

## Appendix C: Test Results of Radiated Spurious Emissions & Mains

### Conducted Emission Test for FPCB Antenna

**ANT 11, Main Source, ECC, PIC32WM-BZ6204UC**  
**Band Edges, 2.31GHz ~ 2.5GHz**

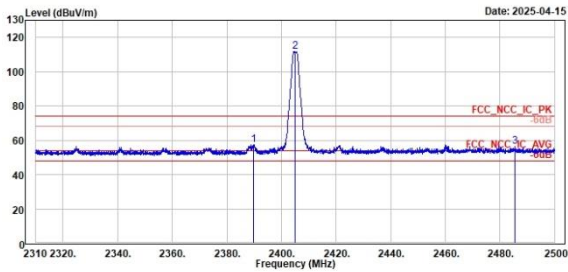
#### IEEE® 802.15.4\_250k

##### Low Channel (Horizontal) Peak

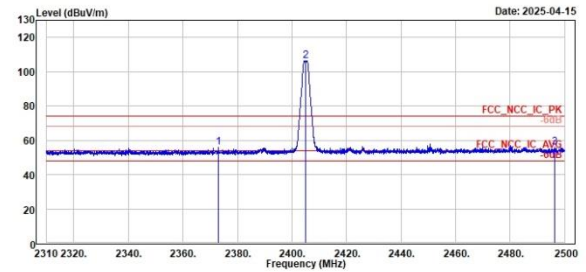
##### Low Channel (Vertical) Peak



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec. 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec. 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322

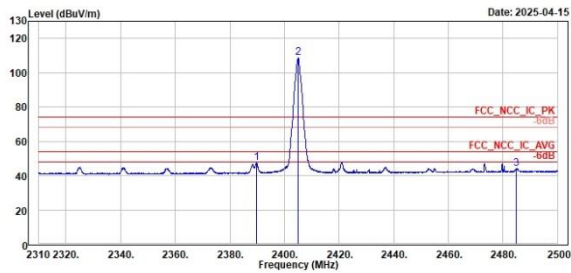


**IEEE® 802.15.4\_250k**

**Low Channel (Horizontal) Average**



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322

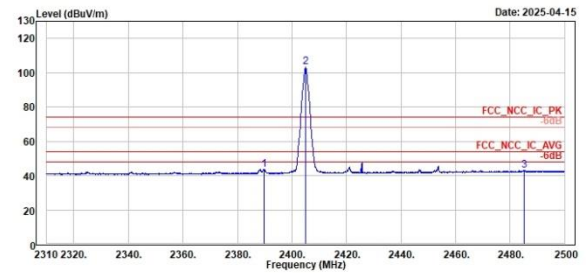


|     | Freq    | Level  | Read  | Level | Factor | Limit | Over | APos | TPos    | Remark     | Pol/Phase | Note |
|-----|---------|--------|-------|-------|--------|-------|------|------|---------|------------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB    | dB   | cm   | deg     |            |           |      |
| 1   | 2389.90 | 47.24  | 9.03  | 38.21 | 54.00  | -6.76 | 103  | 38   | Average | Horizontal |           |      |
| 2 * | 2405.00 | 108.59 | 70.26 | 38.33 | 54.00  | 54.59 | 103  | 38   | Average | Horizontal |           |      |
| 3   | 2484.94 | 44.22  | 5.62  | 38.60 | 54.00  | -9.78 | 103  | 38   | Average | Horizontal |           |      |

**Low Channel (Vertical) Average**



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



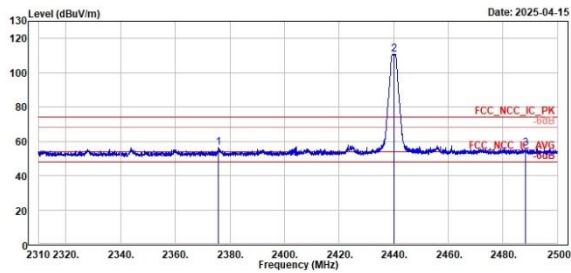
|     | Freq    | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos    | Remark   | Pol/Phase | Note |
|-----|---------|--------|-------|-------|--------|--------|------|------|---------|----------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg     |          |           |      |
| 1   | 2389.71 | 43.73  | 5.52  | 38.21 | 54.00  | -10.27 | 132  | 289  | Average | Vertical |           |      |
| 2 * | 2405.00 | 103.20 | 64.87 | 38.33 | 54.00  | 49.20  | 132  | 289  | Average | Vertical |           |      |
| 3   | 2485.09 | 42.93  | 4.33  | 38.60 | 54.00  | -11.07 | 132  | 289  | Average | Vertical |           |      |

**IEEE® 802.15.4\_250k**

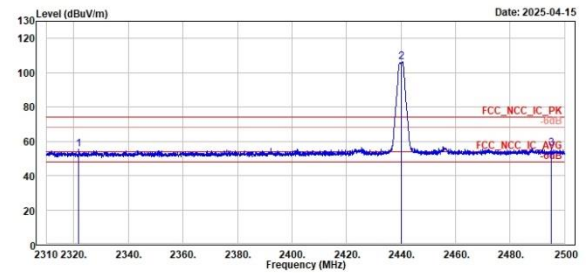
**Middle Channel (Horizontal) Peak**



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322

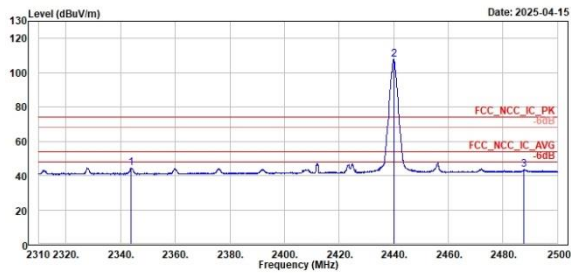


**IEEE® 802.15.4\_250k**

**Middle Channel (Horizontal) Average**



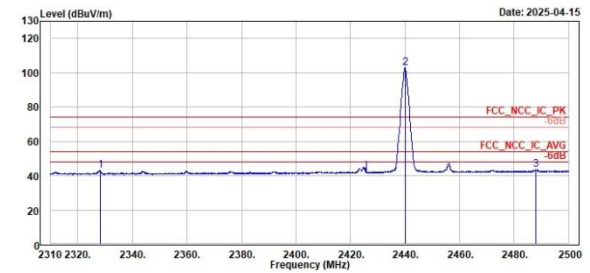
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



**Middle Channel (Vertical) Average**



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322

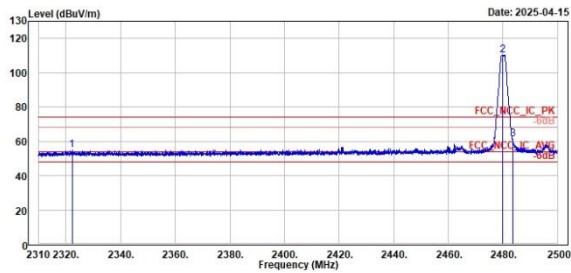


**IEEE® 802.15.4\_250k**

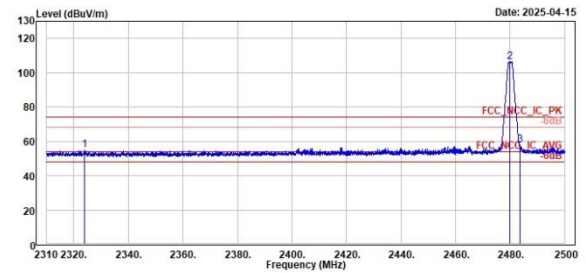
**High Channel (Horizontal) Peak**



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322

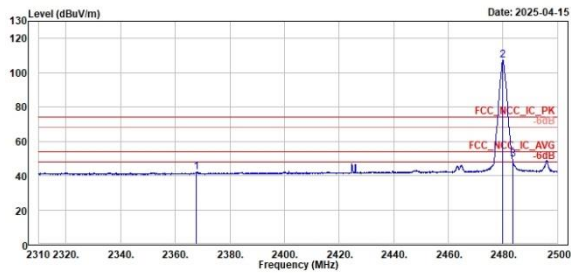


**IEEE® 802.15.4\_250k**

**High Channel (Horizontal) Average**



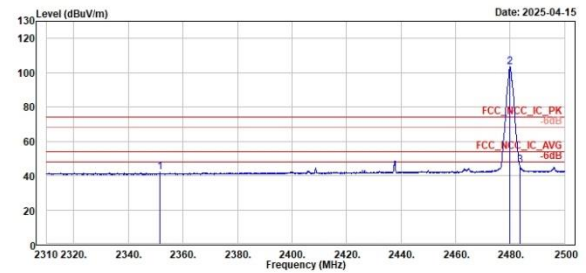
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



| Freq | Level   | Read   | Level | Factor | Limit | Over   | APos | TPos | Remark  | Pol/Phase  | Note |
|------|---------|--------|-------|--------|-------|--------|------|------|---------|------------|------|
| MHz  | dBuV/m  | dBuV   | dB/m  | dBuV/m | dB    | cm     | deg  |      |         |            |      |
| 1    | 2367.62 | 41.91  | 3.91  | 38.00  | 54.00 | -12.09 | 272  | 45   | Average | Horizontal |      |
| 2 *  | 2480.00 | 107.21 | 68.61 | 38.60  | 54.00 | 53.21  | 272  | 45   | Average | Horizontal |      |
| 3 †  | 2483.50 | 49.49  | 10.89 | 38.60  | 54.00 | -4.51  | 272  | 45   | Average | Horizontal |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



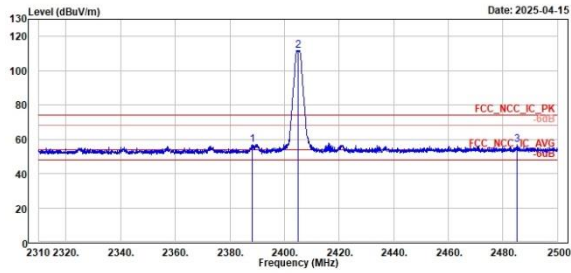
| Freq | Level   | Read   | Level | Factor | Limit | Over   | APos | TPos | Remark  | Pol/Phase | Note |
|------|---------|--------|-------|--------|-------|--------|------|------|---------|-----------|------|
| MHz  | dBuV/m  | dBuV   | dB/m  | dBuV/m | dB    | cm     | deg  |      |         |           |      |
| 1    | 2351.61 | 41.81  | 3.96  | 37.85  | 54.00 | -12.19 | 189  | 288  | Average | Vertical  |      |
| 2 *  | 2480.00 | 103.18 | 64.58 | 38.60  | 54.00 | 49.18  | 189  | 288  | Average | Vertical  |      |
| 3 †  | 2483.52 | 45.95  | 7.35  | 38.60  | 54.00 | -8.05  | 109  | 288  | Average | Vertical  |      |

**IEEE® 802.15.4\_2M**

**Low Channel (Horizontal) Peak**



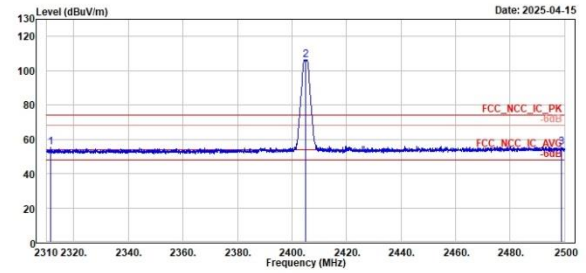
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



| Freq | Level   | Read   | Level | Factor | Limit | Over   | APos | TPos | Remark | Pol/Phase  | Note |
|------|---------|--------|-------|--------|-------|--------|------|------|--------|------------|------|
| MHz  | dBuV/m  | dBuV   | dB/m  | dBuV/m | dB    | dB     | cm   | deg  |        |            |      |
| 1    | 2388.23 | 56.99  | 18.79 | 38.20  | 74.00 | -17.01 | 183  | 39   | Peak   | Horizontal |      |
| 2 *  | 2405.00 | 111.73 | 73.48 | 38.33  | 74.00 | 37.73  | 183  | 39   | Peak   | Horizontal |      |
| 3    | 2485.23 | 56.70  | 18.10 | 38.60  | 74.00 | -17.30 | 183  | 39   | Peak   | Horizontal |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



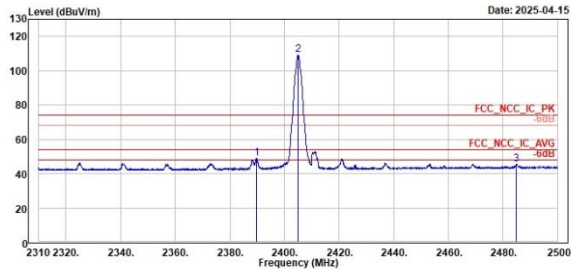
| Freq | Level   | Read   | Level | Factor | Limit | Over   | APos | TPos | Remark | Pol/Phase | Note |
|------|---------|--------|-------|--------|-------|--------|------|------|--------|-----------|------|
| MHz  | dBuV/m  | dBuV   | dB/m  | dBuV/m | dB    | dB     | cm   | deg  |        |           |      |
| 1    | 2311.57 | 55.22  | 17.51 | 37.71  | 74.00 | -18.78 | 132  | 289  | Peak   | Vertical  |      |
| 2 *  | 2405.00 | 106.35 | 68.82 | 38.33  | 74.00 | 32.35  | 132  | 289  | Peak   | Vertical  |      |
| 3    | 2498.81 | 55.53  | 16.91 | 38.62  | 74.00 | -18.47 | 132  | 289  | Peak   | Vertical  |      |

**IEEE® 802.15.4\_2M**

**Low Channel (Horizontal) Average**



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322

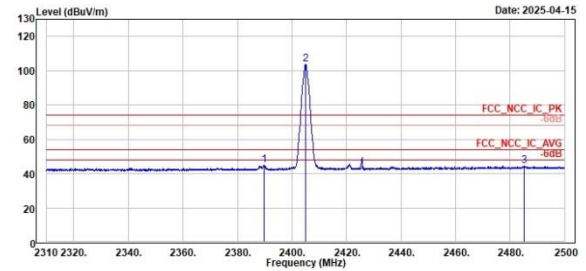


|     | Freq    | Level  | Read  | Level | Factor | Limit | Over | APos | TPos    | Remark     | Pol/Phase | Note |
|-----|---------|--------|-------|-------|--------|-------|------|------|---------|------------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB    | dB   | cm   | deg     |            |           |      |
| 1   | 2389.90 | 48.98  | 10.77 | 38.21 | 54.00  | -5.02 | 103  | 39   | Average | Horizontal |           |      |
| 2 * | 2405.00 | 109.26 | 70.93 | 38.33 | 54.00  | 55.26 | 103  | 39   | Average | Horizontal |           |      |
| 3   | 2484.94 | 45.35  | 6.75  | 38.60 | 54.00  | -8.65 | 103  | 39   | Average | Horizontal |           |      |

**Low Channel (Vertical) Average**



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



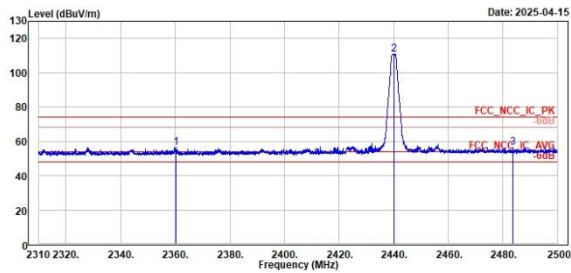
|     | Freq    | Level  | Read  | Level | Factor | Limit | Over | APos | TPos    | Remark   | Pol/Phase | Note |
|-----|---------|--------|-------|-------|--------|-------|------|------|---------|----------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB    | dB   | cm   | deg     |          |           |      |
| 1   | 2389.75 | 44.80  | 6.59  | 38.21 | 54.00  | -9.20 | 132  | 289  | Average | Vertical |           |      |
| 2 * | 2405.00 | 103.04 | 65.51 | 38.33 | 54.00  | 49.04 | 132  | 289  | Average | Vertical |           |      |
| 3   | 2485.18 | 44.36  | 5.76  | 38.60 | 54.00  | -9.64 | 132  | 289  | Average | Vertical |           |      |

**IEEE® 802.15.4\_2M**

**Middle Channel (Horizontal) Peak**



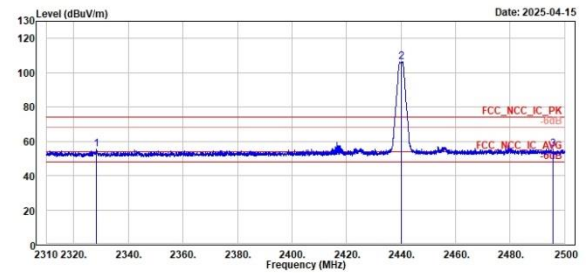
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|     | Freq    | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark     | Pol/Phase | Note |
|-----|---------|--------|-------|-------|--------|--------|------|------|------|------------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg  |      |            |           |      |
| 1   | 2360.16 | 56.32  | 18.39 | 37.93 | 74.00  | -17.68 | 188  | 41   | Peak | Horizontal |           |      |
| 2 * | 2440.00 | 110.95 | 72.44 | 38.51 | 74.00  | 36.95  | 188  | 41   | Peak | Horizontal |           |      |
| 3   | 2483.76 | 56.42  | 17.82 | 38.60 | 74.00  | -17.58 | 188  | 41   | Peak | Horizontal |           |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



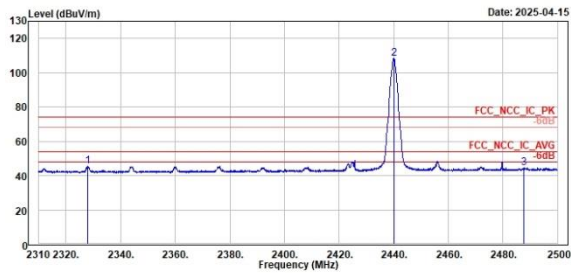
|     | Freq    | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark   | Pol/Phase | Note |
|-----|---------|--------|-------|-------|--------|--------|------|------|------|----------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg  |      |          |           |      |
| 1   | 2320.38 | 55.33  | 17.56 | 37.77 | 74.00  | -18.67 | 194  | 175  | Peak | Vertical |           |      |
| 2 * | 2440.00 | 106.13 | 67.62 | 38.51 | 74.00  | 32.13  | 194  | 175  | Peak | Vertical |           |      |
| 3   | 2495.82 | 55.40  | 16.79 | 38.61 | 74.00  | -18.60 | 194  | 175  | Peak | Vertical |           |      |

**IEEE® 802.15.4\_2M**

**Middle Channel (Horizontal) Average**



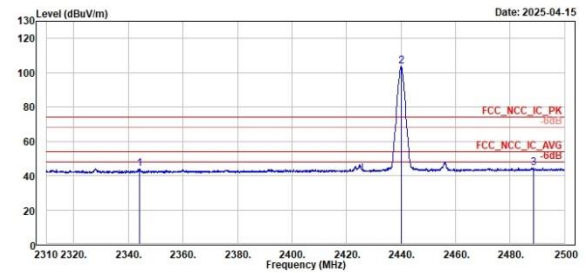
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



| Freq | Level   | Read   | Level | Factor | Limit | Over  | APos | TPos | Remark  | Pol/Phase  | Note |
|------|---------|--------|-------|--------|-------|-------|------|------|---------|------------|------|
| MHz  | dBuV/m  | dBuV   | dB/m  | dBuV/m | dB    | cm    | deg  |      |         |            |      |
| 1    | 2328.10 | 45.42  | 7.65  | 37.77  | 54.00 | -8.58 | 188  | 41   | Average | Horizontal |      |
| 2 *  | 2440.00 | 105.44 | 69.93 | 38.51  | 54.00 | 54.44 | 188  | 41   | Average | Horizontal |      |
| 3    | 2487.79 | 44.44  | 5.83  | 38.61  | 54.00 | -9.56 | 188  | 41   | Average | Horizontal |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



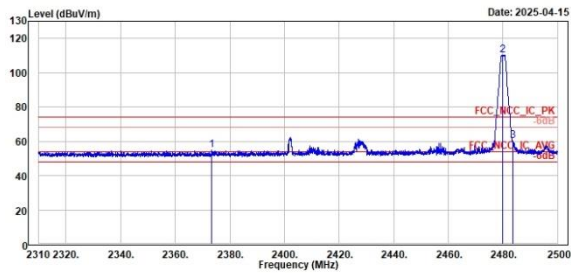
| Freq | Level   | Read   | Level | Factor | Limit | Over   | APos | TPos | Remark  | Pol/Phase | Note |
|------|---------|--------|-------|--------|-------|--------|------|------|---------|-----------|------|
| MHz  | dBuV/m  | dBuV   | dB/m  | dBuV/m | dB    | cm     | deg  |      |         |           |      |
| 1    | 2344.20 | 43.91  | 6.09  | 37.82  | 54.00 | -10.09 | 194  | 175  | Average | Vertical  |      |
| 2 *  | 2440.00 | 103.62 | 65.11 | 38.51  | 54.00 | 49.62  | 194  | 175  | Average | Vertical  |      |
| 3    | 2488.55 | 44.41  | 5.80  | 38.61  | 54.00 | -9.59  | 194  | 175  | Average | Vertical  |      |

**IEEE® 802.15.4\_2M**

**High Channel (Horizontal) Peak**



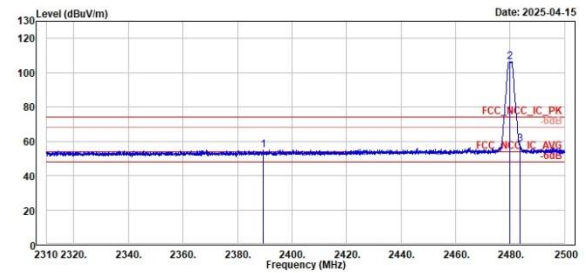
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|     | Freq    | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark     | Pol/Phase | Note |
|-----|---------|--------|-------|-------|--------|--------|------|------|------|------------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg  |      |            |           |      |
| 1   | 2373.32 | 54.65  | 16.59 | 38.06 | 74.00  | -19.35 | 270  | 46   | Peak | Horizontal |           |      |
| 2 * | 2480.00 | 110.30 | 71.70 | 38.60 | 74.00  | 36.30  | 270  | 46   | Peak | Horizontal |           |      |
| 3   | 2483.61 | 60.47  | 21.87 | 38.60 | 74.00  | -13.53 | 270  | 46   | Peak | Horizontal |           |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



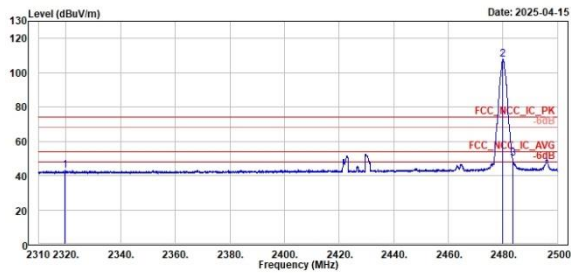
|     | Freq    | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark   | Pol/Phase | Note |
|-----|---------|--------|-------|-------|--------|--------|------|------|------|----------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg  |      |          |           |      |
| 1   | 2389.56 | 54.86  | 16.65 | 38.21 | 74.00  | -19.14 | 180  | 289  | Peak | Vertical |           |      |
| 2 * | 2480.00 | 106.34 | 67.74 | 38.60 | 74.00  | 32.34  | 180  | 289  | Peak | Vertical |           |      |
| 3   | 2483.76 | 58.23  | 19.63 | 38.60 | 74.00  | -15.77 | 180  | 289  | Peak | Vertical |           |      |

**IEEE® 802.15.4\_2M**

**High Channel (Horizontal) Average**



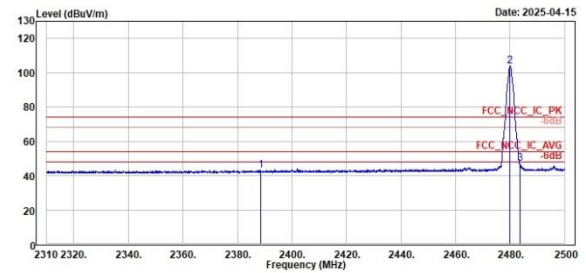
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|     | Freq    | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos    | Remark     | Pol/Phase | Note |
|-----|---------|--------|-------|-------|--------|--------|------|------|---------|------------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg  |         |            |           |      |
| 1   | 2319.45 | 43.04  | 5.30  | 37.74 | 54.00  | -10.96 | 270  | 46   | Average | Horizontal |           |      |
| 2 * | 2480.00 | 107.78 | 69.18 | 38.60 | 54.00  | 53.78  | 270  | 46   | Average | Horizontal |           |      |
| 3 † | 2483.50 | 50.08  | 11.48 | 38.60 | 54.00  | -3.92  | 270  | 46   | Average | Horizontal |           |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|     | Freq    | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos    | Remark   | Pol/Phase | Note |
|-----|---------|--------|-------|-------|--------|--------|------|------|---------|----------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg  |         |          |           |      |
| 1   | 2388.47 | 43.07  | 4.07  | 38.20 | 54.00  | -10.93 | 180  | 289  | Average | Vertical |           |      |
| 2 * | 2480.00 | 103.00 | 65.20 | 38.60 | 54.00  | 49.00  | 180  | 289  | Average | Vertical |           |      |
| 3   | 2483.50 | 46.90  | 8.30  | 38.60 | 54.00  | -7.10  | 180  | 289  | Average | Vertical |           |      |

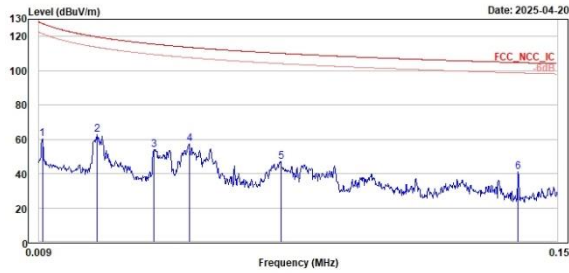
## Spurious Emissions, Tx Mode, 9kHz ~ 30MHz

### IEEE® 802.15.4\_250k

#### Low Channel (Open) 9kHz~150kHz



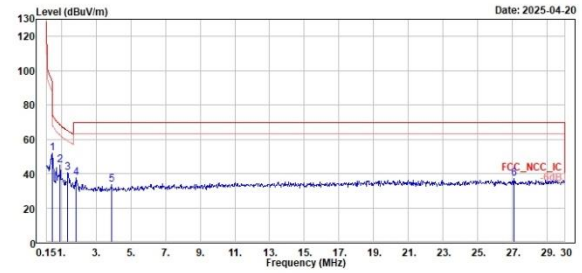
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark | Pol/Phase | Note |
|---|------|--------|-------|-------|--------|--------|------|------|------|--------|-----------|------|
|   | MHz  | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | cm   | deg  |        |           |      |
| 1 | 0.01 | 60.12  | 42.01 | 18.11 | 127.60 | -67.48 | 100  |      | 88   | Peak   | Open      |      |
| 2 | 0.02 | 62.91  | 43.15 | 19.76 | 119.65 | -56.74 | 100  |      | 292  | Peak   | Open      |      |
| 3 | 0.04 | 54.12  | 35.11 | 19.01 | 115.49 | -61.37 | 100  |      | 309  | Peak   | Open      |      |
| 4 | 0.05 | 57.20  | 38.18 | 19.02 | 113.63 | -56.43 | 100  |      | 292  | Peak   | Open      |      |
| 5 | 0.07 | 47.19  | 28.82 | 18.37 | 110.11 | -62.92 | 100  |      | 292  | Peak   | Open      |      |
| 6 | 0.14 | 41.14  | 22.87 | 18.27 | 104.72 | -63.58 | 100  |      | 209  | Peak   | Open      |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq  | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark | Pol/Phase | Note |
|---|-------|--------|-------|-------|--------|--------|------|------|------|--------|-----------|------|
|   | MHz   | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | cm   | deg  |        |           |      |
| 1 | 0.48  | 51.72  | 32.98 | 18.74 | 94.01  | -42.29 | 100  |      | 333  | Peak   | Open      |      |
| 2 | 0.93  | 45.01  | 26.16 | 18.85 | 68.27  | -23.26 | 100  |      | 180  | Peak   | Open      |      |
| 3 | 1.37  | 40.44  | 21.63 | 18.81 | 64.85  | -24.41 | 100  |      | 180  | Peak   | Open      |      |
| 4 | 1.85  | 37.80  | 18.97 | 18.83 | 69.50  | -31.70 | 100  |      | 180  | Peak   | Open      |      |
| 5 | 3.88  | 33.83  | 14.48 | 19.35 | 69.50  | -35.67 | 100  |      | 187  | Peak   | Open      |      |
| 6 | 27.07 | 36.99  | 13.97 | 23.02 | 69.50  | -32.51 | 100  |      | 2    | Peak   | Open      |      |

## Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

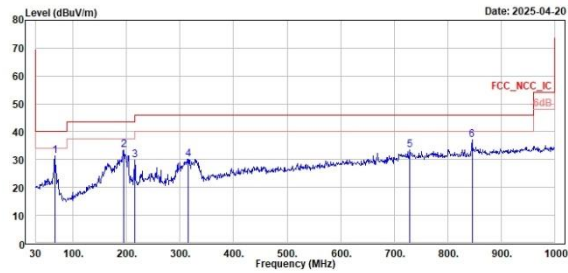
### IEEE® 802.15.4\_250k

#### Low Channel (Horizontal)

#### Low Channel (Vertical)



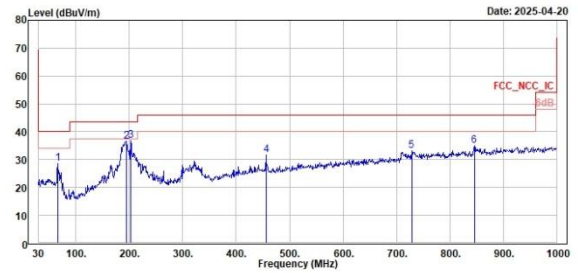
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq   | Level  | Read  | Limit | Over   | APos   | TPos | Remark   | Pol/Phase  | Note |
|---|--------|--------|-------|-------|--------|--------|------|----------|------------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg      |            |      |
| 1 | 65.89  | 31.18  | 38.75 | -7.57 | 40.00  | -8.82  | 200  | 171 Peak | Horizontal |      |
| 2 | 193.93 | 33.41  | 41.52 | -8.11 | 43.50  | -10.09 | 200  | 353 Peak | Horizontal |      |
| 3 | 215.27 | 29.93  | 38.23 | -8.30 | 43.50  | -13.57 | 100  | 274 Peak | Horizontal |      |
| 4 | 315.18 | 30.21  | 35.09 | -4.88 | 46.00  | -15.79 | 100  | 259 Peak | Horizontal |      |
| 5 | 729.37 | 33.60  | 30.82 | 2.78  | 46.00  | -12.40 | 100  | 341 Peak | Horizontal |      |
| 6 | 845.77 | 36.97  | 32.88 | 4.09  | 46.00  | -9.03  | 262  | 0 Peak   | Horizontal |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq   | Level  | Read  | Limit | Over   | APos   | TPos | Remark   | Pol/Phase | Note |
|---|--------|--------|-------|-------|--------|--------|------|----------|-----------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg      |           |      |
| 1 | 65.89  | 28.70  | 36.27 | -7.57 | 40.00  | -11.30 | 100  | 71 Peak  | Vertical  |      |
| 2 | 193.93 | 36.64  | 44.75 | -8.11 | 43.50  | -6.86  | 100  | 237 Peak | Vertical  |      |
| 3 | 202.66 | 36.88  | 45.05 | -8.17 | 43.50  | -6.62  | 100  | 71 Peak  | Vertical  |      |
| 4 | 455.83 | 31.53  | 33.55 | -2.02 | 46.00  | -14.47 | 100  | 206 Peak | Vertical  |      |
| 5 | 728.40 | 33.11  | 30.33 | 2.78  | 46.00  | -12.89 | 200  | 60 Peak  | Vertical  |      |
| 6 | 845.77 | 34.97  | 30.88 | 4.09  | 46.00  | -11.03 | 300  | 60 Peak  | Vertical  |      |

## Spurious Emissions, Tx Mode, 1GHz ~ 26.5GHz

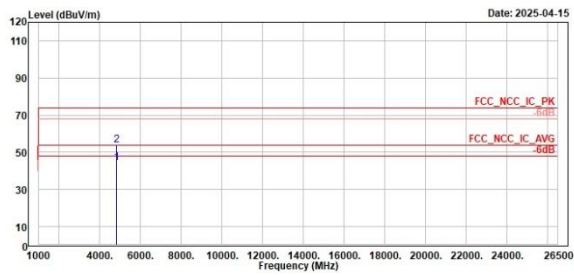
### IEEE® 802.15.4\_250k

#### Low Channel (Horizontal)

#### Low Channel (Vertical)



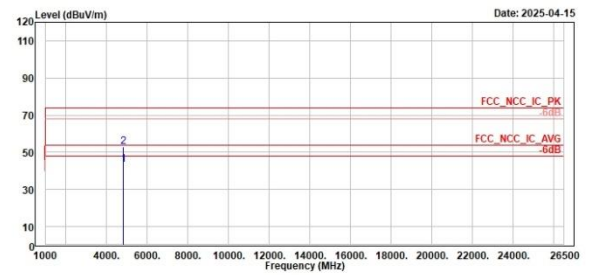
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq    | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos    | Remark     | Pol/Phase | Note |
|---|---------|--------|-------|-------|--------|--------|------|------|---------|------------|-----------|------|
|   | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg     |            |           |      |
| 1 | 4810.00 | 44.13  | 53.20 | -9.07 | 54.00  | -9.87  | 100  | 31   | Average | Horizontal |           |      |
| 2 | 4810.00 | 53.83  | 62.90 | -9.07 | 74.00  | -20.17 | 100  | 31   | Peak    | Horizontal |           |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq    | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos    | Remark   | Pol/Phase | Note |
|---|---------|--------|-------|-------|--------|--------|------|------|---------|----------|-----------|------|
|   | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg     |          |           |      |
| 1 | 4810.00 | 43.26  | 52.33 | -9.07 | 54.00  | -10.74 | 233  | 178  | Average | Vertical |           |      |
| 2 | 4810.00 | 52.96  | 62.03 | -9.07 | 74.00  | -21.04 | 233  | 178  | Peak    | Vertical |           |      |

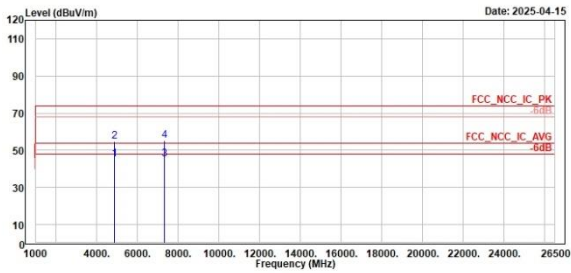
**IEEE® 802.15.4\_250k**

**Middle Channel (Horizontal)**

**Middle Channel (Vertical)**



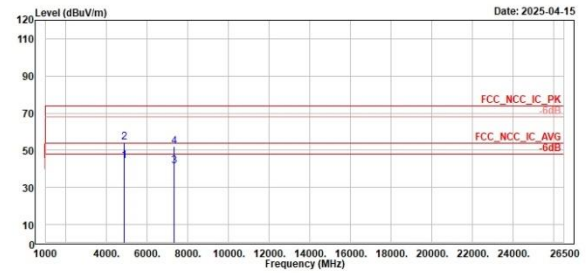
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq    | Level  | Read  | Factor | Limit  | Over   | APos | TPos | Remark  | Pol/Phase  | Note |
|---|---------|--------|-------|--------|--------|--------|------|------|---------|------------|------|
|   | MHz     | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg  |         |            |      |
| 1 | 4880.00 | 44.97  | 53.84 | -8.87  | 54.00  | -9.03  | 180  | 34   | Average | Horizontal |      |
| 2 | 4880.00 | 54.56  | 63.43 | -8.87  | 74.00  | -19.44 | 180  | 34   | Peak    | Horizontal |      |
| 3 | 7320.00 | 45.38  | 52.05 | -6.67  | 54.00  | -8.62  | 242  | 286  | Average | Horizontal |      |
| 4 | 7320.00 | 55.30  | 61.97 | -6.67  | 74.00  | -18.70 | 242  | 286  | Peak    | Horizontal |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq    | Level  | Read  | Factor | Limit  | Over   | APos | TPos | Remark  | Pol/Phase | Note |
|---|---------|--------|-------|--------|--------|--------|------|------|---------|-----------|------|
|   | MHz     | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg  |         |           |      |
| 1 | 4880.00 | 44.39  | 53.26 | -8.87  | 54.00  | -9.61  | 267  | 180  | Average | Vertical  |      |
| 2 | 4880.00 | 54.07  | 62.94 | -8.87  | 74.00  | -19.93 | 267  | 180  | Peak    | Vertical  |      |
| 3 | 7320.00 | 41.62  | 48.29 | -6.67  | 54.00  | -12.38 | 100  | 300  | Average | Vertical  |      |
| 4 | 7320.00 | 51.87  | 58.54 | -6.67  | 74.00  | -22.13 | 100  | 300  | Peak    | Vertical  |      |

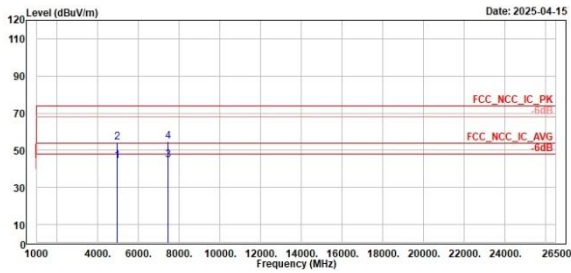
**IEEE® 802.15.4\_250k**

**High Channel (Horizontal)**

**High Channel (Vertical)**



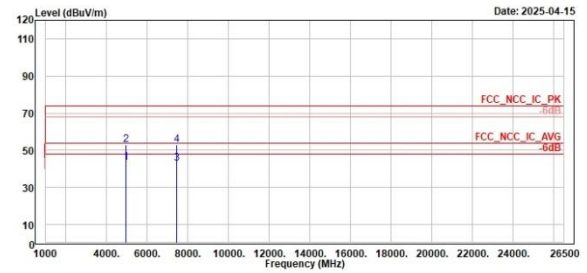
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq    | Level  | Read  | Factor | Limit  | Over   | APos | TPos | Remark  | Pol/Phase  | Note |
|---|---------|--------|-------|--------|--------|--------|------|------|---------|------------|------|
|   | MHz     | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg  |         |            |      |
| 1 | 4960.00 | 44.43  | 53.12 | -8.69  | 54.00  | -9.57  | 103  | 40   | Average | Horizontal |      |
| 2 | 4960.00 | 54.35  | 63.04 | -8.69  | 74.00  | -19.65 | 103  | 40   | Peak    | Horizontal |      |
| 3 | 7440.00 | 44.61  | 51.35 | -6.74  | 54.00  | -9.39  | 100  | 336  | Average | Horizontal |      |
| 4 | 7440.00 | 54.71  | 61.45 | -6.74  | 74.00  | -19.29 | 100  | 336  | Peak    | Horizontal |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq    | Level  | Read  | Factor | Limit  | Over   | APos | TPos | Remark  | Pol/Phase | Note |
|---|---------|--------|-------|--------|--------|--------|------|------|---------|-----------|------|
|   | MHz     | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg  |         |           |      |
| 1 | 4960.00 | 43.14  | 51.83 | -8.69  | 54.00  | -10.86 | 233  | 180  | Average | Vertical  |      |
| 2 | 4960.00 | 53.10  | 61.79 | -8.69  | 74.00  | -20.90 | 233  | 180  | Peak    | Vertical  |      |
| 3 | 7440.00 | 42.96  | 49.70 | -6.74  | 54.00  | -11.04 | 100  | 298  | Average | Vertical  |      |
| 4 | 7440.00 | 52.91  | 59.65 | -6.74  | 74.00  | -21.09 | 100  | 298  | Peak    | Vertical  |      |

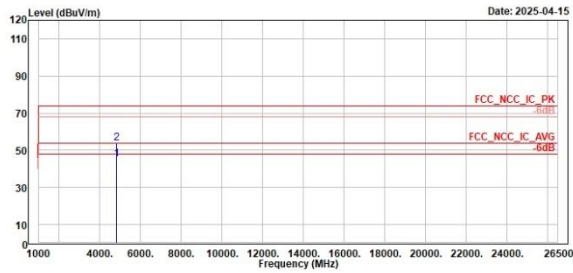
**IEEE® 802.15.4\_2M**

**Low Channel (Horizontal)**

**Low Channel (Vertical)**



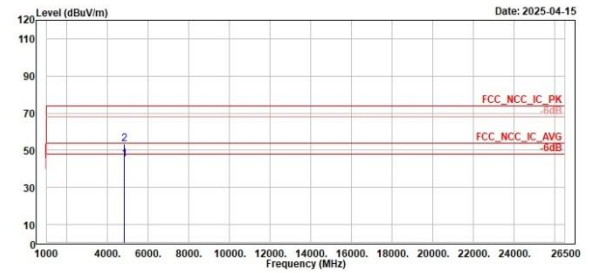
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq    | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos    | Remark     | Pol/Phase | Note |
|---|---------|--------|-------|-------|--------|--------|------|------|---------|------------|-----------|------|
|   | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg     |            |           |      |
| 1 | 4810.00 | 45.28  | 54.35 | -9.07 | 54.00  | -8.72  | 100  | 32   | Average | Horizontal |           |      |
| 2 | 4810.00 | 53.76  | 62.83 | -9.07 | 74.00  | -20.24 | 100  | 32   | Peak    | Horizontal |           |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



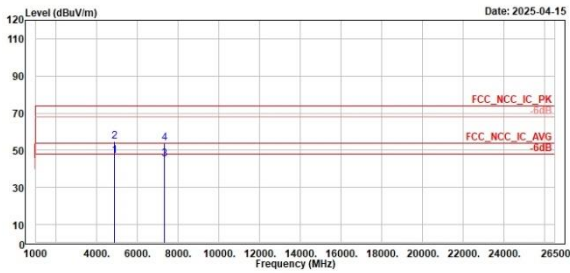
|   | Freq    | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos    | Remark   | Pol/Phase | Note |
|---|---------|--------|-------|-------|--------|--------|------|------|---------|----------|-----------|------|
|   | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg     |          |           |      |
| 1 | 4810.00 | 44.97  | 54.04 | -9.07 | 54.00  | -9.03  | 250  | 179  | Average | Vertical |           |      |
| 2 | 4810.00 | 53.30  | 62.37 | -9.07 | 74.00  | -20.70 | 250  | 179  | Peak    | Vertical |           |      |

**IEEE® 802.15.4\_2M**

**Middle Channel (Horizontal)**



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322

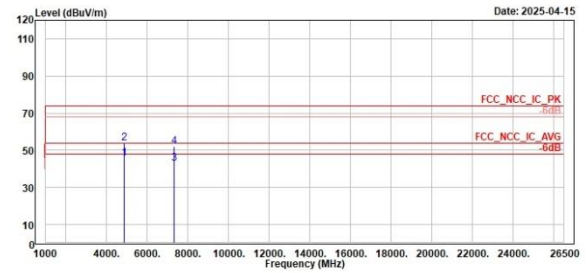


|   | Freq    | Level  | Read         | Limit | Over  | APos   | TPos | Remark      | Pol/Phase  | Note |
|---|---------|--------|--------------|-------|-------|--------|------|-------------|------------|------|
|   | MHz     | dBuV/m | Level Factor | Line  | Limit | cm     | deg  |             |            |      |
| 1 | 4880.00 | 46.77  | 55.64        | -8.87 | 54.00 | -7.23  | 184  | 30 Average  | Horizontal |      |
| 2 | 4880.00 | 54.63  | 63.70        | -8.87 | 74.00 | -19.17 | 184  | 30 Peak     | Horizontal |      |
| 3 | 7320.00 | 45.20  | 51.87        | -6.67 | 54.00 | -8.80  | 100  | 292 Average | Horizontal |      |
| 4 | 7320.00 | 54.03  | 60.70        | -6.67 | 74.00 | -19.97 | 100  | 292 Peak    | Horizontal |      |

**Middle Channel (Vertical)**

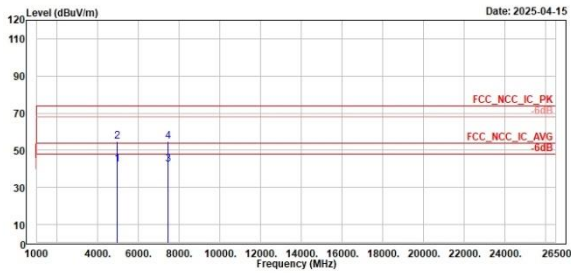


TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322

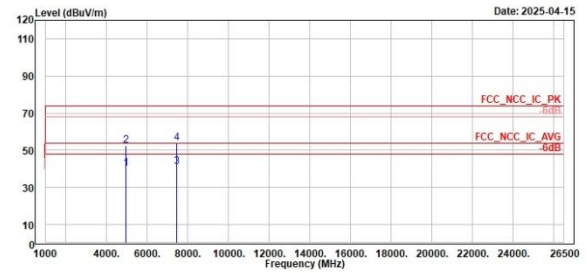


|   | Freq    | Level  | Read         | Limit | Over  | APos   | TPos | Remark      | Pol/Phase | Note |
|---|---------|--------|--------------|-------|-------|--------|------|-------------|-----------|------|
|   | MHz     | dBuV/m | Level Factor | Line  | Limit | cm     | deg  |             |           |      |
| 1 | 4880.00 | 45.60  | 54.47        | -8.87 | 54.00 | -8.40  | 227  | 181 Average | Vertical  |      |
| 2 | 4880.00 | 53.95  | 62.82        | -8.87 | 74.00 | -20.05 | 227  | 181 Peak    | Vertical  |      |
| 3 | 7320.00 | 42.87  | 49.54        | -6.67 | 54.00 | -11.13 | 100  | 300 Average | Vertical  |      |
| 4 | 7320.00 | 51.94  | 58.61        | -6.67 | 74.00 | -22.06 | 100  | 300 Peak    | Vertical  |      |

**IEEE® 802.15.4\_2M**
**High Channel (Horizontal)**
**High Channel (Vertical)**

 TÜV Rheinland Taiwan Ltd.  
 No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
 Tel: +886-2172-1000 Fax: +886-2172-1322


|   | Freq    | Level  | Read  | Factor | Limit  | Over   | APos | TPos | Remark  | Pol/Phase  | Note |
|---|---------|--------|-------|--------|--------|--------|------|------|---------|------------|------|
|   | MHz     | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg  |         |            |      |
| 1 | 4960.00 | 42.22  | 50.91 | -8.69  | 54.00  | -11.78 | 100  | 38   | Average | Horizontal |      |
| 2 | 4960.00 | 54.75  | 63.44 | -8.69  | 74.00  | -19.25 | 100  | 38   | Peak    | Horizontal |      |
| 3 | 7440.00 | 42.54  | 49.28 | -6.74  | 54.00  | -11.46 | 100  | 331  | Average | Horizontal |      |
| 4 | 7440.00 | 54.82  | 61.56 | -6.74  | 74.00  | -19.18 | 100  | 331  | Peak    | Horizontal |      |


 TÜV Rheinland Taiwan Ltd.  
 No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
 Tel: +886-2172-1000 Fax: +886-2172-1322


|   | Freq    | Level  | Read  | Factor | Limit  | Over   | APos | TPos | Remark  | Pol/Phase | Note |
|---|---------|--------|-------|--------|--------|--------|------|------|---------|-----------|------|
|   | MHz     | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg  |         |           |      |
| 1 | 4960.00 | 40.00  | 48.69 | -8.69  | 54.00  | -14.00 | 200  | 182  | Average | Vertical  |      |
| 2 | 4960.00 | 52.37  | 61.06 | -8.69  | 74.00  | -21.63 | 200  | 182  | Peak    | Vertical  |      |
| 3 | 7440.00 | 41.23  | 47.97 | -6.74  | 54.00  | -12.77 | 111  | 294  | Average | Vertical  |      |
| 4 | 7440.00 | 53.72  | 60.46 | -6.74  | 74.00  | -20.28 | 111  | 294  | Peak    | Vertical  |      |

## Mains Conducted Emission, Tx Mode, 150kHz ~ 30MHz

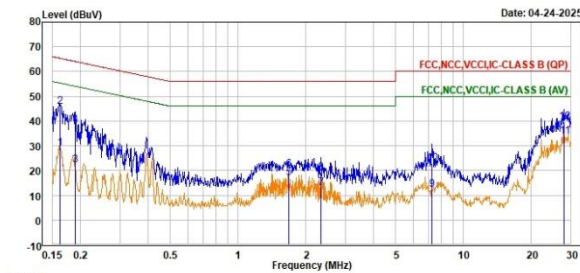
### Worst Band

#### (Line)

#### (Neutral)



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec. 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322

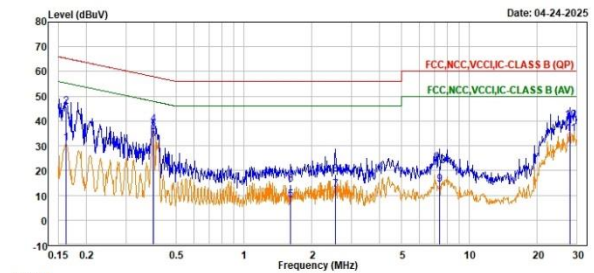


Trace: 1

|    | Freq  | Level | Read         | Limit | Over  |                |                |
|----|-------|-------|--------------|-------|-------|----------------|----------------|
|    | MHz   | dBuV  | Level Factor | Line  | Limit | Remark         | Pol/Phase Note |
|    | MHz   | dBuV  | dB           | dBuV  | dB    |                |                |
| 1  | 0.16  | 28.97 | 19.34        | 9.63  | 55.38 | -26.41 Average | line1          |
| 2  | 0.16  | 45.83 | 36.20        | 9.63  | 65.38 | -19.55 QP      | line1          |
| 3  | 0.19  | 22.33 | 12.70        | 9.63  | 54.10 | -31.77 Average | line1          |
| 4  | 0.19  | 38.23 | 28.60        | 9.63  | 64.10 | -25.87 QP      | line1          |
| 5  | 1.68  | 17.06 | 7.40         | 9.66  | 46.00 | -28.94 Average | line1          |
| 6  | 1.68  | 20.38 | 10.72        | 9.66  | 56.00 | -35.62 QP      | line1          |
| 7  | 2.33  | 12.95 | 3.29         | 9.66  | 46.00 | -33.05 Average | line1          |
| 8  | 2.33  | 19.23 | 9.57         | 9.66  | 56.00 | -36.77 QP      | line1          |
| 9  | 7.25  | 12.41 | 2.69         | 9.72  | 50.00 | -37.59 Average | line1          |
| 10 | 7.25  | 22.70 | 12.98        | 9.72  | 60.00 | -37.30 QP      | line1          |
| 11 | 28.12 | 33.71 | 24.02        | 9.69  | 50.00 | -16.29 Average | line1          |
| 12 | 28.12 | 39.52 | 29.83        | 9.69  | 60.00 | -20.48 QP      | line1          |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec. 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



Trace: 1

|    | Freq  | Level | Read         | Limit | Over  |                |                |
|----|-------|-------|--------------|-------|-------|----------------|----------------|
|    | MHz   | dBuV  | Level Factor | Line  | Limit | Remark         | Pol/Phase Note |
|    | MHz   | dBuV  | dB           | dBuV  | dB    |                |                |
| 1  | 0.16  | 30.93 | 21.29        | 9.64  | 55.34 | -24.41 Average | neutral        |
| 2  | 0.16  | 45.94 | 36.30        | 9.64  | 65.34 | -19.40 QP      | neutral        |
| 3  | 0.39  | 35.37 | 25.74        | 9.63  | 47.97 | -12.60 Average | neutral        |
| 4  | 0.39  | 38.43 | 28.80        | 9.63  | 57.97 | -19.54 QP      | neutral        |
| 5  | 1.61  | 8.16  | -1.50        | 9.66  | 46.00 | -37.84 Average | neutral        |
| 6  | 1.61  | 14.34 | 4.68         | 9.66  | 56.00 | -41.66 QP      | neutral        |
| 7  | 2.54  | 12.31 | 2.64         | 9.67  | 46.00 | -33.69 Average | neutral        |
| 8  | 2.54  | 18.34 | 8.67         | 9.67  | 56.00 | -37.66 QP      | neutral        |
| 9  | 7.39  | 14.33 | 4.59         | 9.74  | 50.00 | -35.67 Average | neutral        |
| 10 | 7.39  | 21.99 | 12.25        | 9.74  | 60.00 | -38.01 QP      | neutral        |
| 11 | 28.12 | 34.67 | 24.82        | 9.85  | 50.00 | -15.33 Average | neutral        |
| 12 | 28.12 | 40.25 | 30.40        | 9.85  | 60.00 | -19.75 QP      | neutral        |

**ANT 11, 2<sup>nd</sup> Source, ECC, PIC32WM-BZ6204UC**  
**Band Edges, 2.31GHz ~ 2.5GHz**

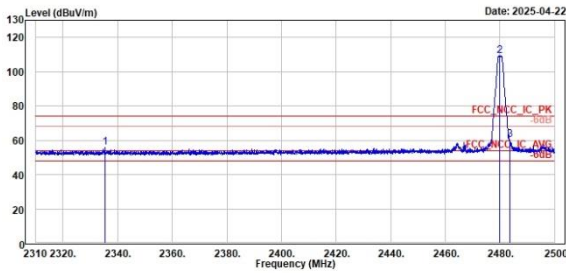
**IEEE® 802.15.4\_2M**

**High Channel (Horizontal) Peak**

**High Channel (Vertical) Peak**



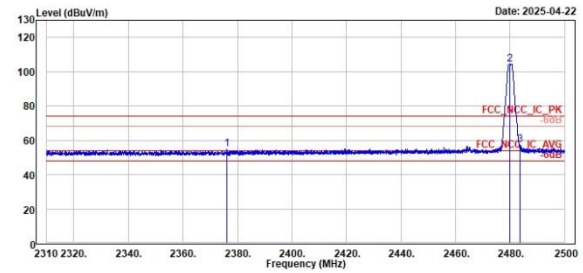
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|     | Freq    | Level  | Read  | Factor | Limit  | Over   | APos | TPos | Remark | Pol/Phase  | Note |
|-----|---------|--------|-------|--------|--------|--------|------|------|--------|------------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg  |        |            |      |
| 1   | 2335.41 | 55.71  | 18.04 | 37.67  | 74.00  | -18.29 | 271  | 62   | Peak   | Horizontal |      |
| 2 * | 2480.00 | 109.20 | 70.73 | 38.47  | 74.00  | 35.20  | 271  | 62   | Peak   | Horizontal |      |
| 3   | 2483.52 | 60.12  | 21.64 | 38.48  | 74.00  | -13.88 | 271  | 62   | Peak   | Horizontal |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



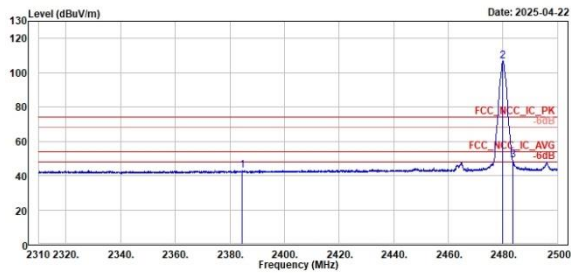
|     | Freq    | Level  | Read  | Factor | Limit  | Over   | APos | TPos | Remark | Pol/Phase | Note |
|-----|---------|--------|-------|--------|--------|--------|------|------|--------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg  |        |           |      |
| 1   | 2376.07 | 54.64  | 16.68 | 37.96  | 74.00  | -19.36 | 128  | 270  | Peak   | Vertical  |      |
| 2 * | 2480.00 | 104.40 | 65.93 | 38.47  | 74.00  | 30.40  | 128  | 270  | Peak   | Vertical  |      |
| 3   | 2483.61 | 57.17  | 18.69 | 38.48  | 74.00  | -16.83 | 128  | 270  | Peak   | Vertical  |      |

**IEEE® 802.15.4\_2M**

**High Channel (Horizontal) Average**



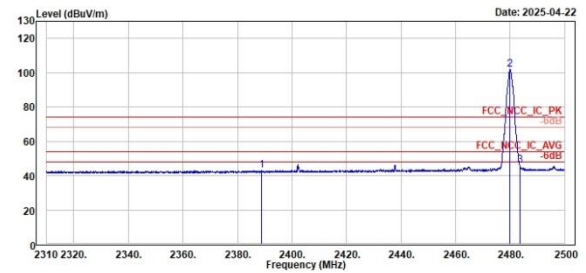
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Penfiao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|     | Freq    | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos    | Remark     | Pol/Phase | Note |
|-----|---------|--------|-------|-------|--------|--------|------|------|---------|------------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg     |            |           |      |
| 1   | 2384.62 | 43.08  | 5.04  | 38.04 | 54.00  | -10.92 | 271  | 62   | Average | Horizontal |           |      |
| 2 * | 2480.00 | 106.72 | 68.25 | 38.47 | 54.00  | 52.72  | 271  | 62   | Average | Horizontal |           |      |
| 3 † | 2483.50 | 49.15  | 10.67 | 38.48 | 54.00  | -4.85  | 271  | 62   | Average | Horizontal |           |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Penfiao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|     | Freq    | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos    | Remark   | Pol/Phase | Note |
|-----|---------|--------|-------|-------|--------|--------|------|------|---------|----------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg     |          |           |      |
| 1   | 2388.90 | 43.06  | 4.99  | 38.07 | 54.00  | -10.94 | 128  | 270  | Average | Vertical |           |      |
| 2 * | 2480.00 | 101.96 | 63.49 | 38.47 | 54.00  | 47.96  | 128  | 270  | Average | Vertical |           |      |
| 3   | 2483.52 | 45.80  | 7.32  | 38.48 | 54.00  | -8.20  | 128  | 270  | Average | Vertical |           |      |

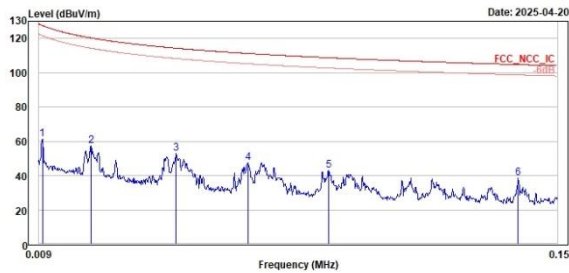
## Spurious Emissions, Tx Mode, 9kHz ~ 30MHz

### IEEE® 802.15.4\_250k

#### Low Channel (Open) 9kHz~150kHz



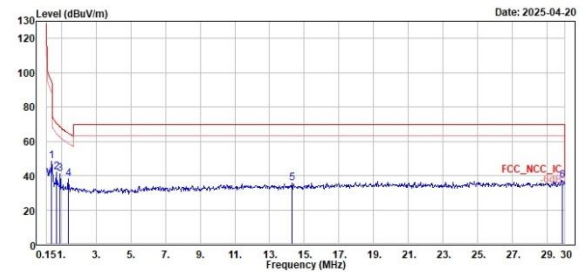
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark | Pol/Phase | Note |
|---|------|--------|-------|-------|--------|--------|------|------|------|--------|-----------|------|
|   | MHz  | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg  |      |        |           |      |
| 1 | 0.01 | 61.28  | 43.17 | 18.11 | 127.60 | -66.32 | 100  | 103  | Peak | Open   |           |      |
| 2 | 0.02 | 57.25  | 37.58 | 19.67 | 120.26 | -63.01 | 100  | 250  | Peak | Open   |           |      |
| 3 | 0.05 | 52.70  | 33.68 | 19.02 | 114.27 | -61.57 | 100  | 250  | Peak | Open   |           |      |
| 4 | 0.07 | 47.68  | 29.41 | 18.27 | 111.23 | -63.55 | 100  | 302  | Peak | Open   |           |      |
| 5 | 0.09 | 42.80  | 24.74 | 18.06 | 108.72 | -65.92 | 100  | 302  | Peak | Open   |           |      |
| 6 | 0.14 | 38.66  | 20.39 | 18.27 | 104.72 | -66.06 | 100  | 298  | Peak | Open   |           |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq  | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark | Pol/Phase | Note |
|---|-------|--------|-------|-------|--------|--------|------|------|------|--------|-----------|------|
|   | MHz   | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg  |      |        |           |      |
| 1 | 0.45  | 48.41  | 29.71 | 18.70 | 94.57  | -46.16 | 100  | 344  | Peak | Open   |           |      |
| 2 | 0.72  | 42.12  | 23.32 | 18.80 | 70.49  | -28.37 | 100  | 360  | Peak | Open   |           |      |
| 3 | 0.93  | 40.83  | 21.98 | 18.85 | 68.27  | -27.44 | 100  | 274  | Peak | Open   |           |      |
| 4 | 1.40  | 37.89  | 19.08 | 18.81 | 64.66  | -26.77 | 100  | 274  | Peak | Open   |           |      |
| 5 | 14.30 | 35.74  | 14.16 | 21.58 | 69.50  | -33.76 | 100  | 40   | Peak | Open   |           |      |
| 6 | 29.85 | 37.01  | 13.76 | 23.25 | 69.50  | -32.49 | 100  | 172  | Peak | Open   |           |      |

## Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

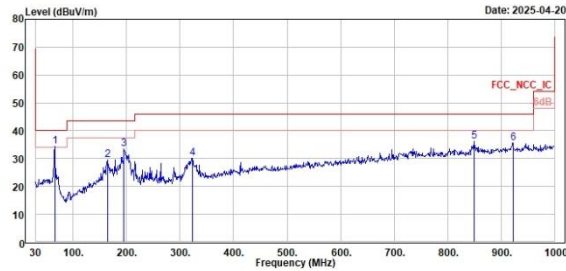
**IEEE® 802.15.4\_250k**

### Low Channel (Horizontal)

### Low Channel (Vertical)



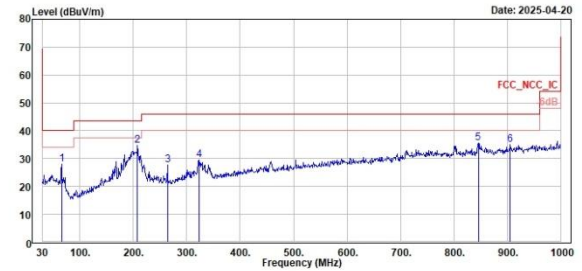
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq   | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark     | Pol/Phase | Note |
|---|--------|--------|-------|-------|--------|--------|------|------|------|------------|-----------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg  |      |            |           |      |
| 1 | 65.89  | 34.36  | 41.93 | -7.57 | 40.00  | -5.64  | 200  | 140  | Peak | Horizontal |           |      |
| 2 | 163.86 | 29.61  | 35.32 | -5.71 | 43.50  | -13.89 | 200  | 192  | Peak | Horizontal |           |      |
| 3 | 194.90 | 33.37  | 41.48 | -8.11 | 43.50  | -10.13 | 191  | 0    | Peak | Horizontal |           |      |
| 4 | 322.94 | 30.10  | 34.79 | -4.69 | 46.00  | -15.90 | 100  | 214  | Peak | Horizontal |           |      |
| 5 | 849.65 | 36.05  | 31.88 | 4.17  | 46.00  | -9.95  | 200  | 220  | Peak | Horizontal |           |      |
| 6 | 922.40 | 35.54  | 30.38 | 5.16  | 46.00  | -10.46 | 300  | 347  | Peak | Horizontal |           |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq   | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark   | Pol/Phase | Note |
|---|--------|--------|-------|-------|--------|--------|------|------|------|----------|-----------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg  |      |          |           |      |
| 1 | 65.89  | 28.09  | 35.66 | -7.57 | 40.00  | -11.91 | 300  | 31   | Peak | Vertical |           |      |
| 2 | 207.51 | 34.59  | 42.87 | -8.28 | 43.50  | -8.91  | 200  | 223  | Peak | Vertical |           |      |
| 3 | 263.77 | 27.58  | 34.04 | -6.46 | 46.00  | -18.42 | 200  | 182  | Peak | Vertical |           |      |
| 4 | 322.94 | 29.45  | 34.14 | -4.69 | 46.00  | -16.55 | 200  | 91   | Peak | Vertical |           |      |
| 5 | 845.77 | 35.60  | 31.51 | 4.09  | 46.00  | -10.40 | 300  | 304  | Peak | Vertical |           |      |
| 6 | 905.91 | 34.93  | 29.77 | 5.16  | 46.00  | -11.07 | 109  | 0    | Peak | Vertical |           |      |

## Spurious Emissions, Tx Mode, 1GHz ~ 26.5GHz

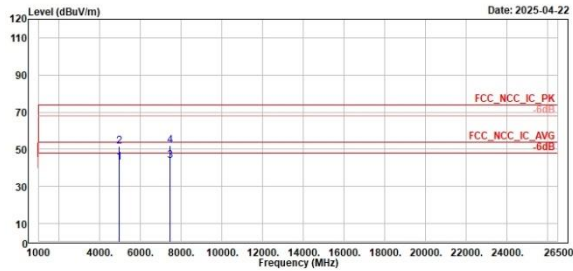
### IEEE® 802.15.4\_2M

#### High Channel (Horizontal)

#### High Channel (Vertical)



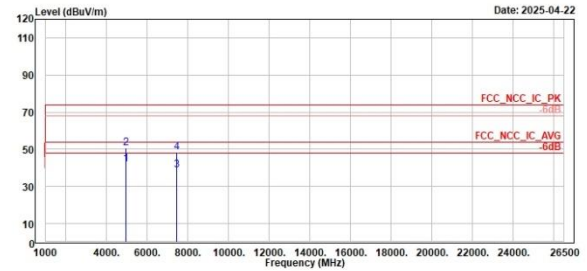
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



| Line | Level   | Read   | Level  | Factor | Limit  | Over   | APos | TPos | Remark  | Pol/Phase  | Note |
|------|---------|--------|--------|--------|--------|--------|------|------|---------|------------|------|
|      | dBuV/m  | dBuV/m | dBuV/m | dB/m   | dBuV/m | dB     | cm   | deg  |         |            |      |
| 1    | 4960.00 | 42.97  | 51.79  | -8.82  | 54.00  | -11.03 | 100  | 97   | Average | Horizontal |      |
| 2    | 4960.00 | 51.75  | 60.57  | -8.82  | 74.00  | -22.25 | 100  | 97   | Peak    | Horizontal |      |
| 3    | 7440.00 | 43.69  | 50.52  | -6.83  | 54.00  | -10.31 | 100  | 292  | Average | Horizontal |      |
| 4    | 7440.00 | 52.23  | 59.06  | -6.83  | 74.00  | -21.77 | 100  | 292  | Peak    | Horizontal |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



| Line | Level   | Read   | Level  | Factor | Limit  | Over   | APos | TPos | Remark  | Pol/Phase | Note |
|------|---------|--------|--------|--------|--------|--------|------|------|---------|-----------|------|
|      | dBuV/m  | dBuV/m | dBuV/m | dB/m   | dBuV/m | dB     | cm   | deg  |         |           |      |
| 1    | 4960.00 | 41.95  | 50.77  | -8.82  | 54.00  | -12.05 | 358  | 169  | Average | Vertical  |      |
| 2    | 4960.00 | 50.71  | 59.53  | -8.82  | 74.00  | -23.29 | 358  | 169  | Peak    | Vertical  |      |
| 3    | 7440.00 | 38.98  | 45.81  | -6.83  | 54.00  | -15.02 | 100  | 301  | Average | Vertical  |      |
| 4    | 7440.00 | 48.56  | 55.39  | -6.83  | 74.00  | -25.44 | 100  | 301  | Peak    | Vertical  |      |

# Mains Conducted Emission, Tx Mode, 150kHz ~ 30MHz

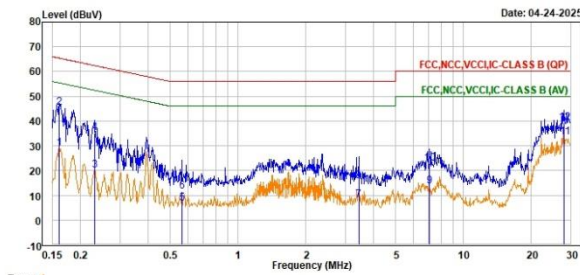
## Worst Band

### (Line)

### (Neutral)



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec. 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322

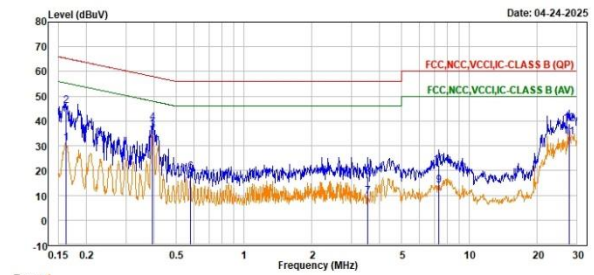


Trace: 1

|    | Freq  | Level | Read Level Factor | Limit Line | Over Limit Remark | Pol/Phase | Note          |
|----|-------|-------|-------------------|------------|-------------------|-----------|---------------|
|    | MHz   | dBuV  | dBuV              | dB         | dBuV              | dB        |               |
| 1  | 0.16  | 28.89 | 19.26             | 9.63       | 55.42             | -26.53    | Average line1 |
| 2  | 0.16  | 45.59 | 35.96             | 9.63       | 65.42             | -19.83    | QP line1      |
| 3  | 0.23  | 20.01 | 10.38             | 9.63       | 52.44             | -32.43    | Average line1 |
| 4  | 0.23  | 35.08 | 25.45             | 9.63       | 62.44             | -27.36    | QP line1      |
| 5  | 0.56  | 6.74  | -2.89             | 9.63       | 46.00             | -39.26    | Average line1 |
| 6  | 0.56  | 11.61 | 1.98              | 9.63       | 56.00             | -44.39    | QP line1      |
| 7  | 3.43  | 7.97  | -1.71             | 9.68       | 46.00             | -38.03    | Average line1 |
| 8  | 3.43  | 15.58 | 5.90              | 9.68       | 56.00             | -40.42    | QP line1      |
| 9  | 7.07  | 13.61 | 3.89              | 9.72       | 50.00             | -36.39    | Average line1 |
| 10 | 7.07  | 22.76 | 13.04             | 9.72       | 60.00             | -37.24    | QP line1      |
| 11 | 28.12 | 33.63 | 23.94             | 9.69       | 50.00             | -16.37    | Average line1 |
| 12 | 28.12 | 39.37 | 29.68             | 9.69       | 60.00             | -20.63    | QP line1      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec. 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



Trace: 1

|    | Freq  | Level | Read Level Factor | Limit Line | Over Limit Remark | Pol/Phase | Note            |
|----|-------|-------|-------------------|------------|-------------------|-----------|-----------------|
|    | MHz   | dBuV  | dBuV              | dB         | dBuV              | dB        |                 |
| 1  | 0.16  | 31.10 | 21.46             | 9.64       | 55.38             | -24.28    | Average neutral |
| 2  | 0.16  | 46.14 | 36.50             | 9.64       | 65.38             | -19.24    | QP neutral      |
| 3  | 0.39  | 36.24 | 26.61             | 9.63       | 48.01             | -11.77    | Average neutral |
| 4  | 0.39  | 39.33 | 29.70             | 9.63       | 58.01             | -18.68    | QP neutral      |
| 5  | 0.58  | 16.28 | 6.65              | 9.63       | 46.00             | -29.72    | Average neutral |
| 6  | 0.58  | 19.36 | 9.73              | 9.63       | 56.00             | -36.64    | QP neutral      |
| 7  | 3.54  | 9.64  | -0.85             | 9.69       | 46.00             | -36.36    | Average neutral |
| 8  | 3.54  | 17.54 | 7.05              | 9.69       | 56.00             | -38.46    | QP neutral      |
| 9  | 7.32  | 13.85 | 4.11              | 9.74       | 50.00             | -36.15    | Average neutral |
| 10 | 7.32  | 22.09 | 12.35             | 9.74       | 60.00             | -37.91    | QP neutral      |
| 11 | 27.70 | 33.47 | 23.62             | 9.85       | 50.00             | -16.53    | Average neutral |
| 12 | 27.70 | 38.86 | 29.01             | 9.85       | 60.00             | -21.14    | QP neutral      |

**ANT 11, Main Source, Non-ECC, PIC32WM-BZ6204UE**  
**Spurious Emissions, Tx Mode, 9kHz ~ 30MHz**

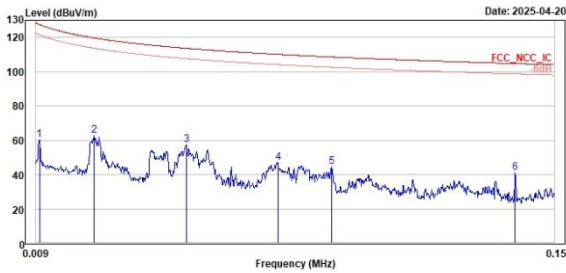
**IEEE® 802.15.4\_250k**

**Low Channel (Open) 9kHz~150kHz**

**Low Channel (Open) 150kHz~30MHz**



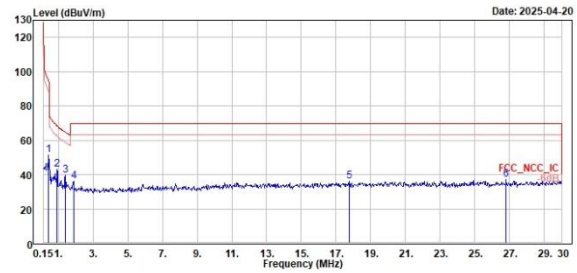
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq | Level  | Read  | Limit | Over   | APos   | TPos | Remark   | Pol/Phase | Note |
|---|------|--------|-------|-------|--------|--------|------|----------|-----------|------|
|   | MHz  | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg      |           |      |
| 1 | 0.01 | 60.12  | 42.01 | 18.11 | 127.60 | -67.48 | 100  | 88 Peak  | Open      |      |
| 2 | 0.02 | 62.91  | 43.15 | 19.76 | 119.65 | -56.74 | 100  | 292 Peak | Open      |      |
| 3 | 0.05 | 57.20  | 38.18 | 19.02 | 113.63 | -56.43 | 100  | 292 Peak | Open      |      |
| 4 | 0.07 | 47.19  | 28.82 | 18.37 | 110.11 | -62.92 | 100  | 292 Peak | Open      |      |
| 5 | 0.09 | 44.38  | 26.35 | 18.03 | 108.57 | -64.19 | 100  | 248 Peak | Open      |      |
| 6 | 0.14 | 41.14  | 22.87 | 18.27 | 104.72 | -63.58 | 100  | 209 Peak | Open      |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq  | Level  | Read  | Limit | Over   | APos   | TPos | Remark   | Pol/Phase | Note |
|---|-------|--------|-------|-------|--------|--------|------|----------|-----------|------|
|   | MHz   | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg      |           |      |
| 1 | 0.45  | 51.26  | 32.56 | 18.70 | 94.57  | -43.31 | 100  | 196 Peak | Open      |      |
| 2 | 0.93  | 43.00  | 24.15 | 18.85 | 68.27  | -25.27 | 100  | 196 Peak | Open      |      |
| 3 | 1.40  | 39.43  | 20.62 | 18.81 | 64.66  | -25.23 | 100  | 288 Peak | Open      |      |
| 4 | 1.88  | 35.94  | 17.11 | 18.83 | 69.50  | -33.56 | 100  | 288 Peak | Open      |      |
| 5 | 17.76 | 36.14  | 13.58 | 22.56 | 69.50  | -33.36 | 100  | 6 Peak   | Open      |      |
| 6 | 26.81 | 36.99  | 14.01 | 22.98 | 69.50  | -32.51 | 100  | 326 Peak | Open      |      |

## Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

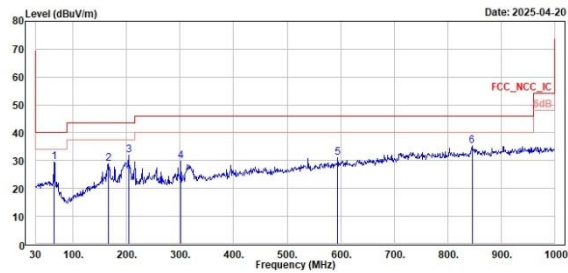
### IEEE® 802.15.4\_250k

#### Low Channel (Horizontal)

#### Low Channel (Vertical)



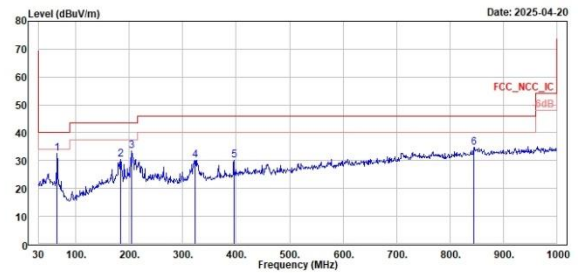
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq   | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark | Pol/Phase  | Note |
|---|--------|--------|-------|-------|--------|--------|------|------|------|--------|------------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg  |        |            |      |
| 1 | 64.92  | 29.49  | 36.69 | -7.20 | 40.00  | -10.51 | 100  |      | 167  | Peak   | Horizontal |      |
| 2 | 165.00 | 28.85  | 34.57 | -5.72 | 43.50  | -14.65 | 100  |      | 220  | Peak   | Horizontal |      |
| 3 | 203.63 | 31.95  | 40.12 | -8.17 | 43.50  | -11.55 | 200  |      | 238  | Peak   | Horizontal |      |
| 4 | 301.60 | 29.84  | 35.18 | -5.34 | 46.00  | -16.16 | 100  |      | 189  | Peak   | Horizontal |      |
| 5 | 594.54 | 31.08  | 30.56 | 0.52  | 46.00  | -14.92 | 300  |      | 0    | Peak   | Horizontal |      |
| 6 | 845.77 | 35.39  | 31.30 | 4.09  | 46.00  | -10.61 | 267  |      | 0    | Peak   | Horizontal |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq   | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark | Pol/Phase | Note |
|---|--------|--------|-------|-------|--------|--------|------|------|------|--------|-----------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg  |        |           |      |
| 1 | 64.92  | 32.41  | 39.61 | -7.20 | 40.00  | -7.59  | 300  |      | 29   | Peak   | Vertical  |      |
| 2 | 184.23 | 30.47  | 37.89 | -7.42 | 43.50  | -13.03 | 100  |      | 222  | Peak   | Vertical  |      |
| 3 | 204.60 | 33.49  | 41.67 | -8.18 | 43.50  | -10.01 | 100  |      | 360  | Peak   | Vertical  |      |
| 4 | 322.94 | 30.03  | 34.72 | -4.69 | 46.00  | -15.97 | 237  |      | 0    | Peak   | Vertical  |      |
| 5 | 395.69 | 30.01  | 33.30 | -3.29 | 46.00  | -15.99 | 100  |      | 224  | Peak   | Vertical  |      |
| 6 | 844.80 | 34.80  | 30.73 | 4.07  | 46.00  | -11.20 | 200  |      | 358  | Peak   | Vertical  |      |

## Mains Conducted Emission, Tx Mode, 150kHz ~ 30MHz

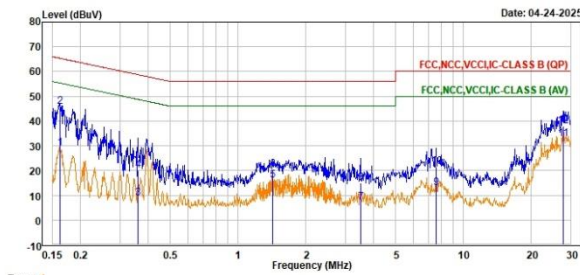
### Worst Band

#### (Line)

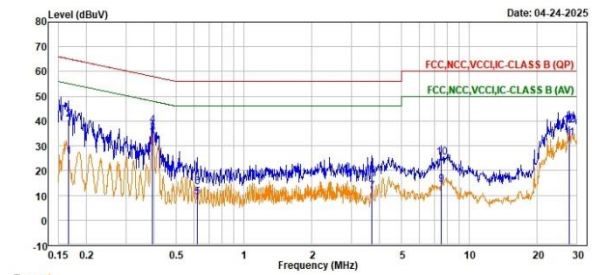
#### (Neutral)



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec. 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec. 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



**ANT 11, 2<sup>nd</sup> Source, Non-ECC, PIC32WM-BZ6204UE**  
**Spurious Emissions, Tx Mode, 9kHz ~ 30MHz**

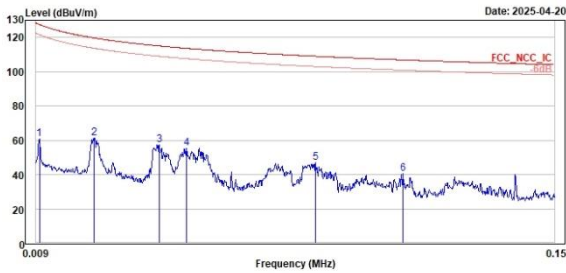
**IEEE® 802.15.4\_250k**

**Low Channel (Open) 9kHz~150kHz**

**Low Channel (Open) 150kHz~30MHz**



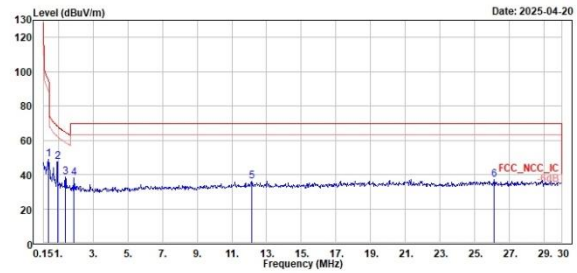
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq | Level  | Read  | Limit | Over   | APos   | TPos | Remark   | Pol/Phase | Note |
|---|------|--------|-------|-------|--------|--------|------|----------|-----------|------|
|   | MHz  | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg      |           |      |
| 1 | 0.01 | 60.61  | 42.50 | 18.11 | 127.60 | -66.99 | 100  | 296 Peak | Open      |      |
| 2 | 0.02 | 61.50  | 41.74 | 19.76 | 119.65 | -58.15 | 100  | 23 Peak  | Open      |      |
| 3 | 0.04 | 57.49  | 38.48 | 19.01 | 115.01 | -57.52 | 100  | 257 Peak | Open      |      |
| 4 | 0.05 | 55.47  | 36.45 | 19.02 | 113.63 | -58.16 | 100  | 311 Peak | Open      |      |
| 5 | 0.08 | 47.13  | 29.01 | 18.12 | 109.01 | -61.88 | 100  | 257 Peak | Open      |      |
| 6 | 0.11 | 40.37  | 22.29 | 18.08 | 106.87 | -66.50 | 100  | 230 Peak | Open      |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq  | Level  | Read  | Limit | Over   | APos   | TPos | Remark   | Pol/Phase | Note |
|---|-------|--------|-------|-------|--------|--------|------|----------|-----------|------|
|   | MHz   | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg      |           |      |
| 1 | 0.45  | 48.98  | 30.28 | 18.70 | 94.57  | -45.59 | 100  | 328 Peak | Open      |      |
| 2 | 0.96  | 47.56  | 28.73 | 18.83 | 68.00  | -20.44 | 100  | 277 Peak | Open      |      |
| 3 | 1.40  | 38.31  | 19.50 | 18.81 | 64.66  | -26.35 | 100  | 328 Peak | Open      |      |
| 4 | 1.91  | 38.24  | 19.40 | 18.84 | 69.50  | -31.26 | 100  | 277 Peak | Open      |      |
| 5 | 12.15 | 36.30  | 14.58 | 21.72 | 69.50  | -33.20 | 100  | 40 Peak  | Open      |      |
| 6 | 26.12 | 37.02  | 14.18 | 22.84 | 69.50  | -32.48 | 100  | 14 Peak  | Open      |      |

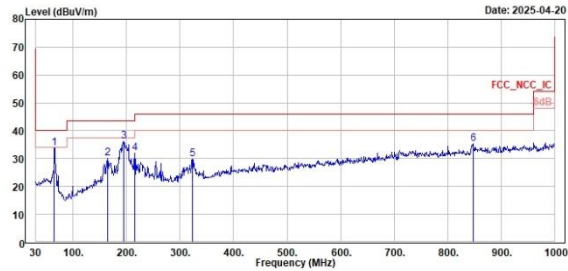
## Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

### IEEE® 802.15.4\_250k

#### Low Channel (Horizontal)



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322

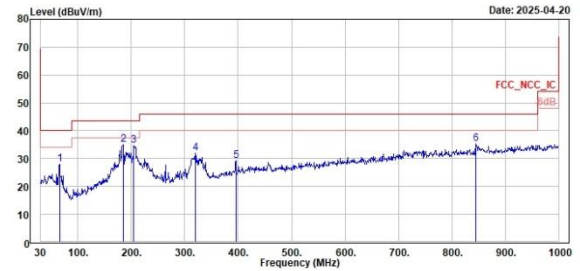


|   | Freq   | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark     | Pol/Phase | Note |
|---|--------|--------|-------|-------|--------|--------|------|------|------|------------|-----------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg  |            |           |      |
| 1 | 64.92  | 33.87  | 41.07 | -7.20 | 40.00  | -6.13  | 300  | 160  | Peak | Horizontal |           |      |
| 2 | 164.83 | 30.00  | 35.78 | -5.78 | 43.50  | -13.50 | 100  | 235  | Peak | Horizontal |           |      |
| 3 | 193.93 | 36.31  | 44.42 | -8.11 | 43.50  | -7.19  | 100  | 204  | Peak | Horizontal |           |      |
| 4 | 215.27 | 32.08  | 40.38 | -8.30 | 43.50  | -11.42 | 100  | 184  | Peak | Horizontal |           |      |
| 5 | 322.94 | 29.78  | 34.47 | -4.69 | 46.00  | -16.22 | 100  | 243  | Peak | Horizontal |           |      |
| 6 | 847.71 | 35.21  | 31.08 | 4.13  | 46.00  | -10.79 | 300  | 112  | Peak | Horizontal |           |      |

#### Low Channel (Vertical)



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq   | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark   | Pol/Phase | Note |
|---|--------|--------|-------|-------|--------|--------|------|------|------|----------|-----------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg  |          |           |      |
| 1 | 65.89  | 27.98  | 35.55 | -7.57 | 40.00  | -12.02 | 179  | 360  | Peak | Vertical |           |      |
| 2 | 185.20 | 34.84  | 42.28 | -7.44 | 43.50  | -8.66  | 100  | 182  | Peak | Vertical |           |      |
| 3 | 204.60 | 34.67  | 42.85 | -8.18 | 43.50  | -8.83  | 100  | 166  | Peak | Vertical |           |      |
| 4 | 320.03 | 31.80  | 36.49 | -4.69 | 46.00  | -14.20 | 200  | 125  | Peak | Vertical |           |      |
| 5 | 395.69 | 29.28  | 32.57 | -3.29 | 46.00  | -16.72 | 100  | 220  | Peak | Vertical |           |      |
| 6 | 844.80 | 35.43  | 31.36 | 4.07  | 46.00  | -10.57 | 178  | 360  | Peak | Vertical |           |      |

# Mains Conducted Emission, Tx Mode, 150kHz ~ 30MHz

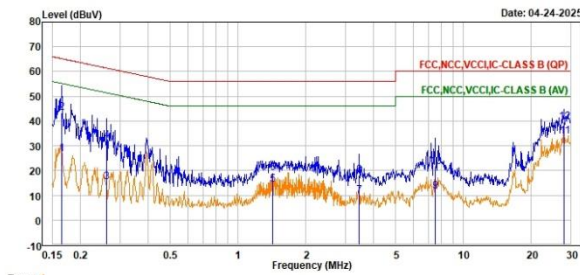
## Worst Band

### (Line)

### (Neutral)



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec. 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322

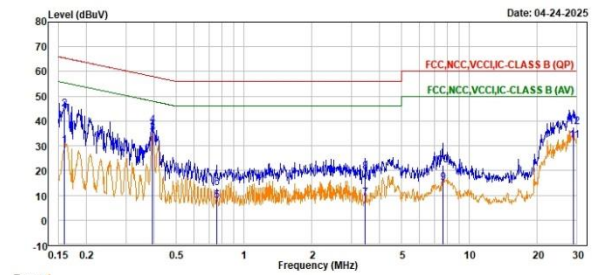


Trace: 1

|    | Freq  | Level | Read         | Limit | Over  |                |                |
|----|-------|-------|--------------|-------|-------|----------------|----------------|
|    | MHz   | dBuV  | Level Factor | Line  | Limit | Remark         | Pol/Phase Note |
|    | MHz   | dBuV  | dB           | dB    | dB    |                |                |
| 1  | 0.16  | 26.78 | 17.15        | 9.63  | 55.21 | -28.43 Average | line1          |
| 2  | 0.16  | 43.27 | 33.64        | 9.63  | 65.21 | -21.94 QP      | line1          |
| 3  | 0.26  | 15.39 | 5.76         | 9.63  | 51.40 | -36.01 Average | line1          |
| 4  | 0.26  | 32.10 | 22.47        | 9.63  | 61.40 | -29.30 QP      | line1          |
| 5  | 1.42  | 14.35 | 4.70         | 9.65  | 46.00 | -31.65 Average | line1          |
| 6  | 1.42  | 19.13 | 9.48         | 9.65  | 56.00 | -36.87 QP      | line1          |
| 7  | 3.45  | 9.79  | 0.11         | 9.68  | 46.00 | -36.21 Average | line1          |
| 8  | 3.45  | 17.90 | 8.22         | 9.68  | 56.00 | -38.10 QP      | line1          |
| 9  | 7.50  | 11.47 | 1.74         | 9.73  | 50.00 | -38.53 Average | line1          |
| 10 | 7.50  | 21.54 | 11.81        | 9.73  | 60.00 | -38.46 QP      | line1          |
| 11 | 28.12 | 33.89 | 24.20        | 9.69  | 50.00 | -16.11 Average | line1          |
| 12 | 28.12 | 39.50 | 29.81        | 9.69  | 60.00 | -20.50 QP      | line1          |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec. 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



Trace: 1

|    | Freq  | Level | Read         | Limit | Over  |                |                |
|----|-------|-------|--------------|-------|-------|----------------|----------------|
|    | MHz   | dBuV  | Level Factor | Line  | Limit | Remark         | Pol/Phase Note |
|    | MHz   | dBuV  | dB           | dB    | dB    |                |                |
| 1  | 0.16  | 29.89 | 20.25        | 9.64  | 55.50 | -25.61 Average | neutral        |
| 2  | 0.16  | 44.70 | 35.06        | 9.64  | 65.50 | -20.80 QP      | neutral        |
| 3  | 0.39  | 35.29 | 25.66        | 9.63  | 48.05 | -12.76 Average | neutral        |
| 4  | 0.39  | 38.27 | 28.64        | 9.63  | 58.05 | -19.78 QP      | neutral        |
| 5  | 0.75  | 7.65  | -1.99        | 9.64  | 46.00 | -38.35 Average | neutral        |
| 6  | 0.75  | 12.92 | 3.28         | 9.64  | 56.00 | -43.08 QP      | neutral        |
| 7  | 3.45  | 8.75  | -0.94        | 9.69  | 46.00 | -37.25 Average | neutral        |
| 8  | 3.45  | 19.30 | 9.69         | 9.69  | 56.00 | -36.62 QP      | neutral        |
| 9  | 7.62  | 15.13 | 5.37         | 9.76  | 50.00 | -34.87 Average | neutral        |
| 10 | 7.62  | 22.30 | 12.54        | 9.76  | 60.00 | -37.70 QP      | neutral        |
| 11 | 29.12 | 32.22 | 22.38        | 9.84  | 50.00 | -17.78 Average | neutral        |
| 12 | 29.12 | 37.61 | 27.77        | 9.84  | 60.00 | -22.39 QP      | neutral        |

**ANT 12, Main Source, ECC, PIC32WM-BZ6204UC**  
**Band Edges, 2.31GHz ~ 2.5GHz**

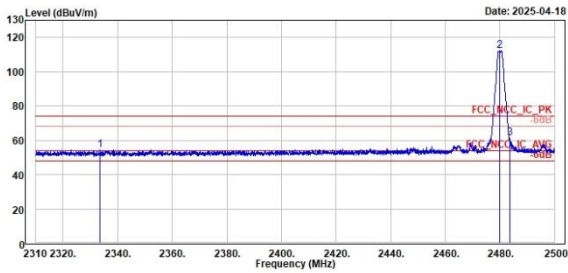
**IEEE® 802.15.4\_2M**

**High Channel (Horizontal) Peak**

**High Channel (Vertical) Peak**



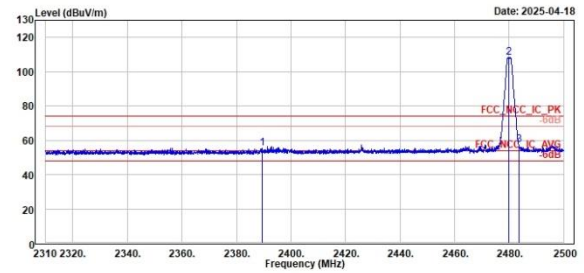
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



| Peak | Freq    | Level  | Read  | Factor | Limit  | Over   | APos | TPos | Remark | Pol/Phase  | Note |
|------|---------|--------|-------|--------|--------|--------|------|------|--------|------------|------|
|      | MHz     | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg  |        |            |      |
| 1    | 2333.47 | 54.53  | 16.74 | 37.79  | 74.00  | -19.47 | 244  |      | 0 Peak | Horizontal |      |
| 2 *  | 2480.00 | 112.11 | 73.51 | 38.60  | 74.00  | 38.11  | 244  |      | 0 Peak | Horizontal |      |
| 3    | 2483.50 | 61.49  | 22.89 | 38.60  | 74.00  | -12.51 | 244  |      | 0 Peak | Horizontal |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



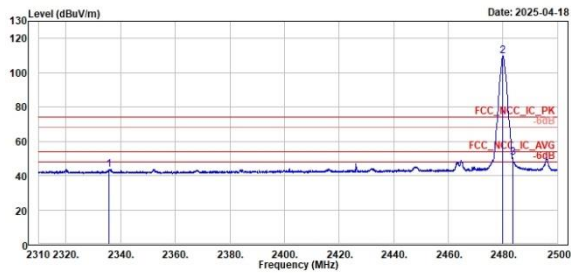
| Peak | Freq    | Level  | Read  | Factor | Limit  | Over   | APos | TPos | Remark  | Pol/Phase | Note |
|------|---------|--------|-------|--------|--------|--------|------|------|---------|-----------|------|
|      | MHz     | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg  |         |           |      |
| 1    | 2389.33 | 55.31  | 17.11 | 38.20  | 74.00  | -18.69 | 324  |      | 75 Peak | Vertical  |      |
| 2 *  | 2480.00 | 100.19 | 69.59 | 38.60  | 74.00  | 34.19  | 324  |      | 75 Peak | Vertical  |      |
| 3    | 2483.66 | 57.47  | 18.87 | 38.60  | 74.00  | -16.53 | 324  |      | 75 Peak | Vertical  |      |

**IEEE® 802.15.4\_2M**

**High Channel (Horizontal) Average**



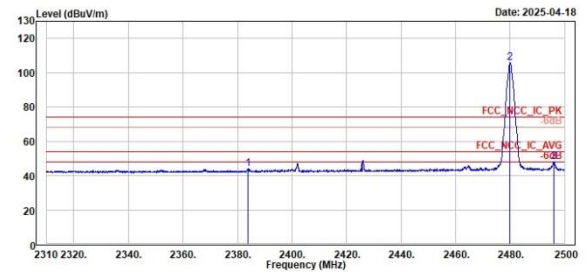
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|     | Freq    | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos    | Remark     | Pol/Phase | Note |
|-----|---------|--------|-------|-------|--------|--------|------|------|---------|------------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg  |         |            |           |      |
| 1   | 2335.84 | 43.72  | 5.93  | 37.79 | 54.00  | -10.28 | 244  | 0    | Average | Horizontal |           |      |
| 2 * | 2480.00 | 109.55 | 70.95 | 38.60 | 54.00  | 55.55  | 244  | 0    | Average | Horizontal |           |      |
| 3 † | 2483.52 | 50.27  | 11.67 | 38.60 | 54.00  | -3.73  | 244  | 0    | Average | Horizontal |           |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|     | Freq    | Level  | Read  | Level | Factor | Limit | Over | APos | TPos    | Remark   | Pol/Phase | Note |
|-----|---------|--------|-------|-------|--------|-------|------|------|---------|----------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB    | cm   | deg  |         |          |           |      |
| 1   | 2383.91 | 44.05  | 5.90  | 38.15 | 54.00  | -9.95 | 324  | 75   | Average | Vertical |           |      |
| 2 * | 2480.00 | 109.75 | 67.15 | 38.60 | 54.00  | 51.75 | 324  | 75   | Average | Vertical |           |      |
| 3 † | 2496.15 | 48.19  | 9.57  | 38.62 | 54.00  | -5.81 | 324  | 75   | Average | Vertical |           |      |

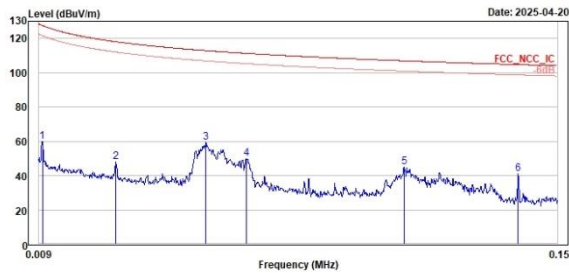
## Spurious Emissions, Tx Mode, 9kHz ~ 30MHz

### IEEE® 802.15.4\_250k

#### Low Channel (Open) 9kHz~150kHz



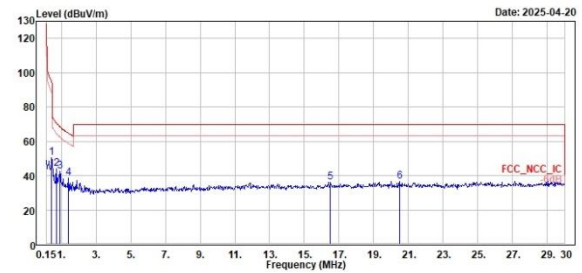
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



| Peak | Freq | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark | Pol/Phase | Note |
|------|------|--------|-------|-------|--------|--------|------|------|------|--------|-----------|------|
|      | MHz  | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg  |        |           |      |
| 1    | 0.01 | 59.98  | 41.87 | 18.11 | 127.60 | -67.62 | 100  | 49   | Peak | Open   |           |      |
| 2    | 0.03 | 48.02  | 28.01 | 20.01 | 118.05 | -70.03 | 100  | 349  | Peak | Open   |           |      |
| 3    | 0.05 | 59.13  | 40.59 | 18.54 | 112.88 | -53.75 | 100  | 255  | Peak | Open   |           |      |
| 4    | 0.07 | 50.06  | 31.81 | 18.25 | 111.26 | -61.20 | 100  | 276  | Peak | Open   |           |      |
| 5    | 0.11 | 44.78  | 26.70 | 18.08 | 106.91 | -62.13 | 100  | 238  | Peak | Open   |           |      |
| 6    | 0.14 | 41.11  | 22.84 | 18.27 | 104.72 | -63.61 | 100  | 213  | Peak | Open   |           |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



| Peak | Freq  | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark | Pol/Phase | Note |
|------|-------|--------|-------|-------|--------|--------|------|------|------|--------|-----------|------|
|      | MHz   | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg  |        |           |      |
| 1    | 0.45  | 50.66  | 31.06 | 18.70 | 94.57  | -43.91 | 100  | 213  | Peak | Open   |           |      |
| 2    | 0.72  | 44.12  | 25.32 | 18.80 | 70.49  | -26.37 | 100  | 325  | Peak | Open   |           |      |
| 3    | 0.93  | 42.33  | 23.48 | 18.85 | 68.27  | -25.94 | 100  | 213  | Peak | Open   |           |      |
| 4    | 1.40  | 38.45  | 19.64 | 18.81 | 64.66  | -26.21 | 100  | 213  | Peak | Open   |           |      |
| 5    | 16.51 | 36.28  | 14.17 | 22.11 | 69.50  | -33.22 | 100  | 180  | Peak | Open   |           |      |
| 6    | 28.48 | 36.63  | 13.87 | 22.76 | 69.50  | -32.87 | 100  | 317  | Peak | Open   |           |      |

## Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

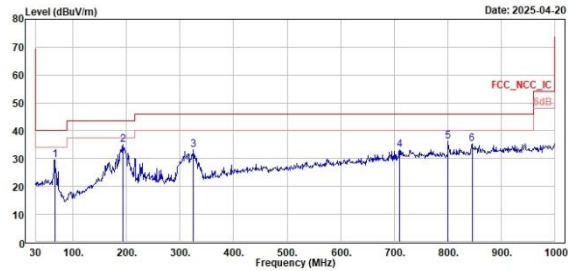
### IEEE® 802.15.4\_250k

#### Low Channel (Horizontal)

#### Low Channel (Vertical)



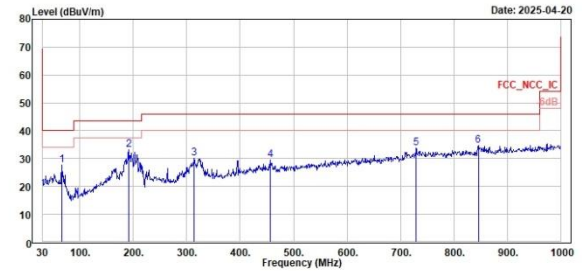
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq   | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark | Pol/Phase  | Note |
|---|--------|--------|-------|-------|--------|--------|------|------|------|--------|------------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg  |        |            |      |
| 1 | 65.89  | 29.65  | 37.22 | -7.57 | 40.00  | -10.35 |      | 219  | 0    | Peak   | Horizontal |      |
| 2 | 192.96 | 35.00  | 43.11 | -8.03 | 43.50  | -8.42  |      | 201  | 0    | Peak   | Horizontal |      |
| 3 | 324.88 | 33.25  | 37.95 | -4.70 | 46.00  | -12.75 |      | 100  | 176  | Peak   | Horizontal |      |
| 4 | 709.97 | 33.02  | 30.69 | 2.33  | 46.00  | -12.98 |      | 300  | 19   | Peak   | Horizontal |      |
| 5 | 801.15 | 36.23  | 32.55 | 3.68  | 46.00  | -9.77  |      | 100  | 230  | Peak   | Horizontal |      |
| 6 | 845.77 | 35.41  | 31.32 | 4.09  | 46.00  | -10.59 |      | 300  | 126  | Peak   | Horizontal |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq   | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark | Pol/Phase | Note |
|---|--------|--------|-------|-------|--------|--------|------|------|------|--------|-----------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg  |        |           |      |
| 1 | 65.86  | 27.71  | 35.49 | -7.78 | 40.00  | -12.29 |      | 300  | 25   | Peak   | Vertical  |      |
| 2 | 191.02 | 33.03  | 40.98 | -7.95 | 43.50  | -10.47 |      | 100  | 248  | Peak   | Vertical  |      |
| 3 | 314.21 | 30.03  | 34.96 | -4.93 | 46.00  | -15.97 |      | 200  | 208  | Peak   | Vertical  |      |
| 4 | 455.83 | 29.54  | 31.56 | -2.02 | 46.00  | -16.46 |      | 100  | 215  | Peak   | Vertical  |      |
| 5 | 729.37 | 33.66  | 30.88 | 2.78  | 46.00  | -12.34 |      | 200  | 33   | Peak   | Vertical  |      |
| 6 | 845.77 | 34.00  | 30.71 | 4.09  | 46.00  | -11.20 |      | 100  | 30   | Peak   | Vertical  |      |

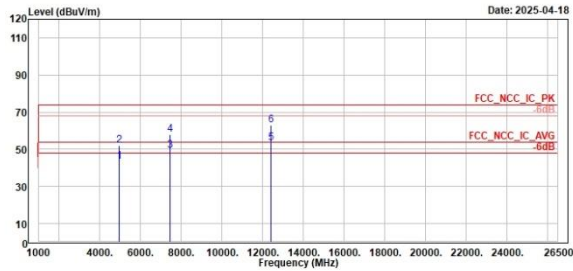
## Spurious Emissions, Tx Mode, 1GHz ~ 26.5GHz

### IEEE® 802.15.4\_2M

#### High Channel (Horizontal)



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322

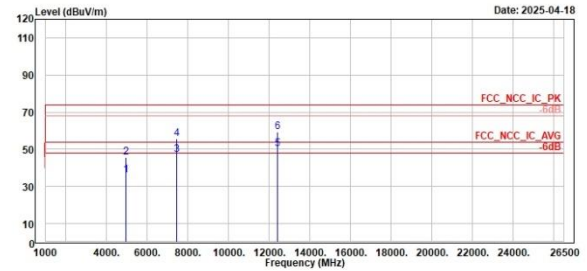


| Freq       | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos    | Remark     | Pol/Phase | Note |
|------------|--------|-------|-------|--------|--------|------|------|---------|------------|-----------|------|
| MHz        | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg  |         |            |           |      |
| 1 4960.00  | 43.20  | 51.89 | -8.69 | 54.00  | -10.80 | 100  | 39   | Average | Horizontal |           |      |
| 2 4960.00  | 51.90  | 60.59 | -8.69 | 74.00  | -22.10 | 100  | 39   | Peak    | Horizontal |           |      |
| 3 7440.00  | 49.46  | 56.20 | -6.74 | 54.00  | -4.54  | 100  | 319  | Average | Horizontal |           |      |
| 4 7440.00  | 57.80  | 64.54 | -6.74 | 74.00  | -16.20 | 100  | 319  | Peak    | Horizontal |           |      |
| 5 12400.00 | 53.53  | 52.45 | 1.08  | 54.00  | -0.47  | 111  | 263  | Average | Horizontal |           |      |
| 6 12400.00 | 62.84  | 61.76 | 1.08  | 74.00  | -11.16 | 111  | 263  | Peak    | Horizontal |           |      |

#### High Channel (Vertical)



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



| Freq       | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos    | Remark   | Pol/Phase | Note |
|------------|--------|-------|-------|--------|--------|------|------|---------|----------|-----------|------|
| MHz        | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg  |         |          |           |      |
| 1 4960.00  | 35.86  | 44.55 | -8.69 | 54.00  | -18.14 | 100  | 178  | Average | Vertical |           |      |
| 2 4960.00  | 45.43  | 54.12 | -8.69 | 74.00  | -28.57 | 100  | 178  | Peak    | Vertical |           |      |
| 3 7440.00  | 47.17  | 53.91 | -6.74 | 54.00  | -6.83  | 100  | 305  | Average | Vertical |           |      |
| 4 7440.00  | 55.79  | 62.53 | -6.74 | 74.00  | -18.21 | 100  | 305  | Peak    | Vertical |           |      |
| 5 12400.00 | 50.40  | 49.32 | 1.08  | 54.00  | -3.60  | 100  | 148  | Average | Vertical |           |      |
| 6 12400.00 | 59.25  | 58.17 | 1.08  | 74.00  | -14.75 | 100  | 148  | Peak    | Vertical |           |      |

**ANT 13, Main Source, ECC, PIC32WM-BZ6204UC**  
**Band Edges, 2.31GHz ~ 2.5GHz**

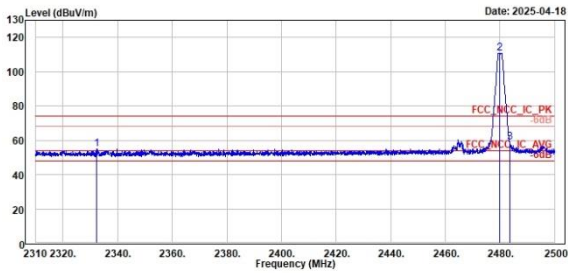
**IEEE® 802.15.4\_2M**

**High Channel (Horizontal) Peak**

**High Channel (Vertical) Peak**



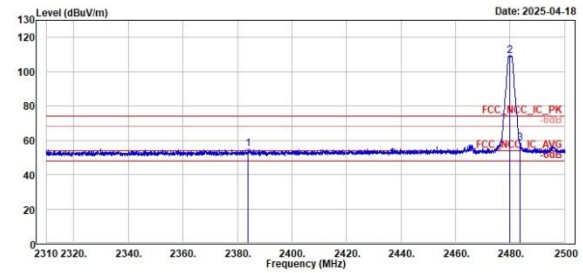
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|     | Freq    | Level  | Read   | Limit | Over  | APos   | TPos | Remark  | Pol/Phase  | Note |
|-----|---------|--------|--------|-------|-------|--------|------|---------|------------|------|
|     | MHz     | dBuV/m | Level  | Line  | Limit |        |      |         |            |      |
|     |         |        | Factor |       |       |        |      |         |            |      |
|     |         |        | dB/m   | dB/m  | dB    | cm     | deg  |         |            |      |
| 1   | 2332.42 | 54.72  | 16.94  | 37.78 | 74.00 | -19.28 | 300  | 17 Peak | Horizontal |      |
| 2 * | 2480.00 | 110.93 | 72.33  | 38.60 | 74.00 | 36.93  | 300  | 17 Peak | Horizontal |      |
| 3   | 2483.50 | 58.67  | 20.07  | 38.60 | 74.00 | -15.33 | 300  | 17 Peak | Horizontal |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



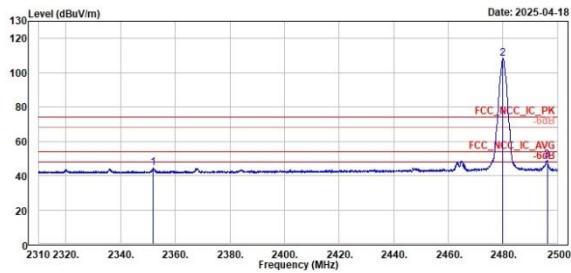
|     | Freq    | Level  | Read   | Limit | Over  | APos   | TPos | Remark   | Pol/Phase | Note |
|-----|---------|--------|--------|-------|-------|--------|------|----------|-----------|------|
|     | MHz     | dBuV/m | Level  | Line  | Limit |        |      |          |           |      |
|     |         |        | Factor |       |       |        |      |          |           |      |
|     |         |        | dB/m   | dB/m  | dB    | cm     | deg  |          |           |      |
| 1   | 2383.82 | 54.92  | 16.77  | 38.15 | 74.00 | -19.08 | 292  | 271 Peak | Vertical  |      |
| 2 * | 2480.00 | 109.06 | 70.46  | 38.60 | 74.00 | 35.06  | 292  | 271 Peak | Vertical  |      |
| 3   | 2483.52 | 58.44  | 19.84  | 38.60 | 74.00 | -15.56 | 292  | 271 Peak | Vertical  |      |

**IEEE® 802.15.4\_2M**

**High Channel (Horizontal) Average**



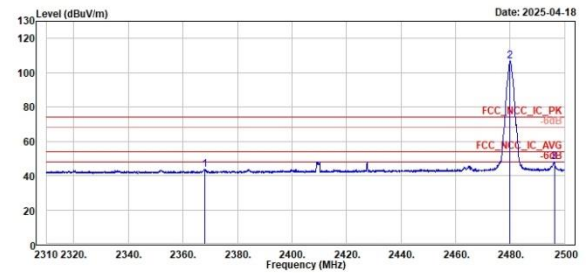
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|     | Freq    | Level  | Read  | Level | Factor | Limit | Over | APos | TPos    | Remark     | Pol/Phase | Note |
|-----|---------|--------|-------|-------|--------|-------|------|------|---------|------------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB    | cm   | cm   | deg     |            |           |      |
| 1   | 2351.00 | 44.39  | 6.54  | 37.85 | 54.00  | -9.61 | 300  | 17   | Average | Horizontal |           |      |
| 2 * | 2480.00 | 100.49 | 69.89 | 30.60 | 54.00  | 54.49 | 300  | 17   | Average | Horizontal |           |      |
| 3 † | 2496.20 | 48.70  | 10.08 | 38.62 | 54.00  | -5.30 | 300  | 17   | Average | Horizontal |           |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|     | Freq    | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos    | Remark   | Pol/Phase | Note |
|-----|---------|--------|-------|-------|--------|--------|------|------|---------|----------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | cm   | deg     |          |           |      |
| 1   | 2368.00 | 43.73  | 5.73  | 38.00 | 54.00  | -10.27 | 292  | 271  | Average | Vertical |           |      |
| 2 * | 2480.00 | 100.63 | 68.03 | 30.60 | 54.00  | 52.63  | 292  | 271  | Average | Vertical |           |      |
| 3 † | 2496.20 | 48.12  | 9.50  | 38.62 | 54.00  | -5.88  | 292  | 271  | Average | Vertical |           |      |

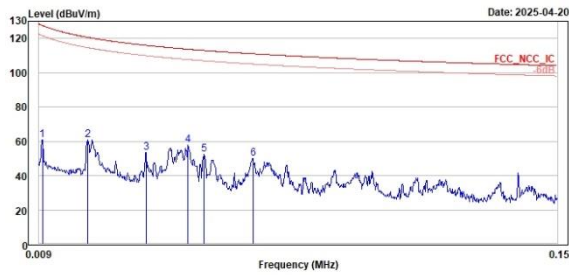
## Spurious Emissions, Tx Mode, 9kHz ~ 30MHz

### IEEE® 802.15.4\_250k

#### Low Channel (Open) 9kHz~150kHz



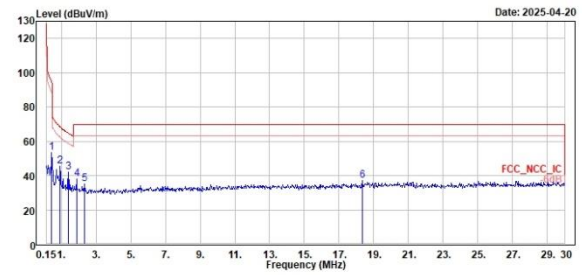
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



| Freq | Level  | Read  | Level | Factor | Limit  | Over   | APos | TPos | Remark | Pol/Phase | Note |
|------|--------|-------|-------|--------|--------|--------|------|------|--------|-----------|------|
| MHz  | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm     | cm   | deg  |        |           |      |
| 1    | 0.01   | 60.76 | 42.65 | 18.11  | 127.60 | -66.84 | 100  | 298  | Peak   | Open      |      |
| 2    | 0.02   | 60.83 | 41.20 | 19.63  | 120.59 | -59.76 | 100  | 283  | Peak   | Open      |      |
| 3    | 0.04   | 53.39 | 34.20 | 19.19  | 115.95 | -62.56 | 100  | 236  | Peak   | Open      |      |
| 4    | 0.05   | 57.59 | 38.57 | 19.02  | 113.68 | -56.09 | 100  | 299  | Peak   | Open      |      |
| 5    | 0.05   | 52.55 | 33.97 | 18.58  | 112.95 | -60.40 | 100  | 286  | Peak   | Open      |      |
| 6    | 0.07   | 50.14 | 31.79 | 18.35  | 111.04 | -60.90 | 100  | 247  | Peak   | Open      |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



| Freq | Level  | Read  | Level | Factor | Limit | Over   | APos | TPos | Remark | Pol/Phase | Note |
|------|--------|-------|-------|--------|-------|--------|------|------|--------|-----------|------|
| MHz  | dBuV/m | dBuV  | dB/m  | dBuV/m | dB    | cm     | cm   | deg  |        |           |      |
| 1    | 0.45   | 53.19 | 34.49 | 18.70  | 94.57 | -41.38 | 100  | 195  | Peak   | Open      |      |
| 2    | 0.93   | 45.24 | 26.39 | 18.85  | 68.27 | -23.03 | 100  | 189  | Peak   | Open      |      |
| 3    | 1.40   | 41.95 | 23.14 | 18.81  | 64.66 | -22.71 | 100  | 189  | Peak   | Open      |      |
| 4    | 1.88   | 38.31 | 19.48 | 18.83  | 69.50 | -31.19 | 100  | 189  | Peak   | Open      |      |
| 5    | 2.36   | 35.08 | 16.19 | 18.89  | 69.50 | -34.42 | 100  | 228  | Peak   | Open      |      |
| 6    | 18.33  | 36.89 | 14.22 | 22.67  | 69.50 | -32.61 | 100  | 44   | Peak   | Open      |      |

## Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

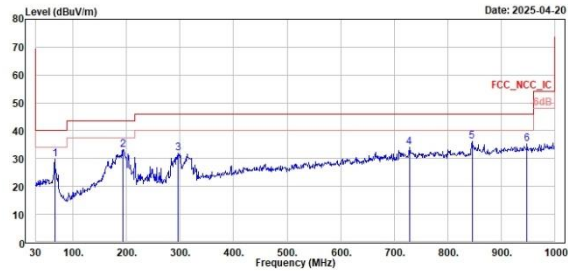
**IEEE® 802.15.4\_250k**

### Low Channel (Horizontal)

### Low Channel (Vertical)



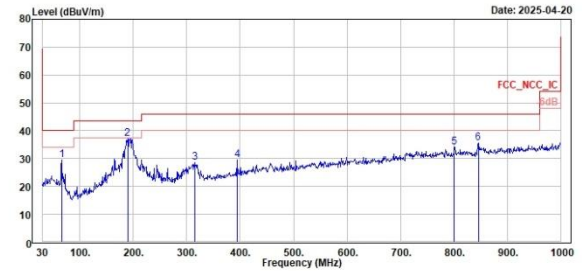
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq   | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark     | Pol/Phase | Note |
|---|--------|--------|-------|-------|--------|--------|------|------|------|------------|-----------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg  |            |           |      |
| 1 | 65.89  | 29.74  | 37.31 | -7.57 | 40.00  | -10.26 | 100  | 354  | Peak | Horizontal |           |      |
| 2 | 192.96 | 33.21  | 41.24 | -8.03 | 43.50  | -10.29 | 200  | 145  | Peak | Horizontal |           |      |
| 3 | 296.75 | 31.87  | 37.22 | -5.35 | 46.00  | -14.13 | 100  | 231  | Peak | Horizontal |           |      |
| 4 | 728.40 | 34.21  | 31.43 | 2.78  | 46.00  | -11.79 | 100  | 168  | Peak | Horizontal |           |      |
| 5 | 845.77 | 36.13  | 32.04 | 4.09  | 46.00  | -9.87  | 300  | 51   | Peak | Horizontal |           |      |
| 6 | 948.59 | 35.41  | 29.69 | 5.72  | 46.00  | -10.59 | 200  | 247  | Peak | Horizontal |           |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq   | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark   | Pol/Phase | Note |
|---|--------|--------|-------|-------|--------|--------|------|------|------|----------|-----------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg  |          |           |      |
| 1 | 65.89  | 29.58  | 37.15 | -7.57 | 40.00  | -10.42 | 300  | 75   | Peak | Vertical |           |      |
| 2 | 189.08 | 37.14  | 44.92 | -7.78 | 43.50  | -6.36  | 100  | 228  | Peak | Vertical |           |      |
| 3 | 315.18 | 28.68  | 33.56 | -4.88 | 46.00  | -17.32 | 100  | 210  | Peak | Vertical |           |      |
| 4 | 393.75 | 29.44  | 32.76 | -3.32 | 46.00  | -16.56 | 100  | 231  | Peak | Vertical |           |      |
| 5 | 801.15 | 34.07  | 30.39 | 3.68  | 46.00  | -11.93 | 100  | 248  | Peak | Vertical |           |      |
| 6 | 845.77 | 35.59  | 31.50 | 4.09  | 46.00  | -10.41 | 199  | 360  | Peak | Vertical |           |      |

# Spurious Emissions, Tx Mode, 1GHz ~ 26.5GHz

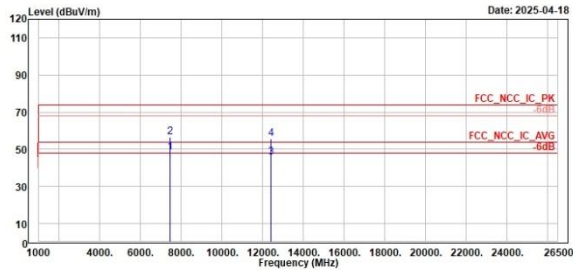
## IEEE® 802.15.4\_2M

### High Channel (Horizontal)

### High Channel (Vertical)



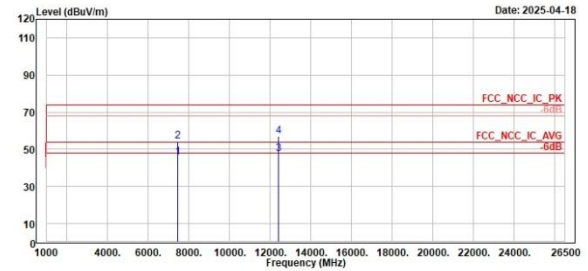
TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



| Freq | Level    | Read  | Level | Factor | Limit | Over   | APos | TPos | Remark  | Pol/Phase  | Note |
|------|----------|-------|-------|--------|-------|--------|------|------|---------|------------|------|
| MHz  | dBuV/m   | dBuV  | dB/m  | dBuV/m | dB    | cm     | deg  |      |         |            |      |
| 1    | 7440.00  | 48.17 | 54.91 | -6.74  | 54.00 | -5.83  | 100  | 297  | Average | Horizontal |      |
| 2    | 7440.00  | 56.71 | 63.45 | -6.74  | 74.00 | -17.29 | 100  | 297  | Peak    | Horizontal |      |
| 3    | 12400.00 | 45.66 | 44.58 | 1.08   | 54.00 | -8.34  | 100  | 16   | Average | Horizontal |      |
| 4    | 12400.00 | 55.79 | 54.71 | 1.08   | 74.00 | -18.21 | 100  | 16   | Peak    | Horizontal |      |



TÜV Rheinland Taiwan Ltd.  
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)  
Tel: +886-2172-1000 Fax: +886-2172-1322



| Freq | Level    | Read  | Level | Factor | Limit | Over   | APos | TPos | Remark  | Pol/Phase | Note |
|------|----------|-------|-------|--------|-------|--------|------|------|---------|-----------|------|
| MHz  | dBuV/m   | dBuV  | dB/m  | dBuV/m | dB    | cm     | deg  |      |         |           |      |
| 1    | 7440.00  | 45.48 | 52.22 | -6.74  | 54.00 | -8.52  | 306  | 297  | Average | Vertical  |      |
| 2    | 7440.00  | 54.36 | 61.10 | -6.74  | 74.00 | -19.64 | 306  | 297  | Peak    | Vertical  |      |
| 3    | 12400.00 | 47.46 | 46.38 | 1.08   | 54.00 | -6.54  | 187  | 288  | Average | Vertical  |      |
| 4    | 12400.00 | 57.13 | 56.05 | 1.08   | 74.00 | -16.87 | 187  | 288  | Peak    | Vertical  |      |