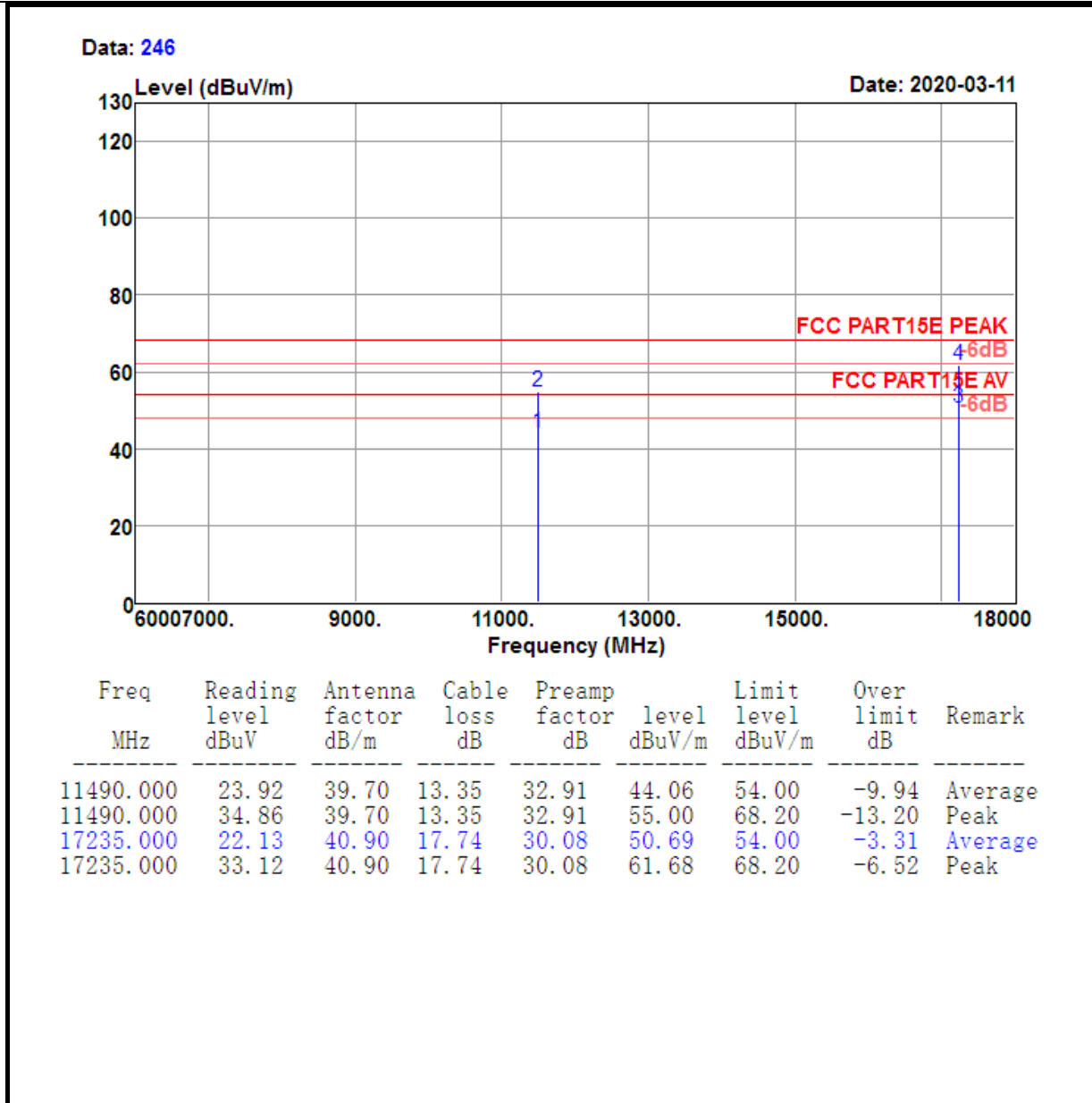


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5745.000	104.90	31.99	6.06	34.88	108.07	68.20	39.87	Peak

Test Mode :	802.11 n HT20 CH149 5745MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Horizontal

Data: 112

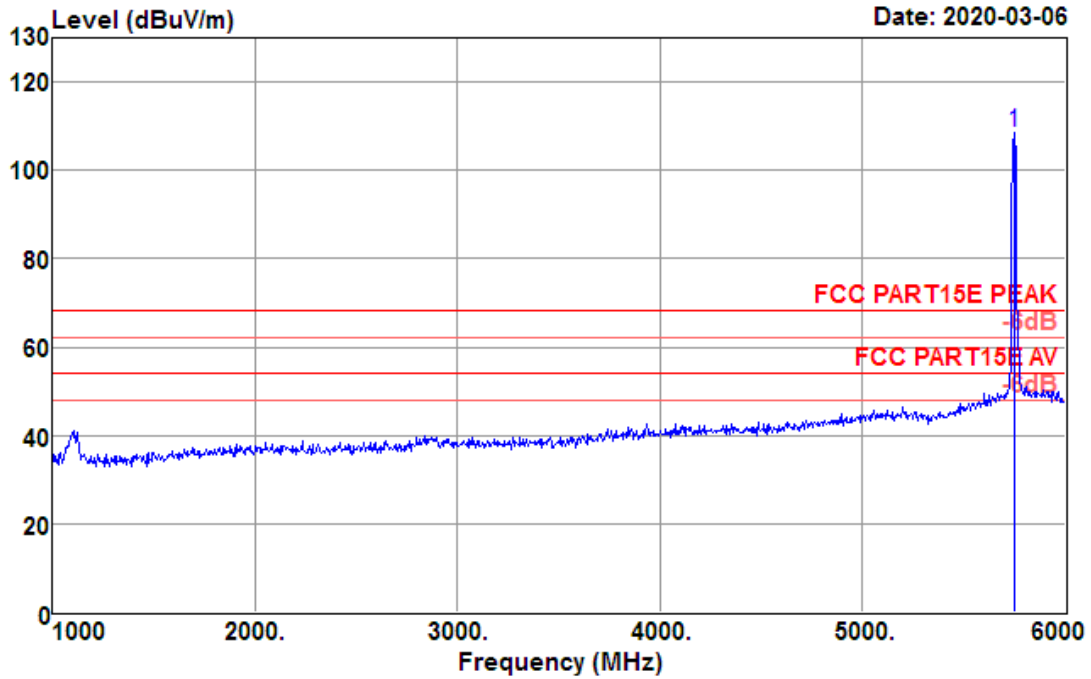




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11 n HT20 CH149 5745MHz	Temperature :	21~23°C
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Vertical

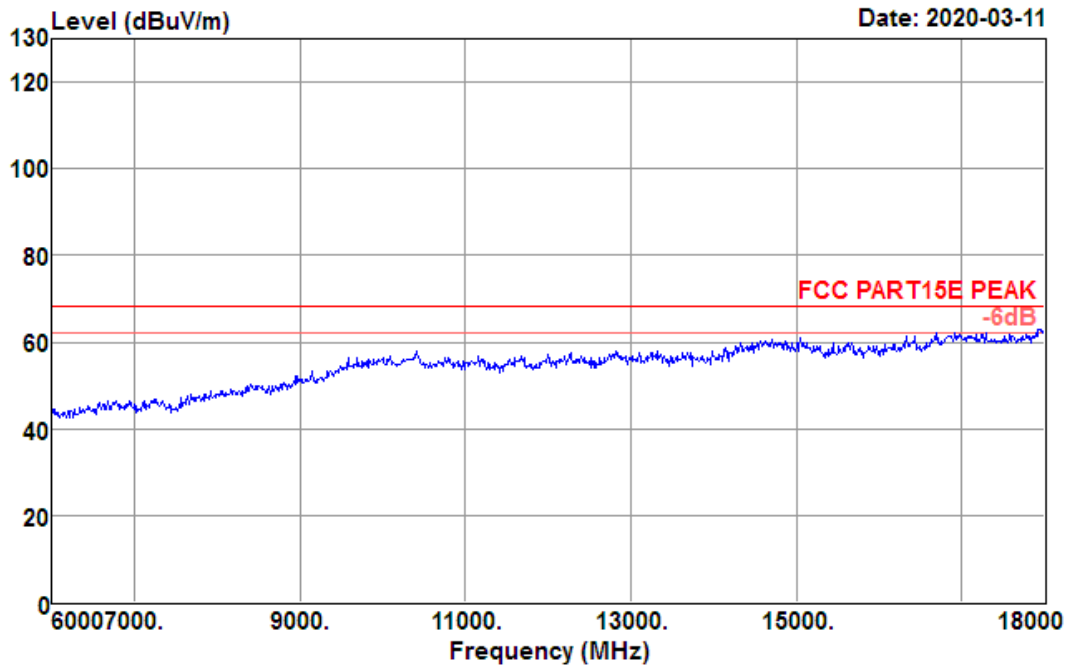
Data: 151

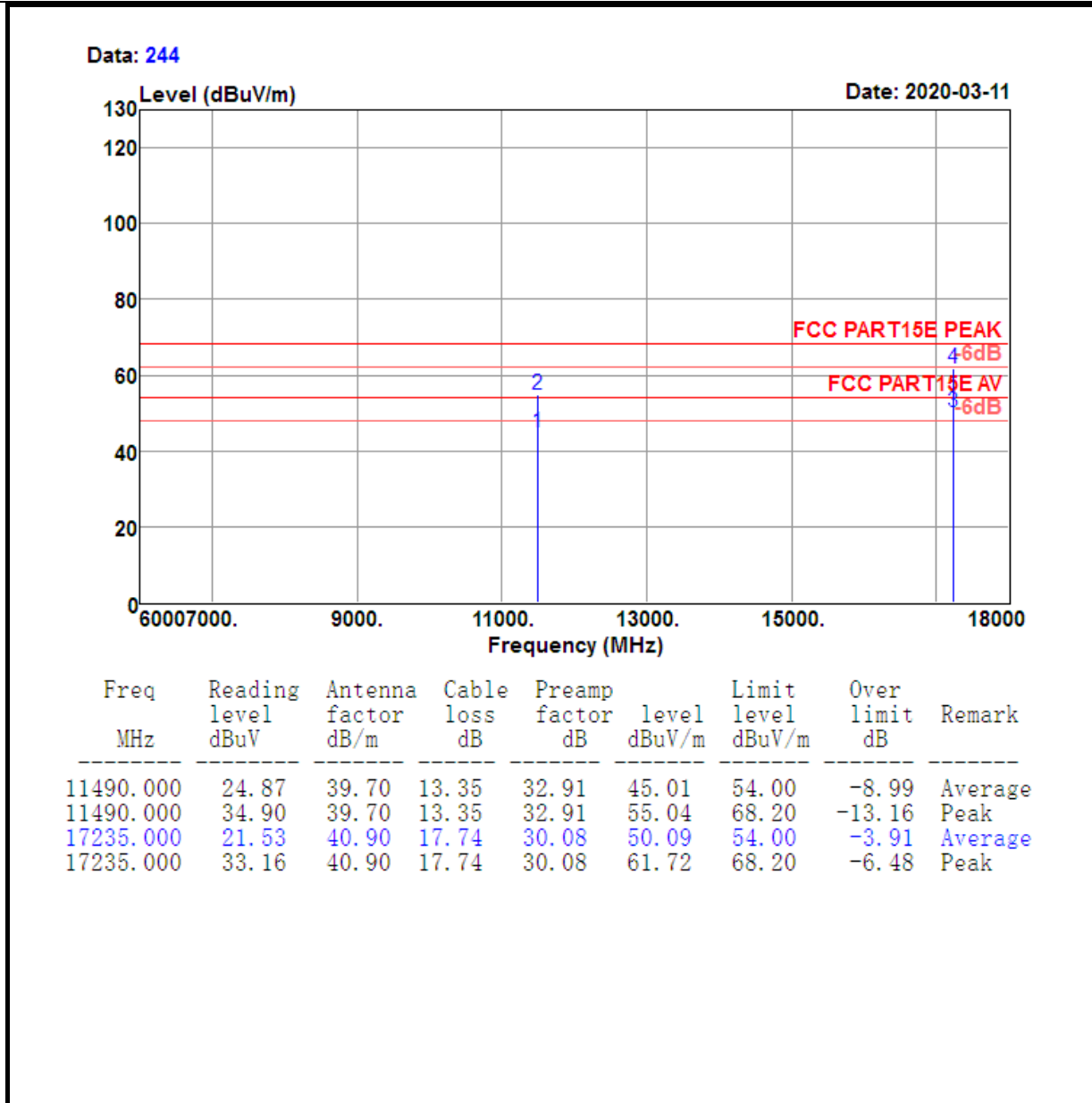


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5745.000	105.26	31.99	6.06	34.88	108.43	68.20	40.23	Peak

Test Mode :	802.11 n HT20 CH149 5745MHz	Temperature :	21~23°C
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Vertical

Data: 110

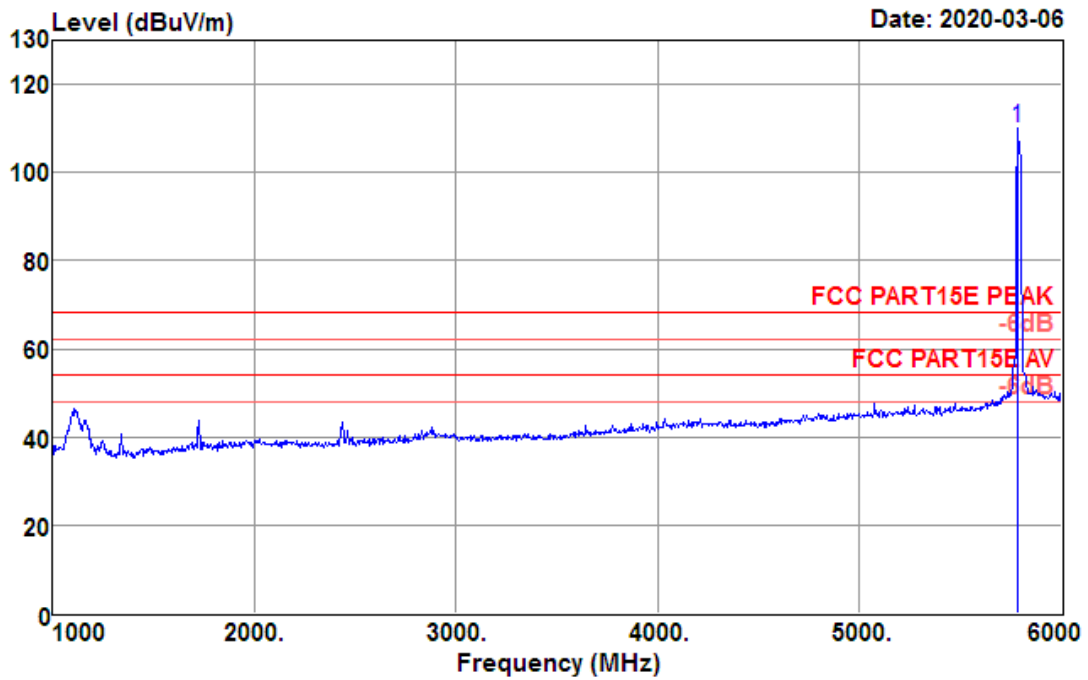




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11 n HT20 CH157 5785MHz	Temperature :	21~23°C
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Horizontal

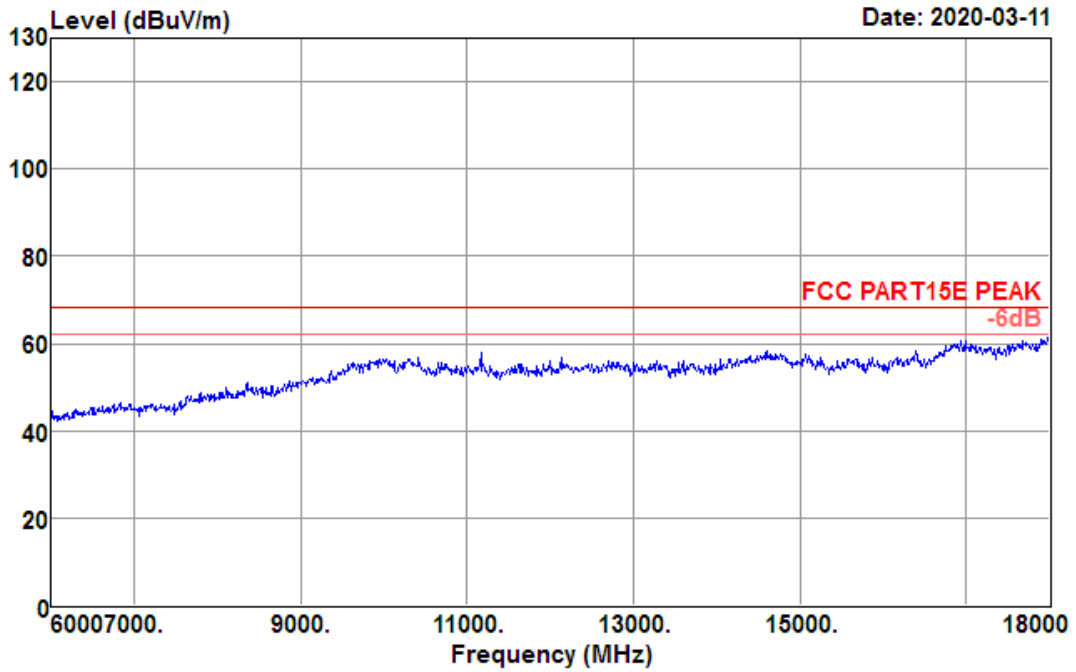
Data: 155

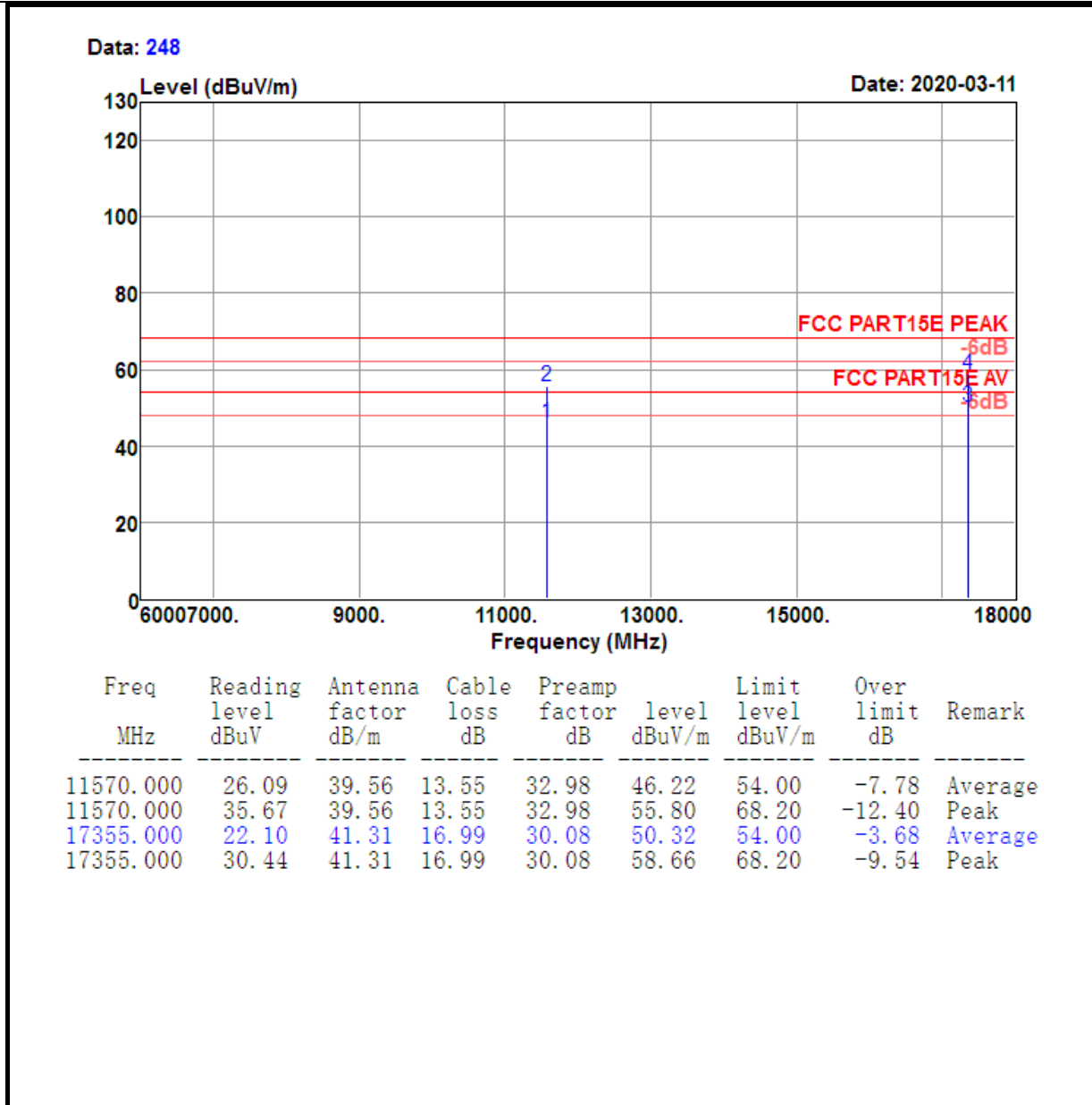


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5785.000	106.84	32.06	6.09	34.83	110.16	68.20	41.96	Peak

Test Mode :	802.11 n HT20 CH157 5785MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Horizontal

Data: 114

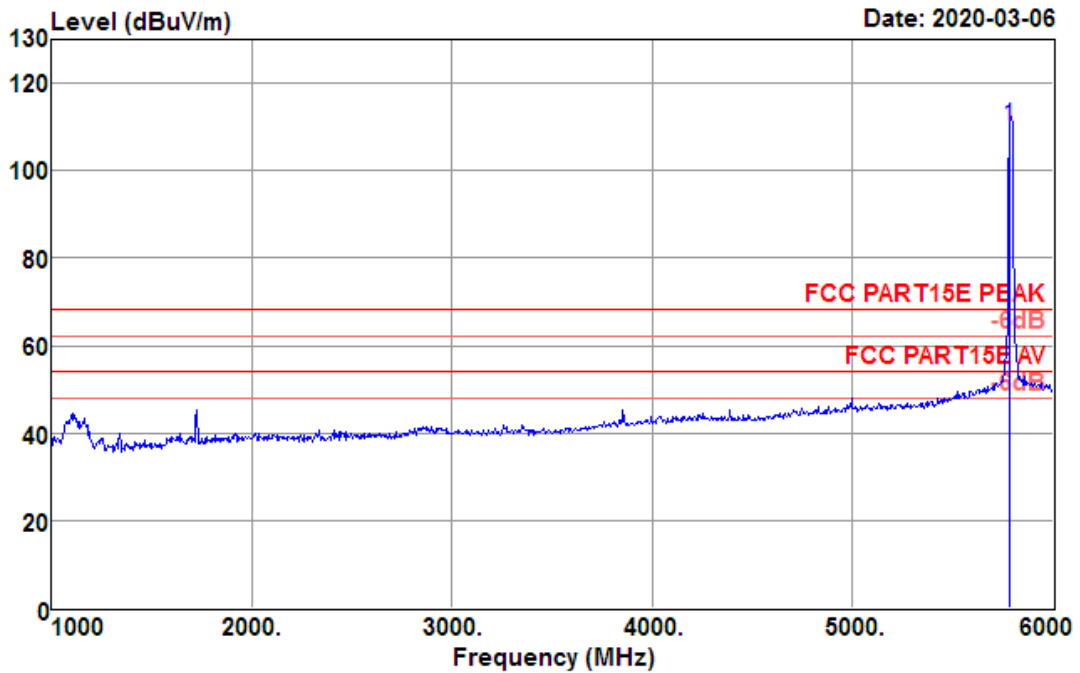




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11 n HT20 CH157 5785MHz	Temperature :	21~23°C
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Vertical

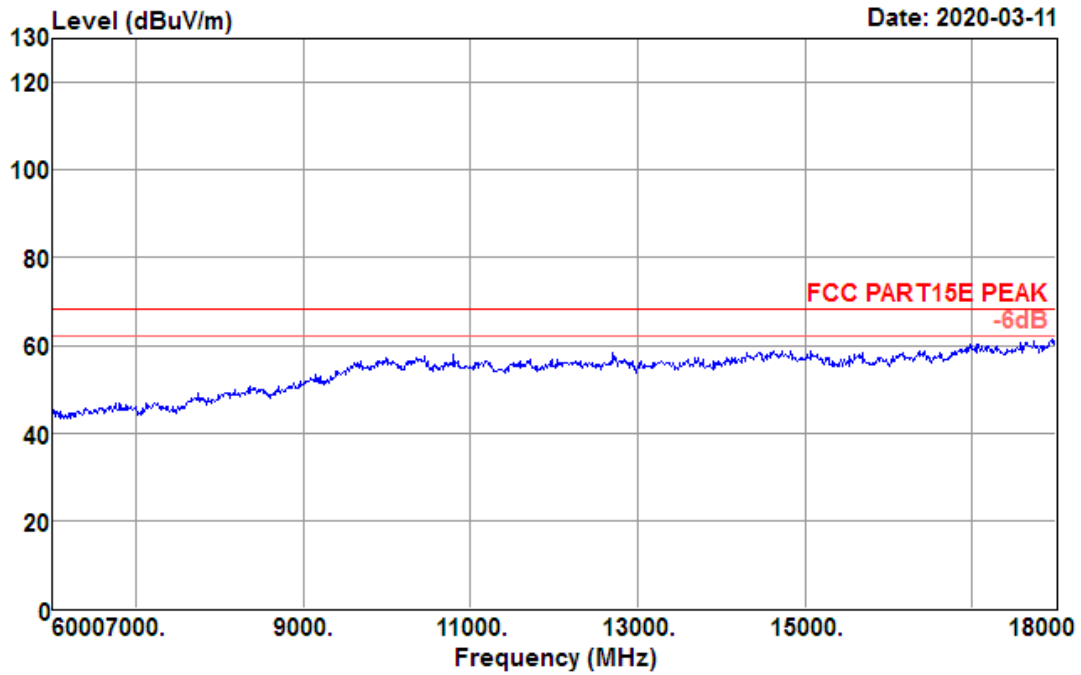
Data: 156

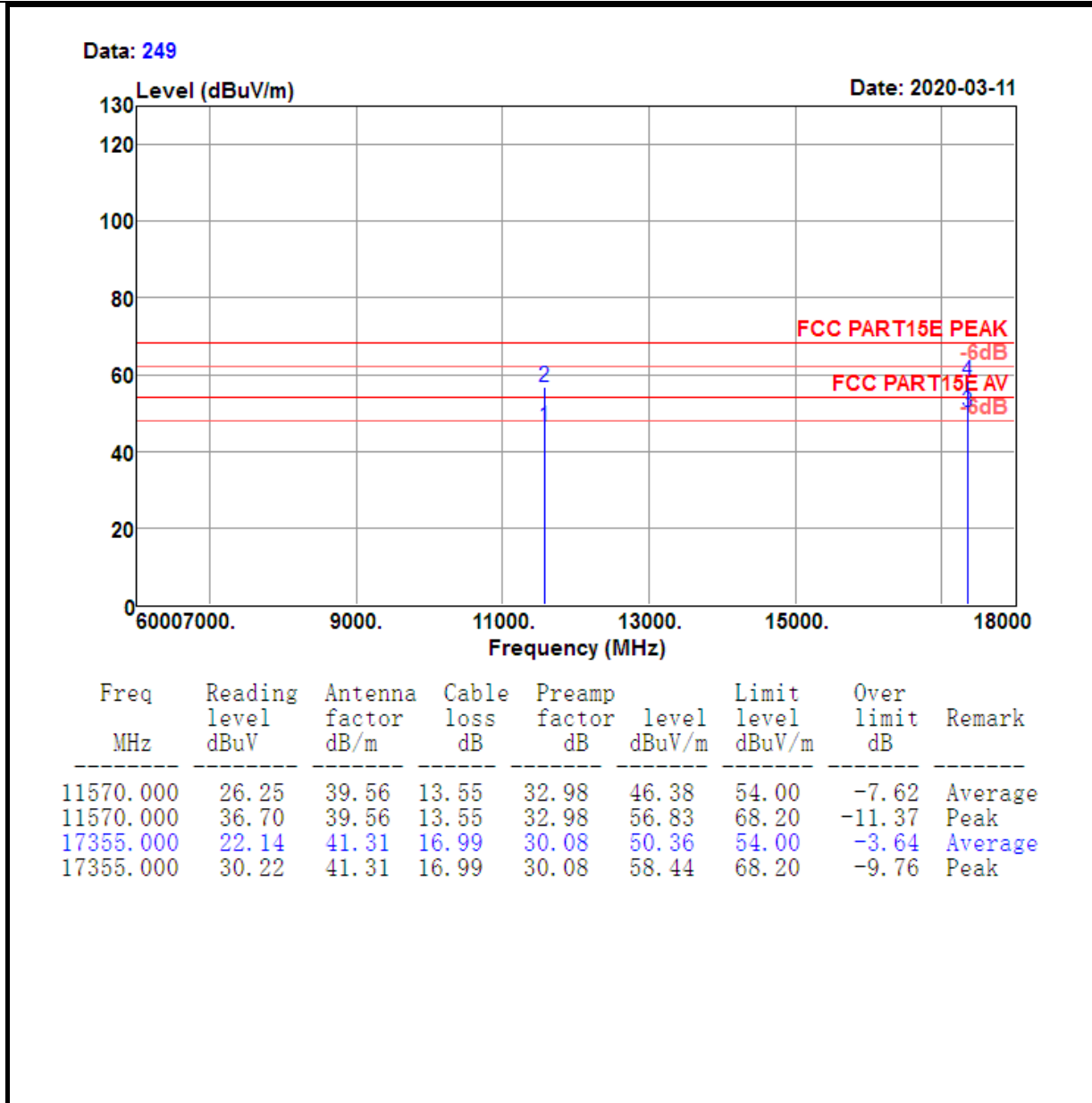


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5785.000	106.61	32.06	6.09	34.83	109.93	68.20	41.73	Peak

Test Mode :	802.11 n HT20 CH157 5785MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Vertical

Data: 117

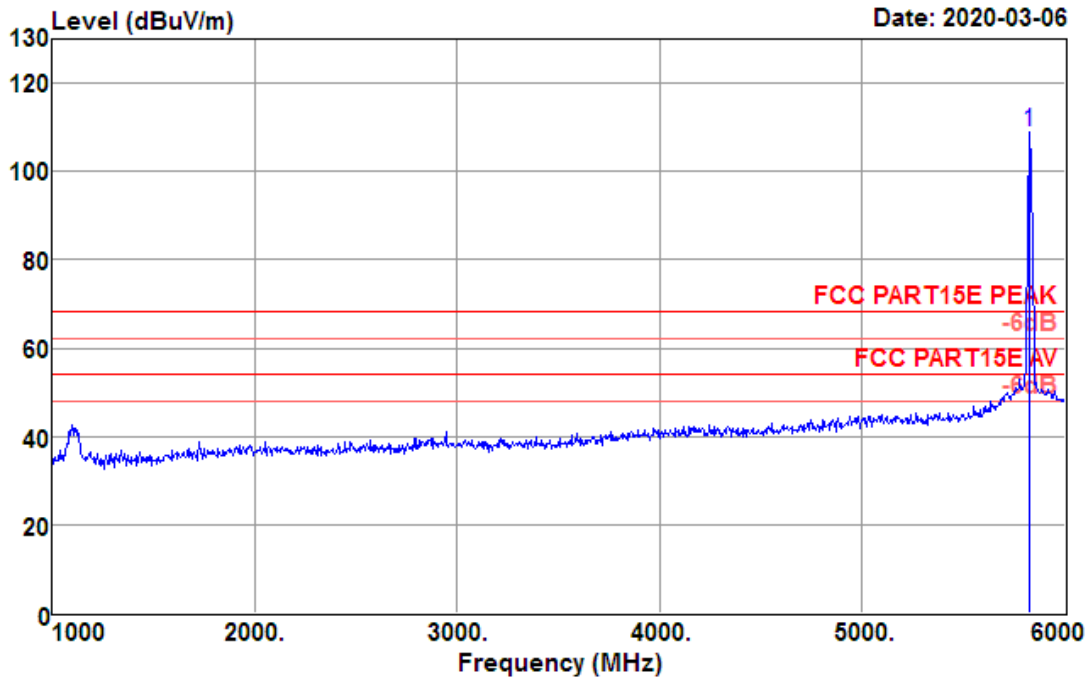




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11 n HT20 CH165 5825MHz	Temperature :	21~23°C
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Horizontal

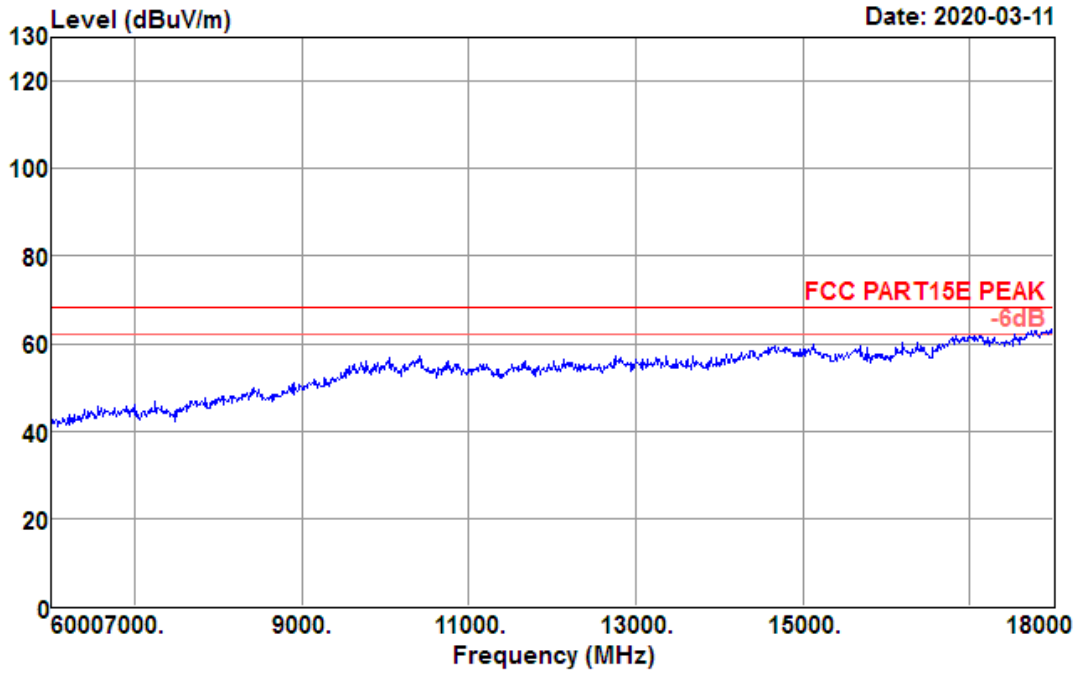
Data: 162

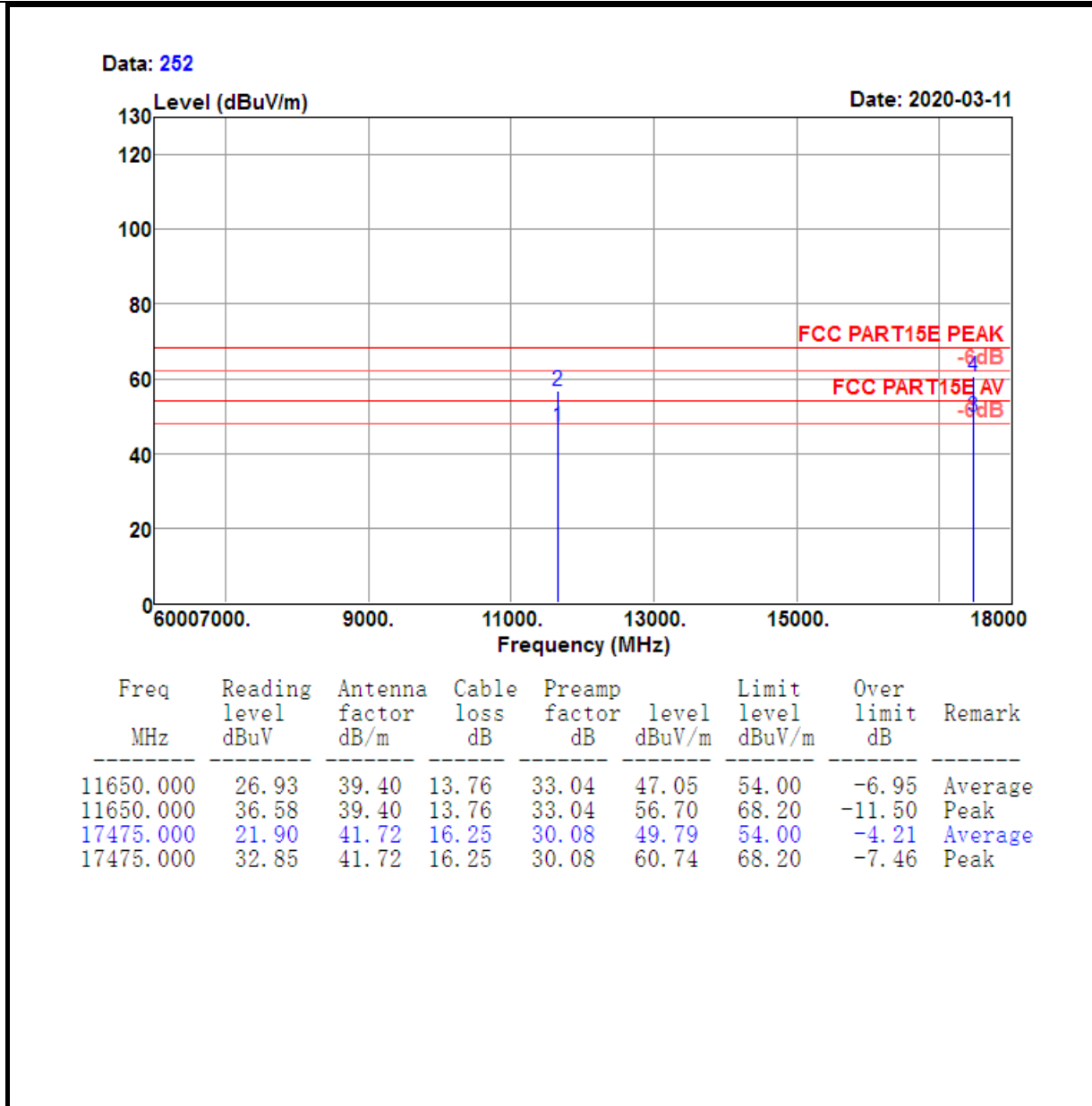


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5825.000	105.27	32.12	6.12	34.77	108.74	68.20	40.54	Peak

Test Mode :	802.11 n HT20 CH165 5825MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Horizontal

Data: 112

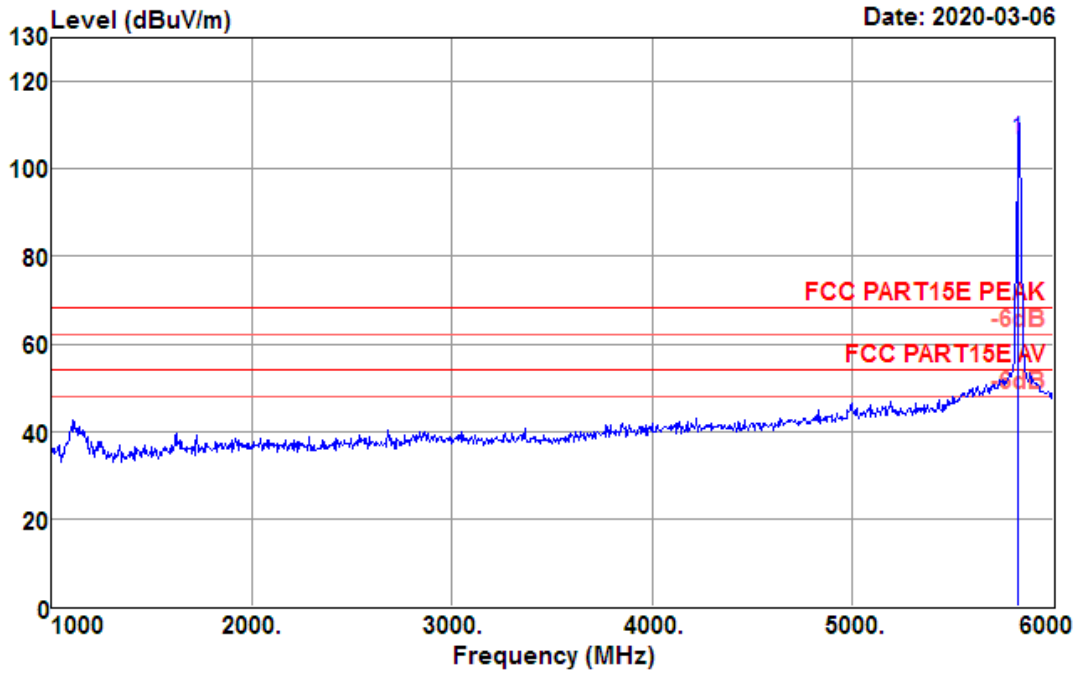




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11 n HT20 CH165 5825MHz	Temperature :	21~23°C
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Vertical

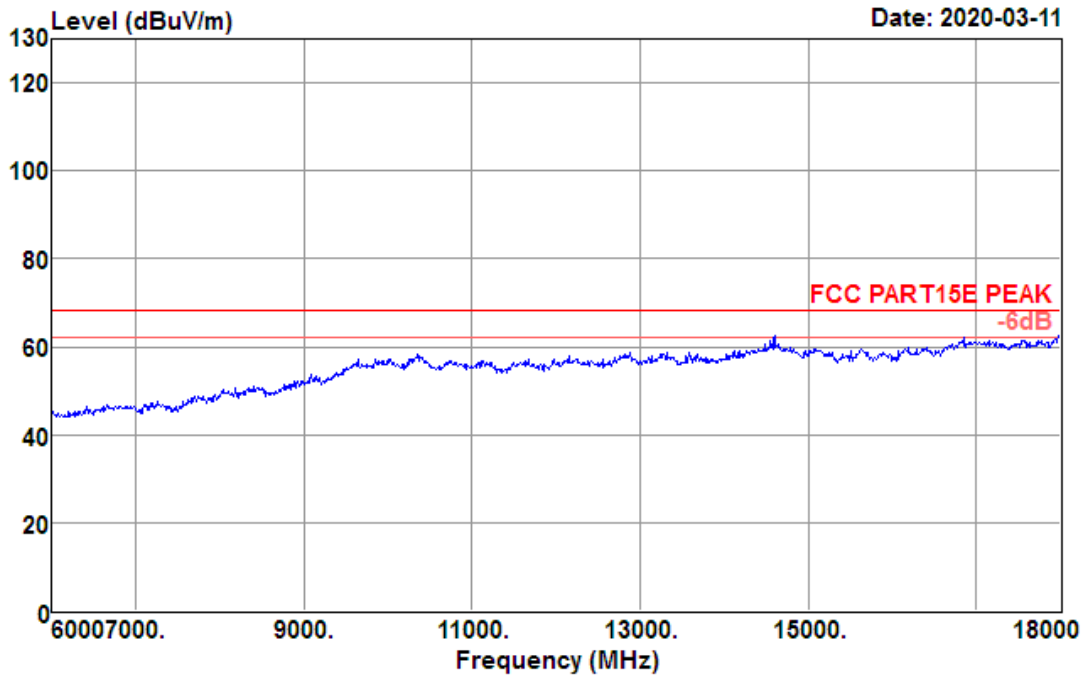
Data: 159

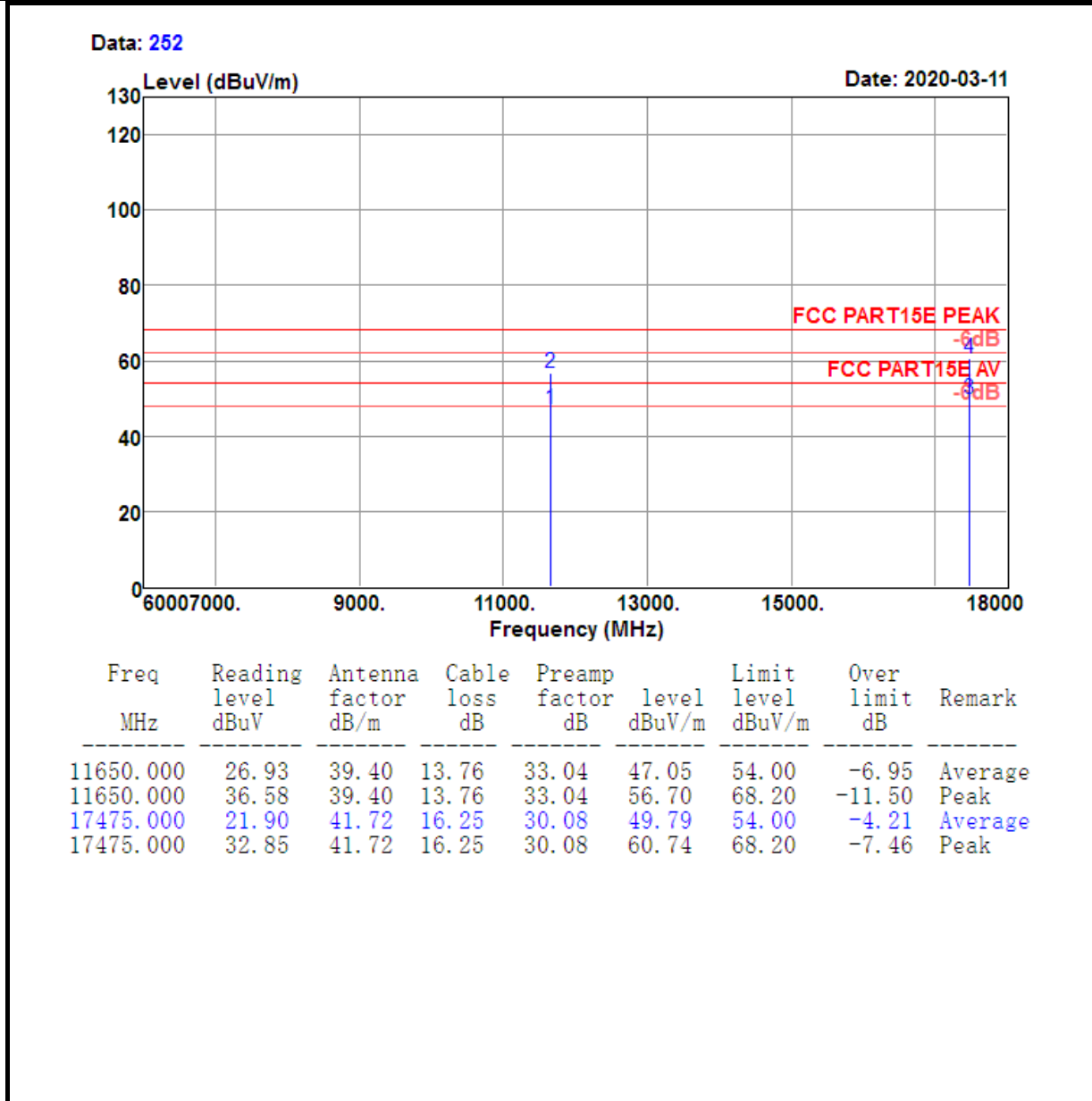


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5825.000	103.12	32.12	6.12	34.77	106.59	68.20	38.39	Peak

Test Mode :	802.11 n HT20 CH165 5825MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Vertical

Data: 118

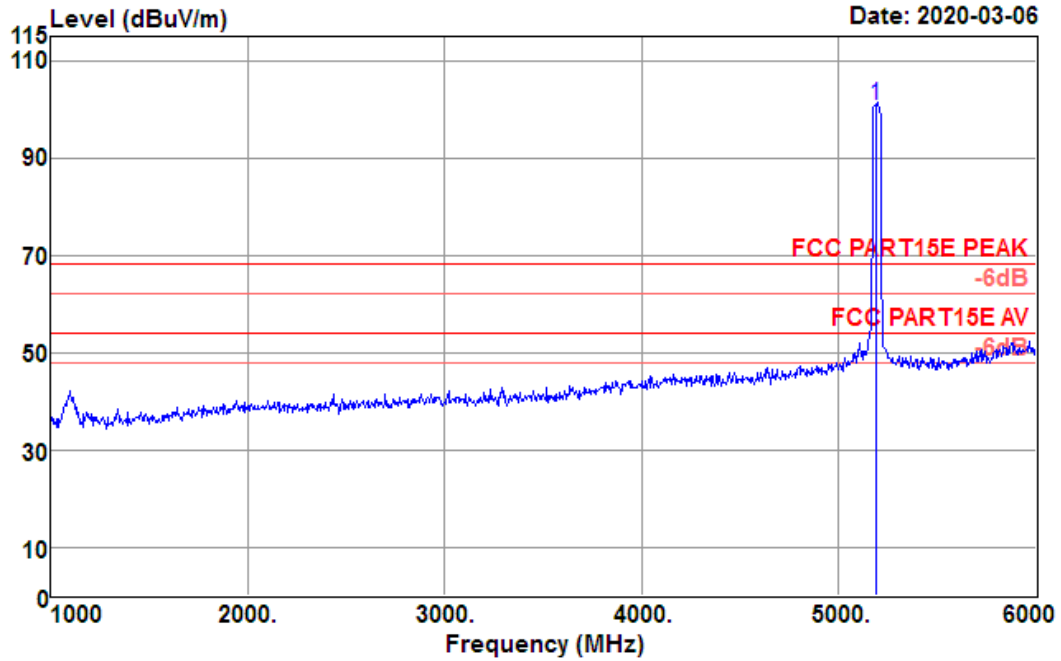




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11n HT40 CH38 5190MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Horizontal

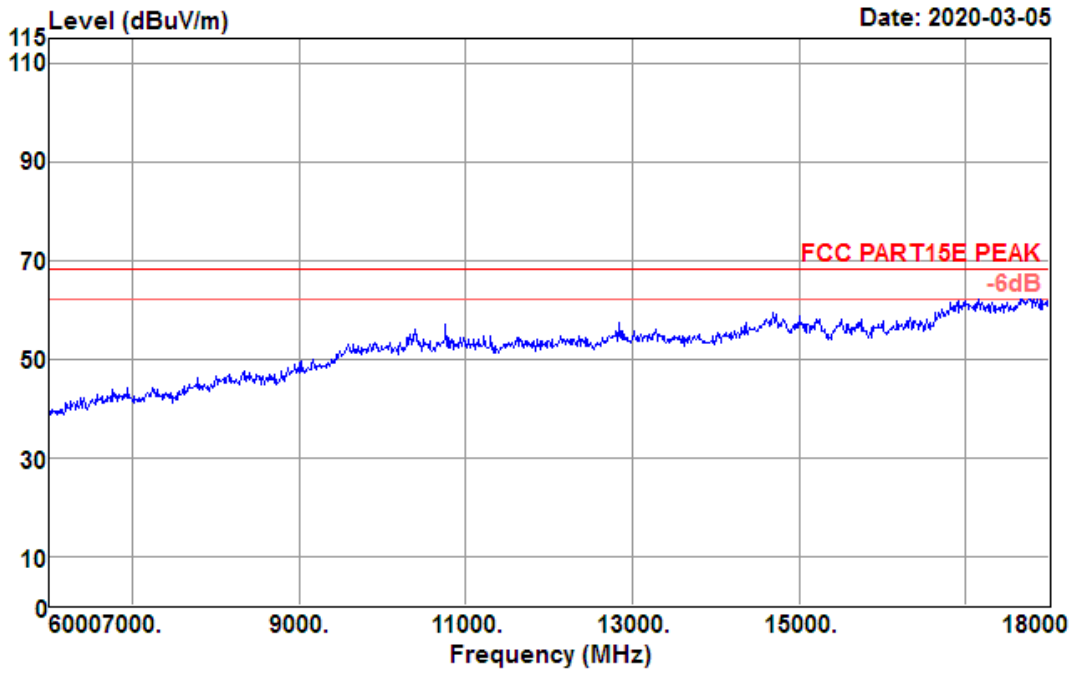
Data: 328

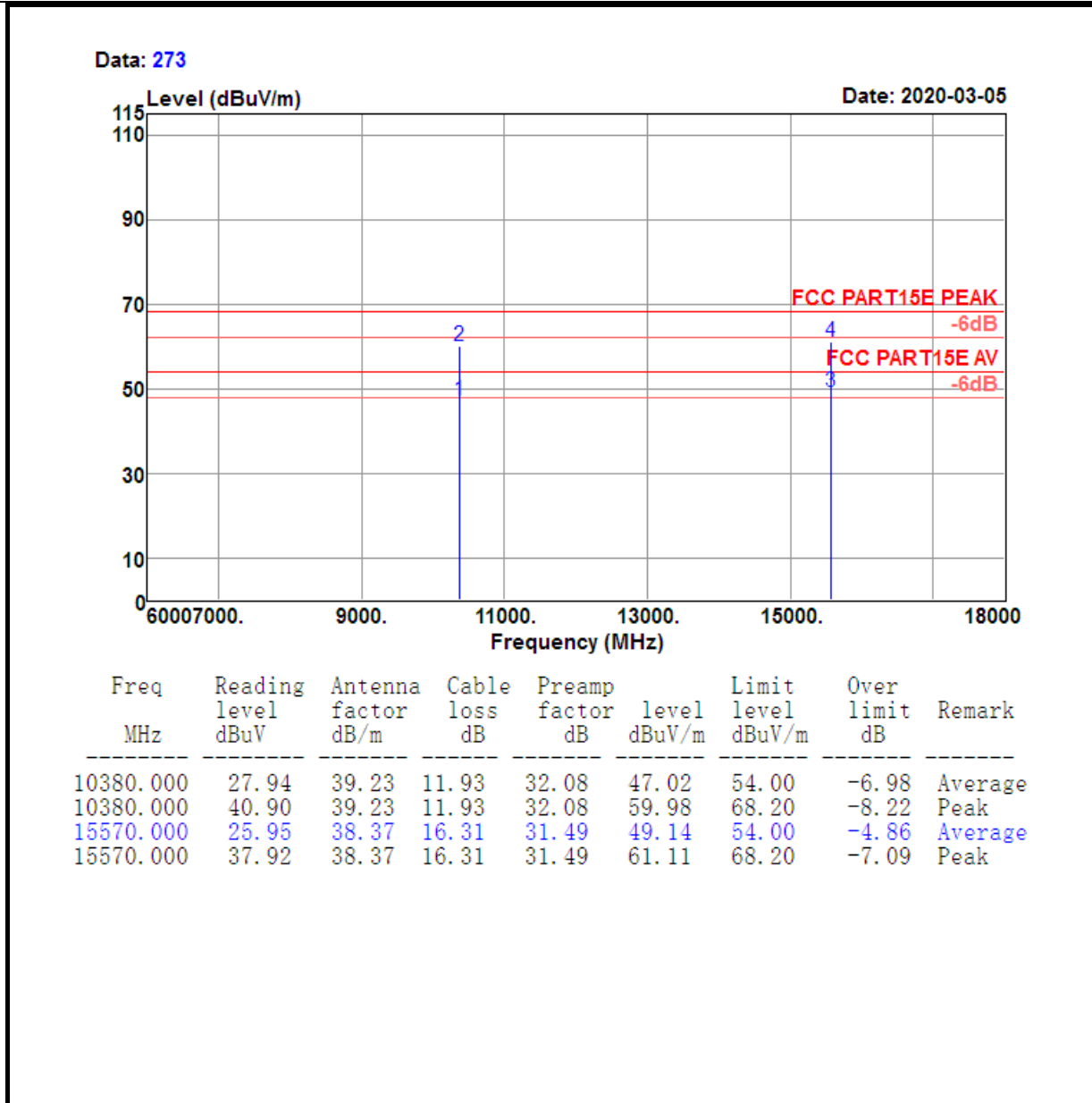


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5190.000	99.23	31.35	5.69	35.65	100.62	68.20	32.42	Peak

Test Mode :	802.11n HT40 CH38 5190MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Horizontal

Data: 28

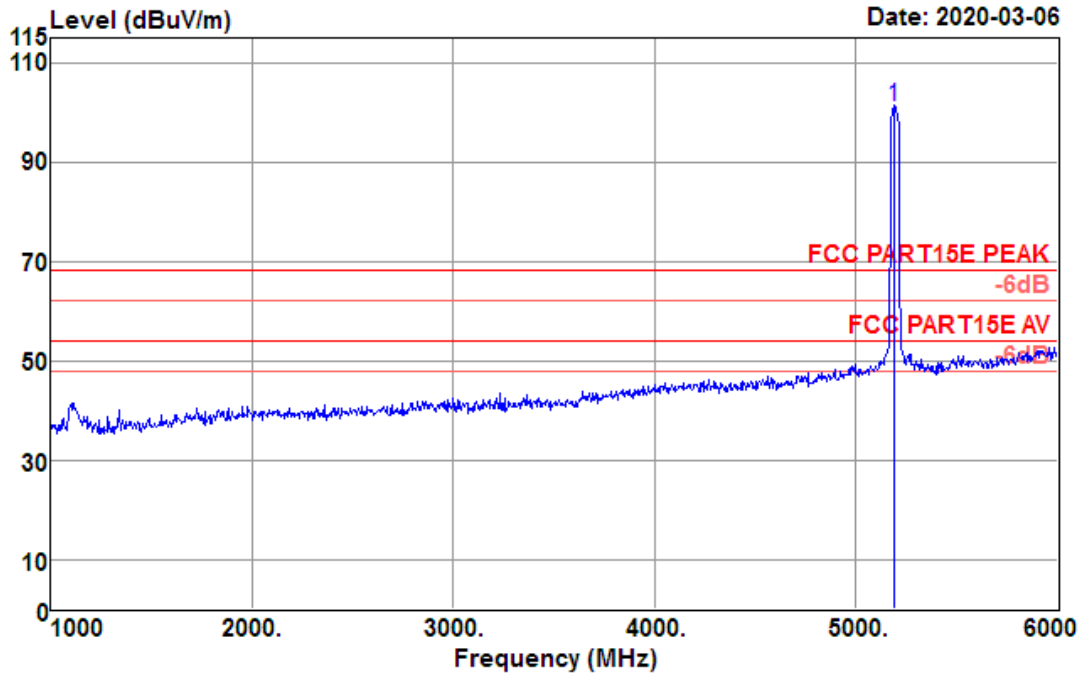




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11n HT40 CH38 5190MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Vertical

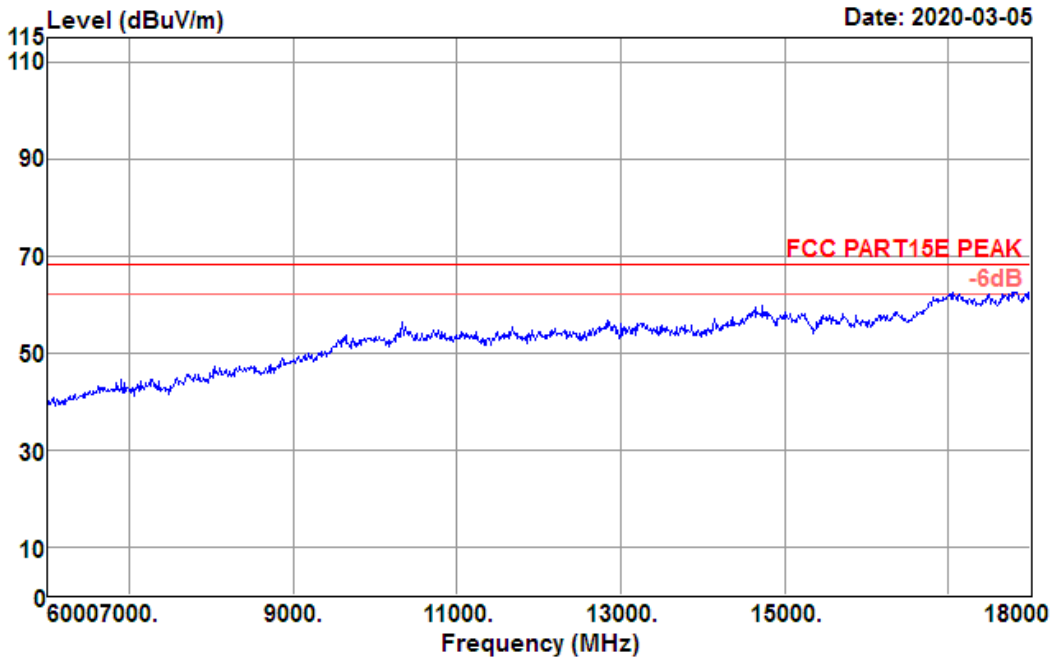
Data: 331

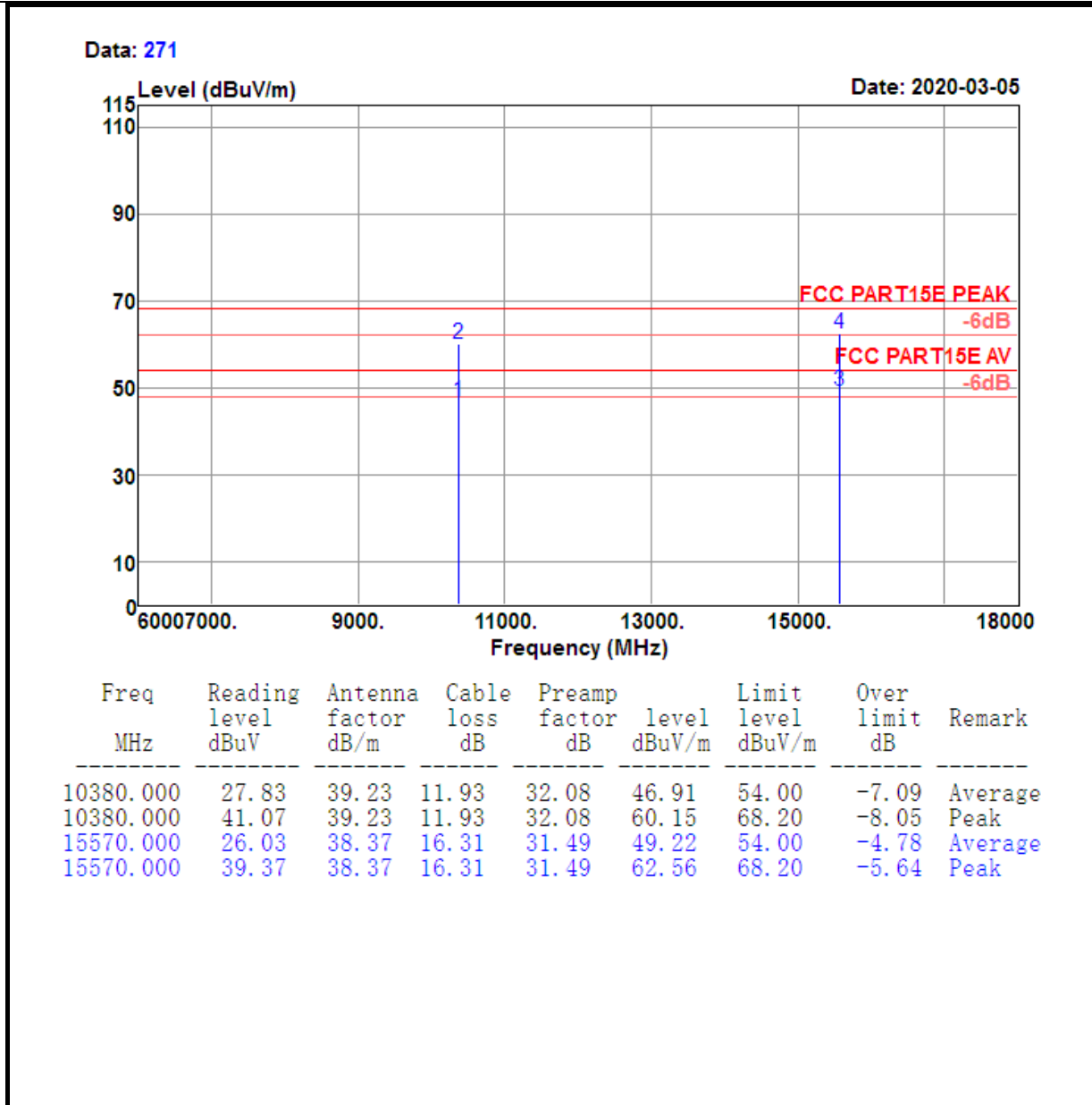


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5190.000	99.77	31.35	5.69	35.65	101.16	68.20	32.96	Peak

Test Mode :	802.11n HT40 CH38 5190MHz	Temperature :	21~23°C
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Vertical

Data: 26

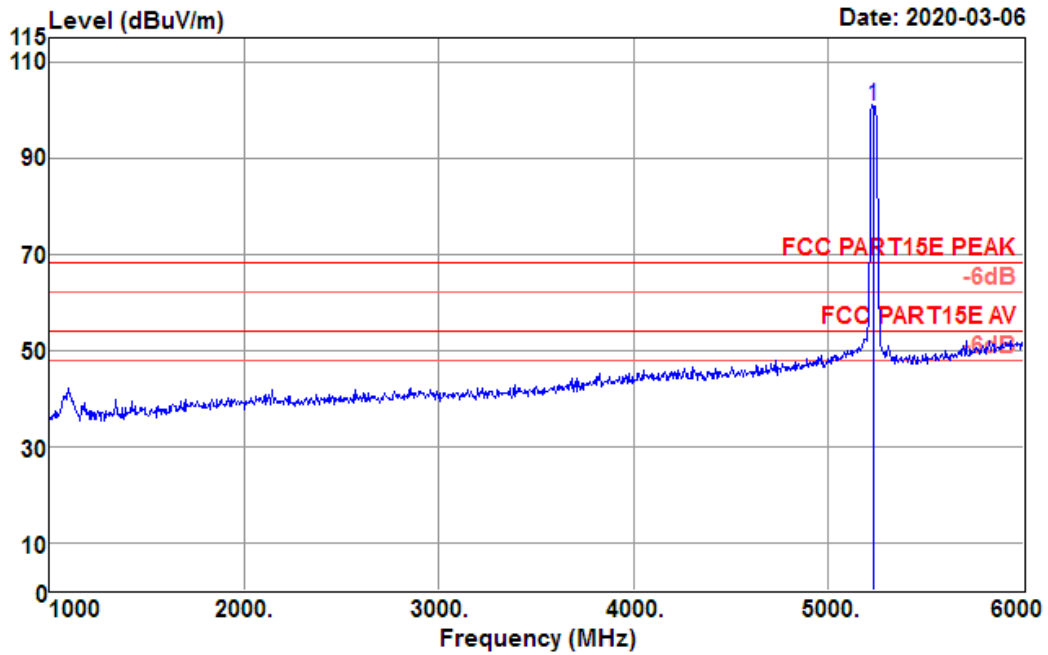




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11 n HT40 CH46 5230MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Horizontal

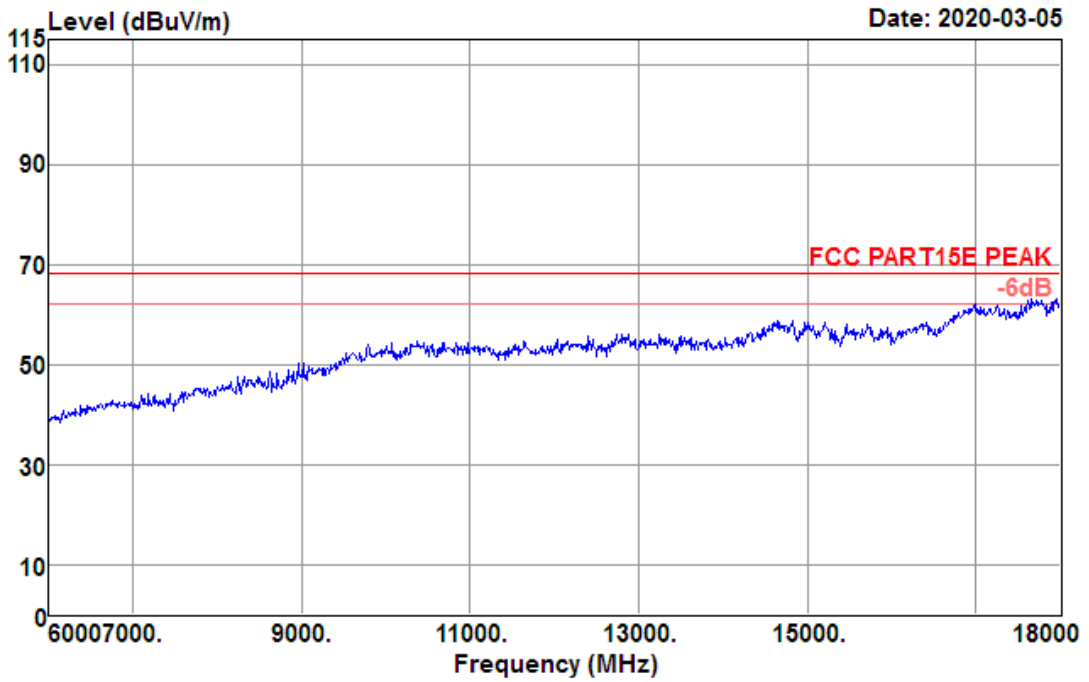
Data: 337

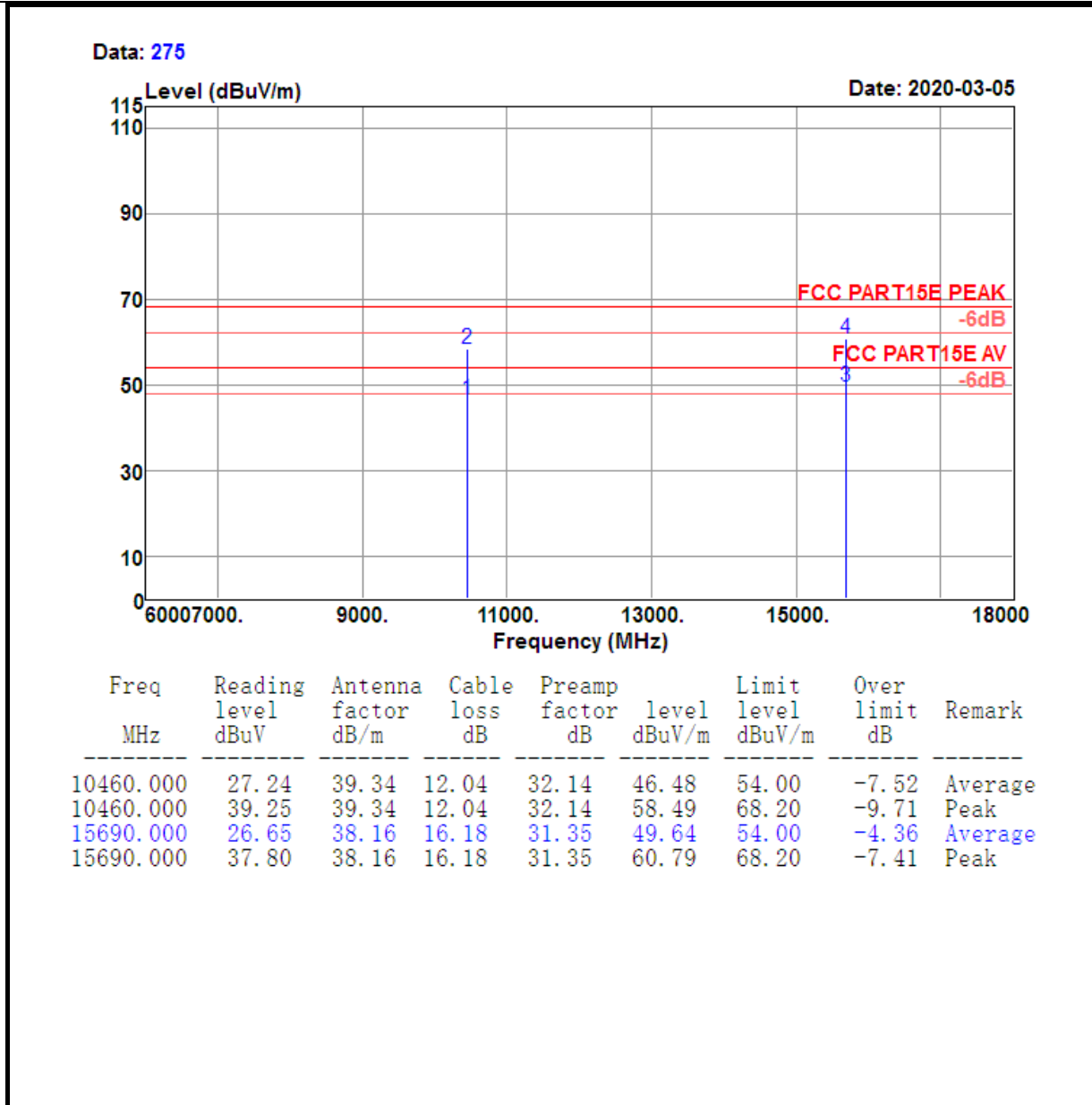


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5230.000	99.21	31.38	5.70	35.59	100.70	68.20	32.50	Peak

Test Mode :	802.11 n HT40 CH46 5230MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Horizontal

Data: 30

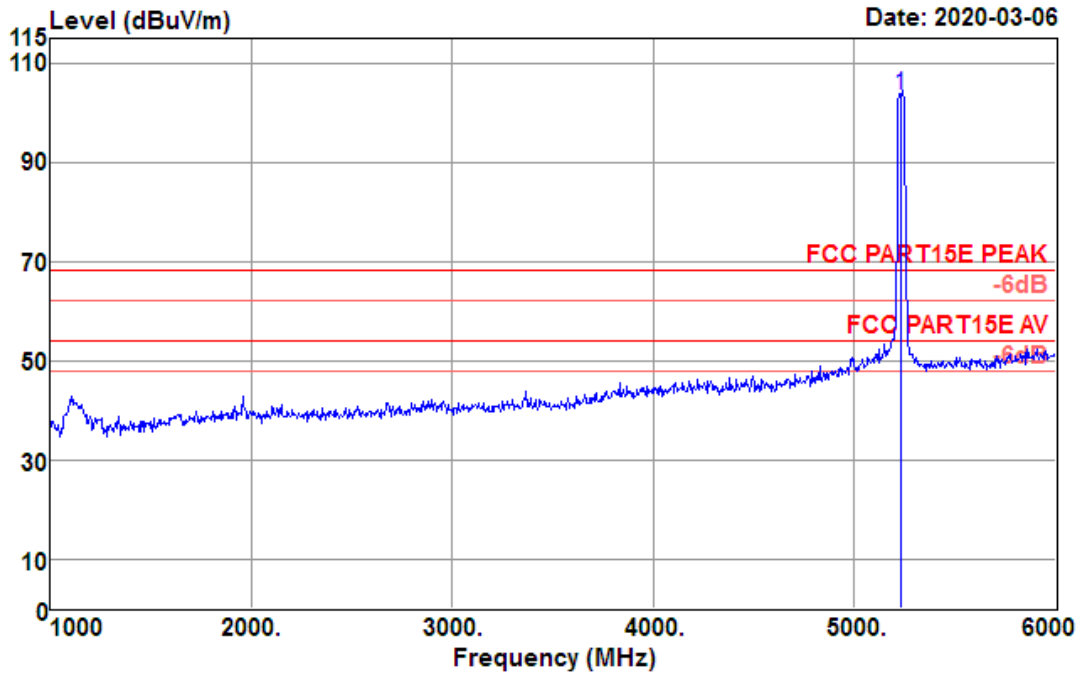




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11 n HT40 CH46 5230MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Vertical

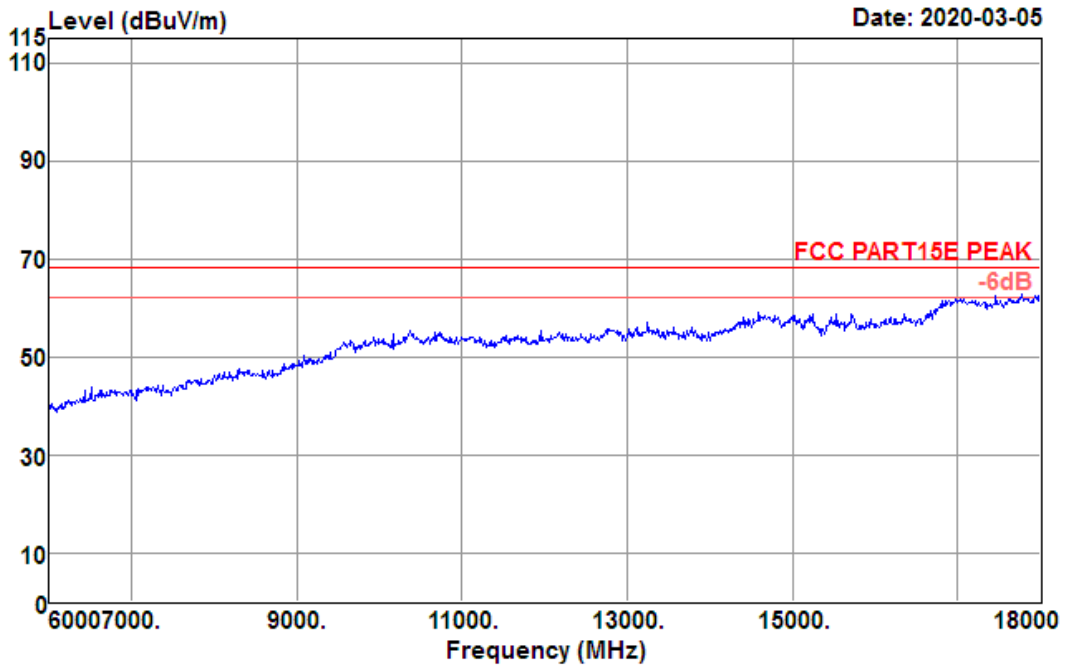
Data: 334

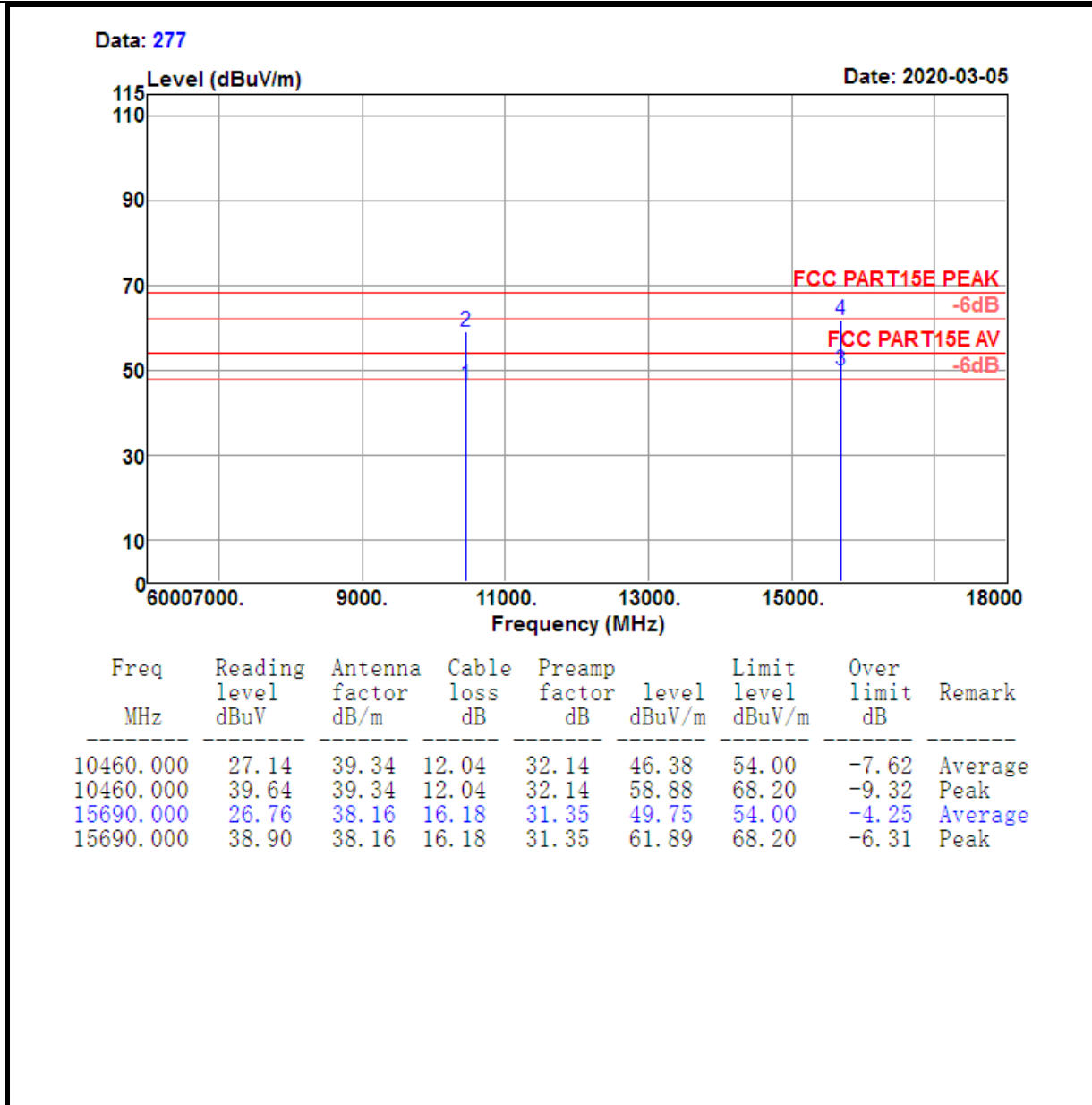


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5230.000	102.02	31.38	5.70	35.59	103.51	68.20	35.31	Peak

Test Mode :	802.11 n HT40 CH46 5230MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Vertical

Data: 32

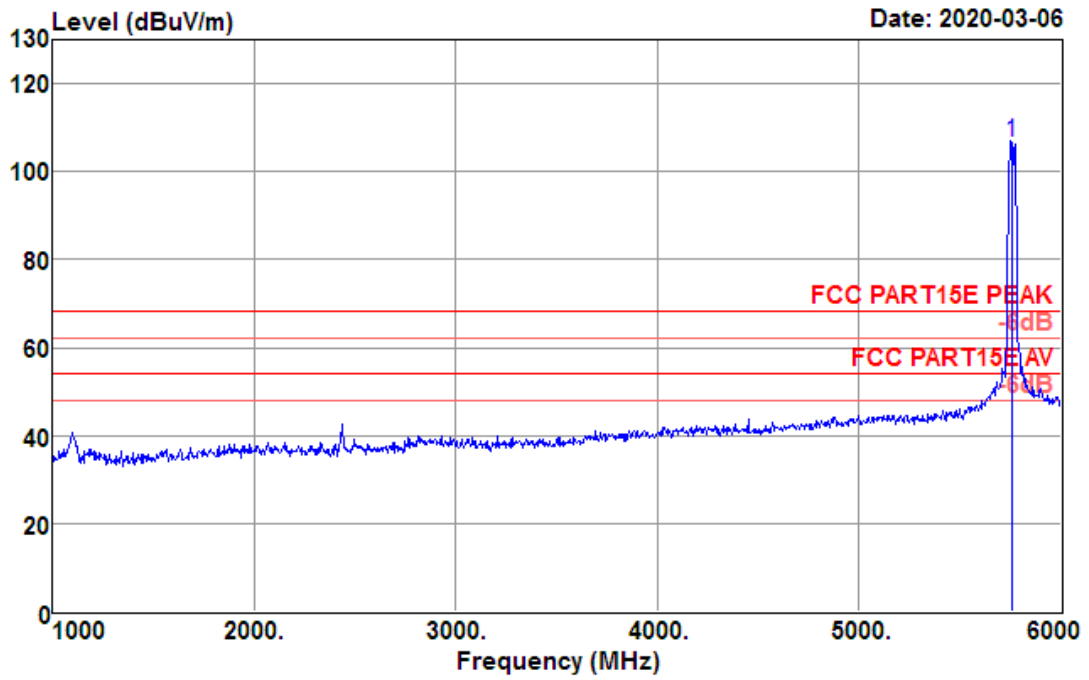




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11 n HT40 CH151 5755MHz	Temperature :	21~23°C
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Horizontal

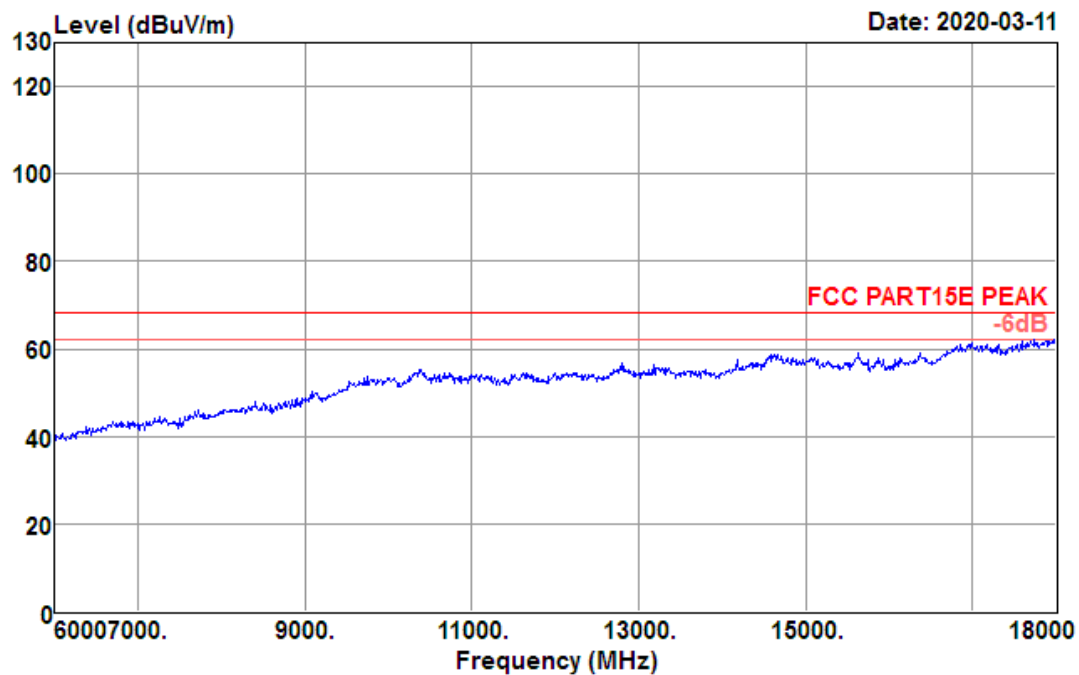
Data: 165

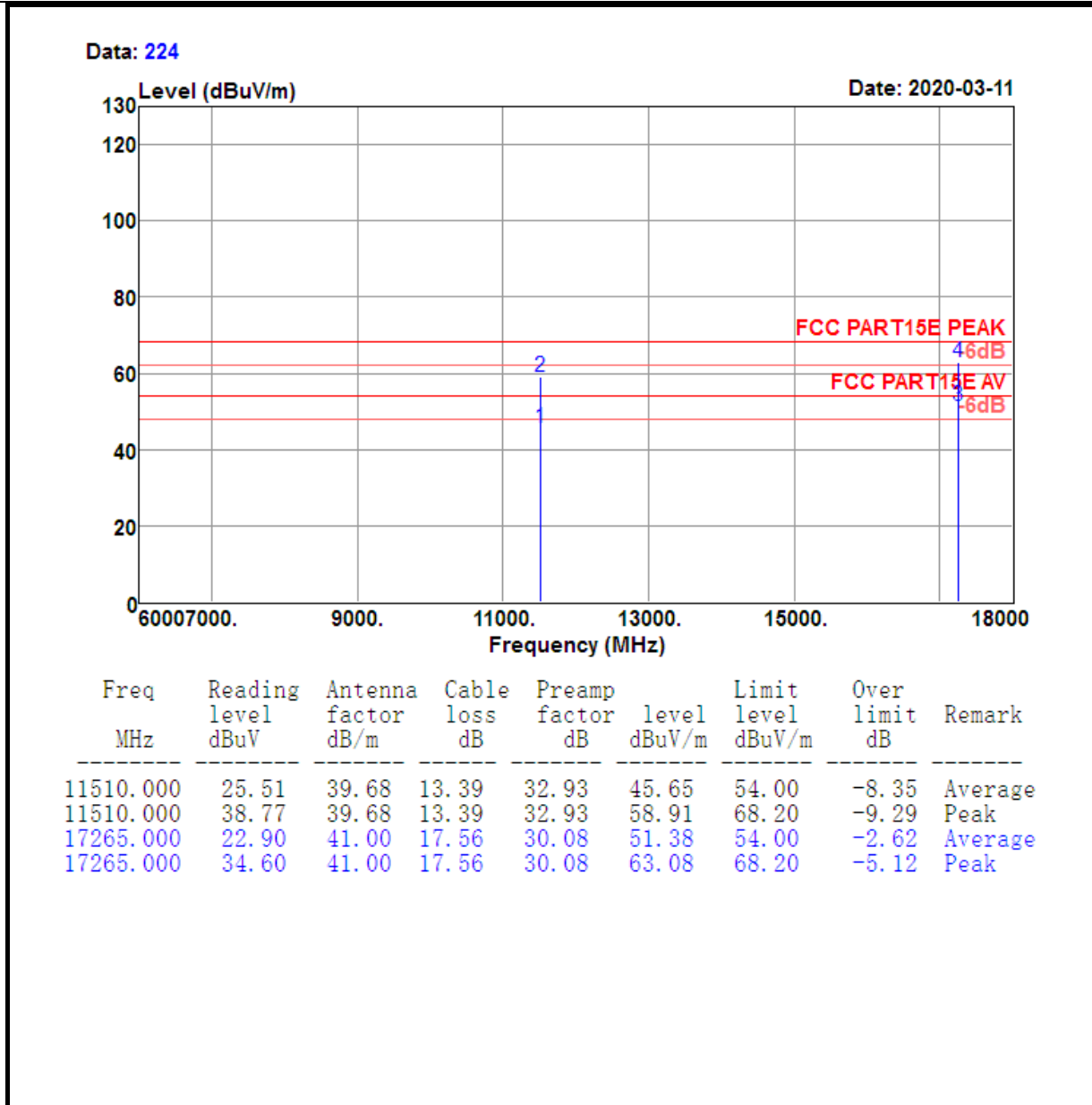


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5755.000	103.28	32.01	6.06	34.87	106.48	68.20	38.28	Peak

Test Mode :	802.11 n HT40 CH151 5755MHz	Temperature :	21~23°C
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Horizontal

Data: 102

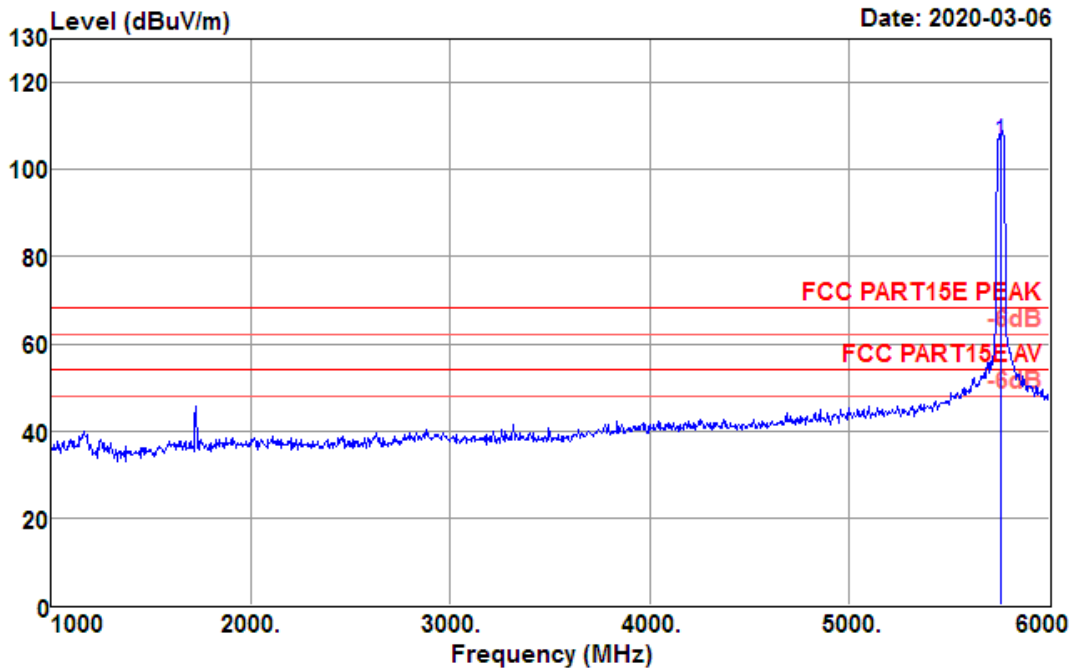




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11 n HT40 CH151 5755MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Vertical

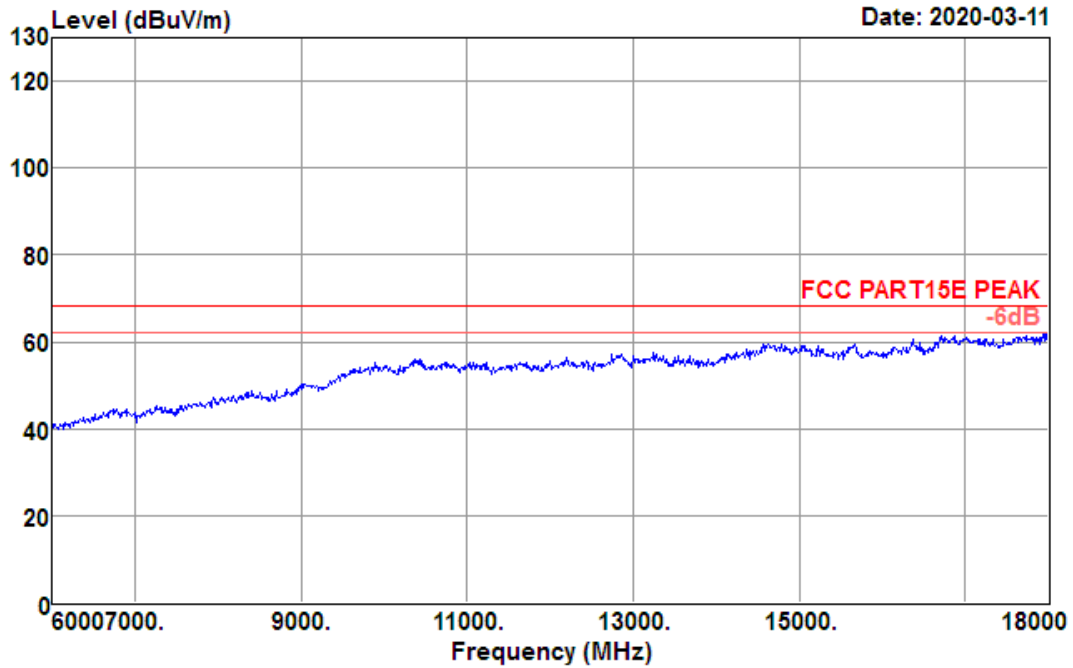
Data: 168

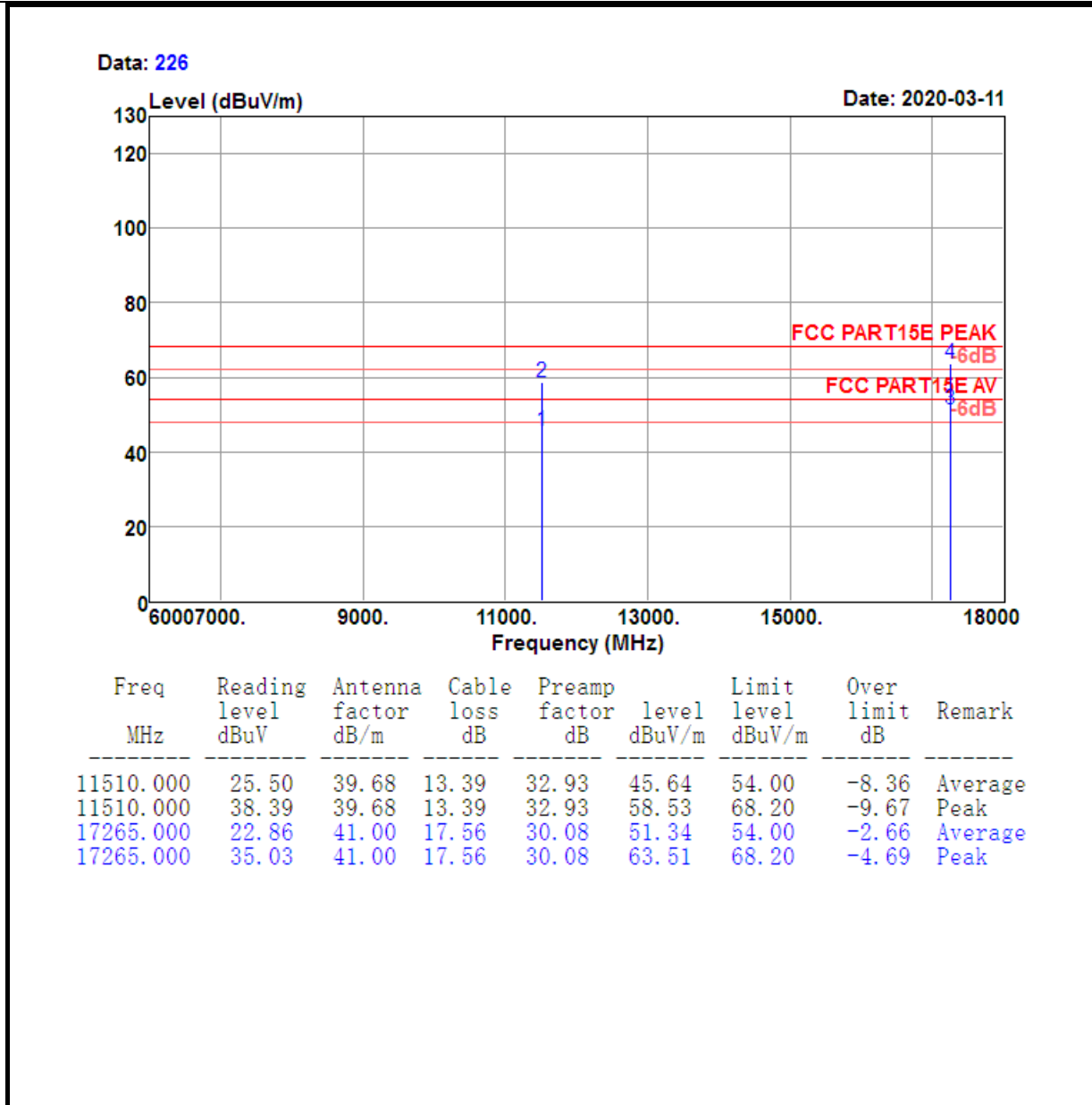


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5755.000	103.22	32.01	6.06	34.87	106.42	68.20	38.22	Peak

Test Mode :	802.11 n HT40 CH151 5755MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Vertical

Data: 104

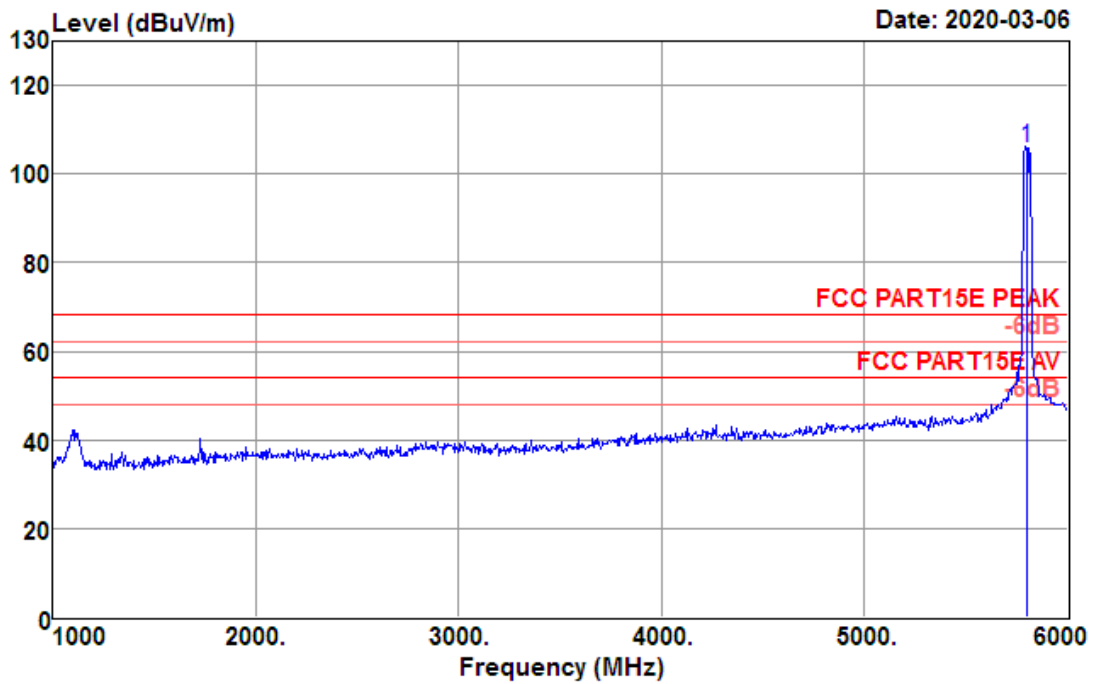




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11 n HT40 CH159 5795MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Horizontal

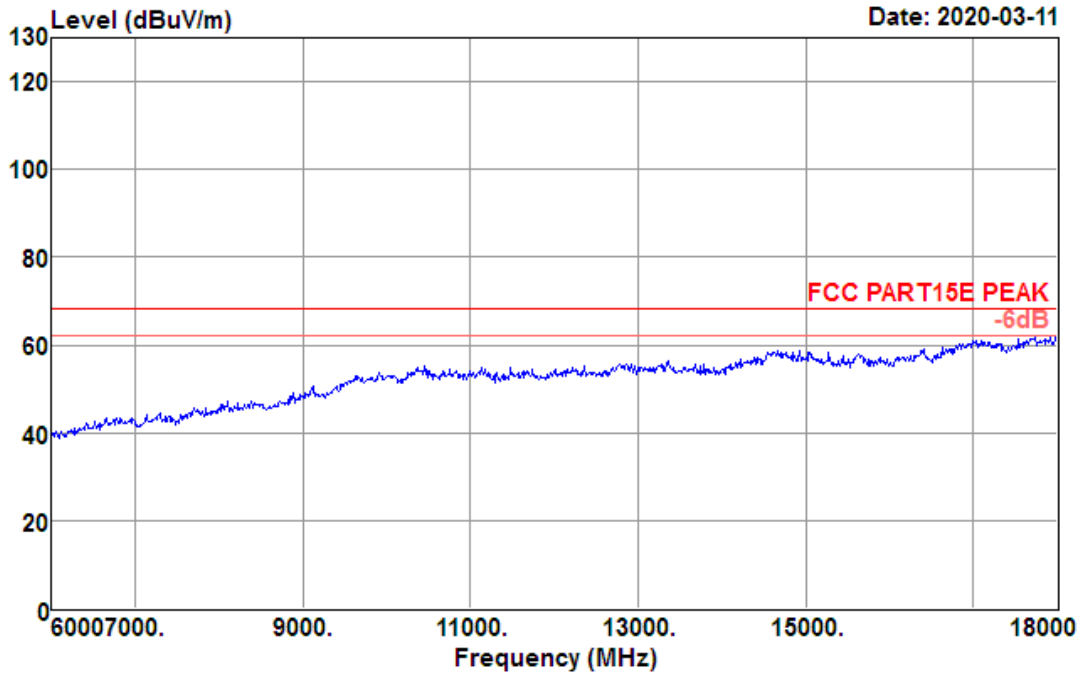
Data: 174

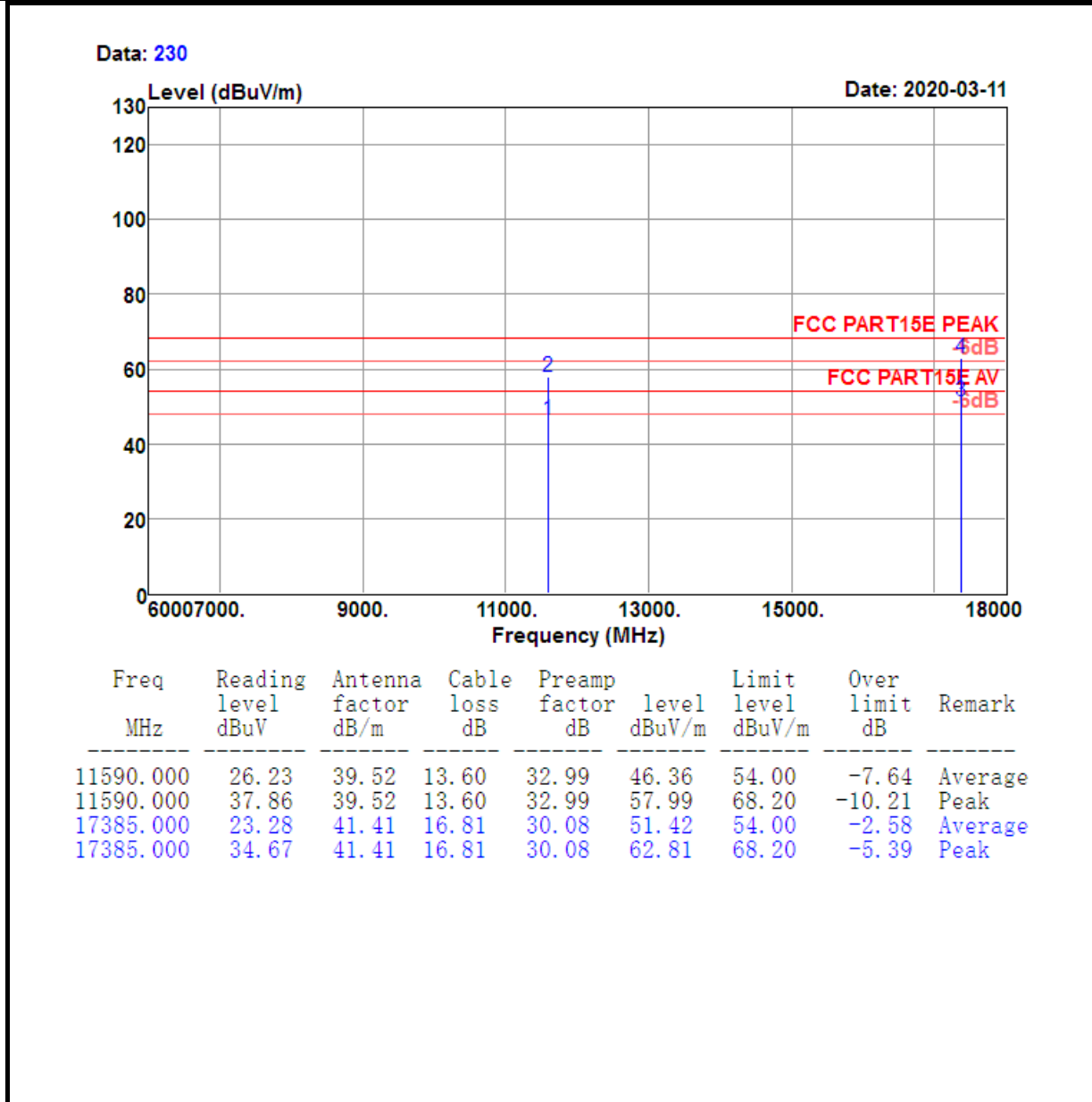


Freq MHz	Reading level dBUV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBUV/m	Limit level dBUV/m	Over limit dB	Remark
5795.000	102.36	32.07	6.10	34.81	105.72	68.20	37.52	Peak

Test Mode :	802.11 n HT40 CH159 5795MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Horizontal

Data: 108

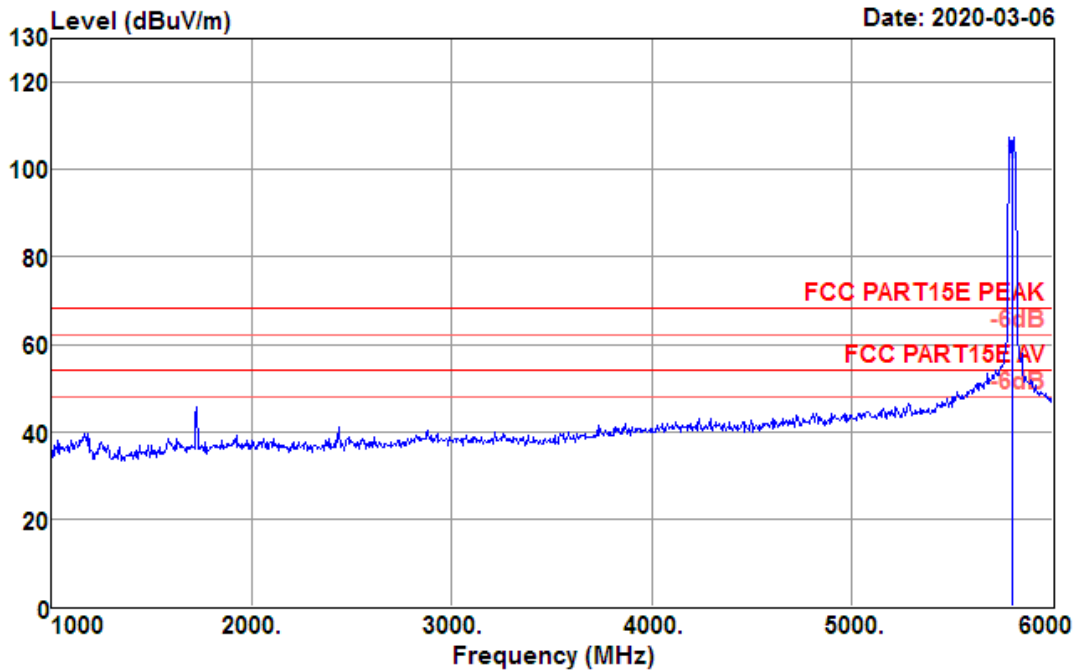




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11 n HT40 CH159 5795MHz	Temperature :	21~23°C
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Vertical

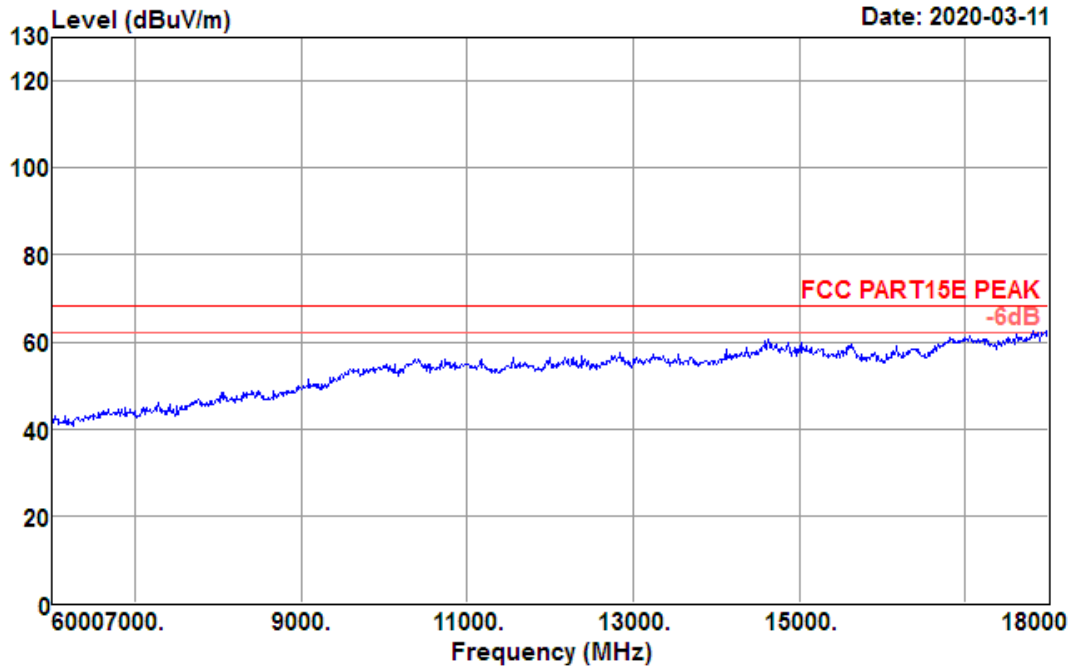
Data: 171

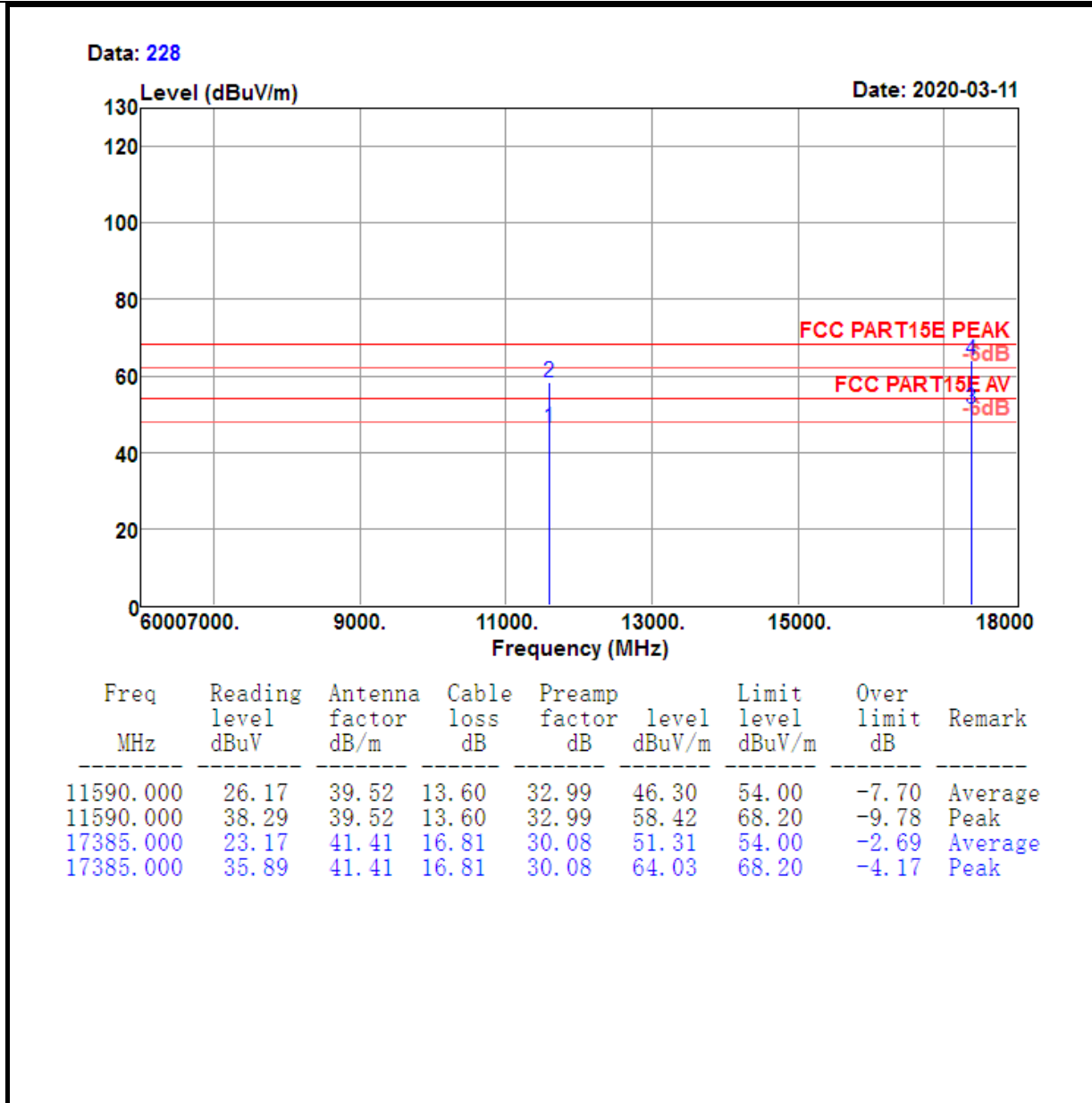


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5795.000	97.88	32.07	6.10	34.81	101.24	68.20	33.04	Peak

Test Mode :	802.11 n HT40 CH159 5795MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Vertical

Data: 106

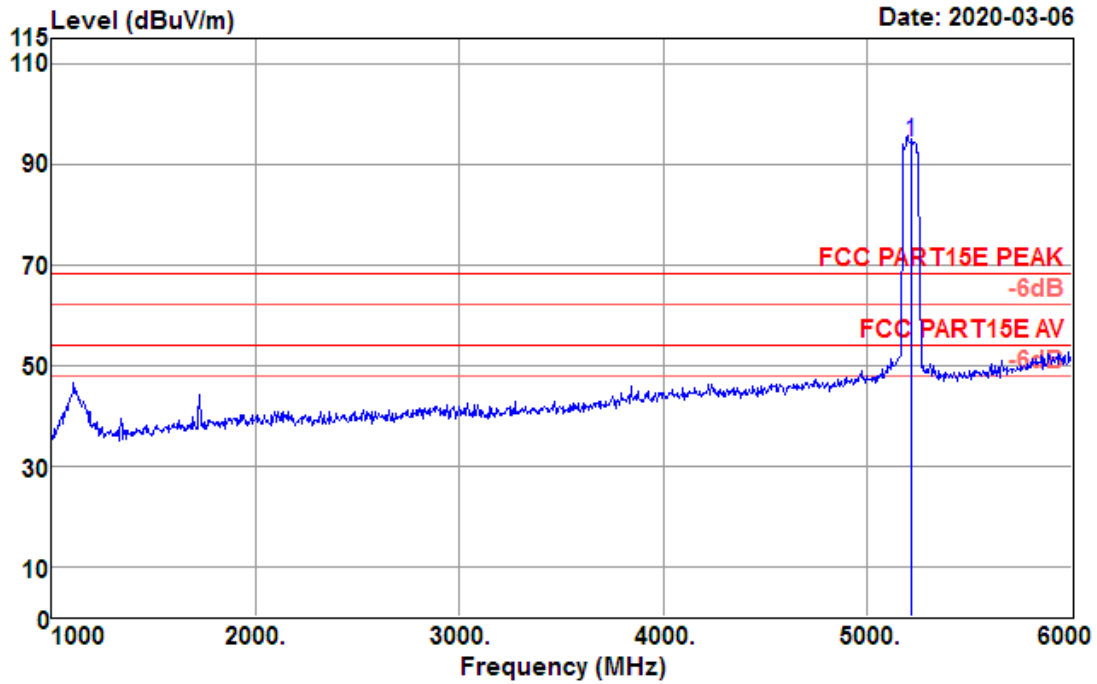




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11 ac VHT80 CH42 5210MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Horizontal

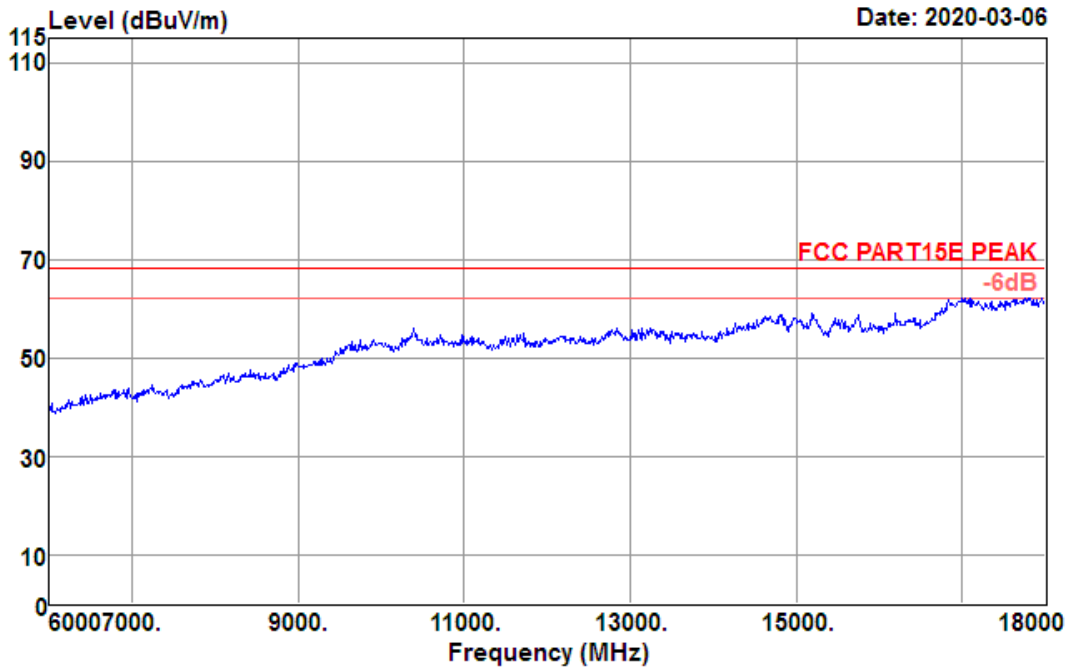
Data: 369

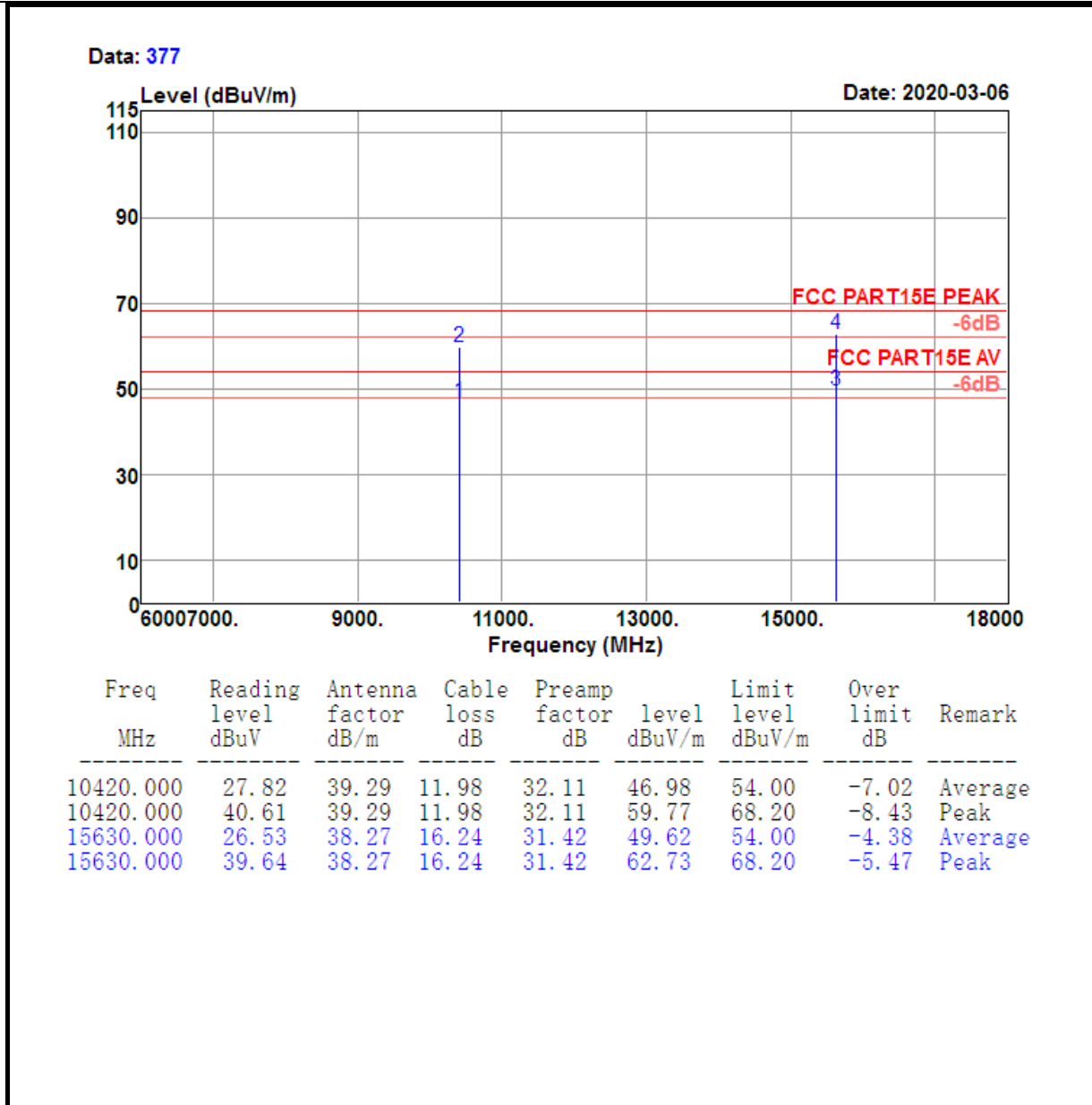


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5210.000	93.00	31.37	5.70	35.62	94.45	68.20	26.25	Peak

Test Mode :	802.11 ac VHT80 CH42 5210MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Horizontal

Data: 36

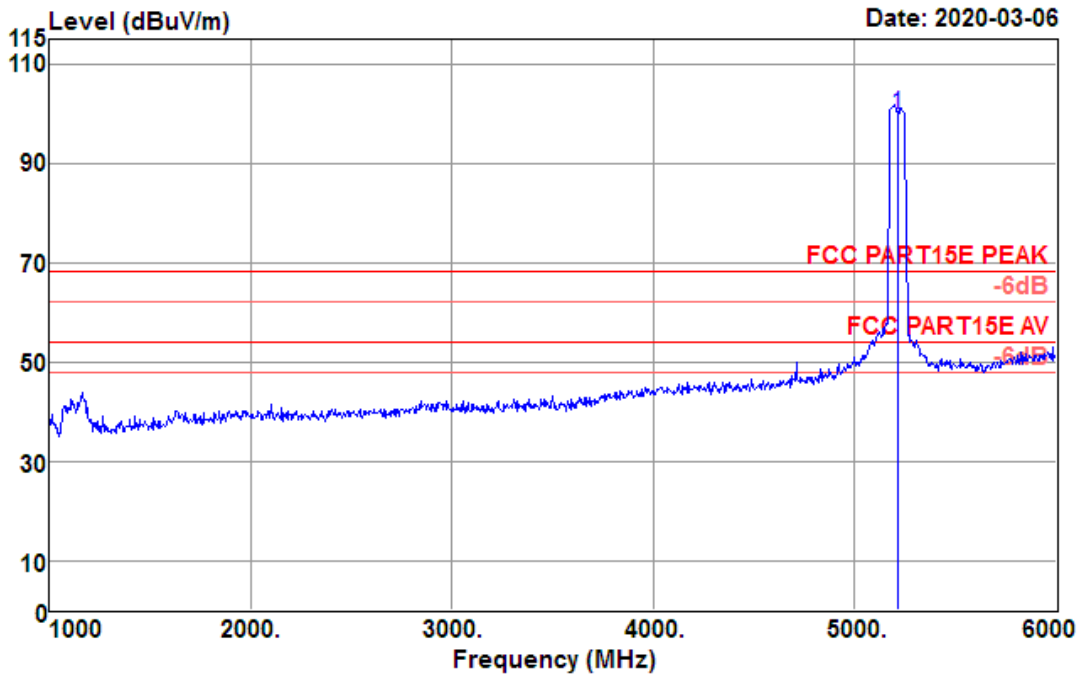




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11 ac VHT80 CH42 5210MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Vertical

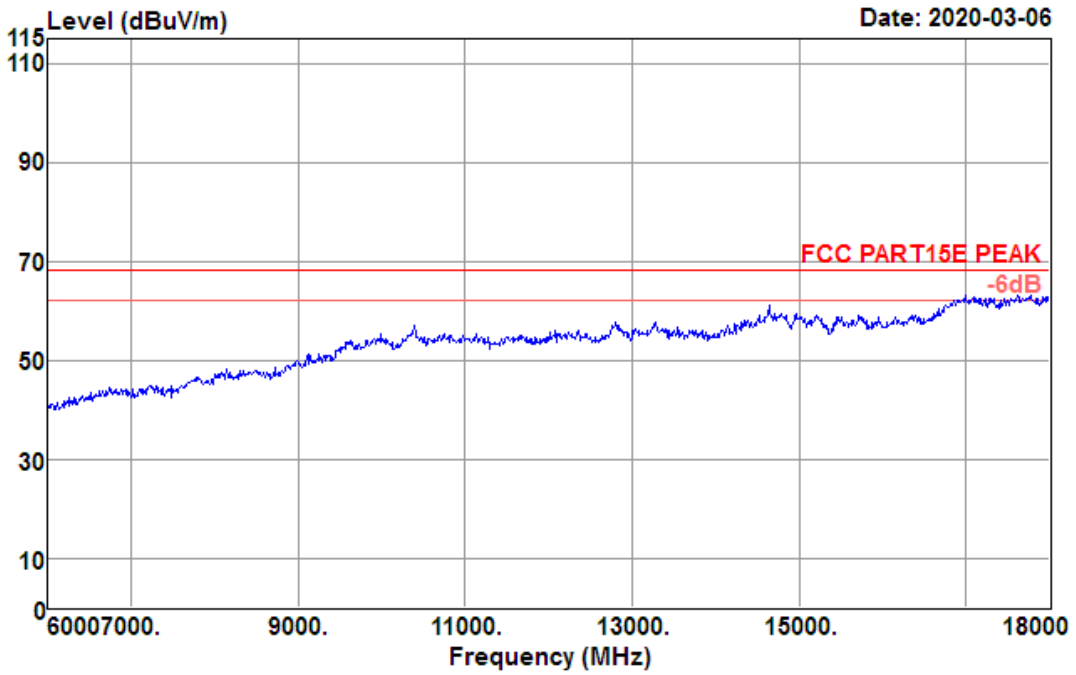
Data: 366

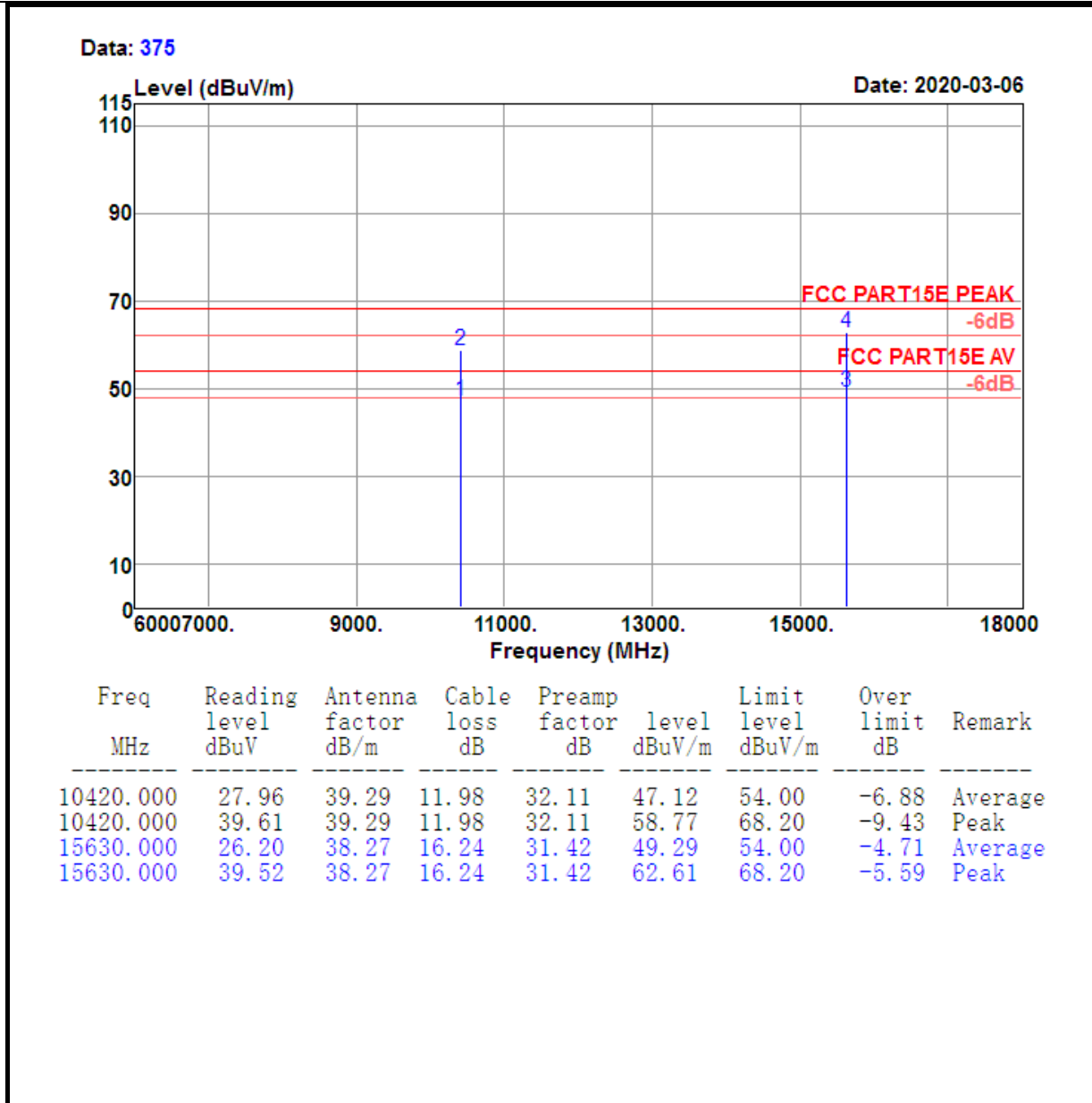


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5210.000	98.43	31.37	5.70	35.62	99.88	68.20	31.68	Peak

Test Mode :	802.11 ac VHT80 CH42 5210MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Vertical

Data: 34

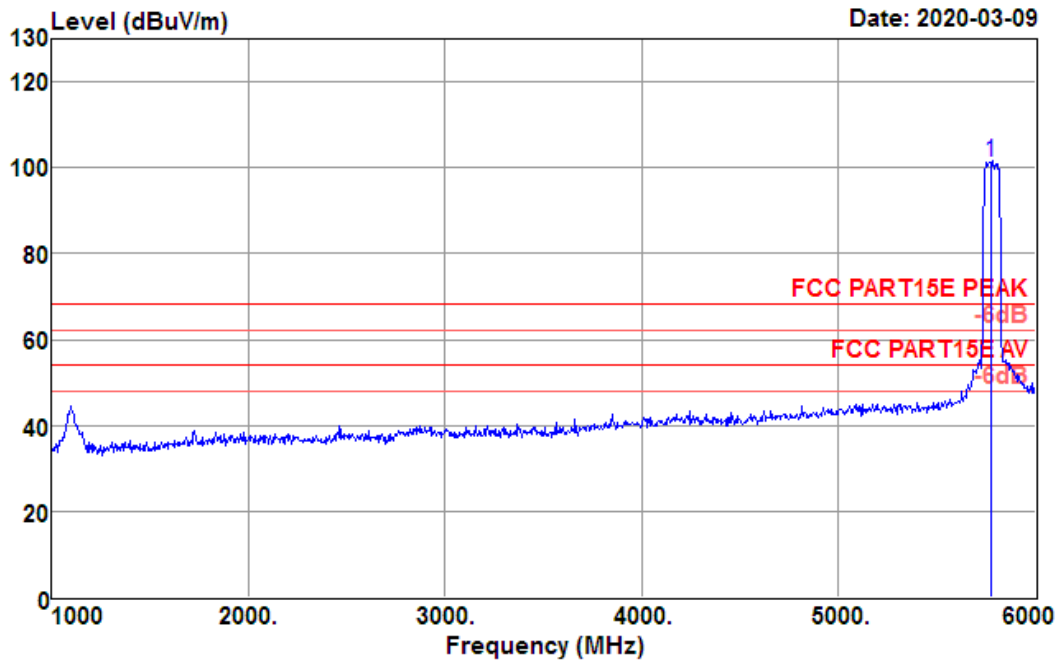




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

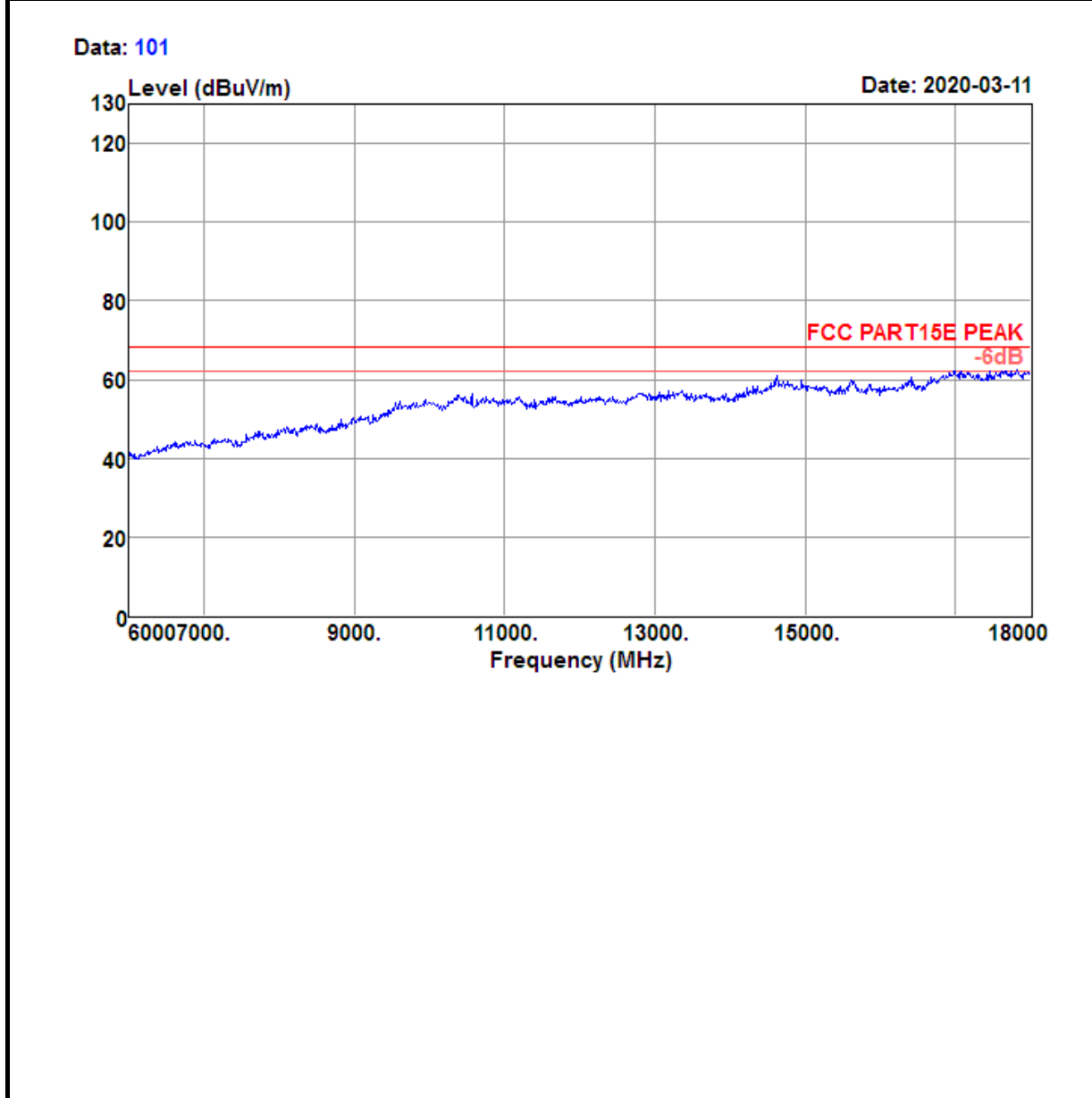
Test Mode :	802.11 ac VHT80 CH155 5775MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Horizontal

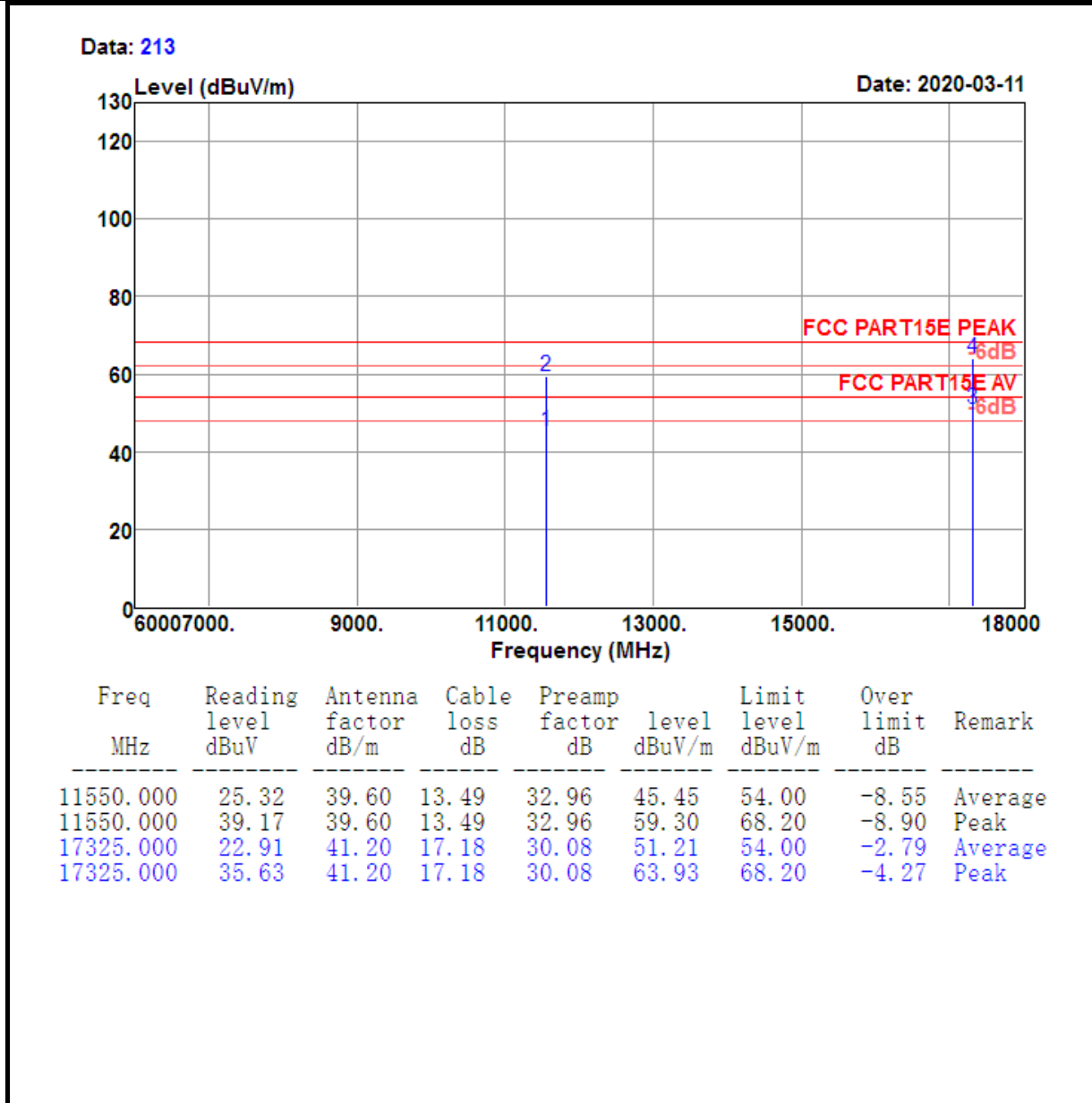
Data: 206



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5775.000	98.05	32.04	6.08	34.84	101.33	68.20	33.13	Peak

Test Mode :	802.11 ac VHT80 CH155 5775MHz	Temperature :	21~23°C
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Horizontal

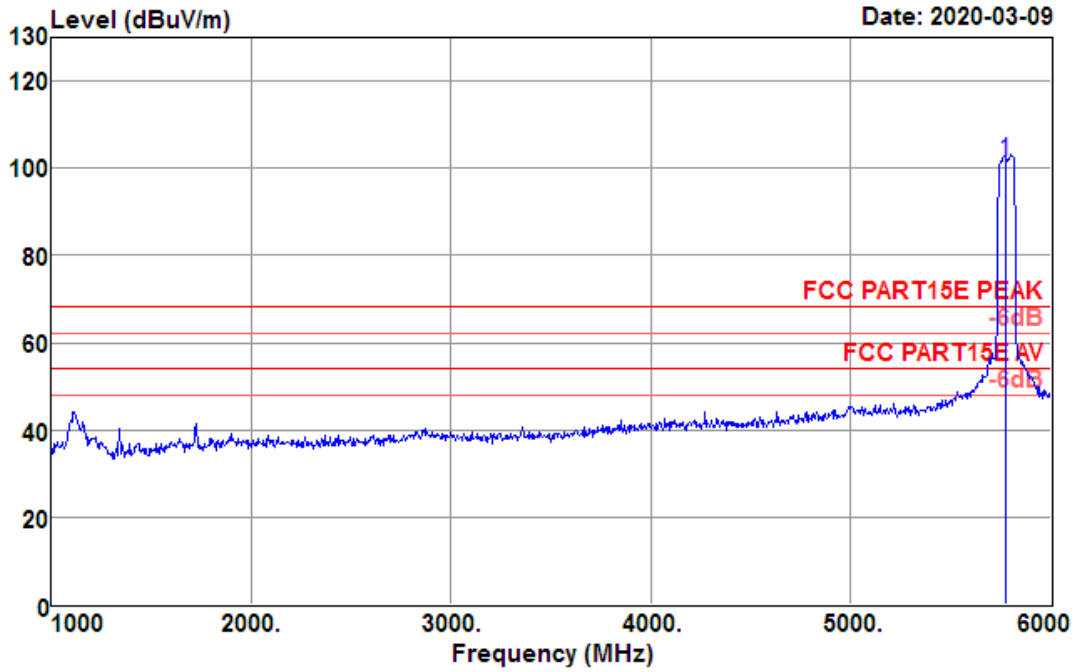




Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Test Mode :	802.11 ac VHT80 CH155 5775MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~6GHz	Polarization :	Vertical

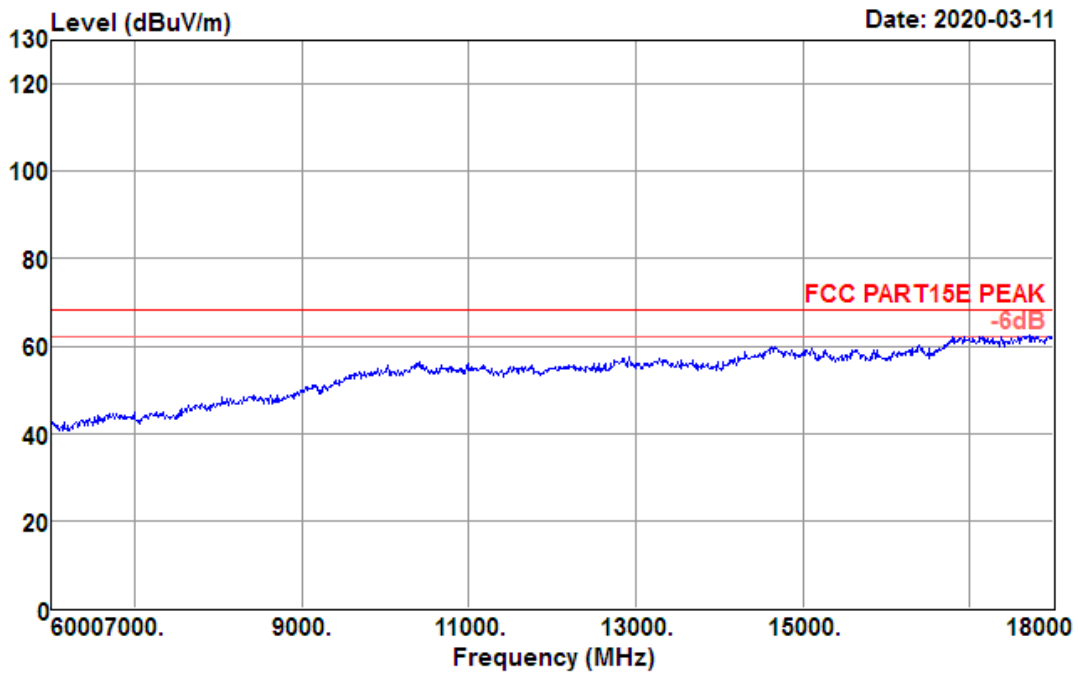
Data: 203

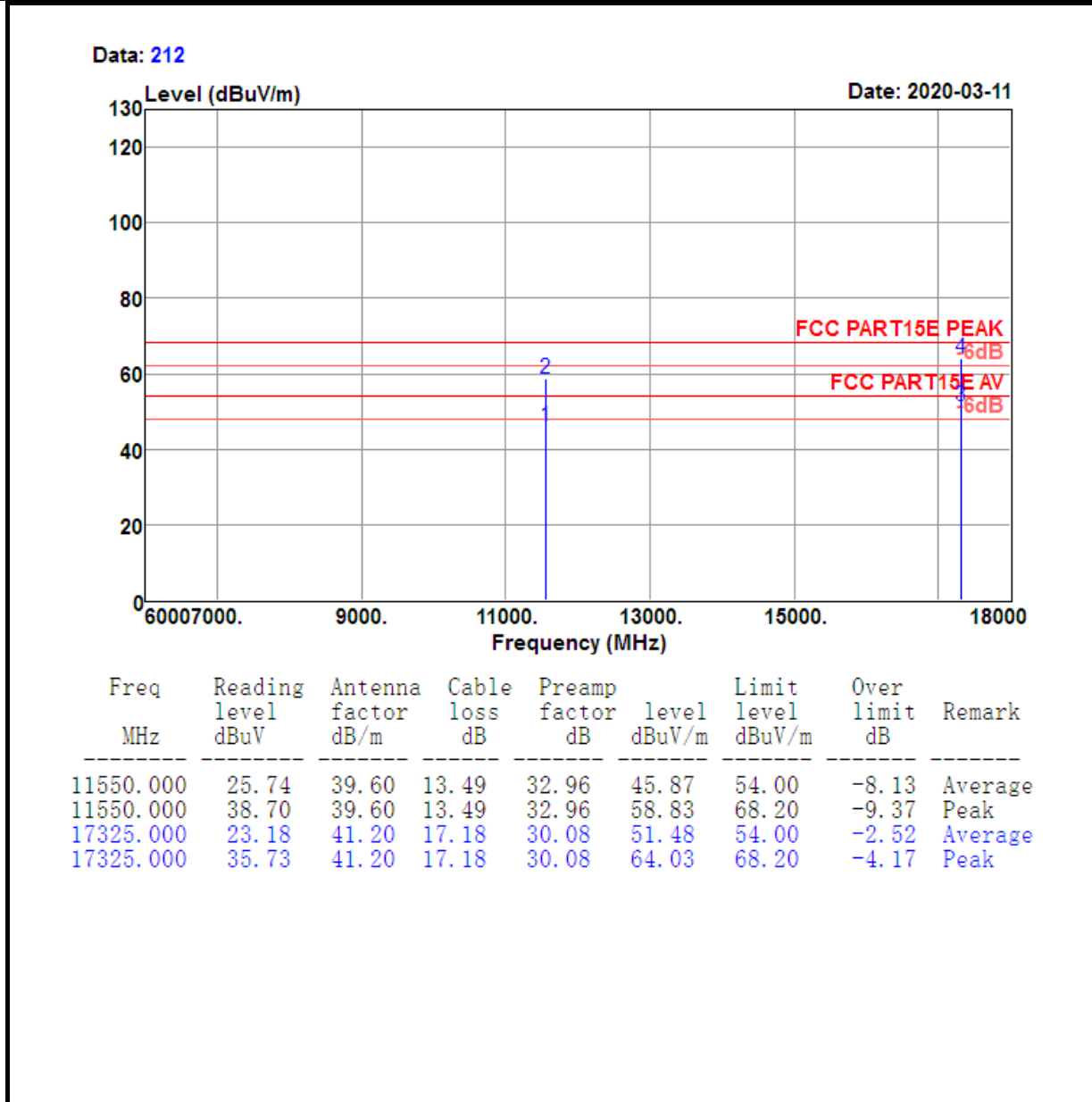


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
5775.000	98.47	32.04	6.08	34.84	101.75	68.20	33.55	Peak

Test Mode :	802.11 ac VHT80 CH155 5775MHz	Temperature :	21~23°C
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	6GHz~18GHz	Polarization :	Vertical

Data: 98



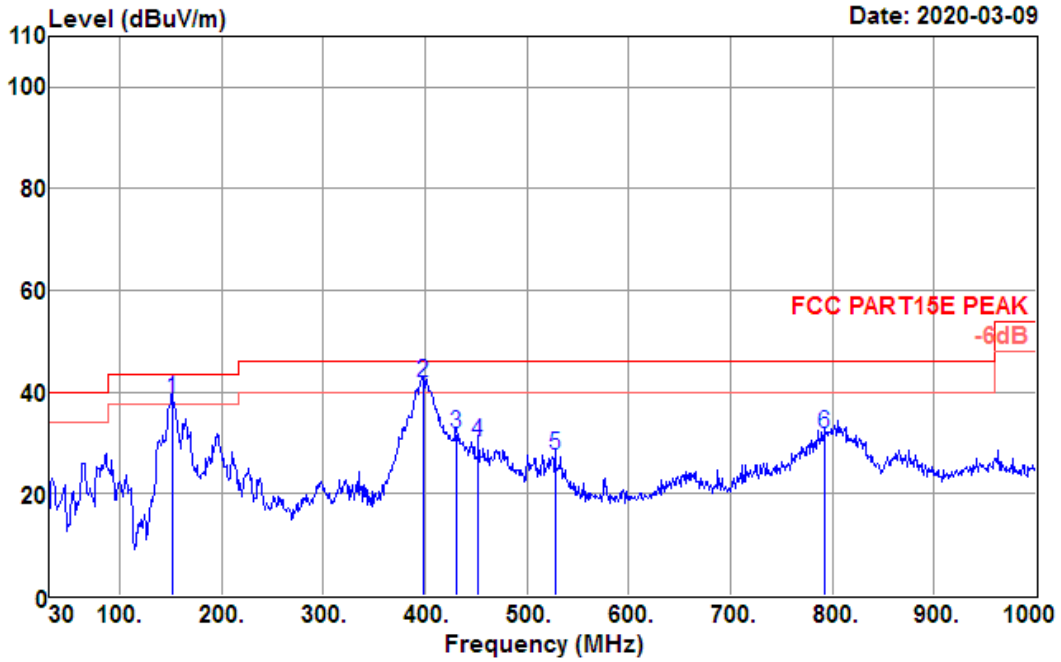


Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

4.4.6 Test Result of Radiated Spurious Emission (30MHz ~ 1GHz)

Test Mode :	Ant 2: 802.11a CH36 5180MHz	Temperature :	21~23°C
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	30MHz~1GHz	Polarization :	Horizontal

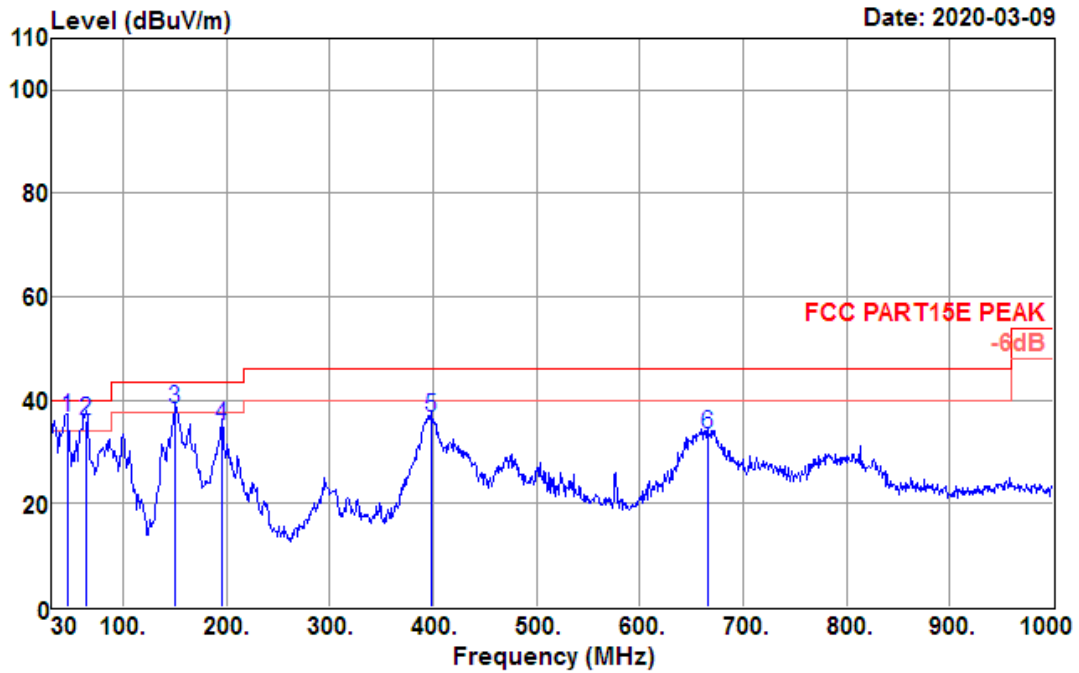
Data: 257



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
151.250	54.18	14.41	2.38	32.48	38.49	43.50	-5.01	QP
397.630	54.62	15.75	3.96	32.55	41.78	46.00	-4.22	QP
430.610	43.50	16.72	4.11	32.57	31.76	46.00	-14.24	QP
451.950	41.13	17.32	4.23	32.59	30.09	46.00	-15.91	QP
527.610	37.16	18.56	4.57	32.65	27.64	46.00	-18.36	QP
792.420	36.08	22.37	5.65	32.34	31.76	46.00	-14.24	QP

Test Mode :	Ant 2: 802.11a CH36 5180MHz	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	30MHz~1GHz	Polarization :	Vertical

Data: 256



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
45.520	55.01	12.70	1.57	32.49	36.79	40.00	-3.21	QP
63.950	56.15	10.73	1.67	32.50	36.05	40.00	-3.95	QP
150.280	54.16	14.48	2.12	32.48	38.28	43.50	-5.22	QP
194.900	54.26	10.86	2.33	32.47	34.98	43.50	-8.52	QP
397.630	50.31	15.75	3.22	32.55	36.73	46.00	-9.27	QP
665.350	41.06	20.85	4.22	32.66	33.47	46.00	-12.53	QP

4.5 AC Conducted Emission Measurement

4.5.1 Limit of AC Conducted Emission

FCC §15.207

IC RSS-GEN 8.8

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

4.5.2 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
 2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
 3. All the support units are connecting to the other LISN.
 4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
 5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
 6. Both sides of AC line were checked for maximum conducted interference.
 7. The frequency range from 150 kHz to 30 MHz was searched.
 8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

4.5.3 Test Result of AC Conducted Emission

N/A

4.6 Frequency Stability Measurement

4.6.1 Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

4.6.2 Test Procedures

1. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
2. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.
3. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

NT: 25°C LT: -30°C HT: 70°C

NV: 24Vdc LV: 9Vdc HV: 36Vdc

4.6.3 Test Result of Frequency Stability

Refer to Appendix D

4.7 Automatically Discontinue Transmission

4.7.1 Limit of Automatically Discontinue Transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

4.7.2 Test Result of Automatically Discontinue Transmission

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

4.8 Antenna Requirements

4.8.1 Standard Applicable

If transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

4.8.2 Antenna Connected Construction

An embedded-in antenna design is used.

4.8.3 Antenna Gain

The antenna peak gain of EUT is 3dBi for each antenna less than 6 dBi. For MIMO transmitting mode , the total peak gain is 6.01dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

No antenna other than that furnished by the responsible party shall be used with the device. This device use a permanently attached antennas. The use of a standard antenna jack or electrical connector is prohibited. This device is compliant with FCC Part 15.203.

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Due Date	Remark
Spectrum Analyzer	Keysight	N9010A	MY56070788	2020-01-15	2021-01-14	Conducted
Power Sensor	Keysight	U2021XA	MY56510025	2020-01-16	2021-01-15	Conducted
Power Sensor	Keysight	U2021XA	MY57030005	2020-01-16	2021-01-15	Conducted
Power Sensor	Keysight	U2021XA	MY56510018	2020-01-16	2021-01-15	Conducted
Power Sensor	Keysight	U2021XA	MY56480002	2020-01-16	2021-01-15	Conducted
Thermal Chamber	Sanmtest	SMC-408-CD	2435	2019-05-09	2020-05-08	Conducted
Base Station	R&S	CMW 270	101231	2020-01-16	2021-01-15	Conducted
Signal Generator (Interferer)	Keysight	N5182B	MY56200384	2019-04-19	2020-04-18	Conducted
Signal Generator (Blocker)	Keysight	N5171B	MY56200661	2020-01-15	2021-01-14	Conducted

Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV 30	103728	2020-01-19	2021-01-18	Radiation
Amplifier	Sonoma	310	363917	2020-01-15	2021-01-14	Radiation
Amplifier	Schwarzbeck	BBV 9718	327	2020-01-15	2021-01-14	Radiation
Amplifier	Narda	TTA1840-35-HG	2034380	2019-05-15	2020-05-14	Radiation
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-051	2017/3/3	2020/3/2	Radiation
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-051	2020/2/14	2023/2/13	Radiation
Broadband Antenna	Schwarzbeck	VULB 9168	9168-757	2018-08-27	2021-08-26	Radiation
Horn Antenna	Schwarzbeck	BBHA 9120 D	1677	2017-03-03	2020-03-02	Radiation
Horn Antenna	Schwarzbeck	BBHA 9120 D	1677	2020/2/14	2023/2/13	Radiation
Horn Antenna	COM-POWER	AH-1840	101117	2018-06-20	2021-06-19	Radiation
Test Software	Audix	E3	6.111221a	N/A	N/A	Radiation
Filter	Micro-Tronics	BRM 50702	G266	N/A	N/A	Radiation

N/A: No Calibration Required

6 Uncertainty of Evaluation

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.60dB
Radiated emissions	30MHz ~ 1GMHz	5.05dB
	1GHz ~ 18GHz	5.06 dB
	18GHz ~ 40GHz	3.65dB

MEASUREMENT	UNCERTAINTY
Occupied Channel Bandwidth	±0.1%
RF output power, conducted	±1.2dB
Power density, conducted	±1.2dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

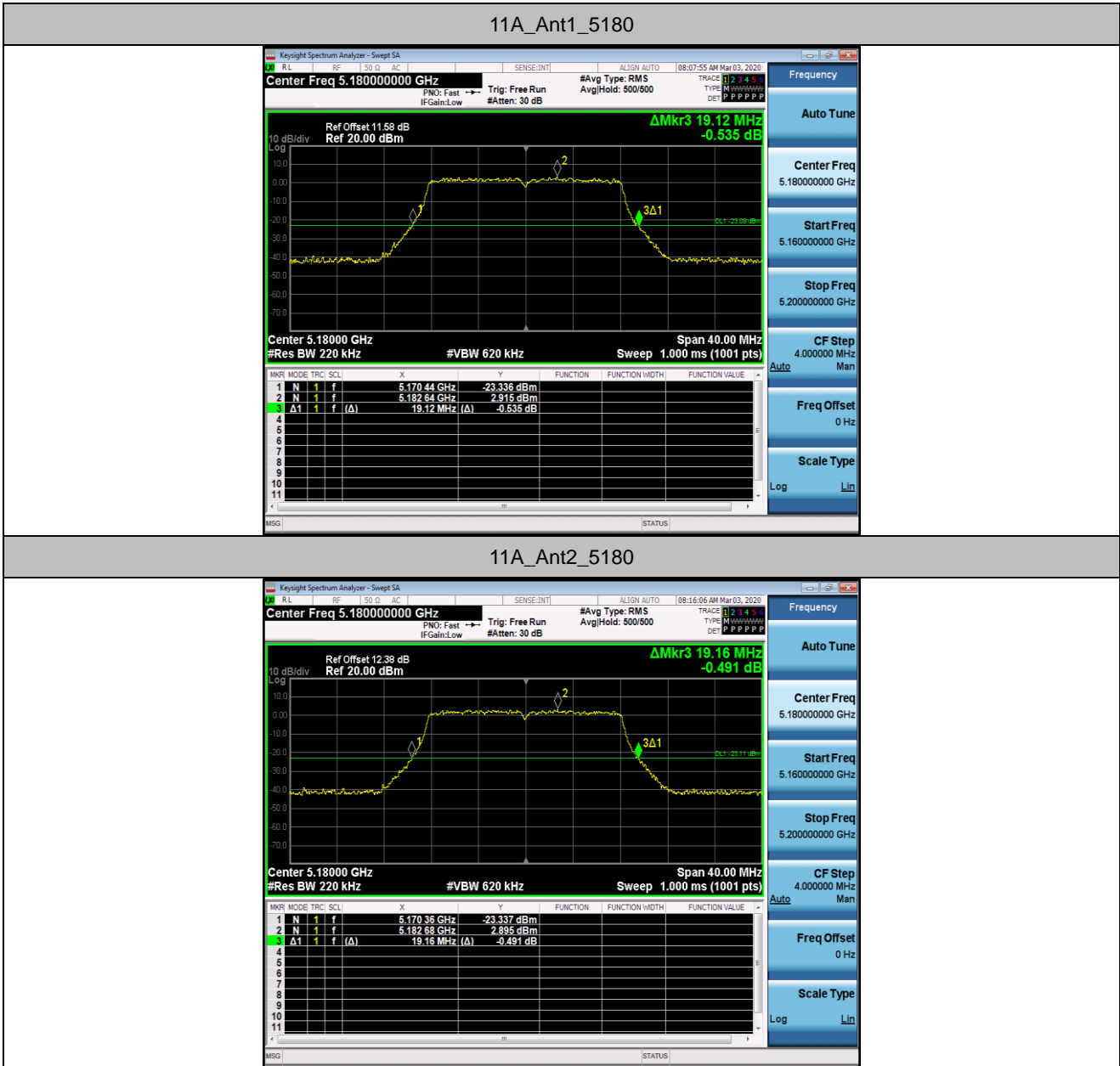
Appendix A1: Emission Bandwidth

Test Result

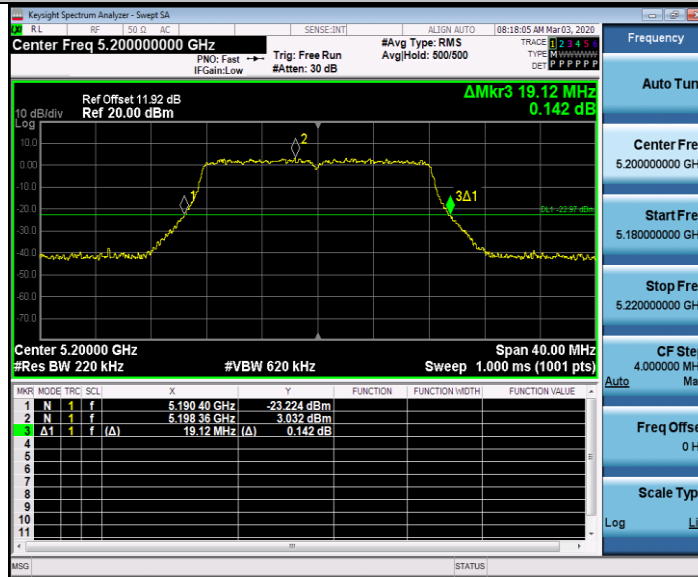
TestMode	Antenna	Channel	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	19.120	5170.440	5189.560	---	PASS
	Ant2	5180	19.160	5170.360	5189.520	---	PASS
	Ant1	5200	19.120	5190.400	5209.520	---	PASS
	Ant2	5200	19.080	5190.440	5209.520	---	PASS
	Ant1	5240	19.160	5230.320	5249.480	---	PASS
	Ant2	5240	19.280	5230.280	5249.560	---	PASS
	Ant1	5745	19.120	5735.440	5754.560	---	PASS
	Ant2	5745	19.080	5735.440	5754.520	---	PASS
	Ant1	5785	19.160	5775.320	5794.480	---	PASS
	Ant2	5785	19.080	5775.480	5794.560	---	PASS
	Ant1	5825	19.160	5815.400	5834.560	---	PASS
	Ant2	5825	19.160	5815.360	5834.520	---	PASS
11N20MIMO	Ant1	5180	20.160	5169.800	5189.960	---	PASS
	Ant2	5180	19.720	5170.040	5189.760	---	PASS
	Ant1	5200	20.120	5189.880	5210.000	---	PASS
	Ant2	5200	19.640	5190.040	5209.680	---	PASS
	Ant1	5240	20.040	5229.920	5249.960	---	PASS
	Ant2	5240	19.760	5230.040	5249.800	---	PASS
	Ant1	5745	20.080	5734.880	5754.960	---	PASS
	Ant2	5745	19.920	5734.960	5754.880	---	PASS
	Ant1	5785	20.120	5774.920	5795.040	---	PASS
	Ant2	5785	20.120	5774.840	5794.960	---	PASS
	Ant1	5825	20.200	5814.840	5835.040	---	PASS
	Ant2	5825	19.880	5814.880	5834.760	---	PASS
11N40MIMO	Ant1	5190	39.120	5170.400	5209.520	---	PASS
	Ant2	5190	39.120	5170.240	5209.360	---	PASS
	Ant1	5230	39.120	5210.400	5249.520	---	PASS
	Ant2	5230	39.200	5210.320	5249.520	---	PASS
	Ant1	5755	39.120	5735.560	5774.680	---	PASS
	Ant2	5755	39.120	5735.480	5774.600	---	PASS
	Ant1	5795	38.960	5775.560	5814.520	---	PASS

	Ant2	5795	39.280	5775.400	5814.680	---	PASS
11AC20MIMO	Ant1	5180	20.120	5169.880	5190.000	---	PASS
	Ant2	5180	20.080	5169.840	5189.920	---	PASS
	Ant1	5200	20.320	5189.760	5210.080	---	PASS
	Ant2	5200	20.080	5189.840	5209.920	---	PASS
	Ant1	5240	20.200	5229.800	5250.000	---	PASS
	Ant2	5240	20.000	5229.840	5249.840	---	PASS
	Ant1	5745	20.280	5734.840	5755.120	---	PASS
	Ant2	5745	20.080	5734.880	5754.960	---	PASS
	Ant1	5785	20.200	5774.840	5795.040	---	PASS
	Ant2	5785	20.160	5774.840	5795.000	---	PASS
	Ant1	5825	20.240	5814.880	5835.120	---	PASS
	Ant2	5825	20.080	5814.800	5834.880	---	PASS
	11AC40MIMO	Ant1	5190	39.120	5170.400	5209.520	---
Ant2		5190	38.960	5170.400	5209.360	---	PASS
Ant1		5230	38.880	5210.560	5249.440	---	PASS
Ant2		5230	39.120	5210.320	5249.440	---	PASS
Ant1		5755	39.040	5735.560	5774.600	---	PASS
Ant2		5755	39.120	5735.400	5774.520	---	PASS
Ant1		5795	39.360	5775.160	5814.520	---	PASS
Ant2		5795	38.800	5775.560	5814.360	---	PASS
11AC80MIMO	Ant1	5210	82.880	5168.240	5251.120	---	PASS
	Ant2	5210	82.880	5168.240	5251.120	---	PASS
	Ant1	5775	82.560	5733.880	5816.440	---	PASS
	Ant2	5775	82.400	5733.560	5815.960	---	PASS

Test Graphs


11A_Ant2_5180

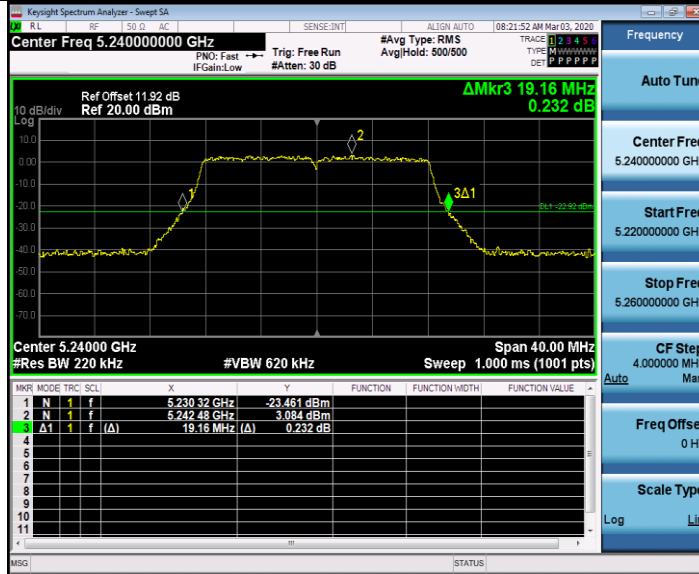
11A_Ant1_5200



11A_Ant2_5200



11A_Ant1_5240



11A_Ant2_5240

