

radiation.

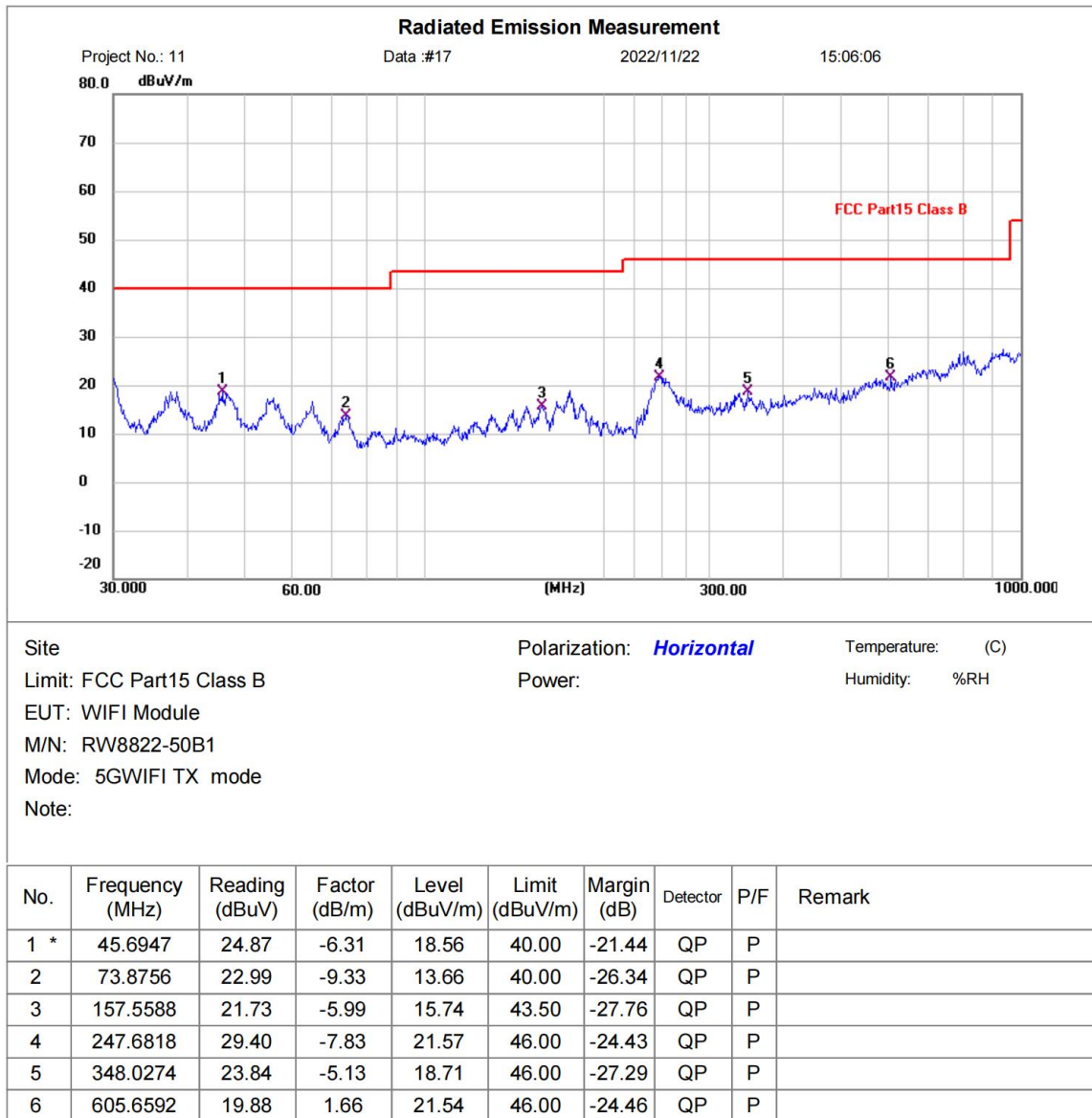
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and 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

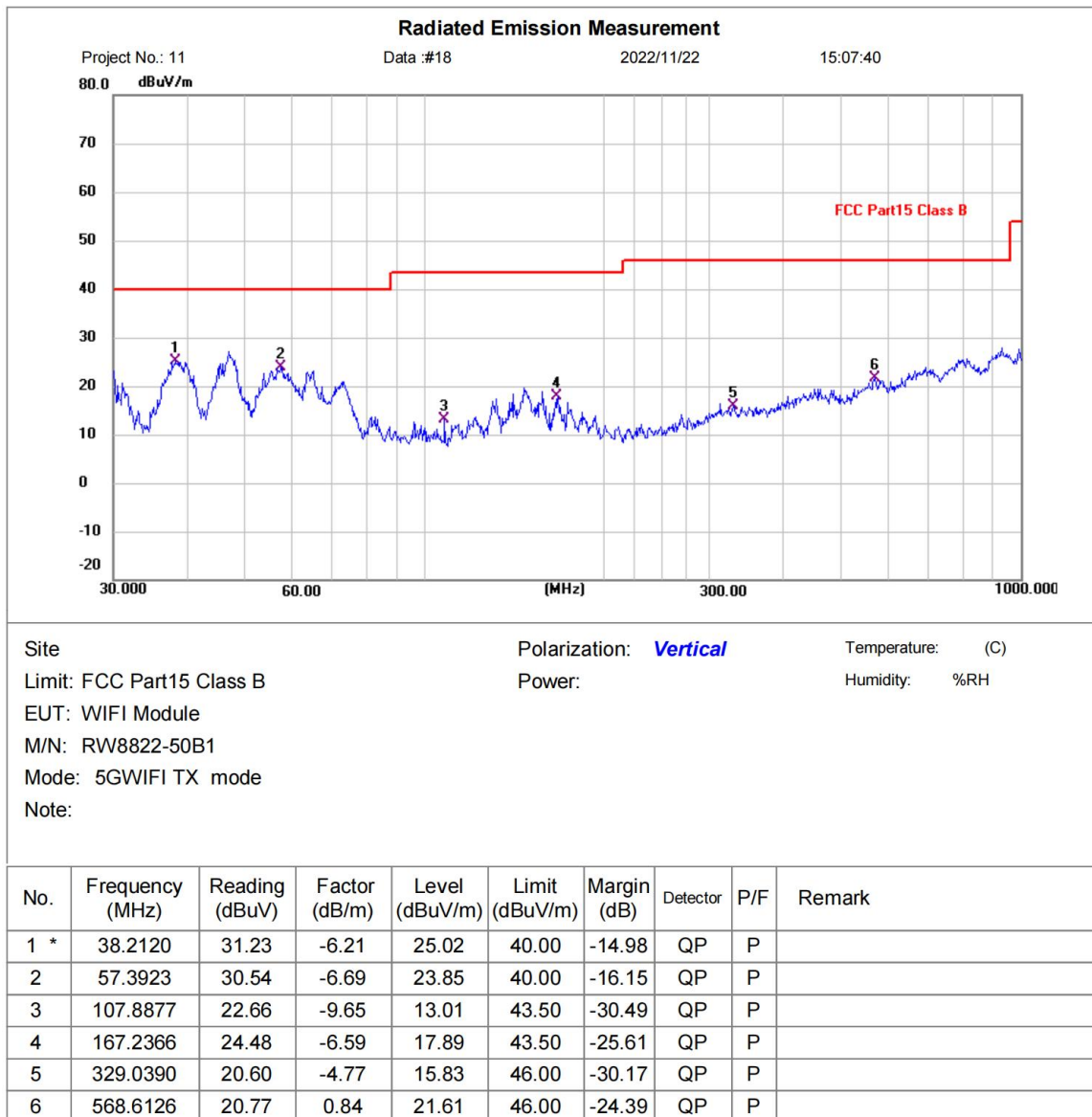
[TestMode: TX below 1G]; [Polarity: Horizontal]



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

**Test Result: Pass**

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

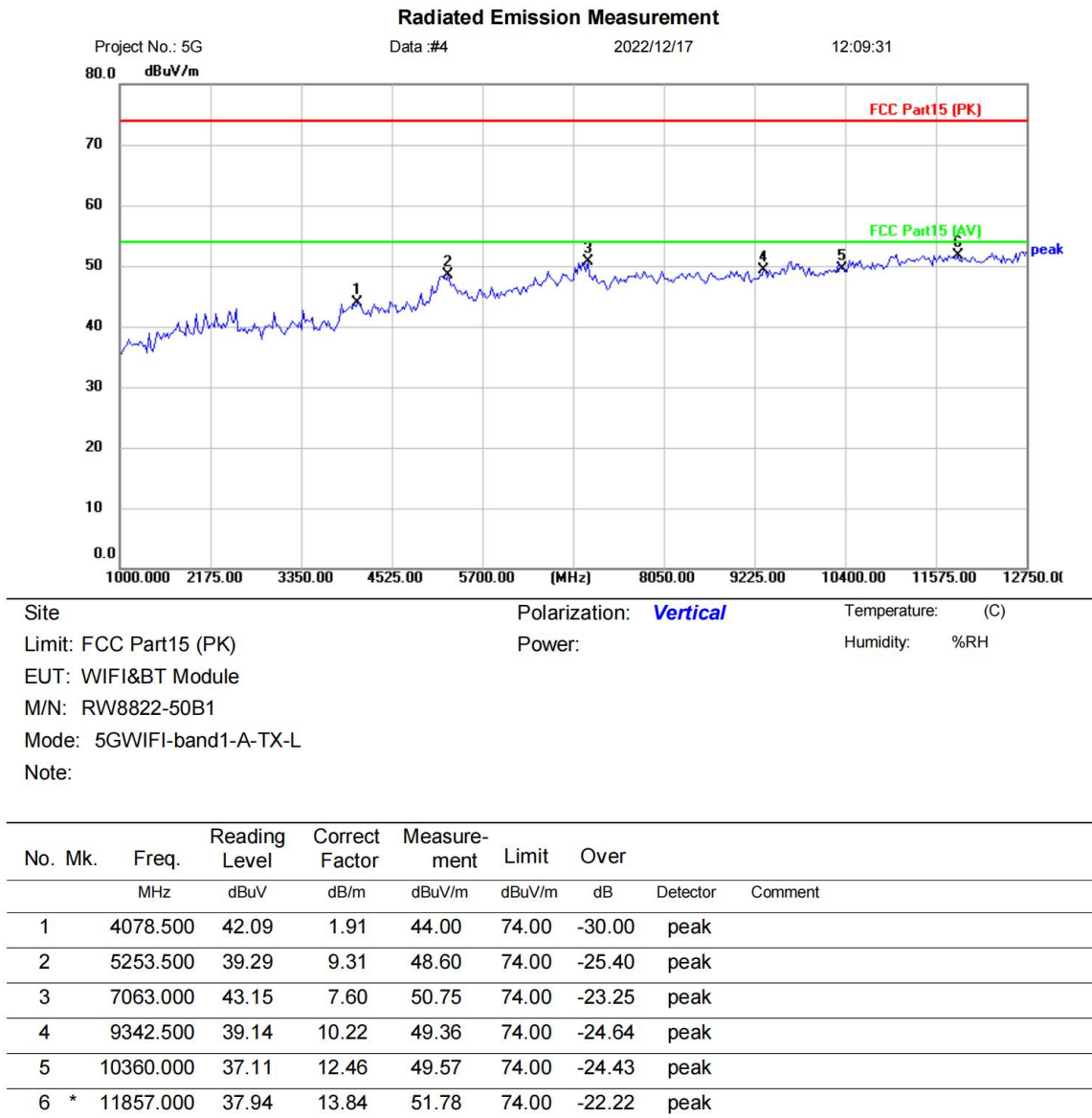


\*:Maximum data    x:Over limit    !:over margin

**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]

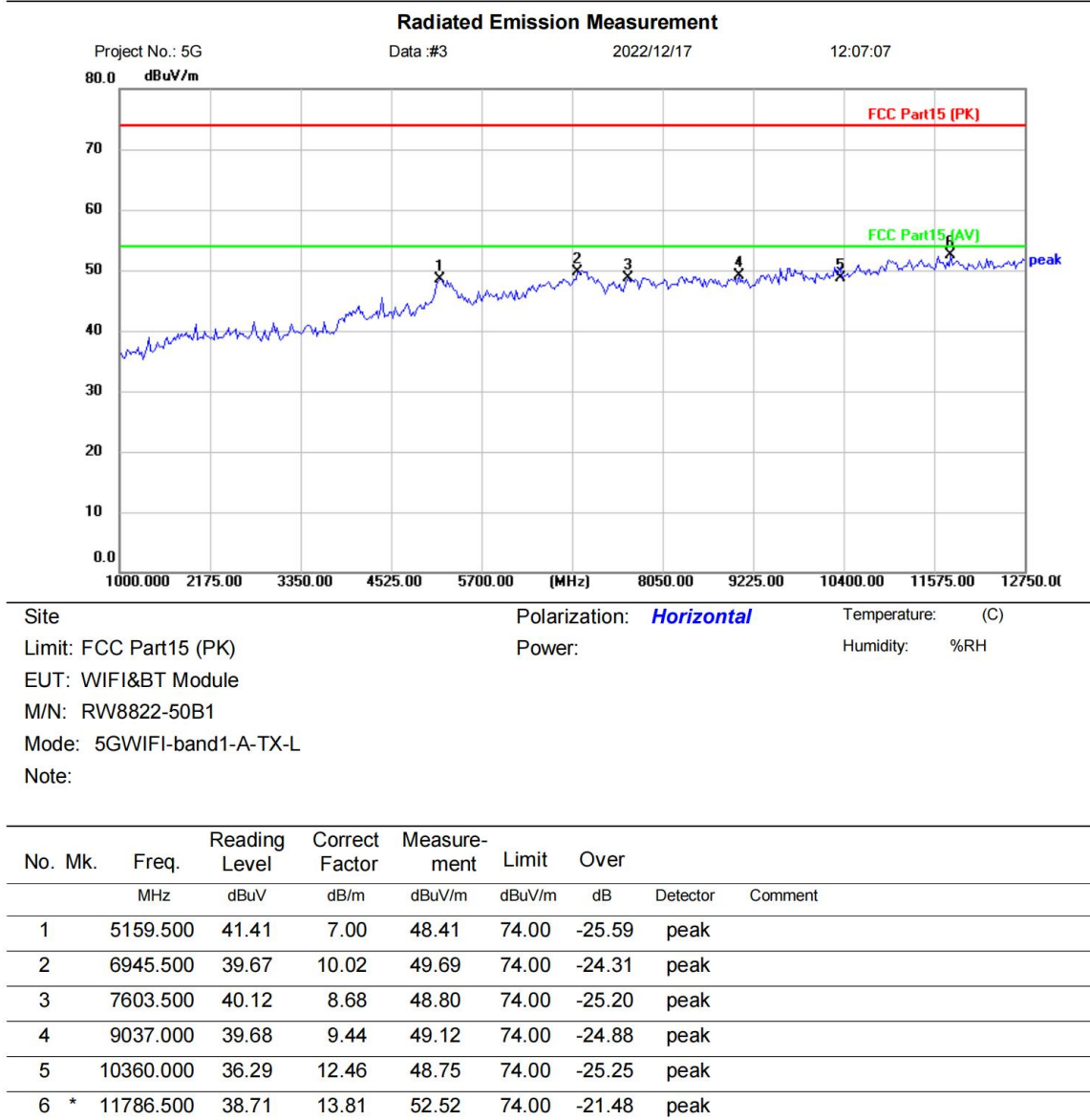


\*:Maximum data    x:Over limit    !:over margin

⟨Reference Only

**Test Result: Pass**

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

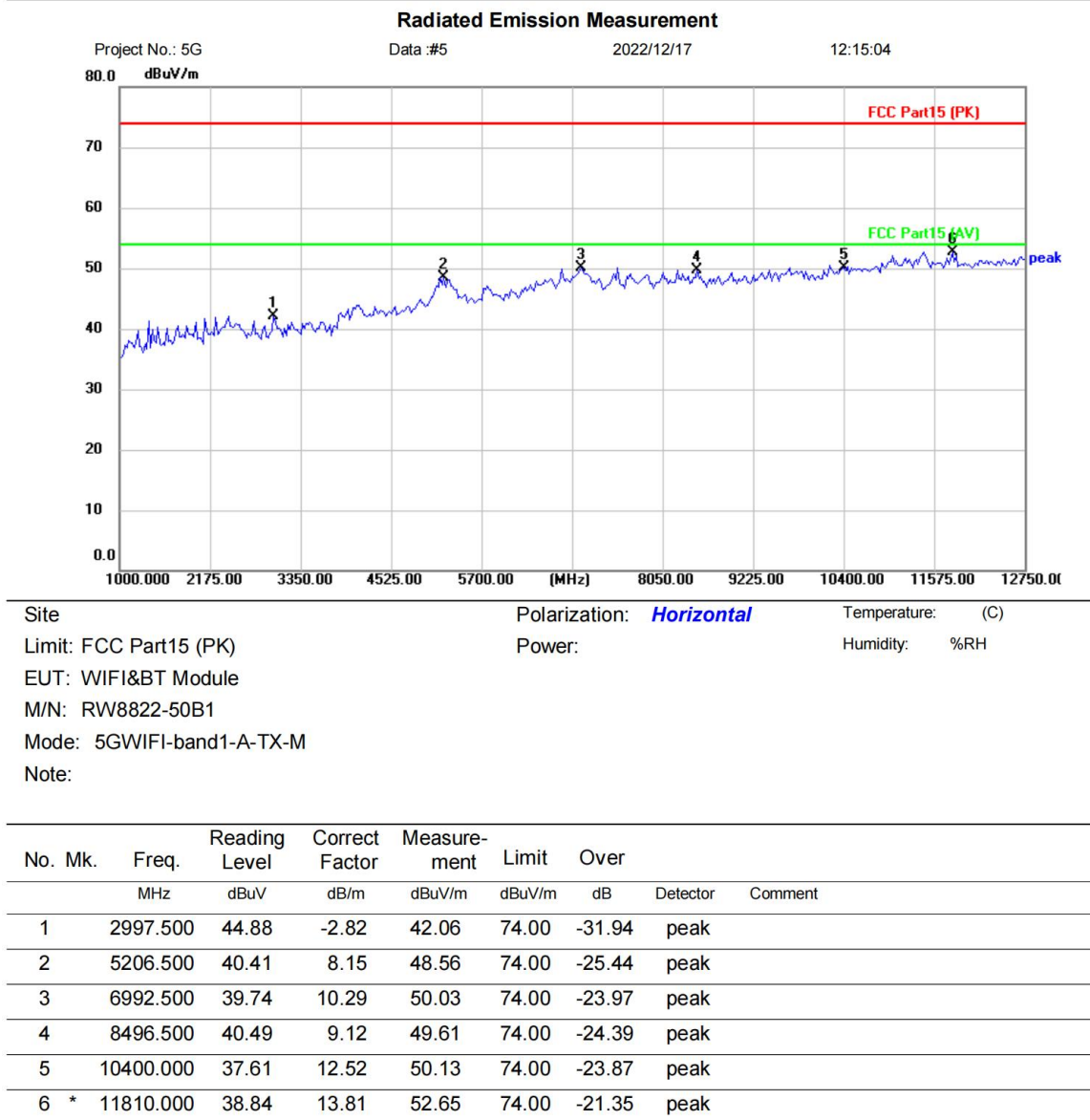


\*:Maximum data    x:Over limit    !:over margin

<Reference Only

**Test Result: Pass**

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

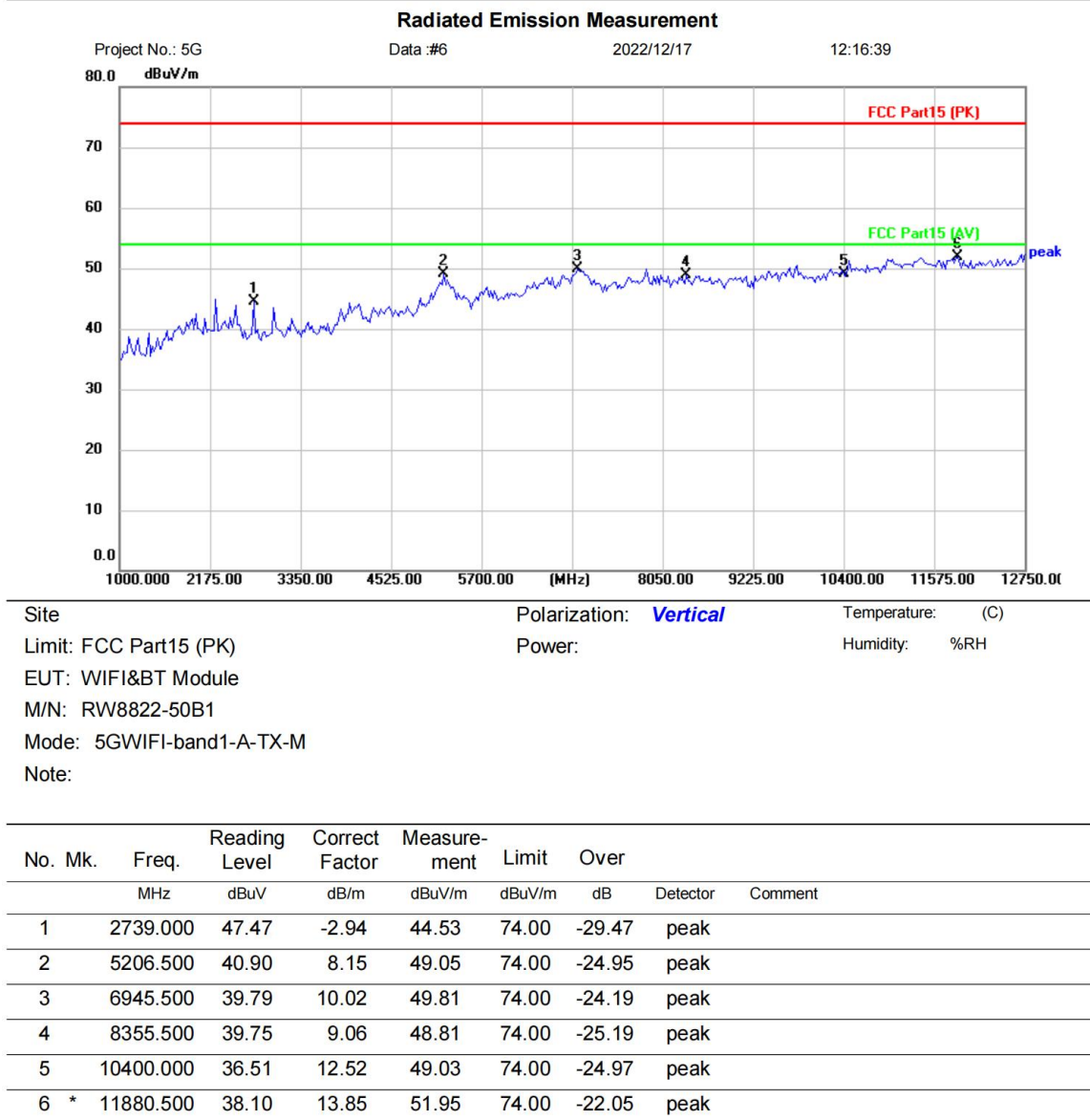


\*:Maximum data    x:Over limit    !:over margin

<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]

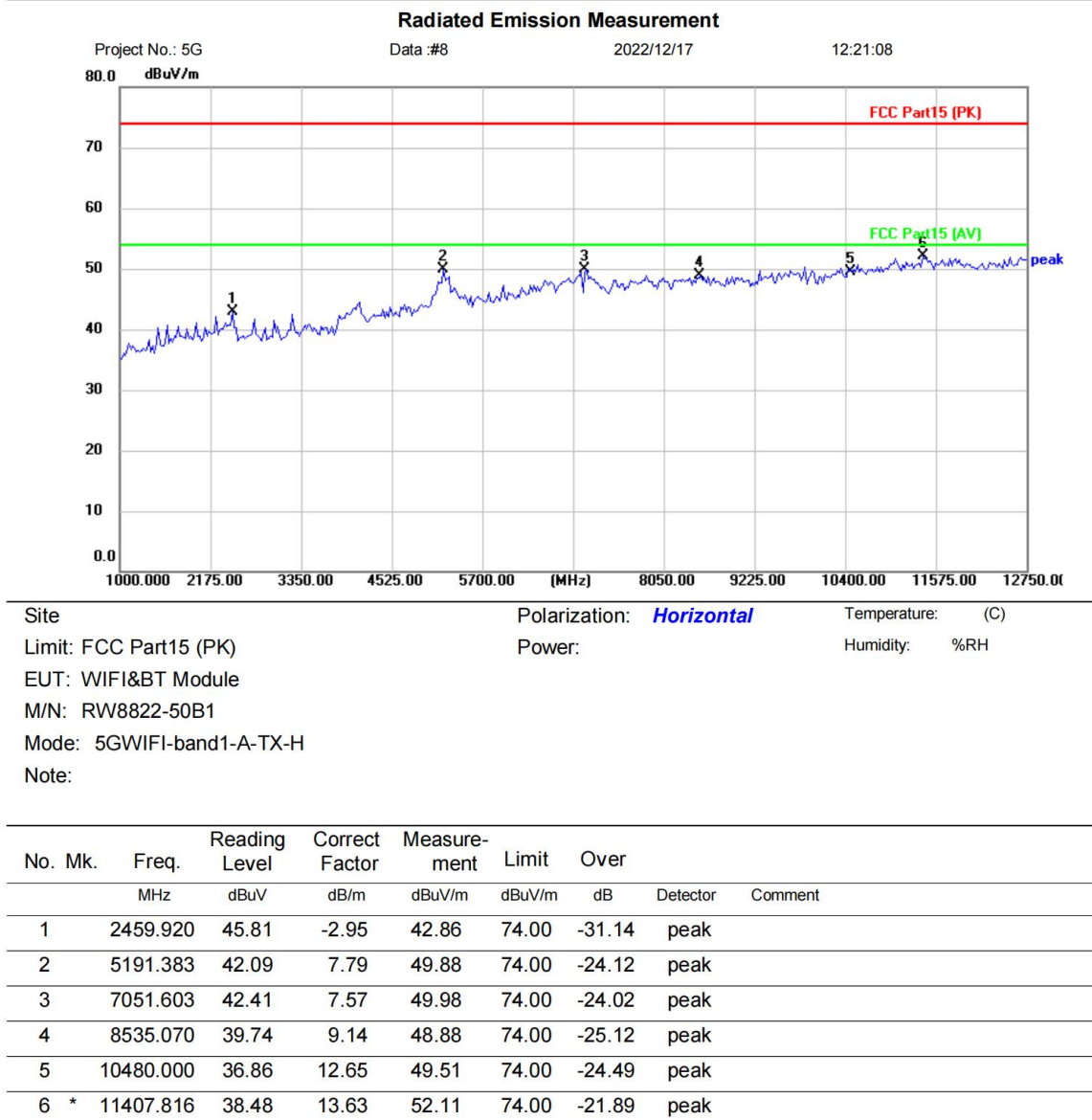


\*:Maximum data    x:Over limit    !:over margin

<Reference Only

**Test Result: Pass**

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

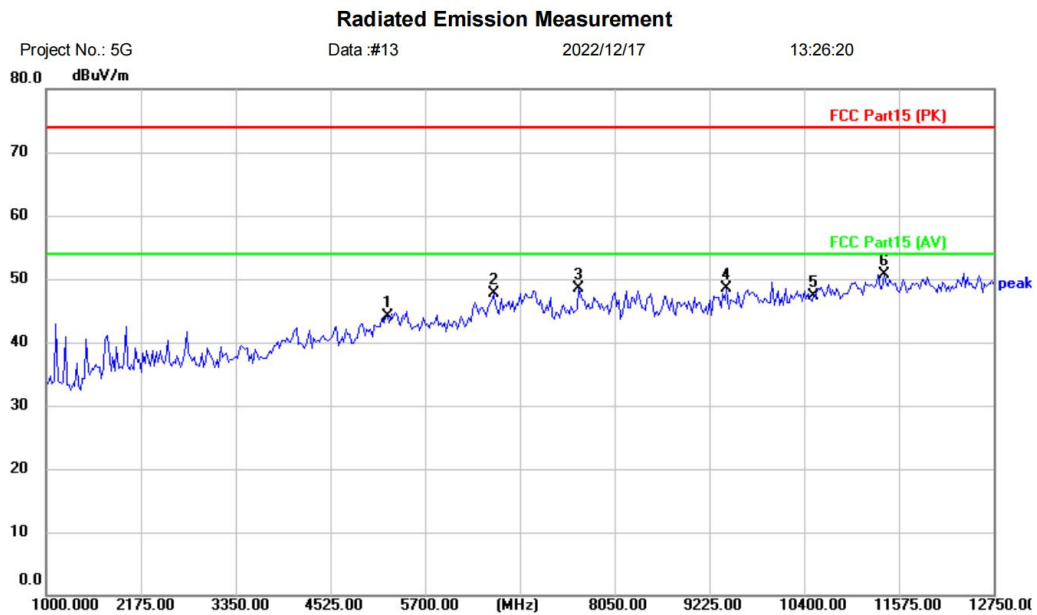


\*:Maximum data    x:Over limit    !:over margin

<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: WIFI&BT Module  
M/N: RW8822-50B1  
Mode: 5GWIFI-band2-A-TX-L  
Note:

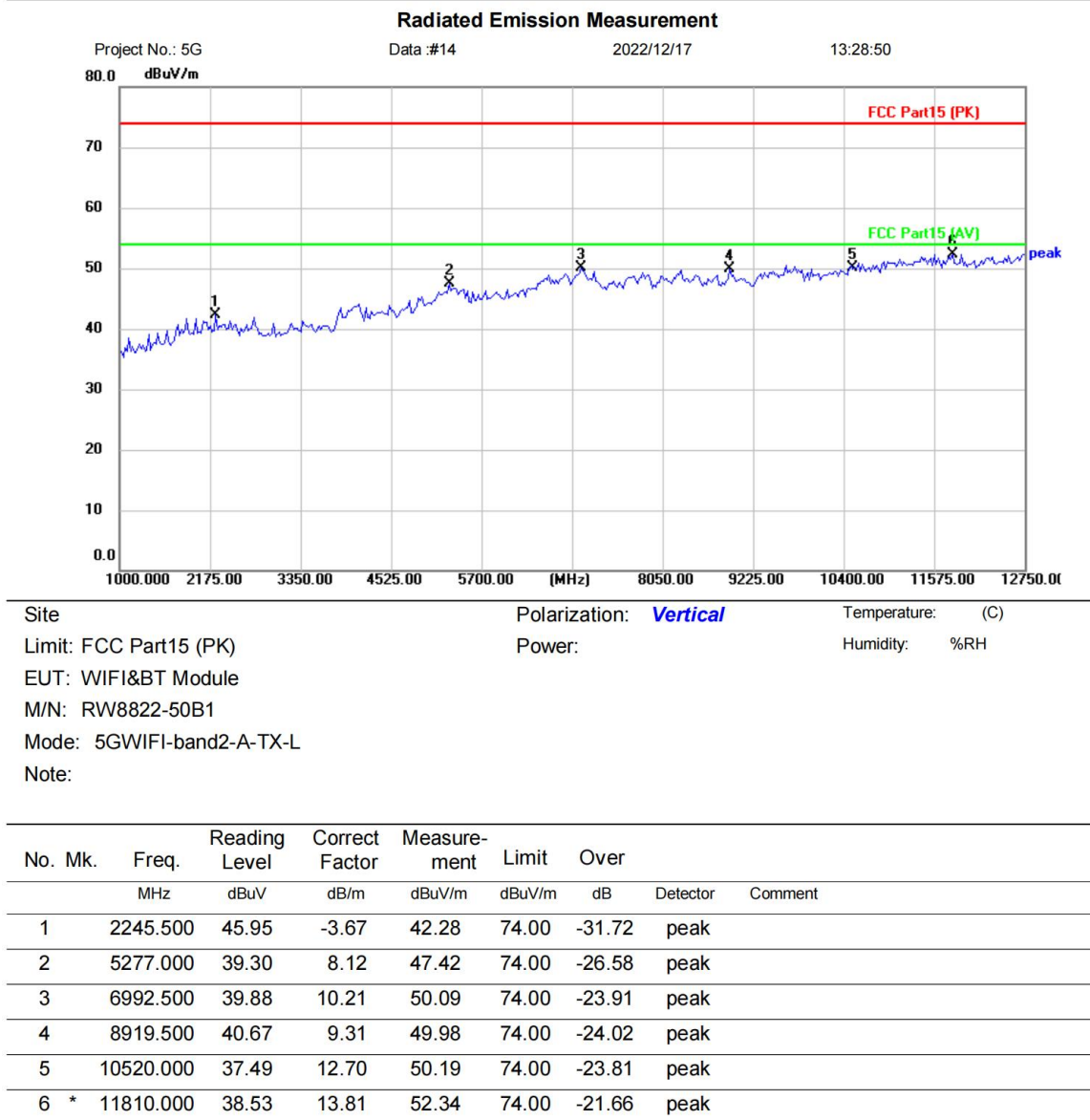
| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB/m | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|---------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 5230.000     | 36.03                    | 8.00                      | 44.03                      | 74.00           | -29.97     | peak     |         |
| 2   |     | 6546.000     | 39.04                    | 8.76                      | 47.80                      | 74.00           | -26.20     | peak     |         |
| 3   |     | 7603.500     | 39.88                    | 8.68                      | 48.56                      | 74.00           | -25.44     | peak     |         |
| 4   |     | 9436.500     | 38.11                    | 10.46                     | 48.57                      | 74.00           | -25.43     | peak     |         |
| 5   |     | 10520.000    | 34.63                    | 12.70                     | 47.33                      | 74.00           | -26.67     | peak     |         |
| 6   | *   | 11387.000    | 37.11                    | 13.63                     | 50.74                      | 74.00           | -23.26     | peak     |         |

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

⟨Reference Only

**Test Result: Pass**

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

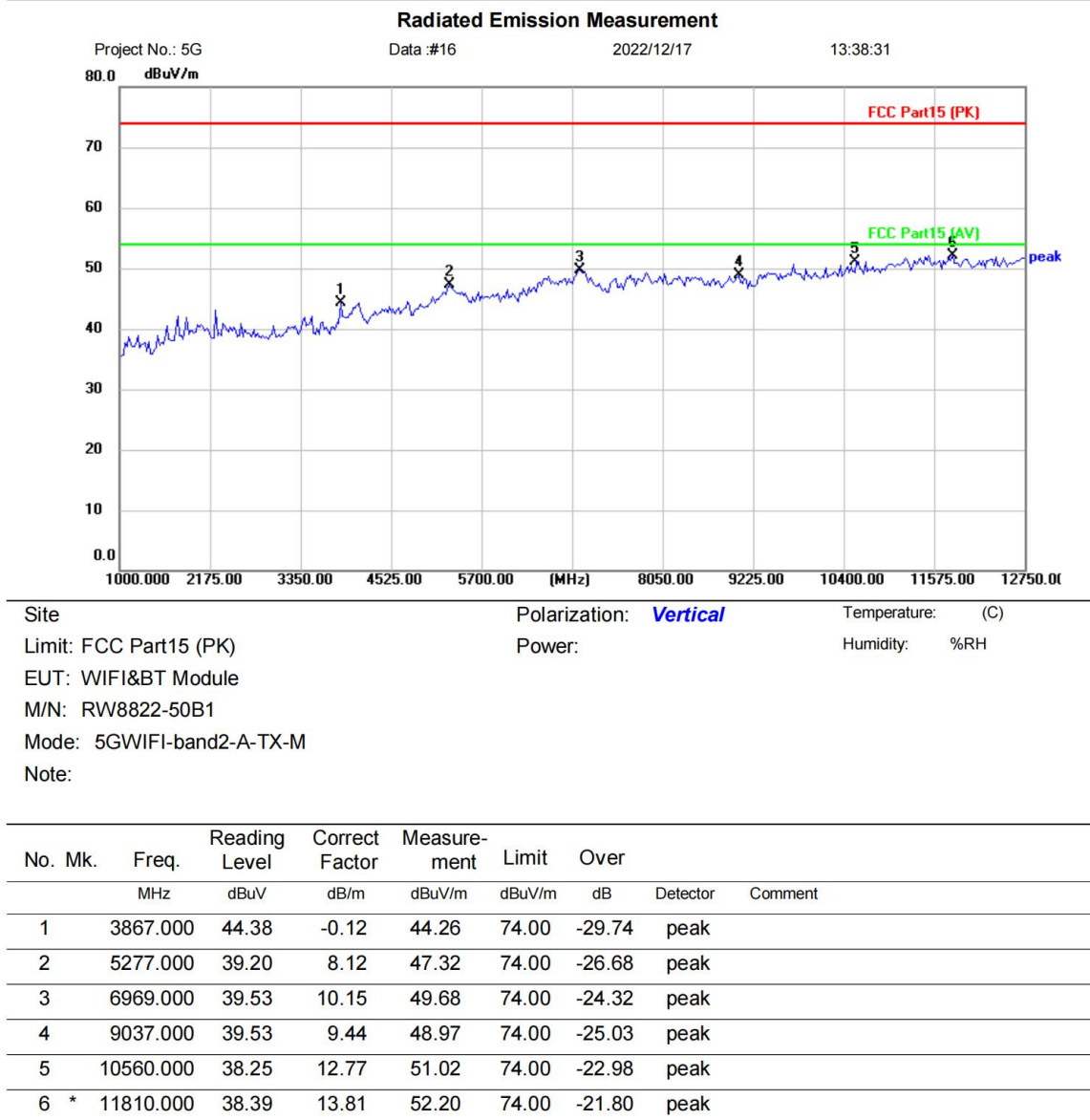


\*:Maximum data    x:Over limit    !:over margin

〈Reference Only

**Test Result: Pass**

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

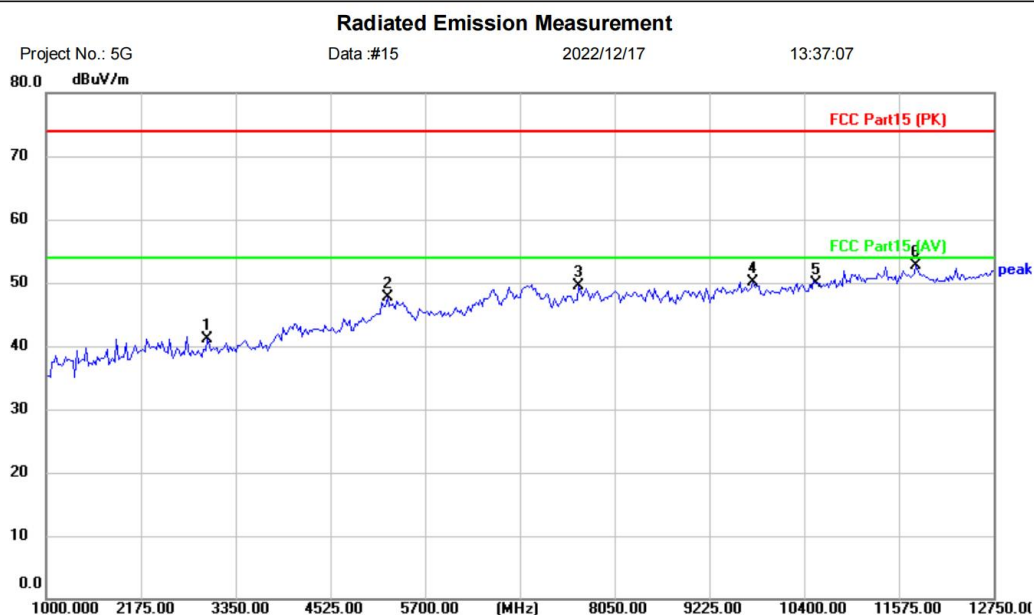


\*:Maximum data    x:Over limit    !:over margin

⟨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: WIFI&BT Module  
M/N: RW8822-50B1  
Mode: 5GWIFI-band2-A-TX-M  
Note:

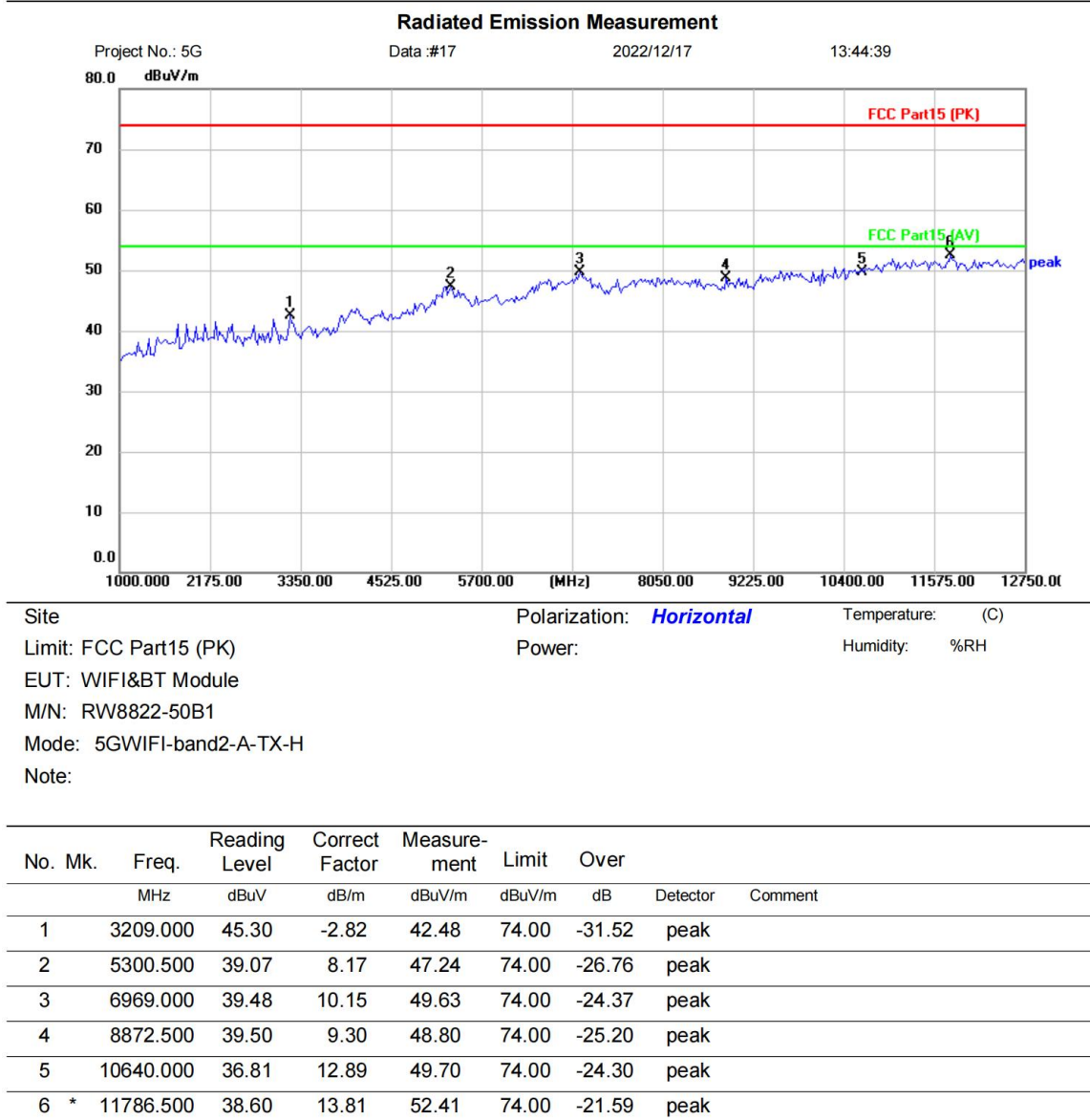
| No. Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB/m | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|---------|--------------|--------------------------|---------------------------|----------------------------|-----------------|------------|----------|---------|
| 1       | 2997.500     | 44.11                    | -2.92                     | 41.19                      | 74.00           | -32.81     | peak     |         |
| 2       | 5230.000     | 39.71                    | 8.00                      | 47.71                      | 74.00           | -26.29     | peak     |         |
| 3       | 7603.500     | 40.92                    | 8.68                      | 49.60                      | 74.00           | -24.40     | peak     |         |
| 4       | 9765.500     | 38.76                    | 11.30                     | 50.06                      | 74.00           | -23.94     | peak     |         |
| 5       | 10560.000    | 37.05                    | 12.77                     | 49.82                      | 74.00           | -24.18     | peak     |         |
| 6 *     | 11786.500    | 38.96                    | 13.81                     | 52.77                      | 74.00           | -21.23     | peak     |         |

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

<Reference Only

**Test Result: Pass**

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

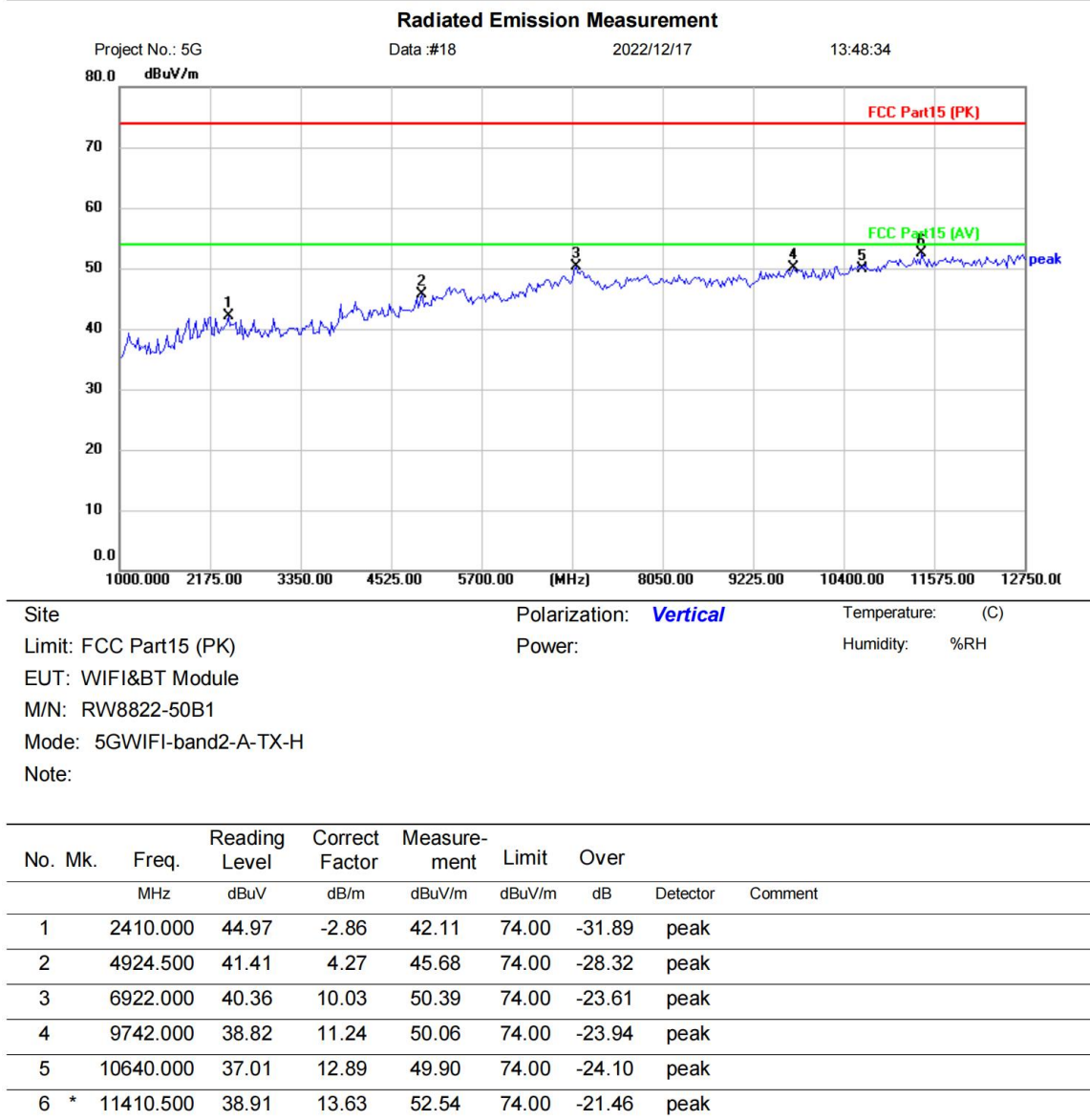


\*:Maximum data    x:Over limit    !:over margin

<Reference Only

**Test Result: Pass**

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

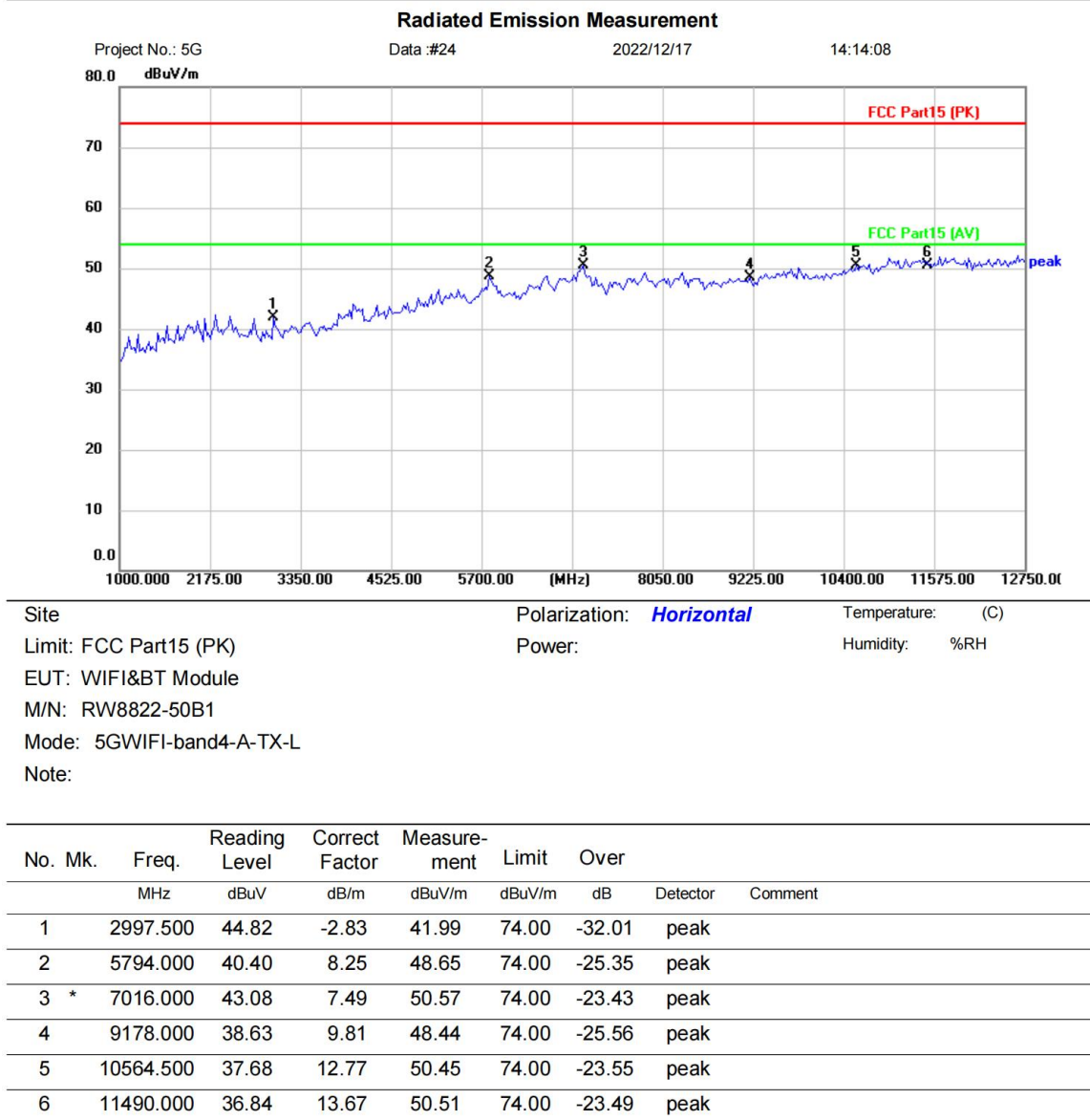


\*:Maximum data    x:Over limit    !:over margin

<Reference Only

**Test Result: Pass**

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

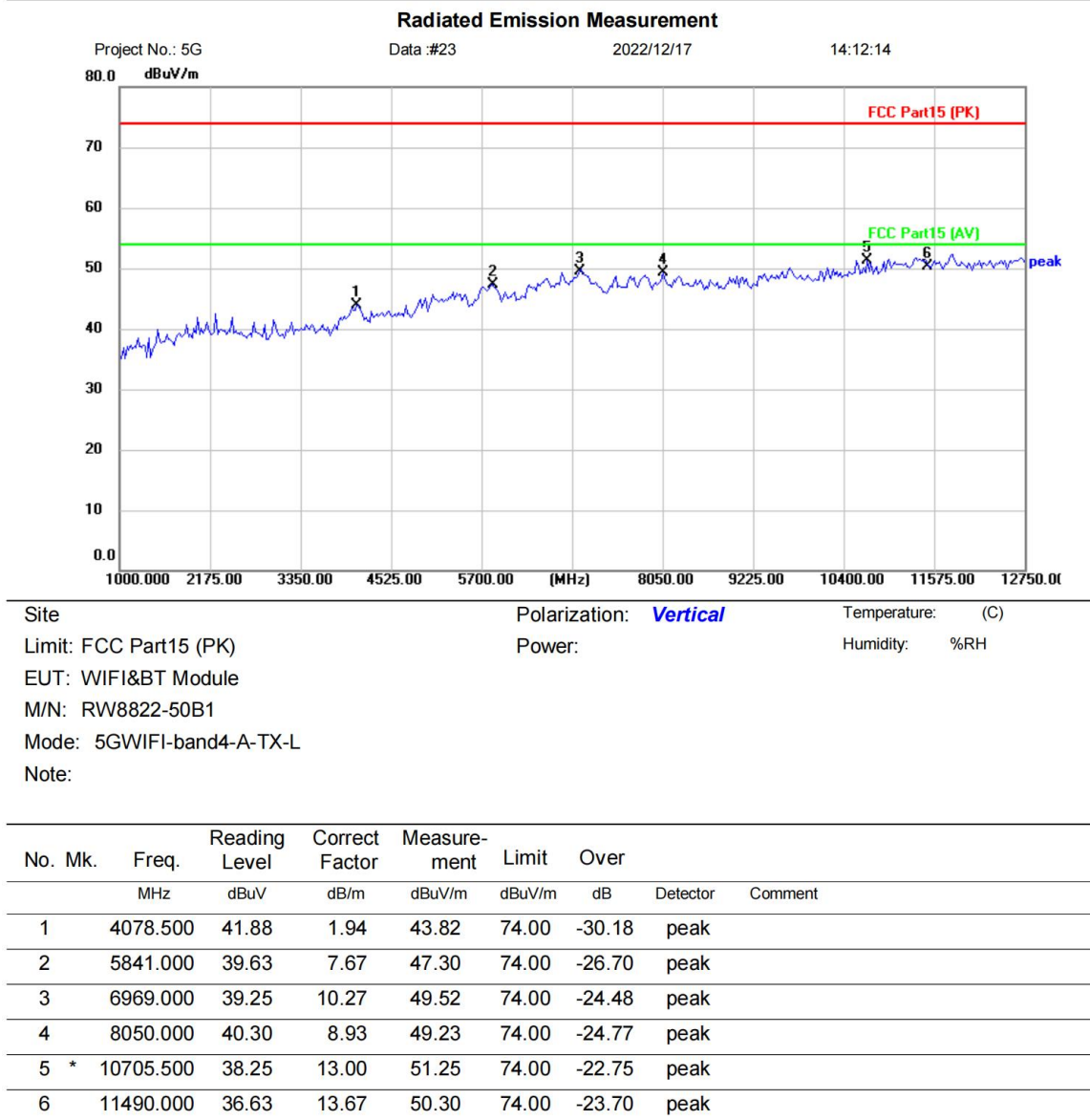


\*:Maximum data    x:Over limit    !:over margin

<Reference Only

**Test Result: Pass**

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

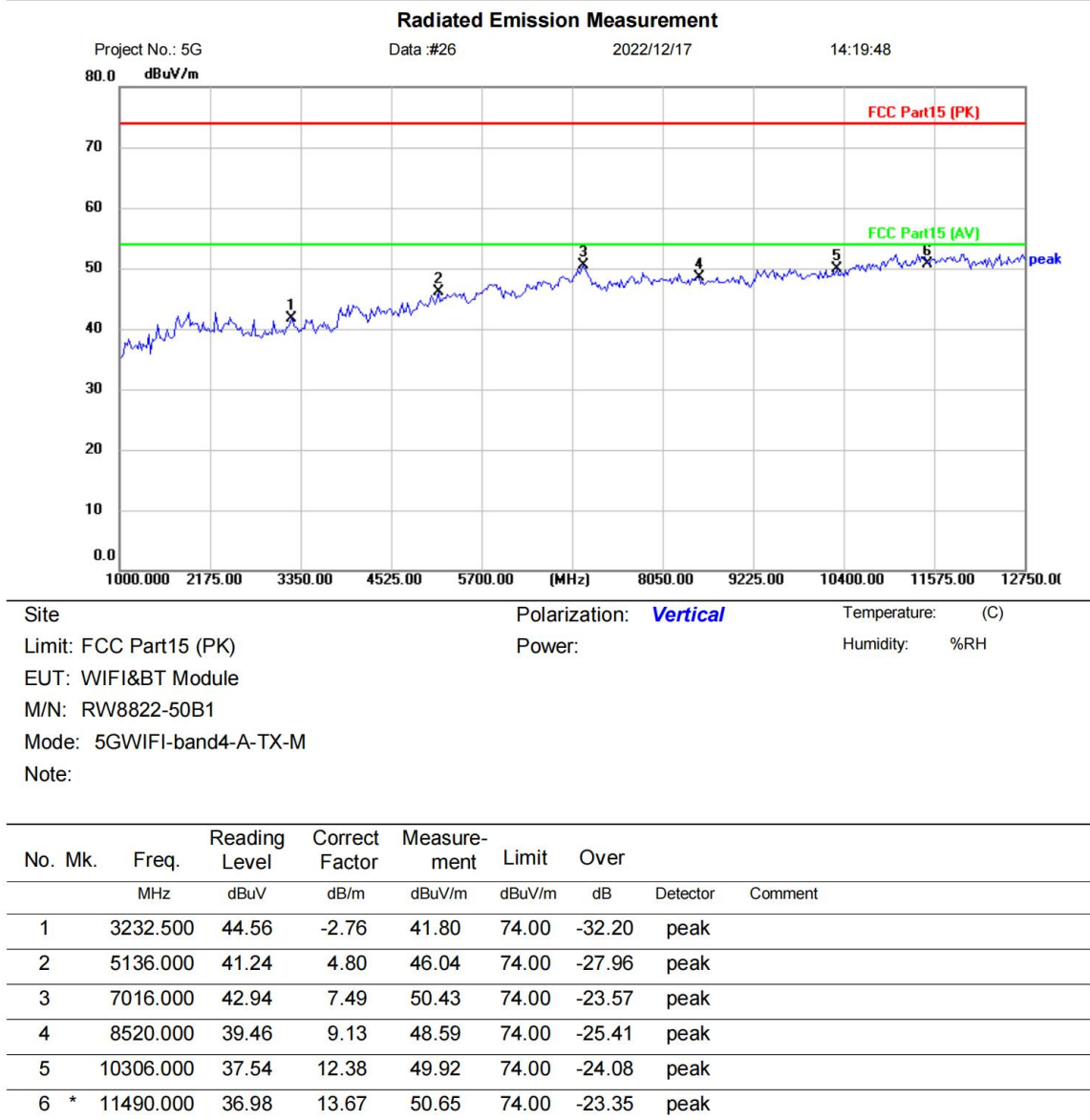


\*:Maximum data    x:Over limit    !:over margin

⟨Reference Only

**Test Result: Pass**

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

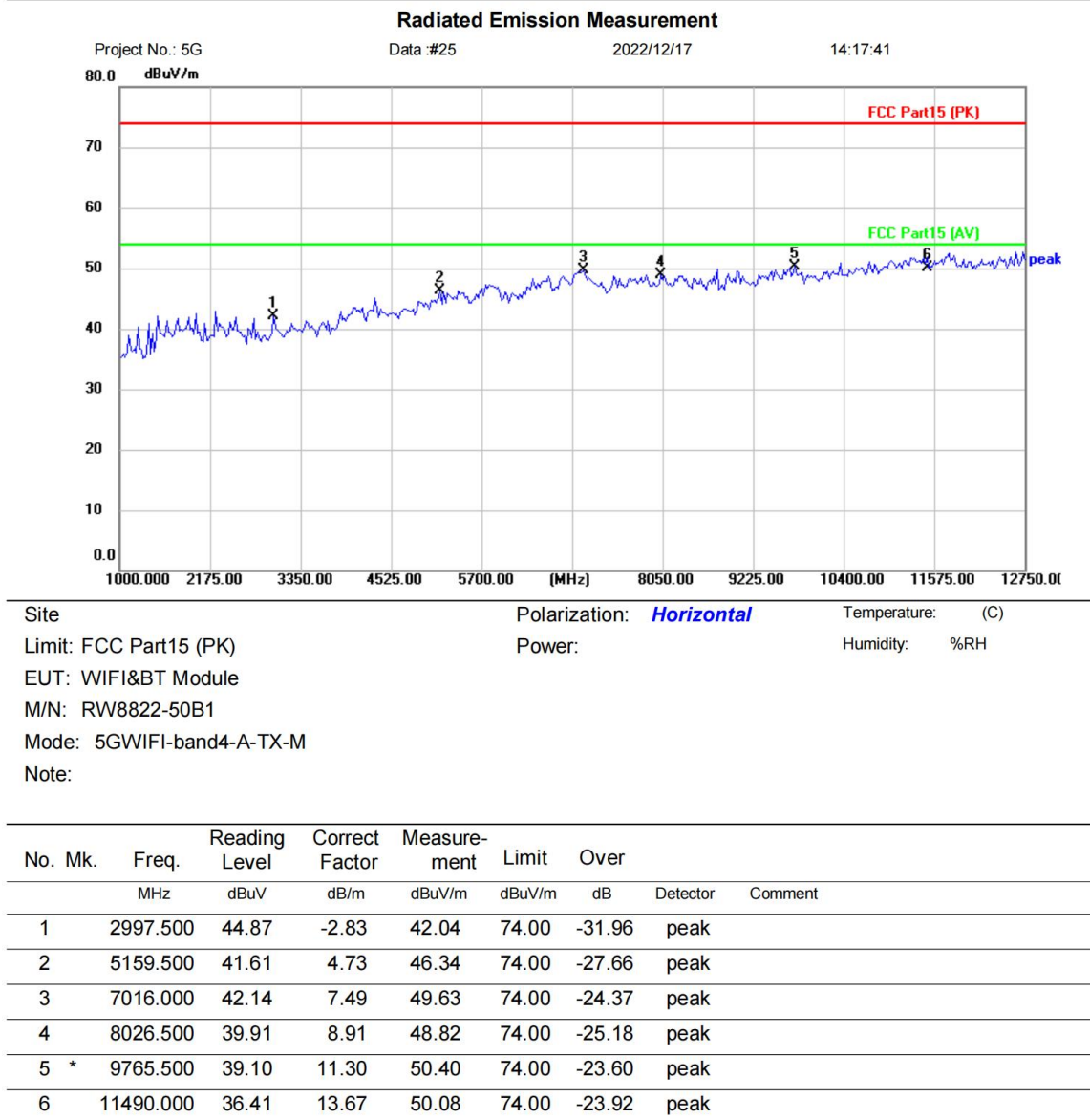


\*:Maximum data    x:Over limit    !:over margin

< Reference Only

**Test Result: Pass**

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

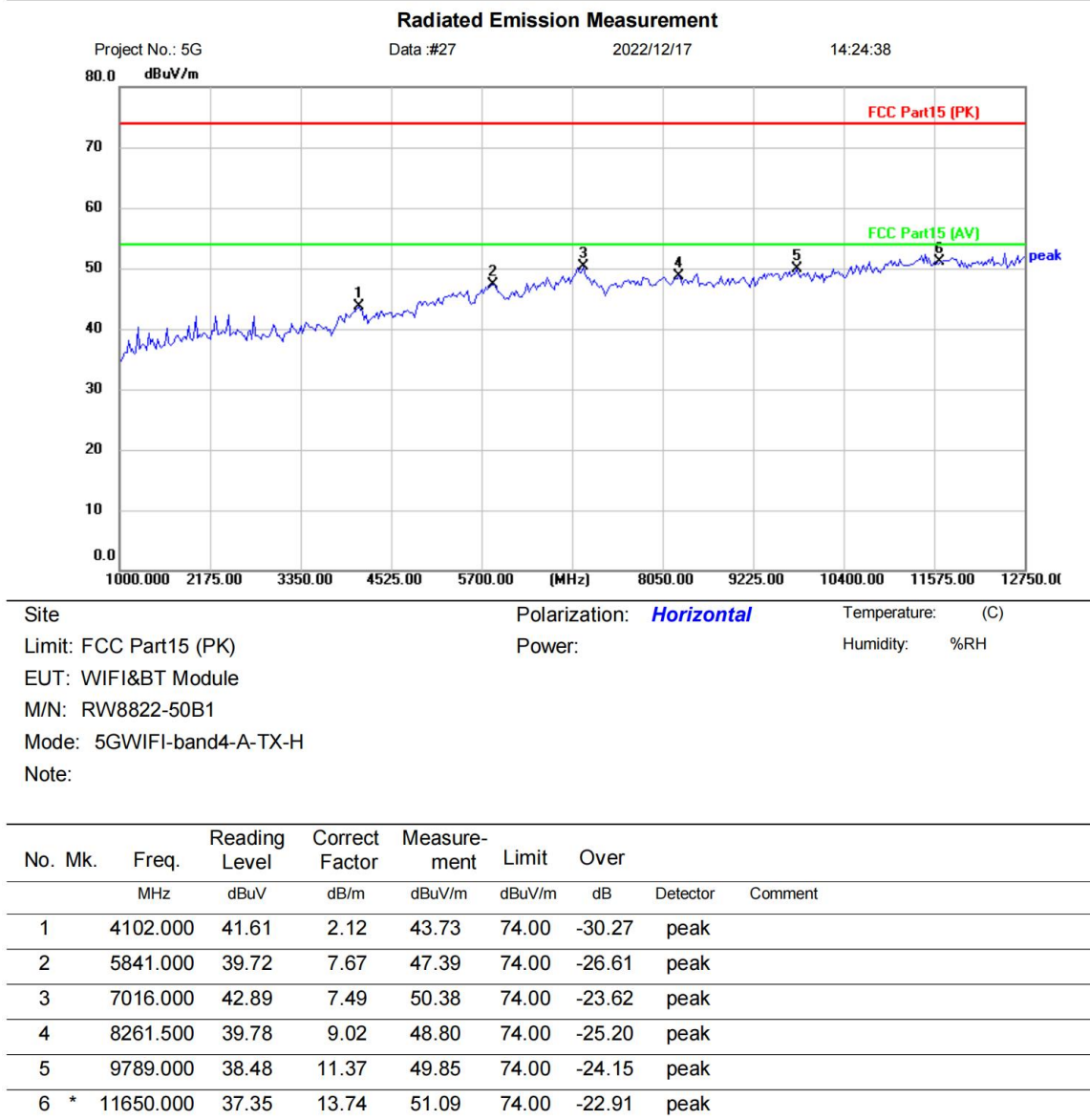


\*:Maximum data    x:Over limit    !:over margin

<Reference Only

**Test Result: Pass**

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

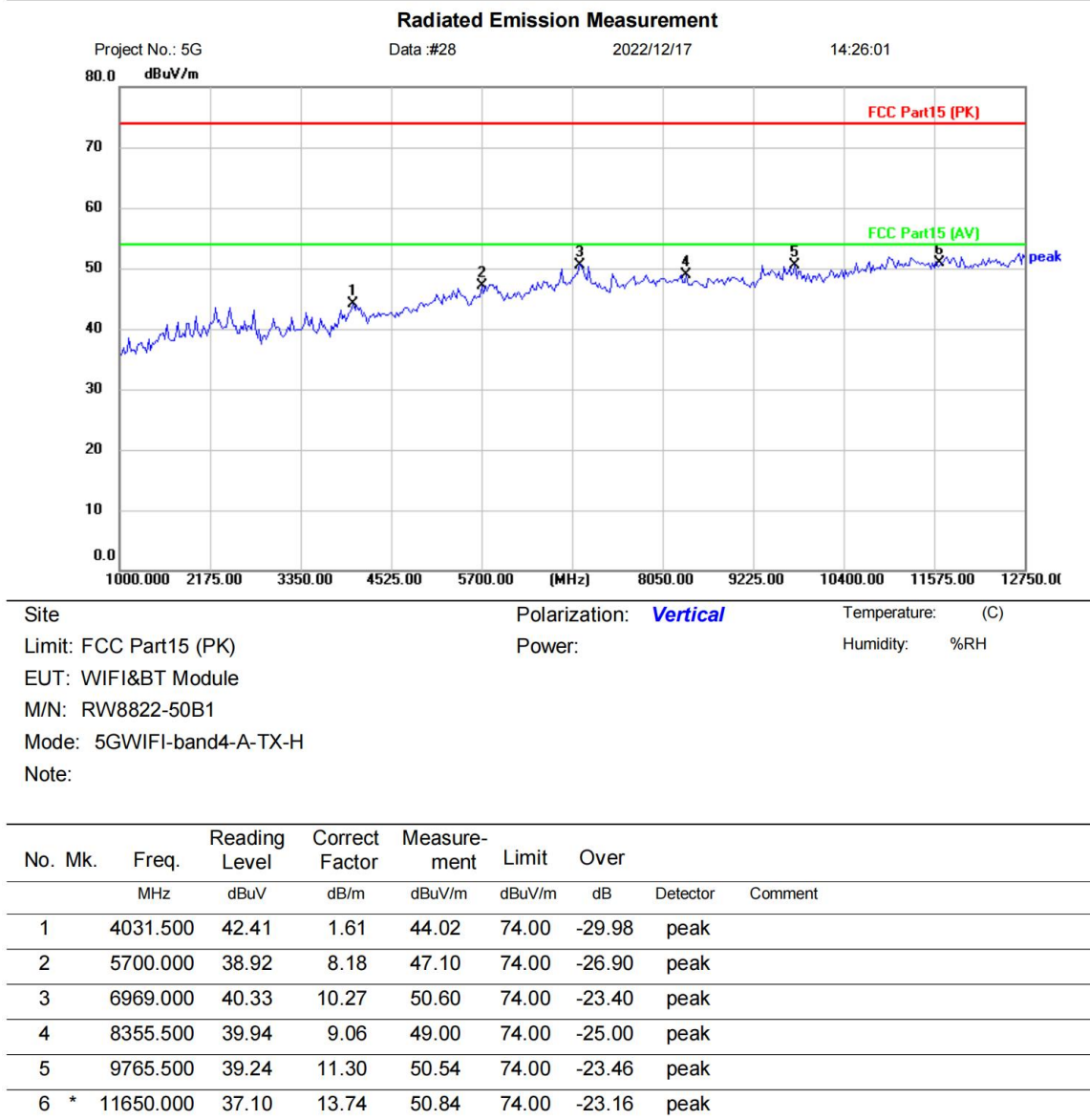


\*:Maximum data    x:Over limit    !:over margin

<Reference Only

**Test Result: Pass**

[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.

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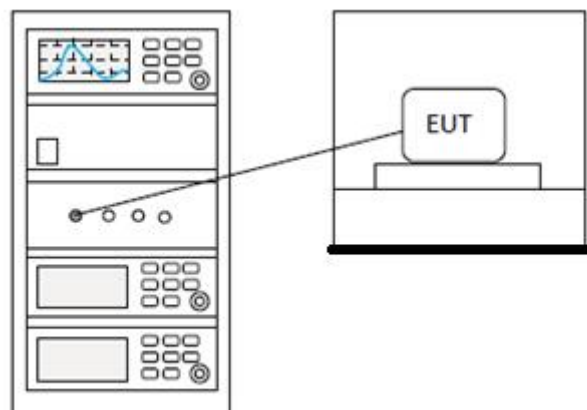
### 13 DFS: CHANNEL CLOSING TRANSMISSION TIME

|                        |                                  |
|------------------------|----------------------------------|
| Test Standard          | 47 CFR Part 15, Subpart E 15.407 |
| Test Method            | KDB 905462 D02 Section 7.8.3     |
| Test Mode (Pre-Scan)   | TX                               |
| Test Mode (Final Test) | TX                               |
| Tester                 | Jozu                             |
| Temperature            | 25°C                             |
| Humidity               | 60%                              |

#### 13.1 LIMITS

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Limit:</b> | 200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period(should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst. It is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required facilitating a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions) |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### 13.2 BLOCK DIAGRAM OF TEST SETUP



#### 13.3 PROCEDURE

- 1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
- 2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.
- 3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- 4) EUT will associate with the master at channel. The file `iperf.exe` specified by the FCC is streamed

from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.

5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.

6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.

7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by:  $Dwell (0.3ms) = S (12000ms) / B (4000)$ ; where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by:  $C (ms) = N \times Dwell (0.3ms)$ ; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.

8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

#### 13.4 TEST DATA

**Pass: Please Refer To DFS Report: BLA-EMC-202210-A6206**

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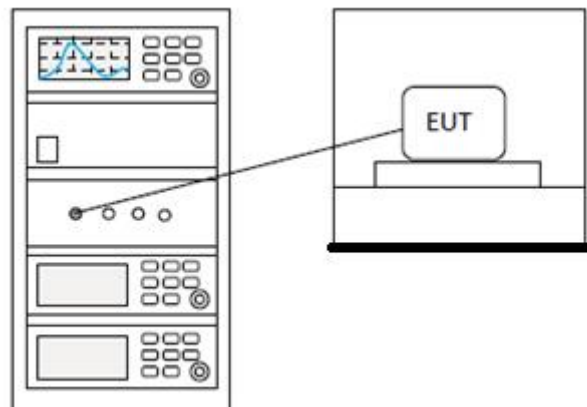
## 14 DFS: NON-OCCUPANCY PERIOD

|                        |                                  |
|------------------------|----------------------------------|
| Test Standard          | 47 CFR Part 15, Subpart E 15.407 |
| Test Method            | KDB 905462 D02 Section 7.8.3     |
| Test Mode (Pre-Scan)   | TX                               |
| Test Mode (Final Test) | TX                               |
| Tester                 | Jozu                             |
| Temperature            | 25°C                             |
| Humidity               | 60%                              |

### 14.1 LIMITS

|               |                    |
|---------------|--------------------|
| <b>Limit:</b> | Minimum 30 minutes |
|---------------|--------------------|

### 14.2 BLOCK DIAGRAM OF TEST SETUP



### 14.3 PROCEDURE

- 1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
- 2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.
- 3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- 4) EUT will associate with the master at channel. The file `iperf.exe` specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
- 5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
- 6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel.

Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.

7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by:  $Dwell (0.3ms) = S (12000ms) / B (4000)$ ; where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by:  $C (ms) = N \times Dwell (0.3ms)$ ; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.

8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

#### 14.4 TEST DATA

**Pass: Please Refer To DFS Report: BLA-EMC-202210-A6206**

BlueAsia

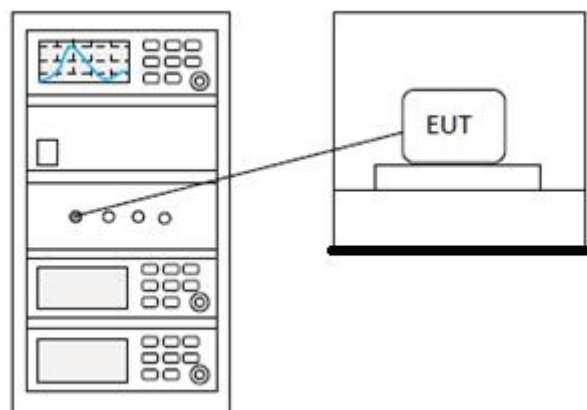
## 15 PEAK POWER SPECTRUM DENSITY

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

### 15.1 LIMITS

| Frequency band(MHz) | Limit                                                                                                                                                    |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5150-5250           | ≤17dBm in 1MHz for master device                                                                                                                         |
|                     | ≤11dBm in 1MHz for client device                                                                                                                         |
| 5250-5350           | ≤11dBm in 1MHz for client device                                                                                                                         |
| 5470-5725           | ≤11dBm in 1MHz for client device                                                                                                                         |
| 5725-5850           | ≤30dBm in 500 kHz                                                                                                                                        |
| Remark:             | The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. |

### 15.2 BLOCK DIAGRAM OF TEST SETUP



**15.3 TEST DATA****Pass: Please Refer To Appendix: Appendix1 For Details**

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