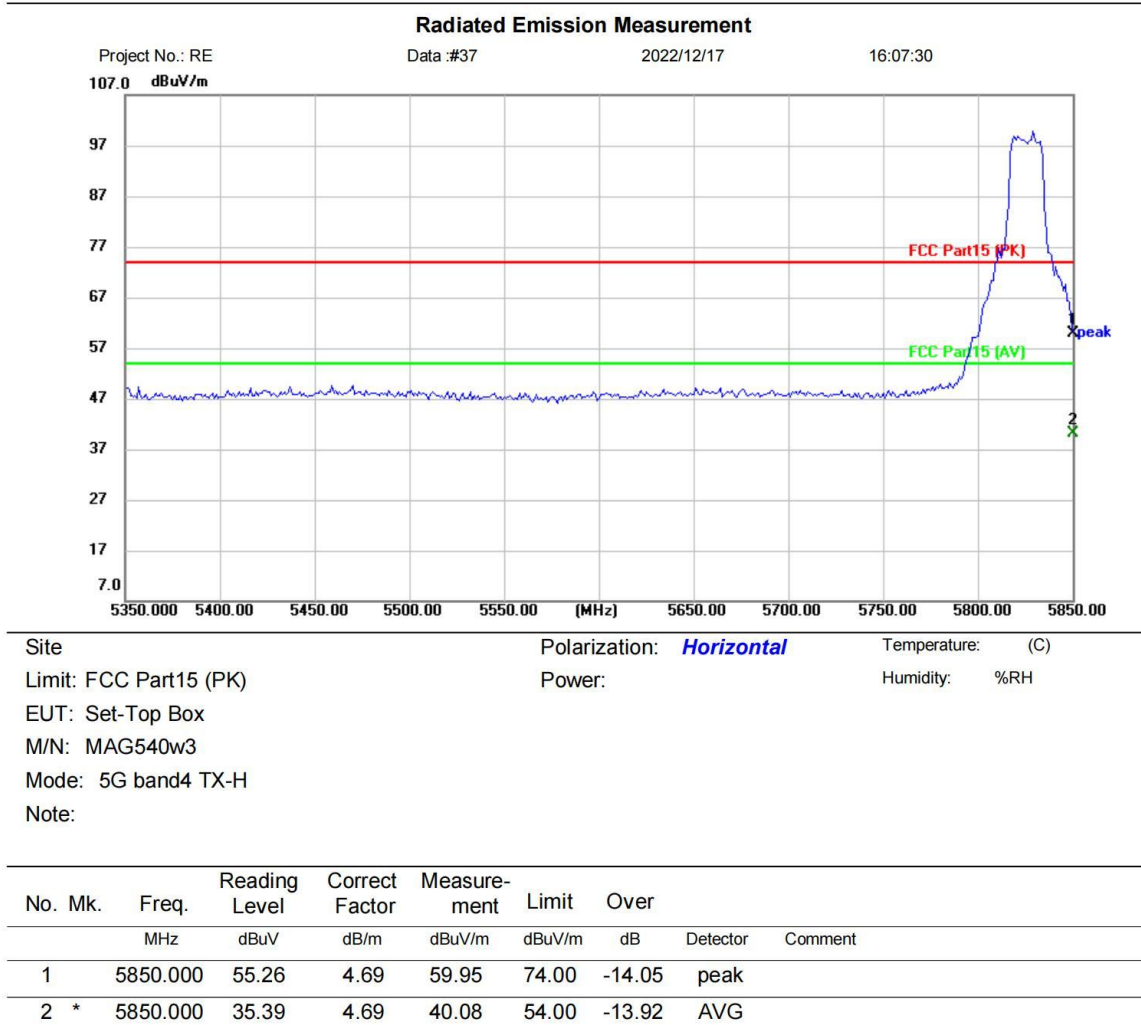


[TestMode: TX band4 a 5825 channel]; [Polarity: Horizontal]

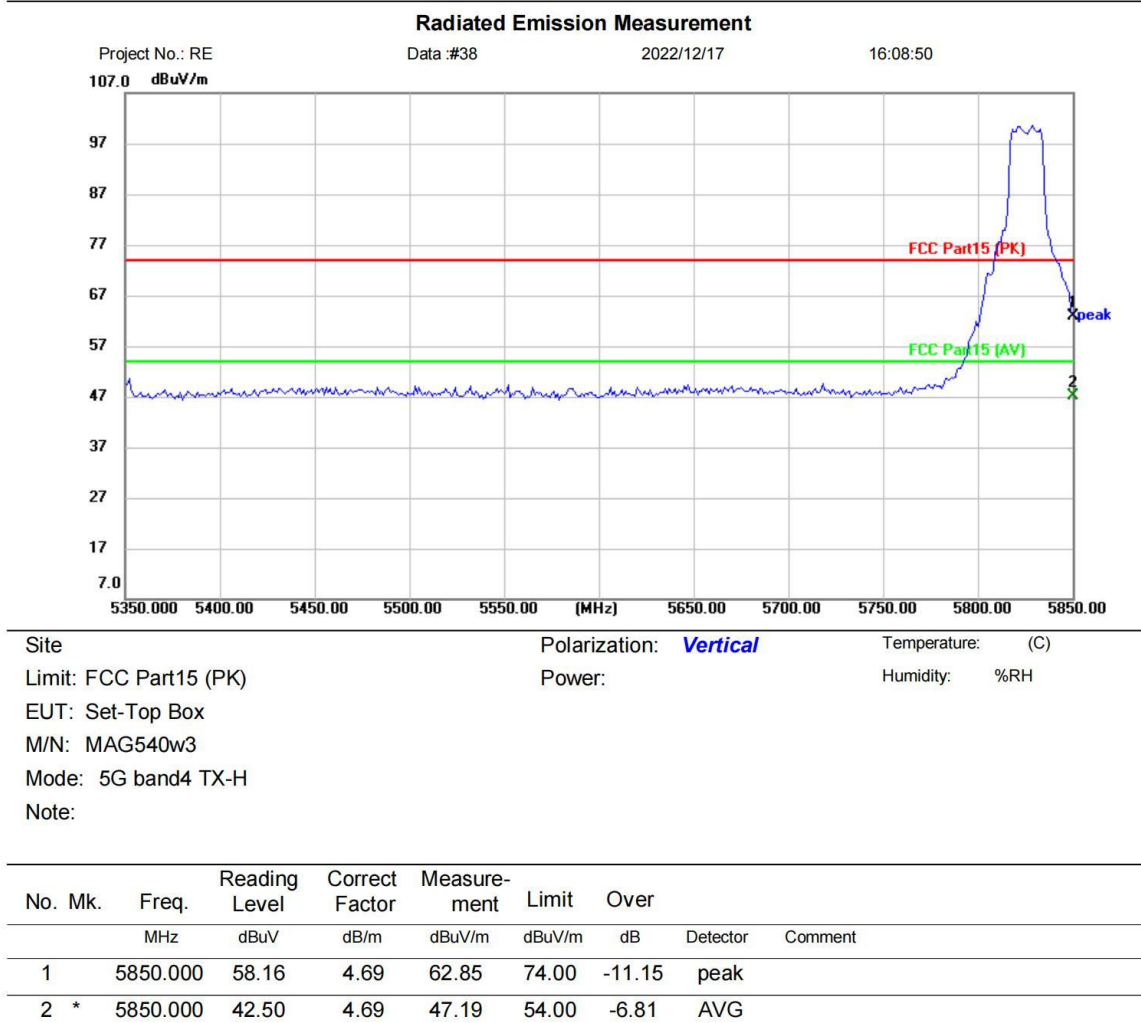


*:Maximum data x:Over limit !:over margin

⟨Reference Only

Test Result: Pass

[TestMode: TX band4 a 5825 channel]; [Polarity: Vertical]



*:Maximum data x:Over limit !:over margin

⟨Reference Only

Test Result: Pass

Remark:

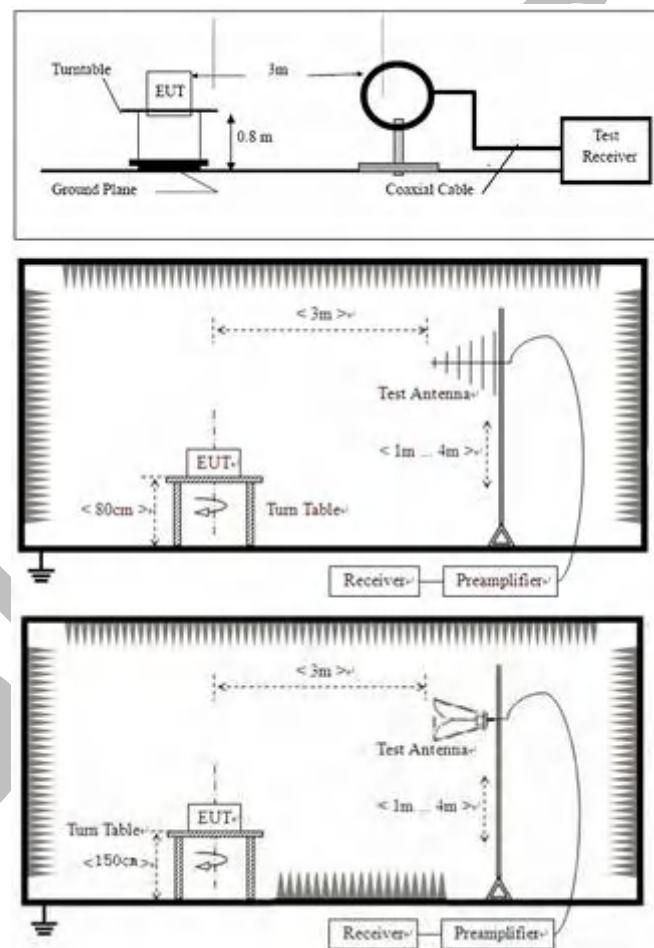
1. Final Level = Receiver Read level + Correct factor
2. Correct factor = Antenna Factor + Cable Loss – Preamplifier Factor
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

BlueAsia

12 RADIATED EMISSIONS

Test Standard	47 CFR Part 15, Subpart E 15.407
Test Method	KDB 789033 D02 II G
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25°C
Humidity	60%

12.1 BLOCK DIAGRAM OF TEST SETUP



12.2 PROCEDURE

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest

radiation.

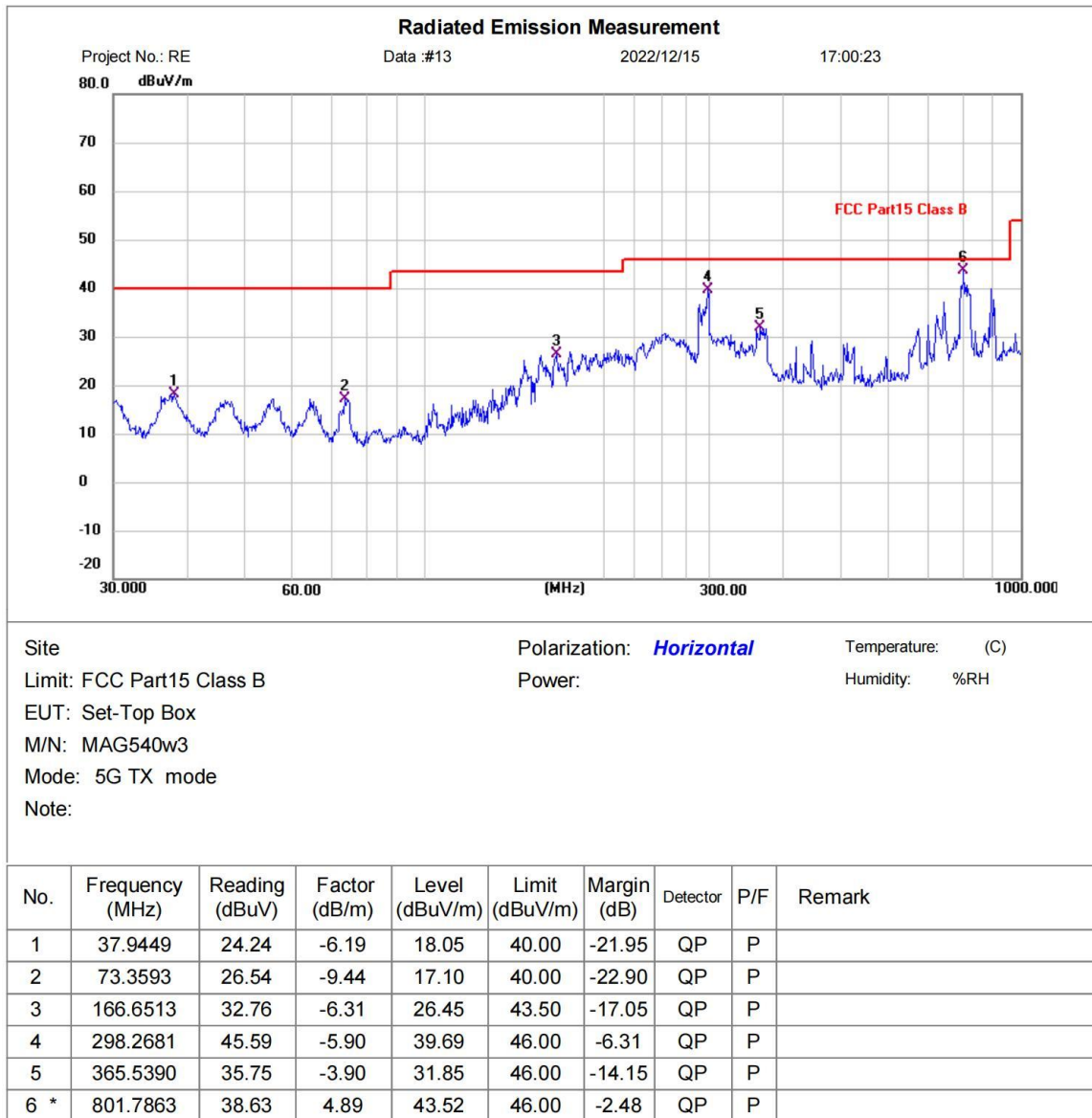
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

Remark:

- 1. $\text{Level} = \text{Read Level} + \text{Cable Loss} + \text{Antenna Factor} - \text{Preamplifier Factor}$
- 2. For emission below 1GHz, through the pre-scan found the worst case is the lowest channel of 802.11a. Only the worst case is recorded in the report.
- 3. Scan from 9kHz to 40GHz, the disturbance above 12.75GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. fundamental frequency is blocked by filter, and only spurious emission is shown.
- 4. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

12.3 TEST DATA

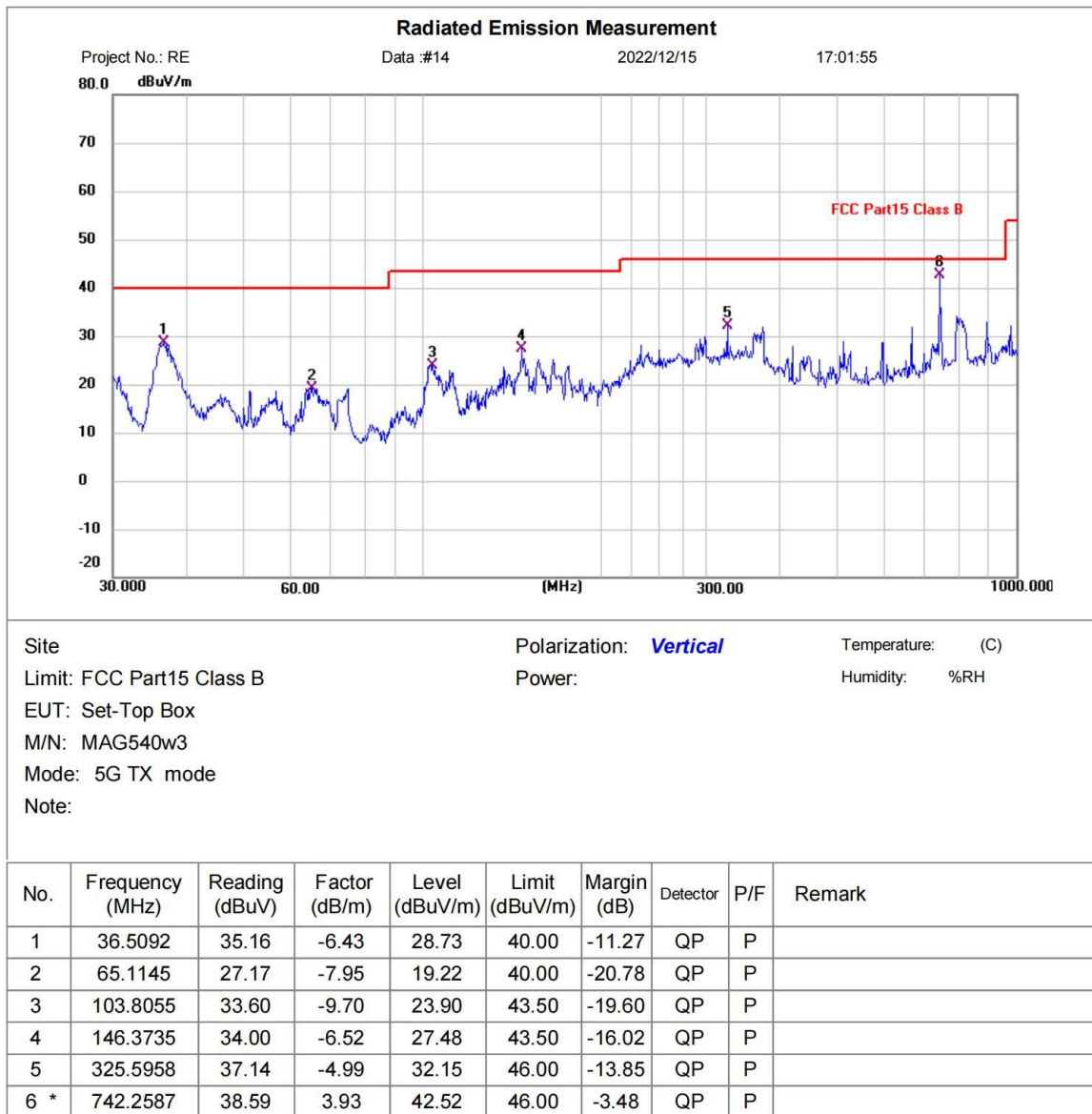
[TestMode: TX below 1G]; [Polarity: Horizontal]



*:Maximum data x:Over limit !:over margin

Test Result: Pass

[TestMode: TX below 1G]; [Polarity: Vertical]

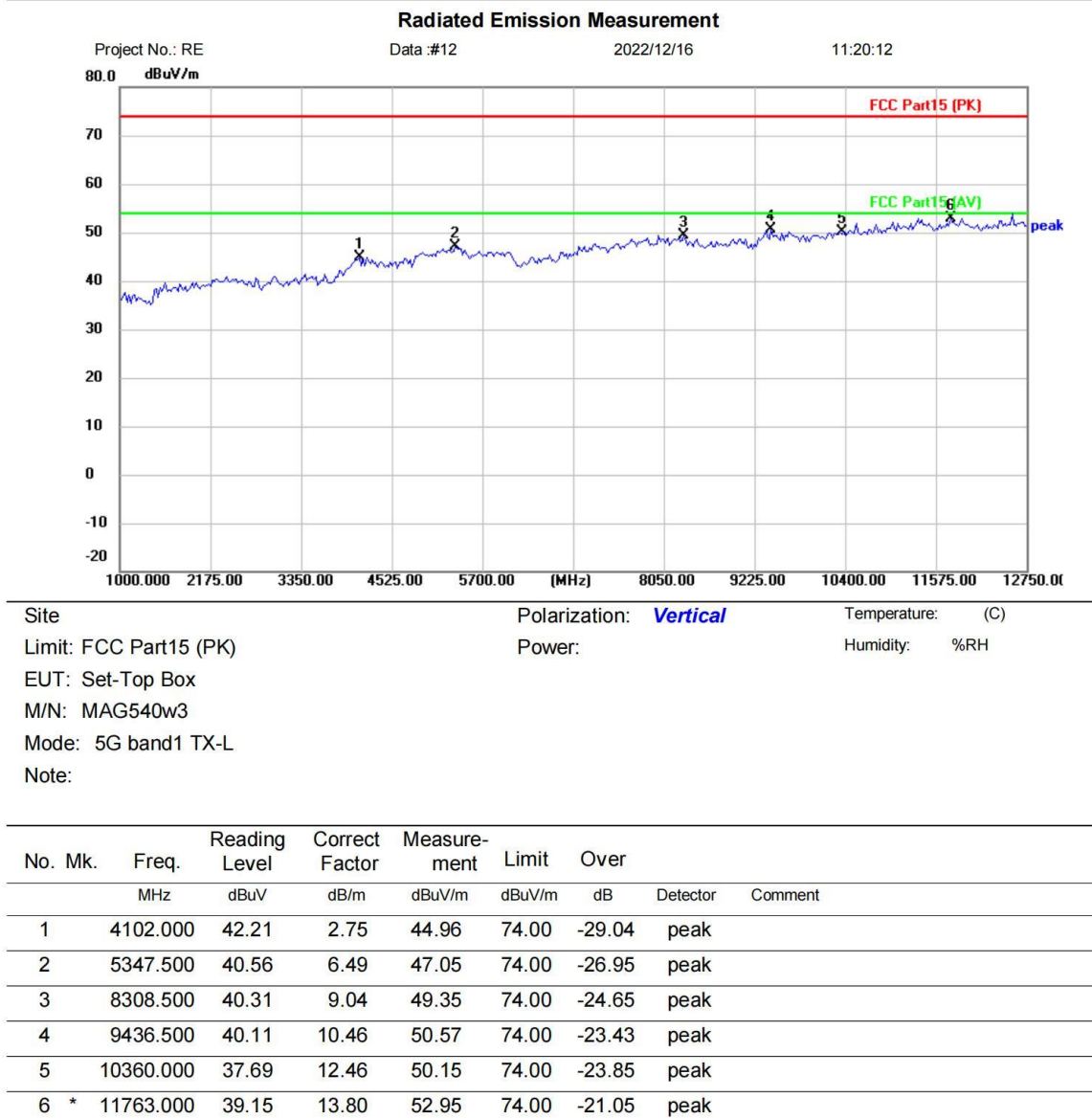


*:Maximum data x:Over limit !:over margin

Test Result: Pass

Remark: During the test, pre-scan the 802.11a/n/ac mode, and found the 802.11a mode which it is worse case.

[TestMode: TX band1 a 5180 channel]; [Polarity: Vertical]

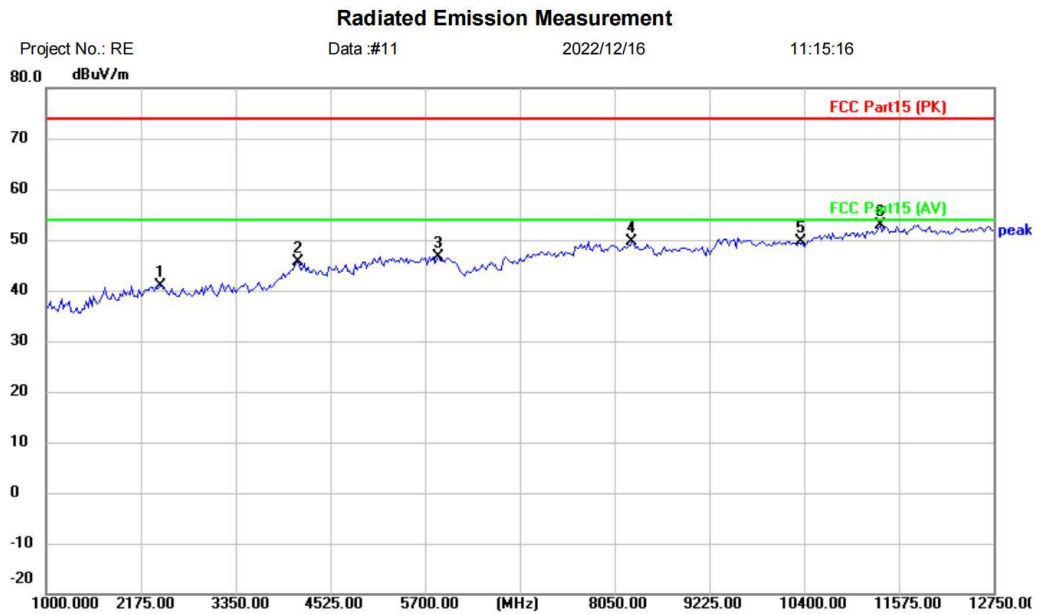


*:Maximum data x:Over limit !:over margin

⟨Reference Only

Test Result: Pass

[TestMode: TX band1 a 5180 channel]; [Polarity: Horizontal]



Site: Polarization: **Horizontal** Temperature: (C)
Limit: FCC Part15 (PK) Power: Humidity: %RH
EUT: Set-Top Box
M/N: MAG540w3
Mode: 5G band1 TX-L
Note:

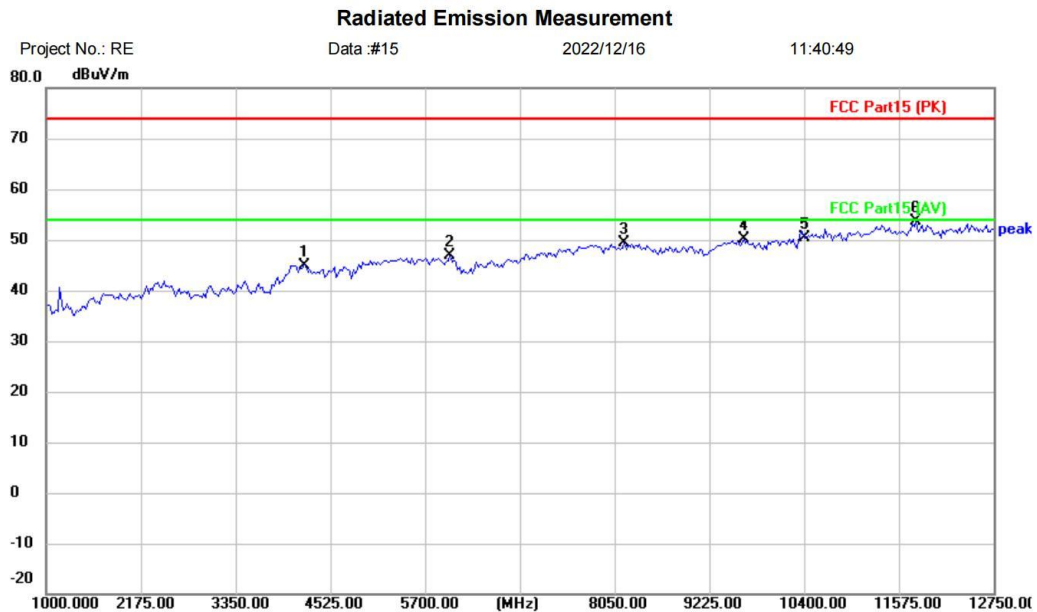
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	2410.000	42.25	-1.26	40.99	74.00	-33.01	peak	
2	4125.500	42.38	3.34	45.72	74.00	-28.28	peak	
3	5864.500	39.87	6.80	46.67	74.00	-27.33	peak	
4	8261.500	40.68	9.02	49.70	74.00	-24.30	peak	
5	10360.000	37.13	12.46	49.59	74.00	-24.41	peak	
6 *	11340.000	39.17	13.60	52.77	74.00	-21.23	peak	

*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: TX band1 a 5200 channel]; [Polarity: Horizontal]



Site: Polarization: **Horizontal** Temperature: (C)
Limit: FCC Part15 (PK) Power: Humidity: %RH
EUT: Set-Top Box
M/N: MAG540w3
Mode: 5G band1 TX-M
Note:

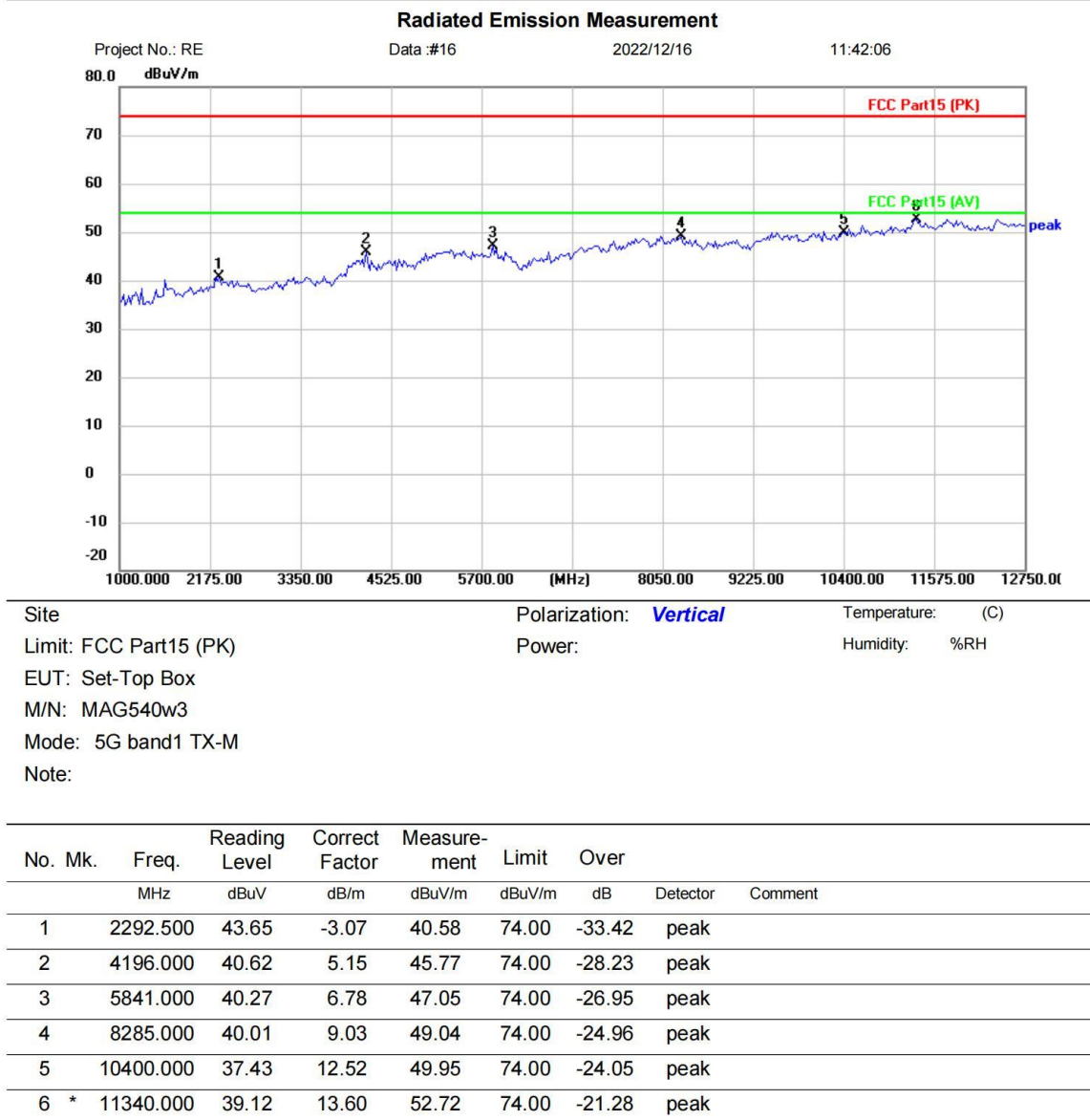
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4196.000	39.85	5.15	45.00	74.00	-29.00	peak	
2		6005.500	43.02	3.92	46.94	74.00	-27.06	peak	
3		8167.500	40.28	8.98	49.26	74.00	-24.74	peak	
4		9648.000	39.12	11.01	50.13	74.00	-23.87	peak	
5		10400.000	37.81	12.52	50.33	74.00	-23.67	peak	
6	*	11786.500	39.76	13.81	53.57	74.00	-20.43	peak	

*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: TX band1 a 5200 channel]; [Polarity: Vertical]

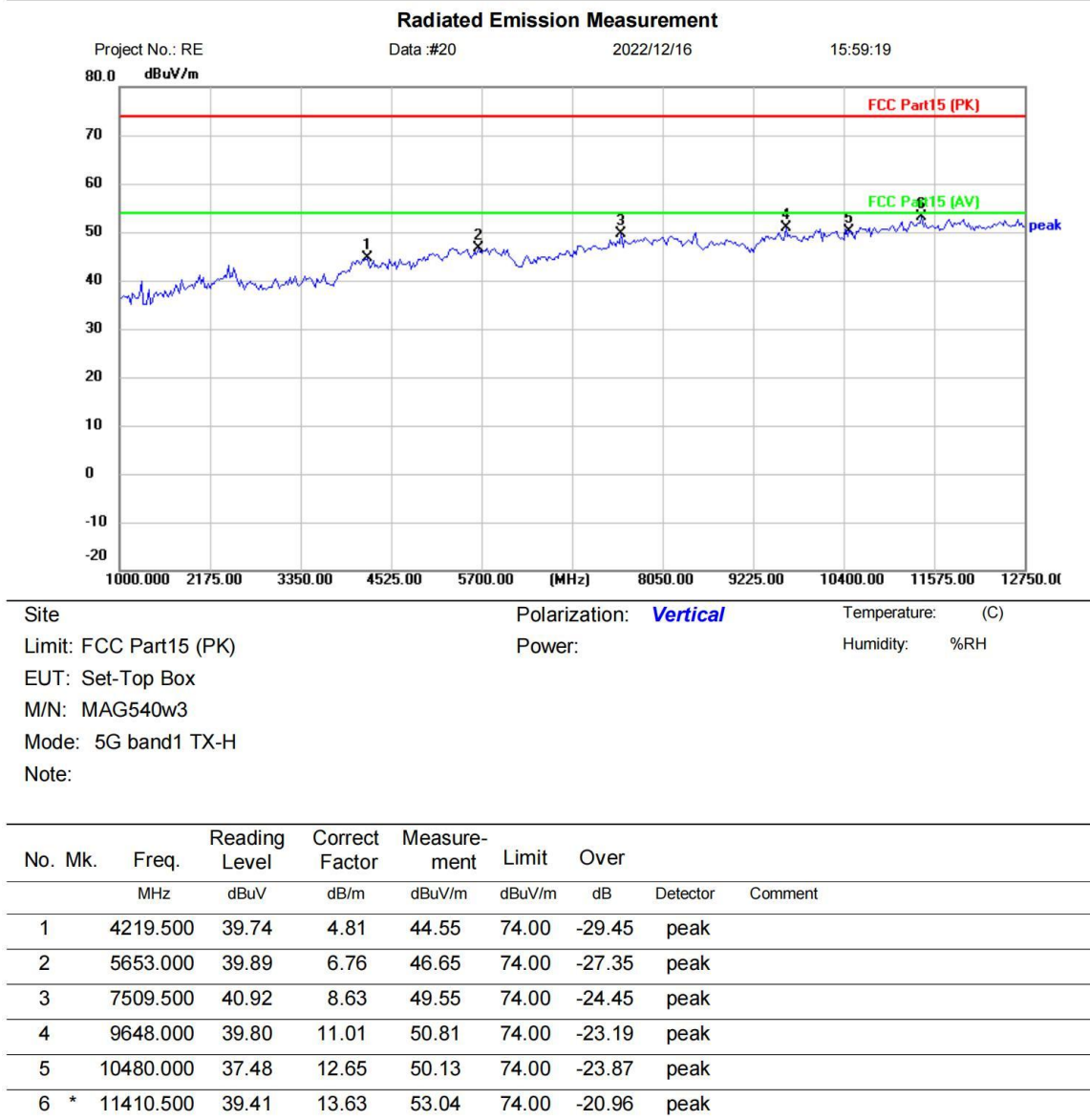


*:Maximum data x:Over limit !:over margin

⟨Reference Only

Test Result: Pass

[TestMode: TX band1 a 5240 channel]; [Polarity: Vertical]

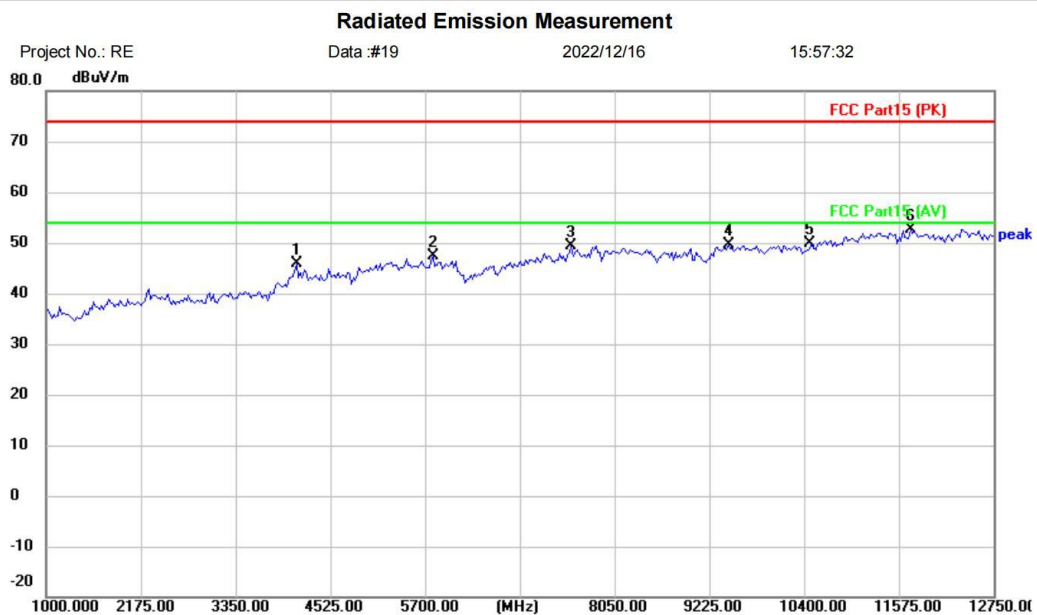


*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: TX band1 a 5240 channel]; [Polarity: Horizontal]



Site: Polarization: **Horizontal** Temperature: (C)
Limit: FCC Part15 (PK) Power: Humidity: %RH
EUT: Set-Top Box
M/N: MAG540w3
Mode: 5G band1 TX-H
Note:

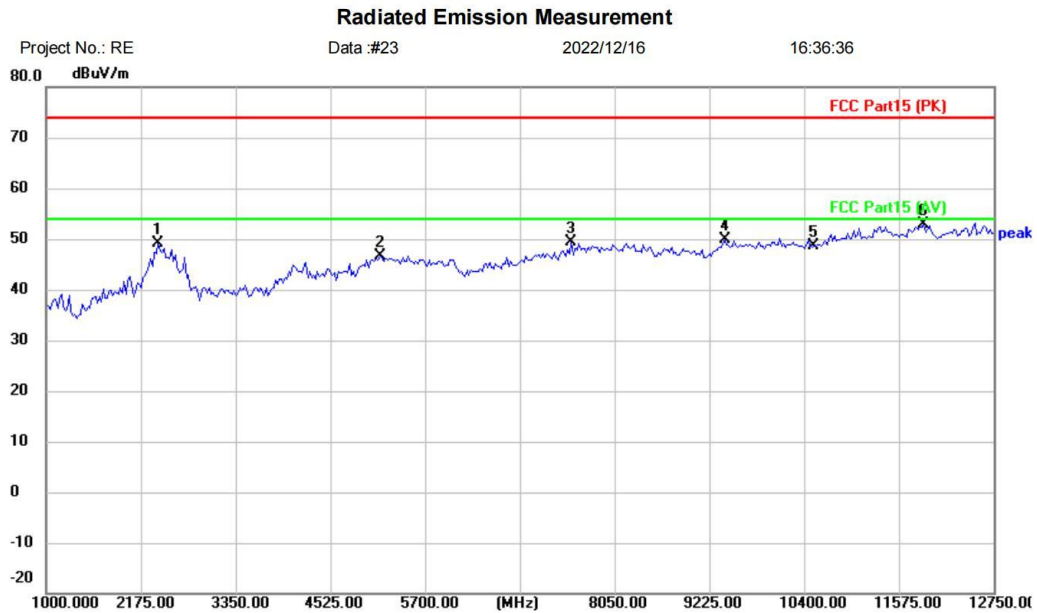
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4102.000	43.09	2.75	45.84	74.00	-28.16	peak	
2		5794.000	40.59	6.77	47.36	74.00	-26.64	peak	
3		7509.500	40.74	8.63	49.37	74.00	-24.63	peak	
4		9460.000	39.09	10.52	49.61	74.00	-24.39	peak	
5		10480.000	37.34	12.65	49.99	74.00	-24.01	peak	
6	*	11716.000	38.88	13.77	52.65	74.00	-21.35	peak	

*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: TX band2 a 5260 channel]; [Polarity: Horizontal]



Site: Polarization: **Horizontal** Temperature: (C)
Limit: FCC Part15 (PK) Power: Humidity: %RH
EUT: Set-Top Box
M/N: MAG540w3
Mode: 5G band2 TX-L
Note:

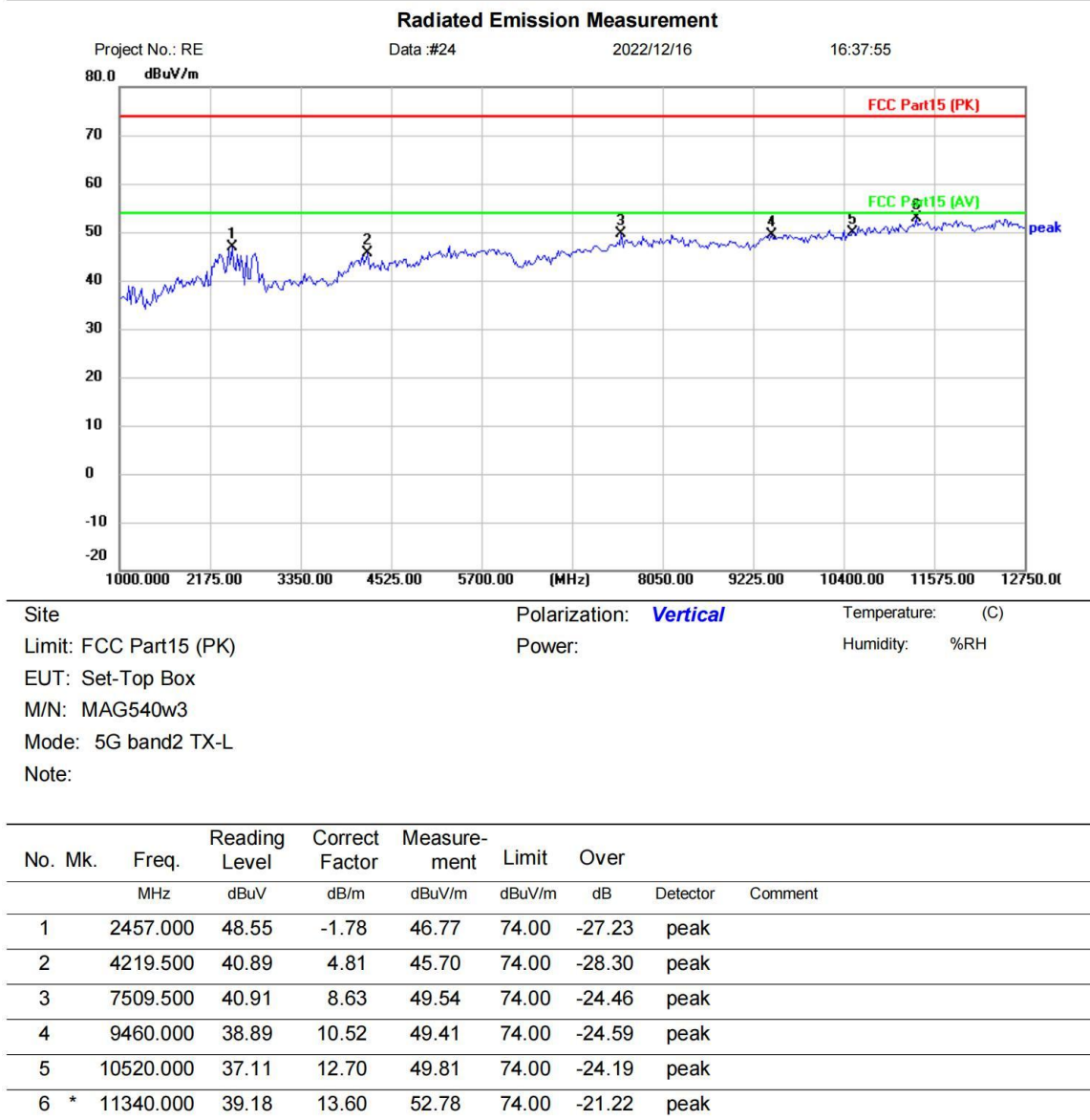
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2386.500	50.24	-1.11	49.13	74.00	-24.87	peak	
2		5136.000	40.91	5.82	46.73	74.00	-27.27	peak	
3		7509.500	40.70	8.63	49.33	74.00	-24.67	peak	
4		9413.000	39.36	10.40	49.76	74.00	-24.24	peak	
5		10520.000	35.83	12.70	48.53	74.00	-25.47	peak	
6	*	11880.500	38.95	13.85	52.80	74.00	-21.20	peak	

*:Maximum data x:Over limit !:over margin

⟨Reference Only

Test Result: Pass

[TestMode: TX band2 a 5260 channel]; [Polarity: Vertical]

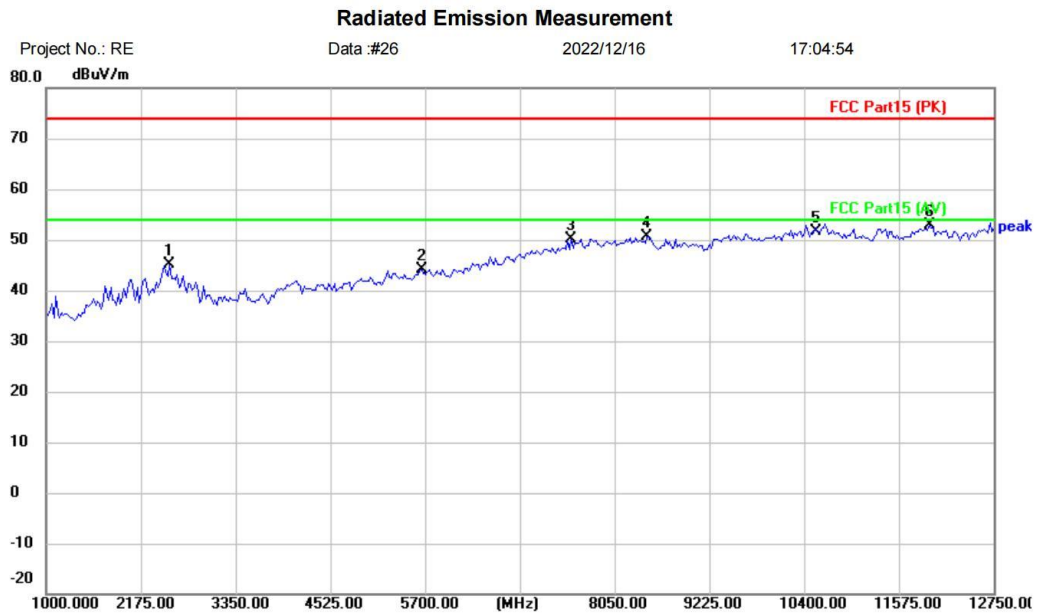


*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: TX band2 a 5280 channel]; [Polarity: Vertical]



Site: Polarization: **Vertical** Temperature: (C)
Limit: FCC Part15 (PK) Power: Humidity: %RH
EUT: Set-Top Box
M/N: MAG540w3
Mode: 5G band2 TX-M
Note:

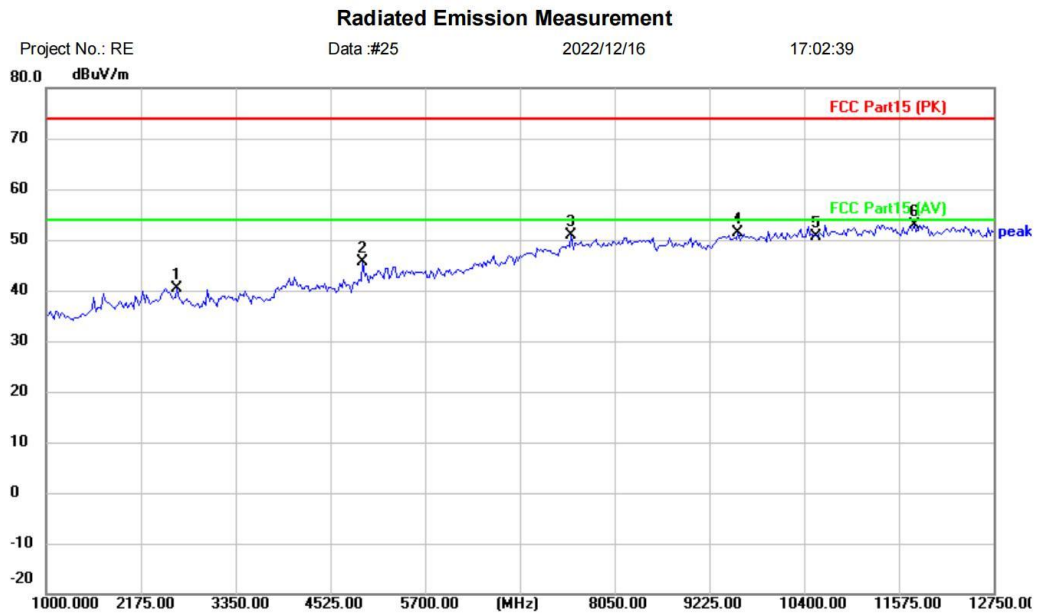
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	2527.500	49.08	-4.04	45.04	74.00	-28.96	peak	
2	5653.000	39.53	4.65	44.18	74.00	-29.82	peak	
3	7509.500	40.62	9.62	50.24	74.00	-23.76	peak	
4	8449.500	40.14	10.57	50.71	74.00	-23.29	peak	
5	10560.000	37.49	14.03	51.52	74.00	-22.48	peak	
6 *	11951.000	37.44	15.43	52.87	74.00	-21.13	peak	

*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: TX band2 a 5280 channel]; [Polarity: Horizontal]



Site: Polarization: **Horizontal** Temperature: (C)
Limit: FCC Part15 (PK) Power: Humidity: %RH
EUT: Set-Top Box
M/N: MAG540w3
Mode: 5G band2 TX-M
Note:

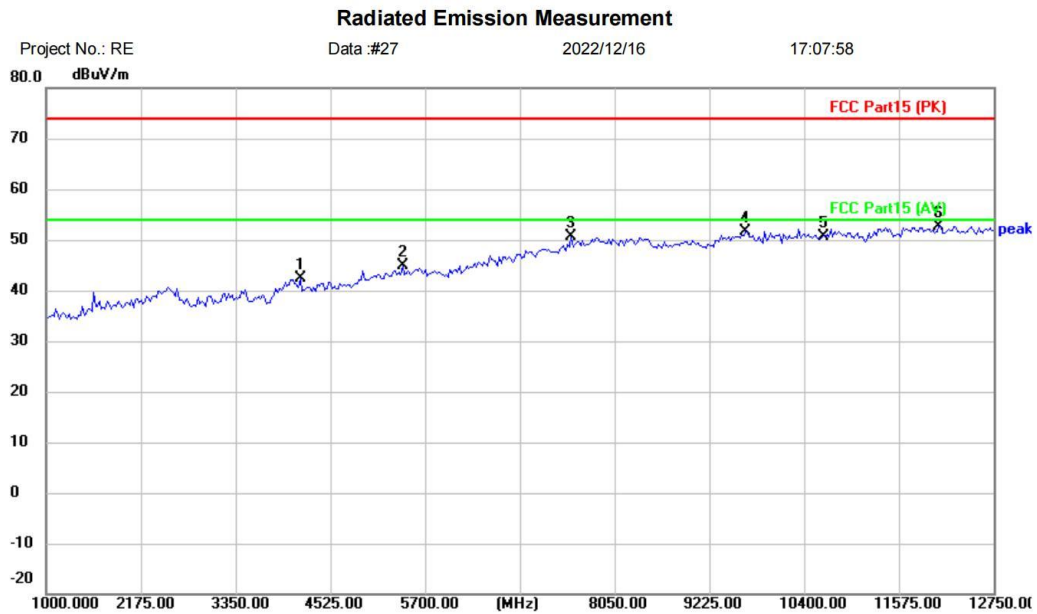
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	2621.500	44.47	-4.14	40.33	74.00	-33.67	peak	
2	4924.500	42.97	2.64	45.61	74.00	-28.39	peak	
3	7509.500	41.34	9.62	50.96	74.00	-23.04	peak	
4	9577.500	39.25	12.09	51.34	74.00	-22.66	peak	
5	10560.000	36.57	14.03	50.60	74.00	-23.40	peak	
6 *	11763.000	37.77	15.21	52.98	74.00	-21.02	peak	

*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: TX band2 a 5320 channel]; [Polarity: Horizontal]



Site: Polarization: **Horizontal** Temperature: (C)
Limit: FCC Part15 (PK) Power: Humidity: %RH
EUT: Set-Top Box
M/N: MAG540w3
Mode: 5G band2 TX-H
Note:

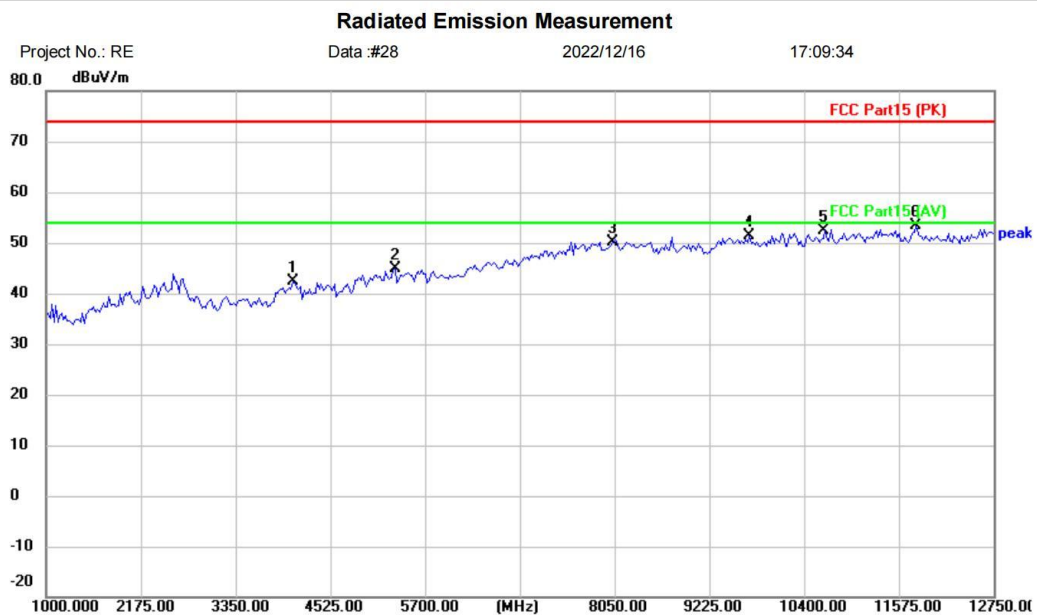
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	4149.000	41.41	0.89	42.30	74.00	-31.70	peak	
2	5418.000	40.41	4.36	44.77	74.00	-29.23	peak	
3	7509.500	40.91	9.62	50.53	74.00	-23.47	peak	
4	9671.500	39.28	12.34	51.62	74.00	-22.38	peak	
5	10640.000	36.57	14.11	50.68	74.00	-23.32	peak	
6 *	12068.500	37.31	15.42	52.73	74.00	-21.27	peak	

*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: TX band2 a 5320 channel]; [Polarity: Vertical]



Site: Polarization: **Vertical** Temperature: (C)
Limit: FCC Part15 (PK) Power: Humidity: %RH
EUT: Set-Top Box
M/N: MAG540w3
Mode: 5G band2 TX-H
Note:

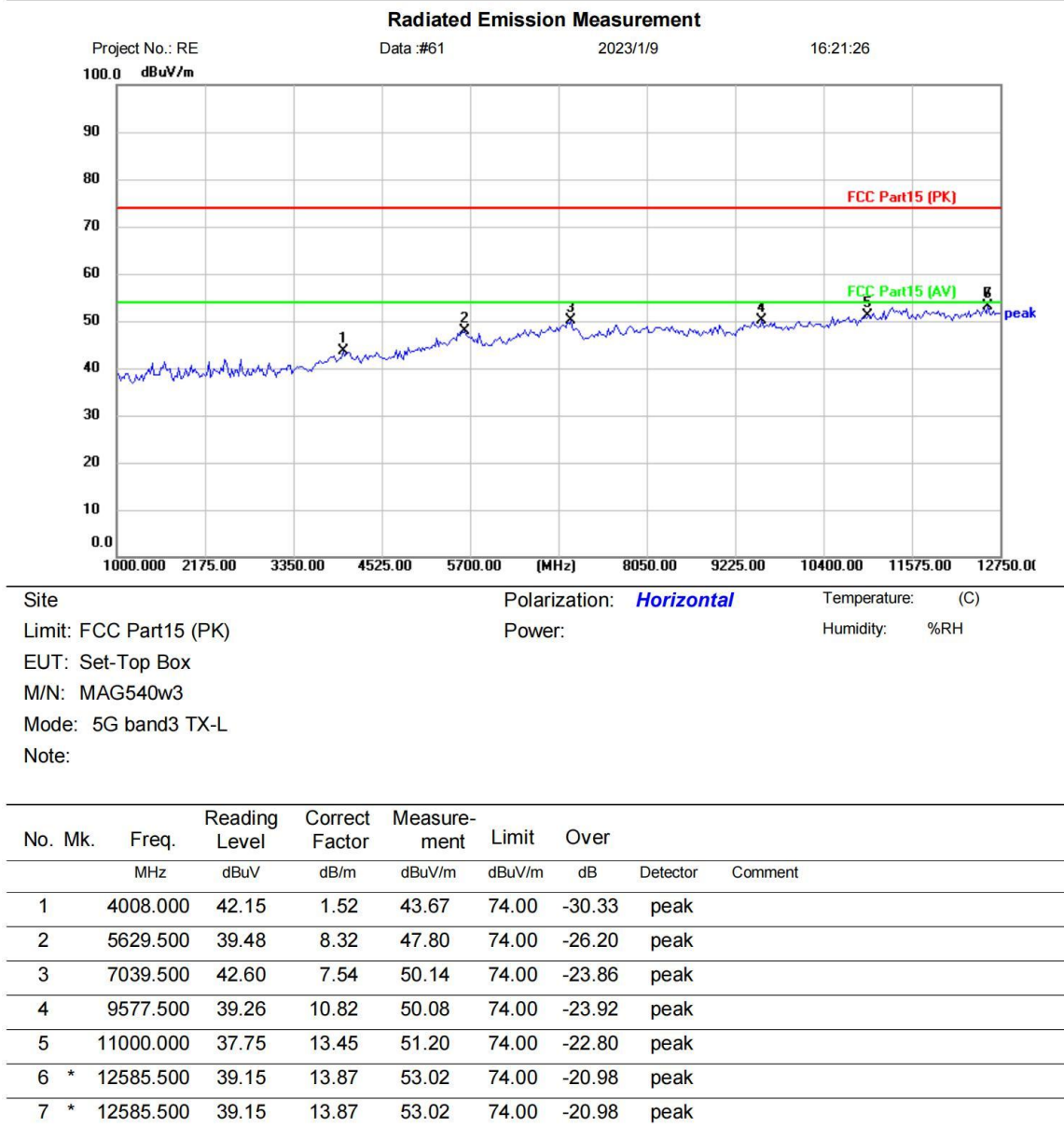
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4055.000	42.08	0.31	42.39	74.00	-31.61	peak	
2		5324.000	40.73	4.11	44.84	74.00	-29.16	peak	
3		8026.500	40.13	10.09	50.22	74.00	-23.78	peak	
4		9718.500	38.94	12.48	51.42	74.00	-22.58	peak	
5		10640.000	38.33	14.11	52.44	74.00	-21.56	peak	
6	*	11786.500	38.20	15.25	53.45	74.00	-20.55	peak	

*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: TX band3 a 5500 channel]; [Polarity: Horizontal]

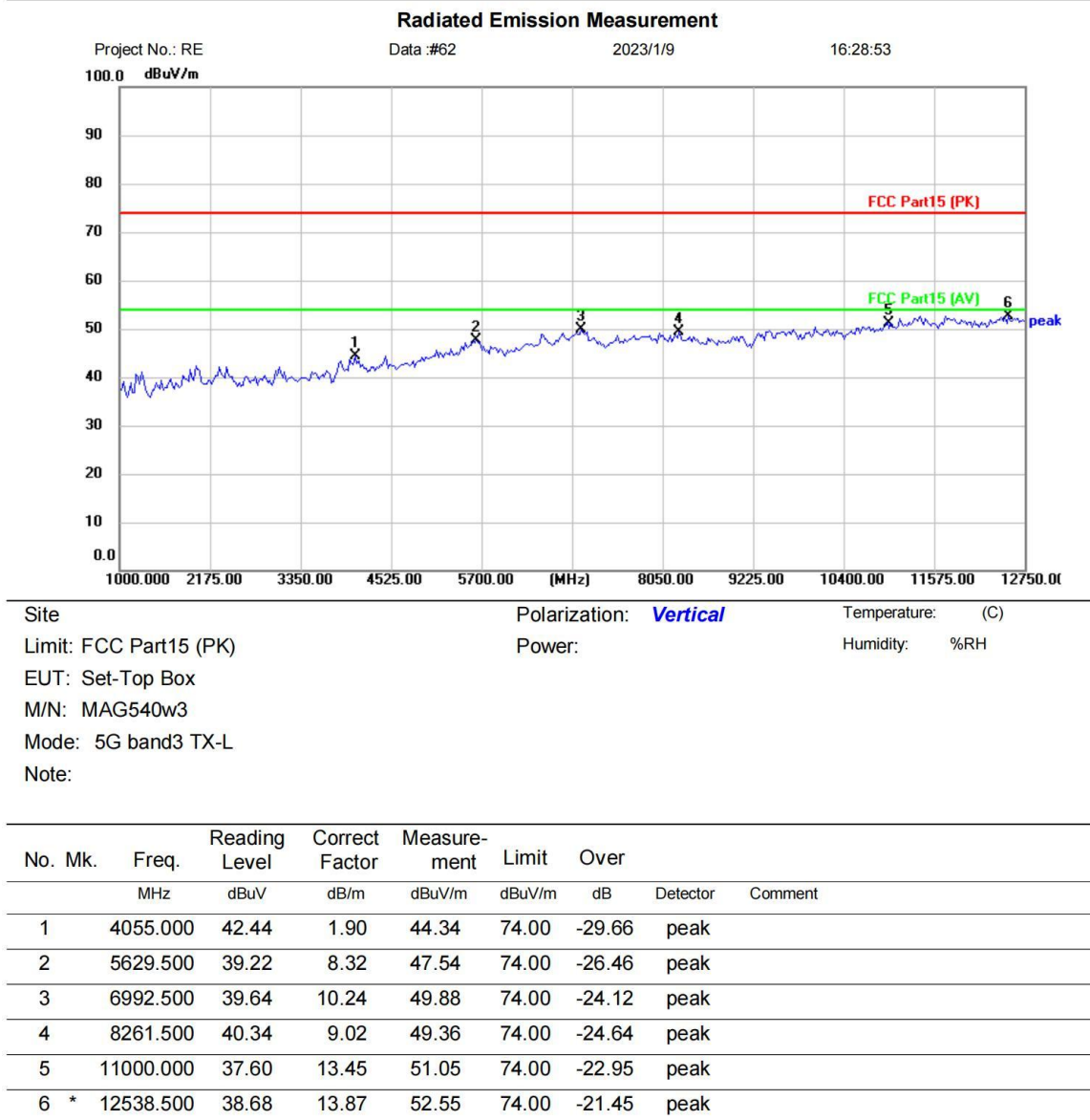


*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: TX band3 a 5500 channel]; [Polarity: Vertical]

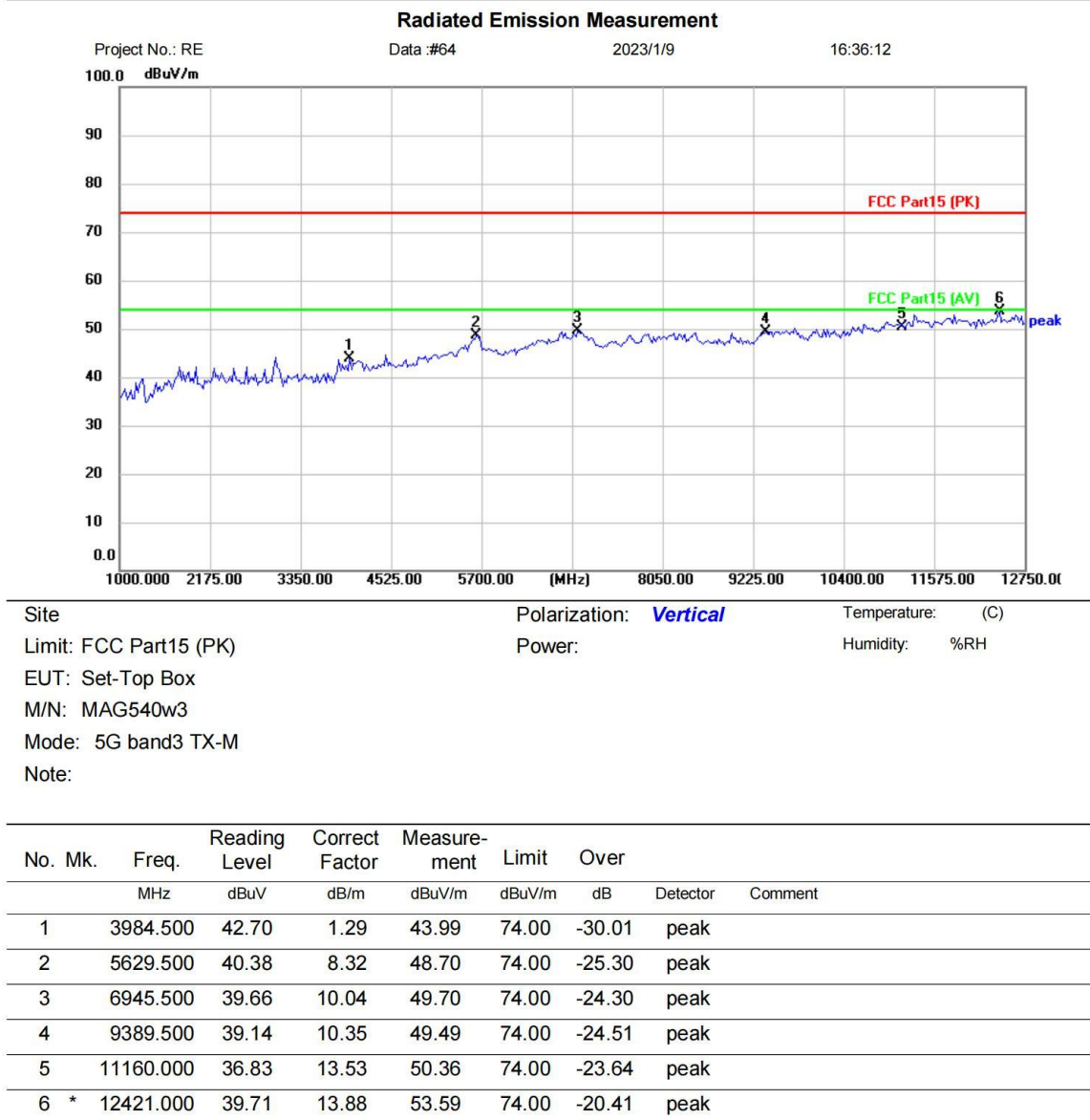


*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: TX band3 a 5600 channel]; [Polarity: Vertical]

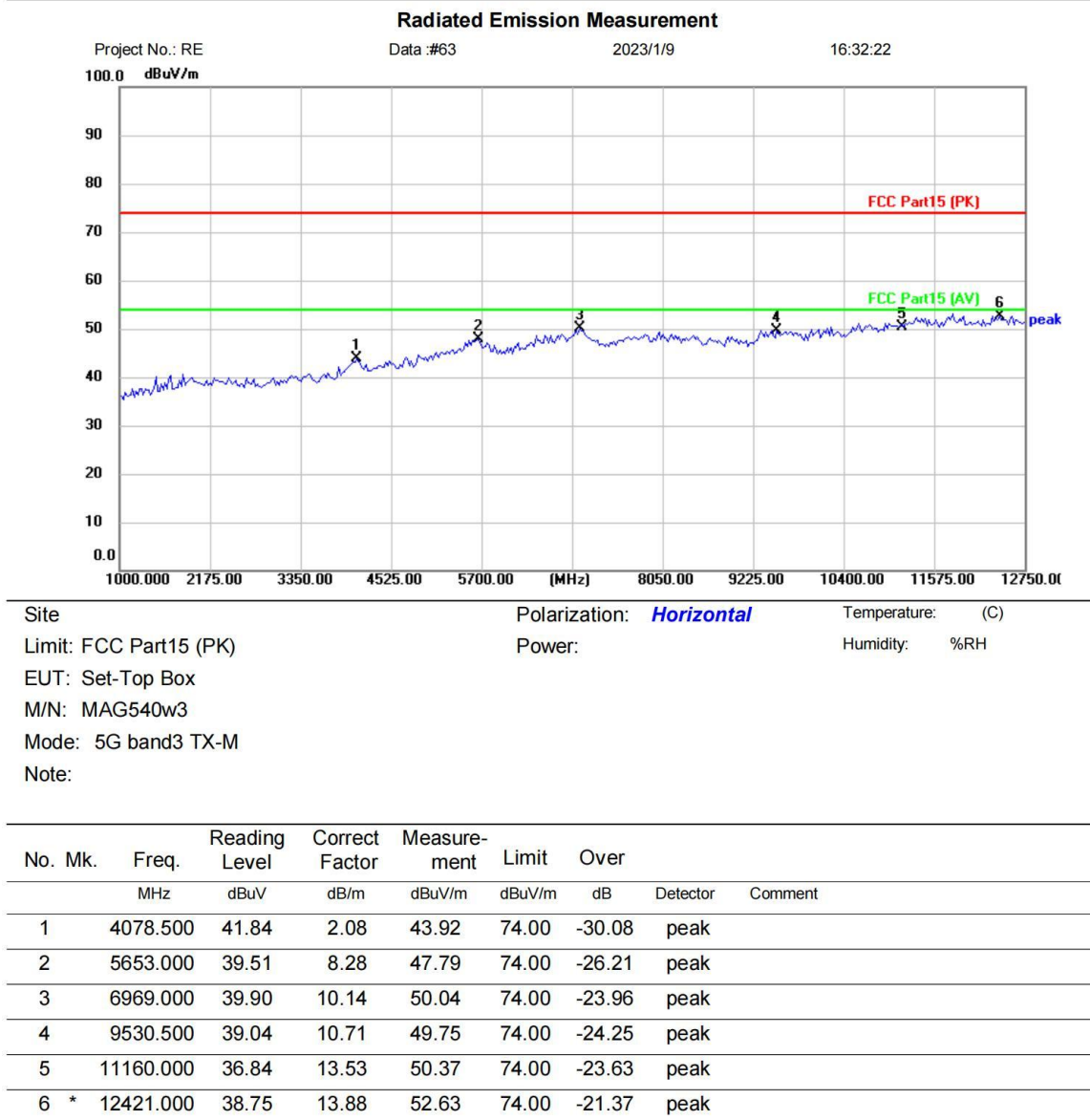


*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: TX band3 a 5600 channel]; [Polarity: Horizontal]

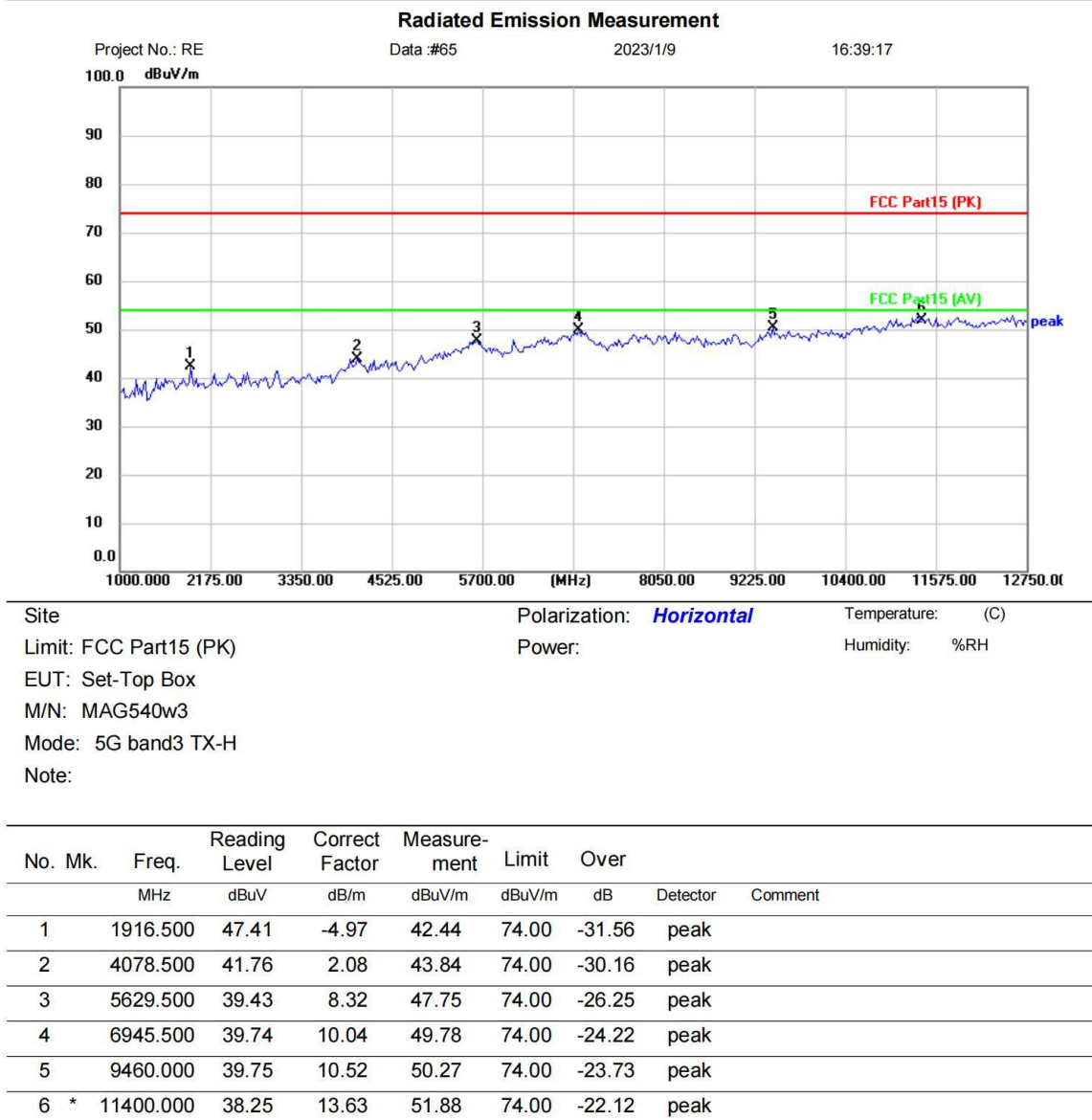


*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: TX band3 a 5700 channel]; [Polarity: Horizontal]

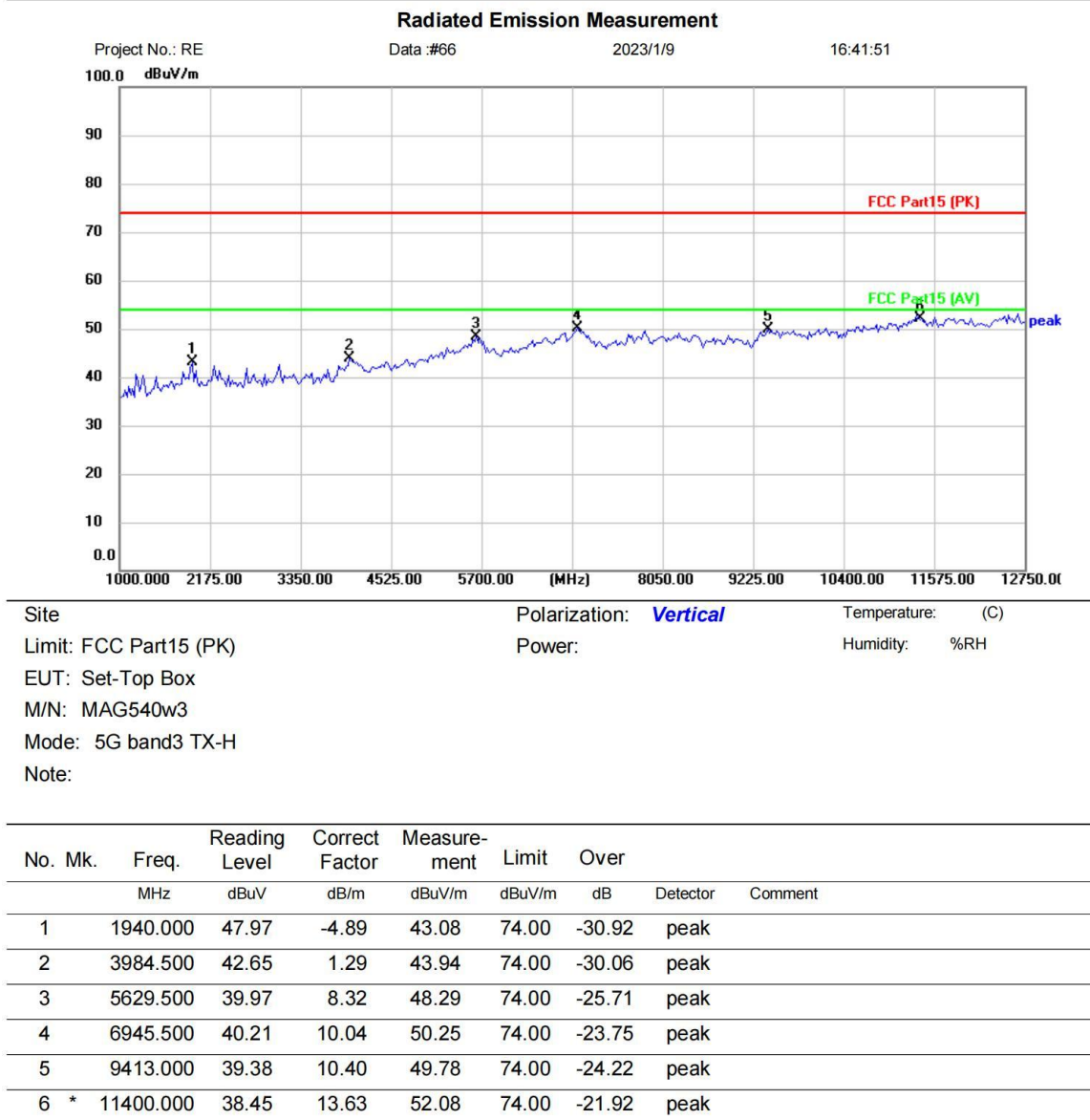


*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: TX band3 a 5700 channel]; [Polarity: Vertical]

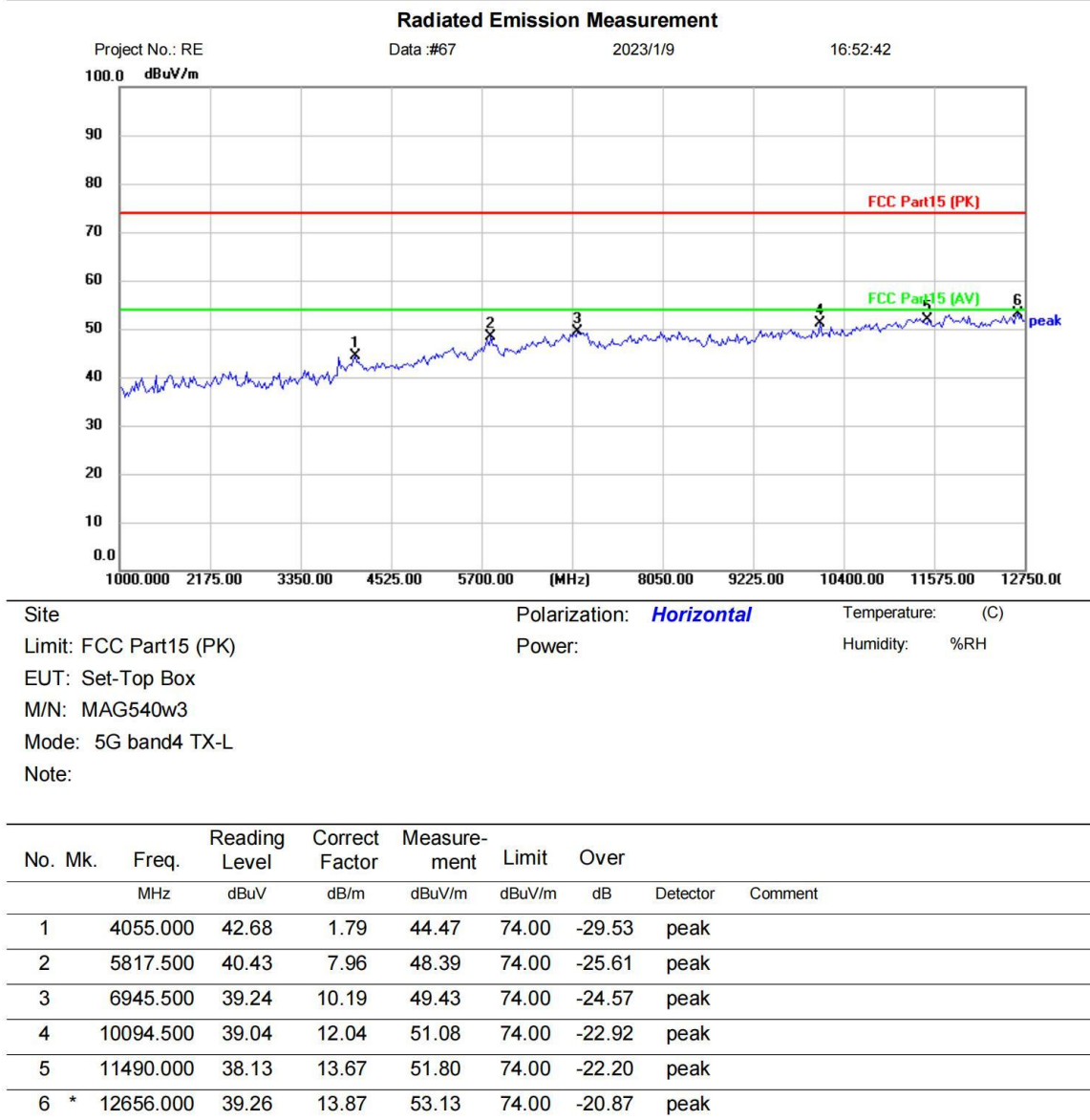


*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: TX band4 a 5745 channel]; [Polarity: Horizontal]

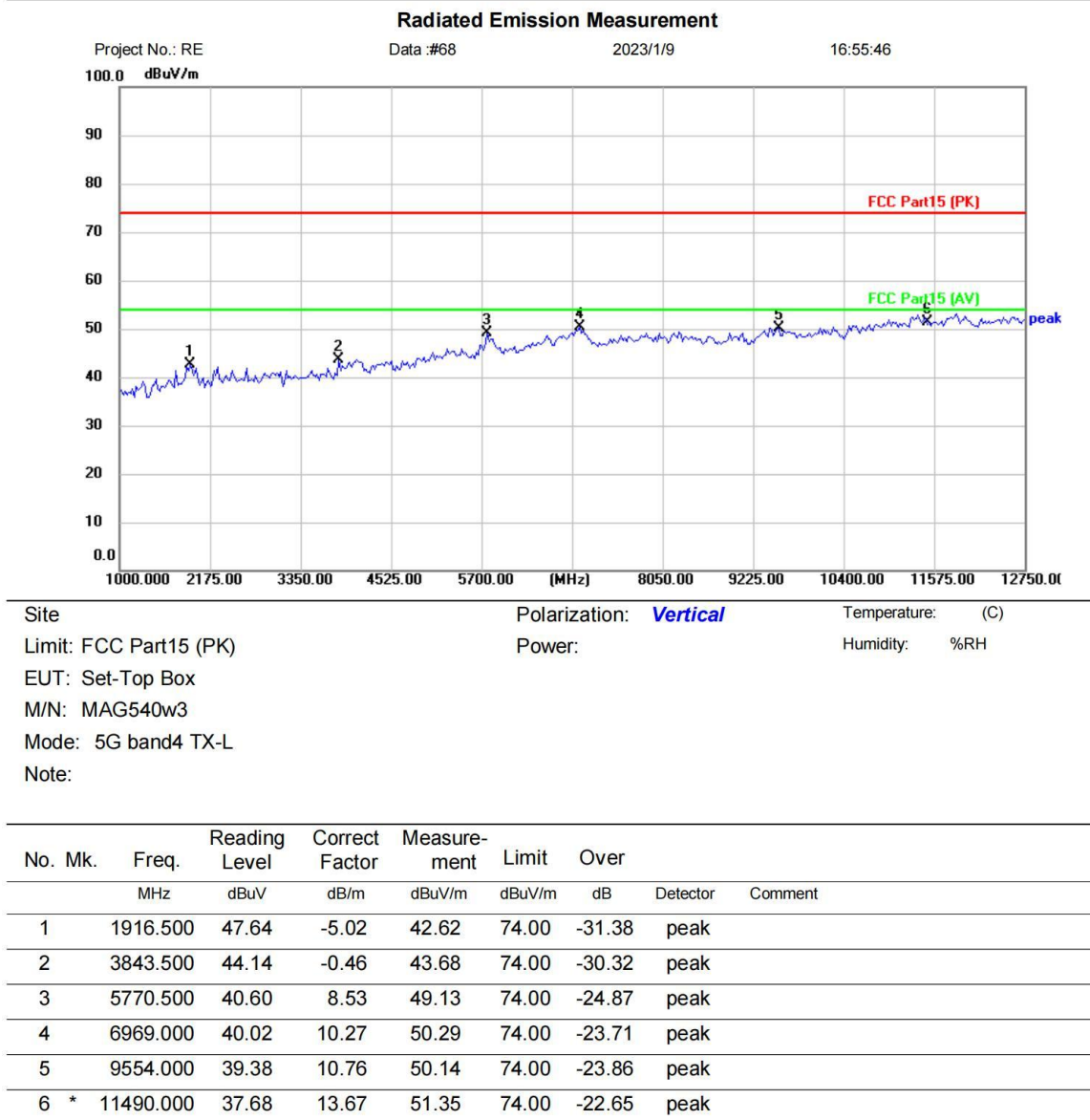


*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: TX band4 a 5745 channel]; [Polarity: Vertical]

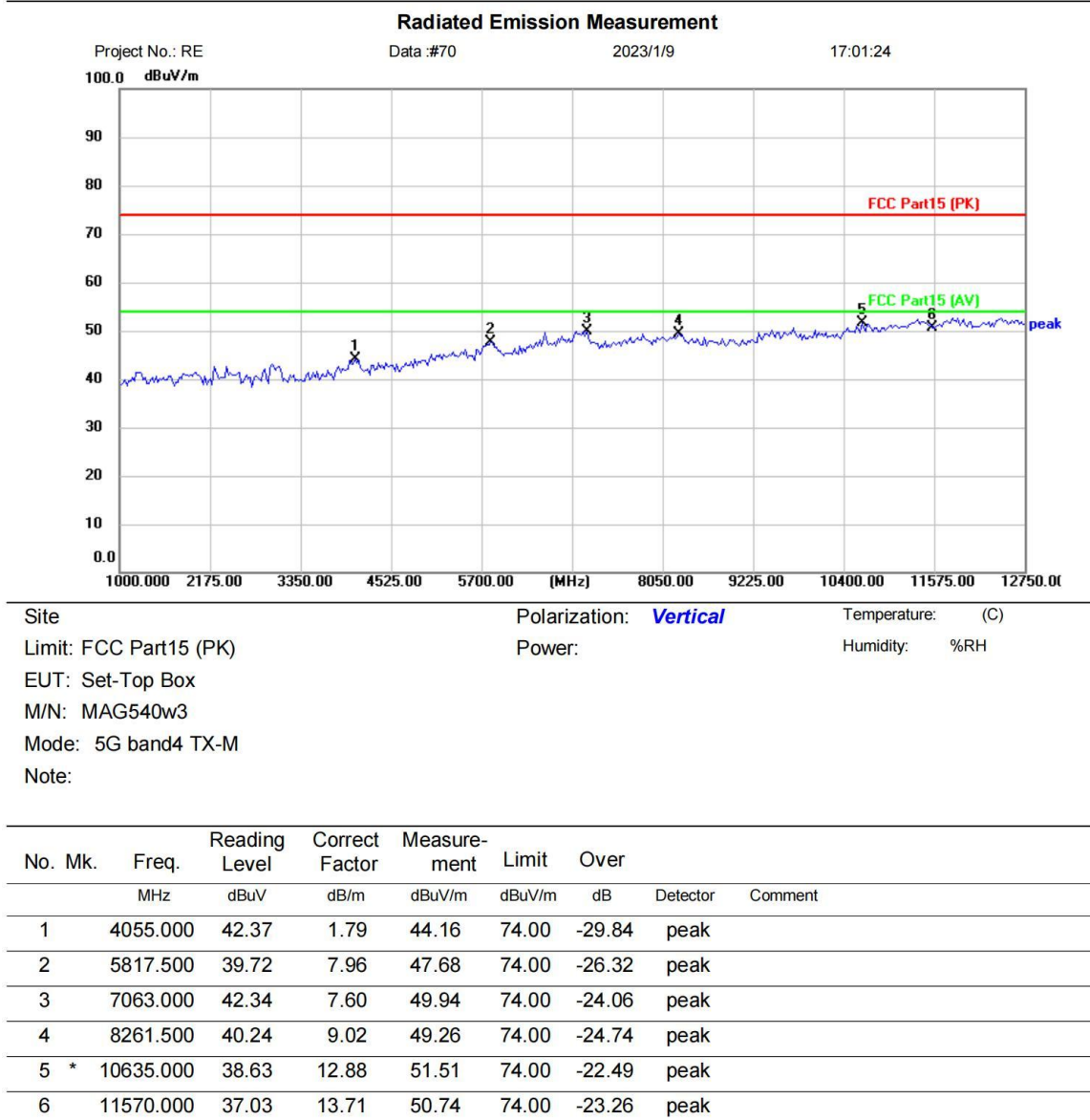


*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: TX band4 a 5785 channel]; [Polarity: Vertical]

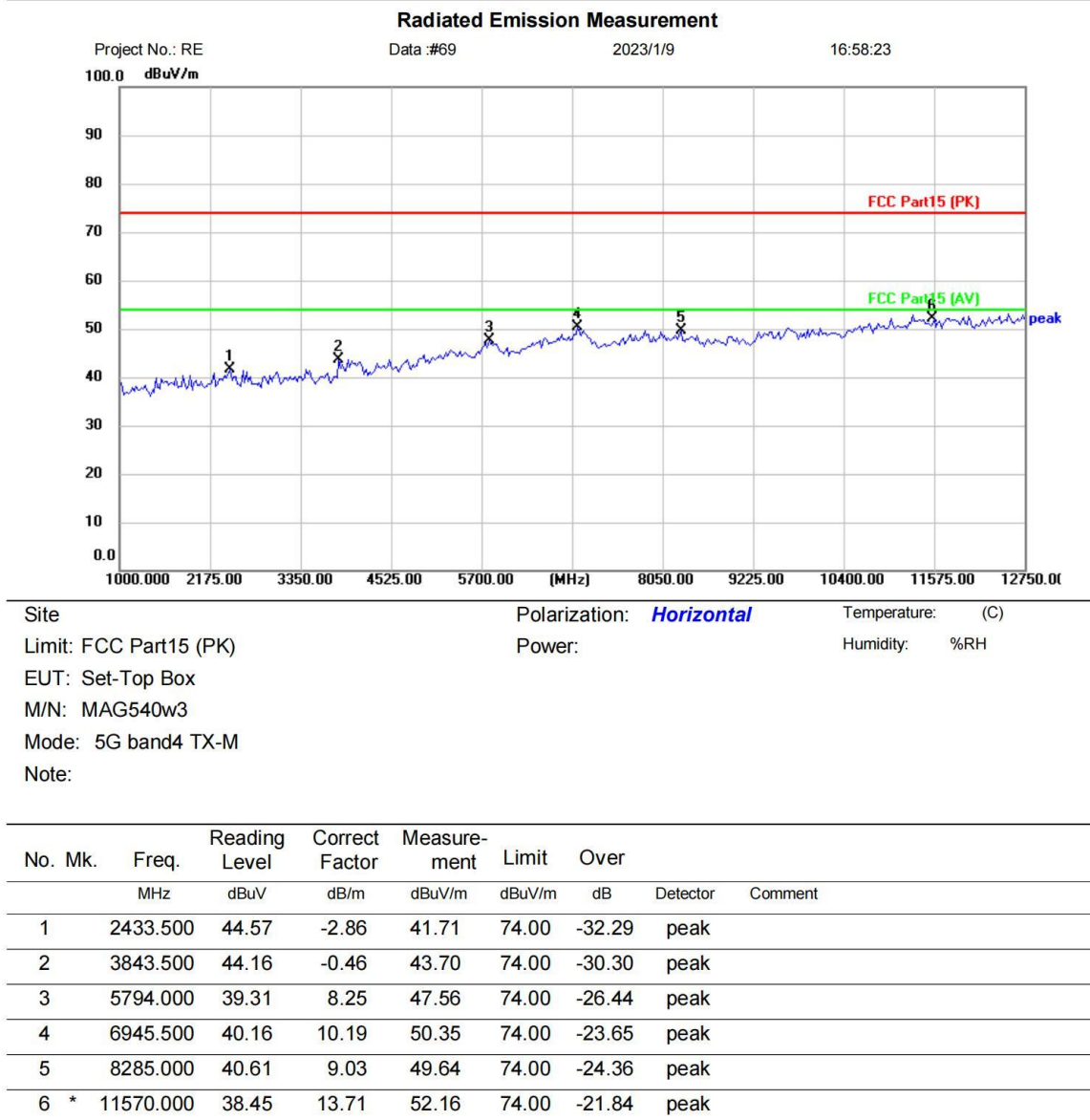


*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: TX band4 a 5785 channel]; [Polarity: Horizontal]

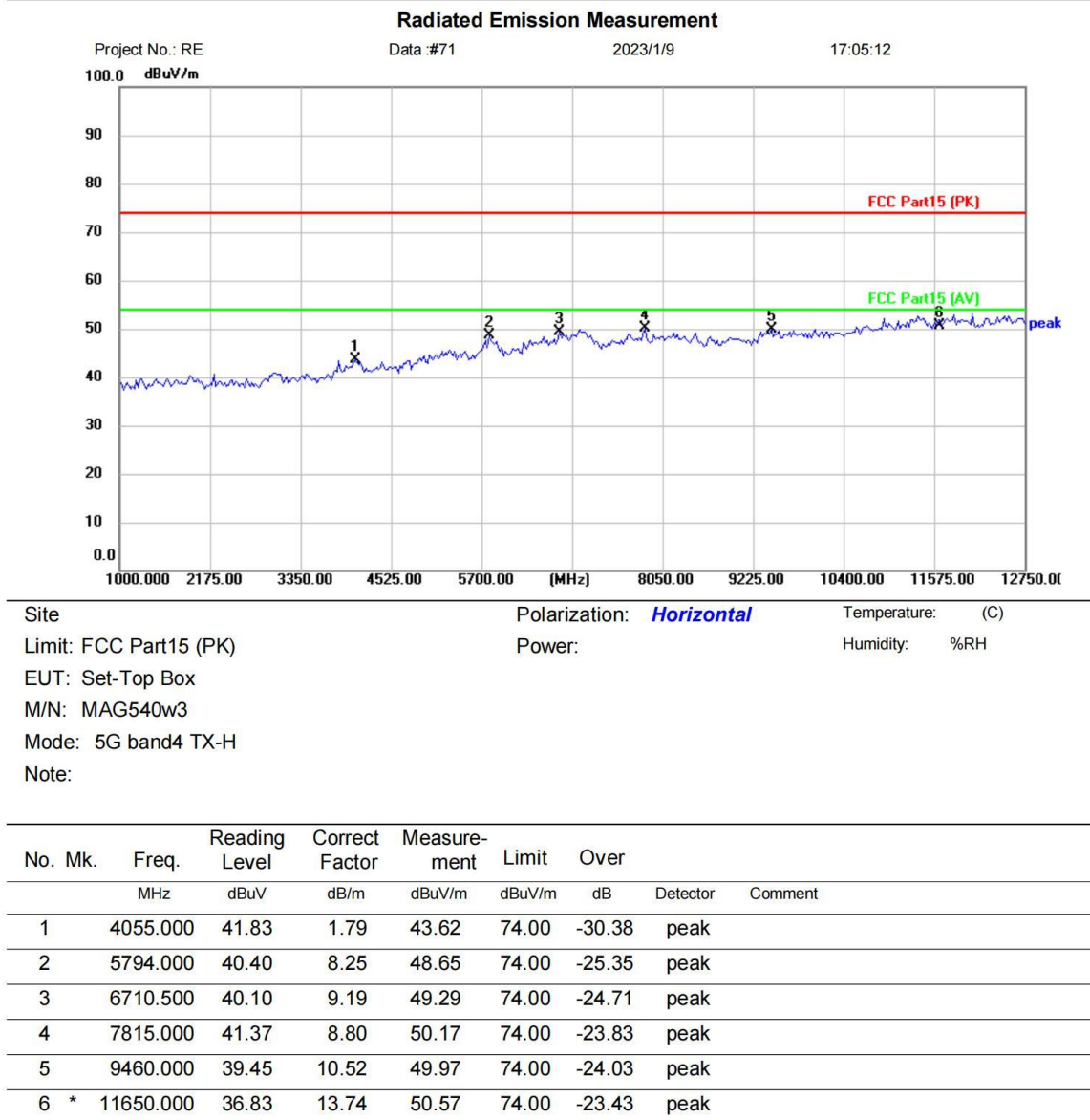


*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: TX band4 a 5825 channel]; [Polarity: Horizontal]



*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass