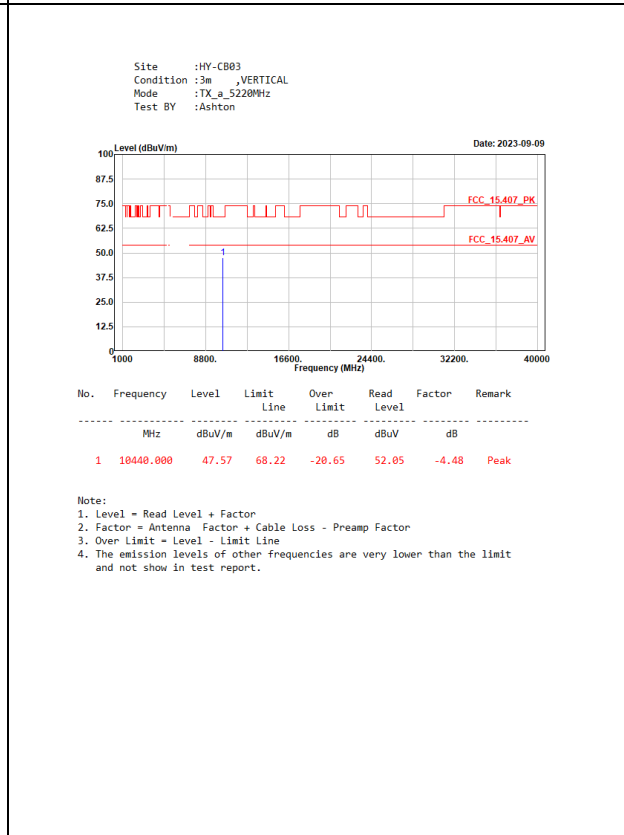
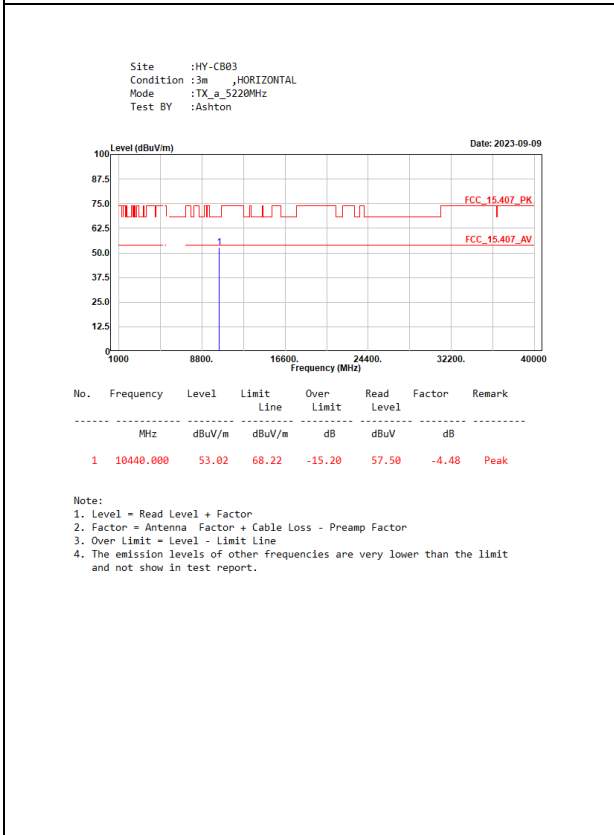
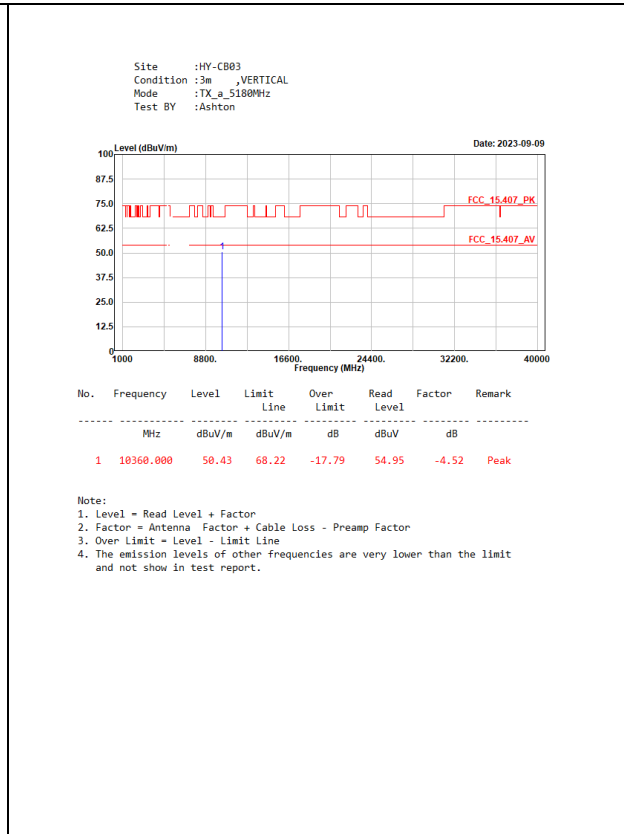
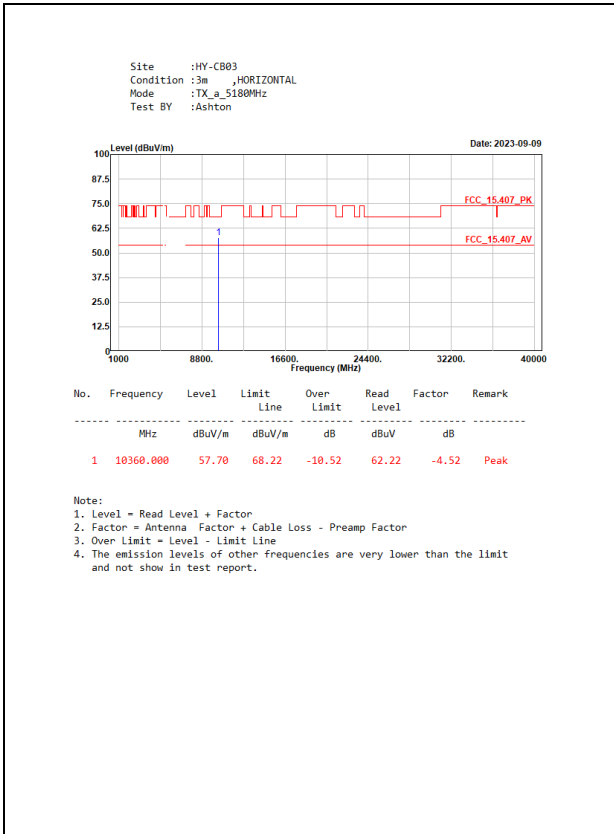
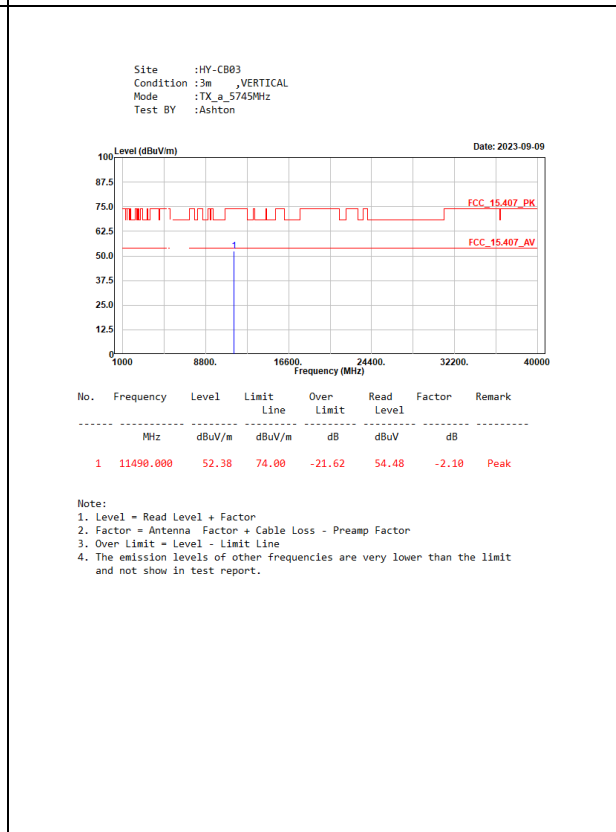
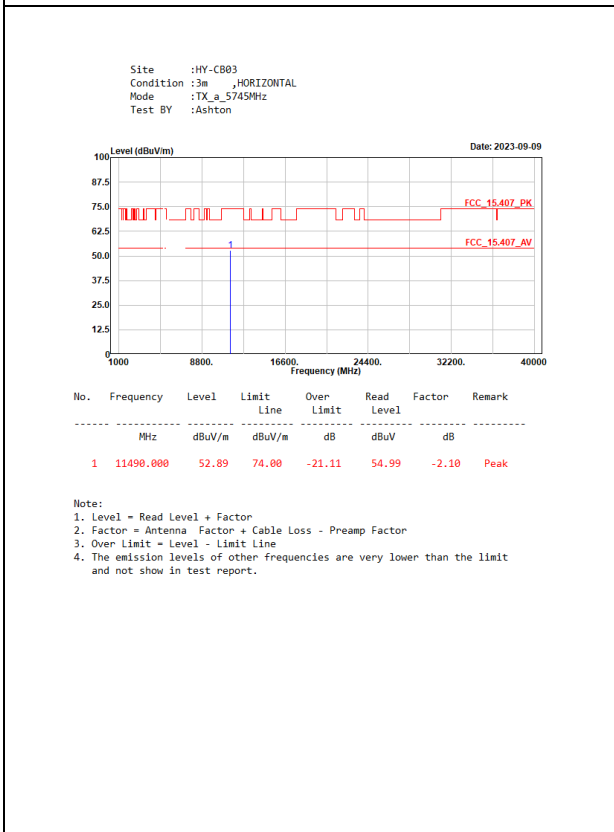
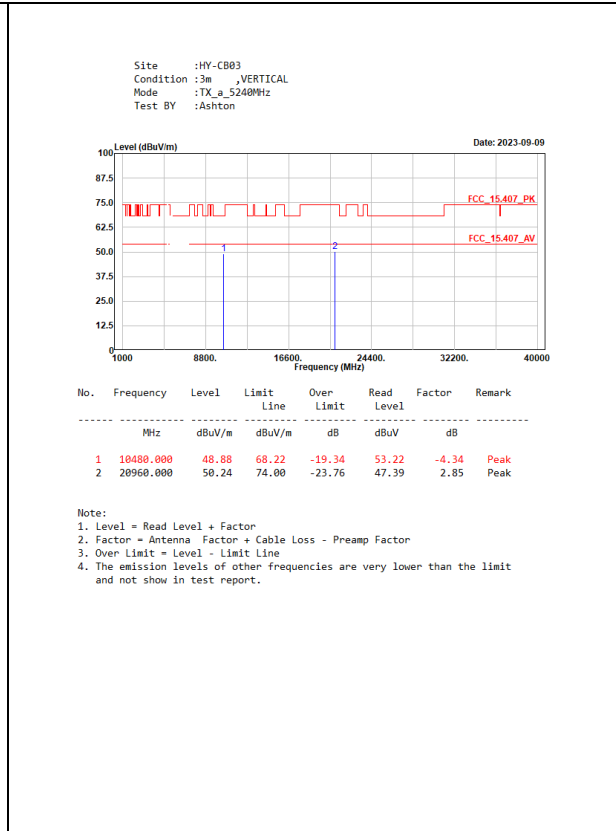
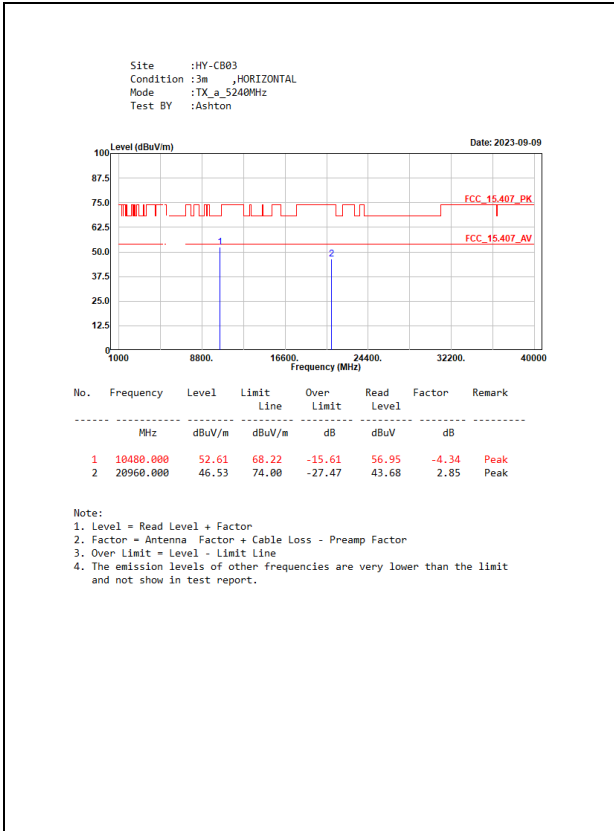
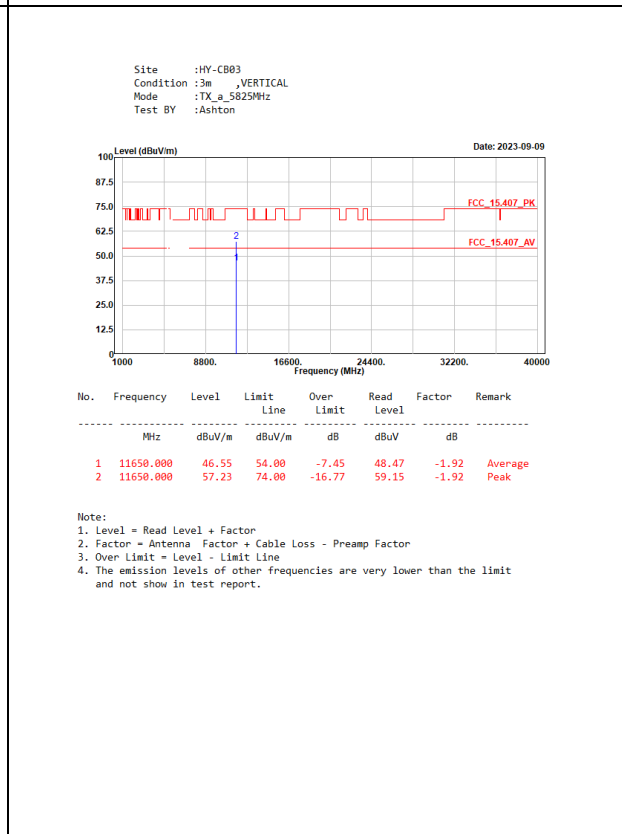
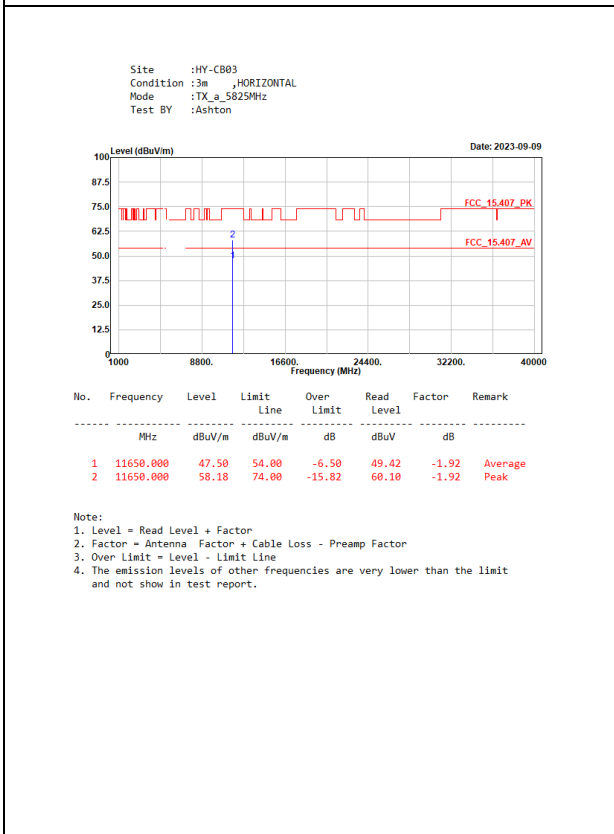
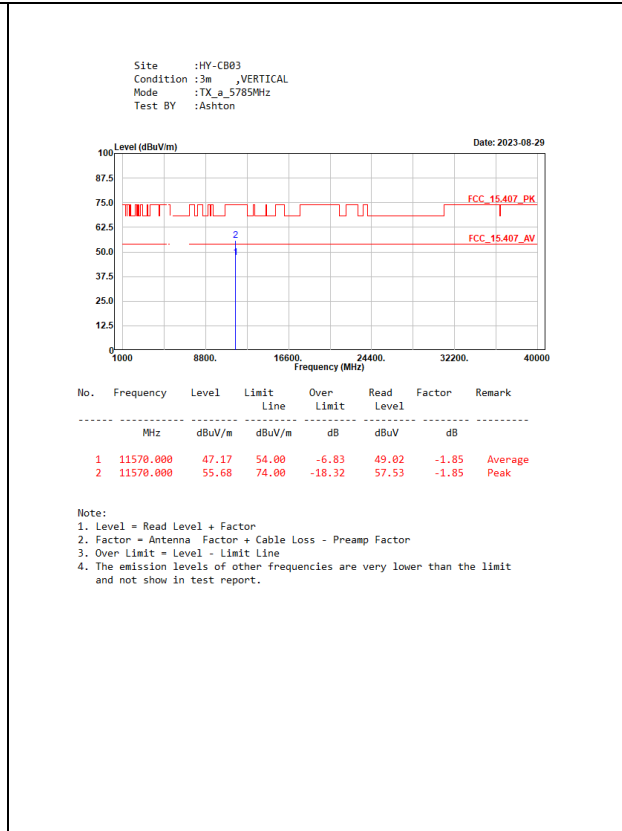
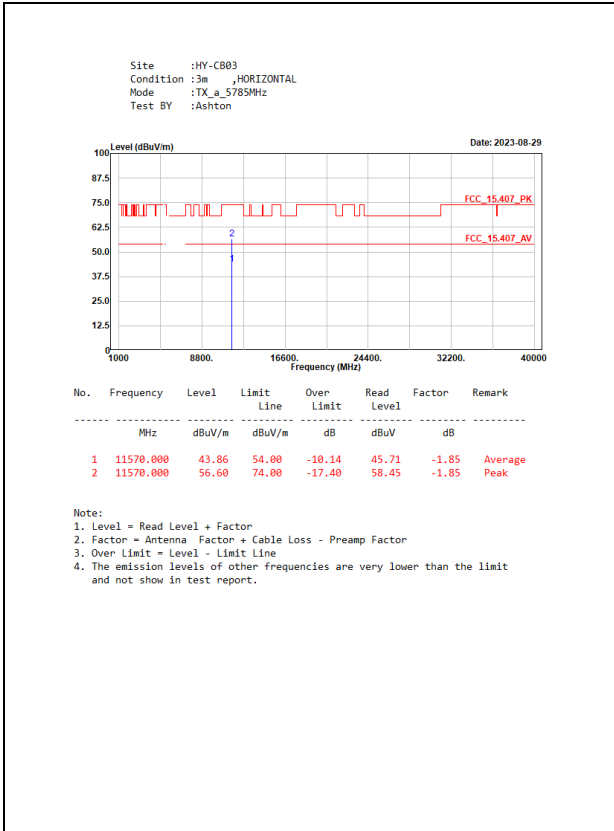
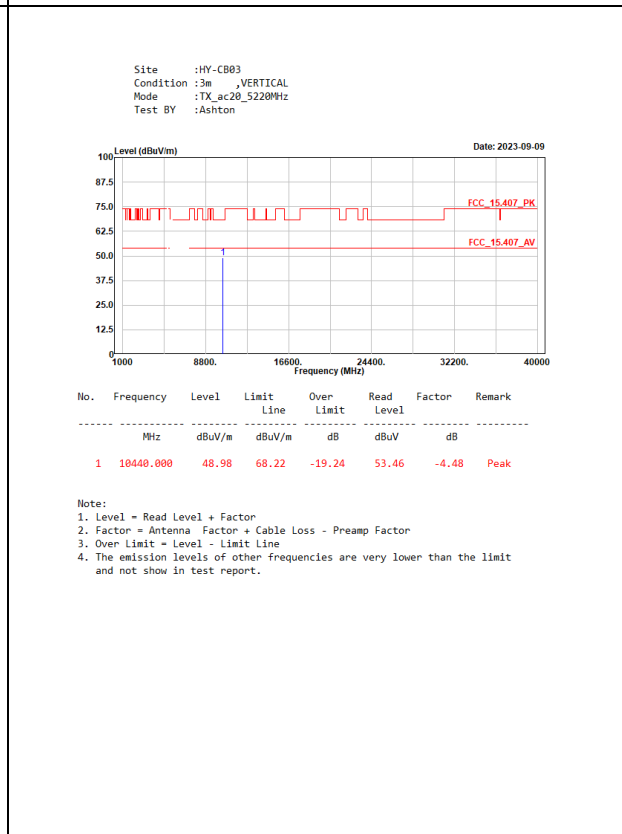
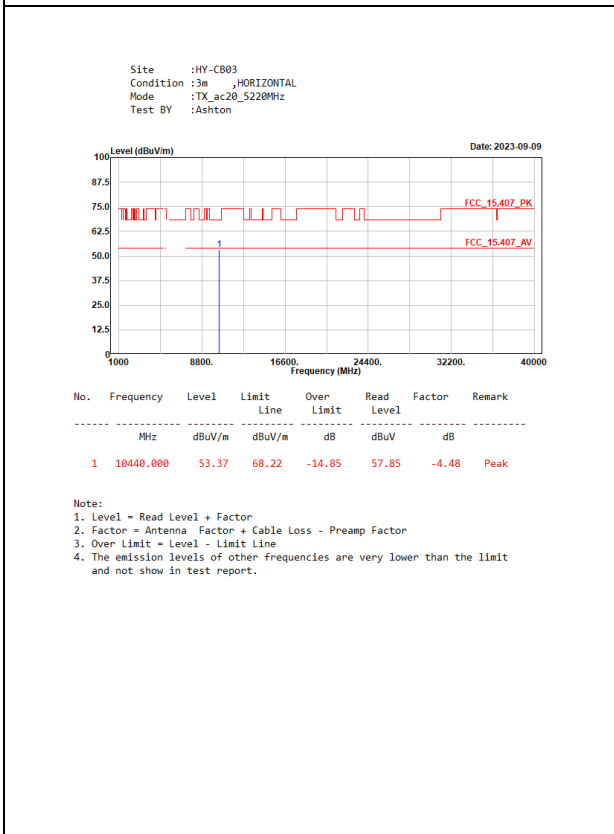
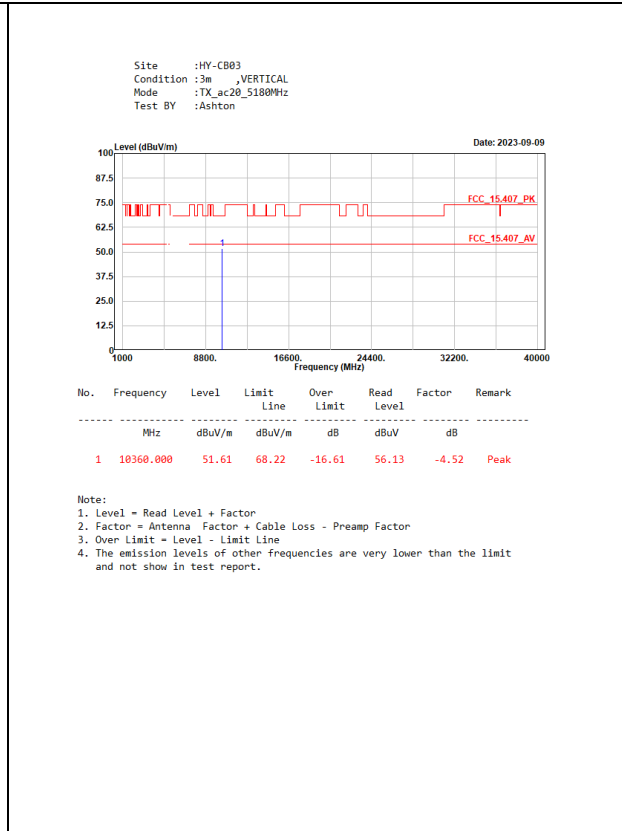
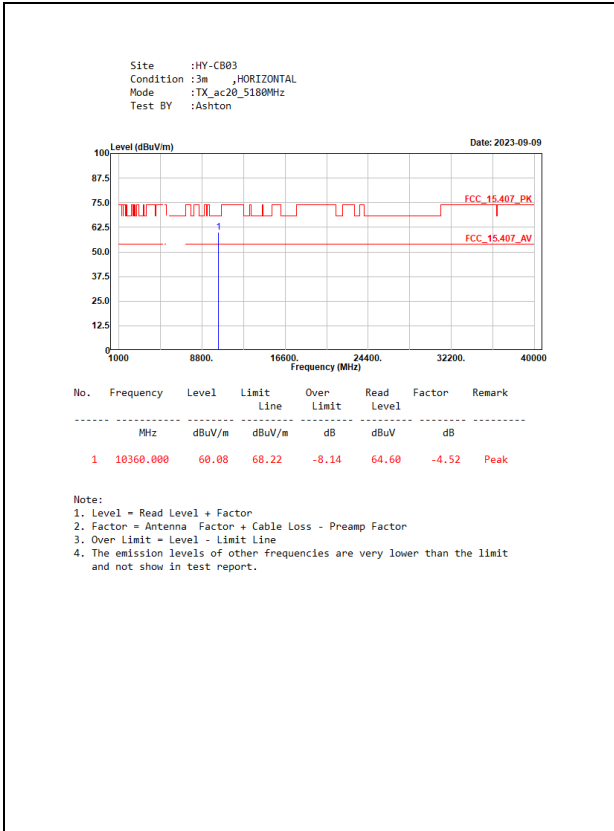


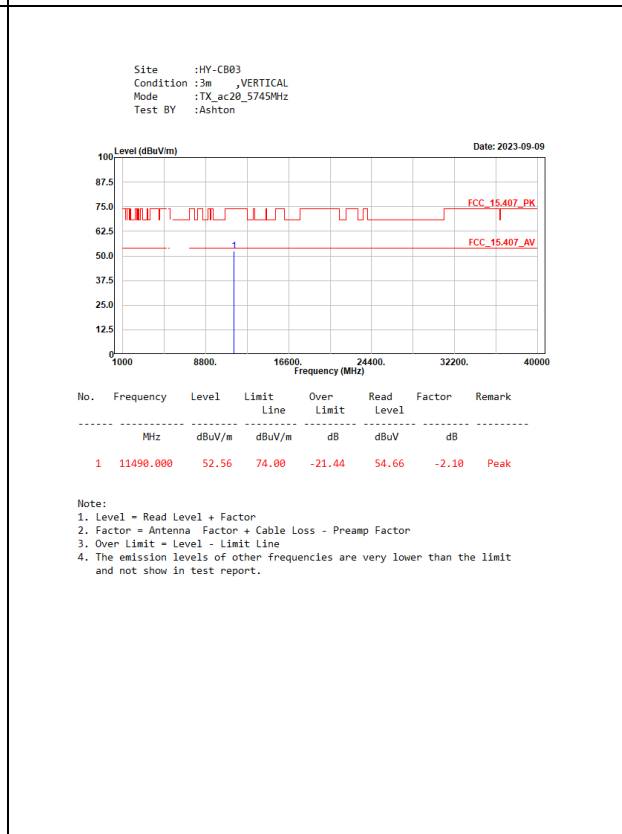
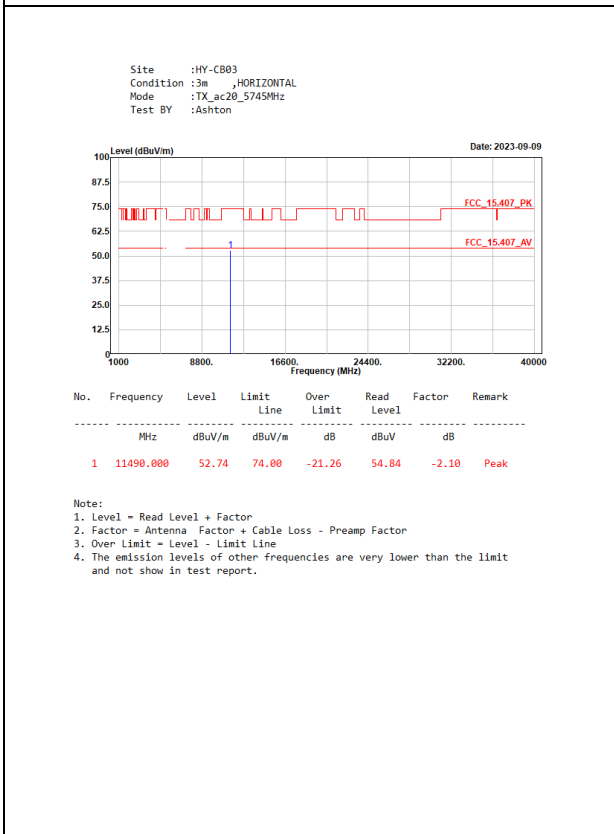
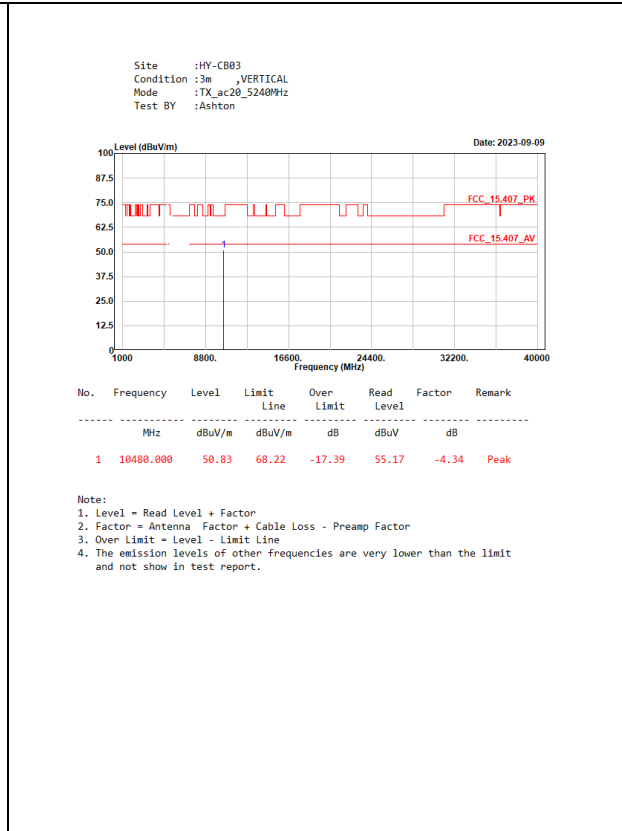
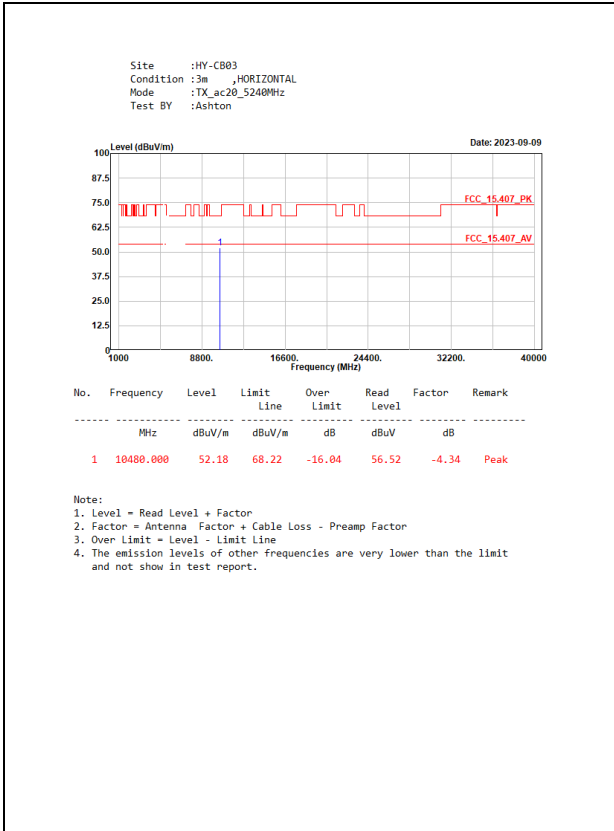
Radio-3

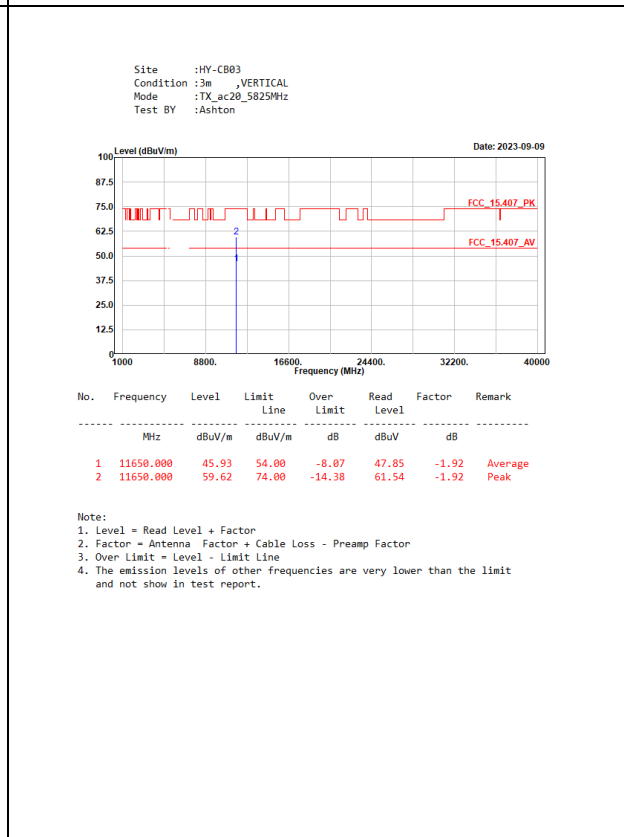
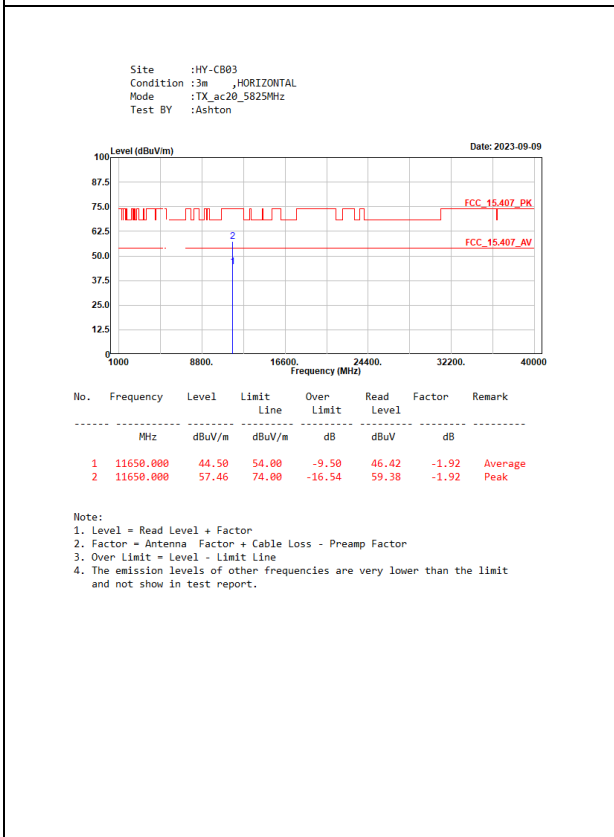
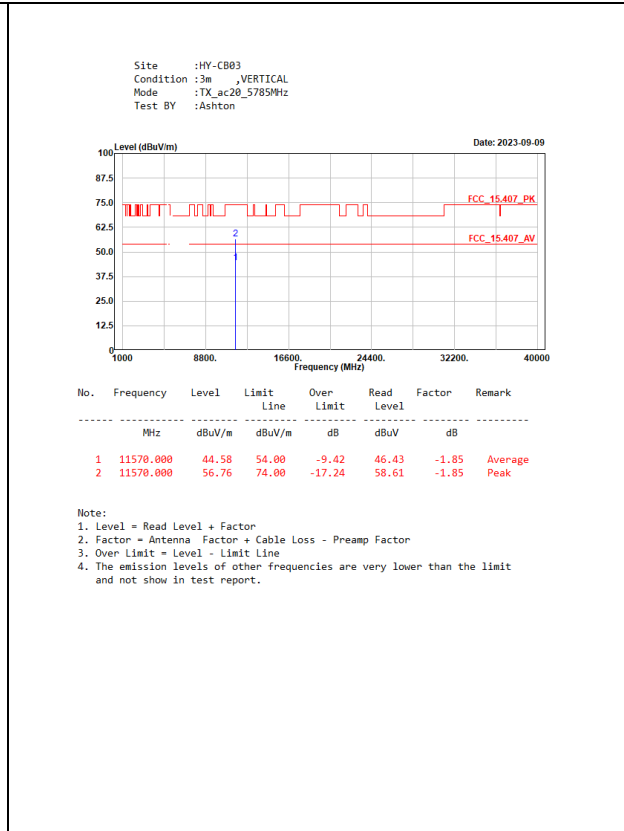
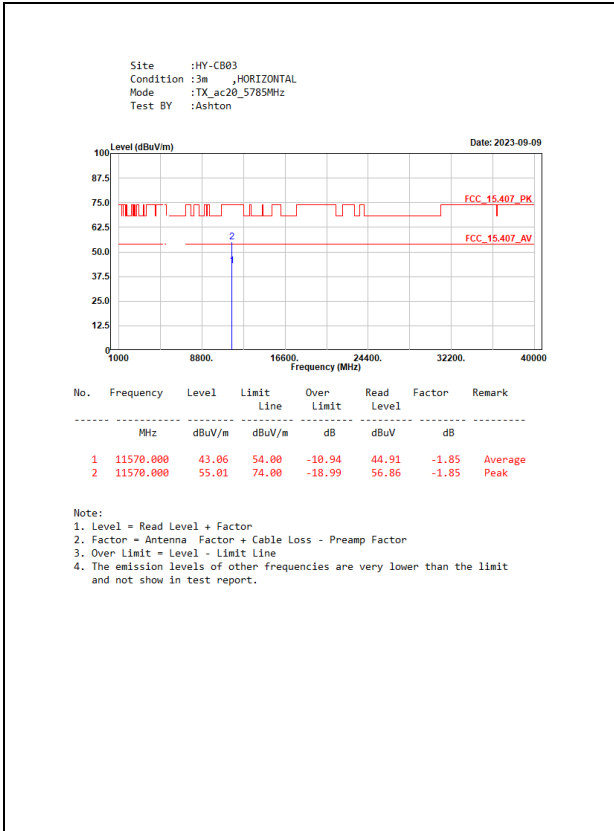


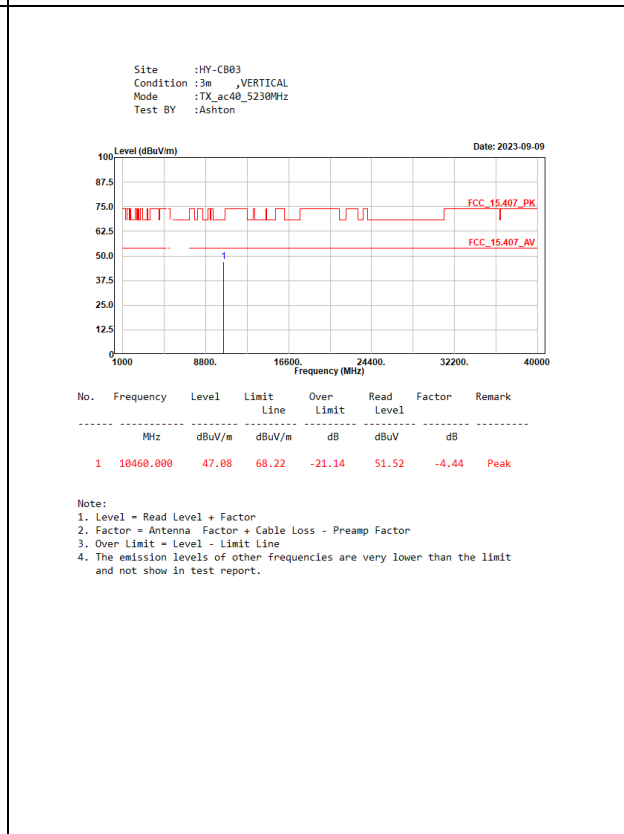
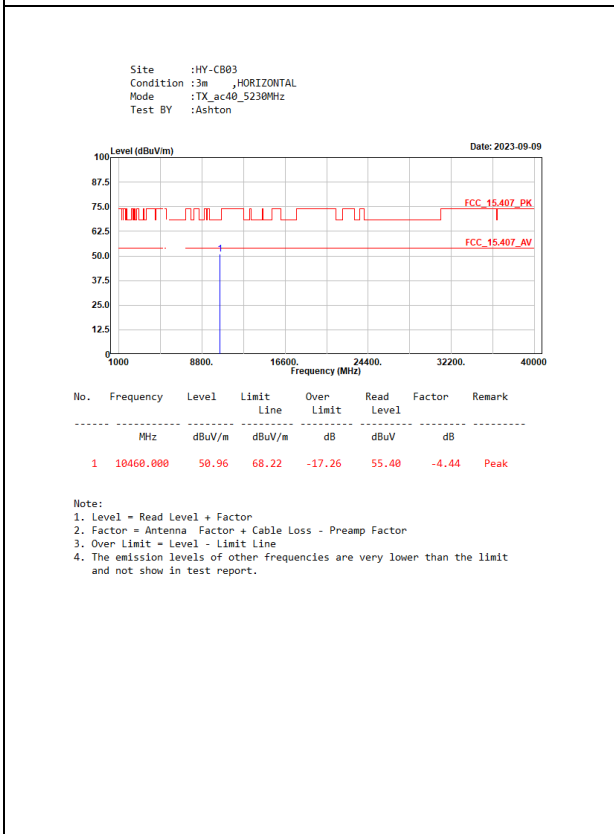
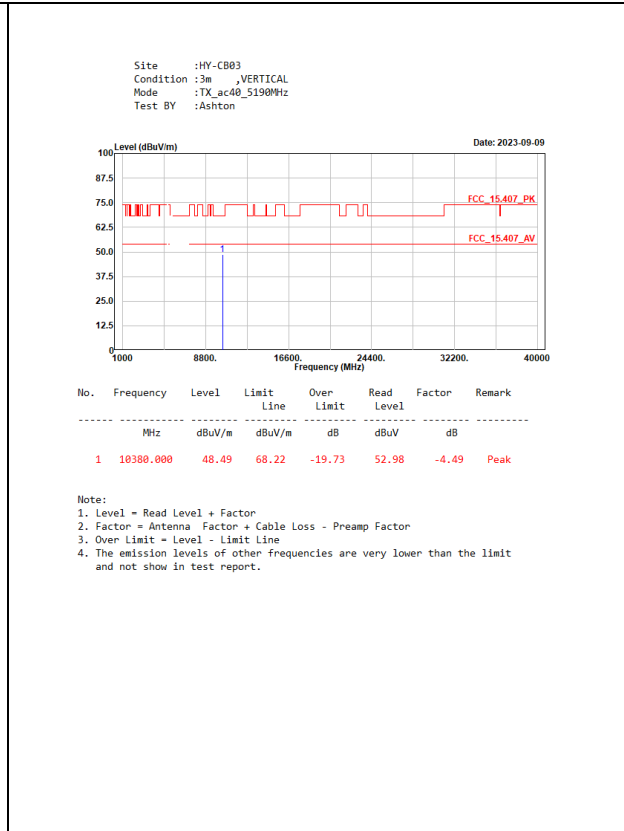
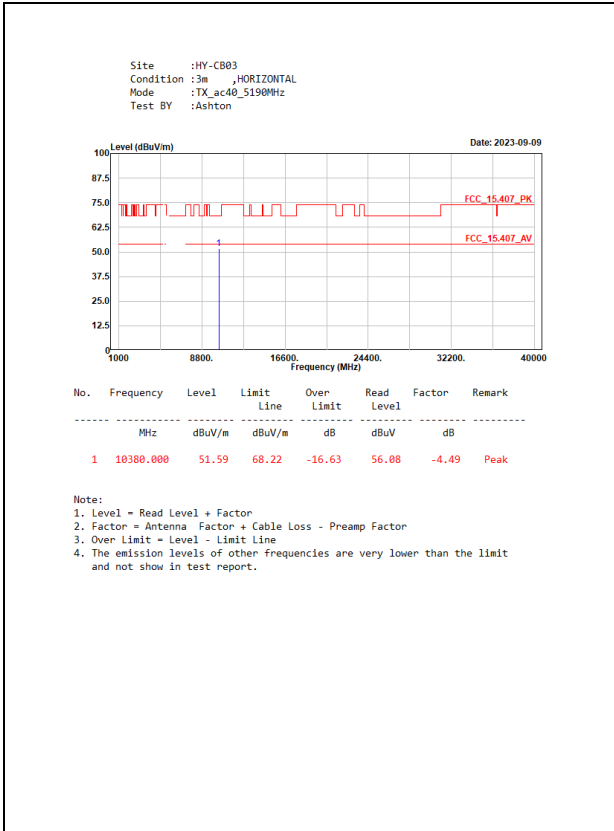


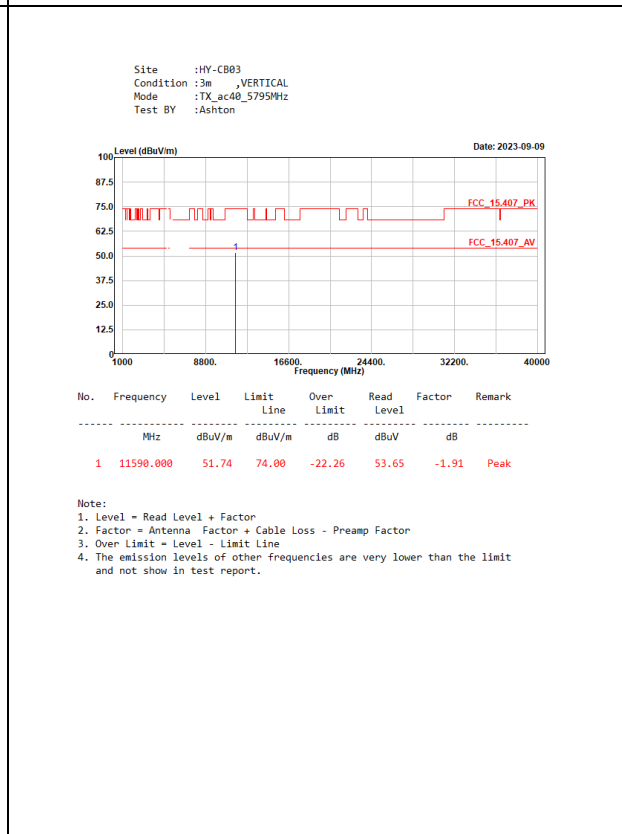
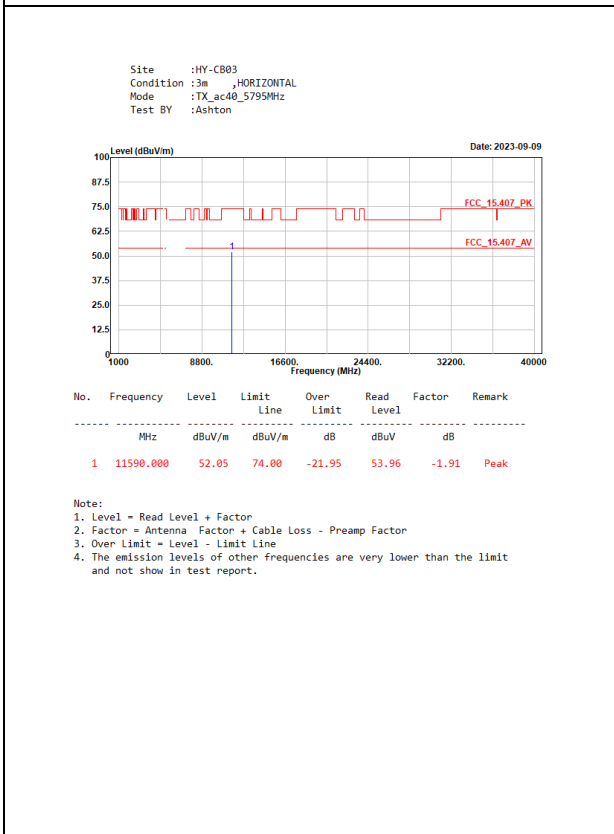
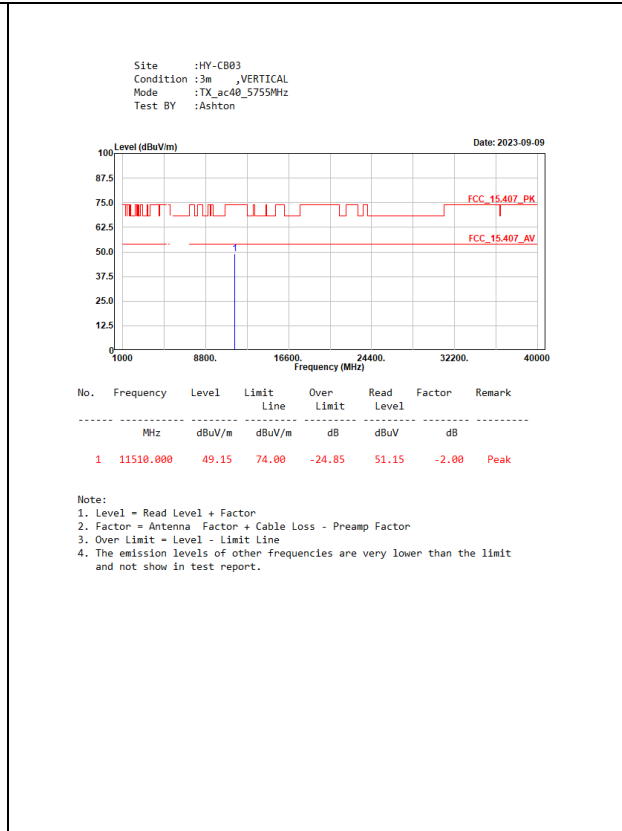
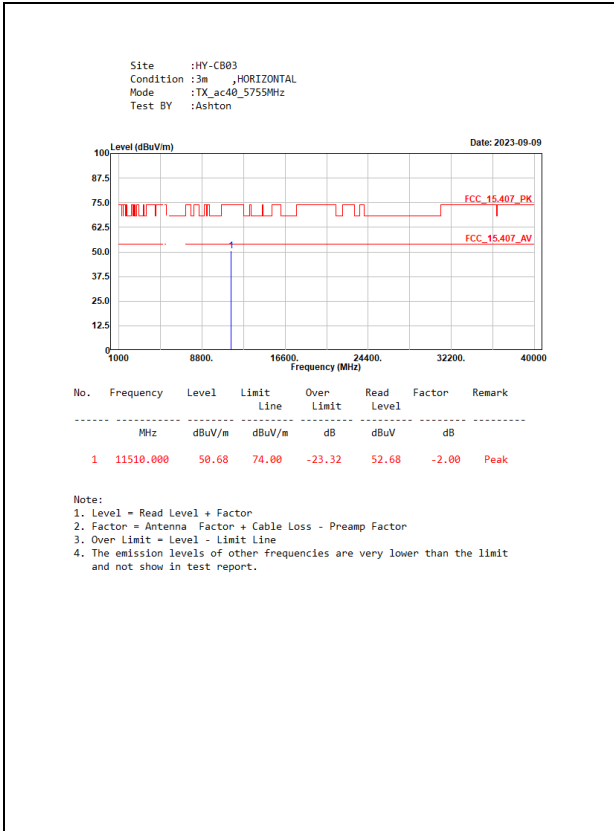




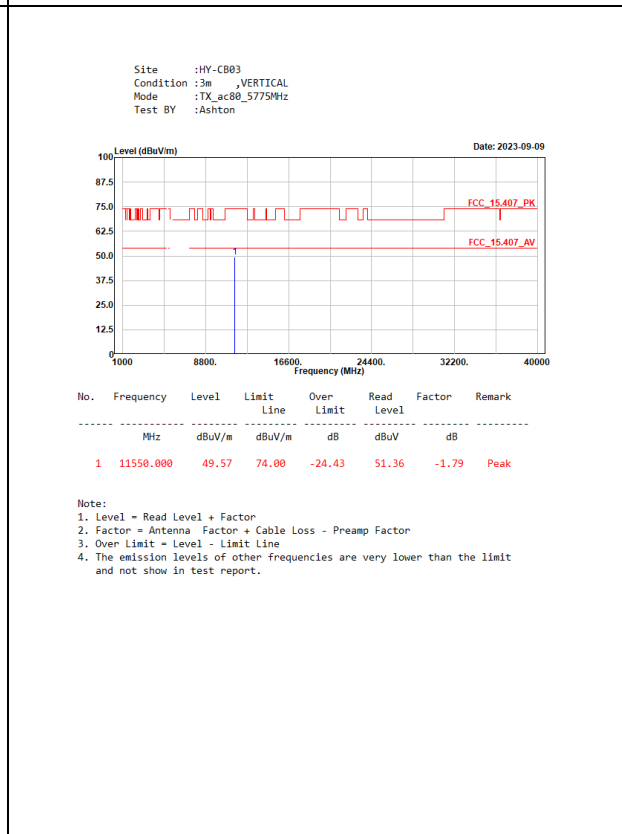
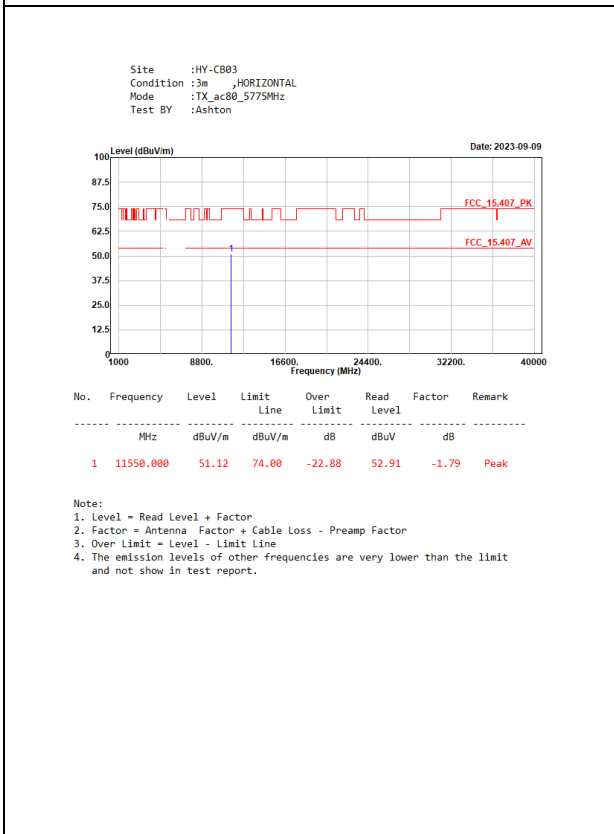
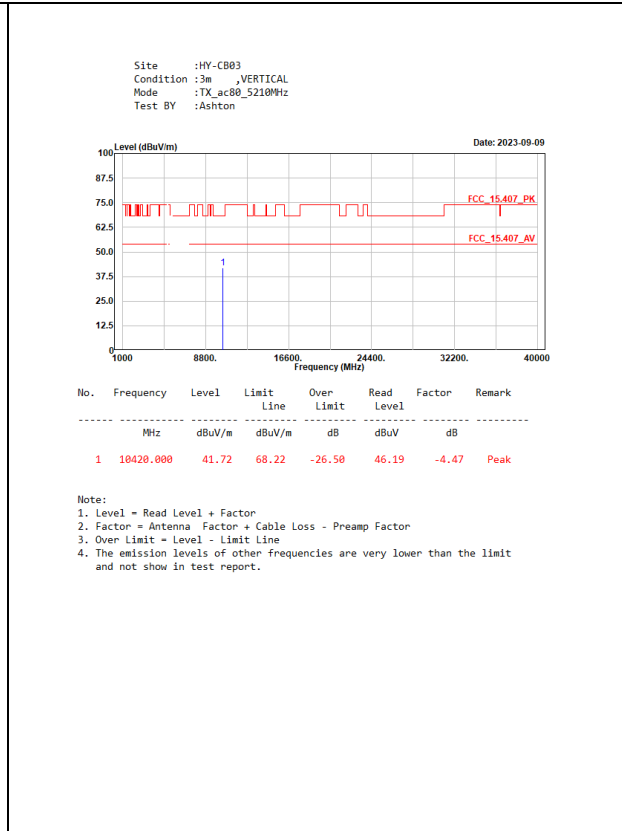
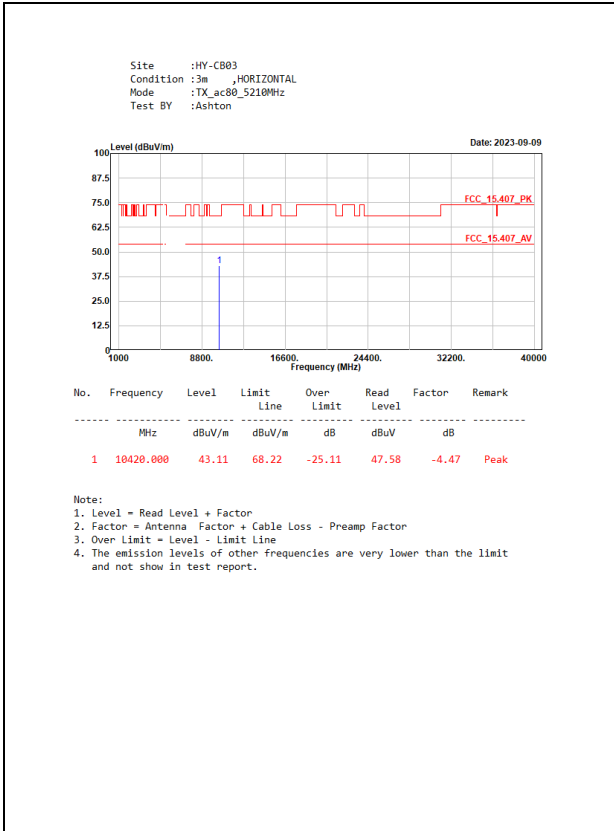


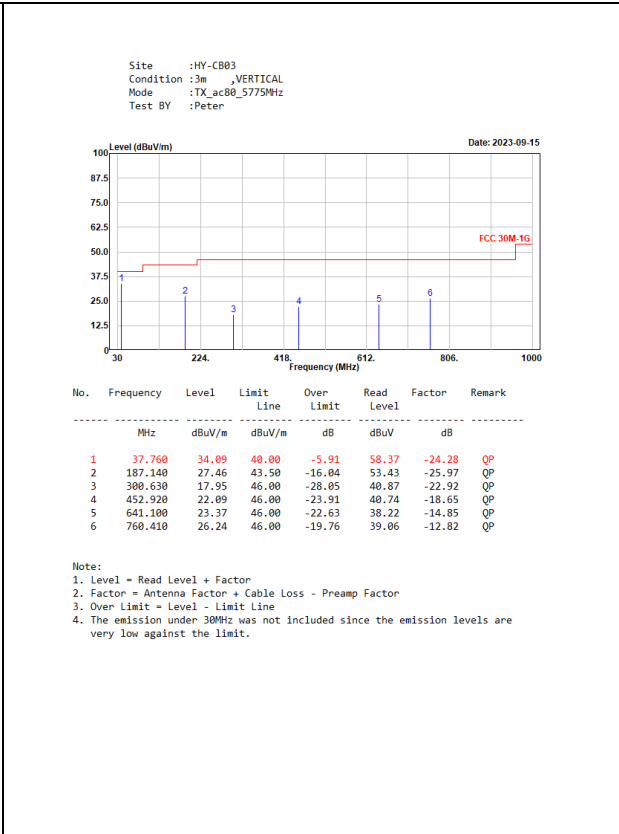
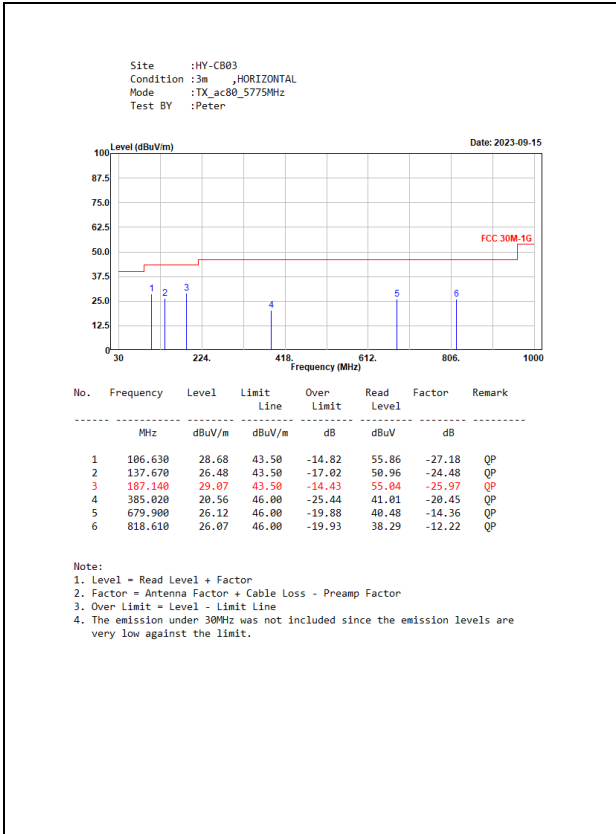








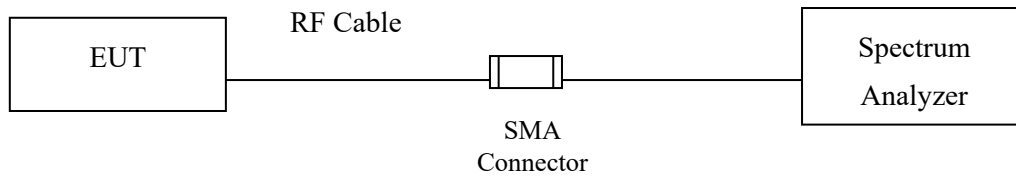




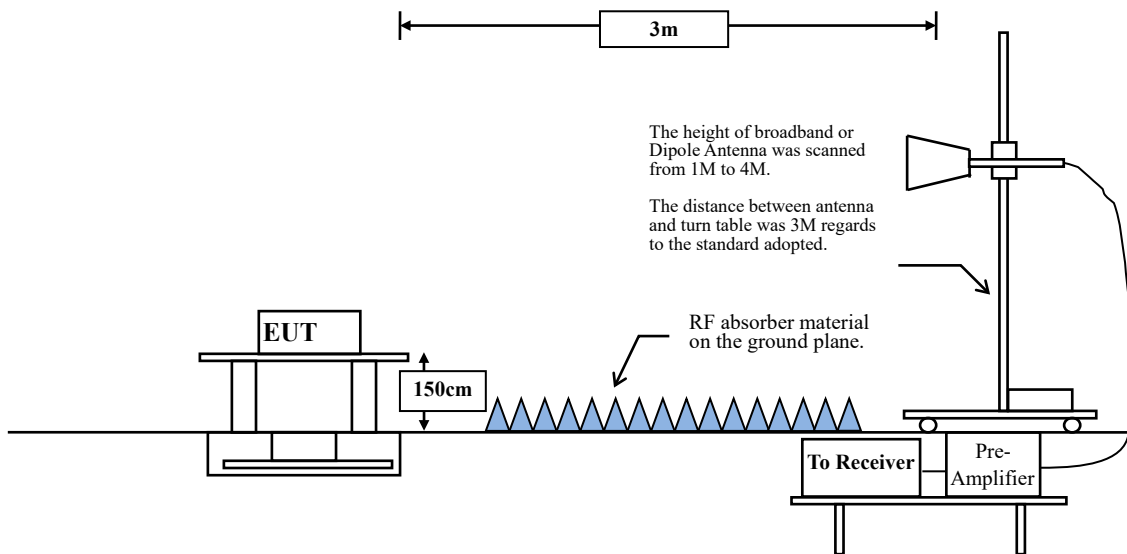
## 6. Band Edge

### 6.1. Test Setup

RF Conducted Measurement:



RF Radiated Measurement:



## 6.2. Limits

The provisions of Section 15.205 of this part apply to intentional radiators operating under this section. Radiated emissions which fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209:

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	$\mu\text{V/m @3m}$	$\text{dB}\mu\text{V/m@3m}$
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

- Remarks :
1. RF Voltage ( $\text{dB}\mu\text{V}$ ) =  $20 \log \text{RF Voltage } (\mu\text{V})$
  2. In the Above Table, the tighter limit applies at the band edges.
  3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
- For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of  $-27 \text{ dBm/MHz}$ .
  - For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of  $-27 \text{ dBm/MHz}$ .
  - For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of  $-27 \text{ dBm/MHz}$ .
  - For transmitters operating in the 5.725-5.85 GHz band:  
All emissions shall be limited to a level of  $-27 \text{ dBm/MHz}$  at 75 MHz or more above or below the band edge increasing linearly to  $10 \text{ dBm/MHz}$  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  $15.6 \text{ dBm/MHz}$  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  $27 \text{ dBm/MHz}$  at the band edge.
  - For transmitters operating within the 5.925-7.125 GHz band: Any emissions outside of the 5.925-7.125 GHz band must not exceed an e.i.r.p. of  $-27 \text{ dBm/MHz}$ .

Based on ANSI C63.10-2013 Section 12.7.3 d) provides the conversion formula between field strength and EIRP, if distance is 3m,  $-27\text{dBm}$  is equivalent to  $68.22\text{dBuV/m}$ .

### 6.3. Test Procedure

The EUT is placed on a turn table which is 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10:2013 on radiated measurement.

The bandwidth below 1 GHz setting on the field strength meter is 120 kHz, above 1 GHz are 1 MHz. The EUT was setup to ANSI C63.10, 2013; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

#### **RBW and VBW Parameter setting:**

According to KDB 789033 section II.G.5 Procedure for Unwanted Maximum Emissions Measurements above 1000 MHz.

RBW = 1 MHz.

VBW  $\geq$  3 MHz.

According to KDB 789033 section II.G.6 Procedures for Average Unwanted Emissions Measurements above 1000 MHz.

RBW = 1 MHz.

VBW = 10 Hz, when duty cycle  $\geq$  98 %

VBW  $\geq$  1/T, when duty cycle < 98 %

(T refers to 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.)

#### Radio-2

5 GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11a	91.43	1.4400	694	1000
802.11ax-20 MHz	95.04	5.4600	183	200
802.11ax-40 MHz	95.54	5.4600	183	200
802.11ax-80 MHz	93.79	5.4400	184	200

Note: Duty Cycle Refer to Section 8.

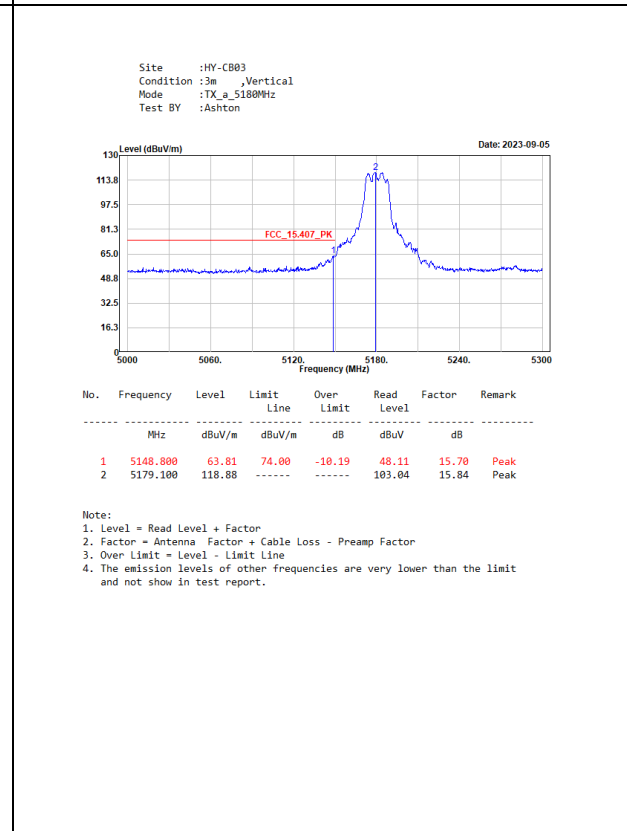
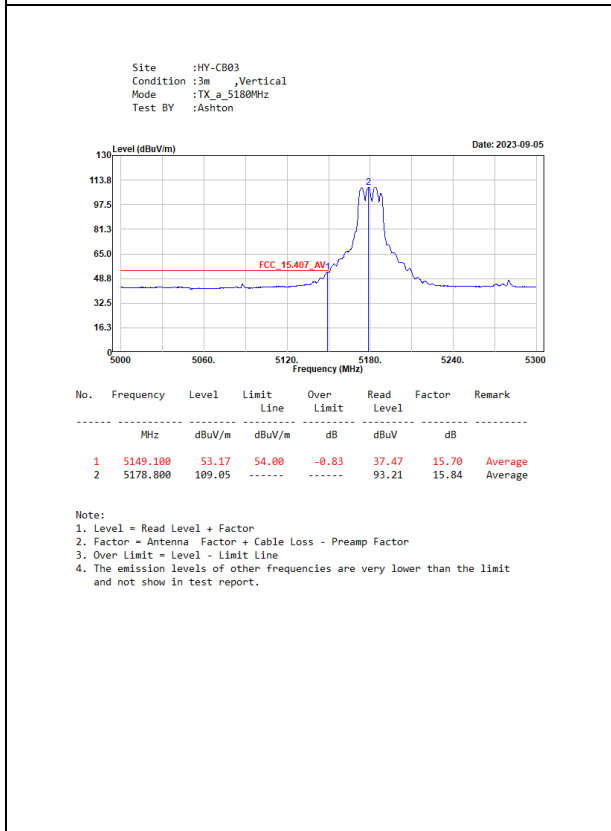
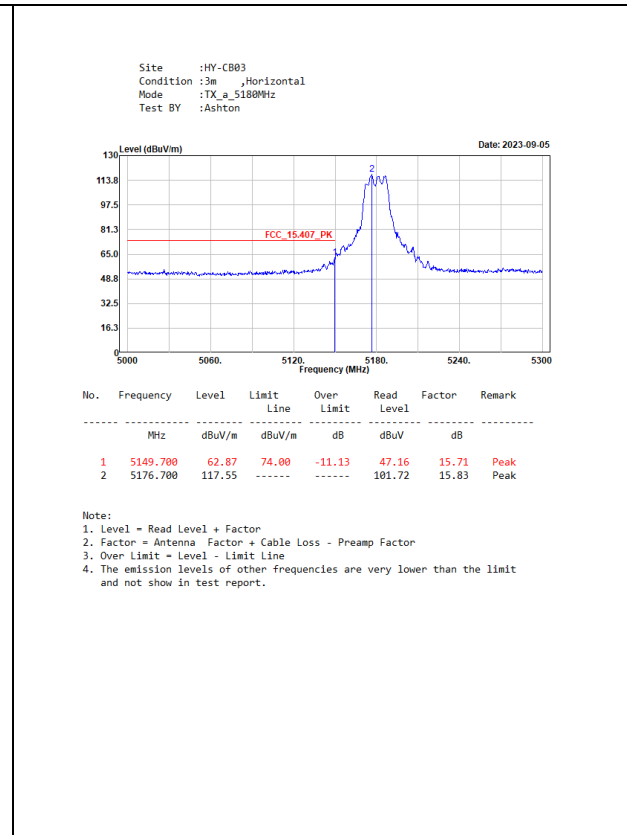
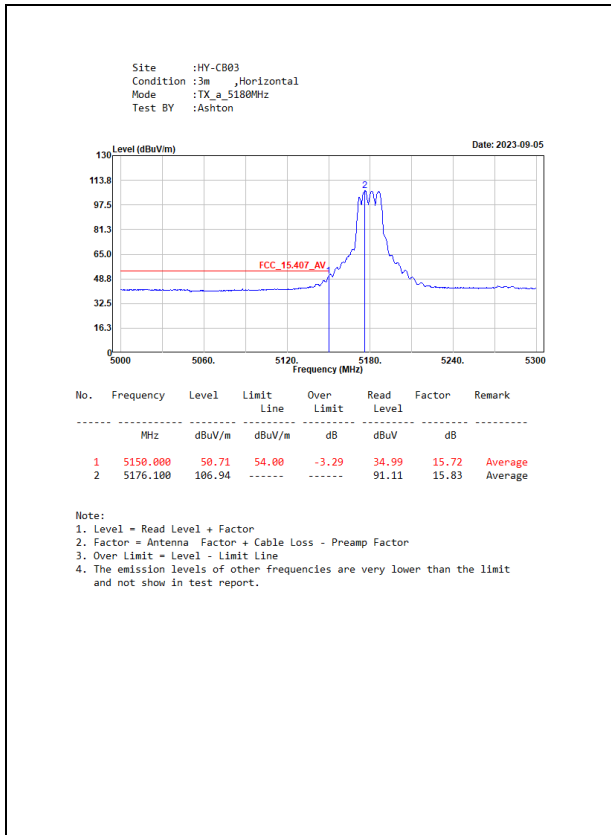
#### Radio-3

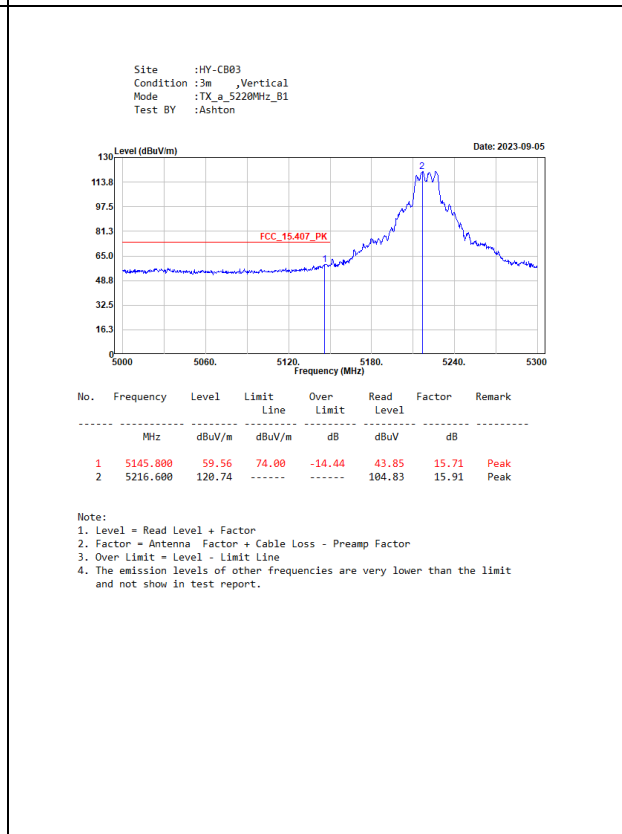
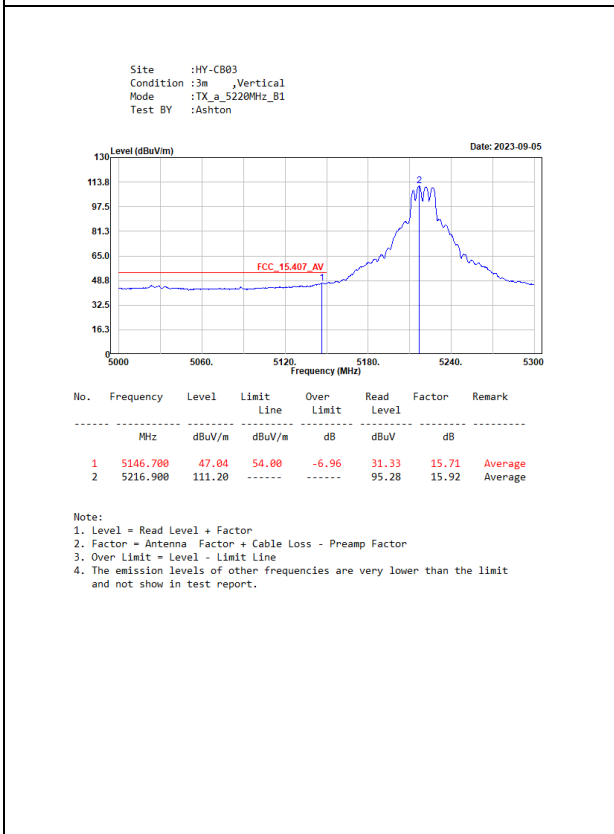
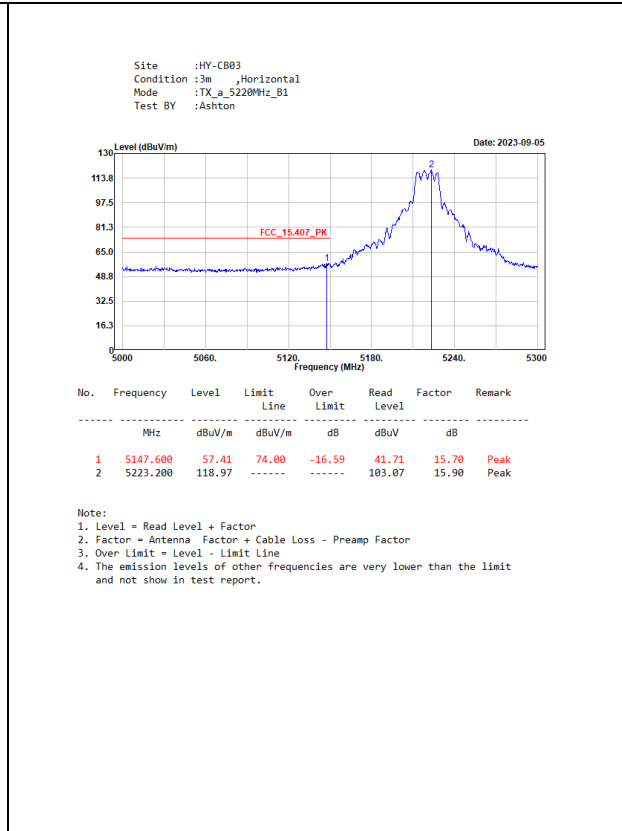
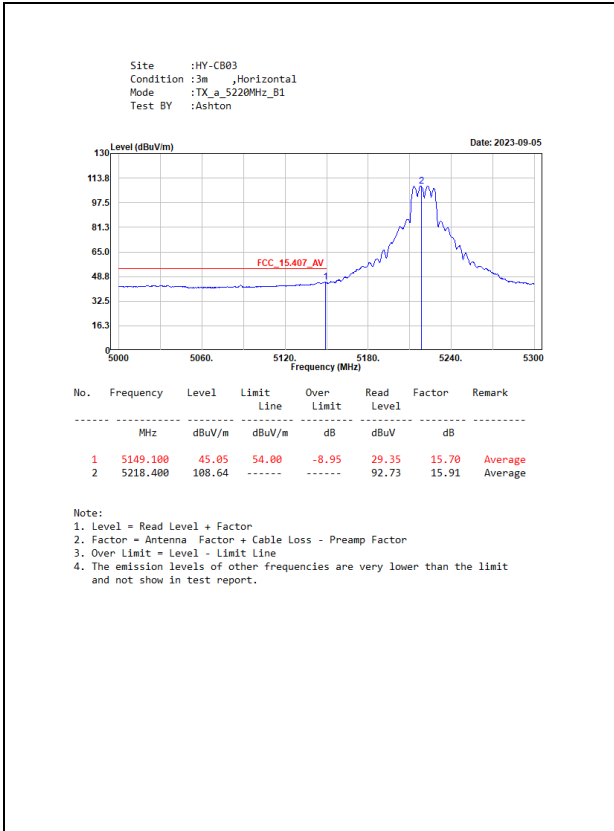
5 GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11a	96.44	4.0600	246	300
802.11ac-20 MHz	96.19	3.7900	264	300
802.11ac-40 MHz	92.35	1.8700	535	1000
802.11ac-80 MHz	84.92	0.9120	1096	2000

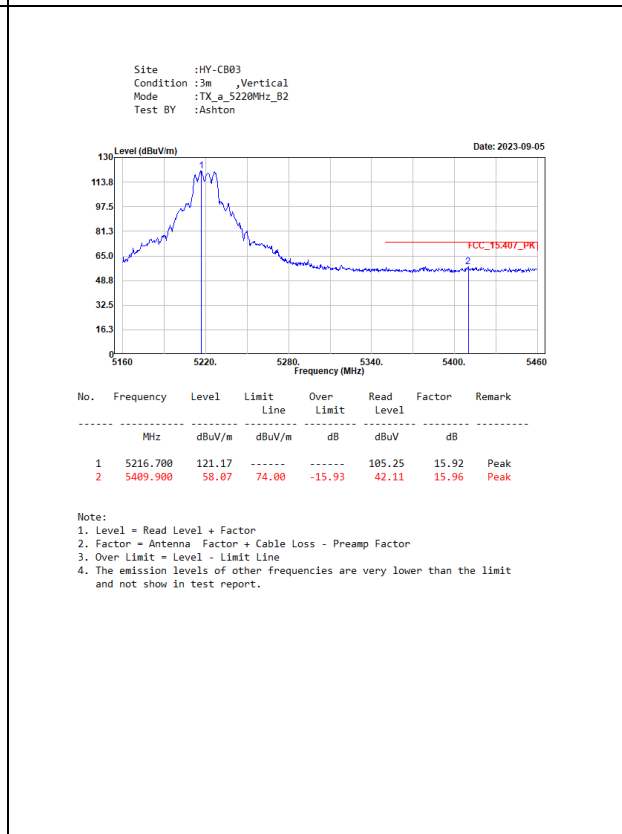
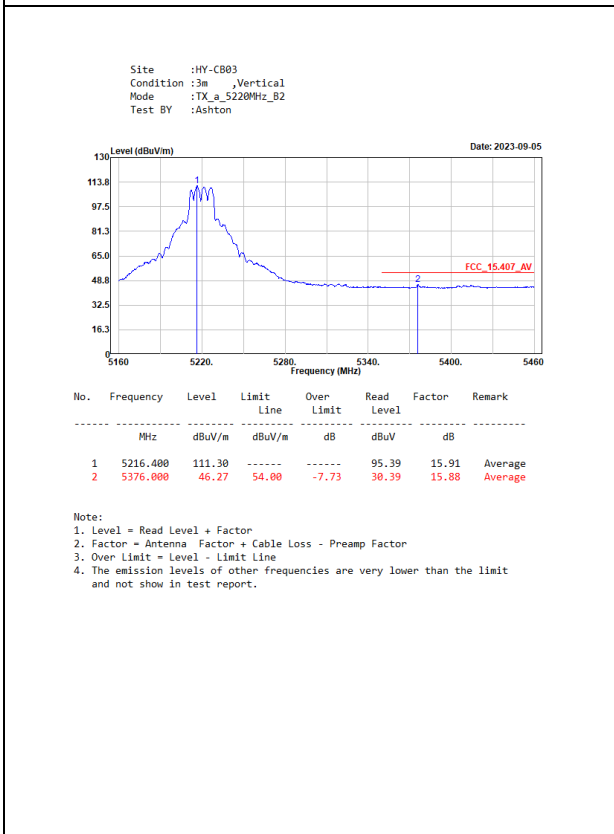
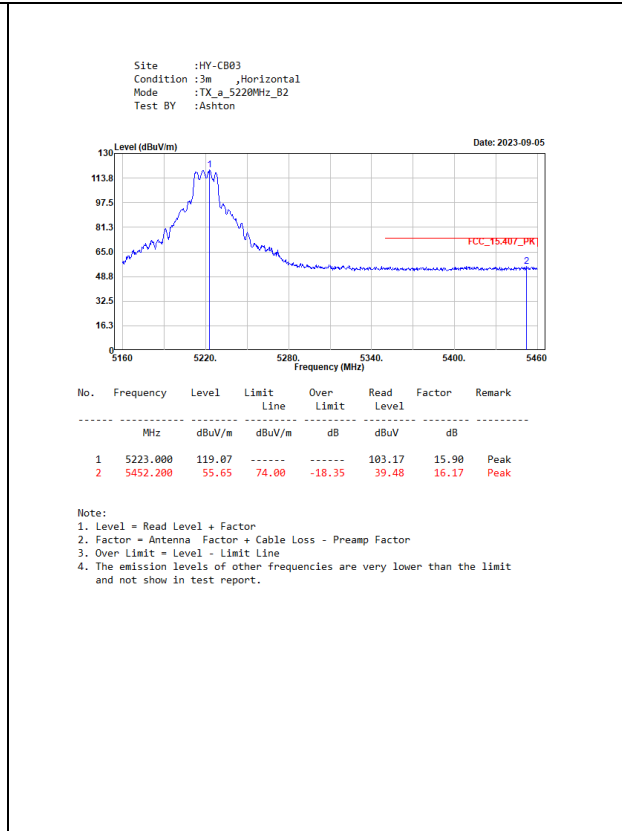
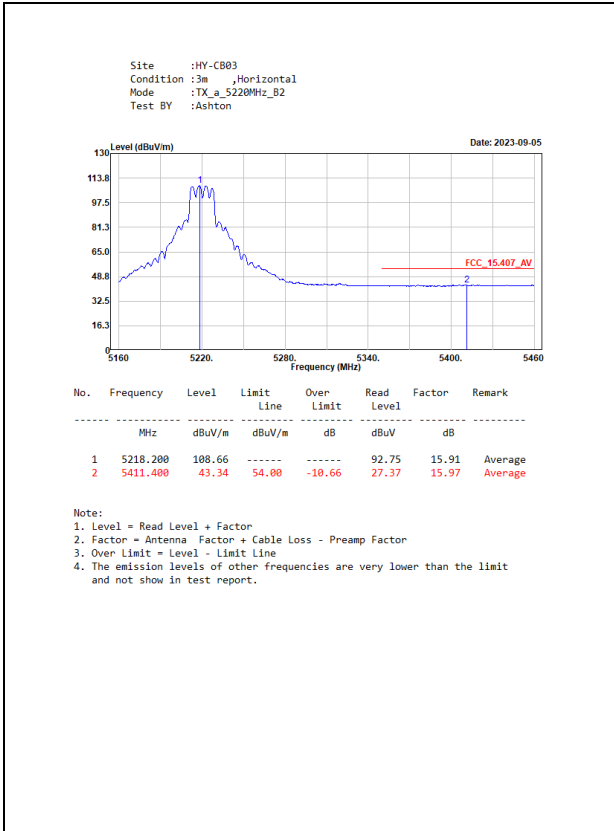
Note: Duty Cycle Refer to Section 8.

### 6.4. Test Result of Band Edge

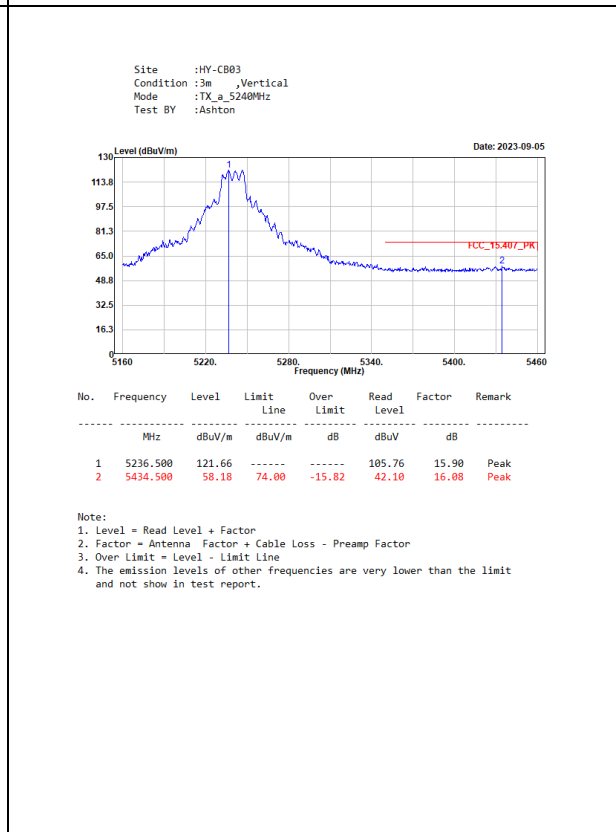
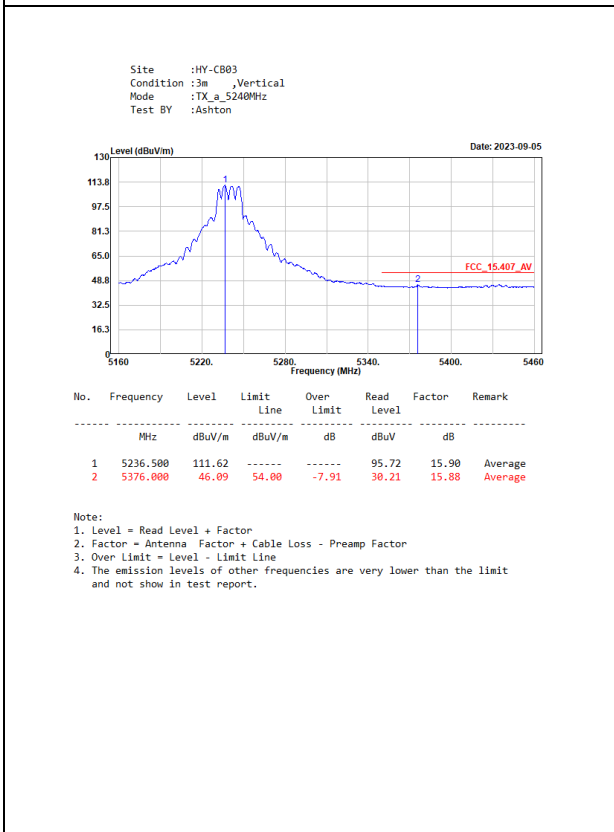
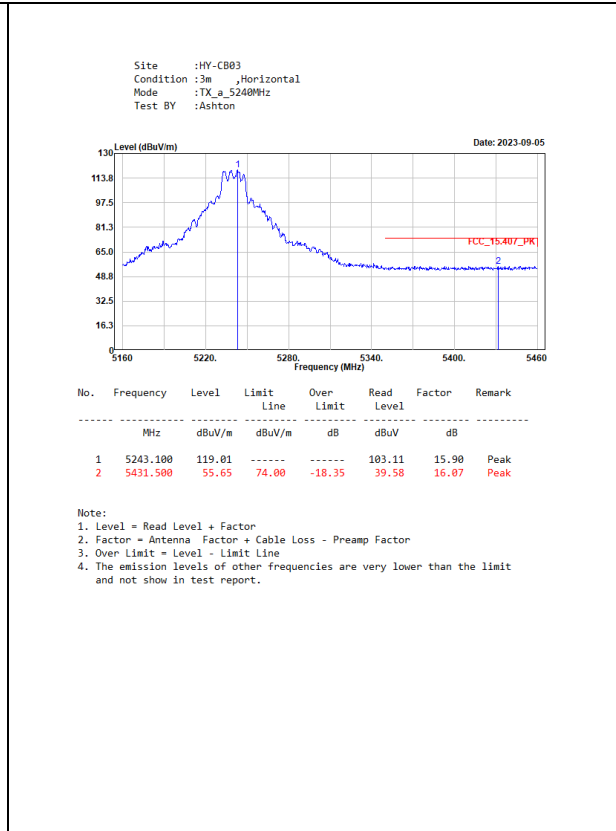
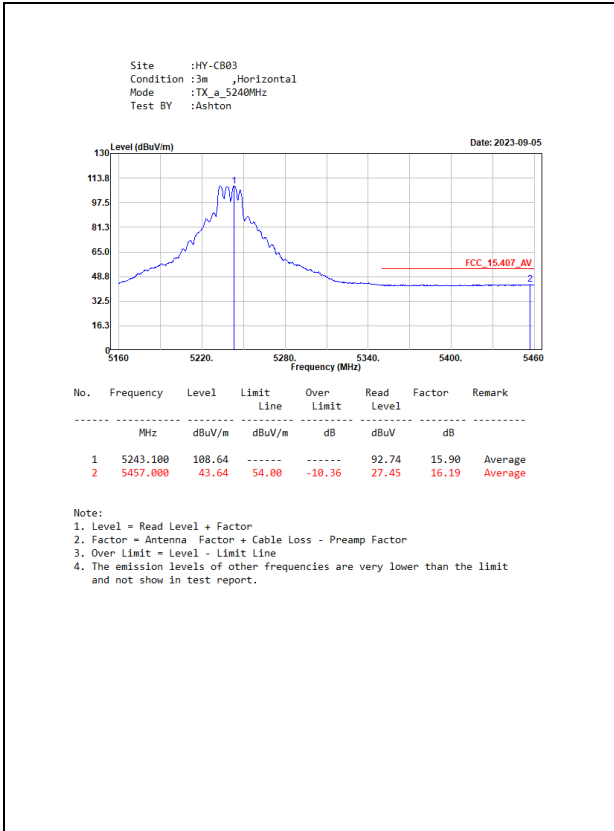
#### Radio-2

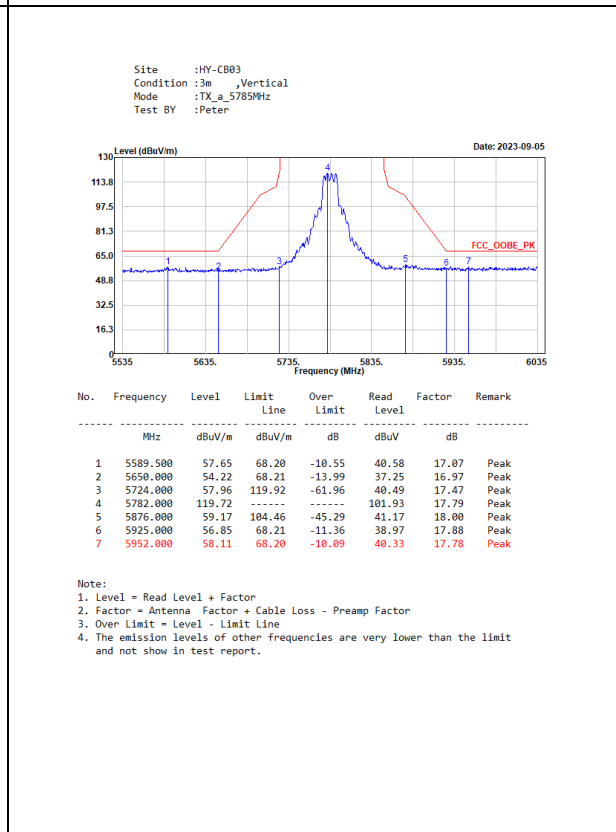
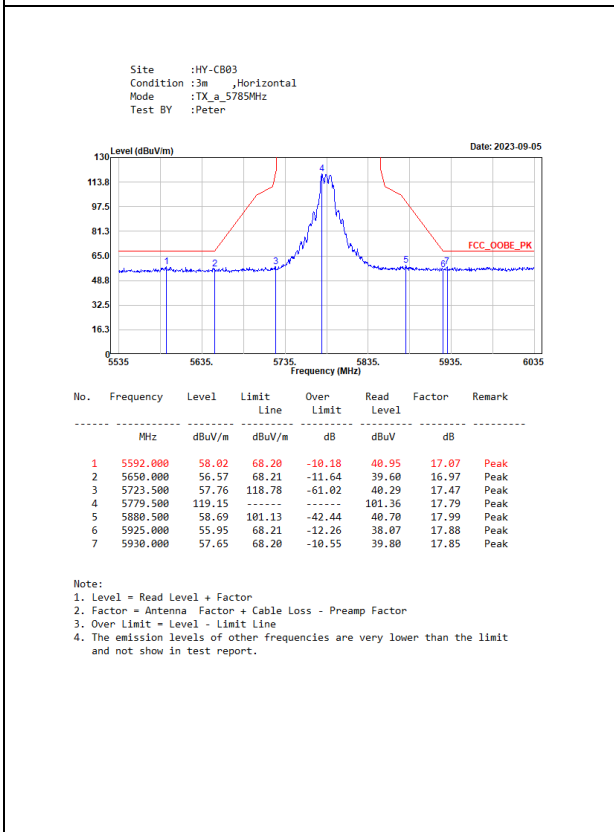
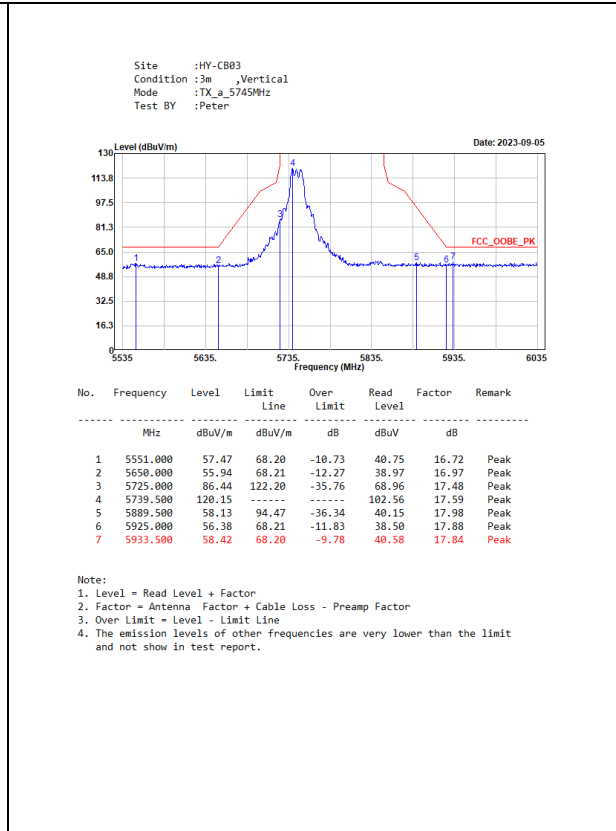
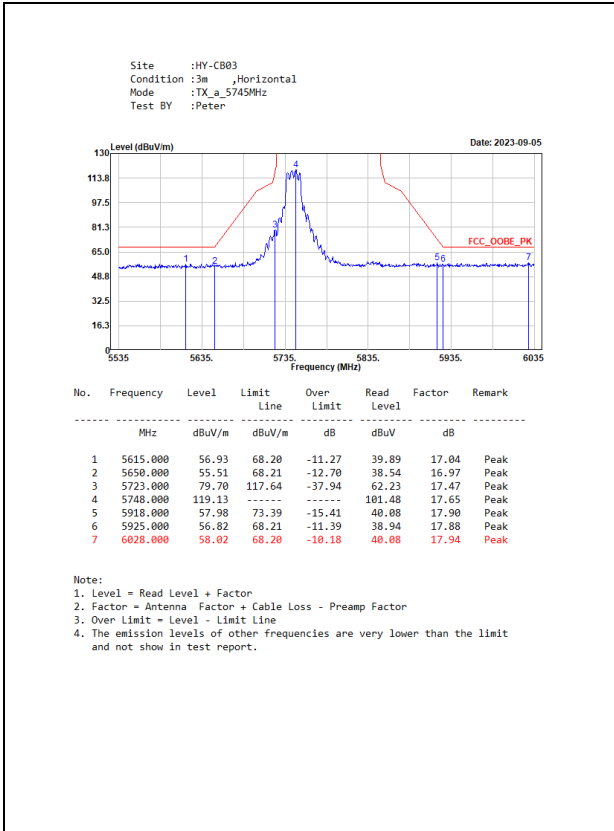


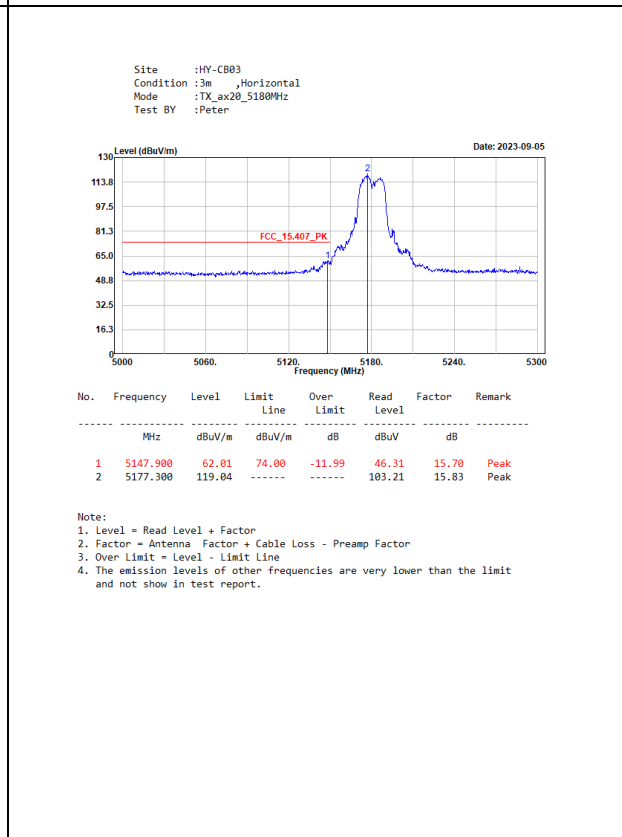
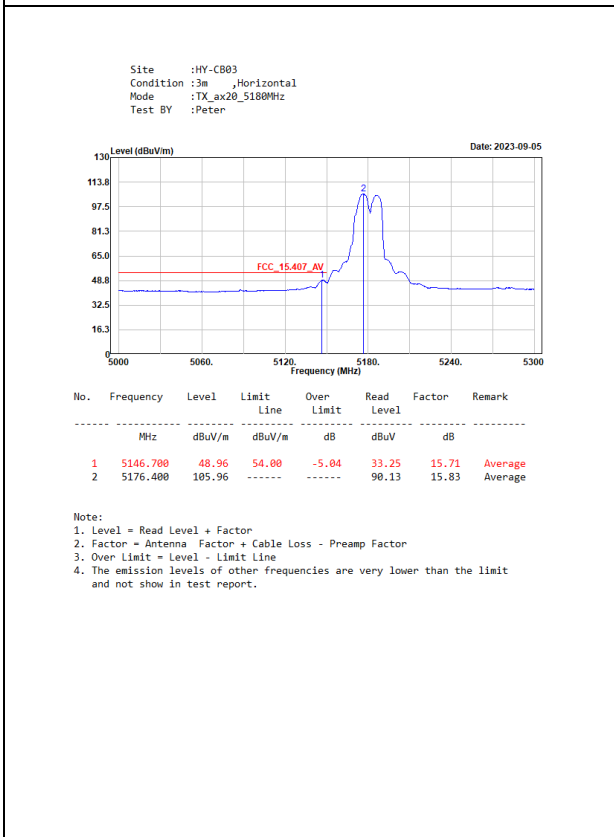
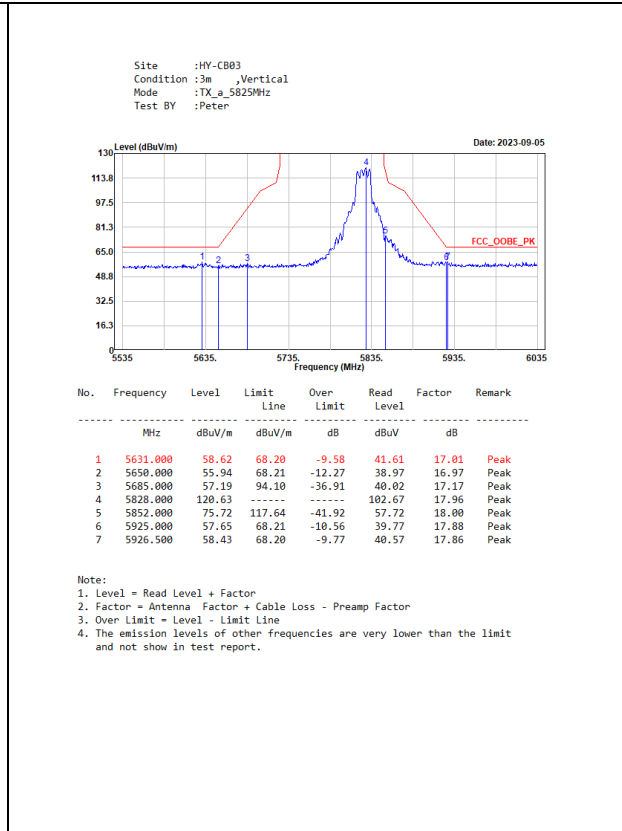
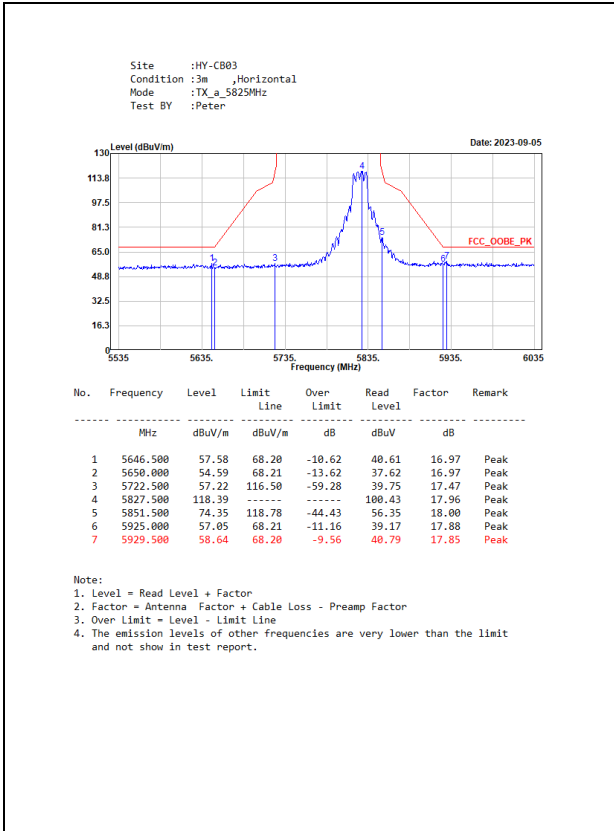


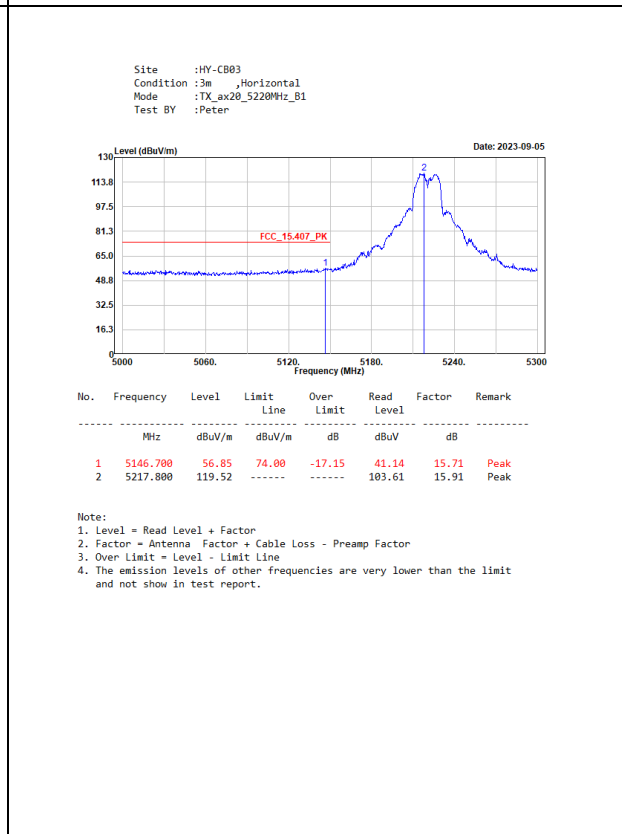
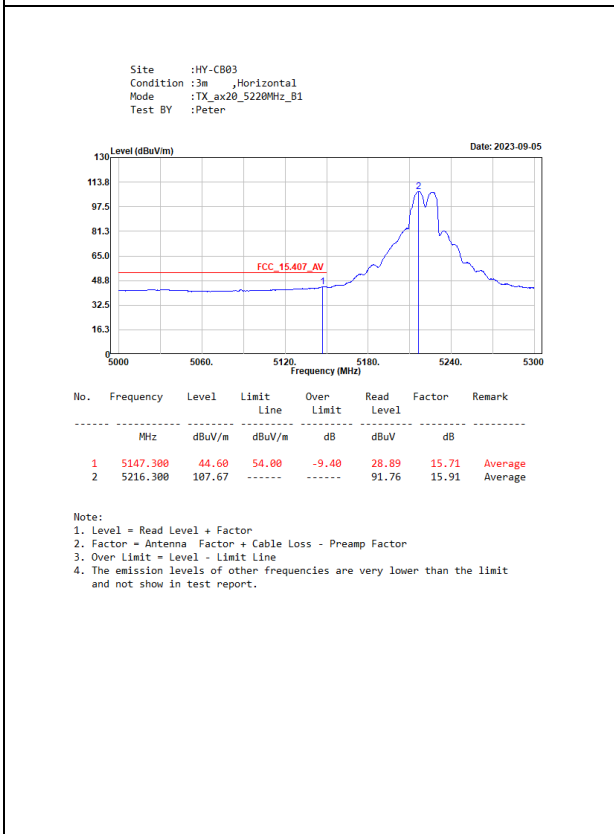
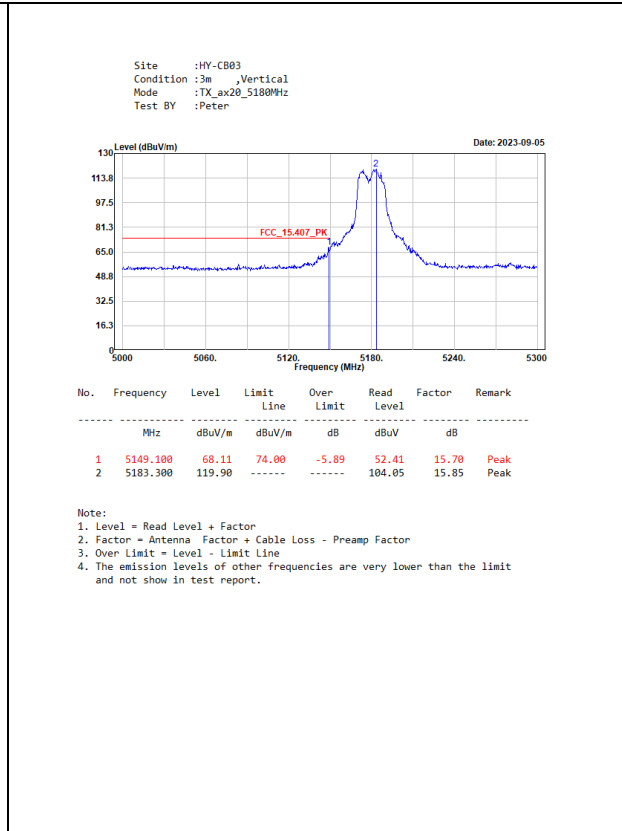
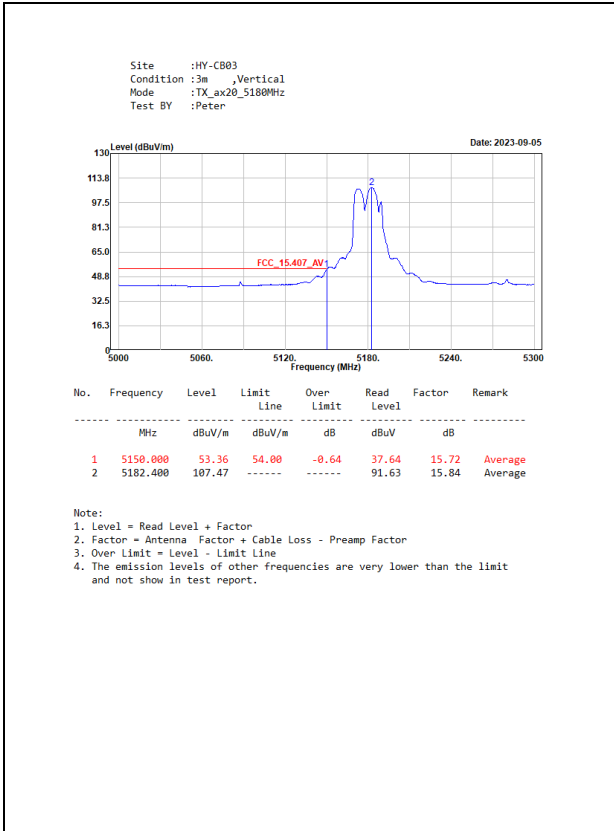


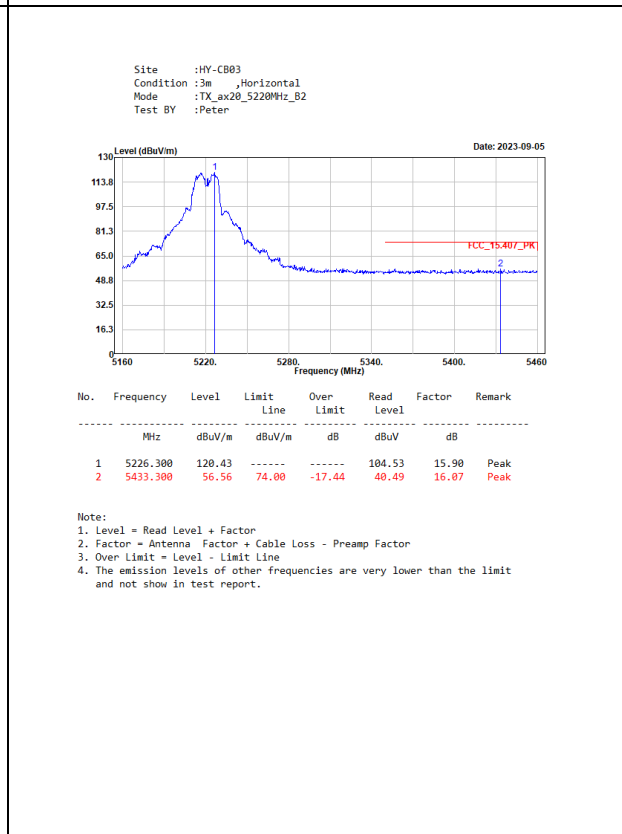
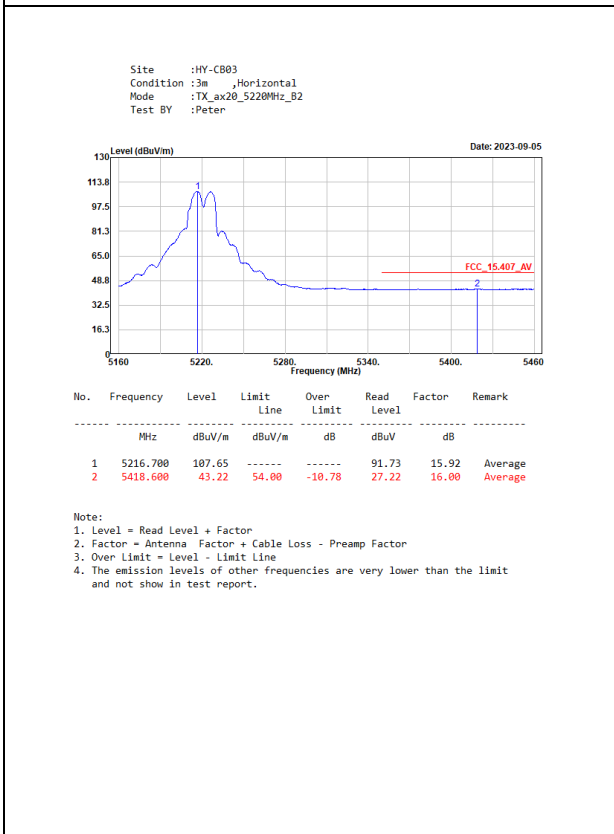
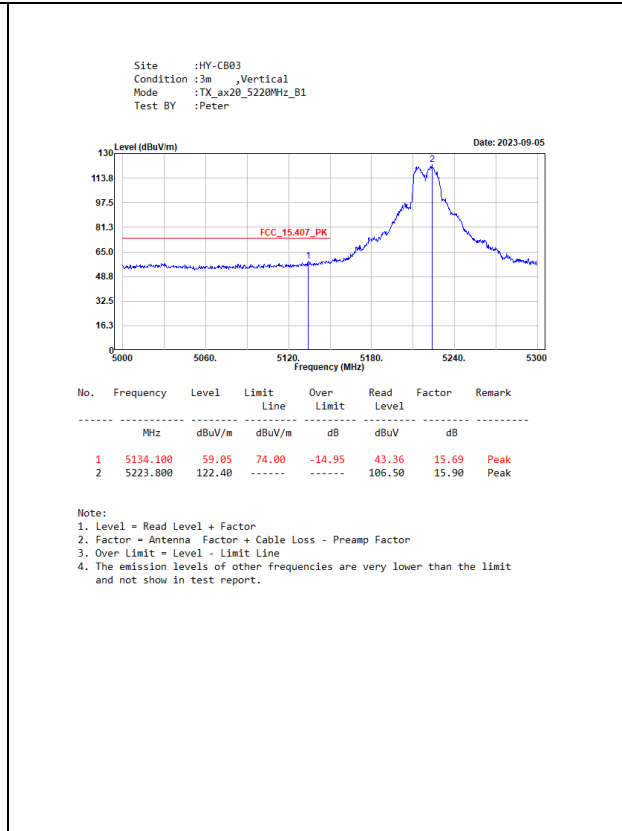
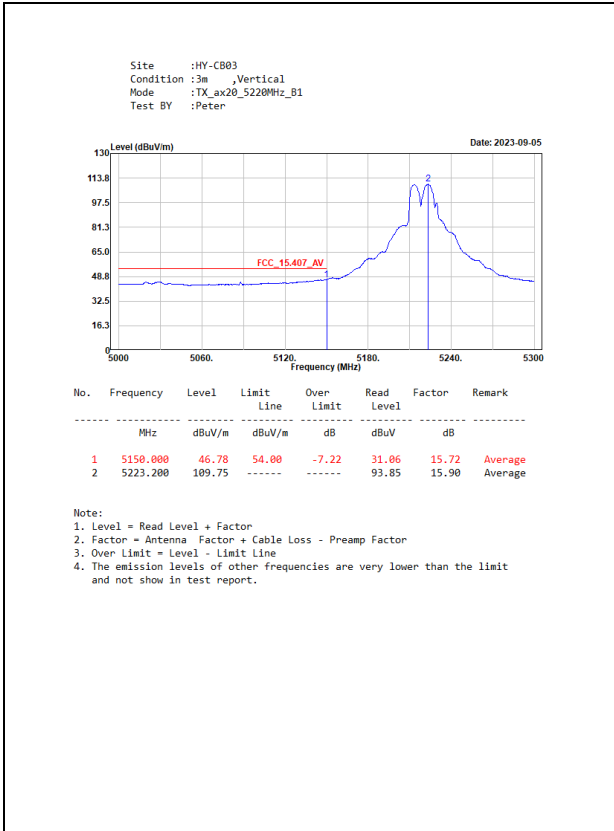


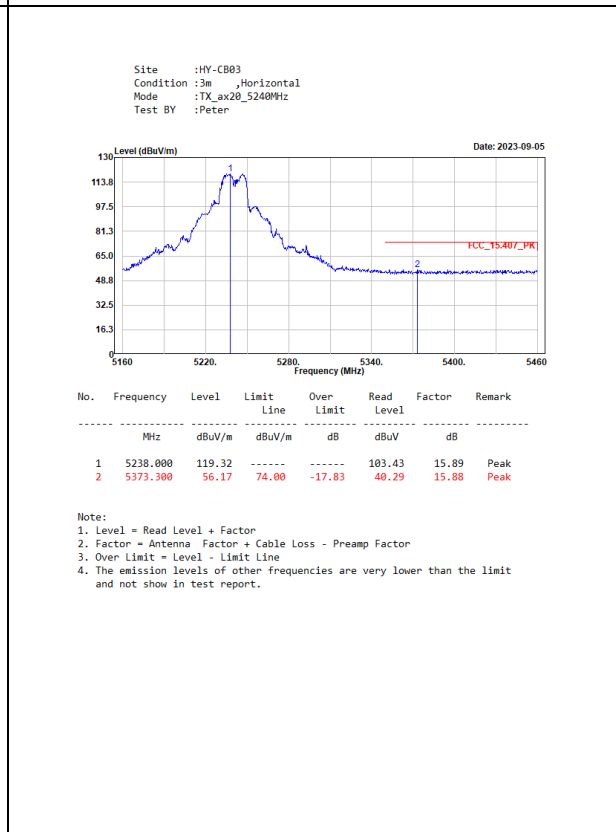
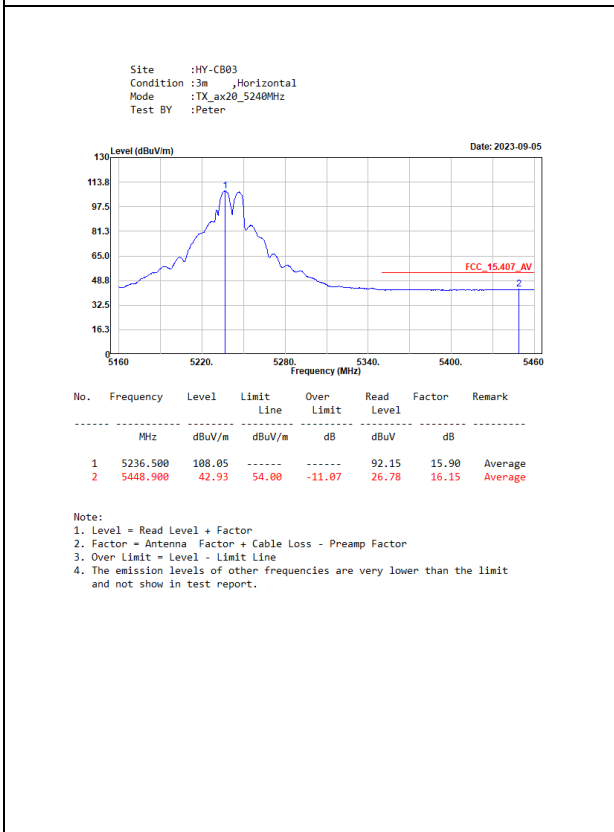
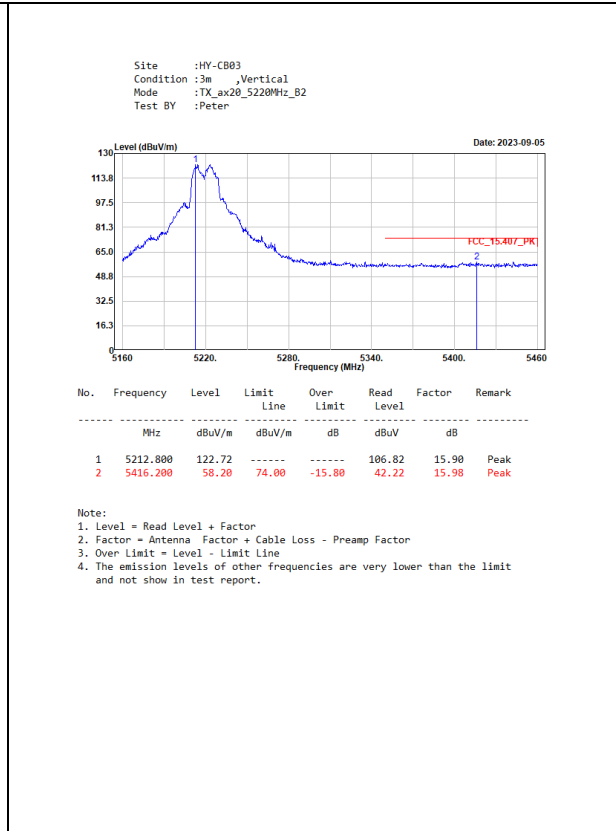
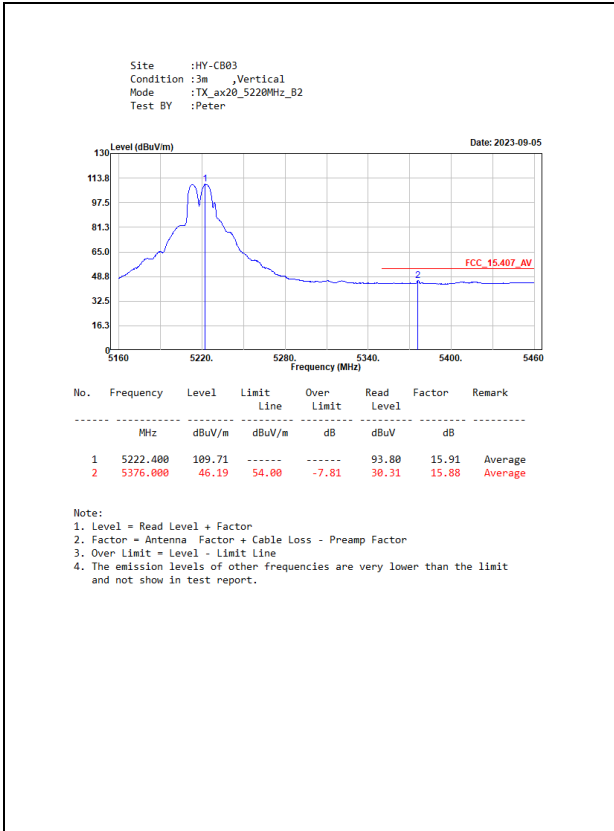


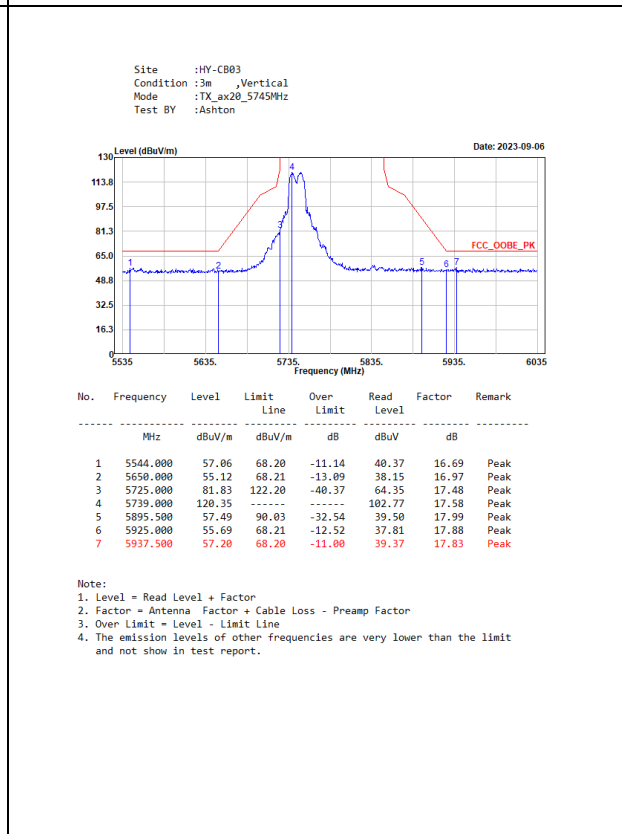
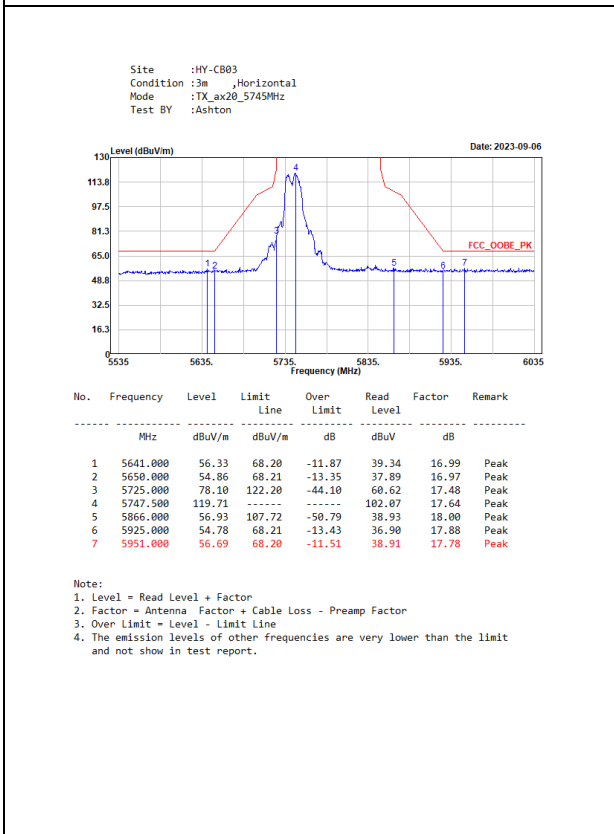
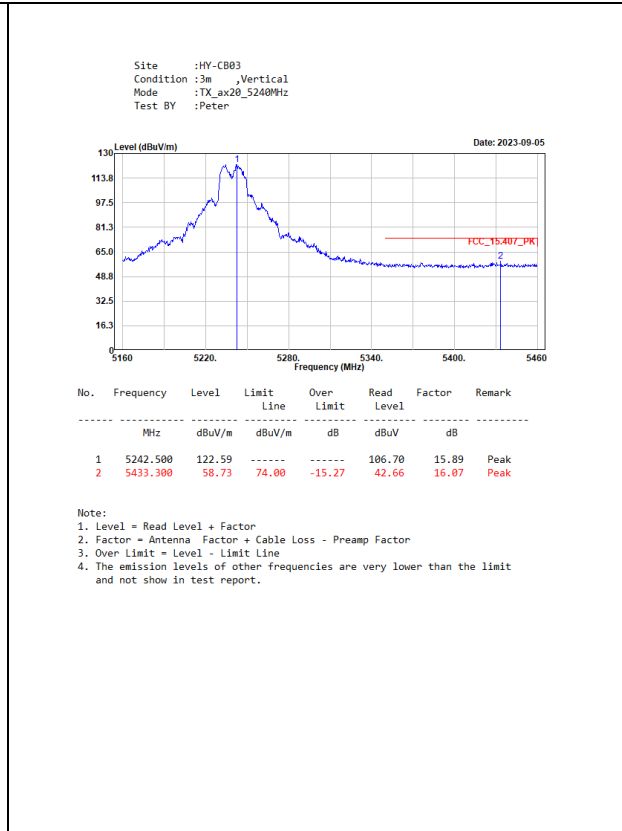
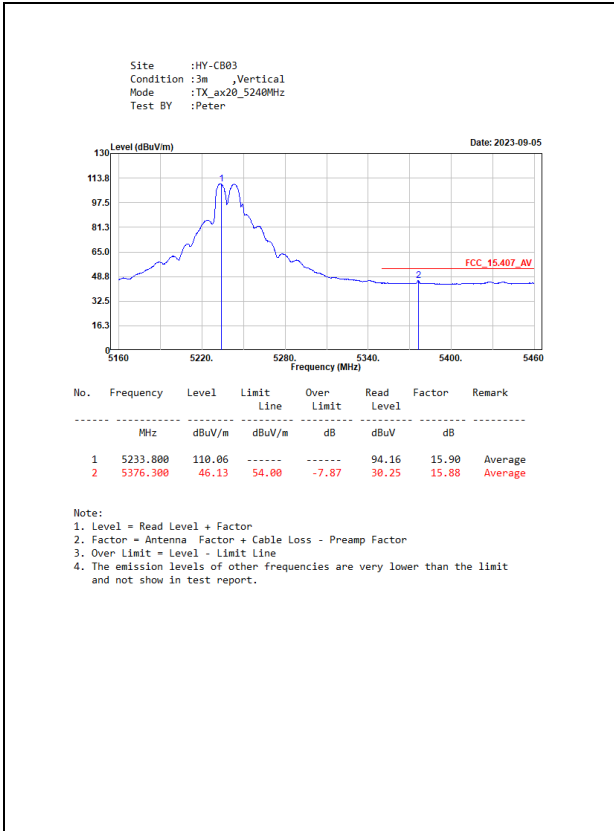


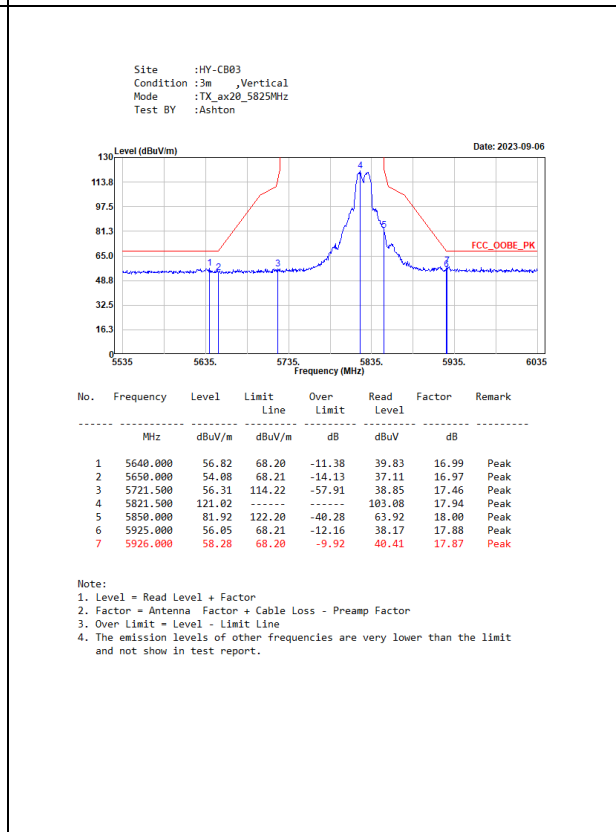
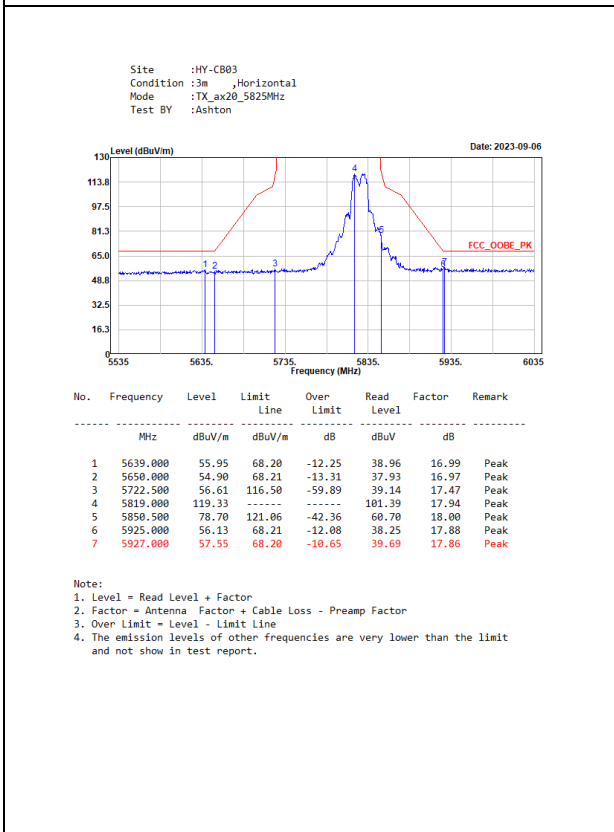
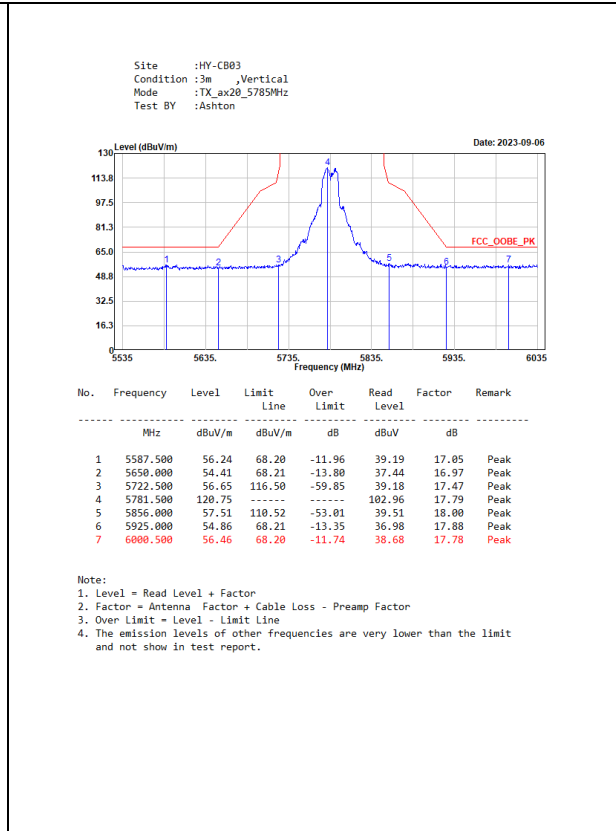
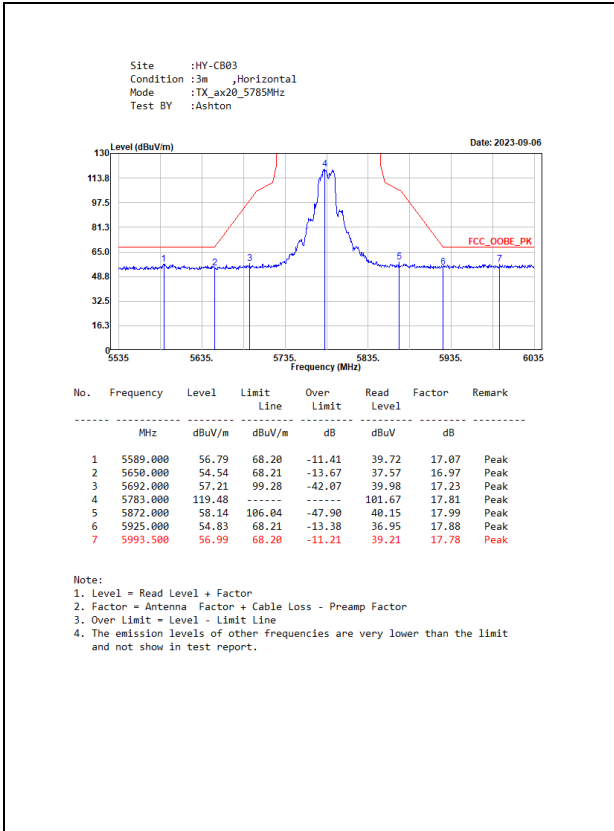




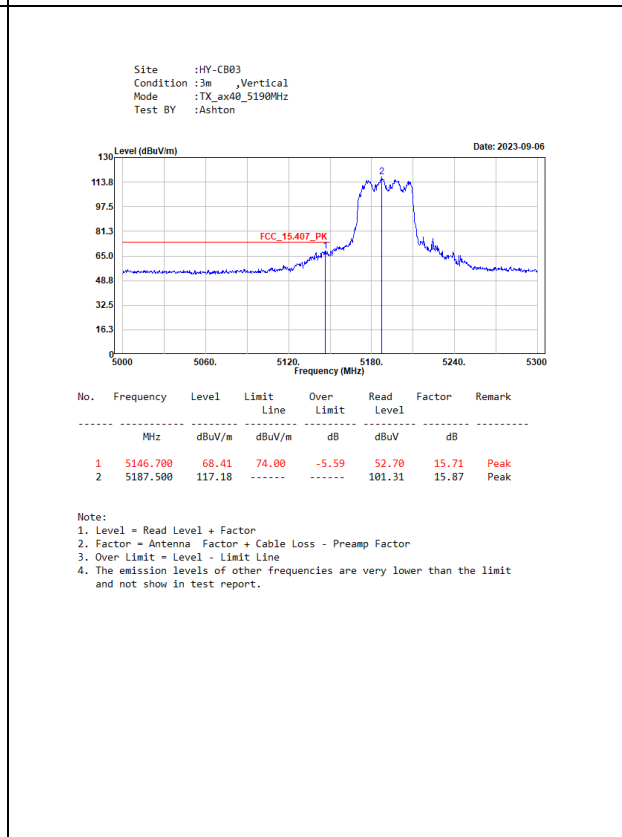
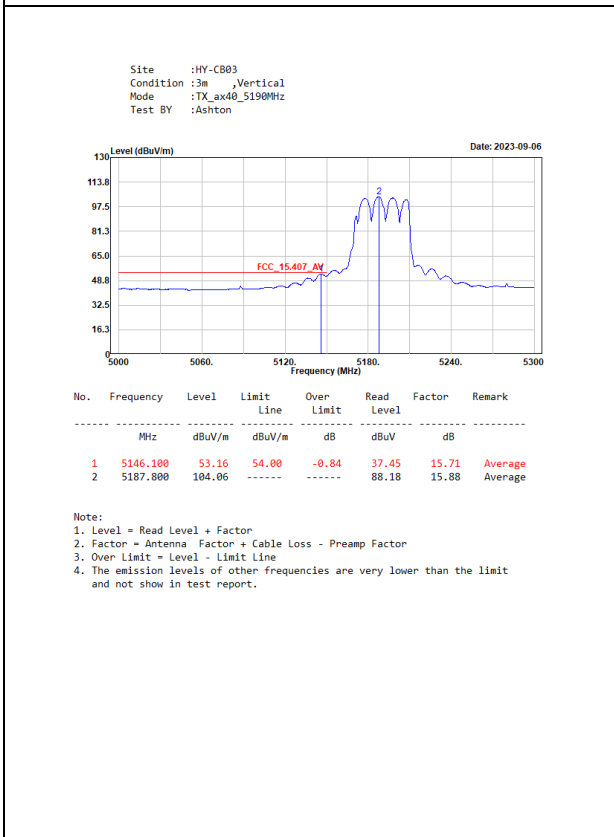
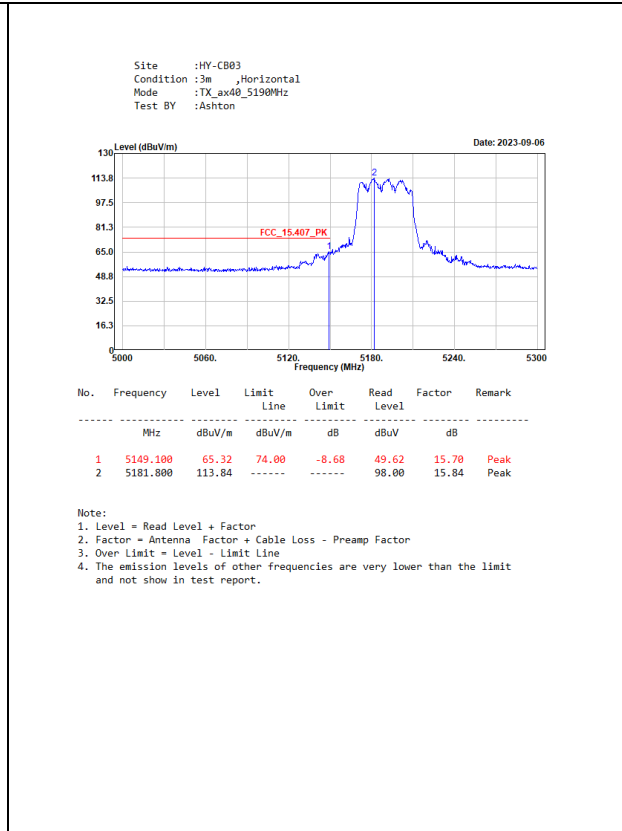
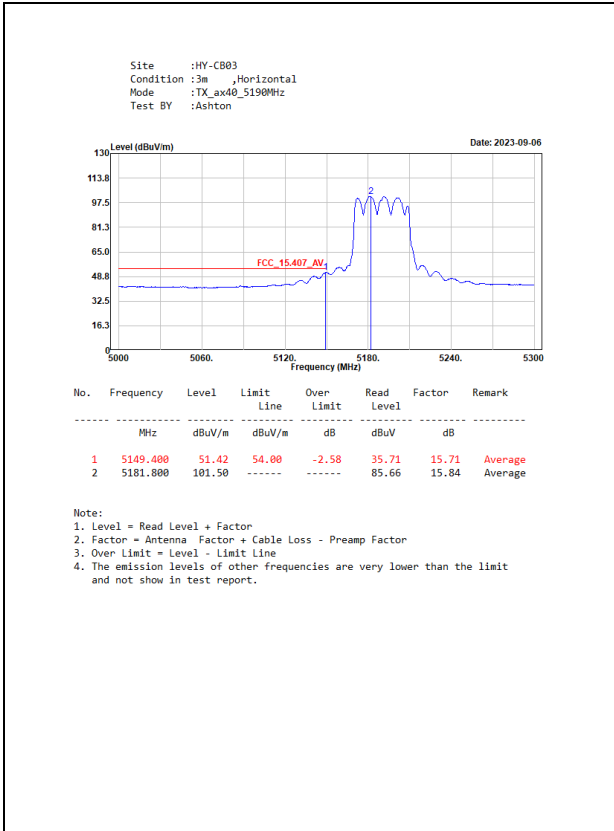


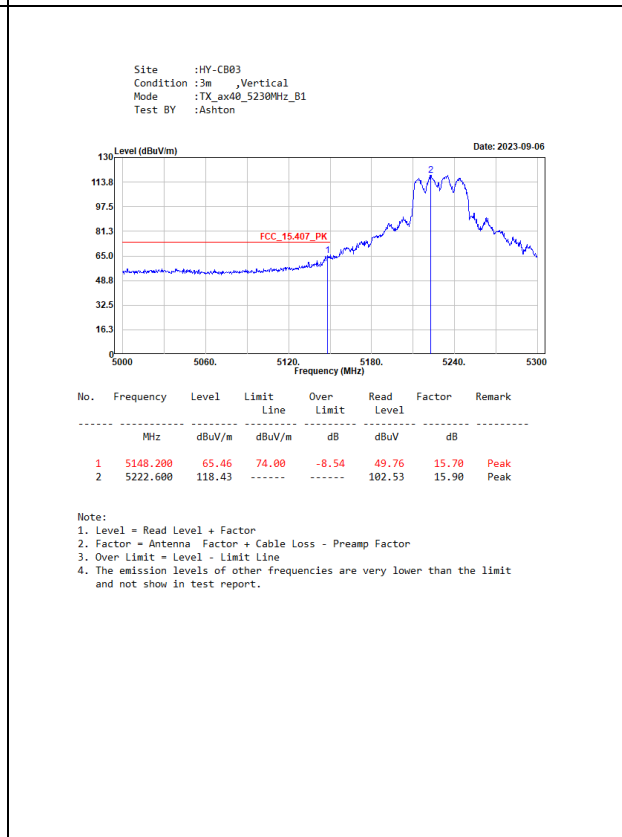
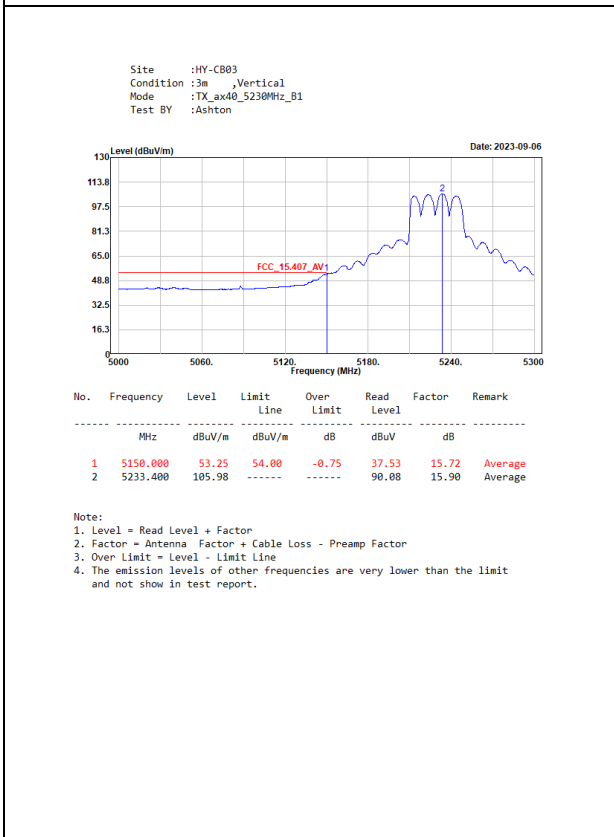
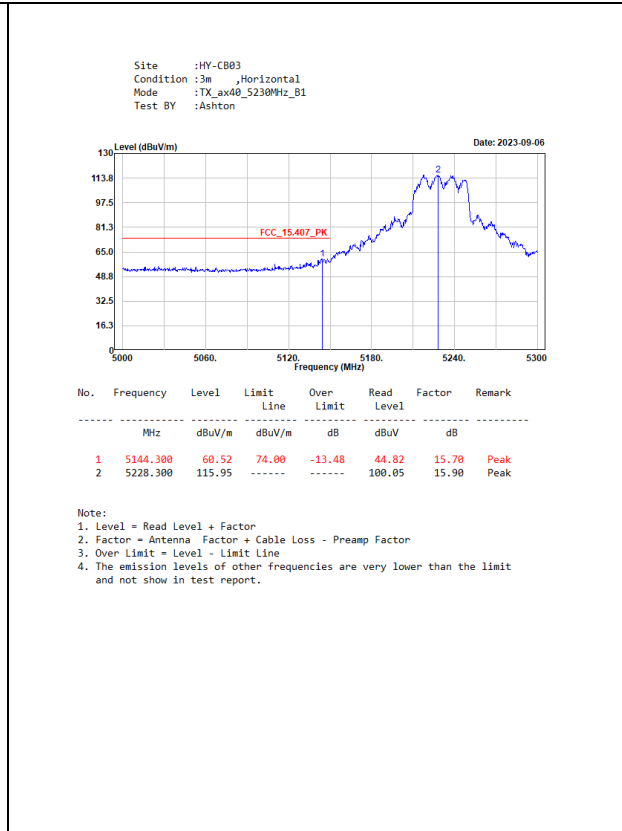
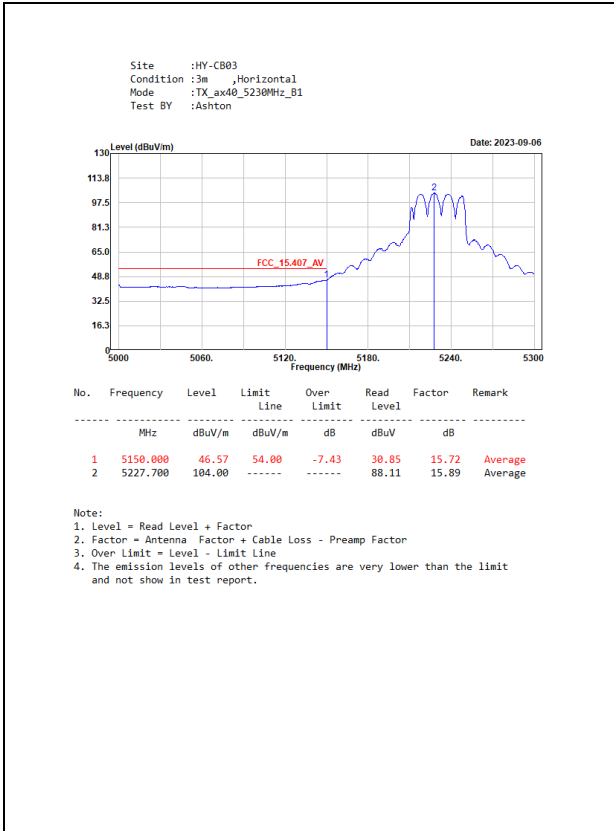


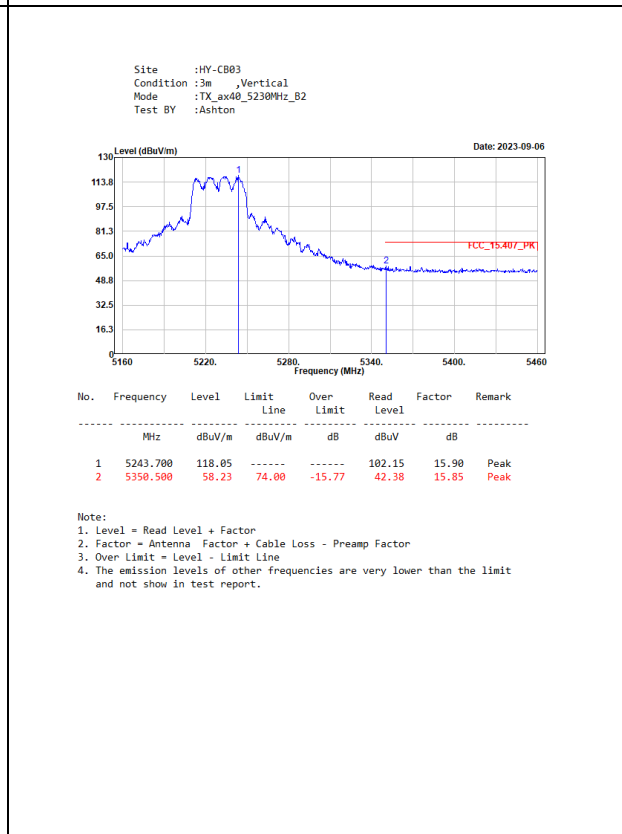
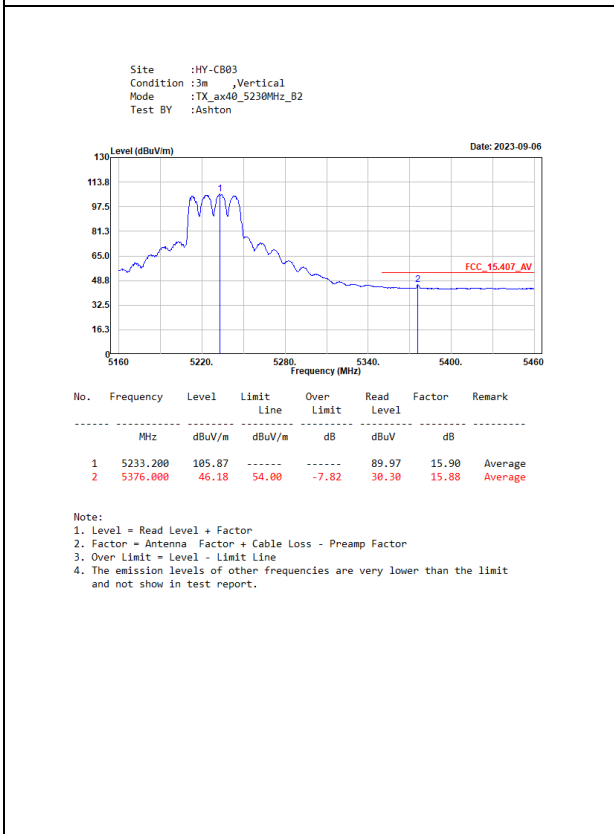
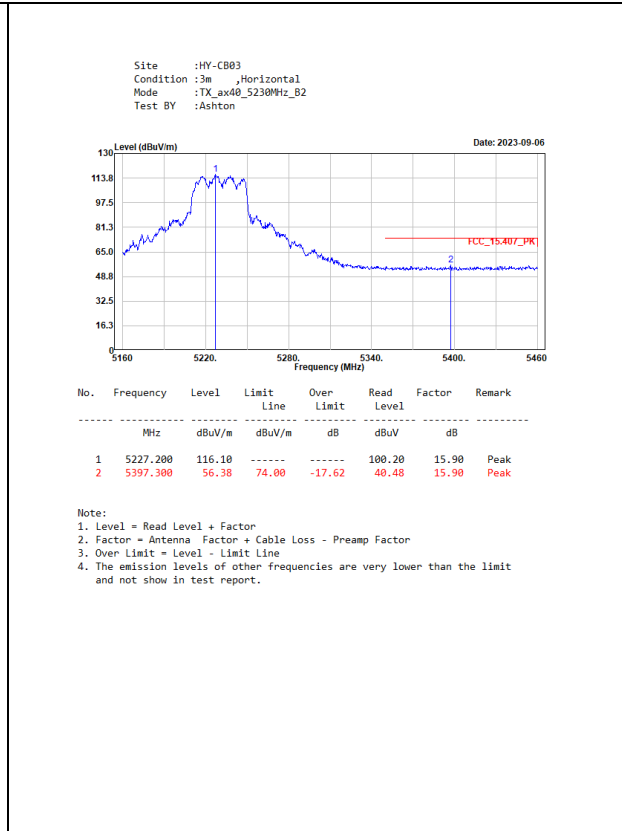
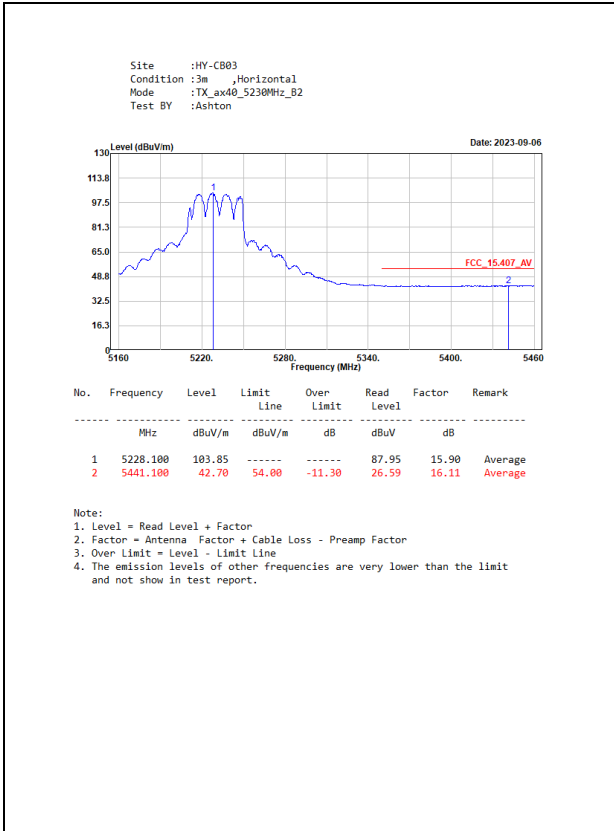


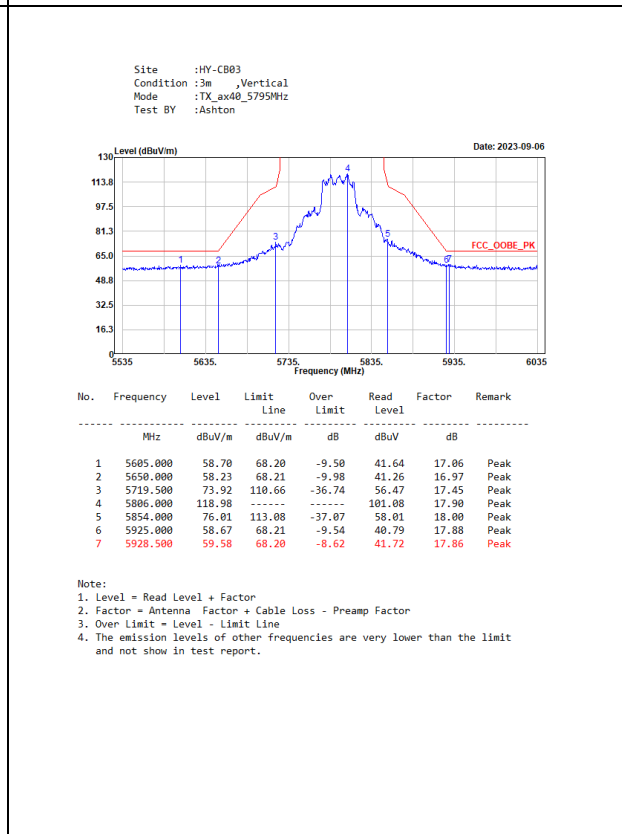
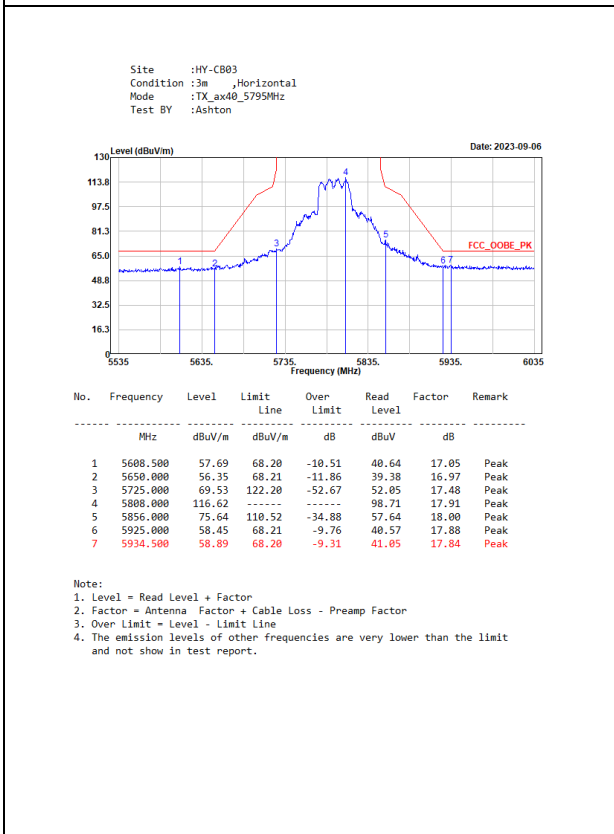
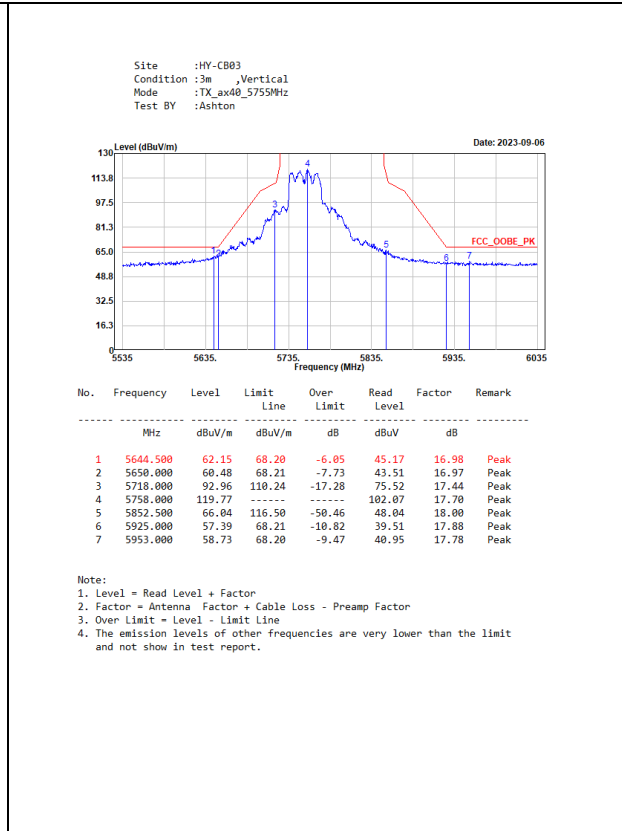
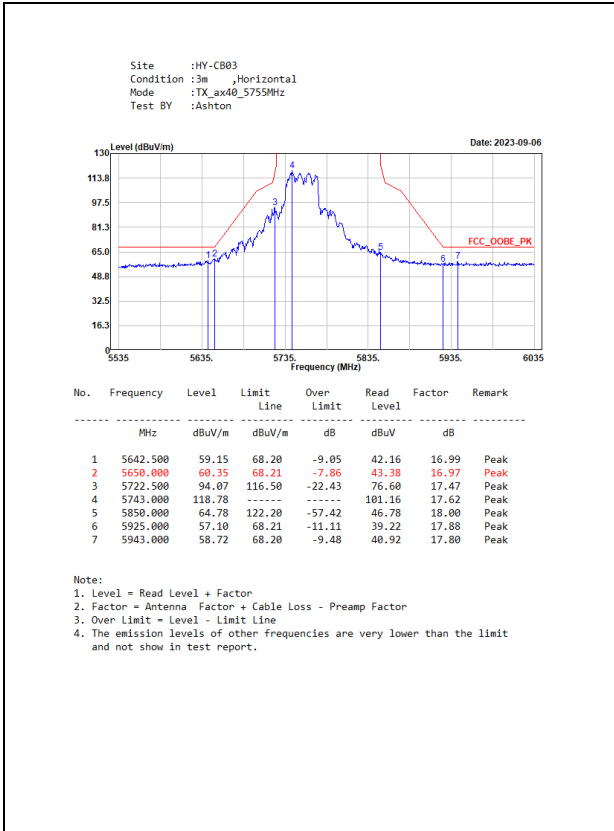


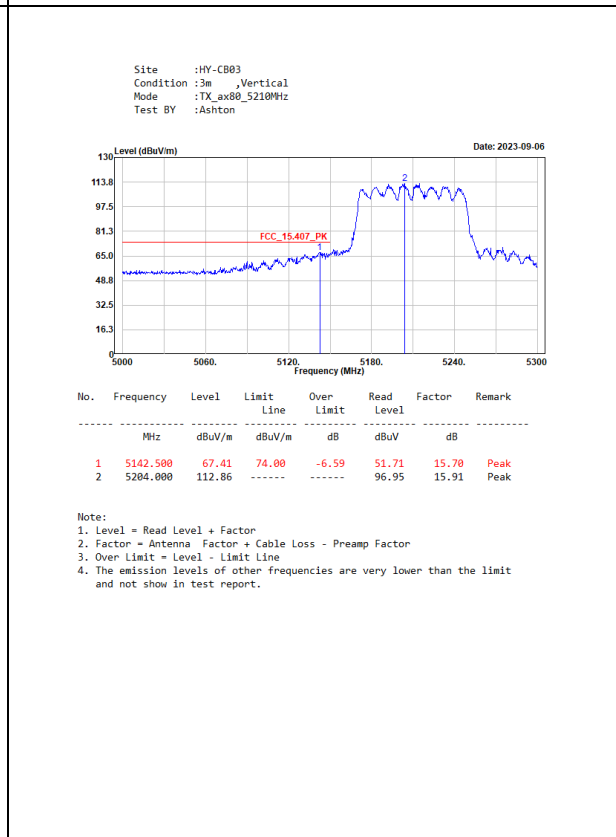
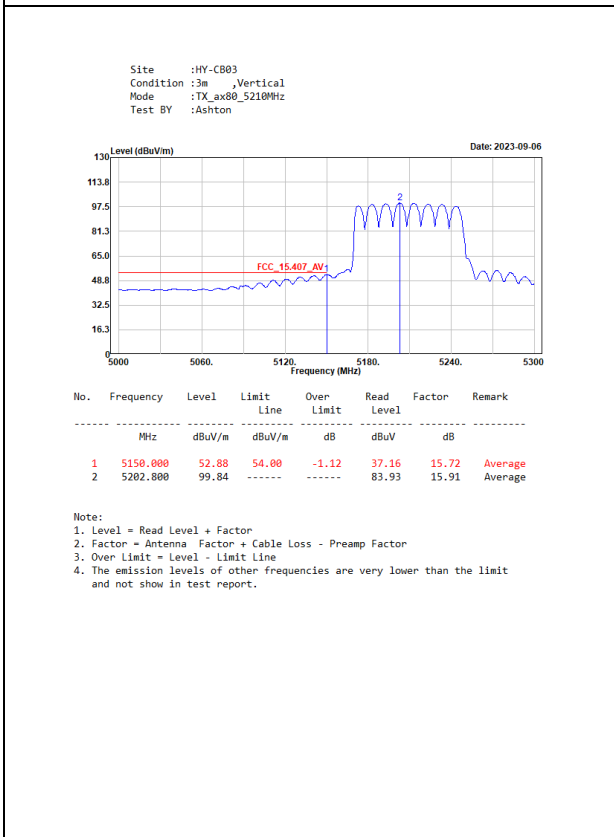
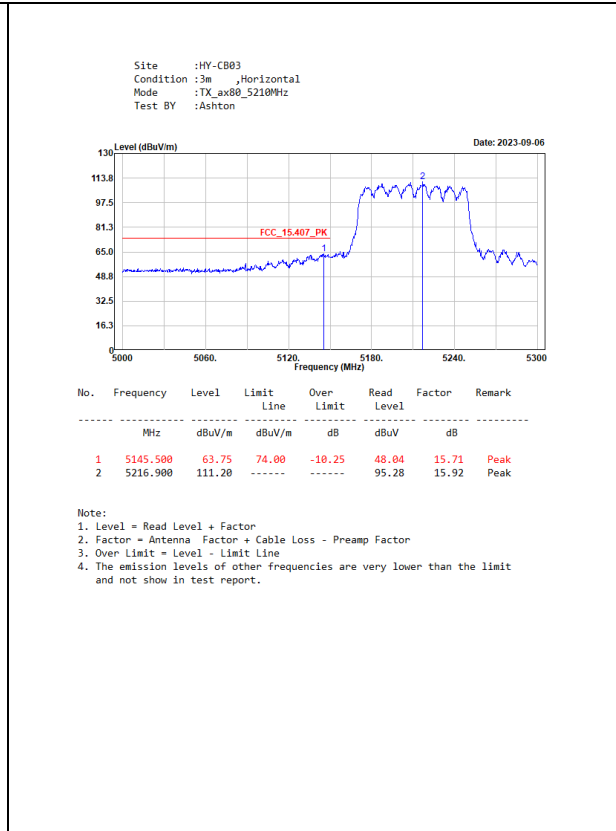
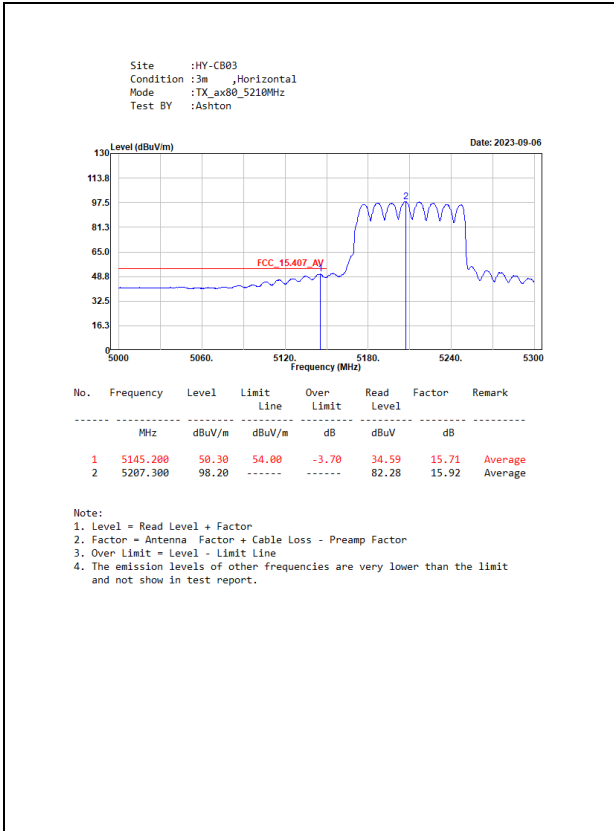


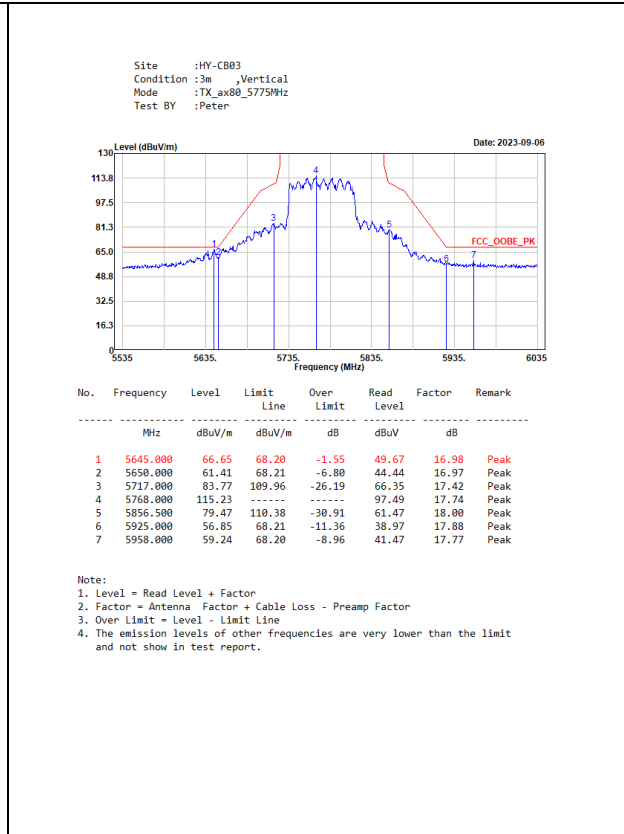
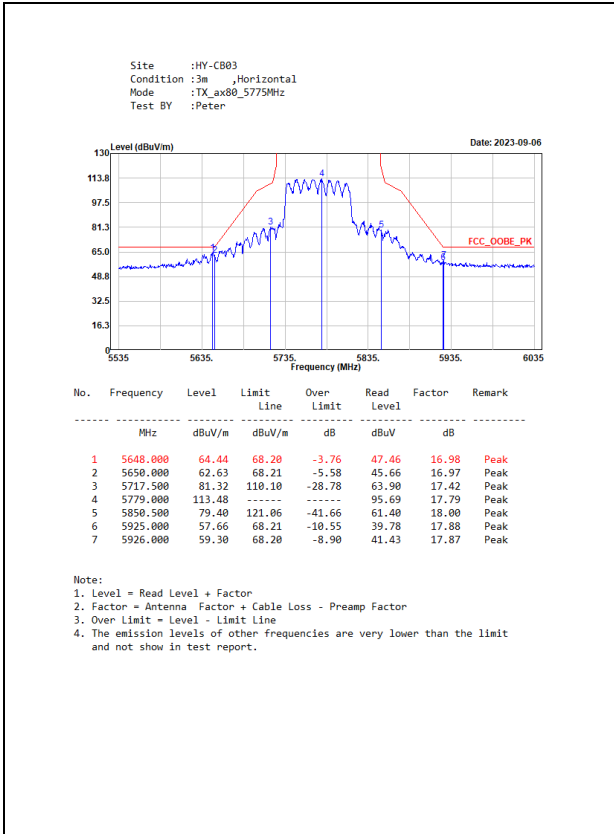




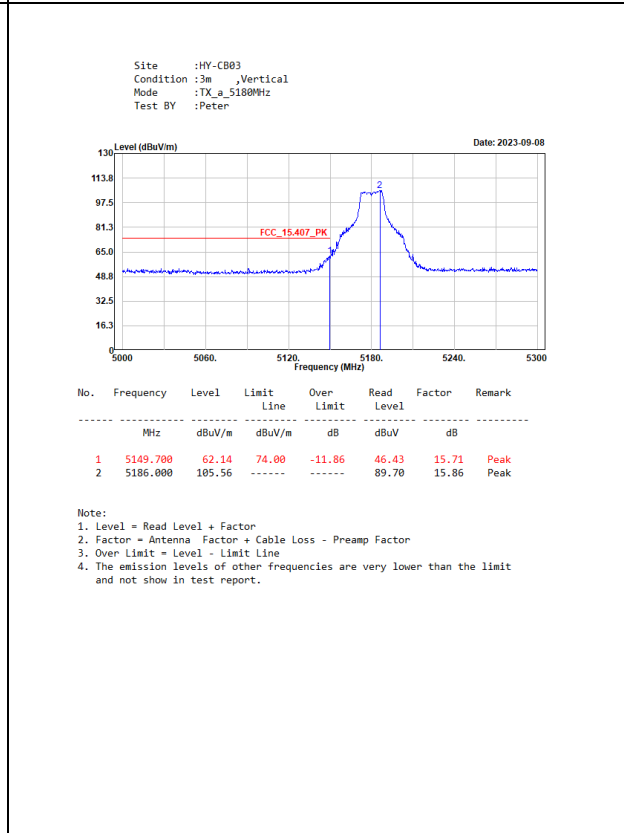
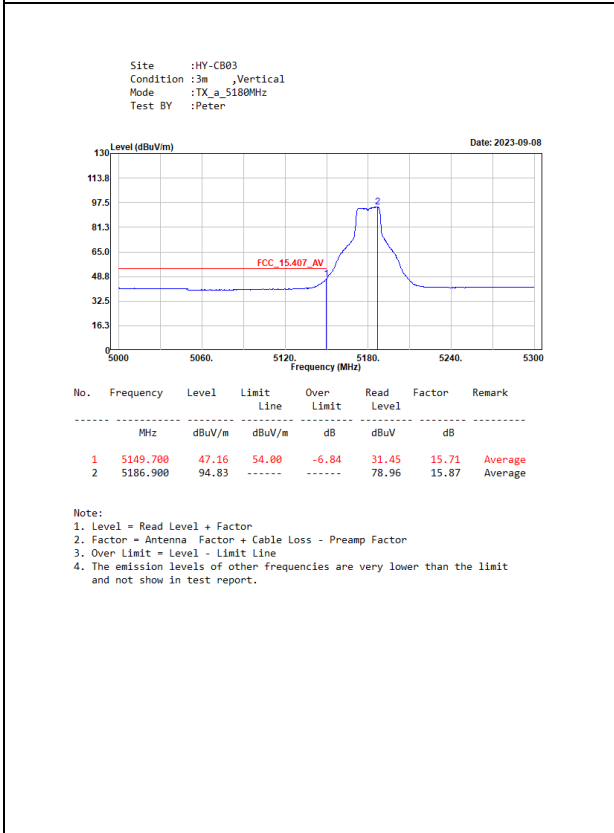
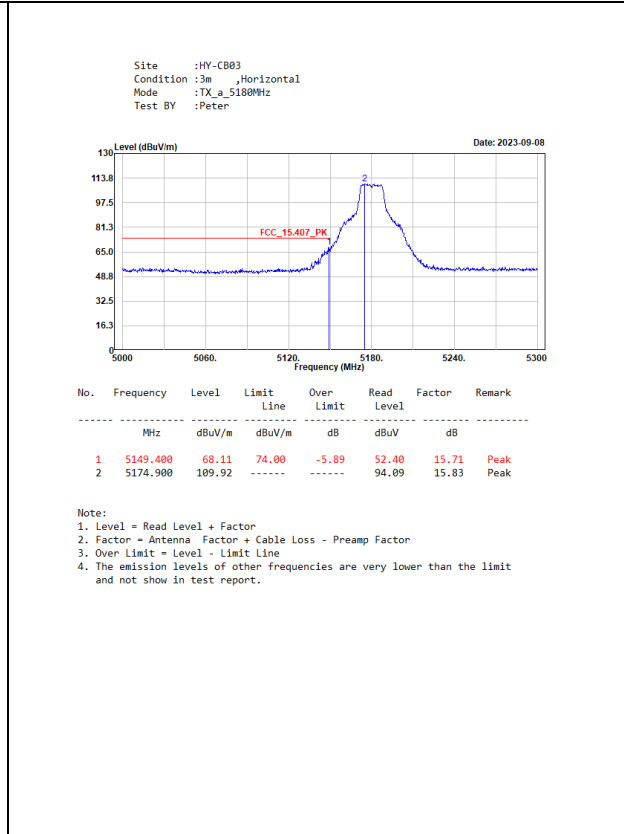
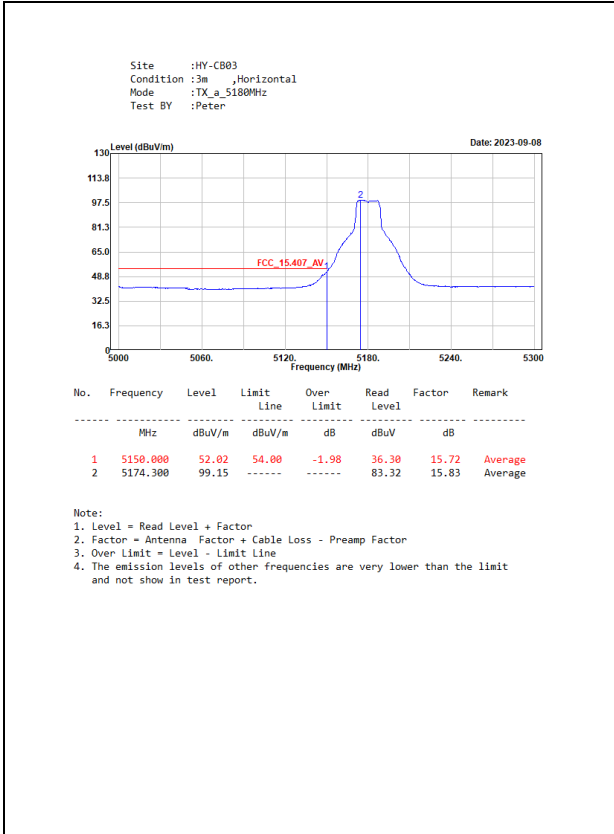


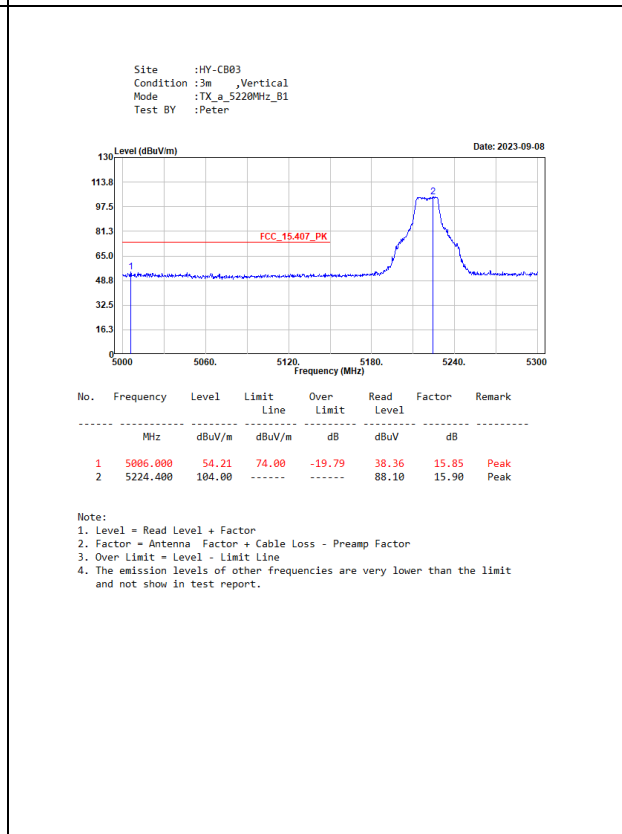
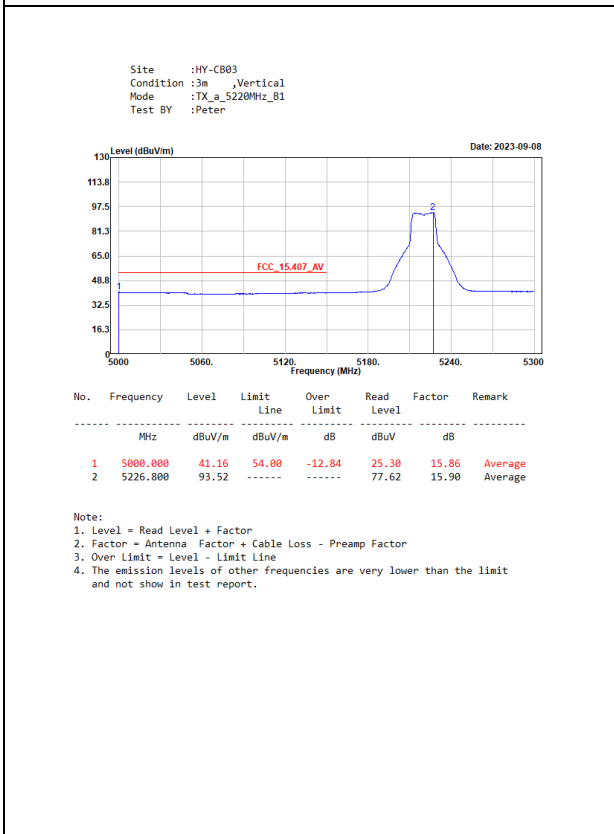
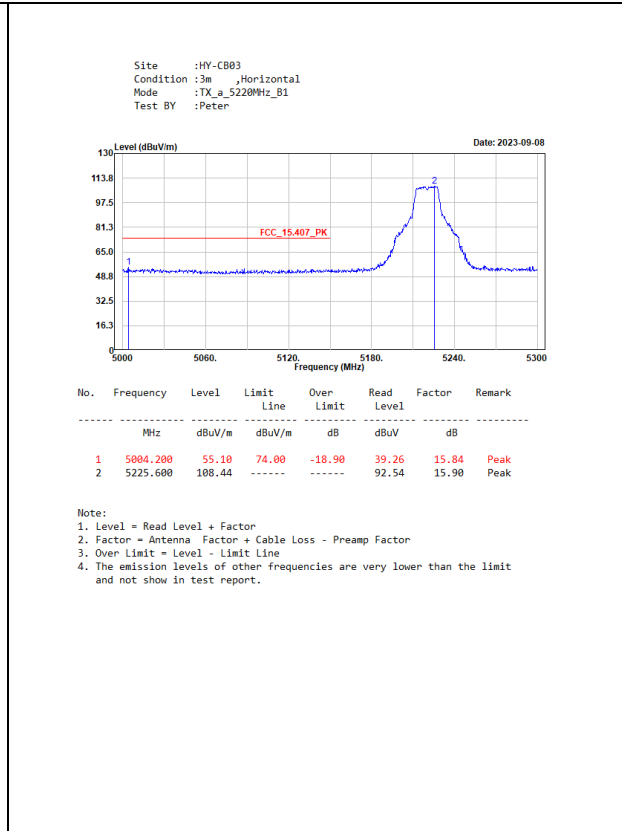
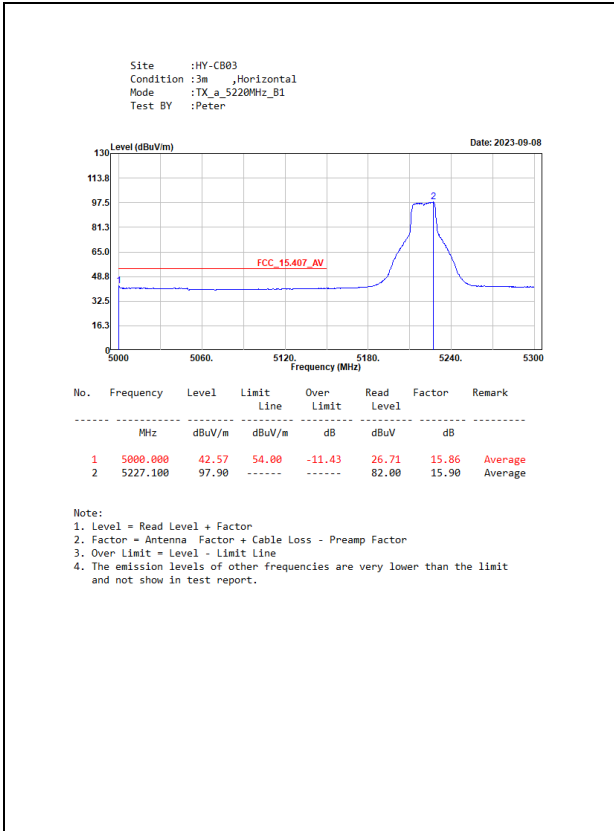




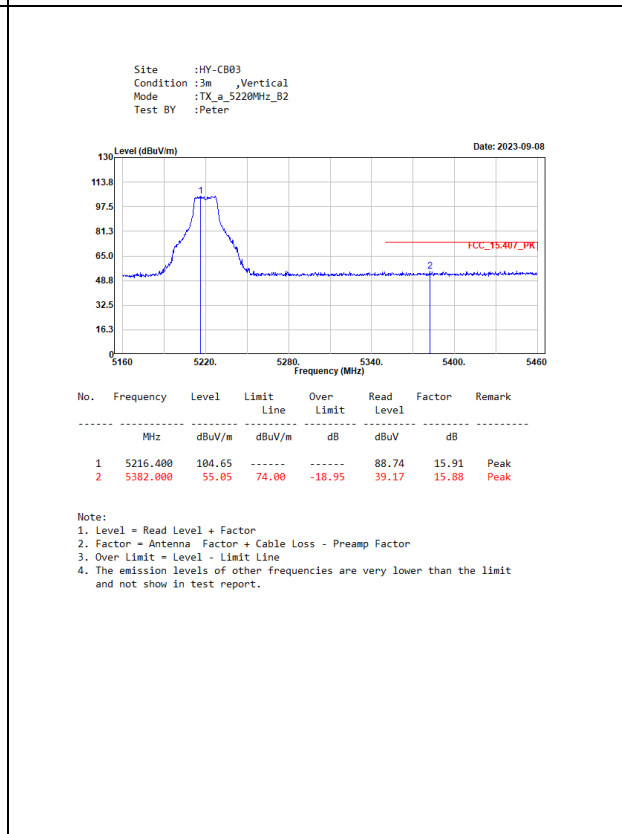
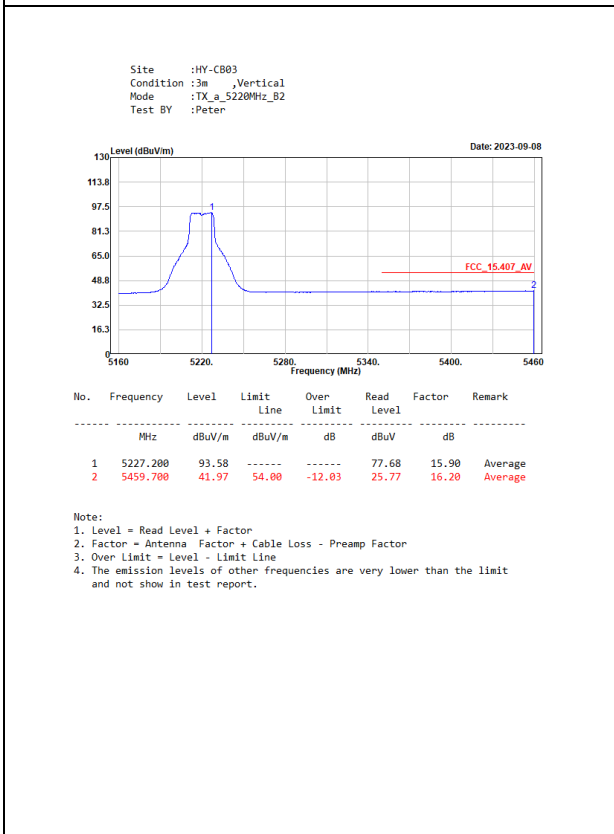
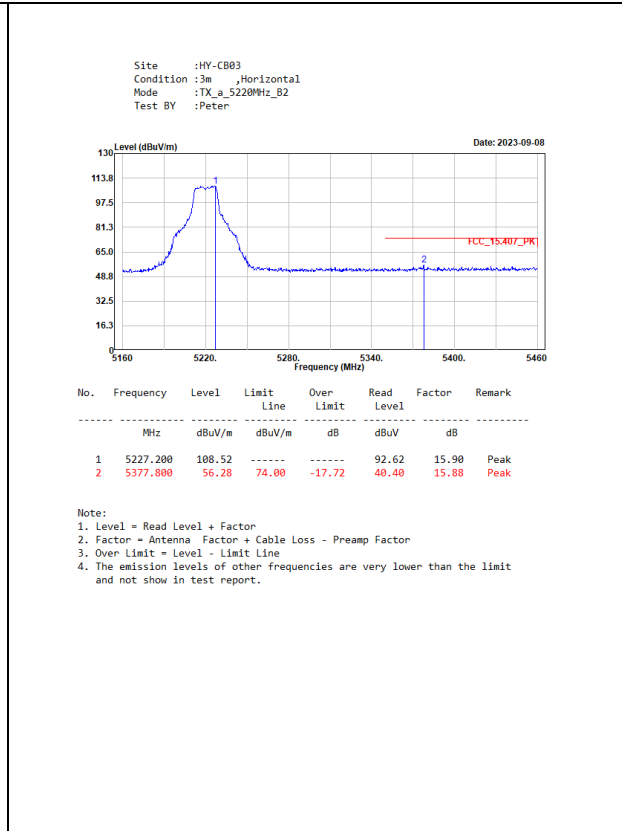
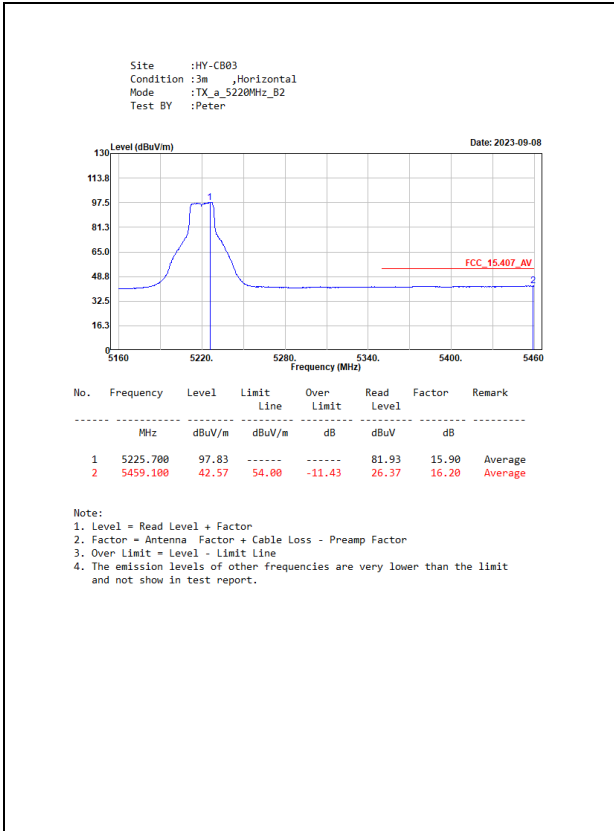


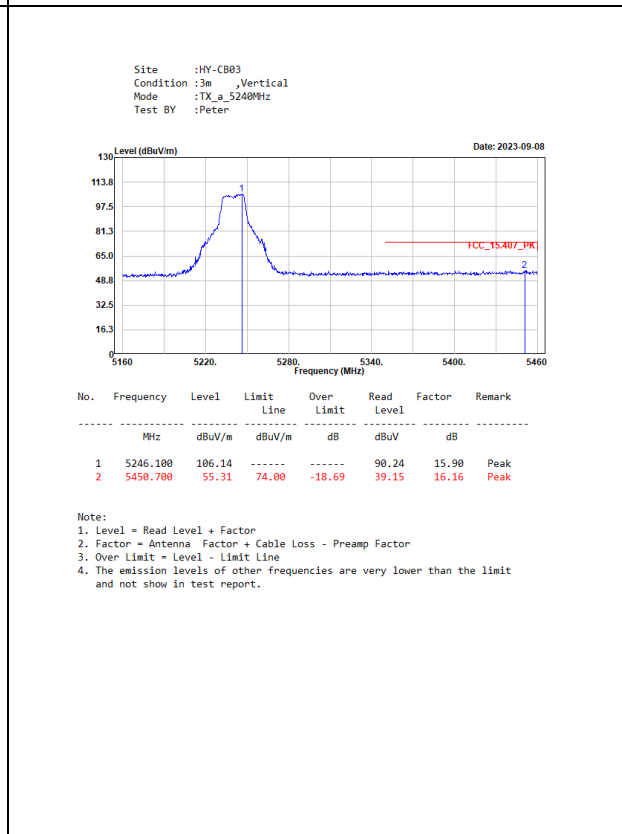
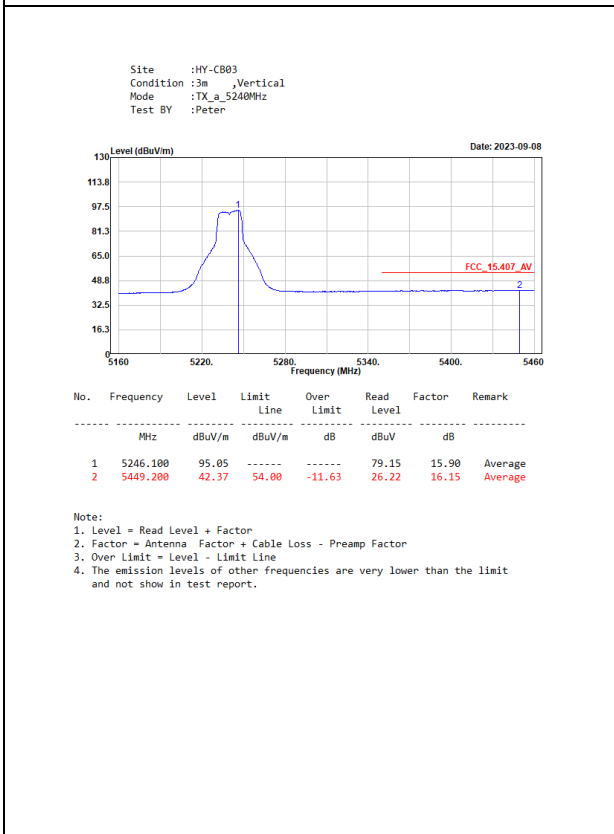
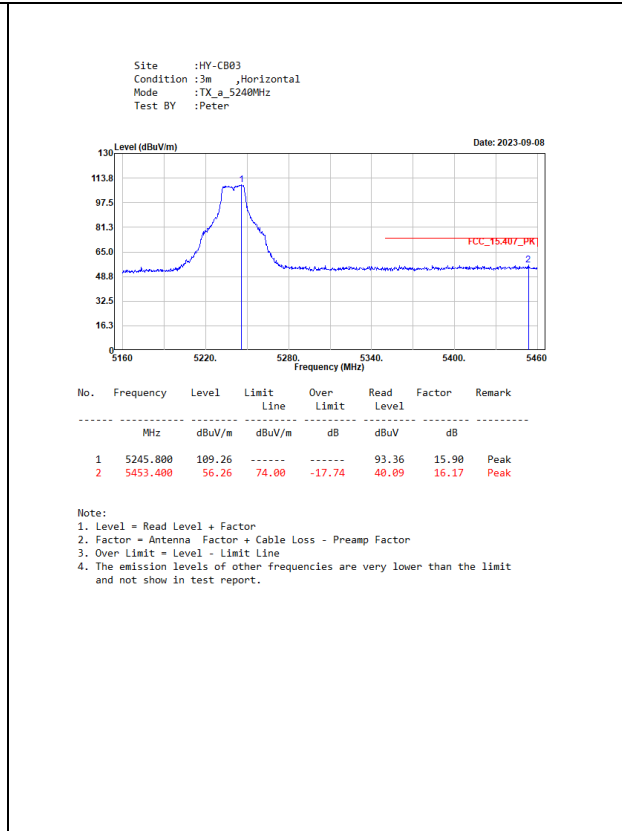
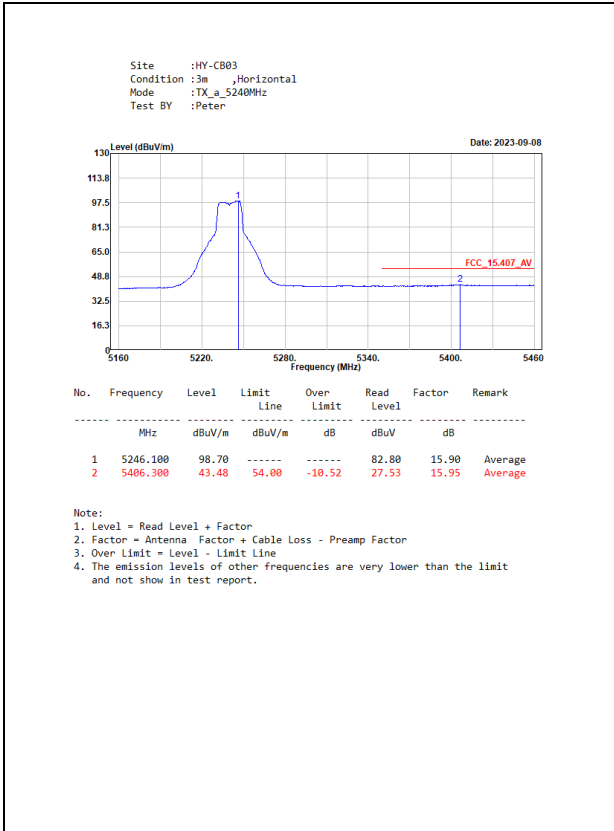
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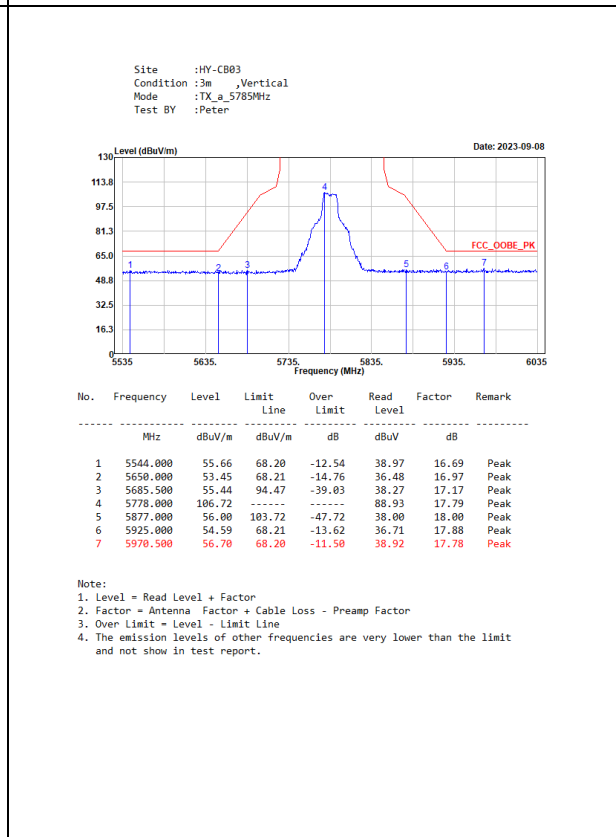
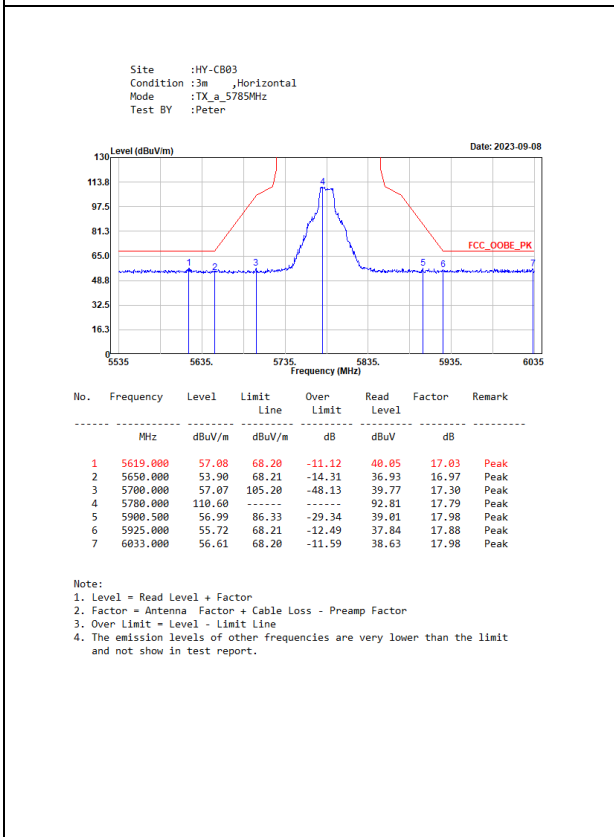
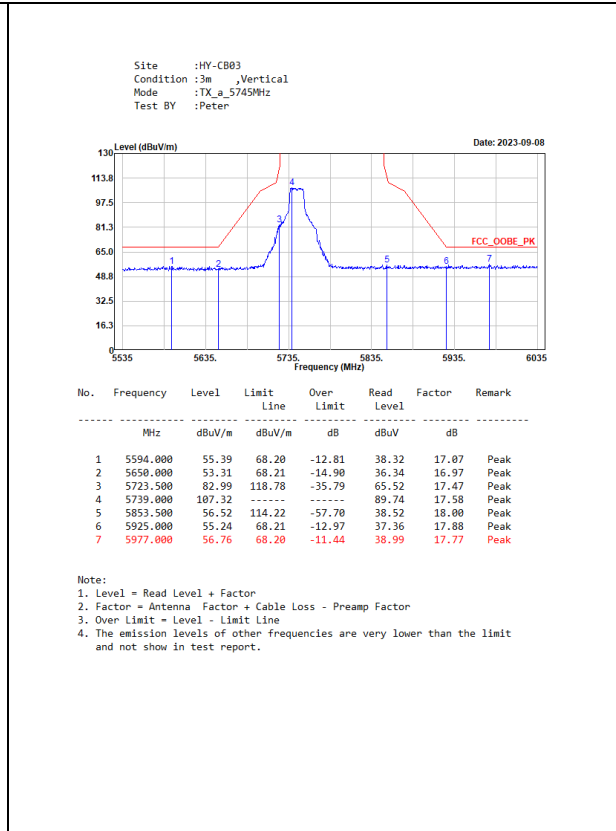
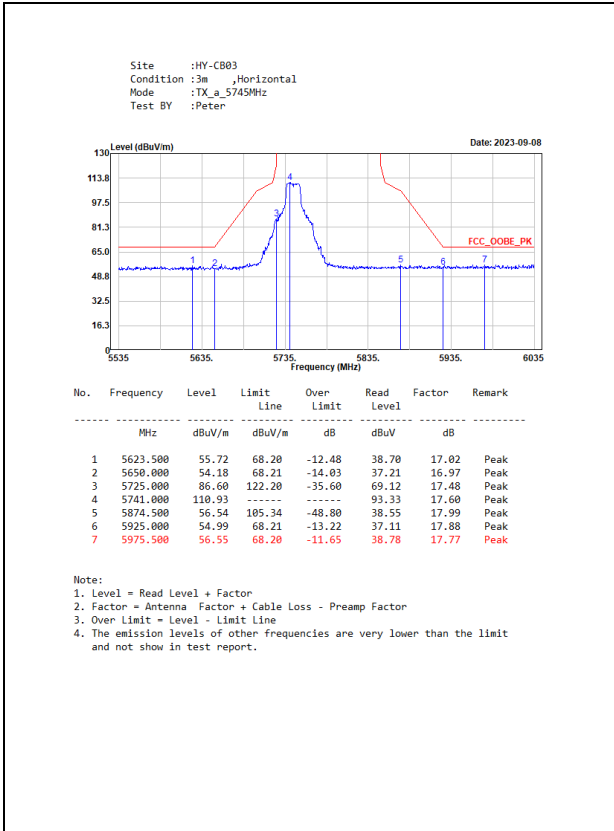


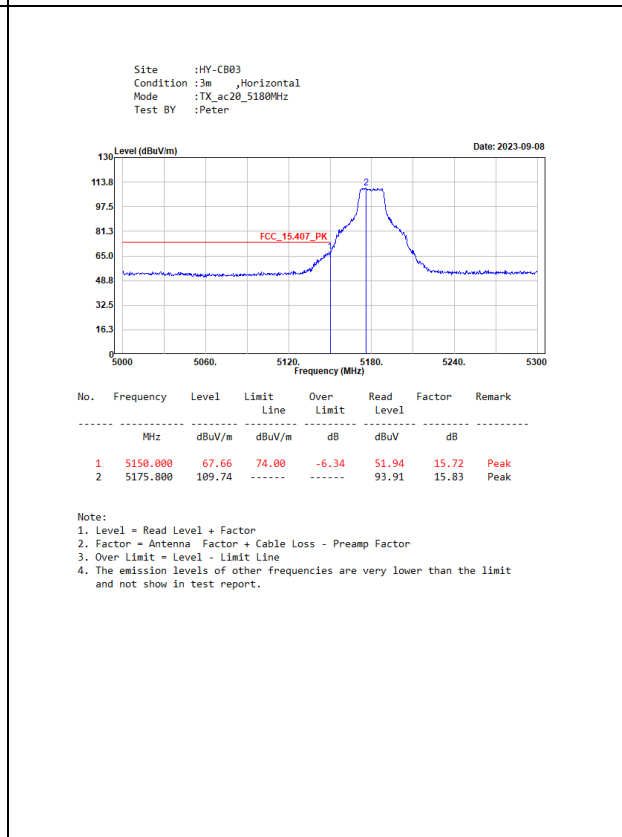
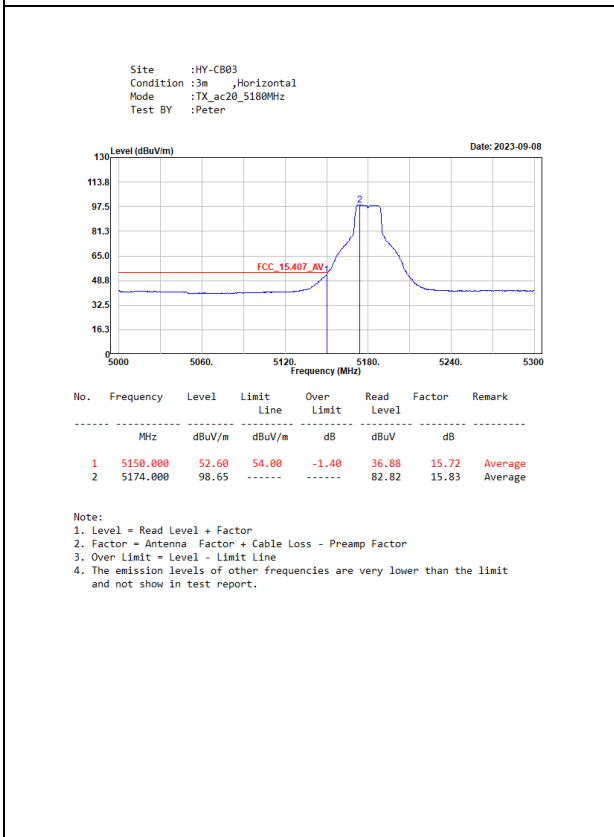
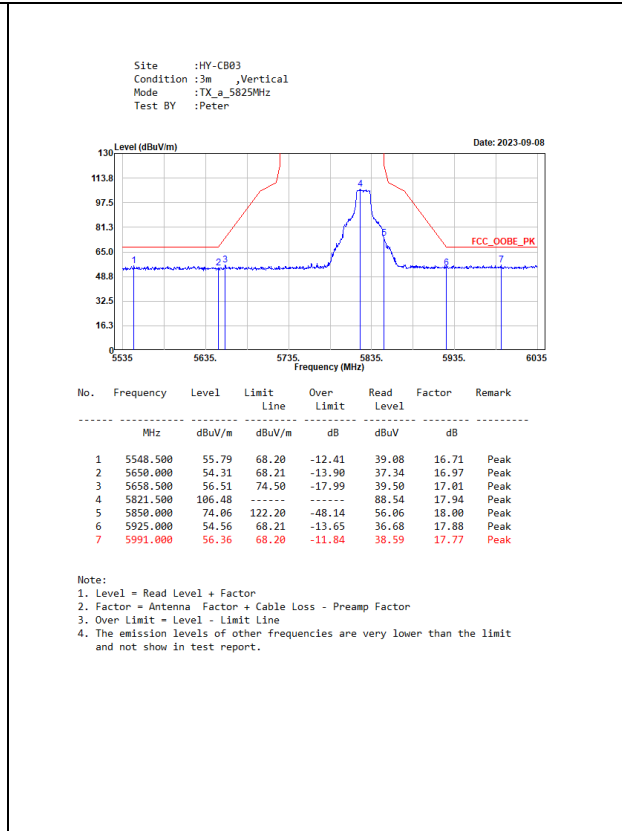
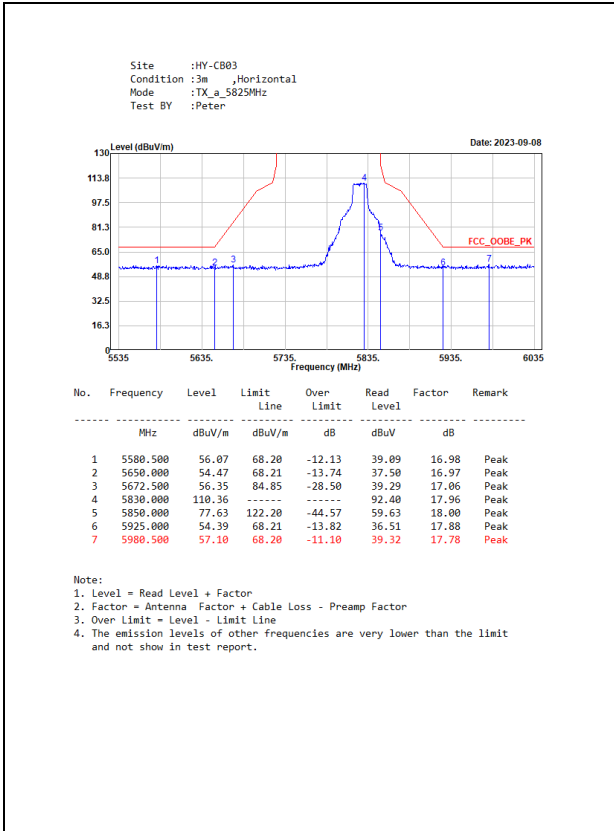


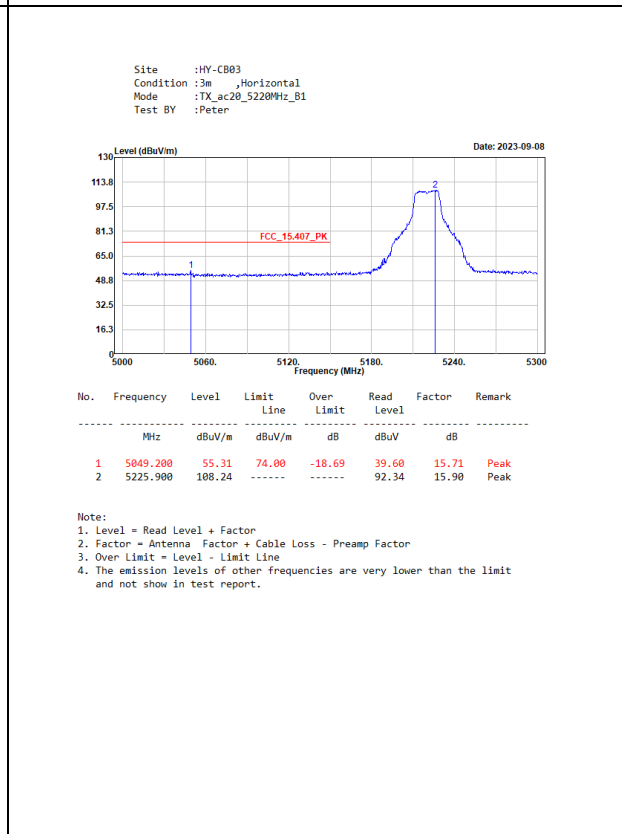
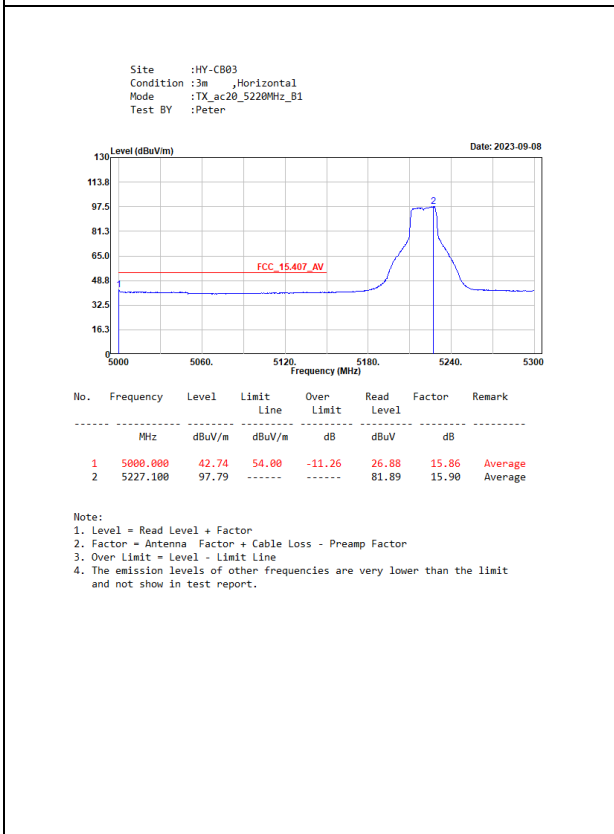
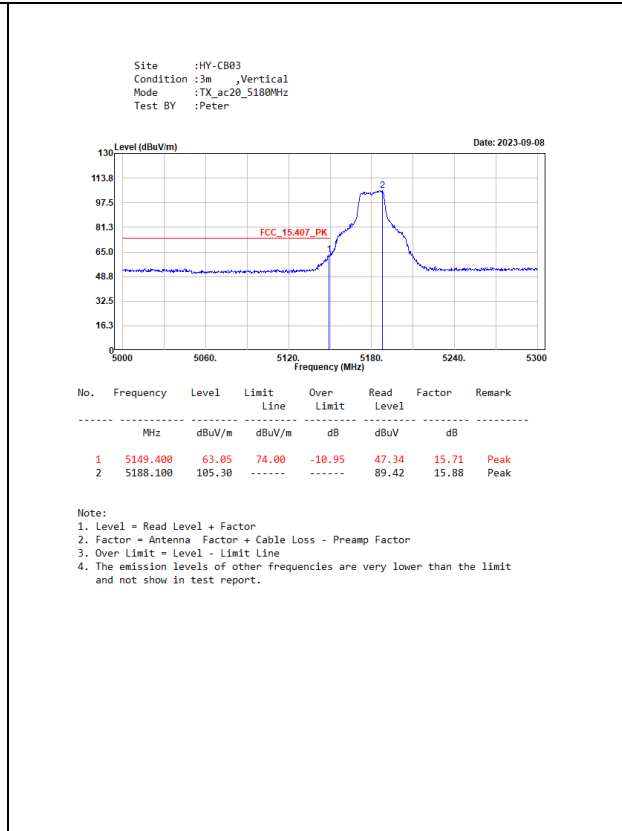
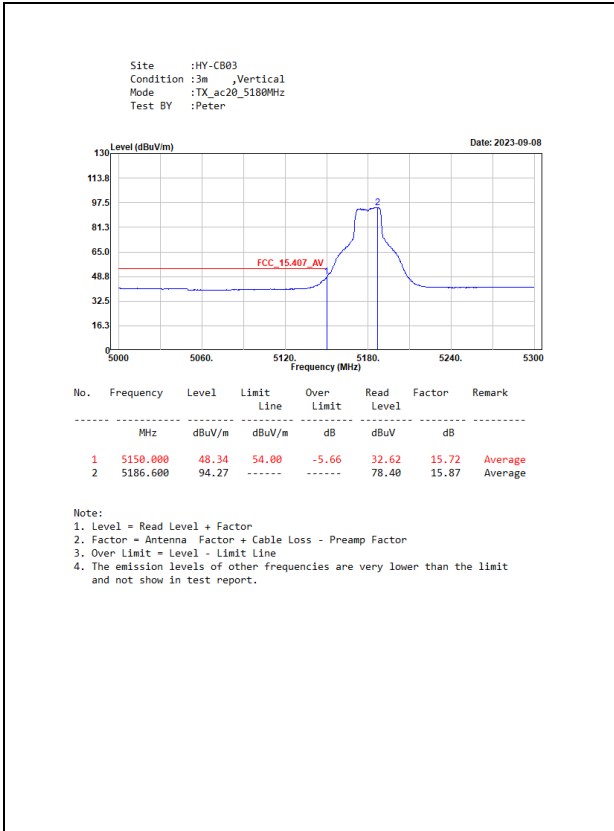


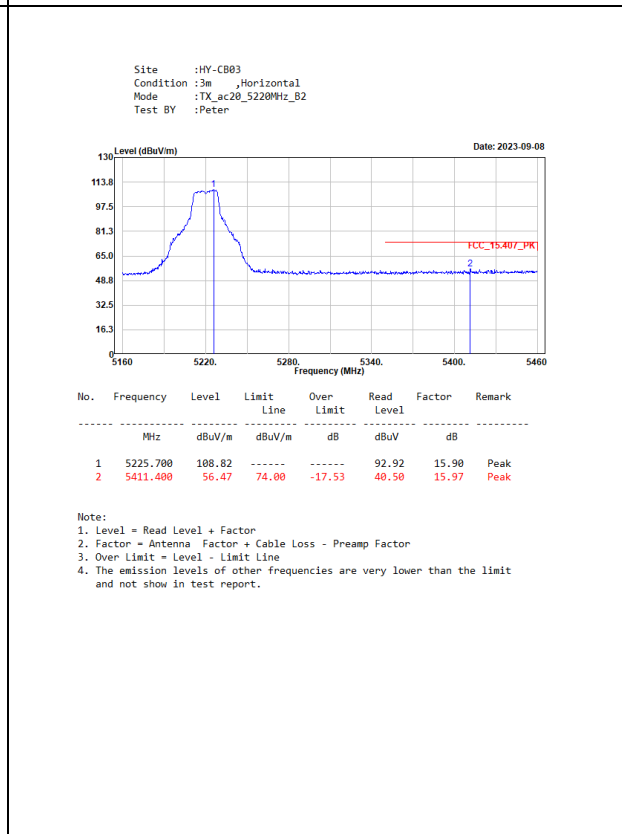
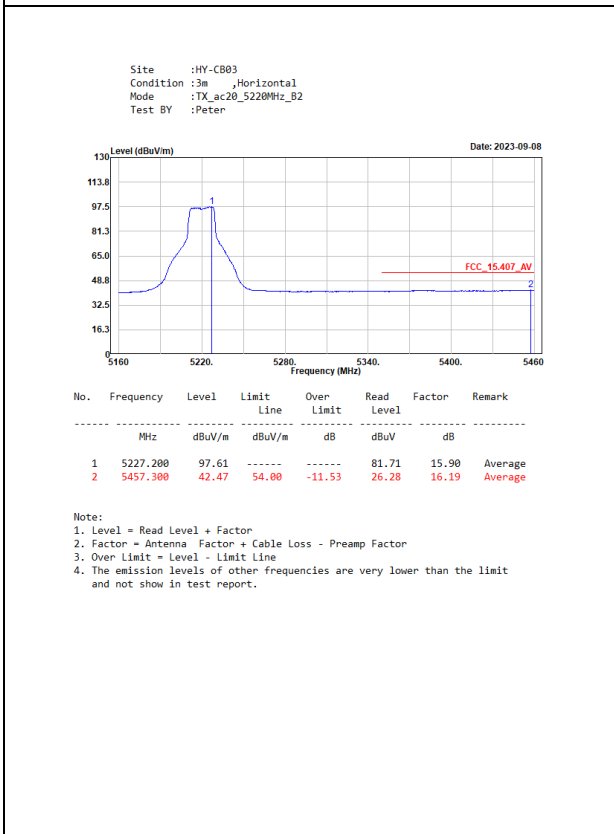
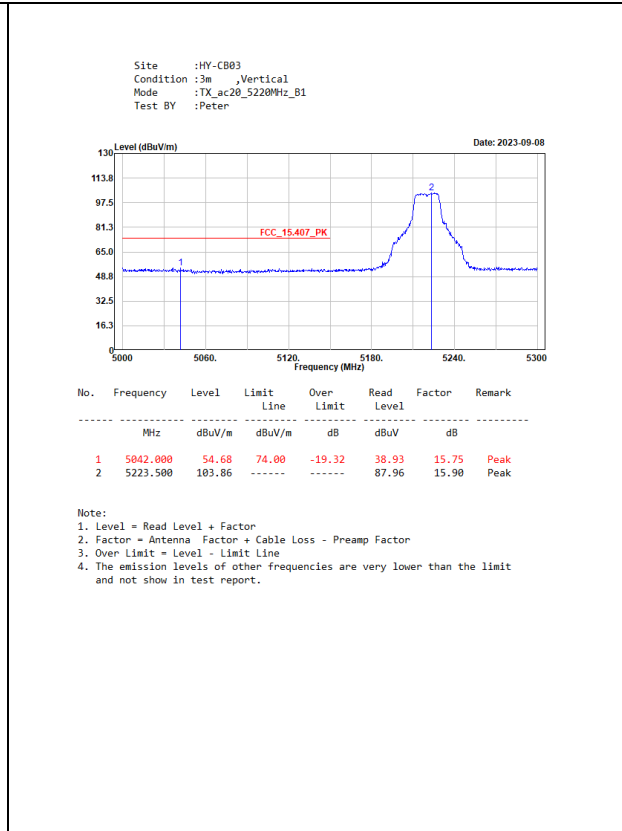
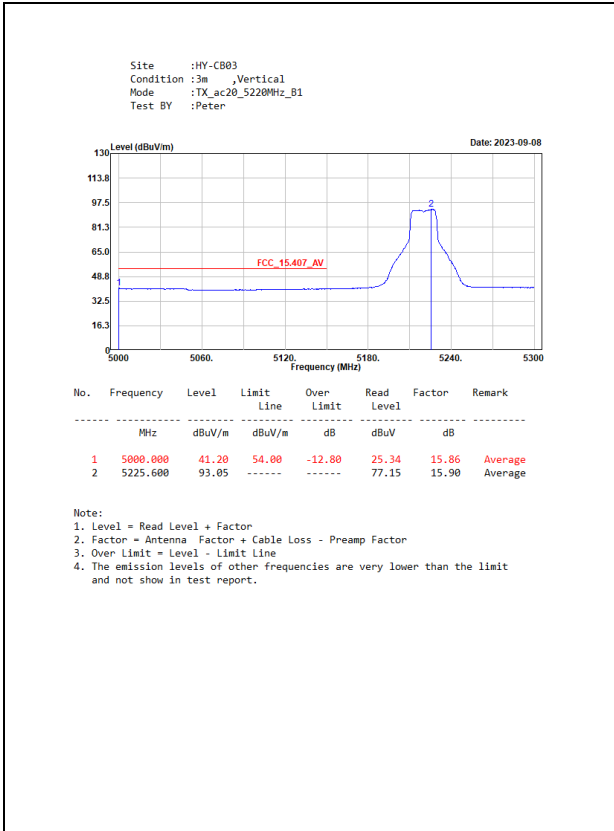


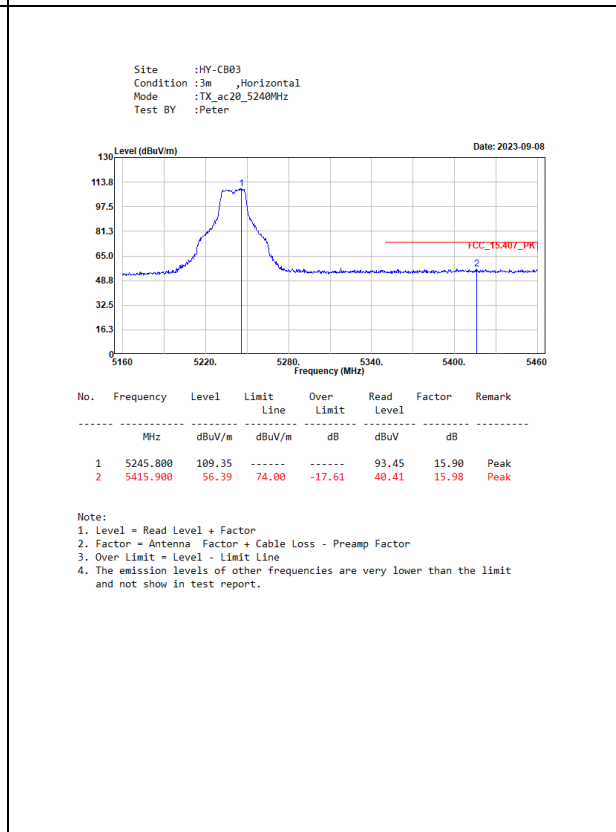
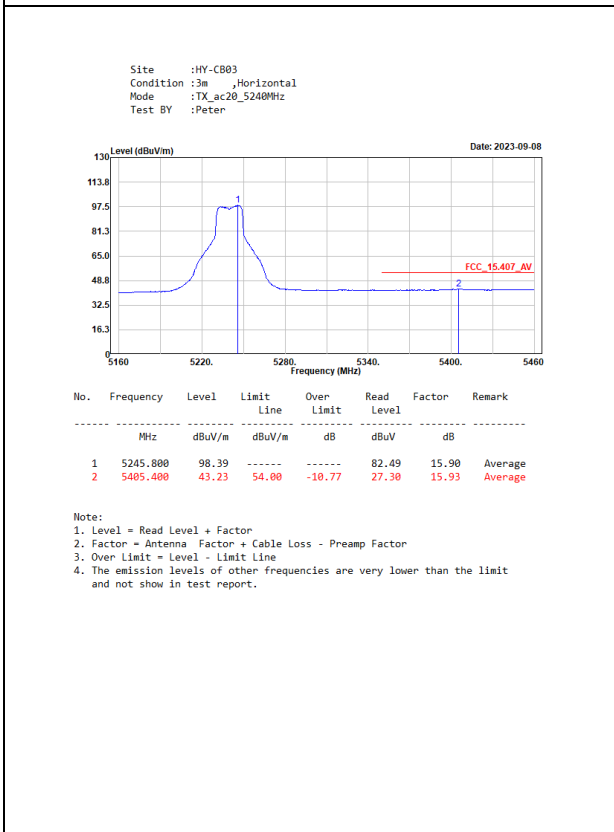
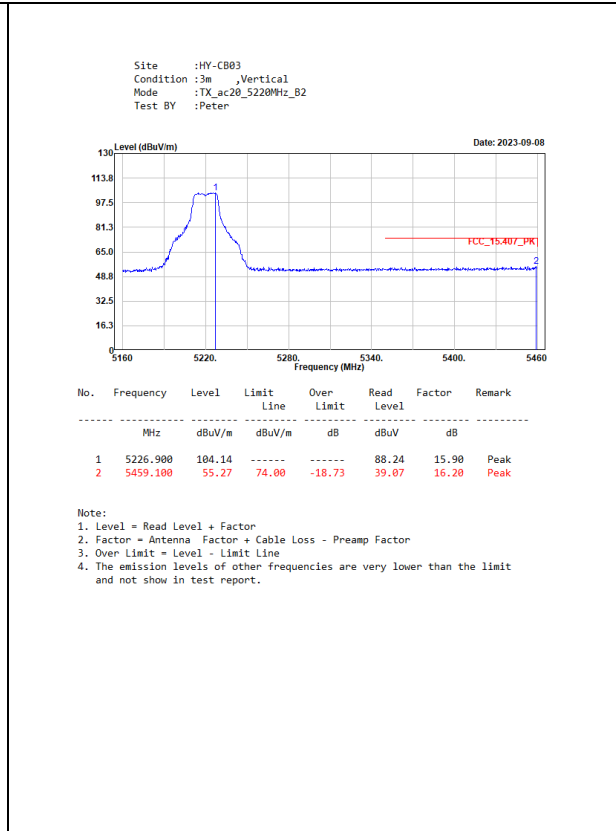
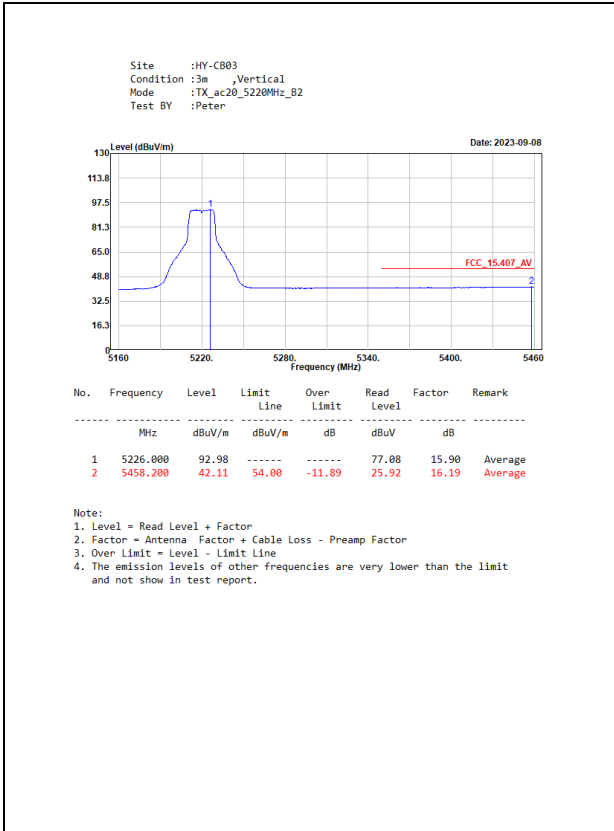


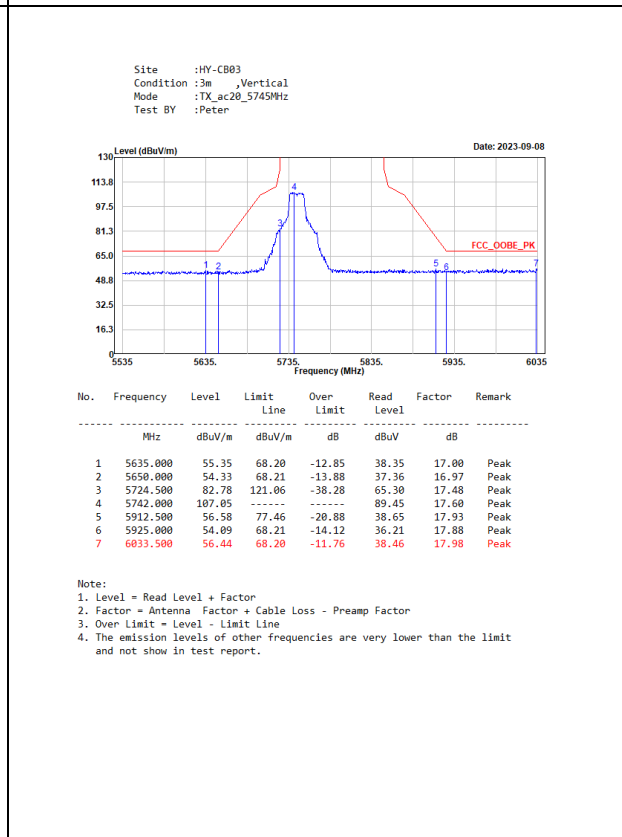
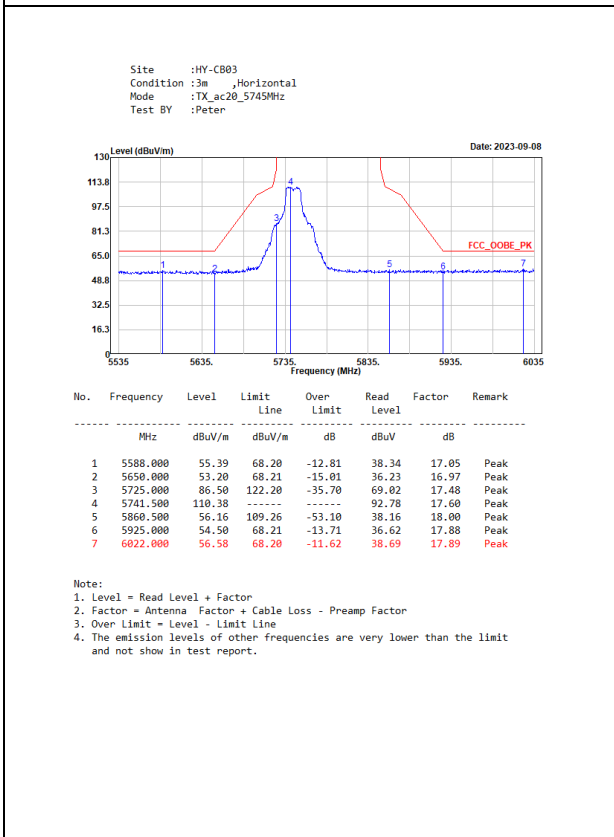
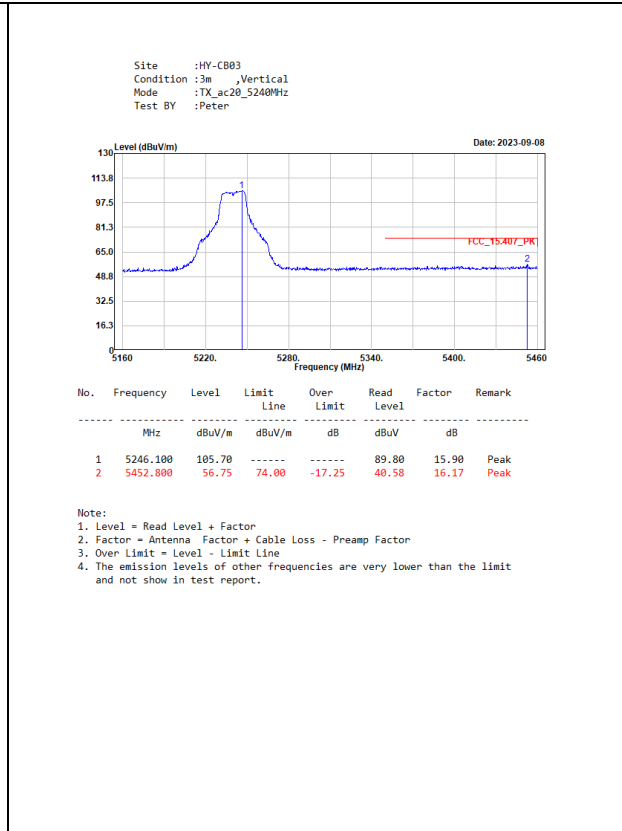
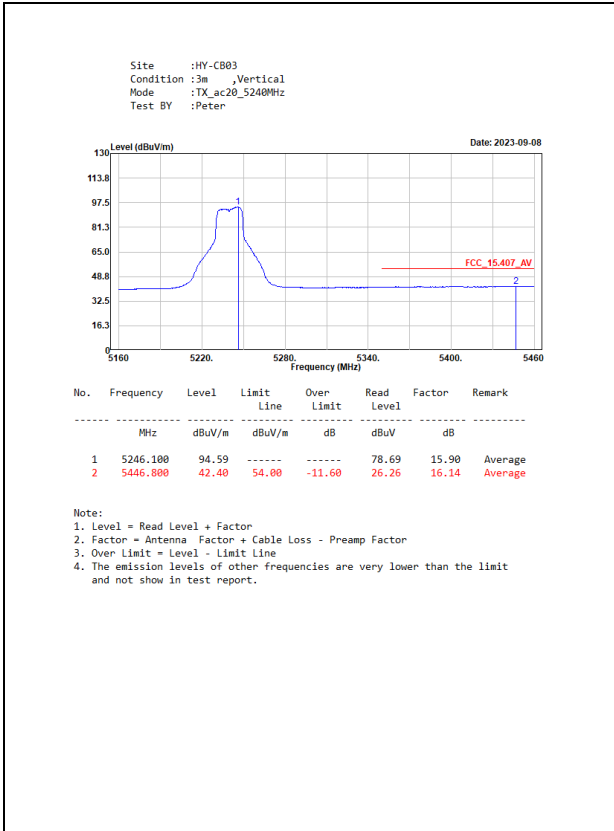




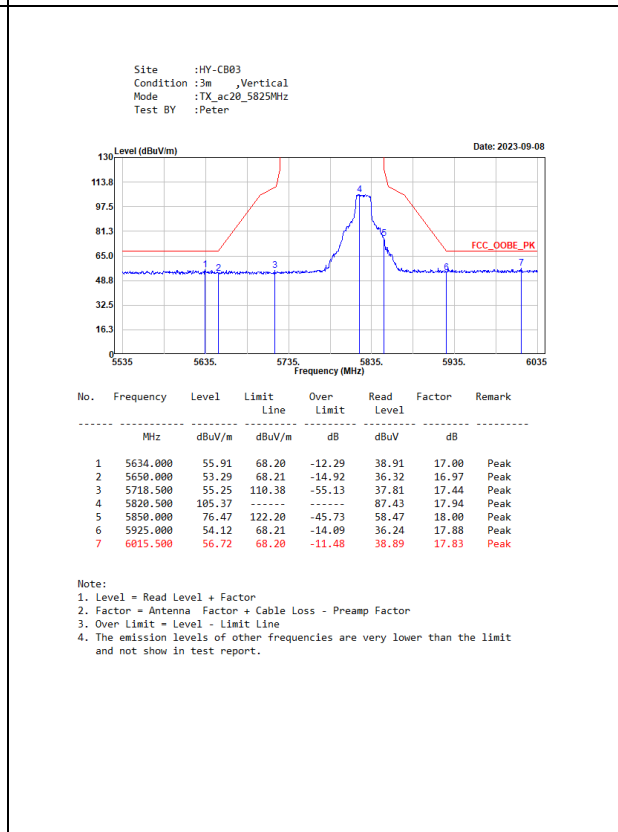
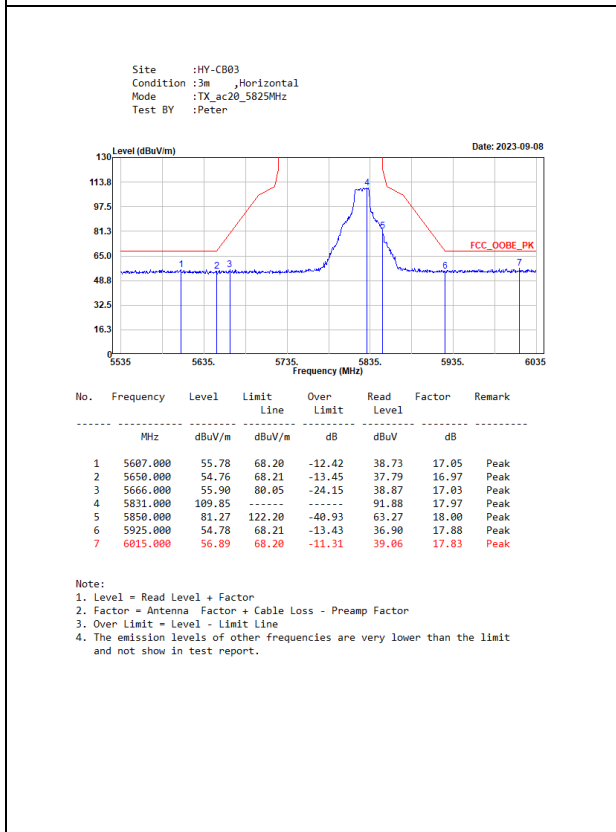
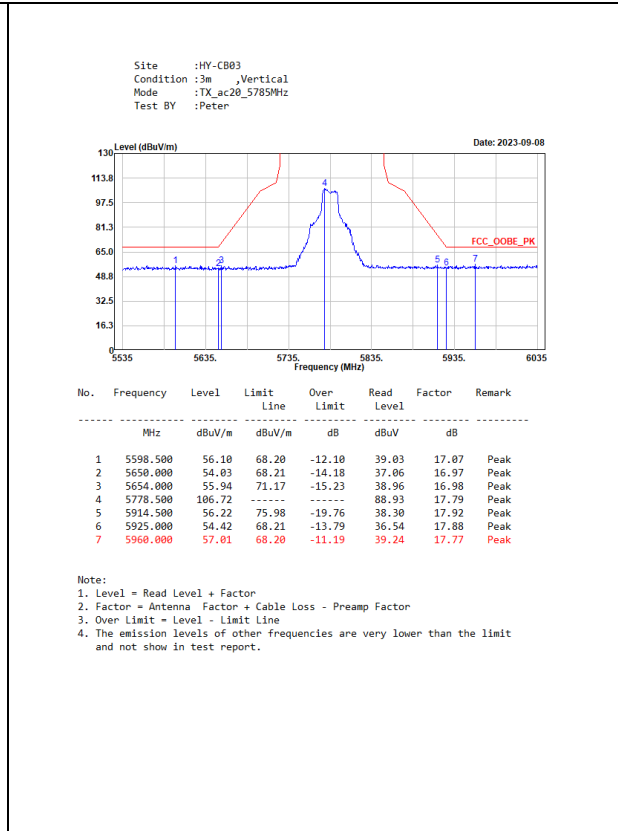
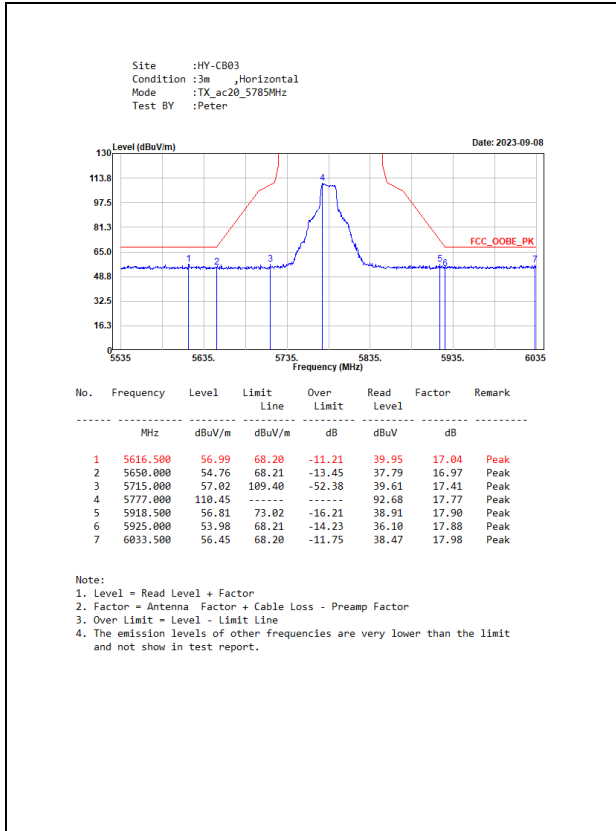


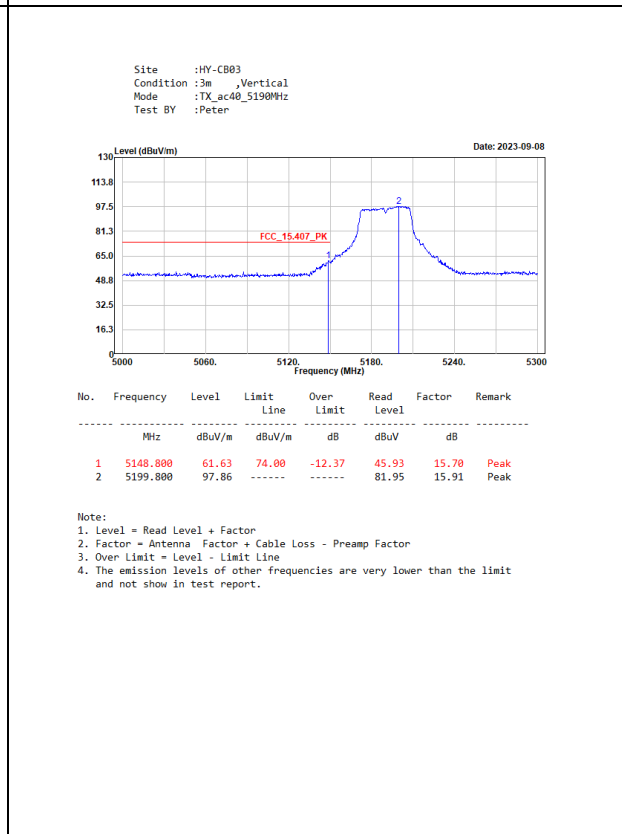
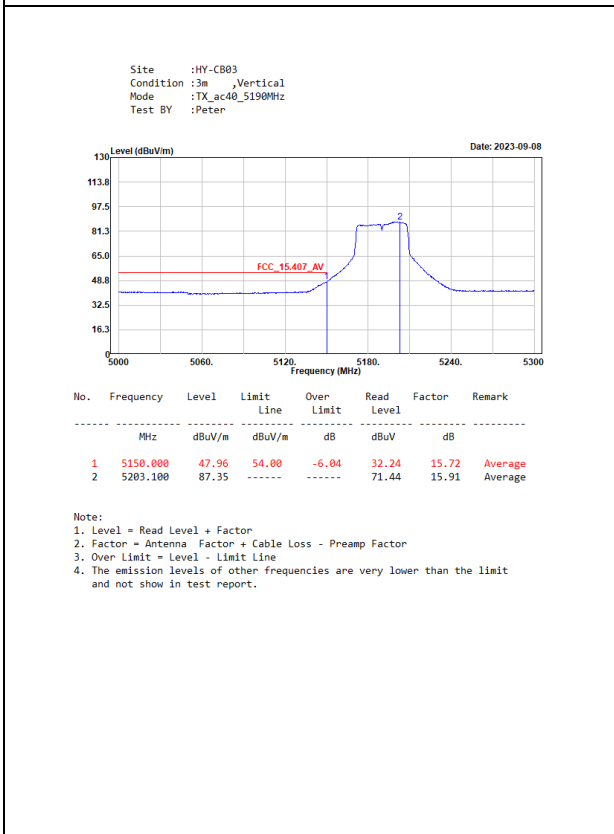
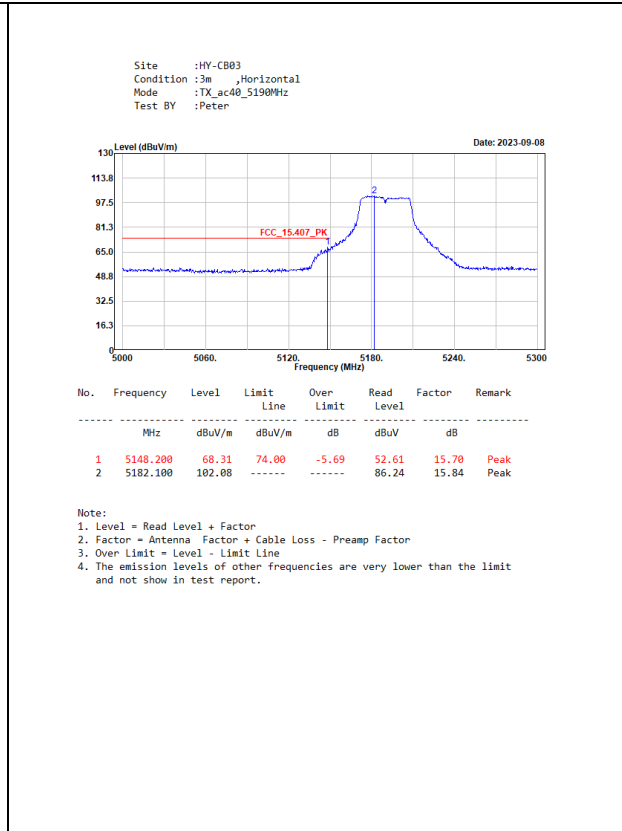
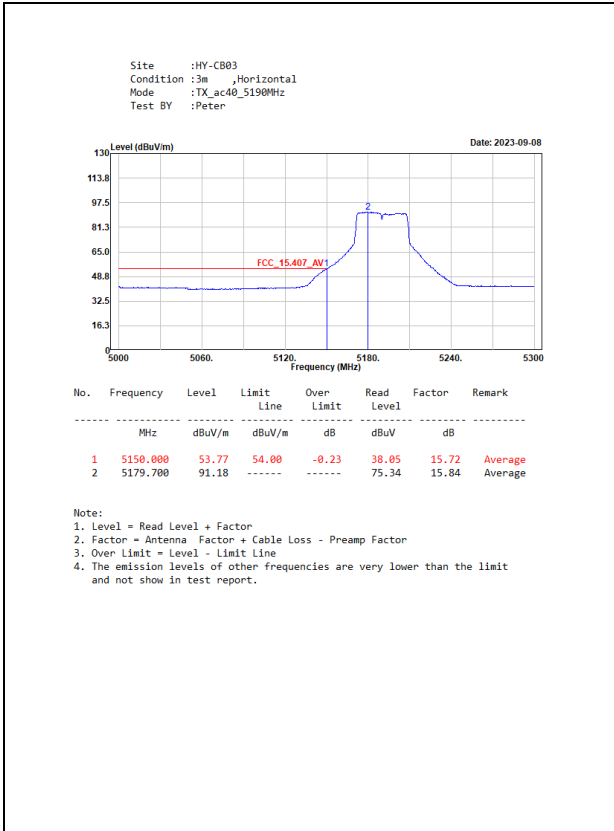


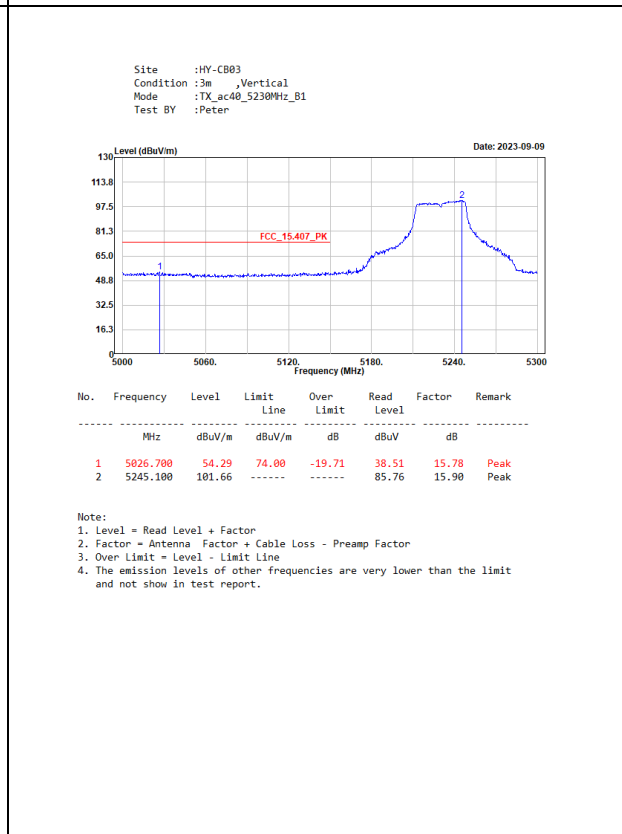
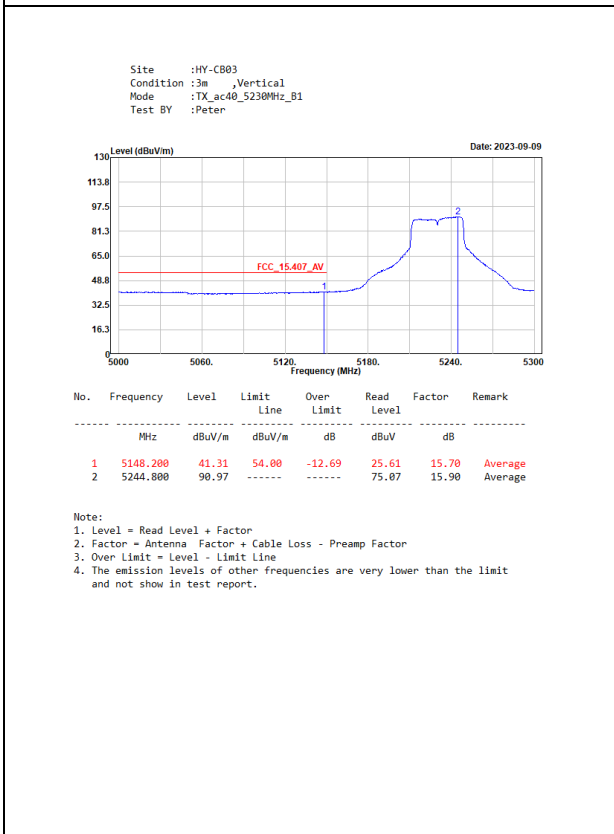
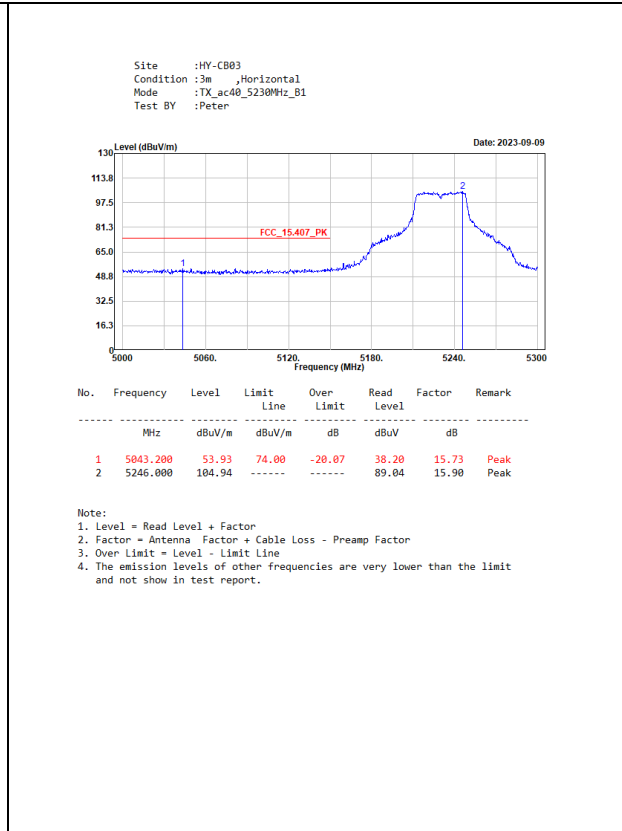
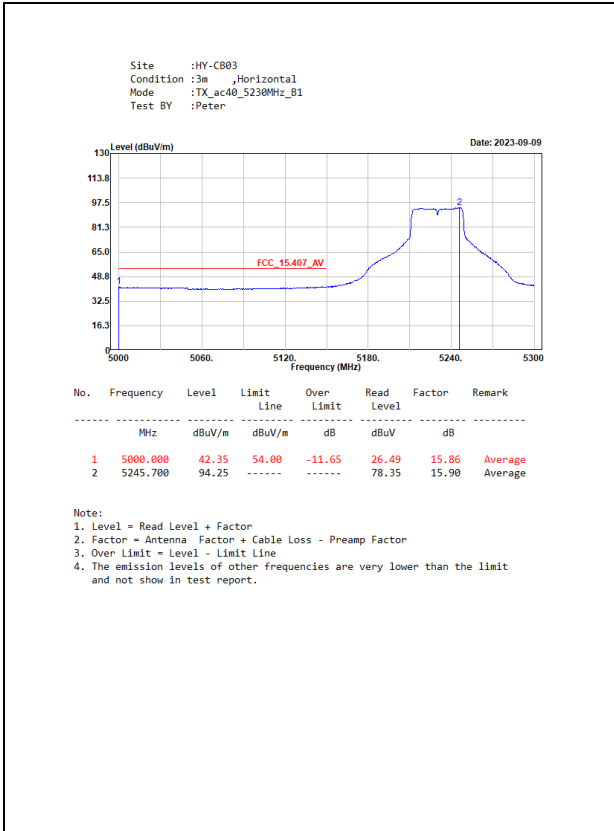


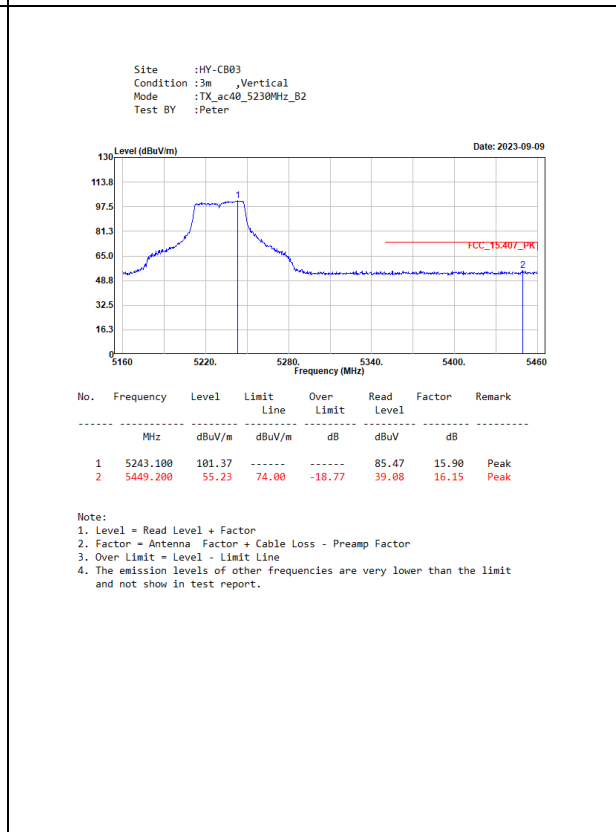
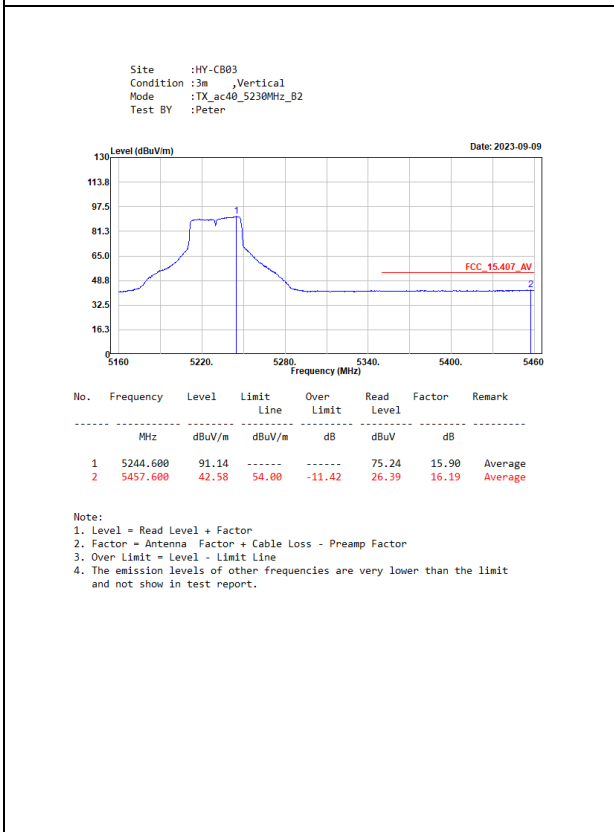
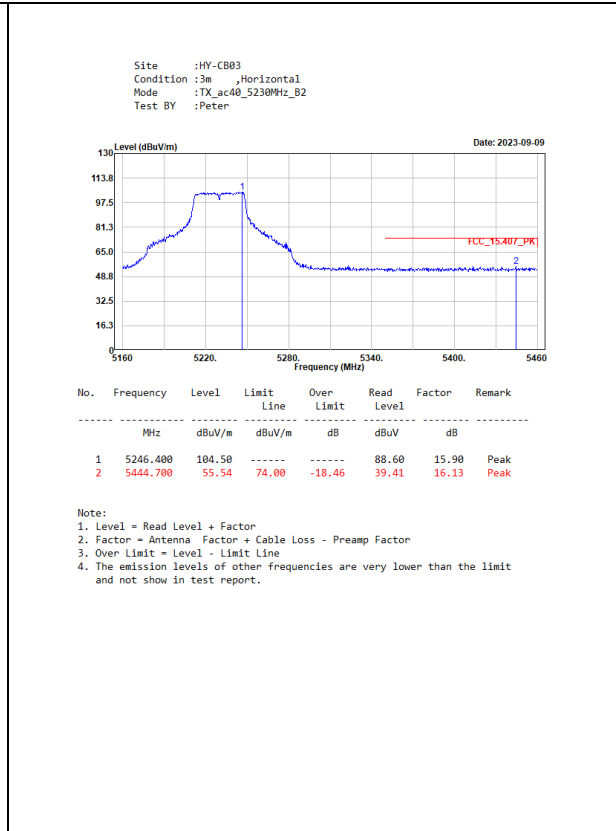
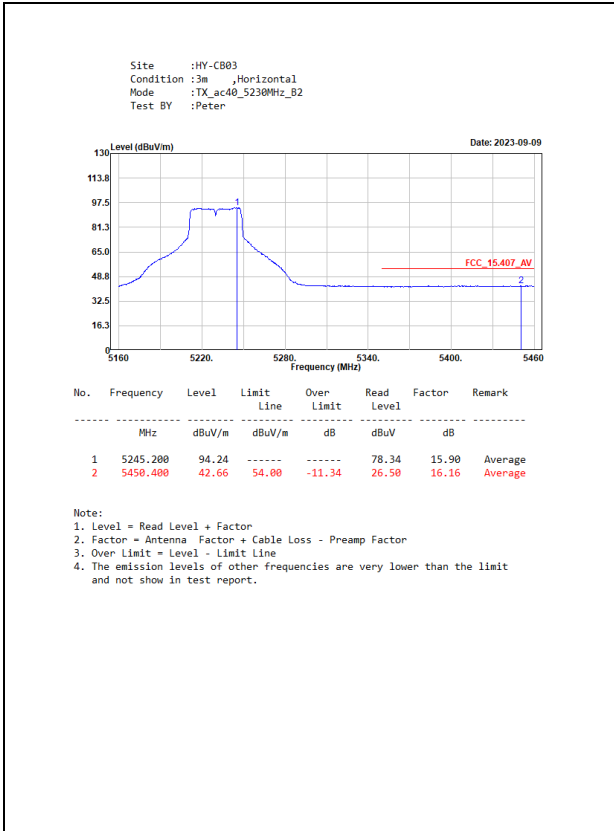


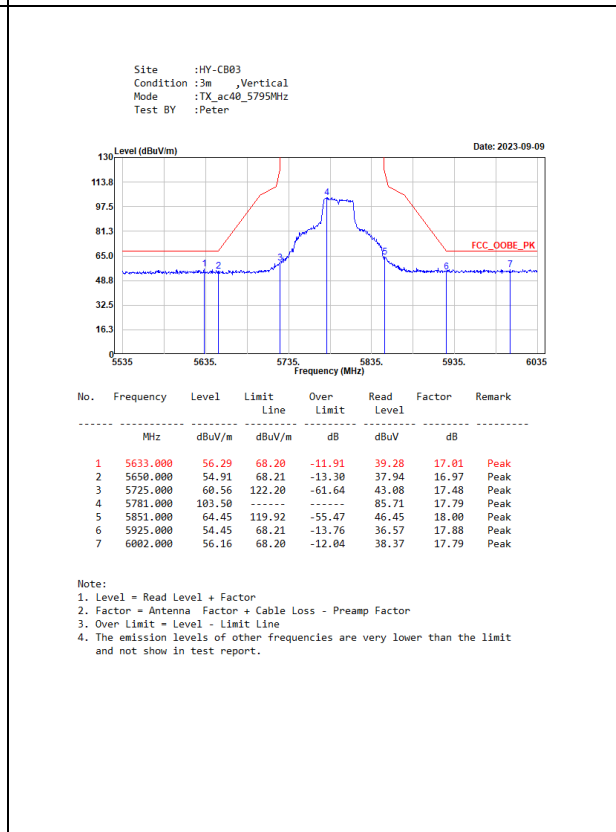
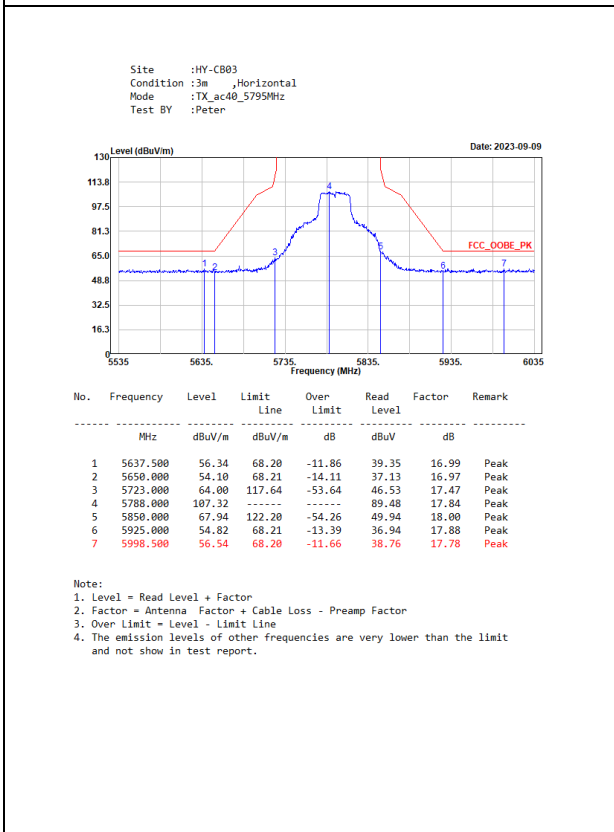
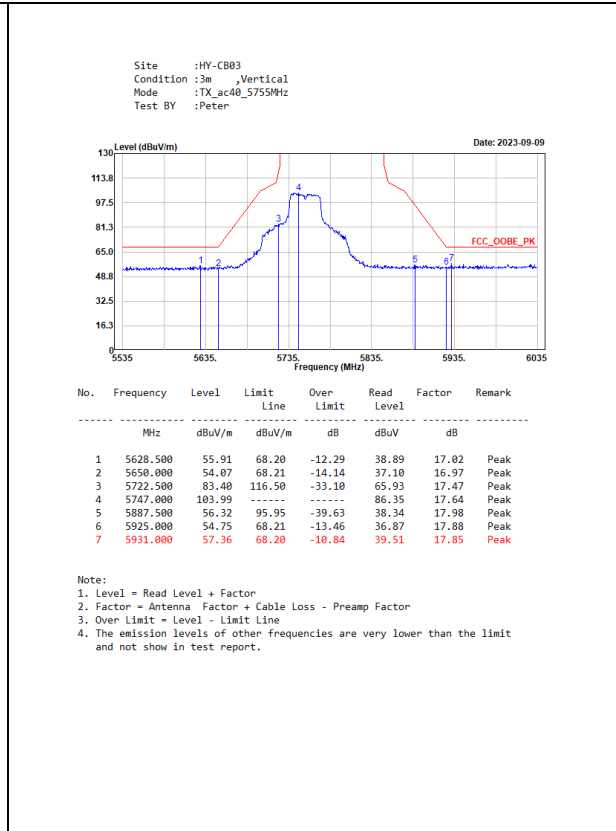
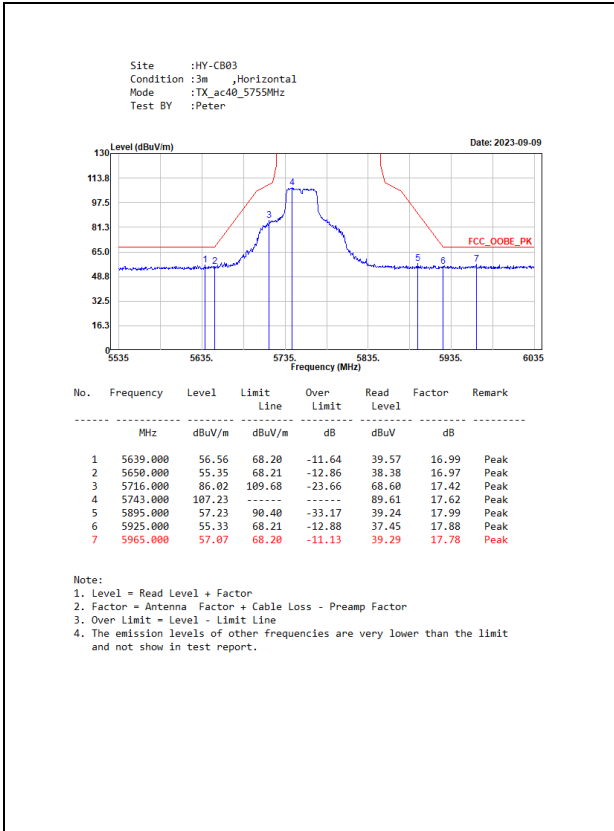


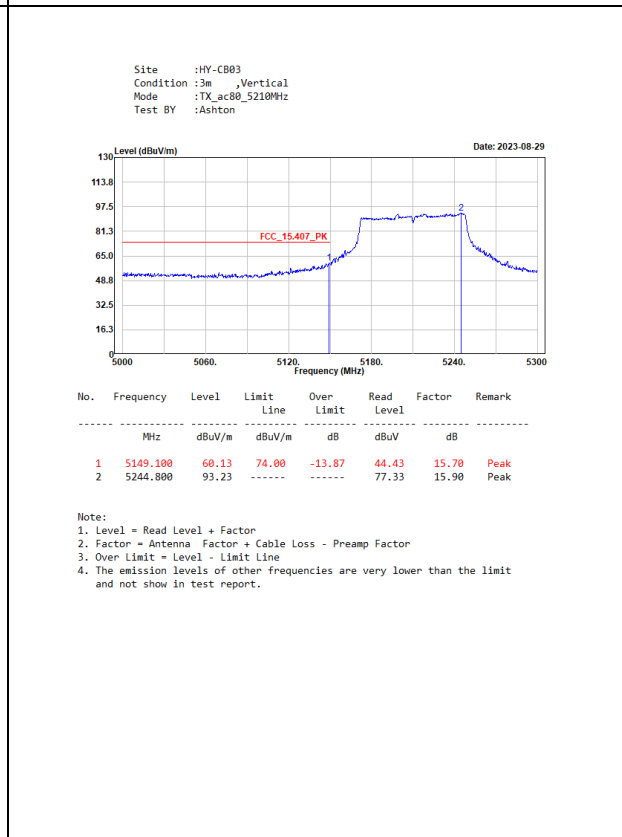
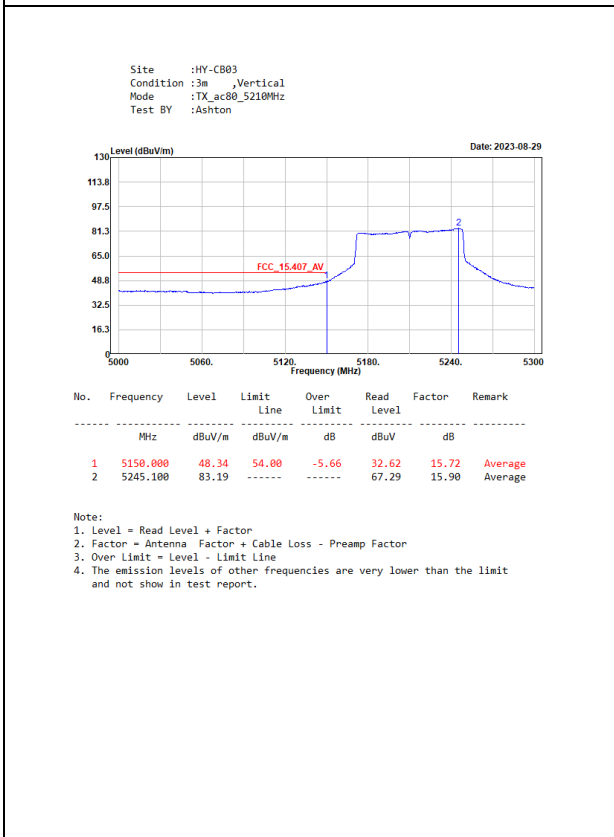
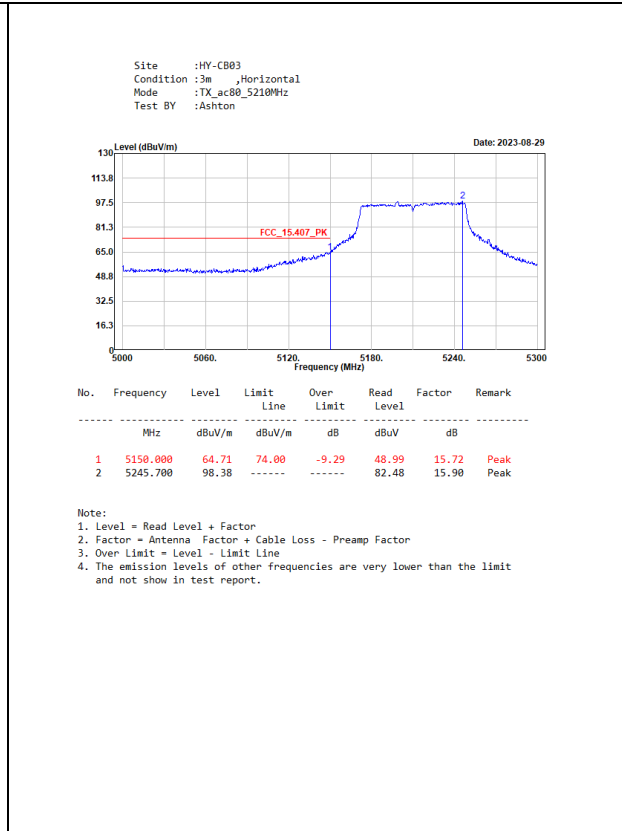
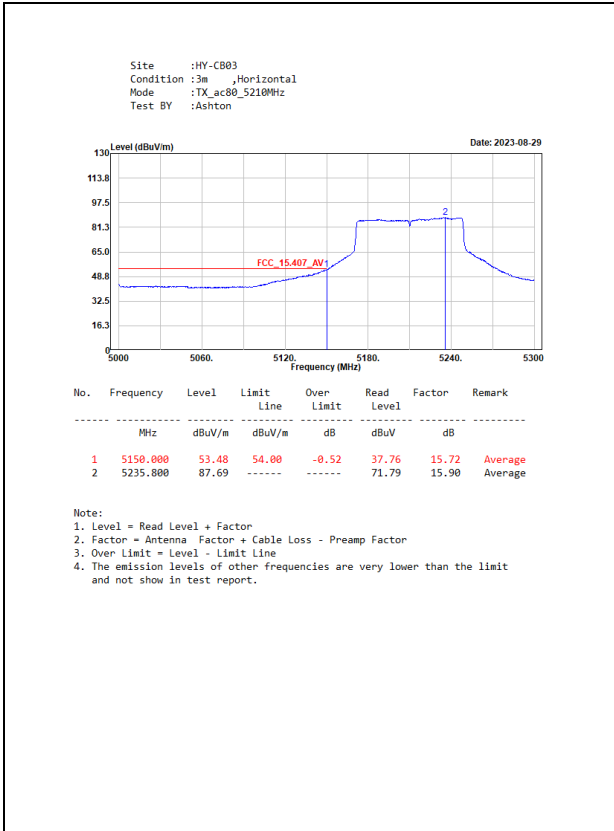


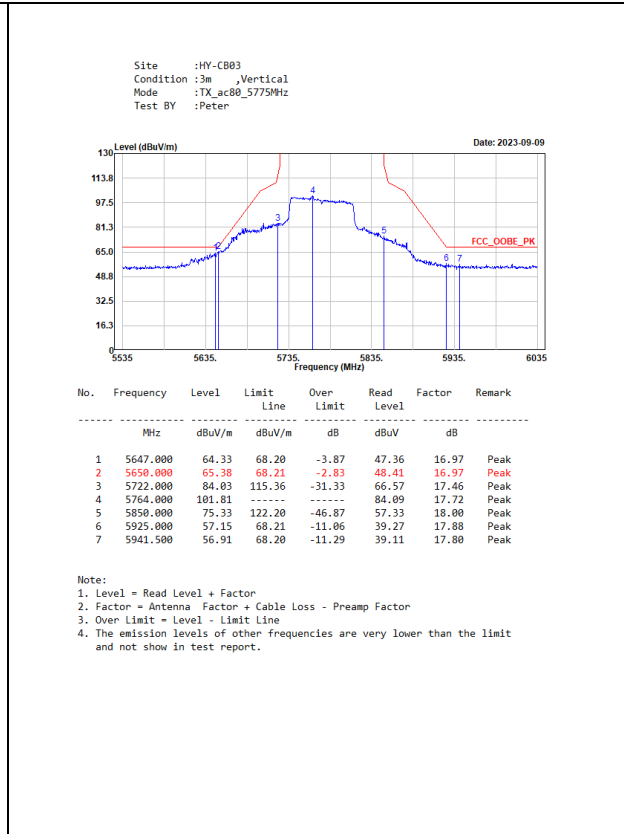
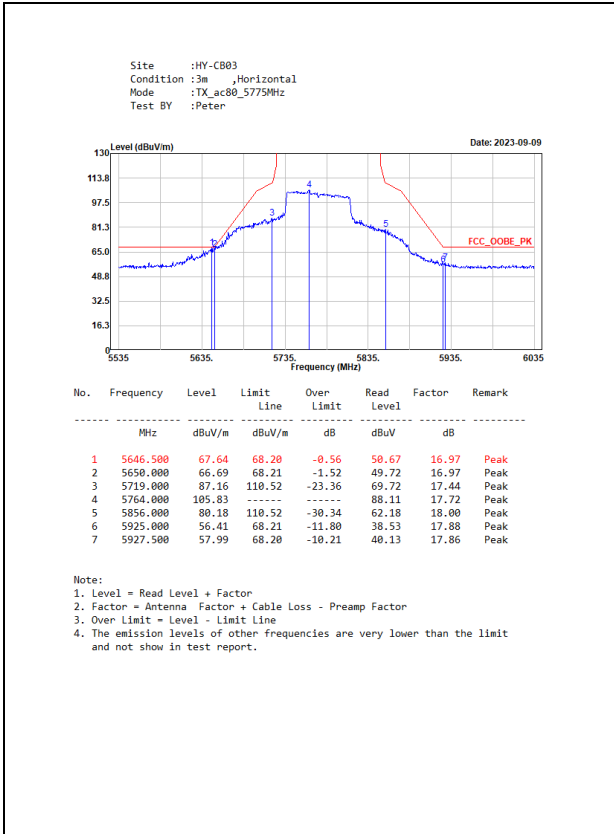




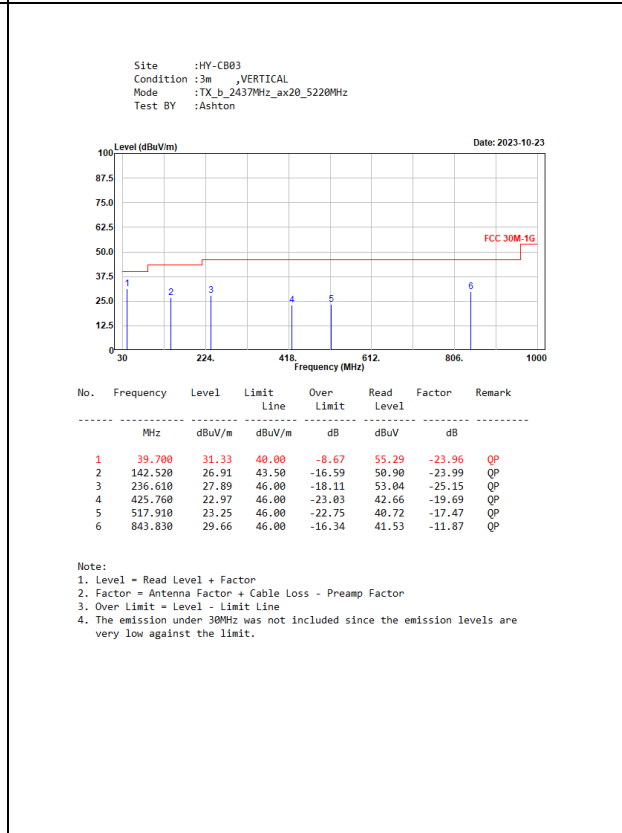
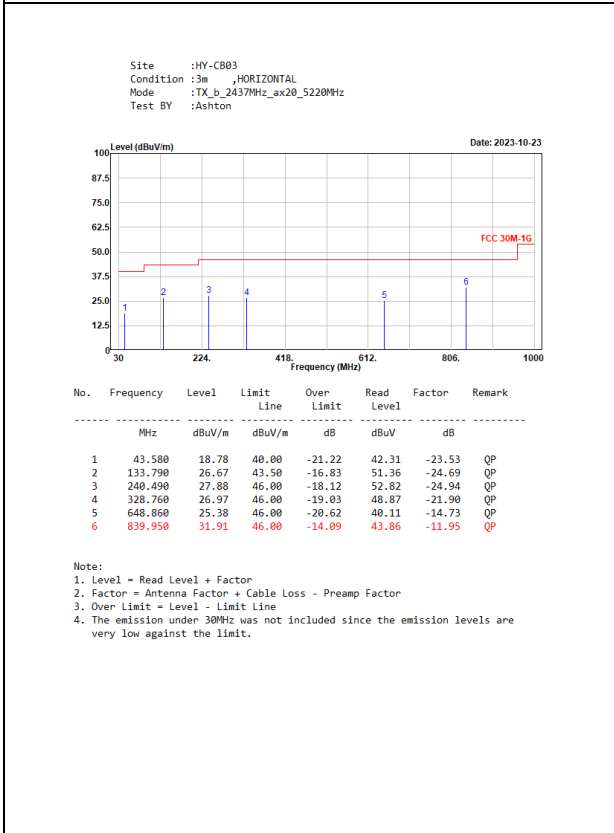
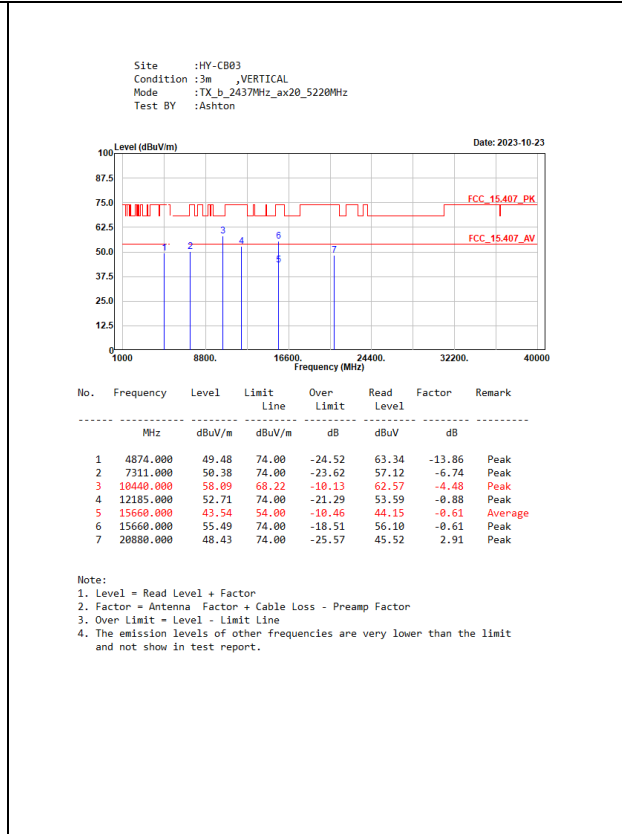
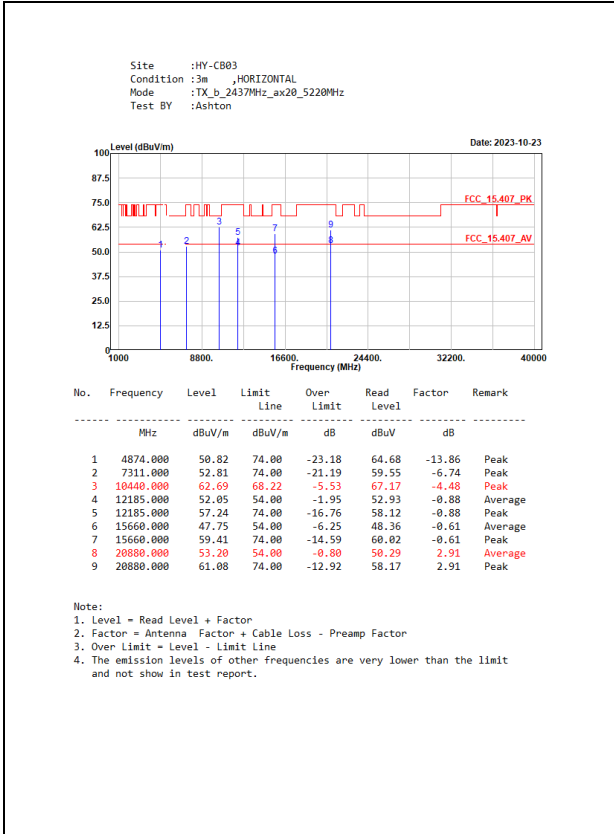








Co-location





Product : Wireless Access Point  
 Test Item : Band Edge Data  
 Test Mode : Transmit (802.11a)\_Radio-2

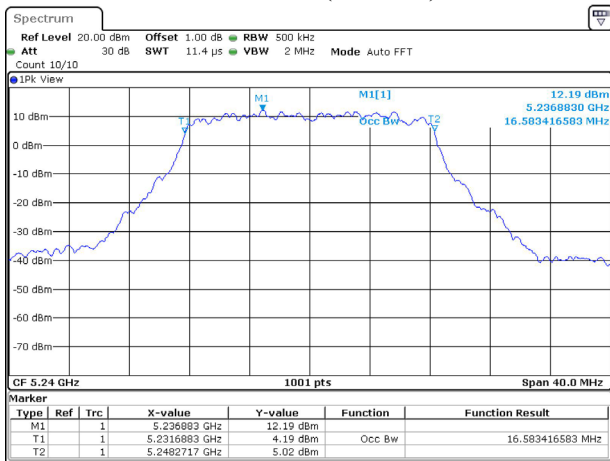
Chain A

Test Frequency (MHz)	Measurement Level (MHz)	Limit (MHz)	Result
5240	5248.31	<5250	PASS

Chain B

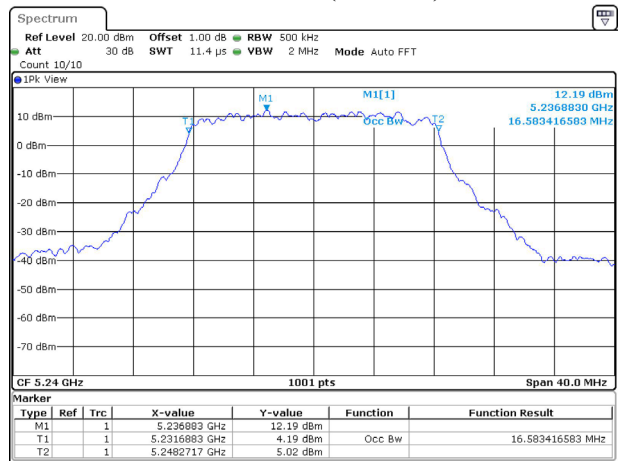
Test Frequency (MHz)	Measurement Level (MHz)	Limit (MHz)	Result
5240	5248.27	<5250	PASS

Channel 48 (Chain A)



Date: 13 SEP 2023 17:43:17

Channel 48 (Chain B)



Date: 13 SEP 2023 17:43:17

Product : Wireless Access Point  
 Test Item : Band Edge Data  
 Test Mode : Transmit (802.11ax-20 MHz)\_Radio-2

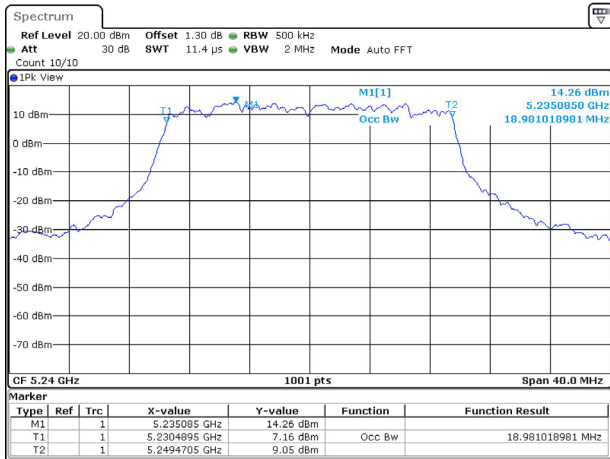
Chain A

Test Frequency (MHz)	Measurement Level (MHz)	Limit (MHz)	Result
5240	5249.47	<5250	PASS

Chain B

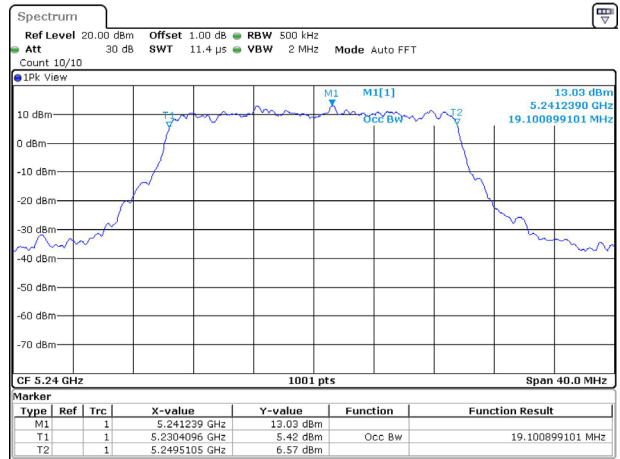
Test Frequency (MHz)	Measurement Level (MHz)	Limit (MHz)	Result
5240	5249.51	<5250	PASS

Channel 48 (Chain A)



Date: 13 SEP 2023 18:00:12

Channel 48 (Chain B)



Date: 13 SEP 2023 18:00:51

Product : Wireless Access Point  
 Test Item : Band Edge Data  
 Test Mode : Transmit (802.11ax-40 MHz)\_Radio-2

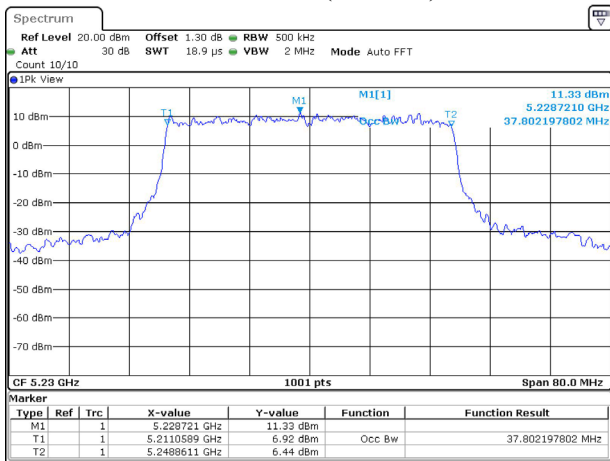
Chain A

Test Frequency (MHz)	Measurement Level (MHz)	Limit (MHz)	Result
5230	5248.86	<5250	PASS

Chain B

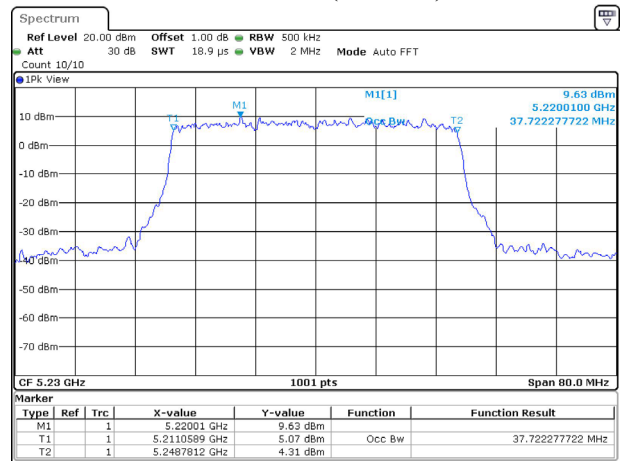
Test Frequency (MHz)	Measurement Level (MHz)	Limit (MHz)	Result
5230	5248.78	<5250	PASS

Channel 46 (Chain A)



Date: 13 SEP 2023 19:02:22

Channel 46 (Chain B)



Date: 13 SEP 2023 19:01:41

Product : Wireless Access Point  
 Test Item : Band Edge Data  
 Test Mode : Transmit (802.11ax-80 MHz)\_Radio-2

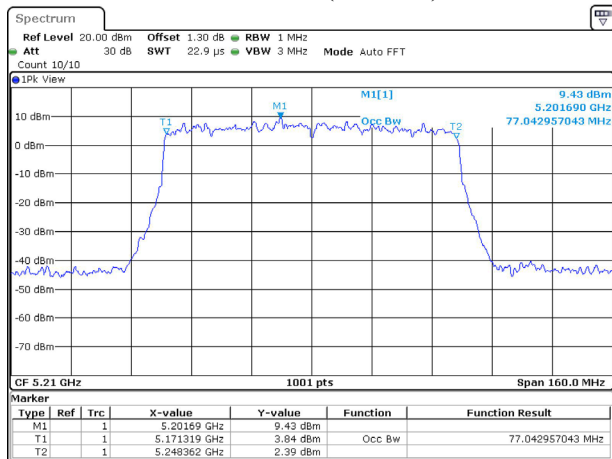
Chain A

Test Frequency (MHz)	Measurement Level (MHz)	Limit (MHz)	Result
5210	5248.36	<5250	PASS

Chain B

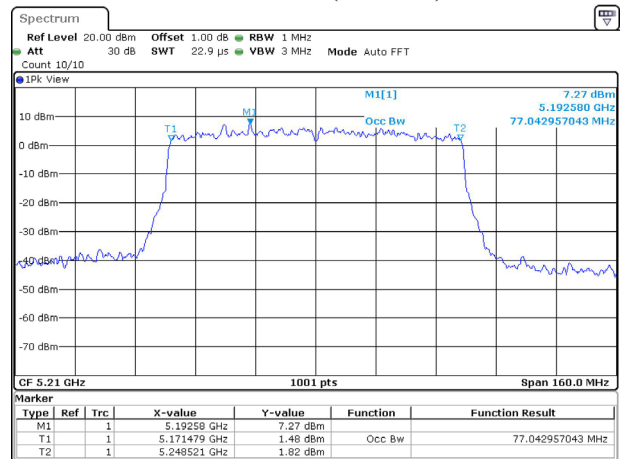
Test Frequency (MHz)	Measurement Level (MHz)	Limit (MHz)	Result
5210	5248.52	<5250	PASS

Channel 42 (Chain A)



Date: 13 SEP 2023 19:50:57

Channel 42 (Chain B)

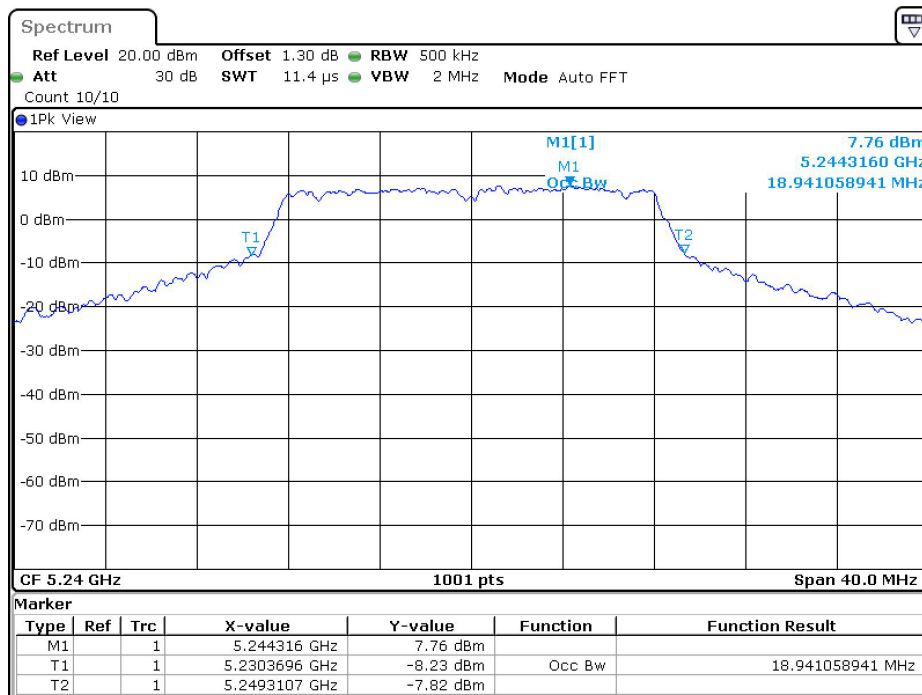


Date: 13 SEP 2023 19:51:35

Product : Wireless Access Point  
 Test Item : Band Edge Data  
 Test Mode : Transmit (802.11a)\_Radio-3

Test Frequency (MHz)	Measurement Level (MHz)	Limit (MHz)	Result
5240	5249.31	<5250	PASS

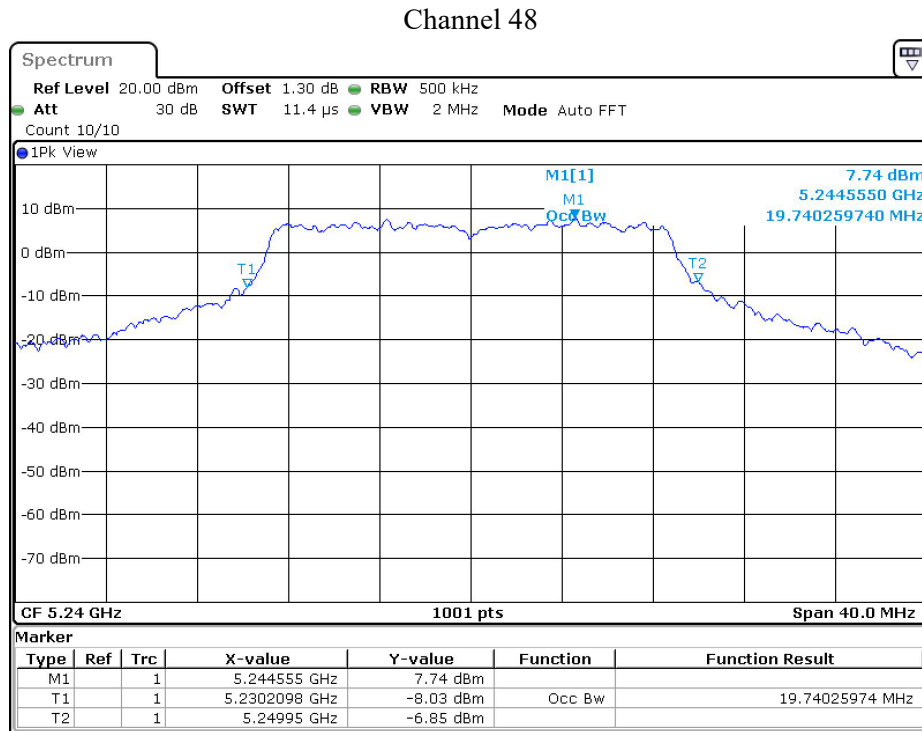
Channel 48



Date: 19.SEP.2023 15:29:20

Product : Wireless Access Point  
 Test Item : Band Edge Data  
 Test Mode : Transmit (802.11ac-20 MHz)\_Radio-3

Test Frequency (MHz)	Measurement Level (MHz)	Limit (MHz)	Result
5240	5249.95	<5250	PASS

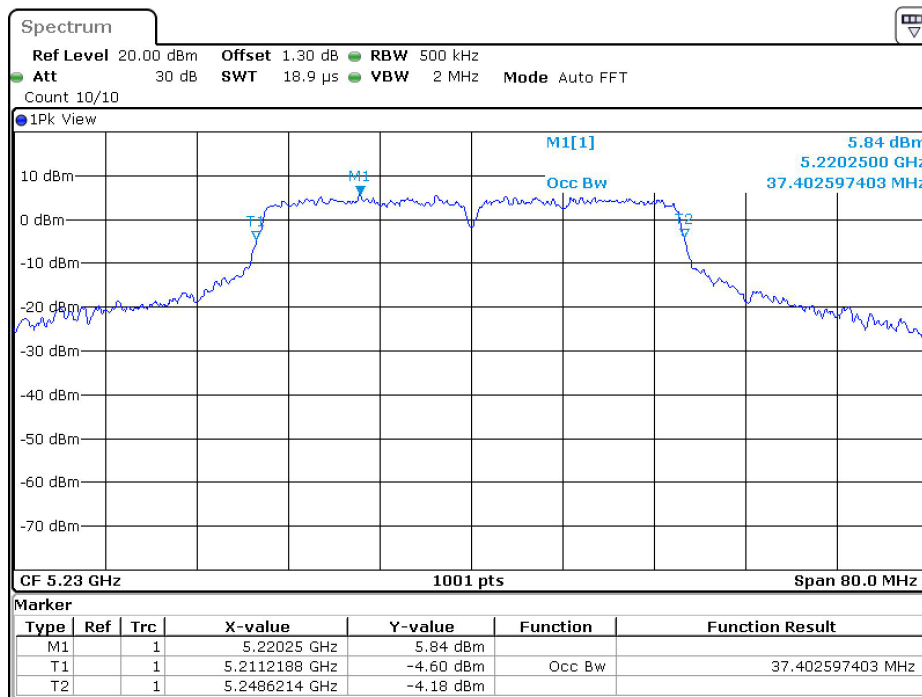


Date: 19.SEP.2023 15:30:04

Product : Wireless Access Point  
 Test Item : Band Edge Data  
 Test Mode : Transmit (802.11ac-40 MHz)\_Radio-3

Test Frequency (MHz)	Measurement Level (MHz)	Limit (MHz)	Result
5230	5248.62	<5250	PASS

Channel 46



Date: 12.SEP.2023 17:27:35