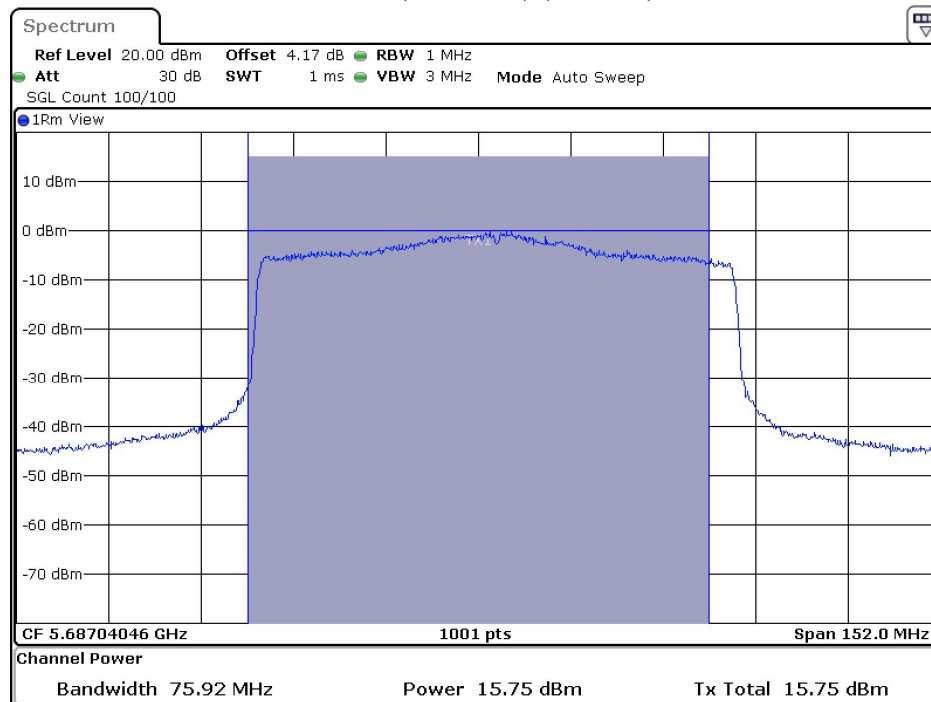
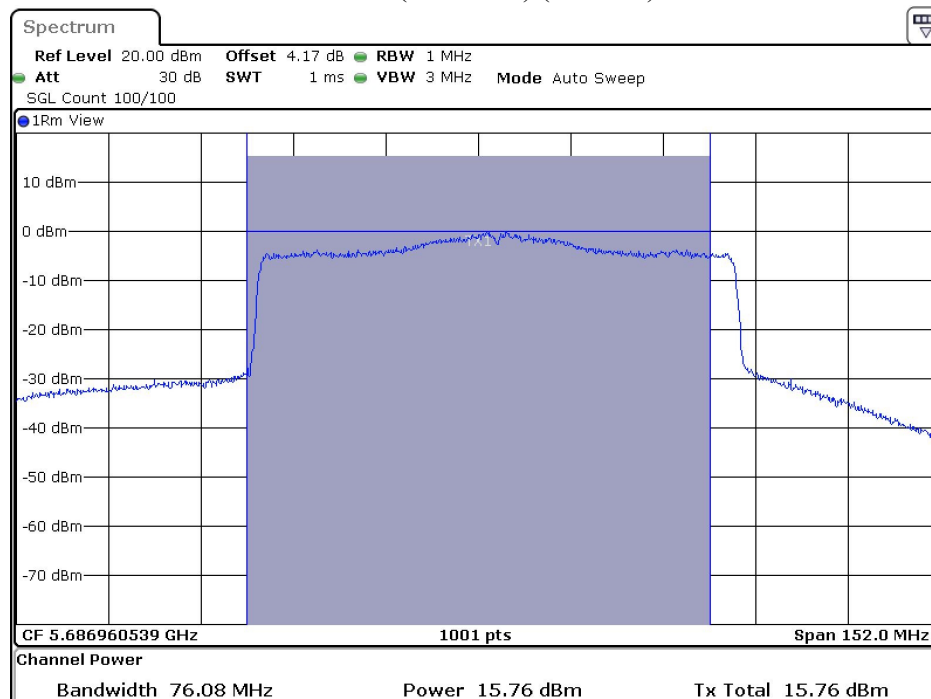


Maximum conducted output power:  
Channel 138 (U-NII-2C) (Chain A)



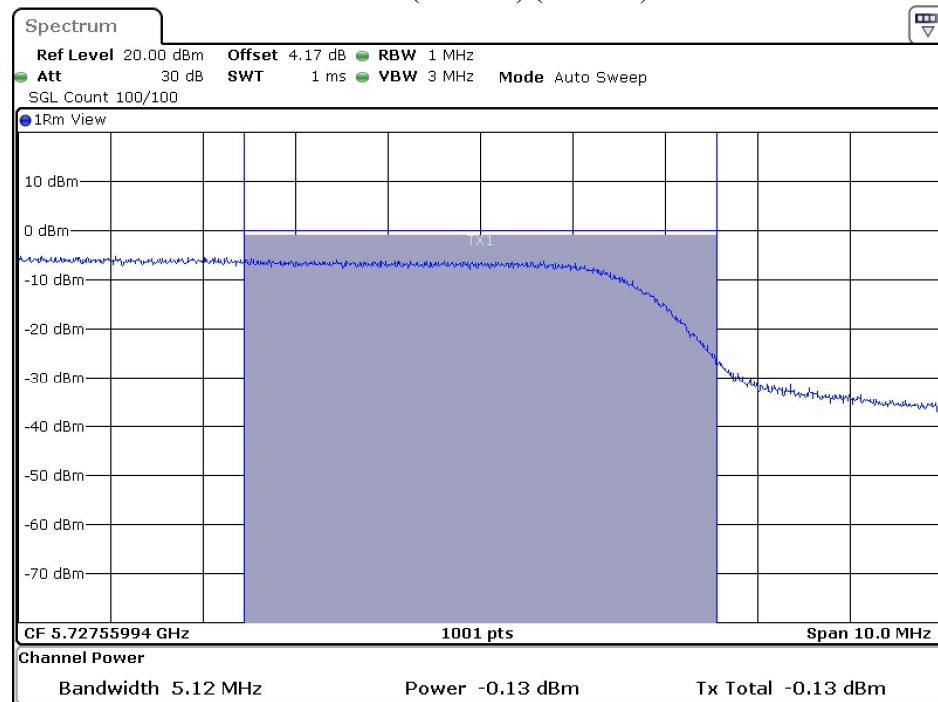
Date: 15.SEP.2023 23:01:46

Channel 138 (U-NII-2C) (Chain B)



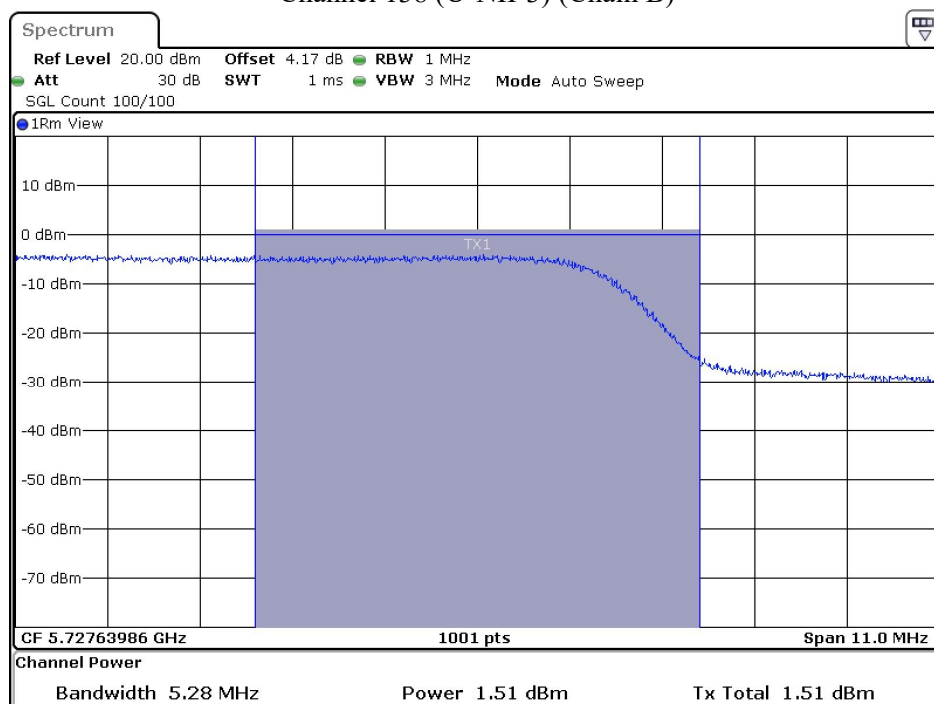
Date: 15.SEP.2023 23:02:53

Maximum conducted output power:  
Channel 138 (U-NII-3) (Chain A)



Date: 15.SEP.2023 23:01:49

Channel 138 (U-NII-3) (Chain B)



Date: 15.SEP.2023 23:02:55

Product : Set Back Box with Wi-Fi6E, BT & PoE  
 Test Item : Maximum conducted output power  
 Test Mode : Transmit (802.11ax-160 MHz)  
 Test Date : 2023/09/15

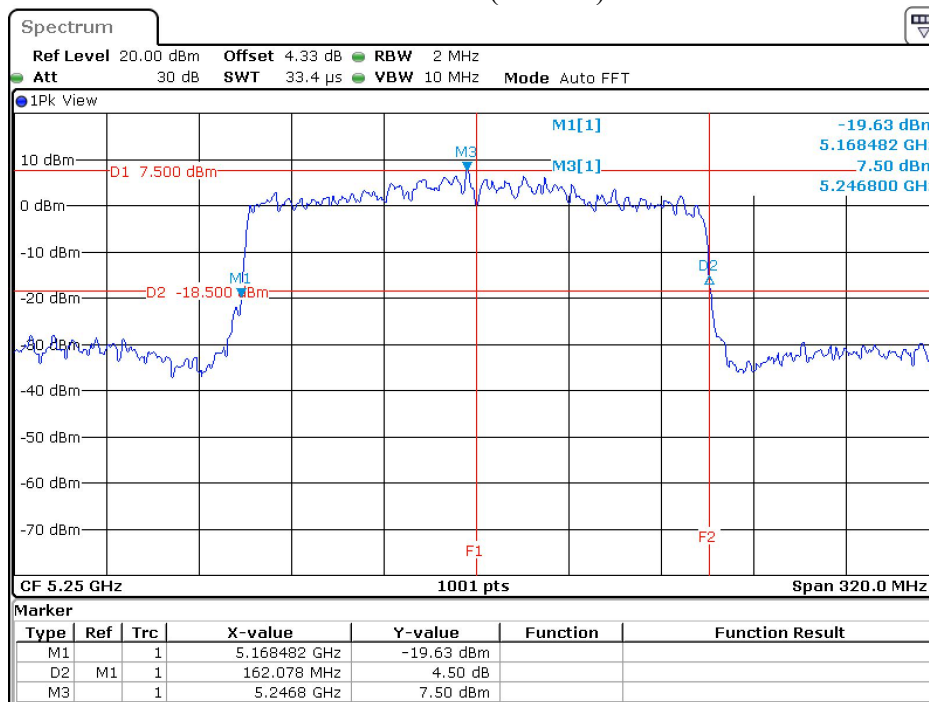
Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Duty factor (dB)	Output Power (dBm)	Output Power Limit		Result
							(dBm)	dBm+10log(BW)	
50(U-NII-1)	5250	--	10.33	10.45	0.65	14.05	24	--	Pass
50(U-NII-2A)	5250	80.24	9.82	10.48	0.65	13.82	24	20.92	Pass
114	5570	162.08	12.55	12.83	--	15.70	24	21.99	Pass

Note:

1. Output Power (dBm) = 10log (Chain A Power (mW)+Chain B Power (mW)) +Duty factor.
2. 26dB Bandwidth is the bandwidth of chain A or chain B whichever is less bandwidth, output power limitation is more stringent.

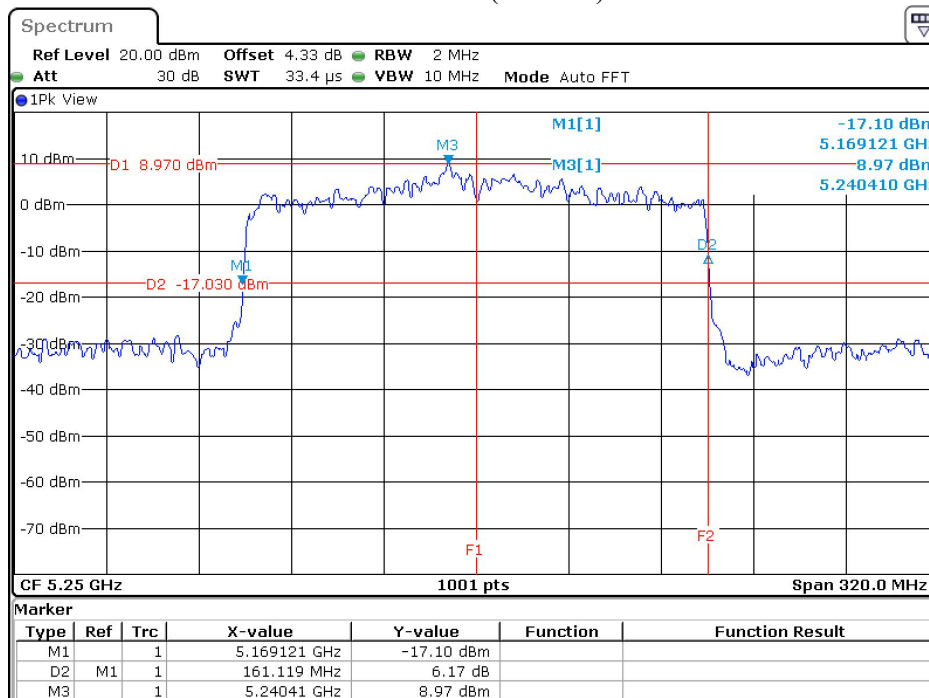
## 26dB Occupied Bandwidth:

## Channel 50 (Chain A)



Date: 15.SEP.2023 23:06:31

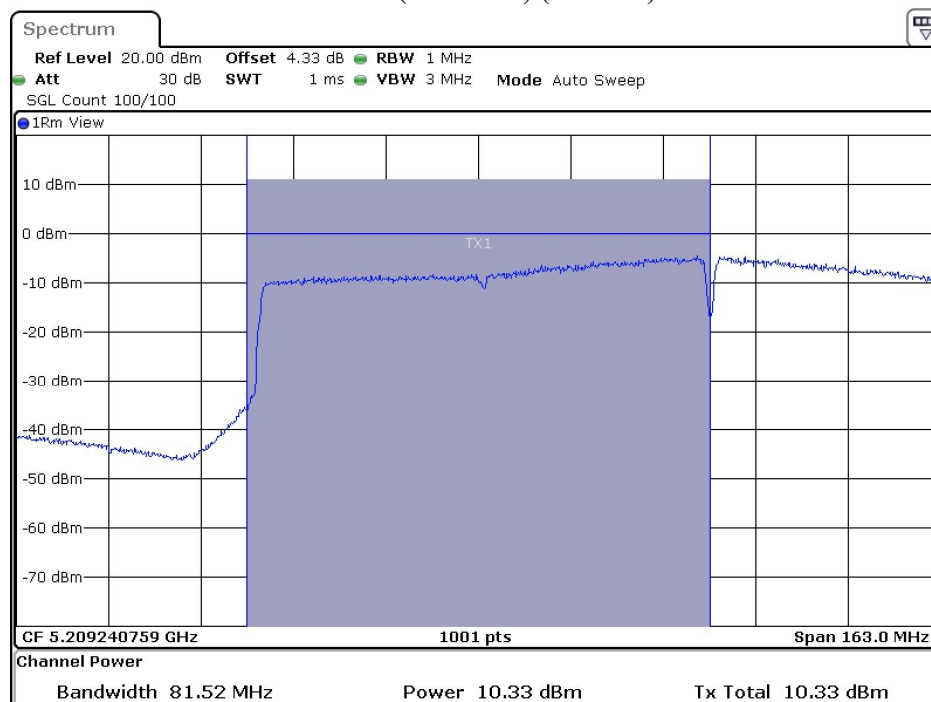
## Channel 50 (Chain B)



Date: 15.SEP.2023 23:07:42

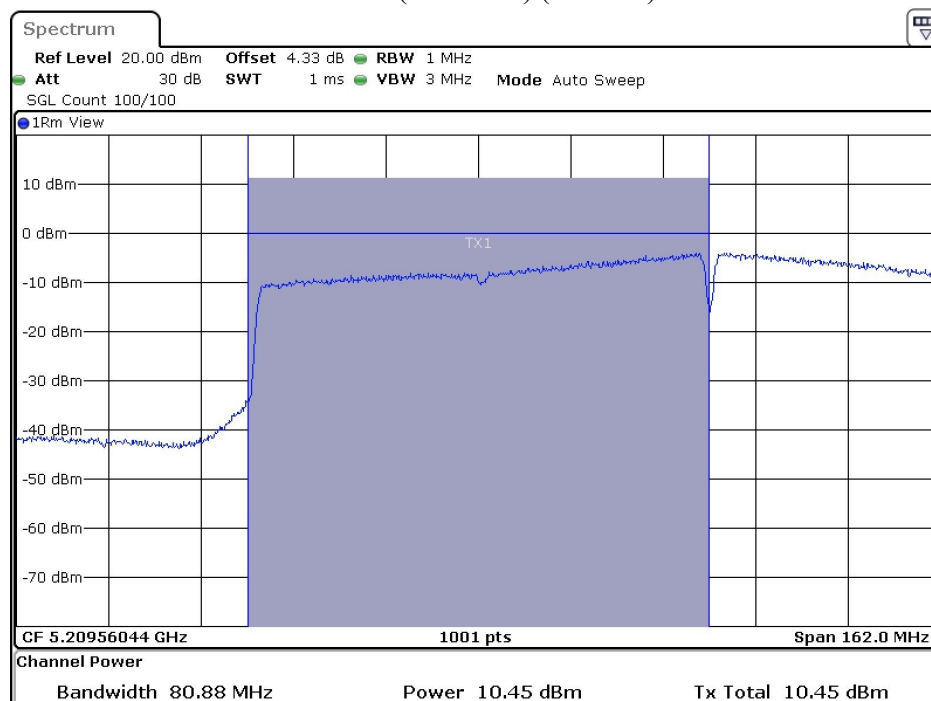
Maximum conducted output power:

Channel 138 (U-NII-2C) (Chain A)



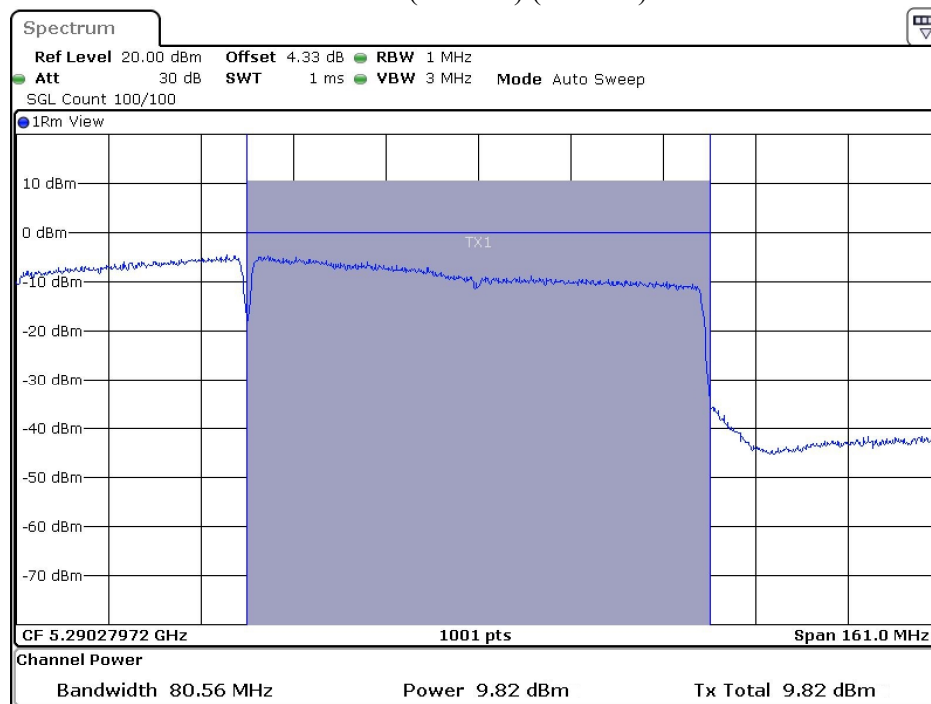
Date: 15.SEP.2023 23:07:10

Channel 138 (U-NII-2C) (Chain B)



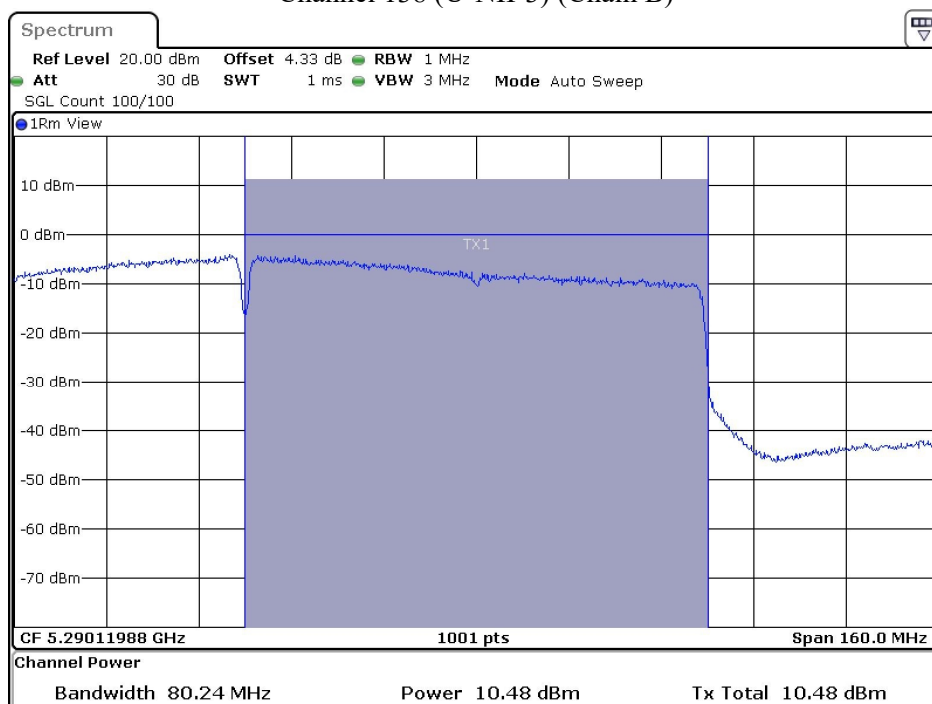
Date: 15.SEP.2023 23:08:21

Maximum conducted output power:  
Channel 138 (U-NII-3) (Chain A)



Date: 15.SEP.2023 23:07:13

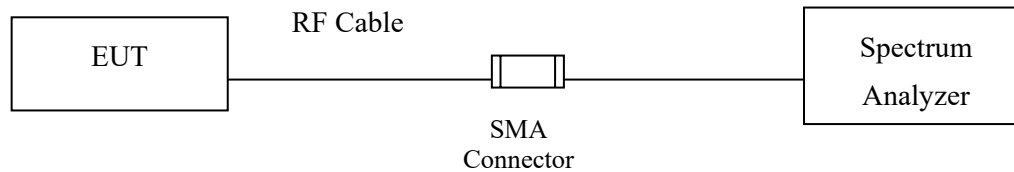
Channel 138 (U-NII-3) (Chain B)



Date: 15.SEP.2023 23:08:24

## 4. Peak Power Spectral Density

### 4.1. Test Setup



### 4.2. Limits

For the band 5.15-5.25 GHz,

- (i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
- (ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
- (iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
- (iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point UNII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

The maximum peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

**For CDD mode:**

5150MHz-5250MHz: Directional gain = 5.34 dBi, Limit= 11.00 dBm

5250MHz-5350MHz: Directional gain = 5.17 dBi, Limit= 11.00 dBm

5470MHz-5725MHz: Directional gain = 6.19 dBi, Limit= 10.81 dBm

5725MHz-5850MHz: Directional gain = 6.19 dBi, Limit= 29.81 dBm

Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$  dBi

#### 4.3. Test Procedure

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.

The Peak Power Spectral Density using KDB 789033 section F) procedure, Create an average power spectrum for the EUT operating mode being tested by following the instructions in section E)2) for measuring maximum conducted output power using a spectrum analyzer.

SA-1 method is selected to run the test.



## 4.4. Test Result of Peak Power Spectral Density

Product : Set Back Box with Wi-Fi6E, BT & PoE  
 Test Item : Peak Power Spectral Density  
 Test Mode : Transmit (802.11a)  
 Test Date : 2023/09/15

Channel No.	Frequency (MHz)	Chain	PPSD/MHz (dBm)	10*log(2) (dB)	Duty factor (dB)	Total PPSD/MHz (dBm)	Required Limit (dBm)	Result
36	5180	A	4.27	3.01	2.26	9.54	11	Pass
		B	4.18	3.01	2.26	9.45	11	Pass
44	5220	A	3.01	3.01	2.26	8.28	11	Pass
		B	4.30	3.01	2.26	9.57	11	Pass
48	5240	A	2.75	3.01	2.26	8.02	11	Pass
		B	3.69	3.01	2.26	8.96	11	Pass
52	5260	A	3.28	3.01	2.26	8.55	11	Pass
		B	2.95	3.01	2.26	8.22	11	Pass
60	5300	A	3.70	3.01	2.26	8.97	11	Pass
		B	3.17	3.01	2.26	8.44	11	Pass
64	5320	A	3.54	3.01	2.26	8.81	11	Pass
		B	3.36	3.01	2.26	8.63	11	Pass
100	5500	A	3.85	3.01	2.26	9.12	10.81	Pass
		B	4.16	3.01	2.26	9.43	10.81	Pass
116	5580	A	3.06	3.01	2.26	8.33	10.81	Pass
		B	3.95	3.01	2.26	9.22	10.81	Pass
140	5700	A	3.80	3.01	2.26	9.07	10.81	Pass
		B	3.61	3.01	2.26	8.88	10.81	Pass
144(U-NII-2C)	5720	A	4.01	3.01	2.26	9.28	10.81	Pass
		B	4.29	3.01	2.26	9.56	10.81	Pass

Note:

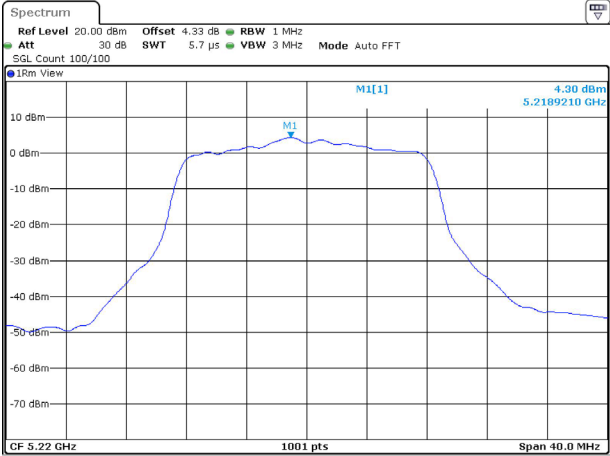
1. Total PPSSD/MHz = PPSSD/MHz + 10\*log(2) + Duty factor.
2. The quantity 10\*log(2) (two antennas) is added to the spectrum peak value according to document 662911 D01.

Channel No.	Frequency (MHz)	Chain	PPSD (dBm)	10*log(2) (dB)	Duty factor (dB)	Total PPSSD (dBm)	Required Limit (dBm)	Result
144(U-NII-3)	5720	A	-1.61	3.01	2.26	3.66	29.81	Pass
		B	-2.17	3.01	2.26	3.10	29.81	Pass
149	5745	A	1.67	3.01	2.26	6.94	29.81	Pass
		B	1.50	3.01	2.26	6.77	29.81	Pass
157	5785	A	1.36	3.01	2.26	6.63	29.81	Pass
		B	1.81	3.01	2.26	7.08	29.81	Pass
165	5825	A	0.20	3.01	2.26	5.47	29.81	Pass
		B	0.69	3.01	2.26	5.96	29.81	Pass

Note:

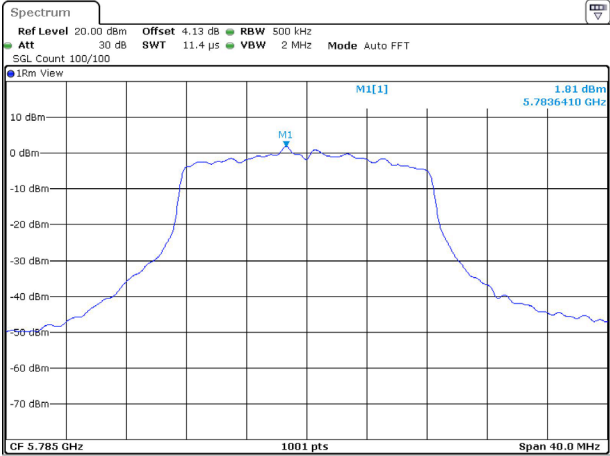
1. Total PPSSD = PPSSD + 10\*log(2) + Duty factor.
2. The quantity 10\*log(2) (two antennas) is added to the spectrum peak value according to document 662911 D01.

Channel 144 (U-NII-2C) (Chain B)



Date: 15 SEP. 2023 20:14:07

Channel 157 (Chain B)



Date: 15 SEP. 2023 20:33:25

Product : Set Back Box with Wi-Fi6E, BT & PoE  
 Test Item : Peak Power Spectral Density  
 Test Mode : Transmit (802.11ax-20 MHz)  
 Test Date : 2023/09/15

Channel No.	Frequency (MHz)	Chain	PPSD/MHz (dBm)	10*log(2) (dB)	Duty factor (dB)	Total PPSD/MHz (dBm)	Required Limit (dBm)	Result
36	5180	A	4.91	3.01	0.71	8.63	11	Pass
		B	5.01	3.01	0.71	8.73	11	Pass
44	5220	A	4.94	3.01	0.71	8.66	11	Pass
		B	4.82	3.01	0.71	8.54	11	Pass
48	5240	A	4.98	3.01	0.71	8.70	11	Pass
		B	5.89	3.01	0.71	9.61	11	Pass
52	5260	A	4.16	3.01	0.71	7.88	11	Pass
		B	5.00	3.01	0.71	8.72	11	Pass
60	5300	A	4.79	3.01	0.71	8.51	11	Pass
		B	5.40	3.01	0.71	9.12	11	Pass
64	5320	A	5.37	3.01	0.71	9.09	11	Pass
		B	6.21	3.01	0.71	9.93	11	Pass
100	5500	A	5.42	3.01	0.71	9.14	10.81	Pass
		B	5.18	3.01	0.71	8.90	10.81	Pass
116	5580	A	4.63	3.01	0.71	8.35	10.81	Pass
		B	4.63	3.01	0.71	8.35	10.81	Pass
140	5700	A	4.68	3.01	0.71	8.40	10.81	Pass
		B	5.83	3.01	0.71	9.55	10.81	Pass
144(U-NII-2C)	5720	A	5.12	3.01	0.71	8.84	10.81	Pass
		B	5.48	3.01	0.71	9.20	10.81	Pass

Note:

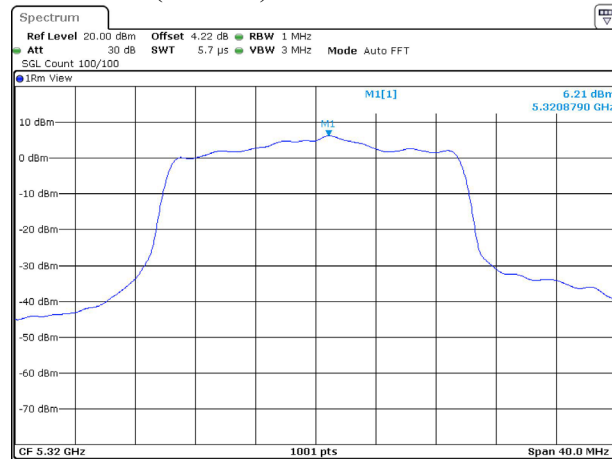
1. Total PPSD/MHz = PPSD/MHz + 10\*log(2) + Duty factor.
2. The quantity 10\*log(2) (two antennas) is added to the spectrum peak value according to document 662911 D01.

Channel No.	Frequency (MHz)	Chain	PPSD (dBm)	10*log(2) (dB)	Duty factor (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
144(U-NII-3)	5720	A	-0.31	3.01	0.71	3.41	29.81	Pass
		B	-0.22	3.01	0.71	3.50	29.81	Pass
149	5745	A	3.02	3.01	0.71	6.74	29.81	Pass
		B	2.59	3.01	0.71	6.31	29.81	Pass
157	5785	A	2.31	3.01	0.71	6.03	29.81	Pass
		B	2.41	3.01	0.71	6.13	29.81	Pass
165	5825	A	2.15	3.01	0.71	5.87	29.81	Pass
		B	1.88	3.01	0.71	5.60	29.81	Pass

Note:

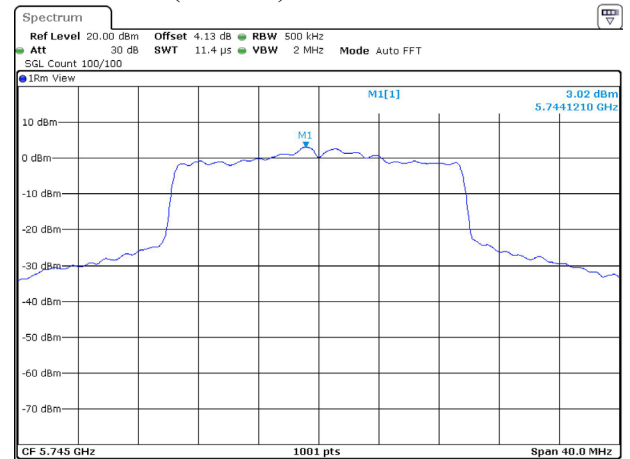
1. Total PPSD = PPSD + 10\*log(2) + Duty factor.
2. The quantity 10\*log(2) (two antennas) is added to the spectrum peak value according to document 662911 D01.

## Channel 64 (Chain B)



Date: 15 SEP. 2023 22:16:06

## Channel 149 (Chain A)



Date: 15 SEP. 2023 22:25:06

Product : Set Back Box with Wi-Fi6E, BT & PoE  
 Test Item : Peak Power Spectral Density  
 Test Mode : Transmit (802.11ax-40 MHz)  
 Test Date : 2023/09/15

Channel No.	Frequency (MHz)	Chain	PPSD/MHz (dBm)	10*log(2) (dB)	Duty factor (dB)	Total PPSP/MHz (dBm)	Required Limit (dBm)	Result
38	5190	A	2.57	3.01	0.51	6.09	11	Pass
		B	2.62	3.01	0.51	6.14	11	Pass
46	5230	A	1.71	3.01	0.51	5.23	11	Pass
		B	2.56	3.01	0.51	6.08	11	Pass
54	5270	A	2.82	3.01	0.51	6.34	11	Pass
		B	2.44	3.01	0.51	5.96	11	Pass
62	5310	A	2.87	3.01	0.51	6.39	11	Pass
		B	2.63	3.01	0.51	6.15	11	Pass
102	5510	A	2.71	3.01	0.51	6.23	10.81	Pass
		B	2.36	3.01	0.51	5.88	10.81	Pass
110	5550	A	2.51	3.01	0.51	6.03	10.81	Pass
		B	2.48	3.01	0.51	6.00	10.81	Pass
134	5670	A	2.61	3.01	0.51	6.13	10.81	Pass
		B	2.88	3.01	0.51	6.40	10.81	Pass
142(U-NII-2C)	5710	A	2.54	3.01	0.51	6.06	10.81	Pass
		B	2.94	3.01	0.51	6.46	10.81	Pass

Note:

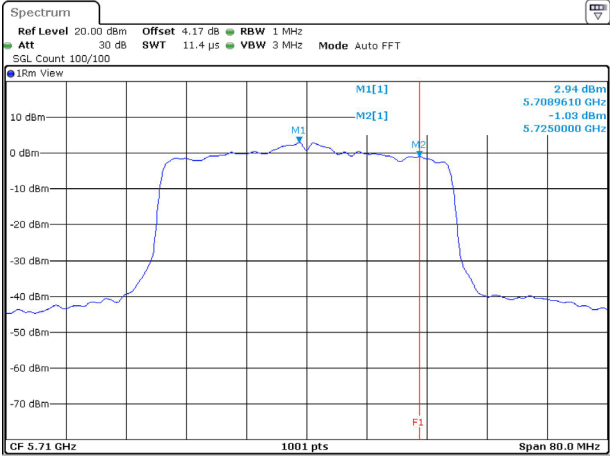
1. Total PPSP/MHz = PPSP/MHz + 10\*log(2) + Duty factor.
2. The quantity 10\*log(2) (two antennas) is added to the spectrum peak value according to document 662911 D01.

Channel No.	Frequency (MHz)	Chain	PPSD (dBm)	10*log(2) (dB)	Duty factor (dB)	Total PPSP (dBm)	Required Limit (dBm)	Result
142(U-NII-3)	5710	A	-4.72	3.01	0.51	-1.20	29.81	Pass
		B	-3.76	3.01	0.51	-0.24	29.81	Pass
151	5755	A	-0.16	3.01	0.51	3.36	29.81	Pass
		B	-1.03	3.01	0.51	2.49	29.81	Pass
159	5795	A	-0.21	3.01	0.51	3.31	29.81	Pass
		B	-0.54	3.01	0.51	2.98	29.81	Pass

Note:

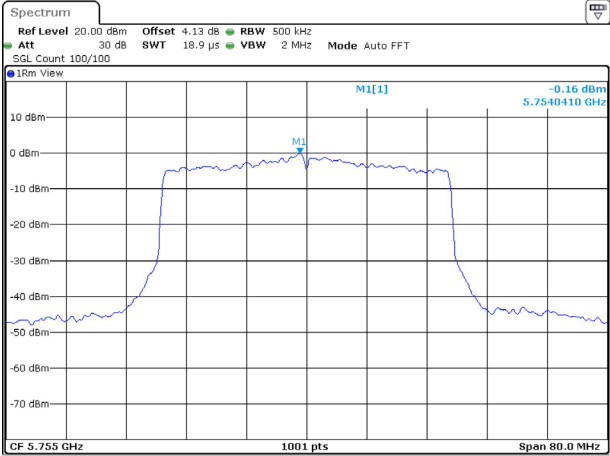
1. Total PPSP = PPSP + 10\*log(2) + Duty factor.
2. The quantity 10\*log(2) (two antennas) is added to the spectrum peak value according to document 662911 D01.

Channel 142 (U-NII-2C) (Chain B)



Date: 15.SEP.2023 22:45:42

Channel 151 (Chain A)



Date: 15.SEP.2023 22:48:10

Product : Set Back Box with Wi-Fi6E, BT & PoE  
 Test Item : Peak Power Spectral Density  
 Test Mode : Transmit (802.11ax-80 MHz)  
 Test Date : 2023/09/15

Channel No.	Frequency (MHz)	Chain	PPSD/MHz (dBm)	10*log(2) (dB)	Duty factor (dB)	Total PPSD/MHz (dBm)	Required Limit (dBm)	Result
42	5210	A	-0.13	3.01	0.60	3.48	11	Pass
		B	-0.55	3.01	0.60	3.06	11	Pass
58	5290	A	-0.92	3.01	0.60	2.69	11	Pass
		B	-0.23	3.01	0.60	3.38	11	Pass
106	5530	A	-0.80	3.01	0.60	2.81	10.81	Pass
		B	-0.71	3.01	0.60	2.90	10.81	Pass
122	5610	A	0.12	3.01	0.60	3.73	10.81	Pass
		B	-0.21	3.01	0.60	3.40	10.81	Pass
138(U-NII-2C)	5690	A	-0.74	3.01	0.60	2.87	10.81	Pass
		B	0.02	3.01	0.60	3.63	10.81	Pass

Note:

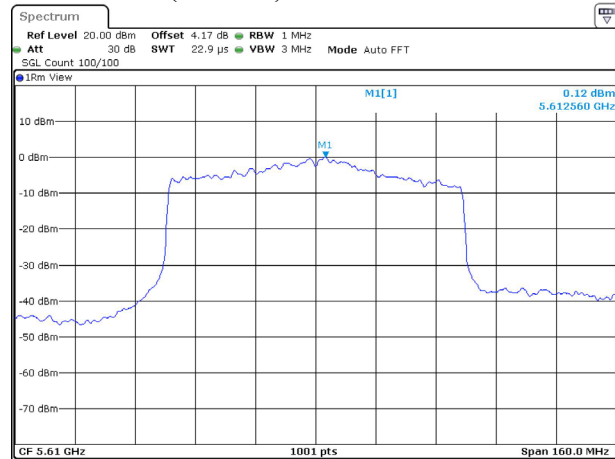
1. Total PPSD/MHz = PPSD/MHz + 10\*log(2) + Duty factor.
2. The quantity 10\*log(2) (two antennas) is added to the spectrum peak value according to document 662911 D01.

Channel No.	Frequency (MHz)	Chain	PPSD (dBm)	10*log(2) (dB)	Duty factor (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
138(U-NII-3)	5690	A	-9.16	3.01	0.60	-5.55	29.81	Pass
		B	-7.12	3.01	0.60	-3.51	29.81	Pass
155	5775	A	-3.86	3.01	0.60	-0.25	29.81	Pass
		B	-3.40	3.01	0.60	0.21	29.81	Pass

Note:

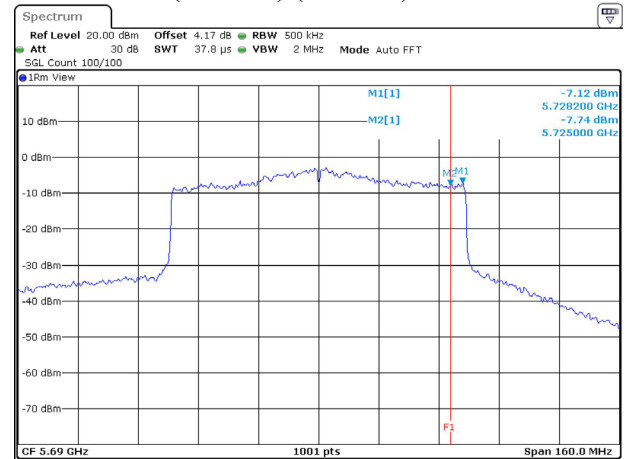
1. Total PPSD = PPSD + 10\*log(2) + Duty factor.
2. The quantity 10\*log(2) (two antennas) is added to the spectrum peak value according to document 662911 D01.

## Channel 122 (Chain A)



Date: 15.SEP.2023 23:00:36

## Channel 138 (U-NII-3) (Chain B)



Date: 15.SEP.2023 23:02:50



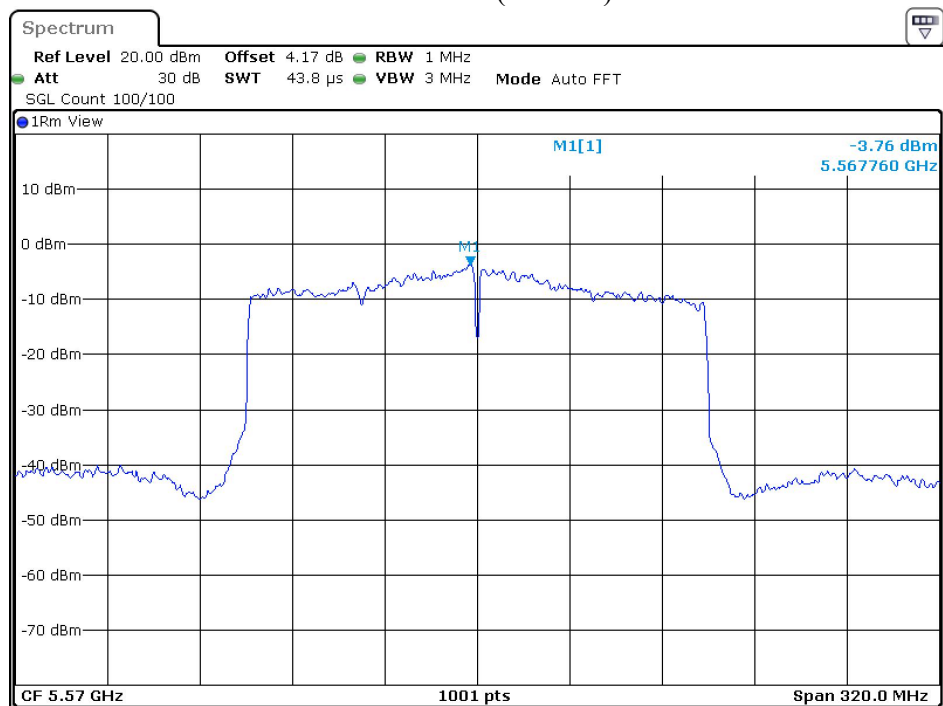
Product : Set Back Box with Wi-Fi6E, BT & PoE  
 Test Item : Peak Power Spectral Density  
 Test Mode : Transmit (802.11ax-160 MHz)  
 Test Date : 2023/09/15

Channel No.	Frequency (MHz)	Chain	PPSD/MHz (dBm)	10*log(2) (dB)	Duty factor (dB)	Total PPSD/MHz (dBm)	Required Limit (dBm)	Result
50(U-NII-1)	5250	A	-4.34	3.01	0.65	-0.68	11	Pass
		B	-4.64	3.01	0.65	-0.98	11	Pass
50(U-NII-2A)	5250	A	-4.63	3.01	0.65	-0.97	11	Pass
		B	-4.23	3.01	0.65	-0.57	11	Pass
114	5570	A	-4.34	3.01	0.65	-0.68	10.81	Pass
		B	-3.76	3.01	0.65	-0.10	10.81	Pass

Note:

1. Total PPSD/MHz = PPSD/MHz + 10\*log(2) + Duty factor.
2. The quantity 10\*log(2) (two antennas) is added to the spectrum peak value according to document 662911 D01.

Channel 114 (Chain B)

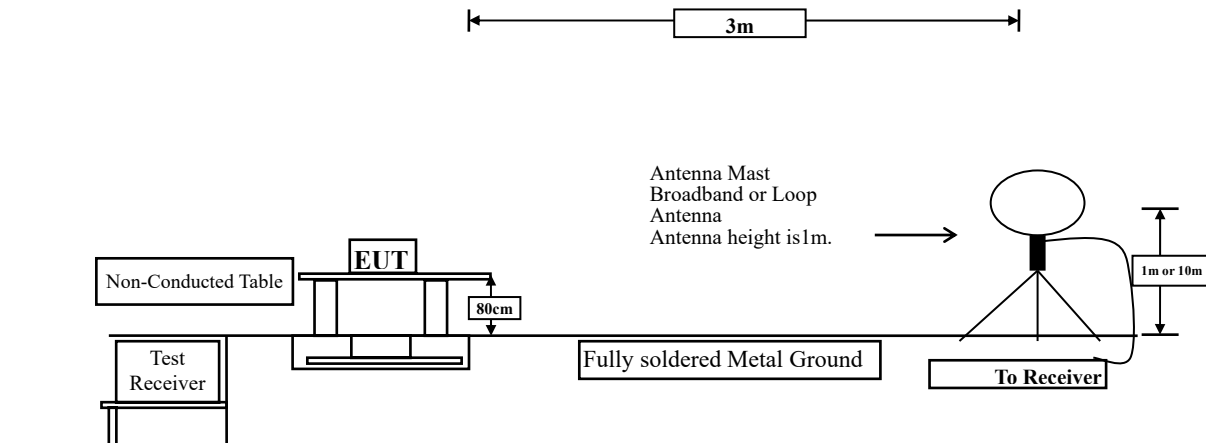


Date: 15.SEP.2023 23:10:29

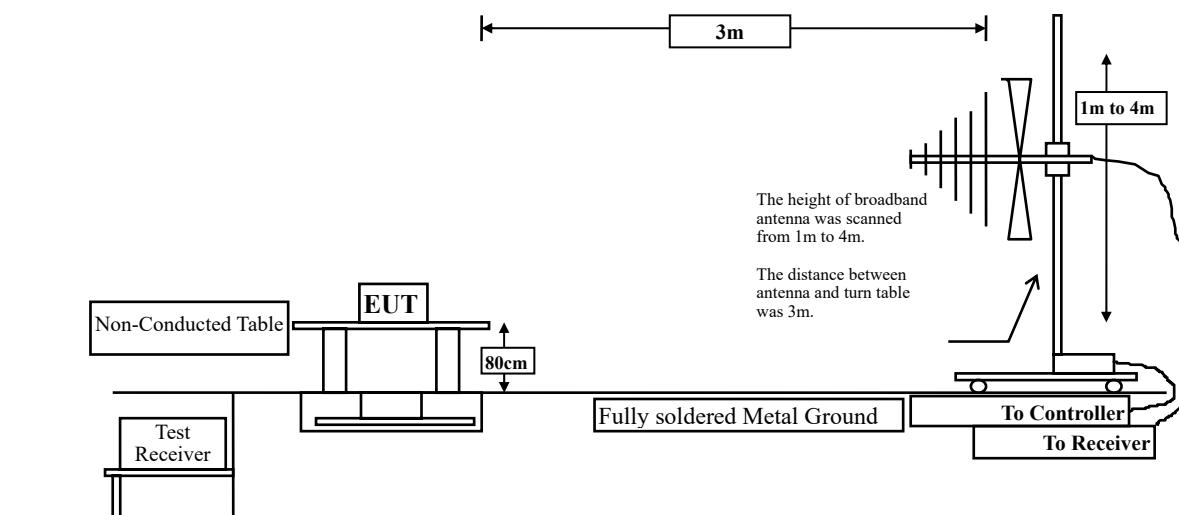
## 5. Radiated Emission

### 5.1. Test Setup

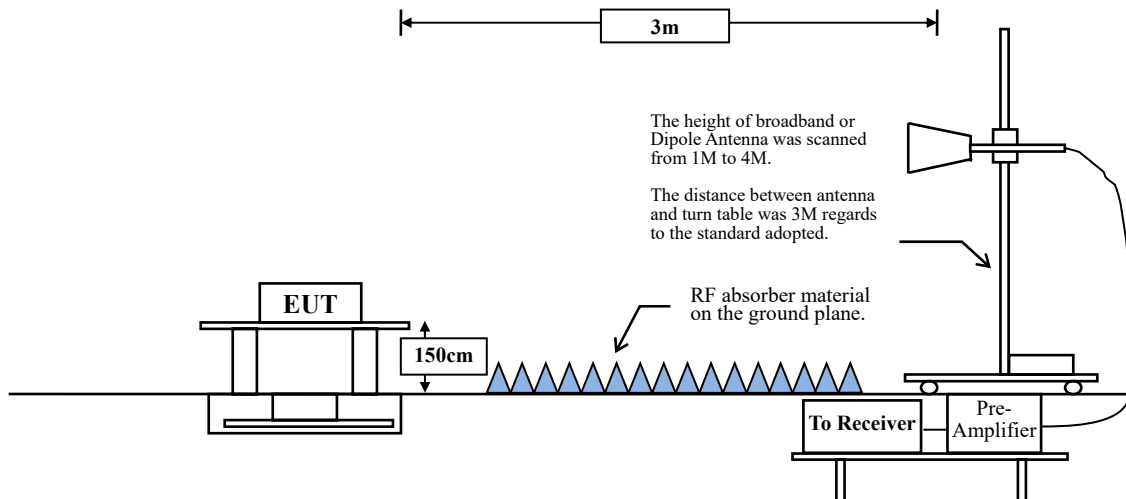
#### Radiated Emission Under 30 MHz



#### Radiated Emission Below 1 GHz



#### Radiated Emission Above 1 GHz



## 5.2. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits		
Frequency MHz	Field strength (microvolts/meter)	Measurement distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remarks:  $E \text{ field strength (dB}\mu\text{V/m)} = 20 \log E \text{ field strength (}\mu\text{V/m)}$

- 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 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 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 dBm/MHz.
- For transmitters operating in the 5.725-5.85 GHz band:  
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.
- For transmitters operating in the 5.850-5.895 GHz band:
  - (i) For an indoor access point or subordinate device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of 15 dBm/MHz and shall decrease linearly to an e.i.r.p. of -7 dBm/MHz at or above 5.925 GHz.
  - (ii) For a client device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of -5 dBm/MHz and shall decrease linearly to an e.i.r.p. of -27 dBm/MHz at or above 5.925 GHz.
  - (iii) For a client device or indoor access point or subordinate device, all emissions below 5.725 GHz shall not exceed an e.i.r.p. of -27 dBm/MHz at 5.65 GHz increasing linearly to 10 dBm/MHz at 5.7 GHz, and from 5.7 GHz increasing linearly to a level of 15.6 dBm/MHz at 5.72 GHz, and from 5.72 GHz increasing linearly to a level of 27 dBm/MHz at 5.725 GHz.
- 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 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, -27dBm is equivalent to 68.22dBuV/m.

### 5.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013 and tested according to FCC KDB-789033 test procedure for compliance to FCC 47CFR 15. 407 requirements.

Measuring the frequency range below 1 GHz, the EUT is placed on a turn table which is 0.8 meter above ground, when measuring the frequency range above 1 GHz, the EUT is placed on a turn table which is 1.5 meter above ground.

The turn table is rotated 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 is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10: 2013 on radiated measurement.

The resolution bandwidth below 30 MHz setting on the field strength meter is 9kHz and 30 MHz~1 GHz is 120 kHz and above 1 GHz is 1 MHz.

Radiated emission measurements below 30 MHz are made using Loop Antenna and 30 MHz~1 GHz are made using broadband Bilog antenna and above 1 GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The measurement frequency range from 9 kHz - 10th Harmonic of fundamental was investigated.

#### **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 %

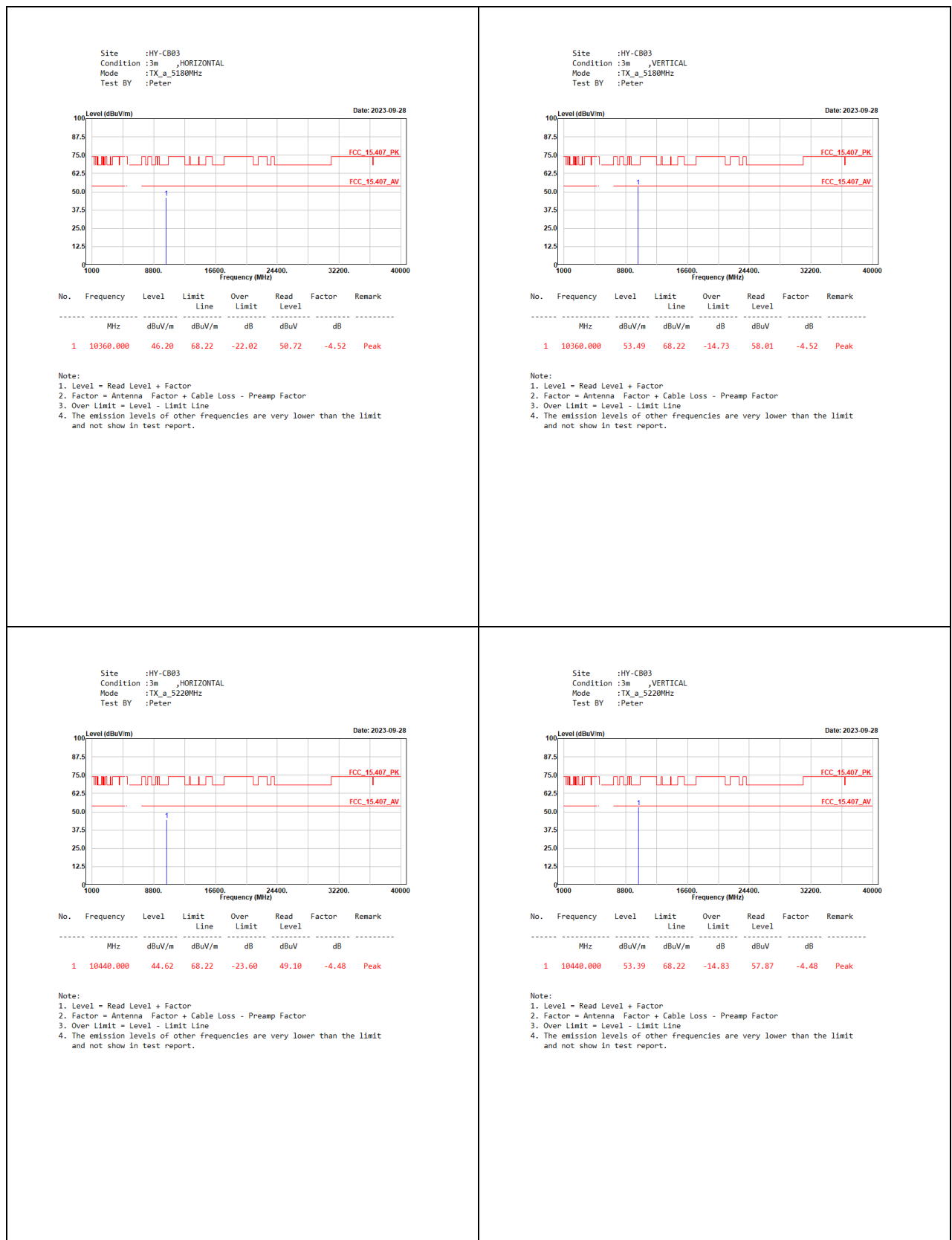
VBW  $\geq$  1/T, when duty cycle < 98 %

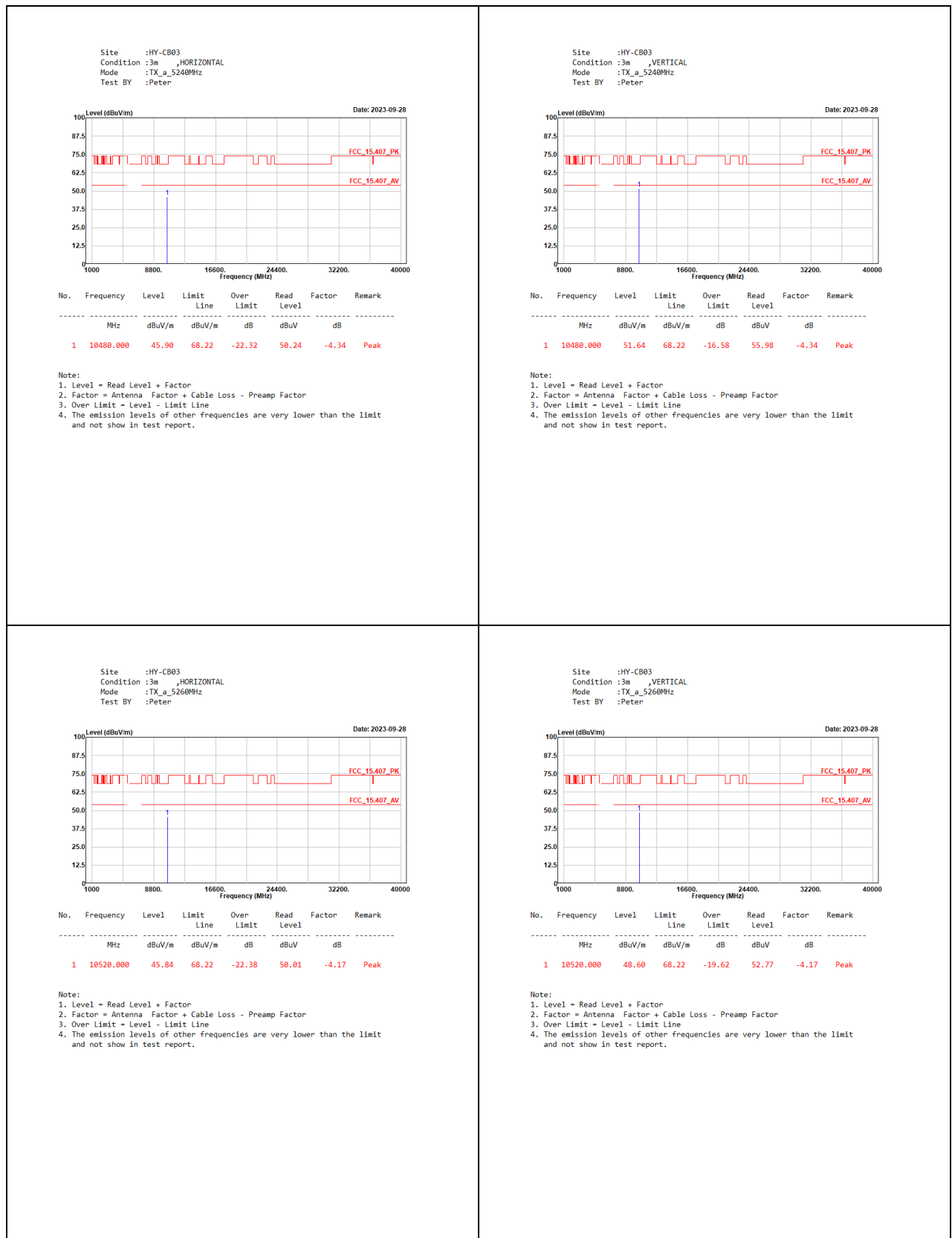
(T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

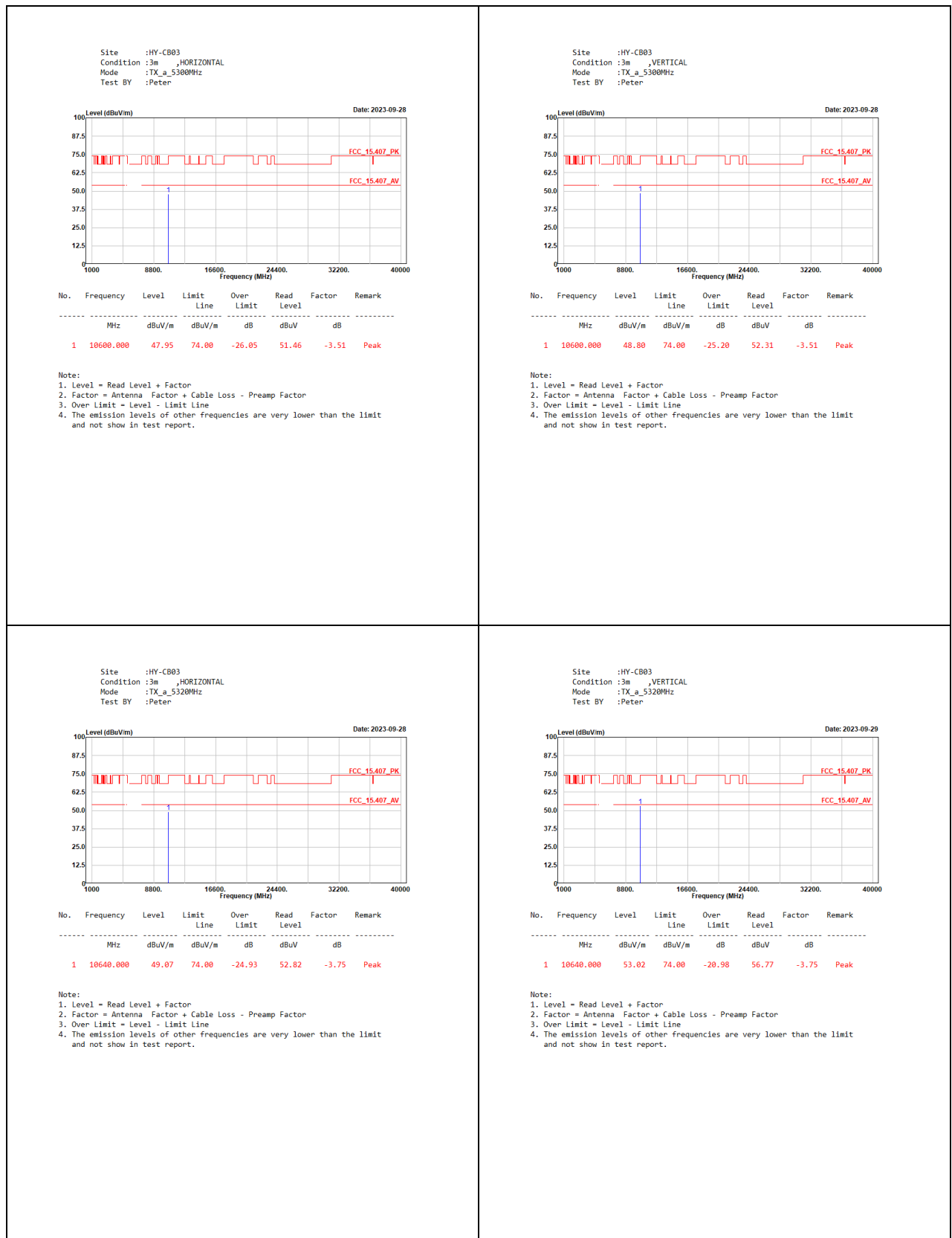
5 GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11a	59.39	1.2240	817	1000
802.11ax-20 MHz	84.91	5.4000	185	200
802.11ax-40 MHz	88.89	4.0800	245	300
802.11ax-80 MHz	87.08	2.3250	430	500
802.11ax-160 MHz	86.14	2.1450	466	500

Note: Duty Cycle Refer to Section 8.

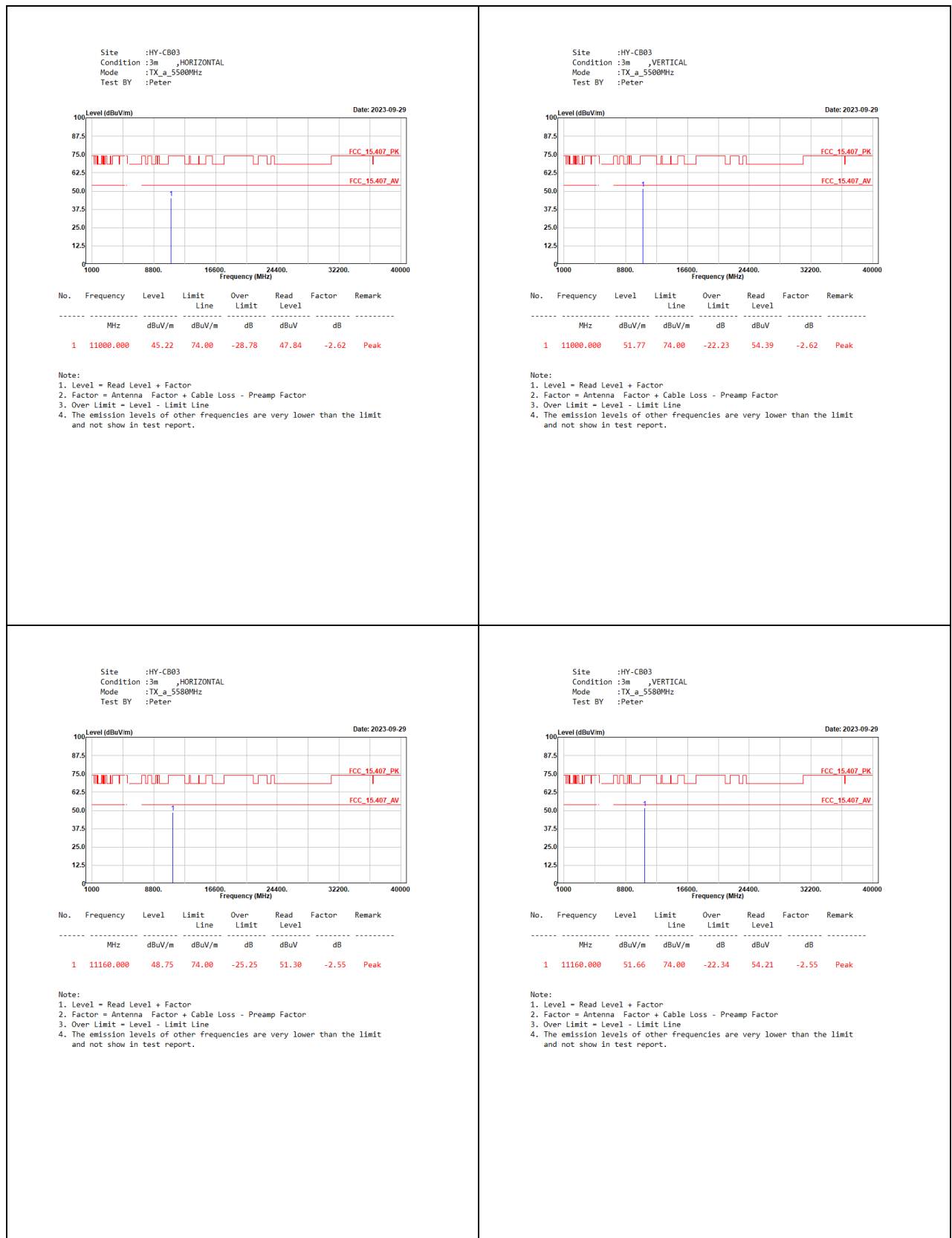
## 5.4. Test Result of Radiated Emission

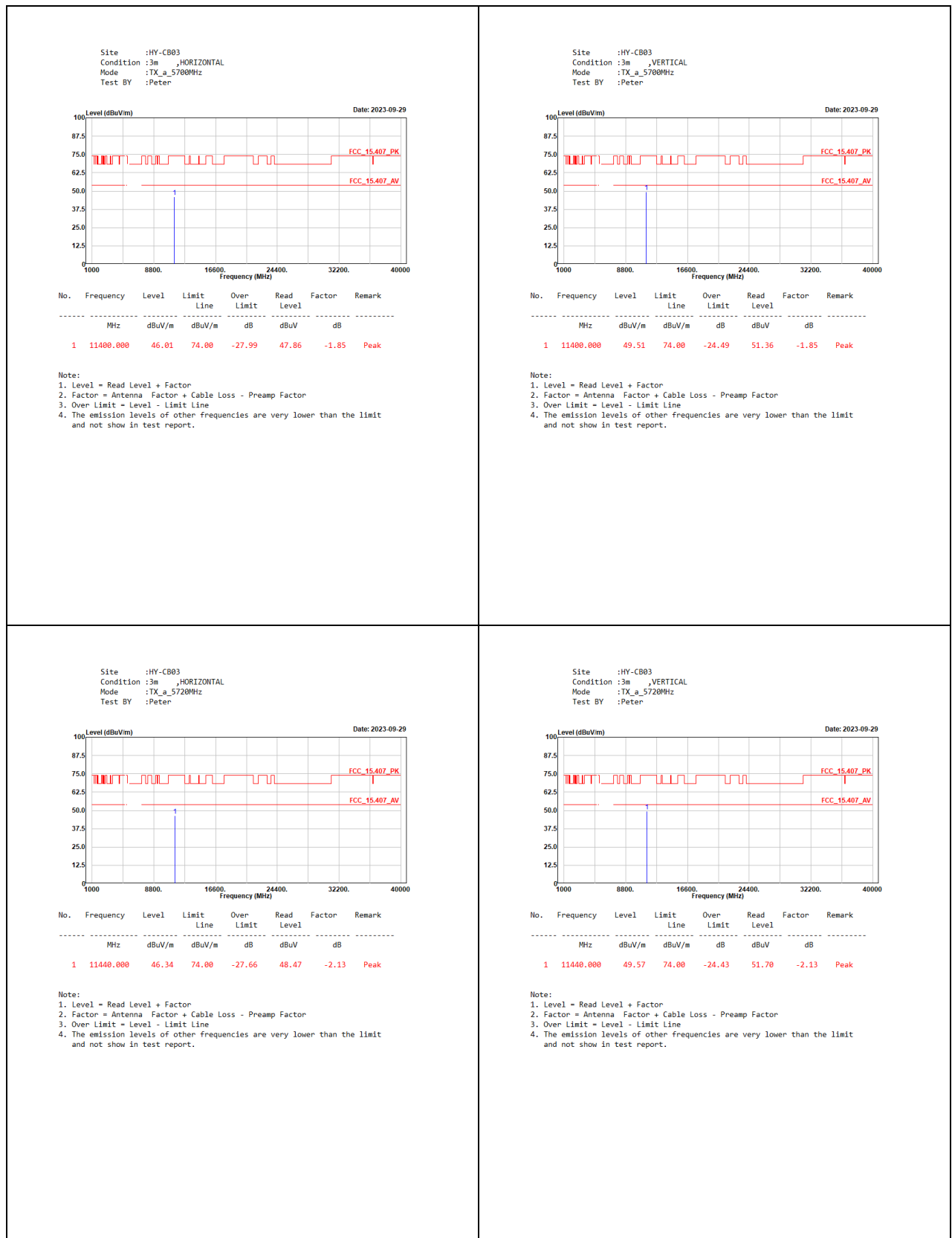


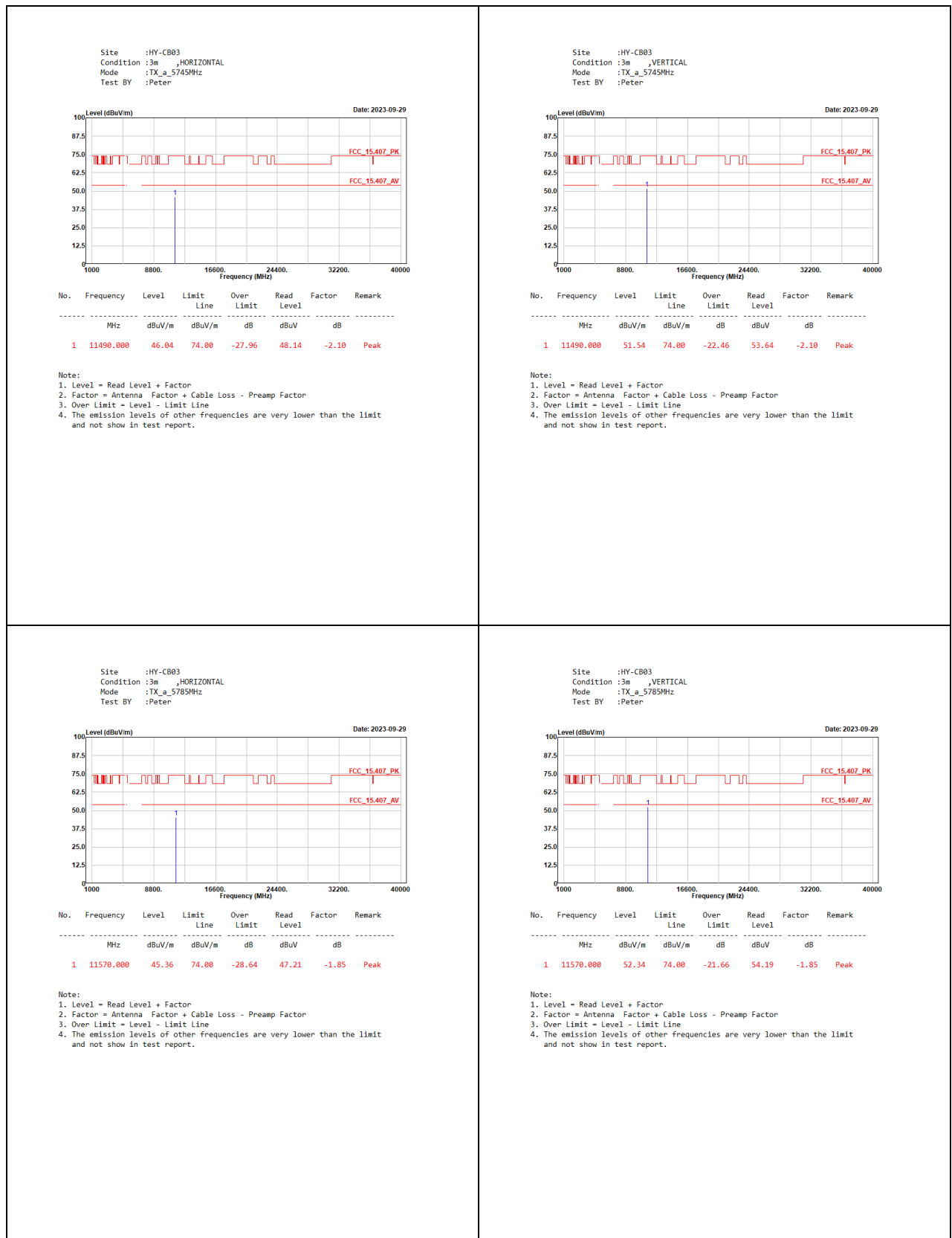


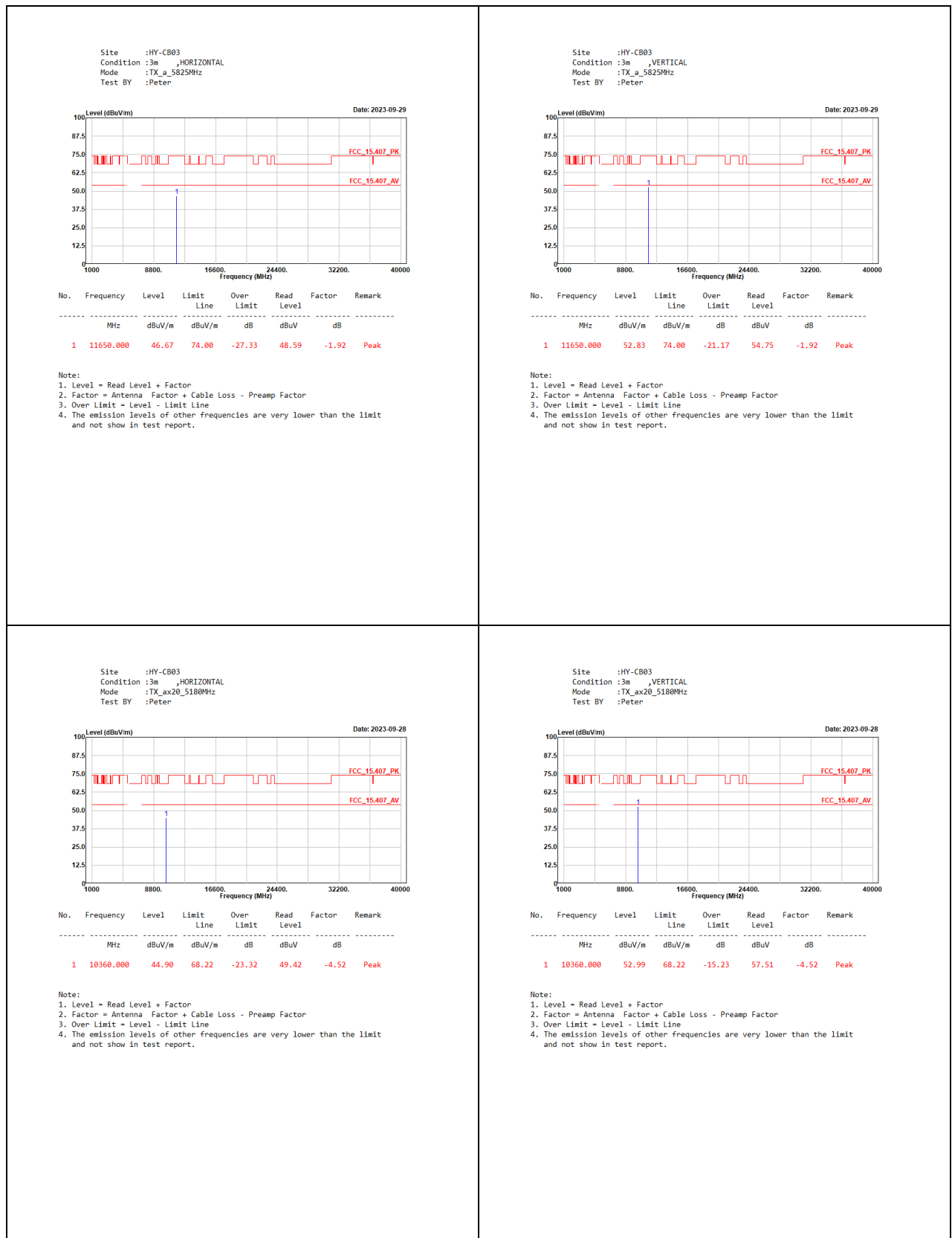


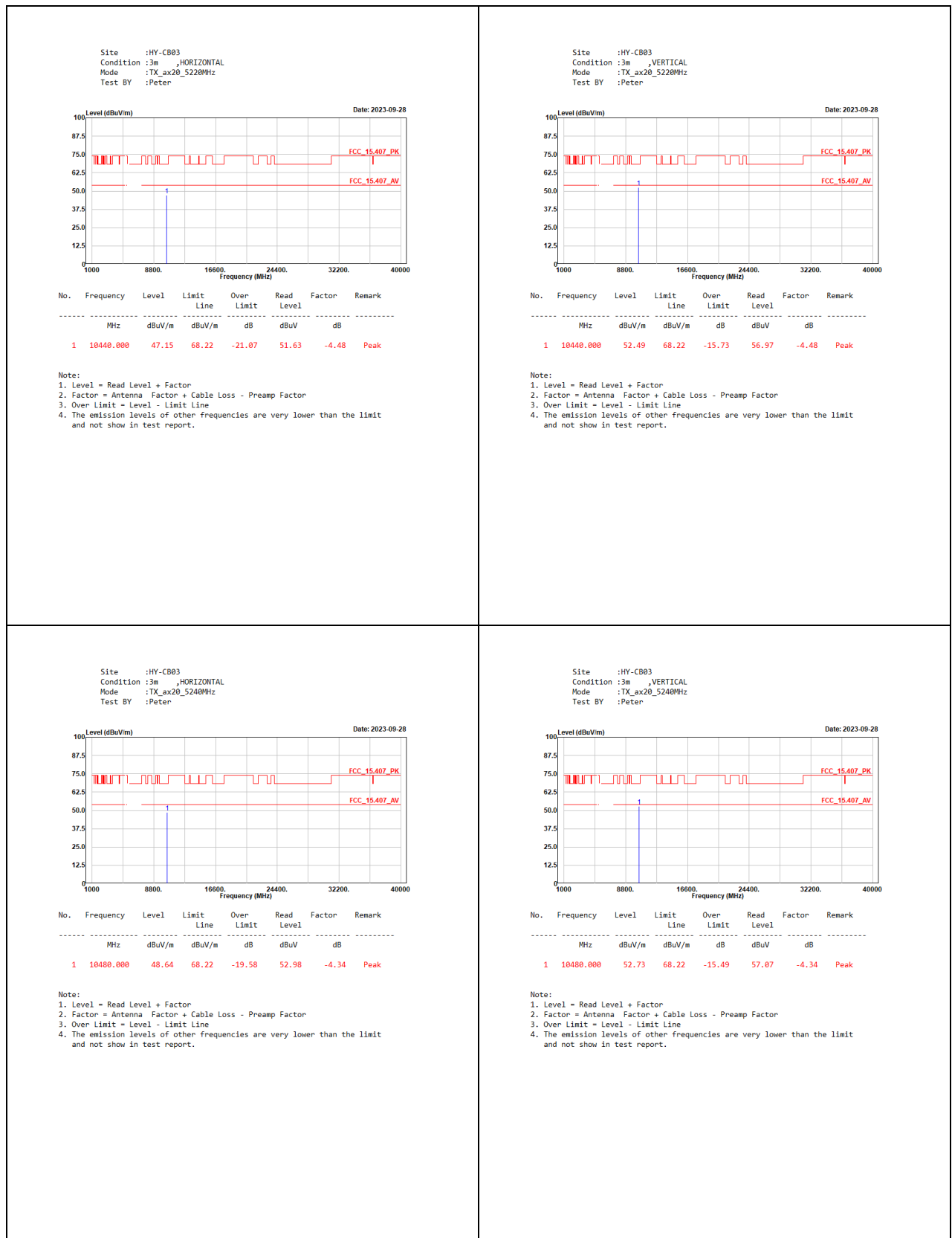


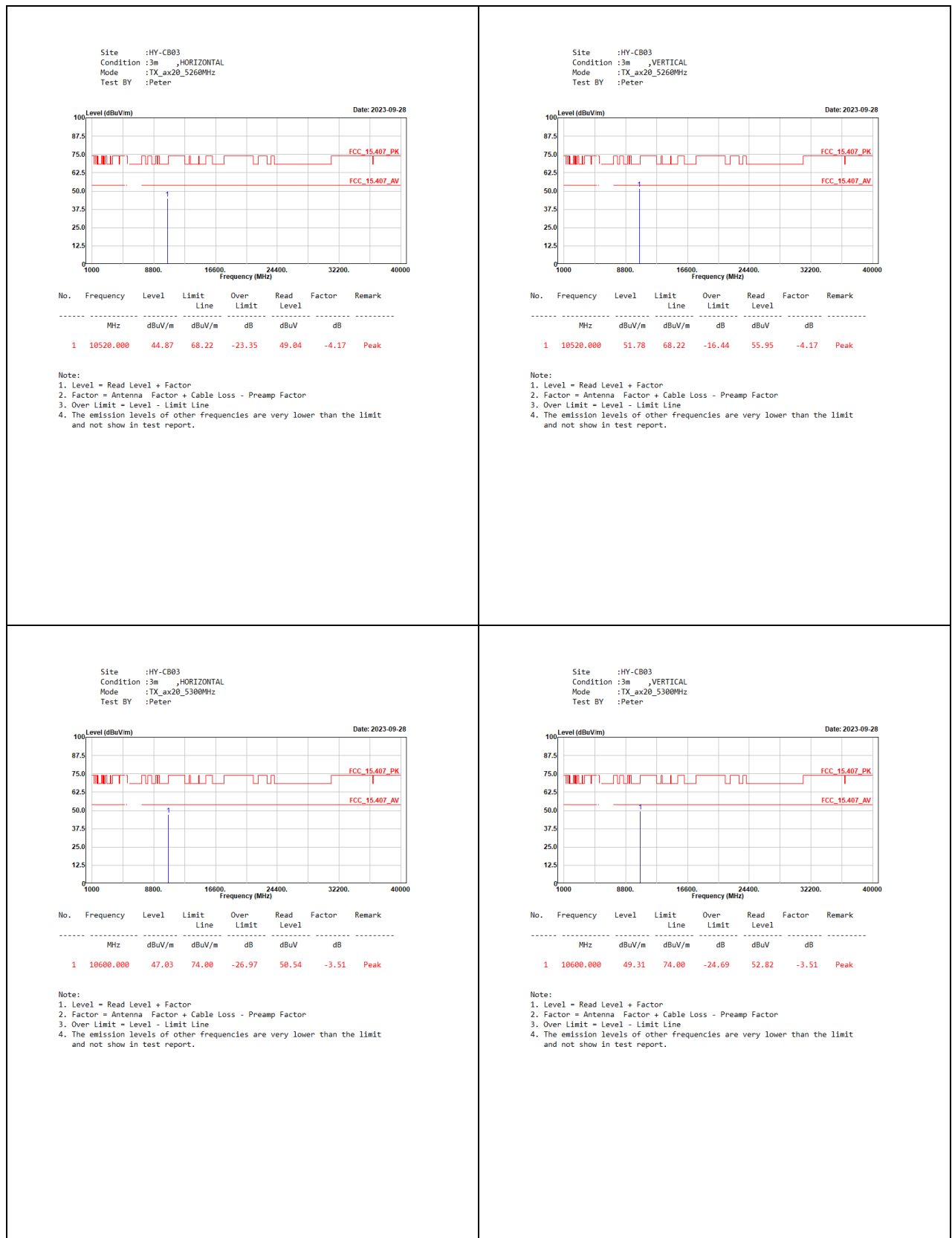


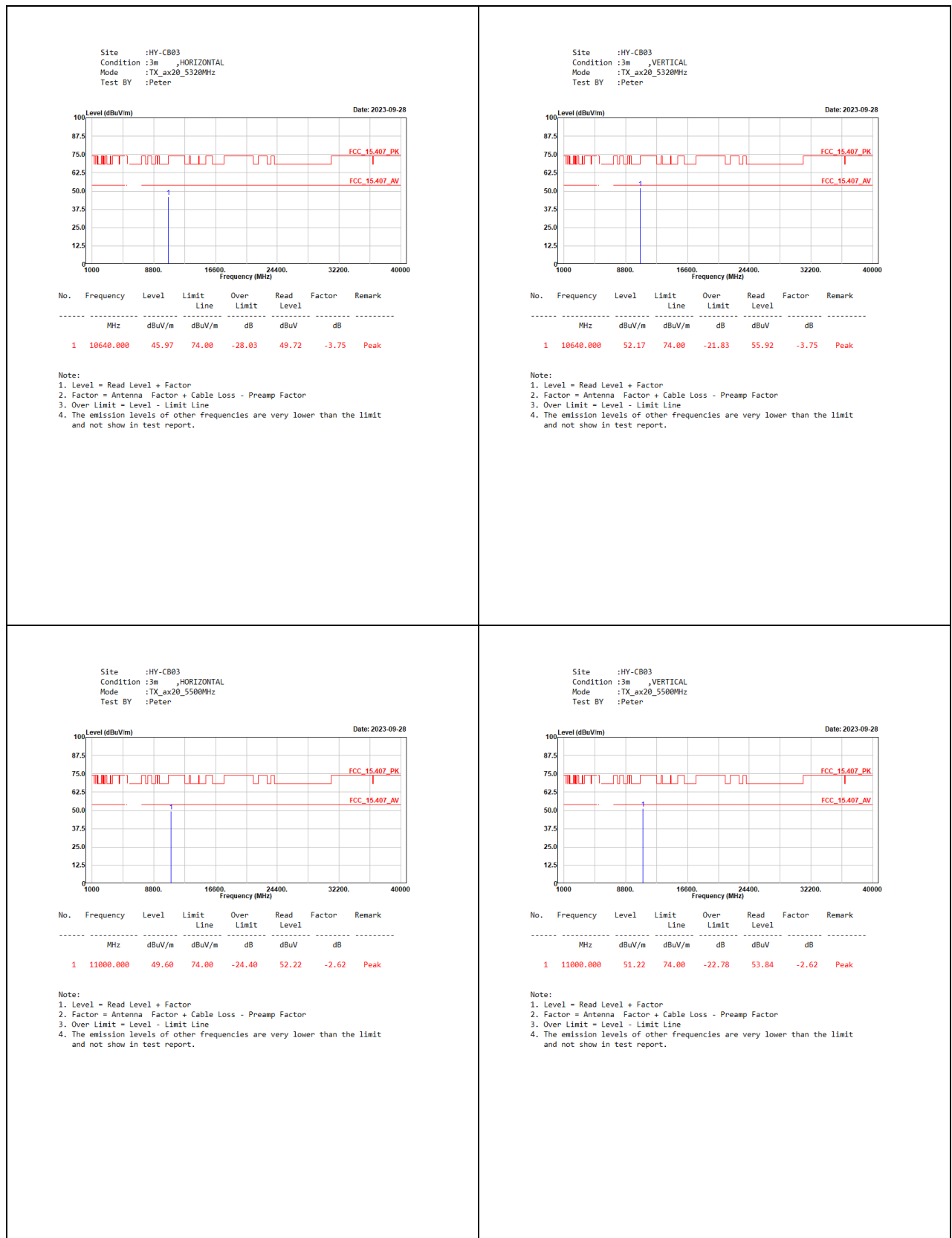


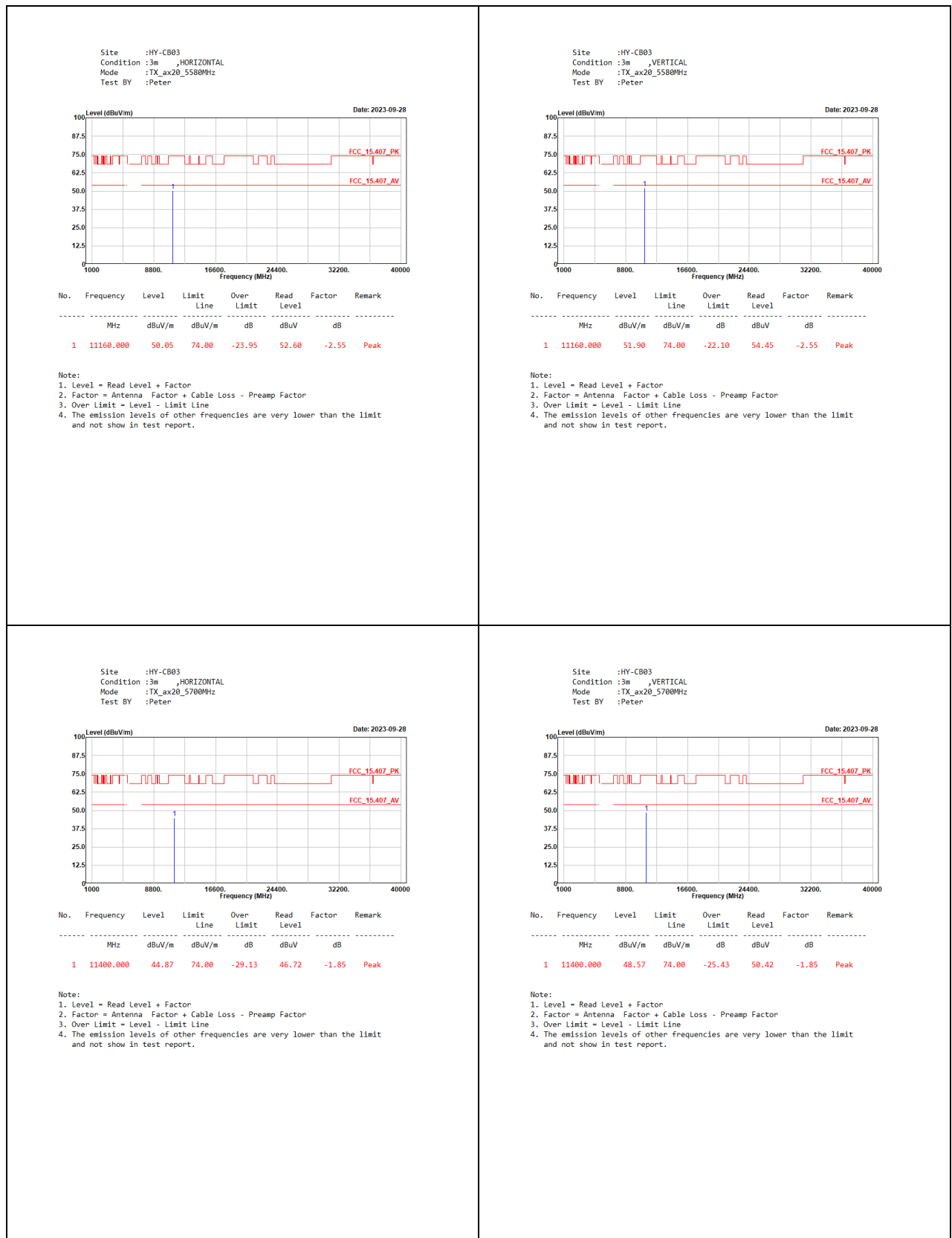




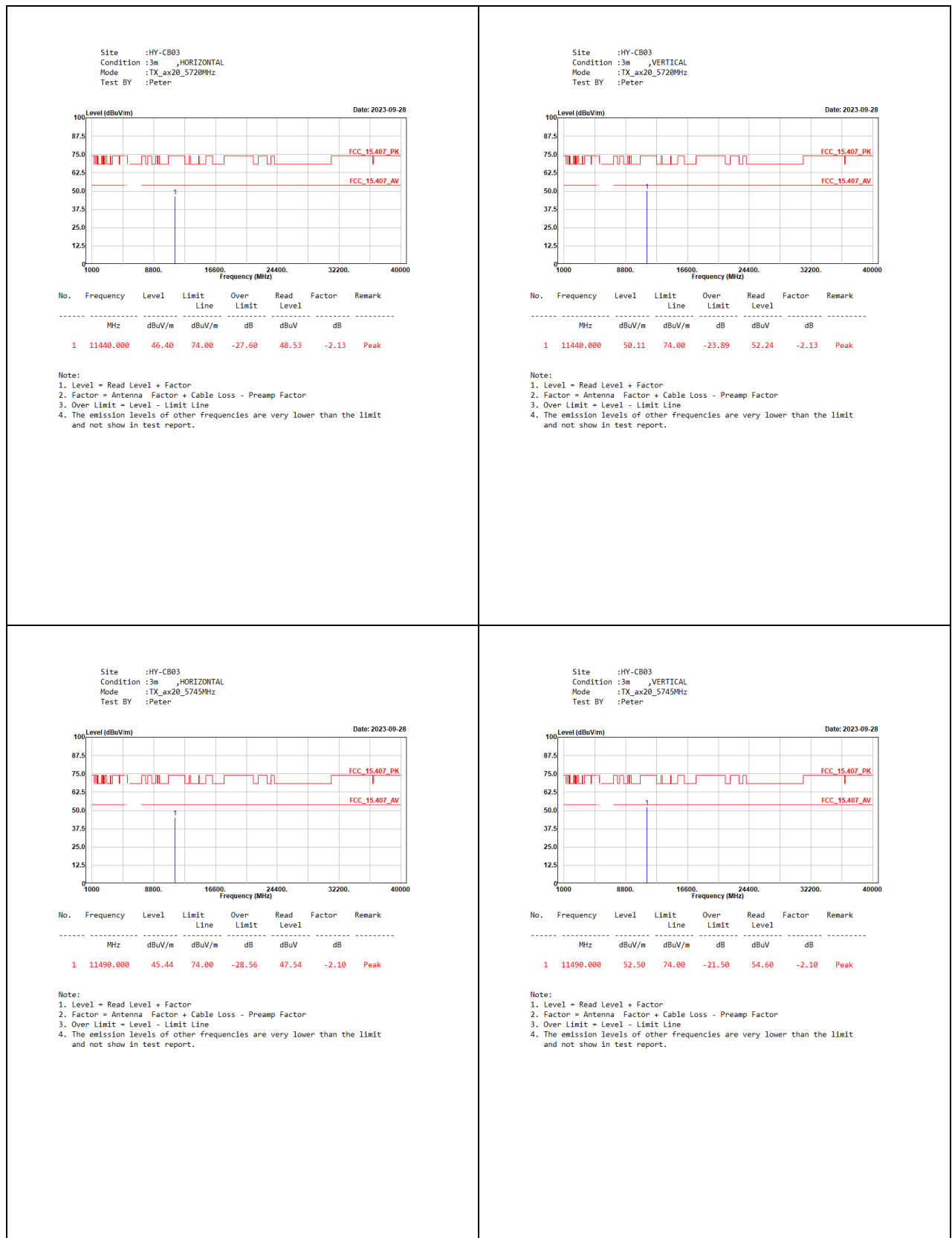


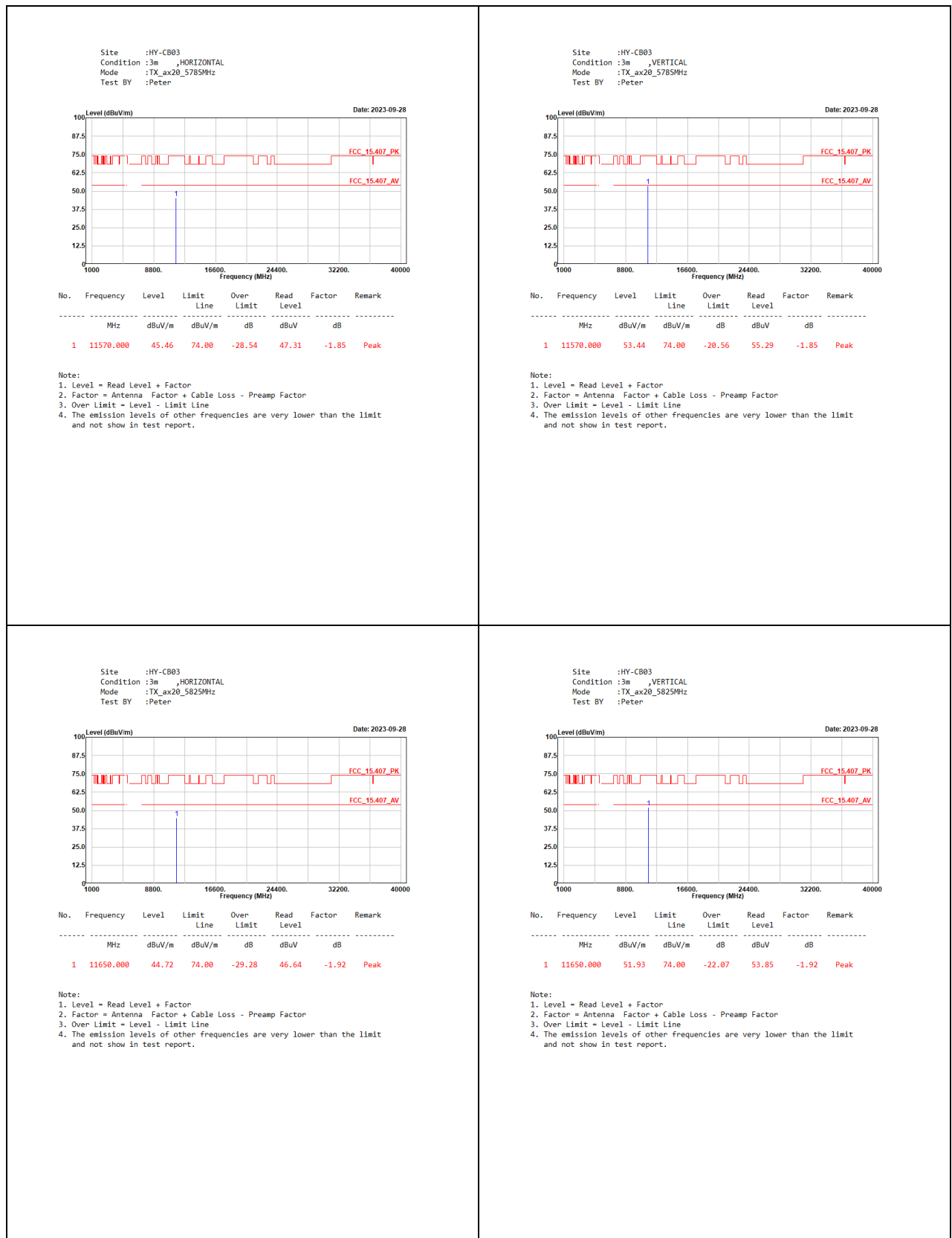


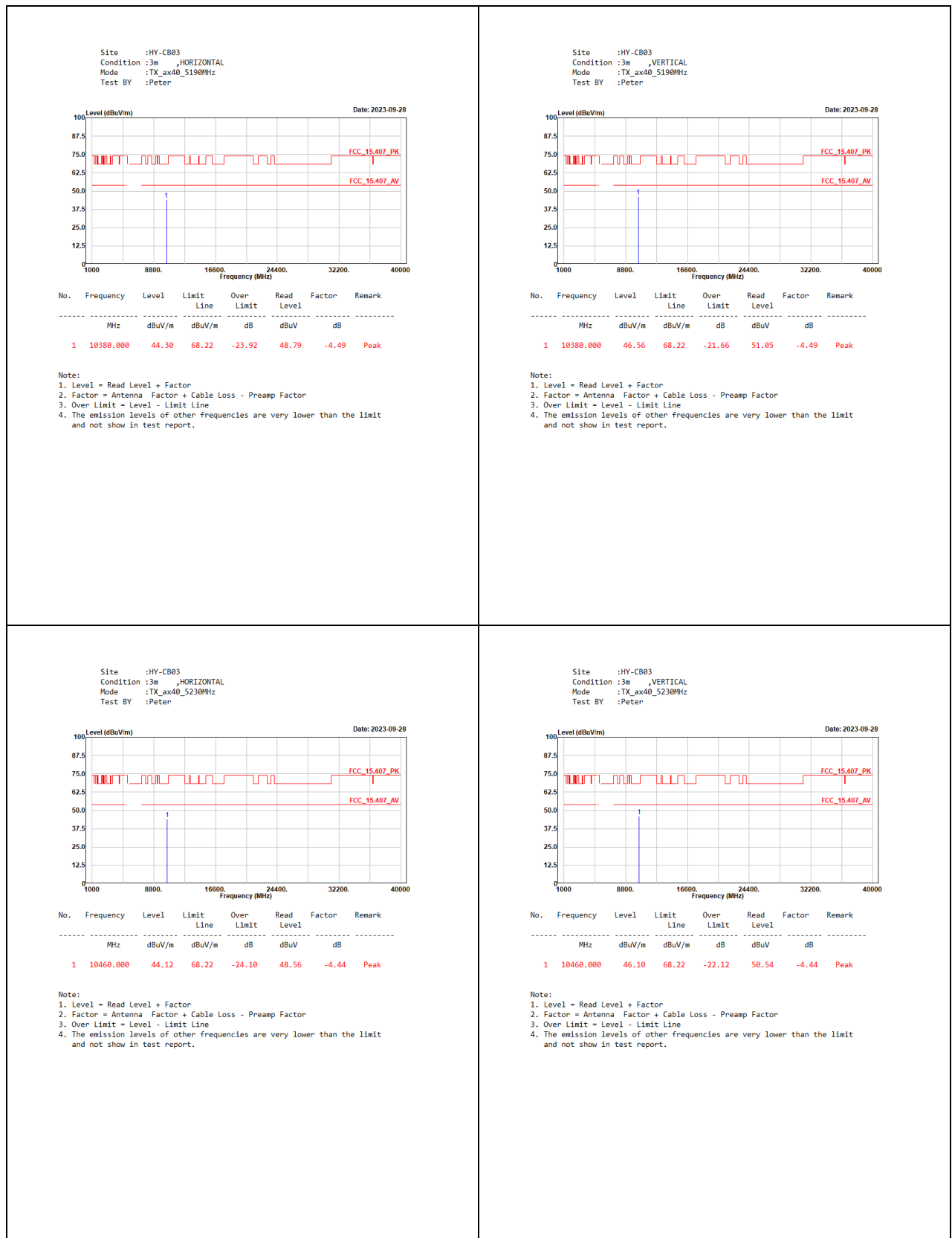


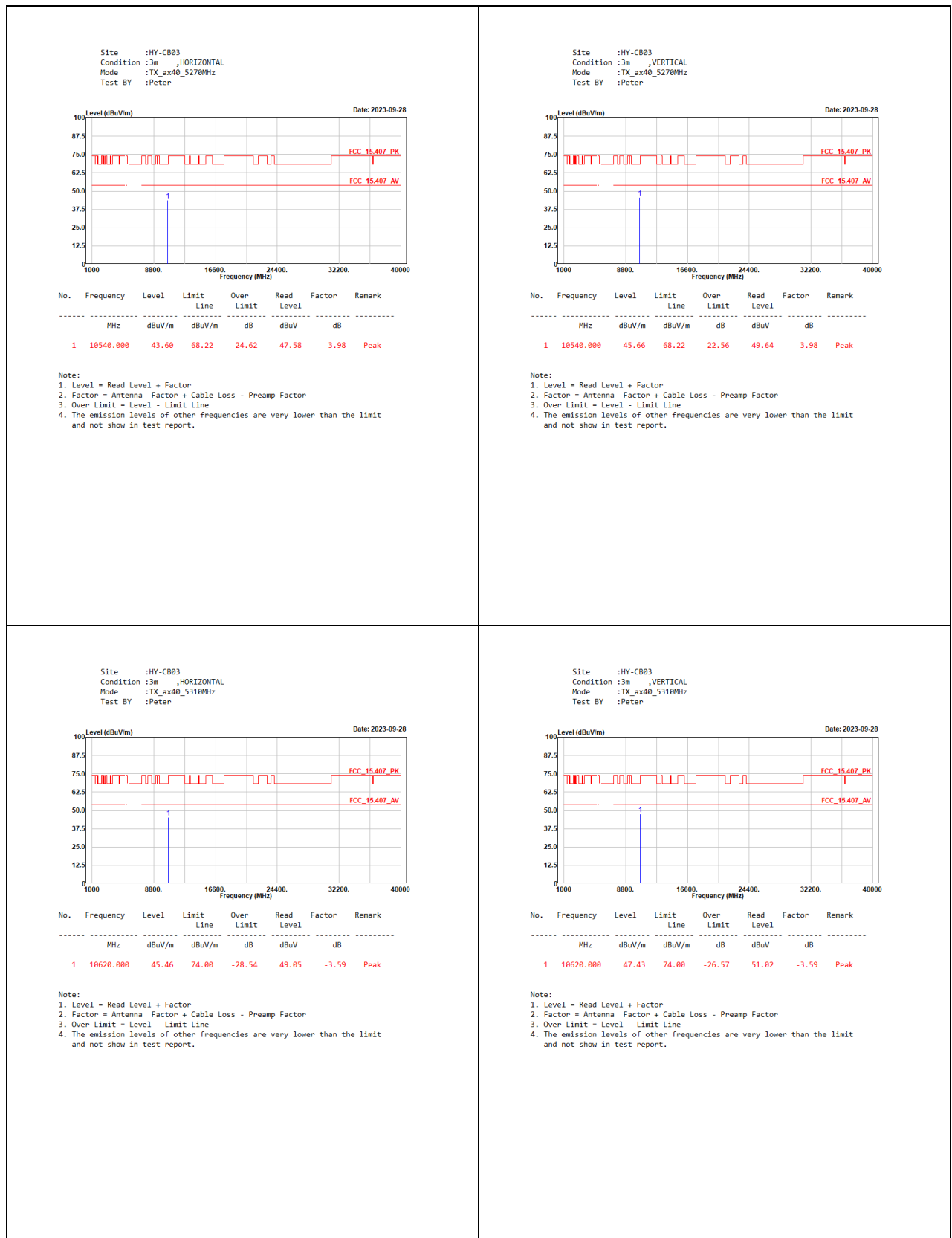


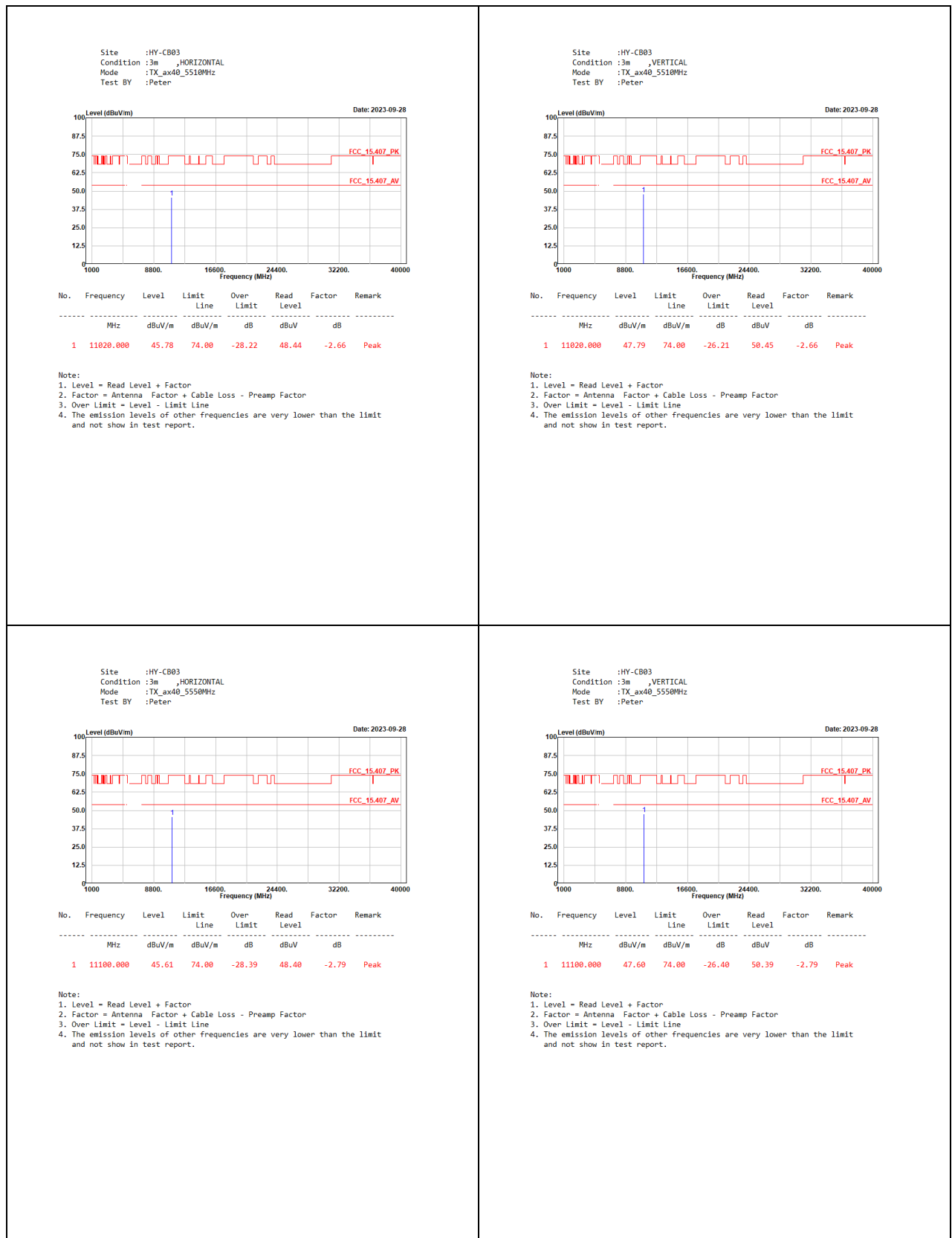


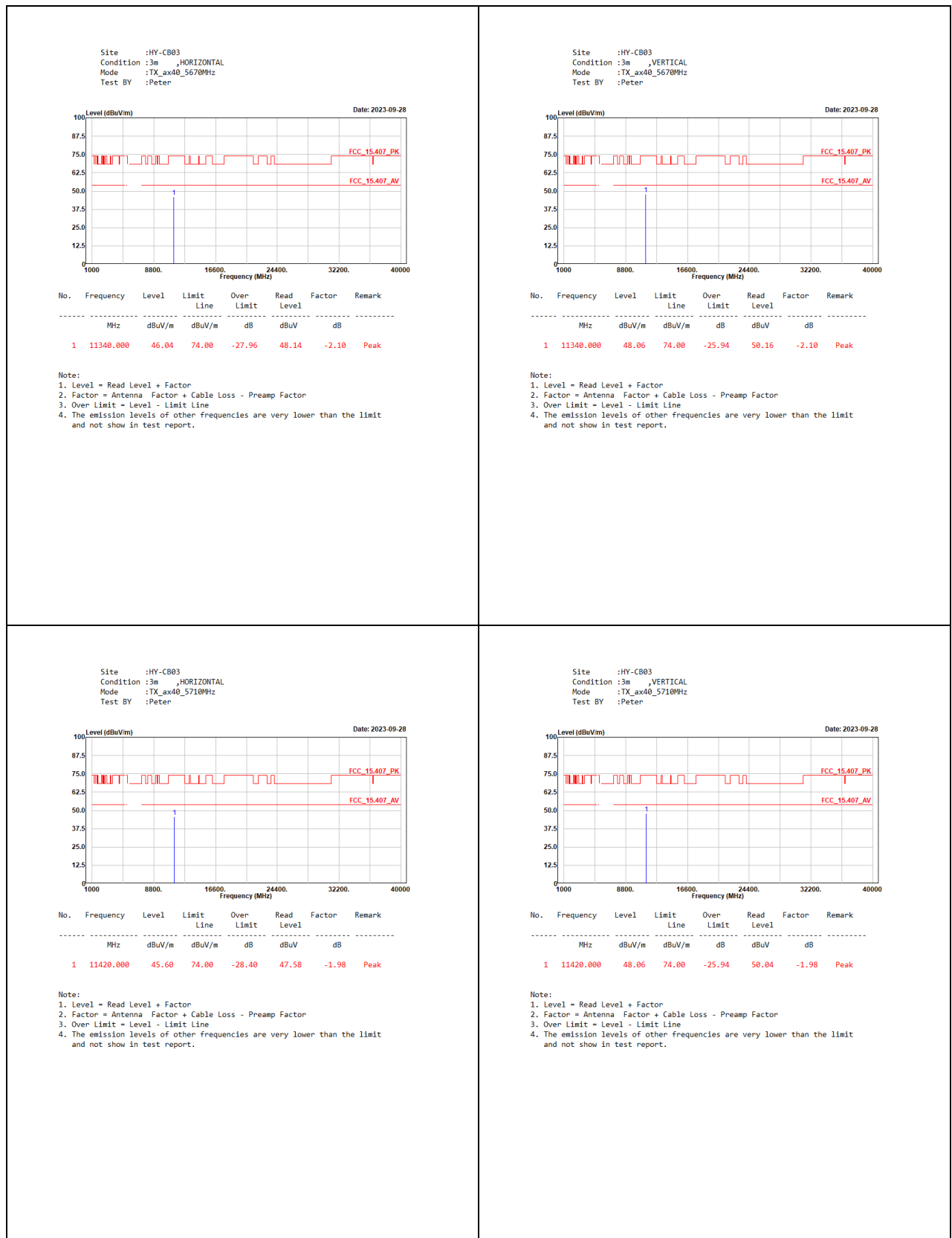


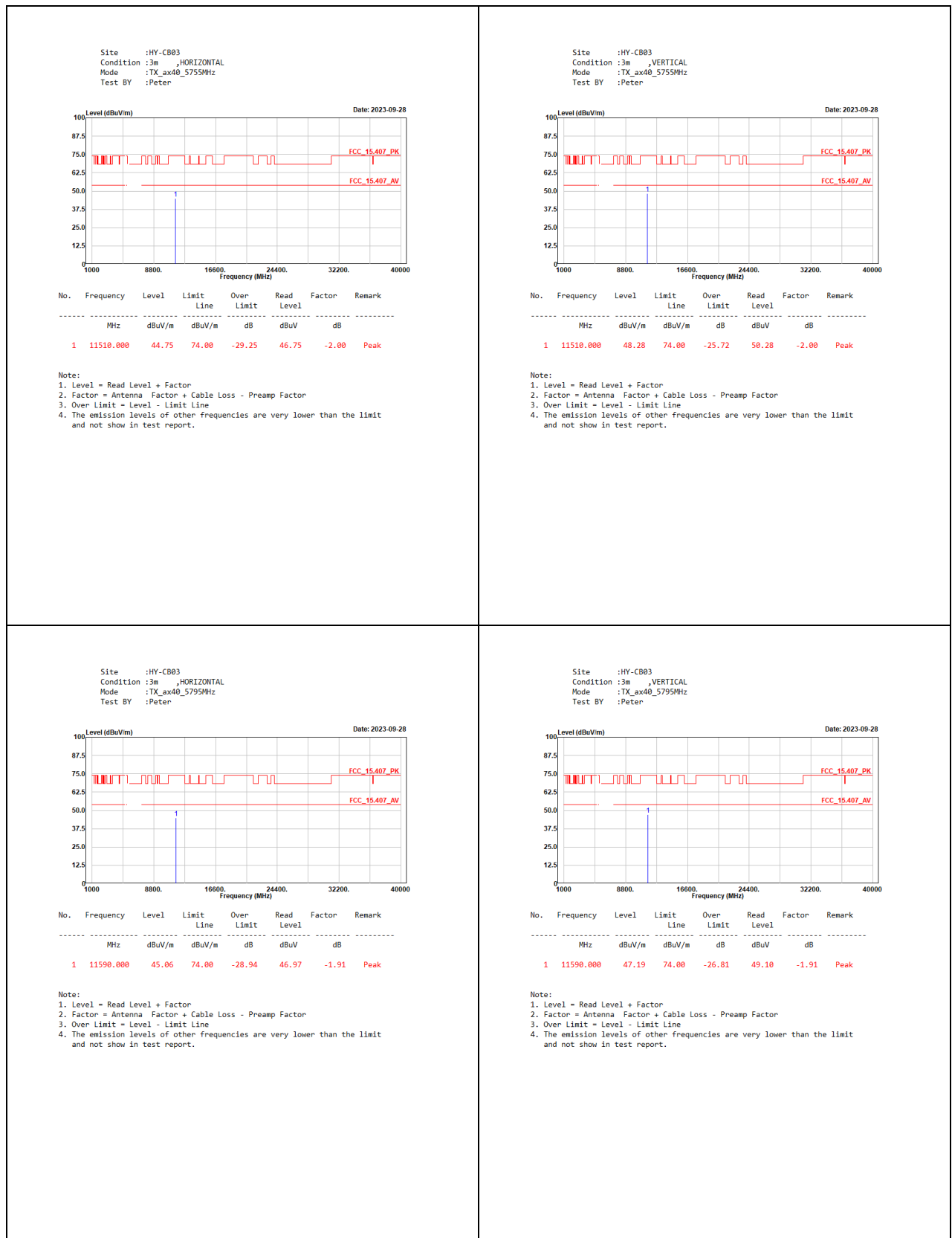


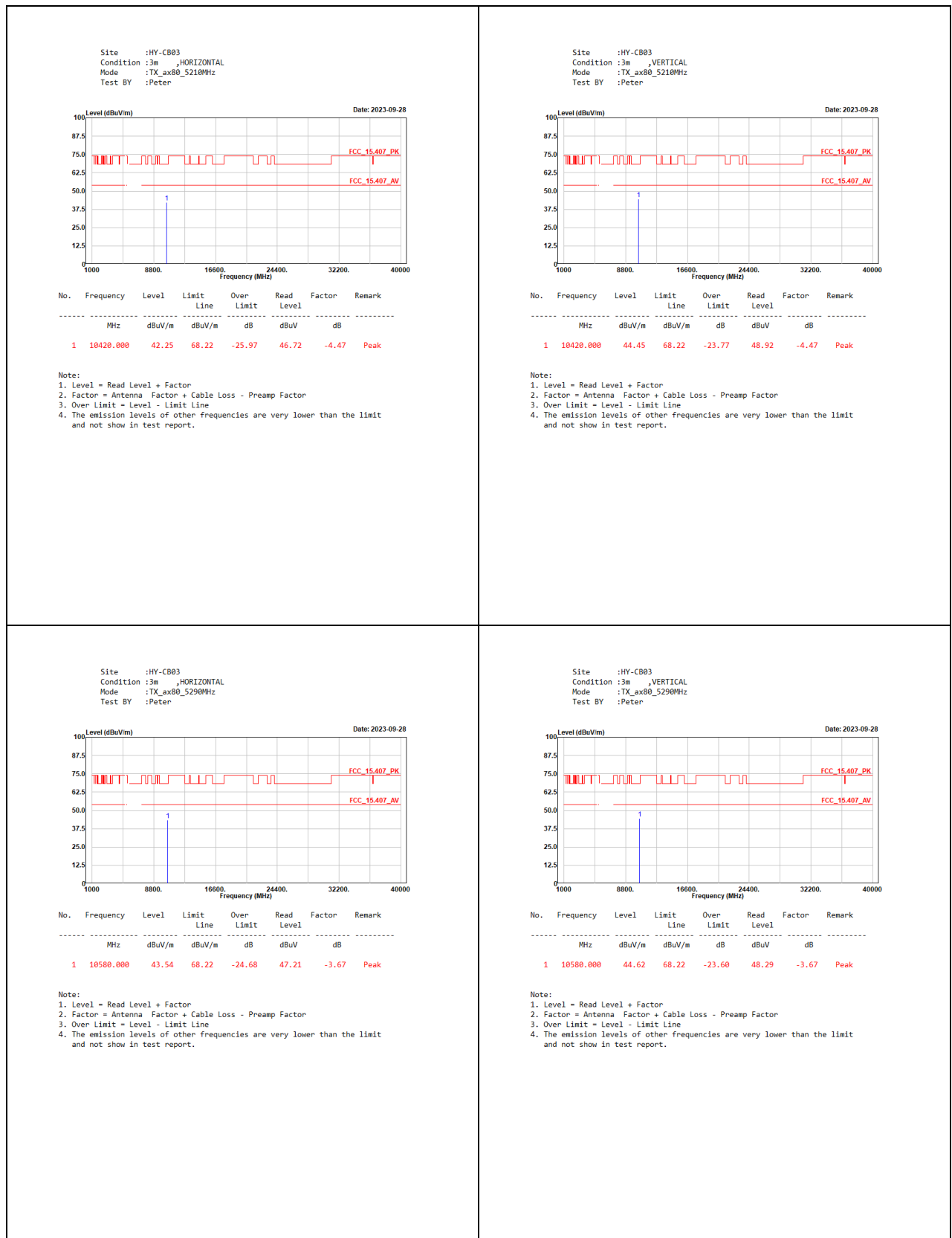




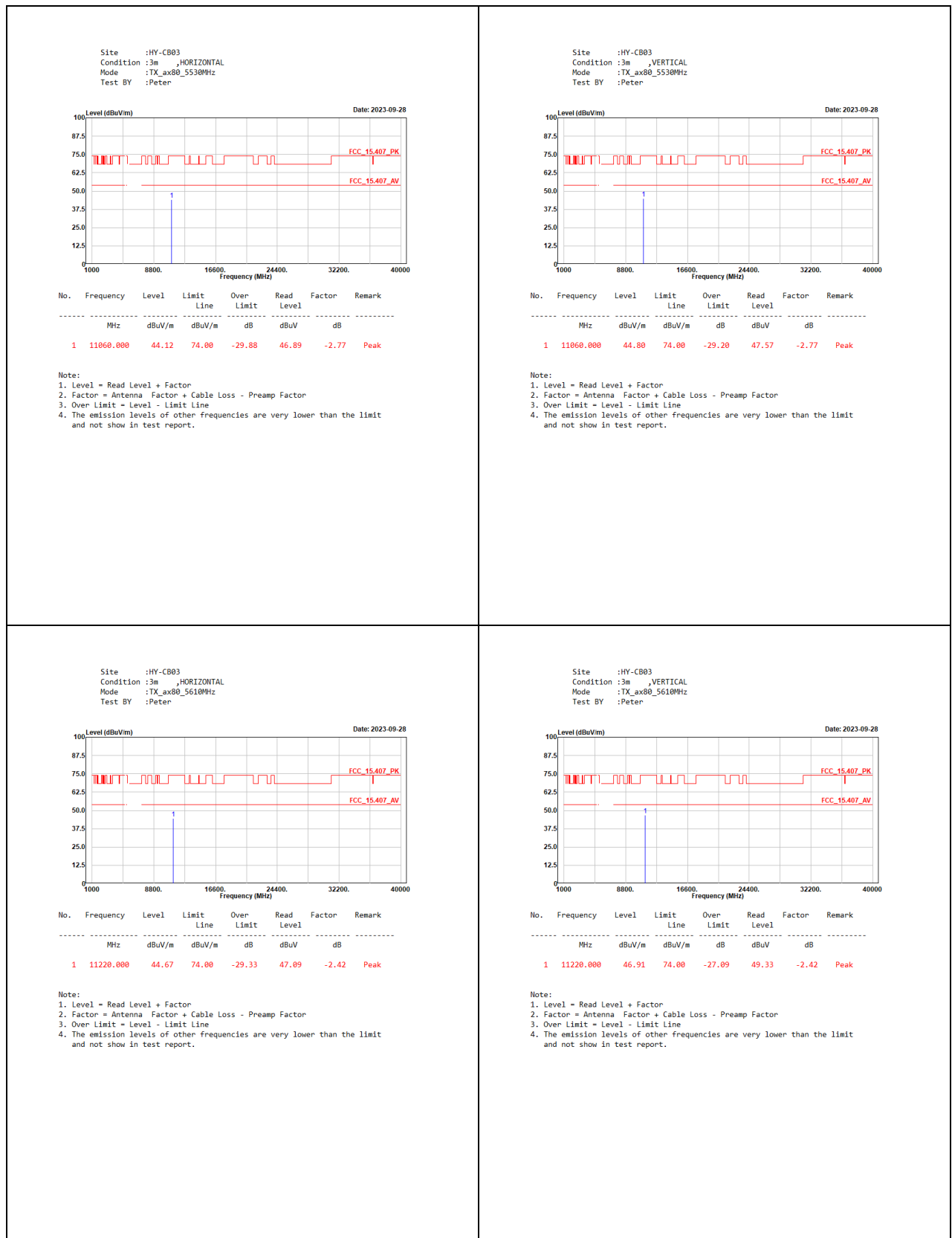


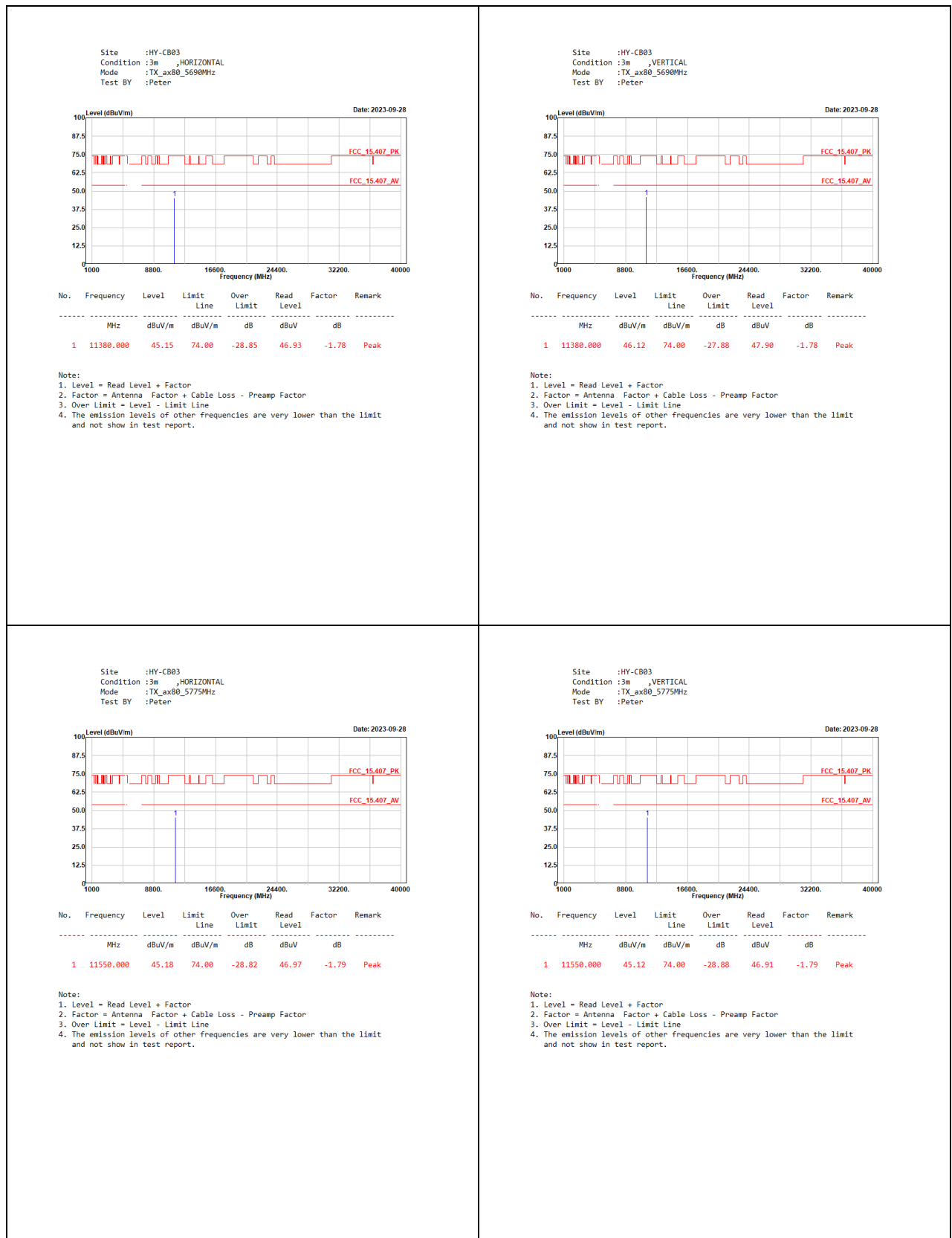


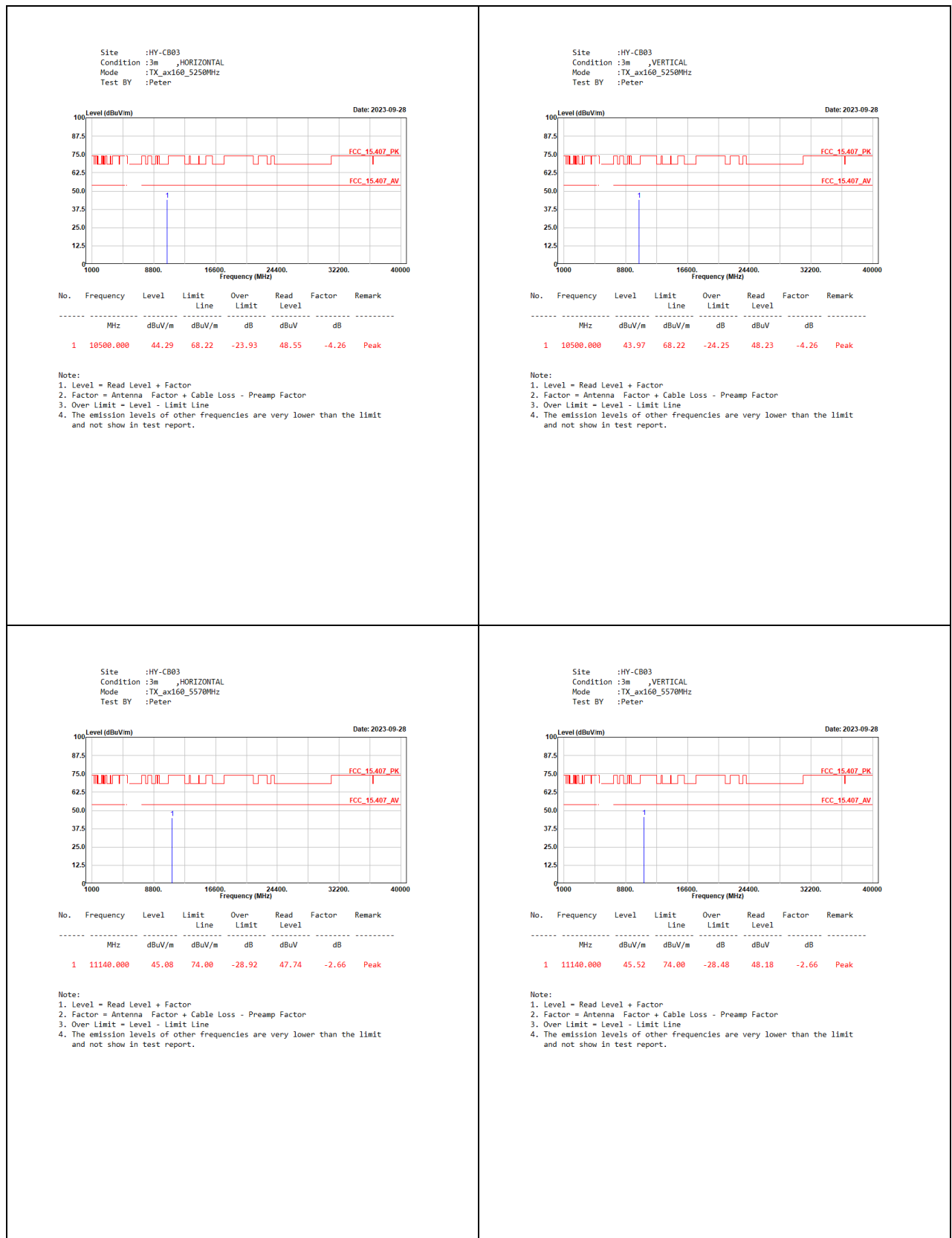




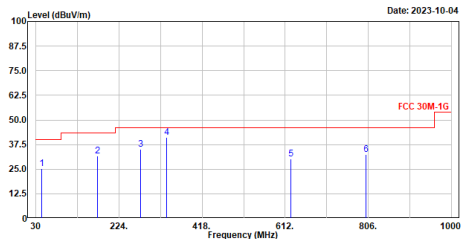








Site :HY-CB03  
Condition :3m ,HORIZONTAL  
Mode :TX\_ax160\_5570MHz  
Test BY :Ashton

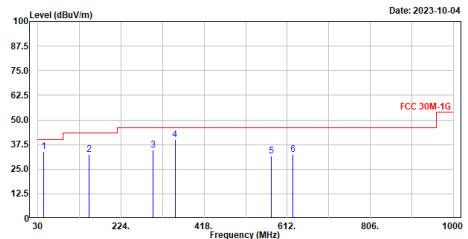


No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	43.588	25.20	40.00	-14.80	48.73	-23.53	QP
2	174.530	31.87	43.50	-11.63	56.49	-24.62	QP
3	274.440	35.15	46.00	-10.85	58.80	-23.65	QP
4	334.580	40.97	46.00	-5.03	62.79	-21.82	QP
5	625.580	30.34	46.00	-15.66	45.43	-15.09	QP
6	800.100	32.29	46.00	-13.71	44.65	-12.36	QP

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The omission under 30MHz was not included since the emission levels are very low against the limit.

Site :HY-CB03  
Condition :3m ,VERTICAL  
Mode :TX\_ax160\_5570MHz  
Test BY :Ashton



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	43.588	33.81	40.00	-6.19	57.34	-23.53	QP
2	149.310	32.30	43.50	-11.20	56.00	-23.70	QP
3	299.660	34.81	46.00	-11.19	57.75	-22.94	QP
4	350.100	40.03	46.00	-5.97	61.84	-21.81	QP
5	575.140	31.55	46.00	-14.45	47.70	-16.15	QP
6	625.580	32.63	46.00	-13.37	47.72	-15.09	QP

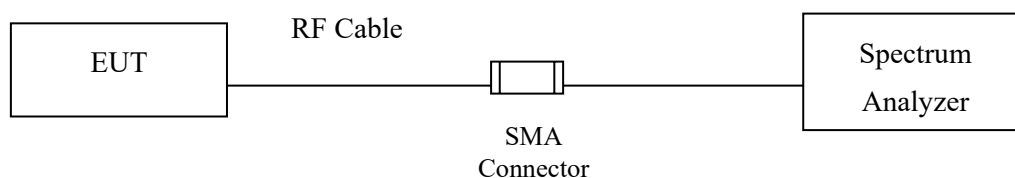
Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The omission under 30MHz was not included since the emission levels are very low against the limit.

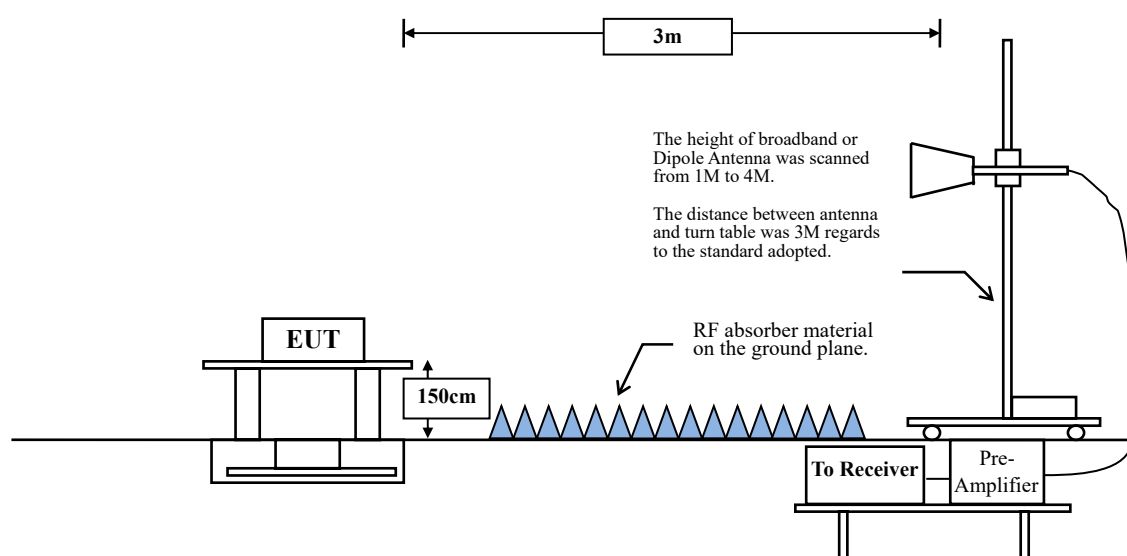
## 6. Band Edge

### 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 ( $\text{dB}\mu\text{V/m}$ ) =  $20 \log \text{RF Voltage } (\mu\text{V/m})$
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 in the 5.850-5.895 GHz band:
  - (i) For an indoor access point or subordinate device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of  $15 \text{ dBm/MHz}$  and shall decrease linearly to an e.i.r.p. of  $-7 \text{ dBm/MHz}$  at or above 5.925 GHz.
  - (ii) For a client device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of  $-5 \text{ dBm/MHz}$  and shall decrease linearly to an e.i.r.p. of  $-27 \text{ dBm/MHz}$  at or above 5.925 GHz.
  - (iii) For a client device or indoor access point or subordinate device, all emissions below 5.725 GHz shall not exceed an e.i.r.p. of  $-27 \text{ dBm/MHz}$  at 5.65 GHz increasing linearly to  $10 \text{ dBm/MHz}$  at 5.7 GHz, and from 5.7 GHz increasing linearly to a level of  $15.6 \text{ dBm/MHz}$  at 5.72 GHz, and from 5.72 GHz increasing linearly to a level of  $27 \text{ dBm/MHz}$  at 5.725 GHz.
- 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.)

5 GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11a	59.39	1.2240	817	1000
802.11ax-20 MHz	84.91	5.4000	185	200
802.11ax-40 MHz	88.89	4.0800	245	300
802.11ax-80 MHz	87.08	2.3250	430	500
802.11ax-160 MHz	86.14	2.1450	466	500

Note: Duty Cycle Refer to Section 8.

## 6.4. Test Result of Band Edge

