

## Appendix D:

# Test Results of Radiated Spurious Emissions & Mains Conducted Emission Test for ANT 4 (UFL, ECC)

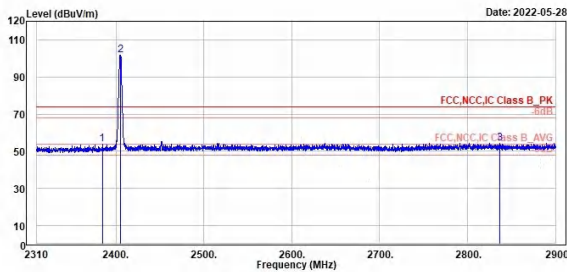
## Band Edges, 2.31GHz ~ 2.9GHz

### ZIGBEE 250kbps

#### CH11 (Horizontal) Peak



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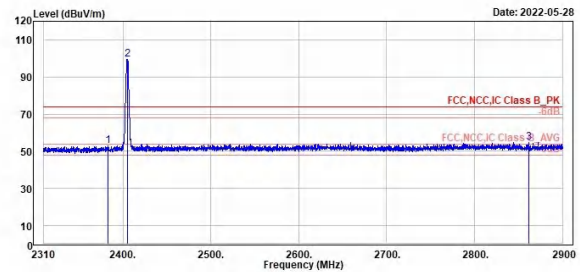


| Freq | Level   | Read   | Level | Factor | Limit | Over   | APos | TPos | Remark | Pol/Phase  | Note |
|------|---------|--------|-------|--------|-------|--------|------|------|--------|------------|------|
| MHz  | dBuV/m  | dBuV   | dB/m  | dBuV/m | dB    | cm     | deg  |      |        |            |      |
| 1    | 2384.58 | 53.63  | 16.08 | 37.55  | 74.00 | -20.37 | 361  | 212  | Peak   | Horizontal |      |
| 2 *  | 2405.00 | 101.72 | 64.08 | 37.64  | 74.00 | 27.72  | 361  | 212  | Peak   | Horizontal |      |
| 3    | 2836.40 | 54.50  | 16.32 | 38.18  | 74.00 | -19.50 | 361  | 212  | Peak   | Horizontal |      |

#### CH11 (Vertical) Peak



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| 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    | 2383.40 | 53.07 | 15.53 | 37.54  | 74.00 | -20.93 | 349  | 106  | Peak   | Vertical  |      |
| 2 *  | 2405.00 | 99.62 | 61.98 | 37.64  | 74.00 | 25.62  | 349  | 106  | Peak   | Vertical  |      |
| 3    | 2861.53 | 54.77 | 16.54 | 38.23  | 74.00 | -19.23 | 349  | 106  | Peak   | Vertical  |      |

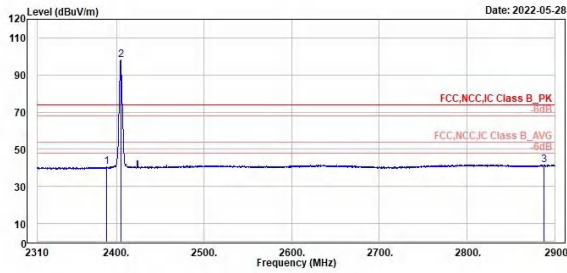
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CH11 (Horizontal) Average

CH11 (Vertical) Average



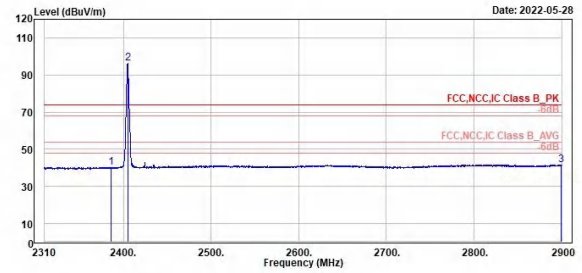
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Tel: +886-2172-1000 Fax: +886-2172-1322



| 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    | 2388.94 | 40.56 | 2.98  | 37.58  | 54.00 | -13.44 | 361  | 212  | Average | Horizontal |      |
| 2 *  | 2485.00 | 98.23 | 60.59 | 37.64  | 54.00 | 44.23  | 361  | 212  | Average | Horizontal |      |
| 3    | 2887.49 | 41.65 | 3.29  | 38.36  | 54.00 | -12.35 | 361  | 212  | Average | Horizontal |      |



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| 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    | 2386.23 | 40.33 | 2.77  | 37.56  | 54.00 | -13.67 | 349  | 106  | Average | Vertical  |      |
| 2 *  | 2485.00 | 96.21 | 58.57 | 37.64  | 54.00 | 42.21  | 349  | 106  | Average | Vertical  |      |
| 3    | 2899.65 | 41.75 | 3.33  | 38.42  | 54.00 | -12.25 | 349  | 106  | Average | Vertical  |      |

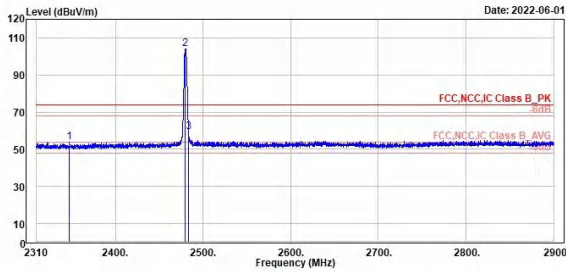
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CH26 (Horizontal) Peak

CH26 (Vertical) Peak



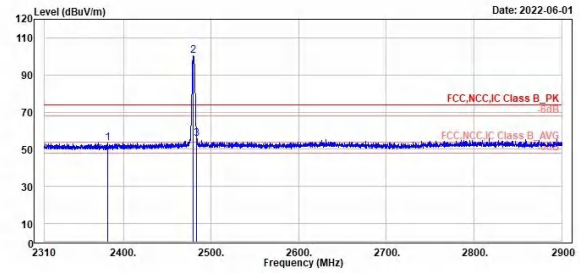
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Tel: +886-2172-1000 Fax: +886-2172-1322



| 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    | 2347.17 | 53.75  | 16.39 | 37.36  | 74.00 | -20.25 | 341  | 187  | Peak   | Horizontal |      |
| 2 *  | 2480.00 | 103.93 | 66.14 | 37.79  | 74.00 | 29.93  | 341  | 187  | Peak   | Horizontal |      |
| 3    | 2483.46 | 59.29  | 21.49 | 37.80  | 74.00 | -14.71 | 341  | 187  | Peak   | Horizontal |      |



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| 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    | 2381.06 | 53.27  | 15.73 | 37.54  | 74.00 | -20.73 | 330  | 98   | Peak   | Vertical  |      |
| 2 *  | 2480.00 | 100.36 | 62.57 | 37.79  | 74.00 | 26.36  | 330  | 98   | Peak   | Vertical  |      |
| 3    | 2483.46 | 55.89  | 18.09 | 37.80  | 74.00 | -18.11 | 330  | 98   | Peak   | Vertical  |      |

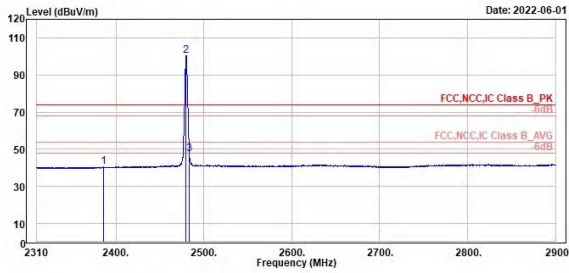
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CH26 (Horizontal) Average

CH26 (Vertical) Average



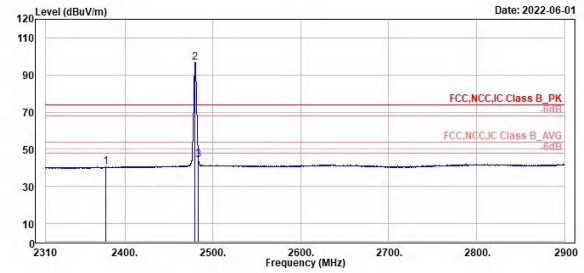
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| Freq | Level   | Read   | Level | Factor | Limit | Over   | APos | TPos | Remark  | Pol/Phase  | Note |
|------|---------|--------|-------|--------|-------|--------|------|------|---------|------------|------|
| MHz  | dBuV/m  | dBuV   | dB/m  | dBuV/m | dB    | dB     | cm   | deg  |         |            |      |
| 1    | 2386.35 | 40.39  | 2.82  | 37.57  | 54.00 | -13.61 | 341  | 187  | Average | Horizontal |      |
| 2 *  | 2480.00 | 100.47 | 62.66 | 37.79  | 54.00 | 46.47  | 341  | 187  | Average | Horizontal |      |
| 3    | 2483.46 | 47.36  | 9.56  | 37.80  | 54.00 | -6.64  | 341  | 187  | Average | Horizontal |      |



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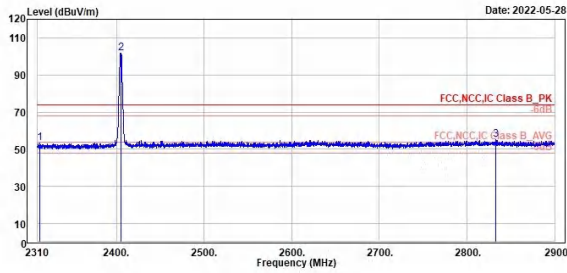
| Freq | Level   | Read  | Level | Factor | Limit | Over   | APos | TPos | Remark  | Pol/Phase | Note |
|------|---------|-------|-------|--------|-------|--------|------|------|---------|-----------|------|
| MHz  | dBuV/m  | dBuV  | dB/m  | dBuV/m | dB    | dB     | cm   | deg  |         |           |      |
| 1    | 2378.32 | 40.43 | 2.91  | 37.52  | 54.00 | -13.57 | 330  | 98   | Average | Vertical  |      |
| 2 *  | 2480.00 | 96.86 | 59.87 | 37.79  | 54.00 | 42.86  | 330  | 98   | Average | Vertical  |      |
| 3    | 2483.46 | 44.35 | 6.55  | 37.80  | 54.00 | -9.65  | 330  | 98   | Average | Vertical  |      |

ZIGBEE 2Mbps

CH11 (Horizontal) Peak



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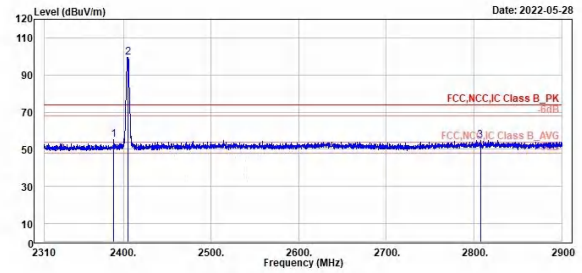


| Freq | Level   | Read   | Level | Factor | Limit | Over   | APos | TPos | Remark | Pol/Phase  | Note |
|------|---------|--------|-------|--------|-------|--------|------|------|--------|------------|------|
| MHz  | dBuV/m  | dBuV   | dB/m  | dBuV/m | dB    | dB     | cm   | deg  |        |            |      |
| 1    | 2312.60 | 53.47  | 16.21 | 37.26  | 74.00 | -20.53 | 361  | 215  | Peak   | Horizontal |      |
| 2 *  | 2405.00 | 101.68 | 64.04 | 37.64  | 74.00 | 27.68  | 361  | 215  | Peak   | Horizontal |      |
| 3    | 2832.74 | 55.24  | 17.07 | 38.17  | 74.00 | -18.76 | 361  | 215  | Peak   | Horizontal |      |

CH11 (Vertical) Peak



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| 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    | 2389.18 | 55.21 | 17.63 | 37.58  | 74.00 | -18.79 | 348  | 106  | Peak   | Vertical  |      |
| 2 *  | 2405.00 | 99.53 | 61.89 | 37.64  | 74.00 | 25.53  | 348  | 106  | Peak   | Vertical  |      |
| 3    | 2807.13 | 54.92 | 16.72 | 38.20  | 74.00 | -19.08 | 348  | 106  | Peak   | Vertical  |      |

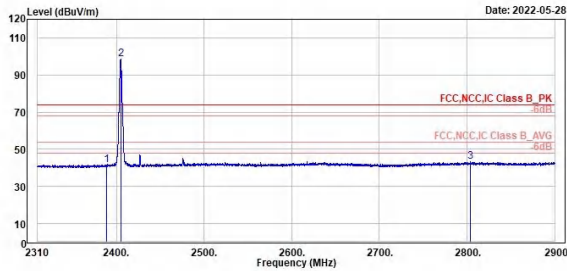
ZIGBEE 2Mbps

CH11 (Horizontal) Average

CH11 (Vertical) Average



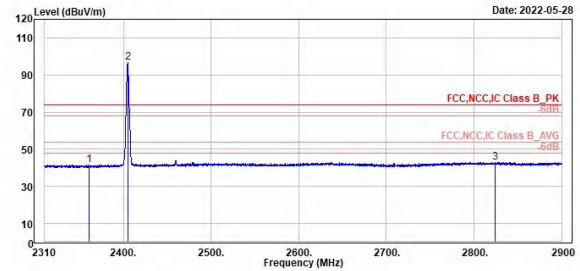
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| Freq | Level   | Read  | Level | Factor | Limit | Over   | APos | TPos | Remark  | Pol/Phase  | Note |
|------|---------|-------|-------|--------|-------|--------|------|------|---------|------------|------|
| MHz  | dBuV/m  | dBuV  | dB/m  | dBuV/m | dB    | dB     | cm   | deg  |         |            |      |
| 1    | 2389.18 | 41.64 | 4.06  | 37.58  | 54.00 | -12.36 | 361  | 215  | Average | Horizontal |      |
| 2 *  | 2485.00 | 96.76 | 61.12 | 37.64  | 54.00 | 44.76  | 361  | 215  | Average | Horizontal |      |
| 3    | 2804.18 | 43.26 | 5.06  | 38.20  | 54.00 | -10.74 | 361  | 215  | Average | Horizontal |      |



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| 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    | 2361.09 | 41.68 | 4.25  | 37.43  | 54.00 | -12.32 | 348  | 106  | Average | Vertical  |      |
| 2 *  | 2485.00 | 96.61 | 58.97 | 37.64  | 54.00 | 42.61  | 348  | 106  | Average | Vertical  |      |
| 3    | 2823.89 | 43.09 | 4.91  | 38.18  | 54.00 | -10.91 | 348  | 106  | Average | Vertical  |      |

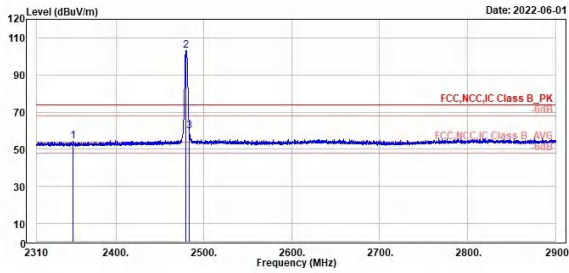
ZIGBEE 2Mbps

CH26 (Horizontal) Peak

CH26 (Vertical) Peak



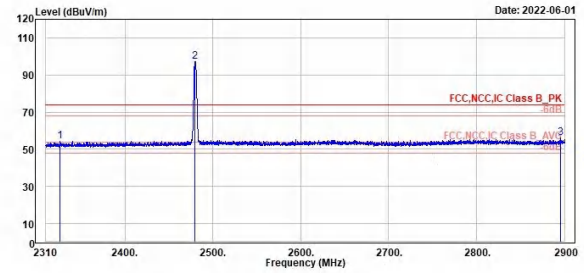
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| Freq | Level   | Read   | Level | Factor | Limit | Over   | APos | TPos | Remark | Pol/Phase  | Note |
|------|---------|--------|-------|--------|-------|--------|------|------|--------|------------|------|
| MHz  | dBuV/m  | dBuV   | dB/m  | dBuV/m | dB    | dB     | cm   | deg  |        |            |      |
| 1    | 2350.95 | 54.42  | 17.05 | 37.37  | 74.00 | -19.58 | 342  | 197  | Peak   | Horizontal |      |
| 2 *  | 2480.00 | 103.31 | 65.52 | 37.79  | 74.00 | 29.31  | 342  | 197  | Peak   | Horizontal |      |
| 3    | 2483.46 | 59.88  | 22.08 | 37.80  | 74.00 | -14.12 | 342  | 197  | Peak   | Horizontal |      |



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| 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    | 2326.64 | 54.40 | 17.10 | 37.30  | 74.00 | -19.60 | 331  | 269  | Peak   | Vertical  |      |
| 2 *  | 2480.00 | 97.05 | 59.26 | 37.79  | 74.00 | 23.05  | 331  | 269  | Peak   | Vertical  |      |
| 3    | 2895.52 | 55.96 | 17.56 | 38.40  | 74.00 | -18.04 | 331  | 269  | Peak   | Vertical  |      |

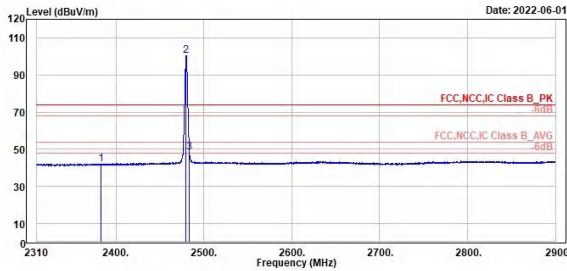
ZIGBEE 2Mbps

CH26 (Horizontal) Average

CH26 (Vertical) Average



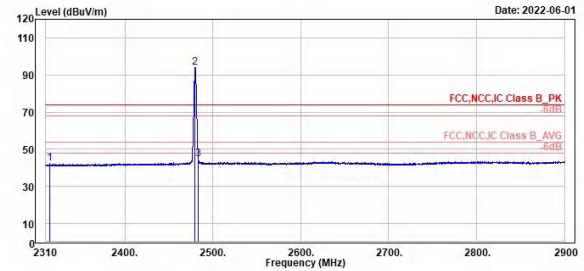
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|     | Freq    | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos    | Remark     | Pol/Phase | Note |
|-----|---------|--------|-------|-------|--------|--------|------|------|---------|------------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg     |            |           |      |
| 1   | 2383.40 | 42.19  | 4.65  | 37.54 | 54.00  | -11.81 | 342  | 197  | Average | Horizontal |           |      |
| 2 * | 2480.00 | 100.40 | 62.61 | 37.79 | 54.00  | 46.40  | 342  | 197  | Average | Horizontal |           |      |
| 3 ! | 2483.46 | 48.22  | 10.42 | 37.80 | 54.00  | -5.78  | 342  | 197  | Average | Horizontal |           |      |



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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   | 2315.07 | 42.24  | 4.98  | 37.26 | 54.00  | -11.76 | 331  | 269  | Average | Vertical |           |      |
| 2 * | 2480.00 | 94.13  | 56.34 | 37.79 | 54.00  | 40.13  | 331  | 269  | Average | Vertical |           |      |
| 3   | 2483.81 | 44.57  | 6.77  | 37.80 | 54.00  | -9.43  | 331  | 269  | Average | Vertical |           |      |

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

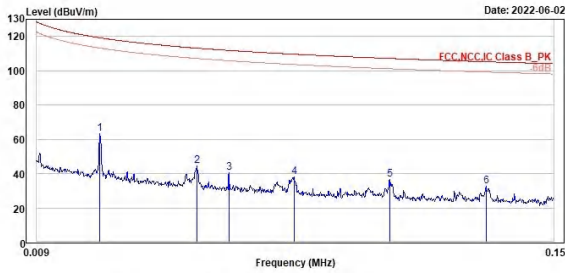
## ZIGBEE 250kbps

### CH11 (Open) 9kHz~150kHz

### CH11 (Open) 150kHz~30MHz



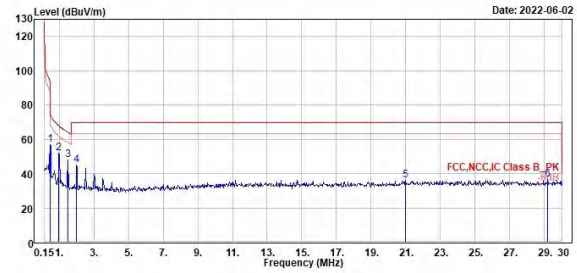
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Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq | Level  | Read  | Limit | Over   | APos   | TPos | Remark | Pol/Phase | Note |
|---|------|--------|-------|-------|--------|--------|------|--------|-----------|------|
|   | MHz  | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg    |           |      |
| 1 | 0.03 | 63.48  | 44.30 | 19.18 | 119.18 | -55.70 | 100  | 319 QP | Open      |      |
| 2 | 0.05 | 44.25  | 25.00 | 19.25 | 113.16 | -68.91 | 100  | 299 QP | Open      |      |
| 3 | 0.06 | 40.60  | 21.54 | 19.06 | 111.82 | -71.22 | 100  | 235 QP | Open      |      |
| 4 | 0.08 | 37.91  | 19.24 | 18.67 | 109.62 | -71.71 | 100  | 142 QP | Open      |      |
| 5 | 0.11 | 36.40  | 18.16 | 18.24 | 107.15 | -70.75 | 100  | 165 QP | Open      |      |
| 6 | 0.13 | 32.53  | 14.20 | 18.33 | 105.22 | -72.69 | 100  | 145 QP | Open      |      |



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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 | 0.48  | 56.98  | 38.03 | 18.95 | 94.01  | -37.03 | 100  | 154 Peak | Vertical  |      |
| 2 | 0.99  | 51.85  | 32.59 | 19.26 | 67.73  | -15.88 | 100  | 147 Peak | Vertical  |      |
| 3 | 1.49  | 47.91  | 28.57 | 19.34 | 64.12  | -16.21 | 100  | 156 Peak | Vertical  |      |
| 4 | 2.00  | 44.95  | 25.54 | 19.41 | 69.50  | -24.55 | 100  | 146 Peak | Vertical  |      |
| 5 | 20.99 | 36.23  | 13.99 | 22.24 | 69.50  | -33.27 | 100  | 208 Peak | Vertical  |      |
| 6 | 29.19 | 36.62  | 14.00 | 22.62 | 69.50  | -32.00 | 100  | 113 Peak | Vertical  |      |

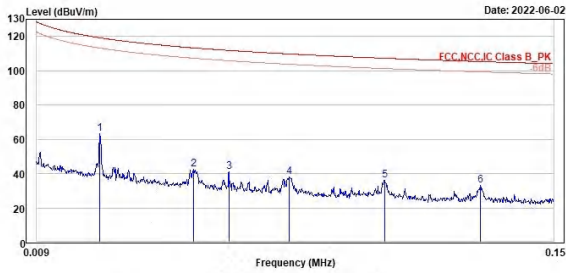
ZIGBEE 2Mbps

CH11 (Open) 9kHz~150kHz

CH11 (Open) 150kHz~30MHz



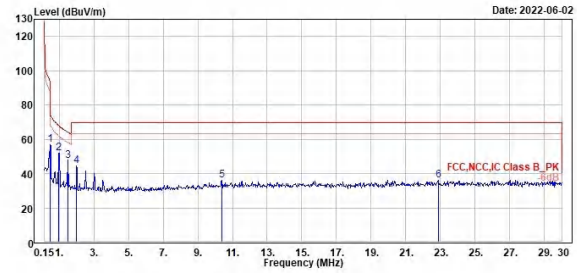
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Tel: +886-2172-1000 Fax: +886-2172-1322



|   | Freq | Level  | Read  | Factor | Limit  | Over   | APos | TPos   | Remark | Pol/Phase | Note |
|---|------|--------|-------|--------|--------|--------|------|--------|--------|-----------|------|
|   | MHz  | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg    |        |           |      |
| 1 | 0.03 | 63.13  | 43.95 | 19.18  | 119.18 | -56.05 | 100  | 96 QP  | Open   |           |      |
| 2 | 0.05 | 42.57  | 23.30 | 19.27  | 113.30 | -70.73 | 100  | 304 QP | Open   |           |      |
| 3 | 0.06 | 40.94  | 21.88 | 19.06  | 111.82 | -70.88 | 100  | 25 QP  | Open   |           |      |
| 4 | 0.08 | 38.25  | 19.55 | 18.70  | 109.77 | -71.52 | 100  | 307 QP | Open   |           |      |
| 5 | 0.10 | 36.29  | 18.06 | 18.23  | 107.26 | -70.97 | 100  | 164 QP | Open   |           |      |
| 6 | 0.13 | 32.93  | 14.61 | 18.32  | 105.32 | -72.39 | 100  | 164 QP | Open   |           |      |



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|   | Freq  | Level  | Read  | Factor | Limit  | Over   | APos | TPos   | Remark | Pol/Phase | Note |
|---|-------|--------|-------|--------|--------|--------|------|--------|--------|-----------|------|
|   | MHz   | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg    |        |           |      |
| 1 | 0.48  | 56.78  | 37.83 | 18.95  | 94.81  | -37.23 | 100  | 160 QP | Open   |           |      |
| 2 | 0.99  | 51.82  | 32.56 | 19.26  | 67.73  | -15.91 | 100  | 148 QP | Open   |           |      |
| 3 | 1.52  | 47.61  | 28.27 | 19.34  | 63.95  | -16.34 | 100  | 148 QP | Open   |           |      |
| 4 | 2.00  | 44.59  | 25.18 | 19.41  | 69.50  | -24.91 | 100  | 157 QP | Open   |           |      |
| 5 | 10.39 | 36.09  | 14.57 | 21.52  | 69.50  | -33.41 | 100  | 192 QP | Open   |           |      |
| 6 | 22.87 | 36.23  | 13.90 | 22.33  | 69.50  | -33.27 | 100  | 249 QP | Open   |           |      |

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

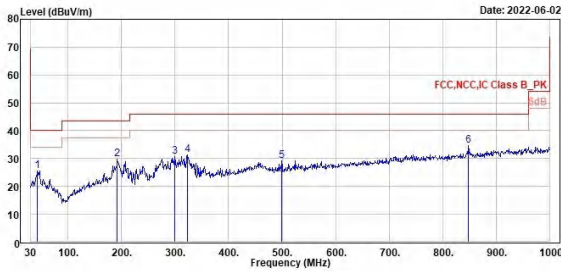
## ZIGBEE 250kbps

### CH11 (Horizontal)

### CH11 (Vertical)



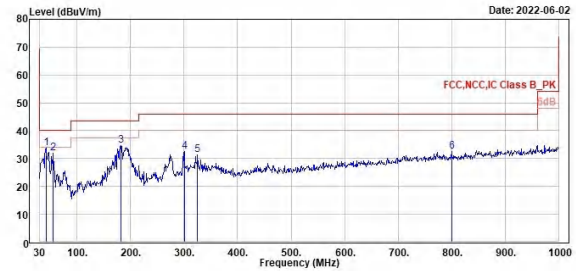
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|   | Freq   | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark     | Pol/Phase | Note |
|---|--------|--------|-------|-------|--------|--------|------|------|------|------------|-----------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg  |            |           |      |
| 1 | 42.61  | 25.56  | 31.63 | -6.07 | 40.00  | -14.44 | 300  | 72   | QP   | Horizontal |           |      |
| 2 | 191.99 | 29.82  | 38.32 | -8.50 | 43.50  | -13.68 | 300  | 270  | QP   | Horizontal |           |      |
| 3 | 299.66 | 30.87  | 35.60 | -4.73 | 46.00  | -15.13 | 100  | 128  | QP   | Horizontal |           |      |
| 4 | 322.94 | 31.19  | 35.46 | -4.27 | 46.00  | -14.81 | 100  | 236  | QP   | Horizontal |           |      |
| 5 | 499.48 | 29.32  | 31.09 | -1.77 | 46.00  | -16.68 | 100  | 187  | QP   | Horizontal |           |      |
| 6 | 848.68 | 34.65  | 30.90 | 3.75  | 46.00  | -11.35 | 100  | 324  | QP   | Horizontal |           |      |



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|   | 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 | 41.64  | 33.81  | 39.93 | -6.12 | 40.00  | -6.19  | 100  | 147  | QP   | Vertical |           |      |
| 2 | 55.22  | 32.01  | 38.53 | -6.52 | 40.00  | -7.99  | 100  | 330  | QP   | Vertical |           |      |
| 3 | 182.29 | 34.62  | 42.33 | -7.71 | 43.50  | -8.88  | 100  | 117  | QP   | Vertical |           |      |
| 4 | 300.63 | 32.67  | 37.39 | -4.72 | 46.00  | -13.33 | 106  | 0    | QP   | Vertical |           |      |
| 5 | 324.88 | 31.24  | 35.40 | -4.16 | 46.00  | -14.76 | 200  | 1    | QP   | Vertical |           |      |
| 6 | 800.18 | 32.65  | 29.47 | 3.18  | 46.00  | -13.35 | 100  | 166  | QP   | Vertical |           |      |

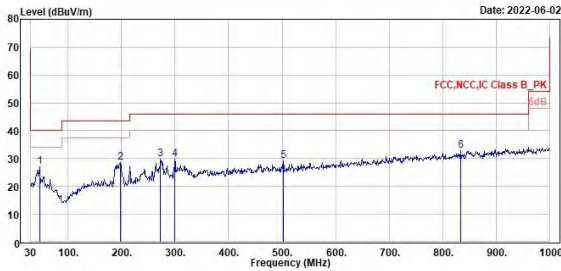
ZIGBEE 2Mbps

CH11 (Horizontal)

CH11 (Vertical)



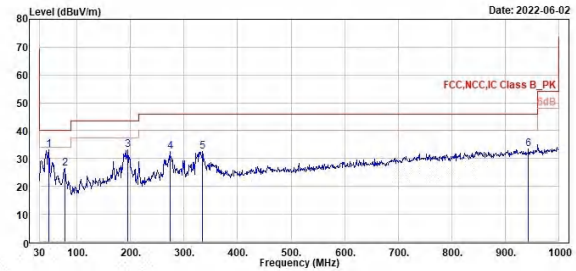
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|   | Freq   | Level  | Read  | Limit | Over   | APos   | TPos | Remark | Pol/Phase  | Note |
|---|--------|--------|-------|-------|--------|--------|------|--------|------------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg    |            |      |
| 1 | 46.49  | 26.95  | 32.82 | -5.87 | 40.00  | -13.05 | 300  | 88 QP  | Horizontal |      |
| 2 | 197.81 | 28.49  | 37.04 | -8.55 | 43.50  | -15.01 | 300  | 295 QP | Horizontal |      |
| 3 | 272.50 | 29.89  | 35.50 | -5.61 | 46.00  | -16.11 | 100  | 290 QP | Horizontal |      |
| 4 | 299.66 | 29.96  | 34.69 | -4.73 | 46.00  | -16.04 | 300  | 146 QP | Horizontal |      |
| 5 | 502.39 | 29.34  | 31.10 | -1.76 | 46.00  | -16.66 | 100  | 311 QP | Horizontal |      |
| 6 | 833.16 | 32.67  | 29.23 | 3.64  | 46.00  | -13.13 | 200  | 267 QP | Horizontal |      |



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|   | Freq   | Level  | Read  | Limit | Over   | APos   | TPos | Remark | Pol/Phase | Note |
|---|--------|--------|-------|-------|--------|--------|------|--------|-----------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg    |           |      |
| 1 | 47.46  | 33.18  | 39.13 | -5.95 | 40.00  | -6.82  | 100  | 116 QP | Vertical  |      |
| 2 | 76.56  | 26.36  | 36.14 | -9.78 | 40.00  | -13.64 | 300  | 73 QP  | Vertical  |      |
| 3 | 194.90 | 33.23  | 41.81 | -8.58 | 43.50  | -10.27 | 100  | 211 QP | Vertical  |      |
| 4 | 273.47 | 32.45  | 38.00 | -5.55 | 46.00  | -13.55 | 100  | 140 QP | Vertical  |      |
| 5 | 334.58 | 32.61  | 36.52 | -3.91 | 46.00  | -13.39 | 100  | 186 QP | Vertical  |      |
| 6 | 943.74 | 33.57  | 28.30 | 5.27  | 46.00  | -12.43 | 290  | 360 QP | Vertical  |      |

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

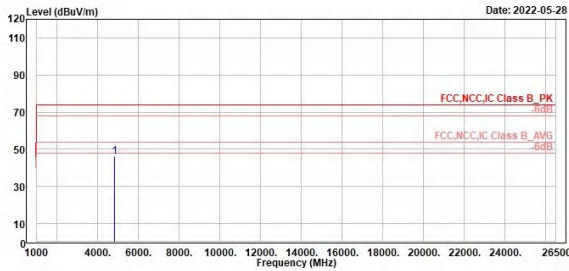
### ZIGBEE 250kbps

#### CH11 (Horizontal)

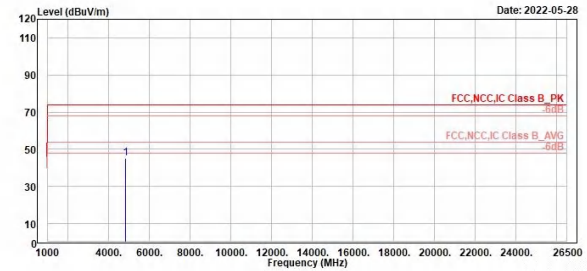
#### CH11 (Vertical)



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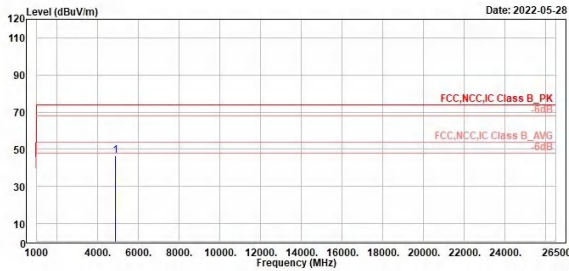
**ZIGBEE 250kbps**

**CH17 (Horizontal)**

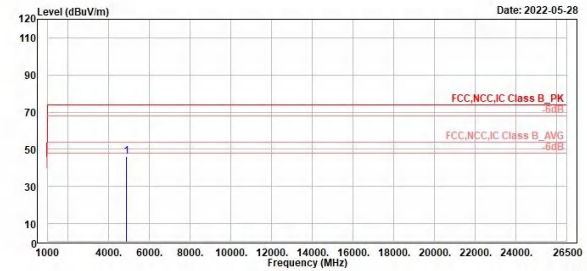
**CH17 (Vertical)**



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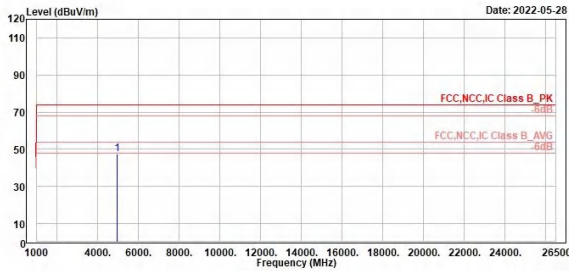
**ZIGBEE 250kbps**

**CH26 (Horizontal)**

**CH26 (Vertical)**



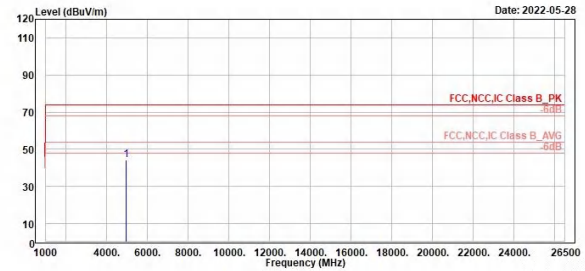
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| Freq | Level   | Read  | Level | Limit  | Over  | APos   | TPos | Remark   | Pol/Phase  | Note |
|------|---------|-------|-------|--------|-------|--------|------|----------|------------|------|
| MHz  | dBuV/m  | dBuV  | dB/m  | dBuV/m | dB    | cm     | deg  |          |            |      |
| 1    | 4960.00 | 47.49 | 57.03 | -9.54  | 74.00 | -26.51 | 100  | 348 Peak | Horizontal |      |



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| Freq | Level   | Read  | Level | Limit  | Over  | APos   | TPos | Remark   | Pol/Phase | Note |
|------|---------|-------|-------|--------|-------|--------|------|----------|-----------|------|
| MHz  | dBuV/m  | dBuV  | dB/m  | dBuV/m | dB    | cm     | deg  |          |           |      |
| 1    | 4960.00 | 44.36 | 53.90 | -9.54  | 74.00 | -29.64 | 333  | 360 Peak | Vertical  |      |

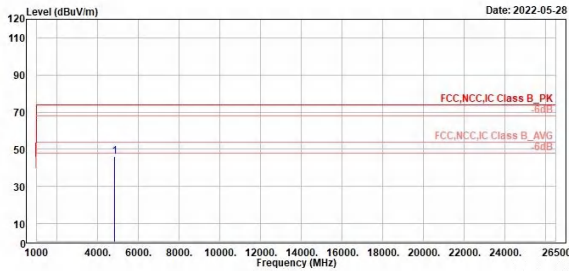
**ZIGBEE 2Mbps**

**CH11 (Horizontal)**

**CH11 (Vertical)**



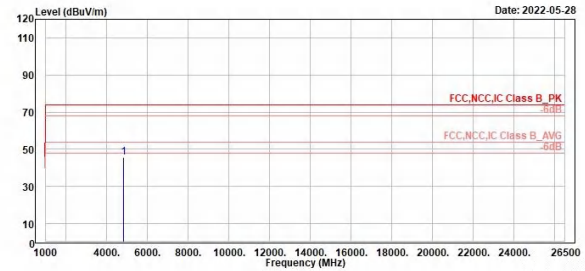
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| Freq | Level   | Read  | Level | Factor | Limit | Over   | APos | TPos | Remark | Pol/Phase  | Note |
|------|---------|-------|-------|--------|-------|--------|------|------|--------|------------|------|
| MHz  | dBuV/m  | dBuV  | dB/m  | dBuV/m | dB    | dB     | cm   | deg  |        |            |      |
| 1    | 4810.00 | 46.06 | 55.91 | -9.85  | 74.00 | -27.94 | 113  | 360  | Peak   | Horizontal |      |



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| 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 | 45.68 | 55.53 | -9.85  | 74.00 | -28.32 | 300  | 312  | Peak   | Vertical  |      |

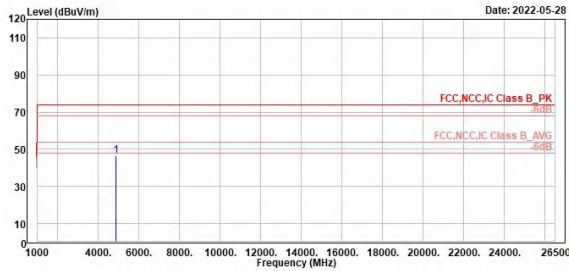
**ZIGBEE 2Mbps**

**CH17 (Horizontal)**

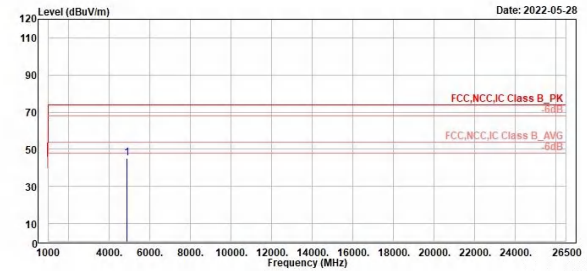
**CH17 (Vertical)**



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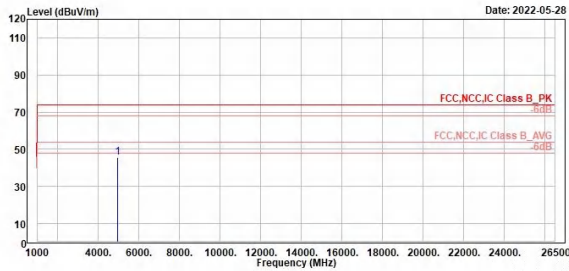
**ZIGBEE 2Mbps**

**CH26 (Horizontal)**

**CH26 (Vertical)**



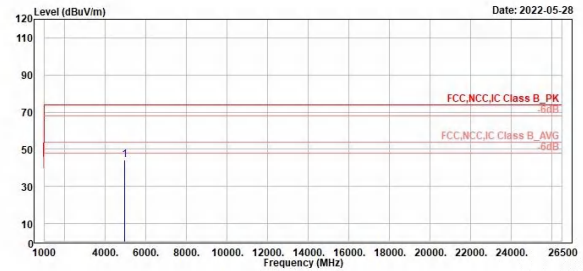
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| Freq      | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark | Pol/Phase  | Note |
|-----------|--------|-------|-------|--------|--------|------|------|------|--------|------------|------|
| MHz       | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg  |        |            |      |
| 1 4960.00 | 45.48  | 55.02 | -9.54 | 74.00  | -28.52 |      | 100  | 358  | Peak   | Horizontal |      |



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| 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 4960.00 | 44.22  | 53.76 | -9.54 | 74.00  | -29.78 |      | 300  | 342  | Peak   | Vertical  |      |

# Test Results of Radiated Spurious Emissions & Mains Conducted

## Emission Test for ANT 4 (UFL, ECC, Buck PWM On)

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

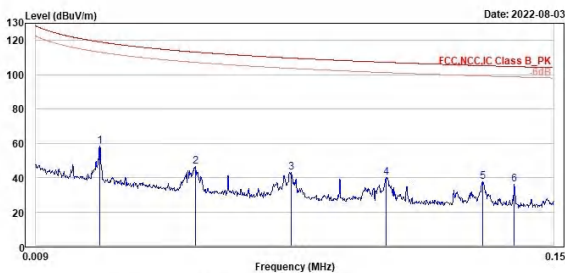
#### ZIGBEE 2Mbps

##### CH17 (Open) 9kHz~150kHz

##### CH17 (Open) 150kHz~30MHz



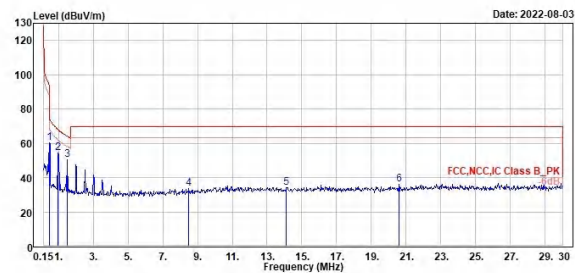
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| Freq | Level  | Read  | Level | Factor | Limit  | Over   | APos | TPos | Remark | Pol/Phase | Note |
|------|--------|-------|-------|--------|--------|--------|------|------|--------|-----------|------|
| MHz  | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm     | deg  |      |        |           |      |
| 1    | 0.83   | 58.23 | 39.04 | 19.19  | 119.13 | -60.90 | 100  | 59   | QP     | Open      |      |
| 2    | 0.95   | 46.40 | 27.14 | 19.26  | 113.20 | -66.80 | 100  | 197  | QP     | Open      |      |
| 3    | 0.08   | 43.19 | 24.51 | 18.68  | 109.70 | -66.51 | 100  | 217  | QP     | Open      |      |
| 4    | 0.10   | 40.00 | 21.76 | 18.24  | 107.23 | -67.23 | 100  | 194  | QP     | Open      |      |
| 5    | 0.13   | 37.48 | 19.15 | 18.33  | 105.27 | -67.79 | 100  | 213  | QP     | Open      |      |
| 6    | 0.14   | 36.23 | 17.87 | 18.36  | 104.72 | -68.49 | 100  | 144  | QP     | Open      |      |



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| 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    | 0.48   | 60.20 | 41.25 | 18.95  | 94.01 | -33.81 | 100  | 138  | QP     | Open      |      |
| 2    | 0.99   | 54.60 | 35.34 | 19.26  | 67.73 | -13.13 | 100  | 144  | QP     | Open      |      |
| 3    | 1.49   | 50.55 | 31.21 | 19.34  | 64.12 | -13.57 | 100  | 141  | QP     | Open      |      |
| 4    | 8.51   | 33.67 | 12.86 | 20.81  | 69.50 | -35.83 | 100  | 278  | QP     | Open      |      |
| 5    | 14.12  | 34.20 | 12.41 | 21.79  | 69.50 | -35.30 | 100  | 134  | QP     | Open      |      |
| 6    | 20.60  | 36.04 | 13.81 | 22.23  | 69.50 | -33.46 | 100  | 212  | QP     | Open      |      |

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

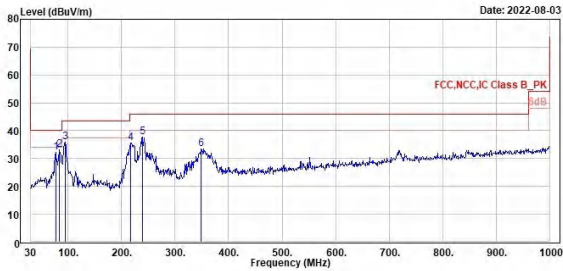
## ZIGBEE 2Mbps

### CH17 (Horizontal)

### CH17 (Vertical)



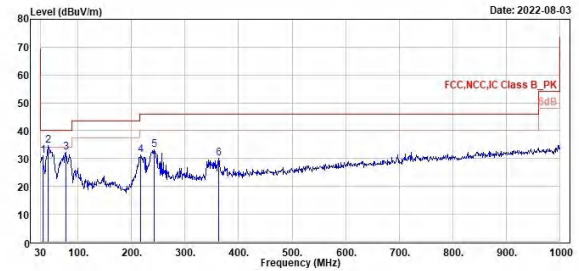
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|   | Freq   | Level  | Read  | Factor | Limit  | Over   | APos | TPos | Remark | Pol/Phase  | Note |
|---|--------|--------|-------|--------|--------|--------|------|------|--------|------------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg  |        |            |      |
| 1 | 76.56  | 32.10  | 41.88 | -9.78  | 40.00  | -7.90  | 300  | 208  | QP     | Horizontal |      |
| 2 | 84.32  | 33.03  | 44.49 | -11.46 | 40.00  | -6.97  | 400  | 230  | QP     | Horizontal |      |
| 3 | 94.02  | 35.83  | 48.33 | -12.50 | 43.50  | -7.67  | 400  | 226  | QP     | Horizontal |      |
| 4 | 216.24 | 35.52  | 43.65 | -8.13  | 46.00  | -10.48 | 200  | 54   | QP     | Horizontal |      |
| 5 | 239.52 | 37.85  | 44.59 | -6.74  | 46.00  | -8.15  | 100  | 259  | QP     | Horizontal |      |
| 6 | 349.13 | 33.35  | 37.26 | -3.91  | 46.00  | -12.65 | 200  | 266  | QP     | Horizontal |      |



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|   | Freq   | Level  | Read  | Factor | Limit  | Over   | APos | TPos | Remark | Pol/Phase | Note |
|---|--------|--------|-------|--------|--------|--------|------|------|--------|-----------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg  |        |           |      |
| 1 | 33.88  | 30.98  | 38.24 | -7.26  | 40.00  | -9.02  | 100  | 359  | QP     | Vertical  |      |
| 2 | 44.55  | 34.65  | 40.60 | -5.95  | 40.00  | -5.35  | 100  | 124  | QP     | Vertical  |      |
| 3 | 76.56  | 32.10  | 41.88 | -9.78  | 40.00  | -7.90  | 101  | 360  | QP     | Vertical  |      |
| 4 | 217.21 | 31.26  | 39.36 | -8.10  | 46.00  | -14.74 | 100  | 302  | QP     | Vertical  |      |
| 5 | 241.46 | 33.04  | 39.76 | -6.72  | 46.00  | -12.96 | 100  | 164  | QP     | Vertical  |      |
| 6 | 362.71 | 29.97  | 33.62 | -3.65  | 46.00  | -16.03 | 200  | 213  | QP     | Vertical  |      |

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

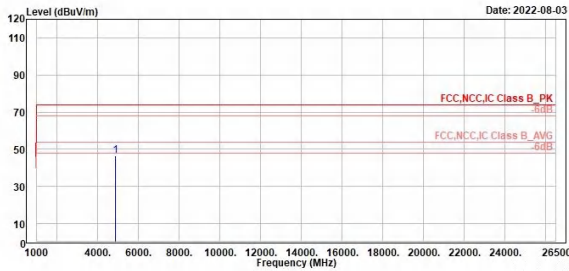
## ZIGBEE 2Mbps

### CH17 (Horizontal)

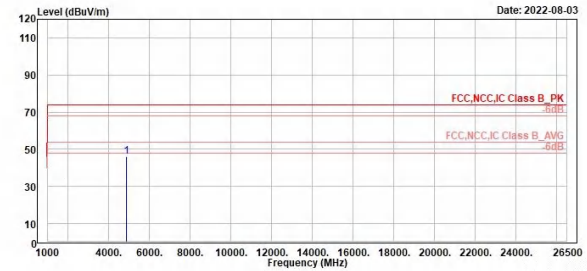
### CH17 (Vertical)



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# Test Results of Radiated Spurious Emissions for ANT 4(ECC)\_2<sup>nd</sup> Source

## Band Edges, 2.31GHz ~ 2.9GHz

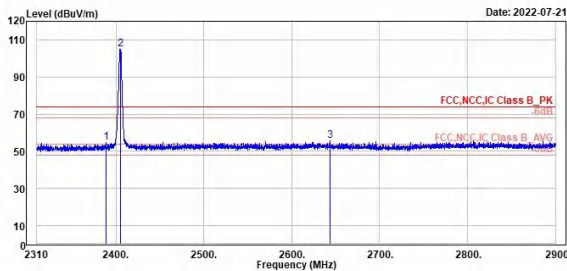
### ZIGBEE 250kbps

#### CH11 (Horizontal) Peak

#### CH11 (Vertical) Peak



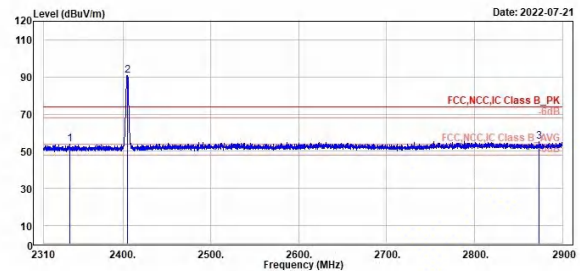
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| Freq | Level   | Read   | Level | Factor | Limit | Over   | APos | TPos | Remark | Pol/Phase  | Note |
|------|---------|--------|-------|--------|-------|--------|------|------|--------|------------|------|
| MHz  | dBuV/m  | dBuV   | dB/m  | dBuV/m | dB    | cm     | deg  |      |        |            |      |
| 1    | 2388.59 | 54.71  | 17.14 | 37.57  | 74.00 | -19.29 | 224  | 188  | Peak   | Horizontal |      |
| 2 *  | 2405.00 | 104.78 | 67.14 | 37.64  | 74.00 | 30.78  | 224  | 188  | Peak   | Horizontal |      |
| 3    | 2643.59 | 55.65  | 17.63 | 38.02  | 74.00 | -18.35 | 224  | 188  | Peak   | Horizontal |      |



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| 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    | 2339.50 | 53.66 | 16.32 | 37.34  | 74.00 | -20.34 | 349  | 82   | Peak   | Vertical  |      |
| 2 *  | 2405.00 | 90.89 | 53.25 | 37.64  | 74.00 | 16.89  | 349  | 82   | Peak   | Vertical  |      |
| 3    | 2873.69 | 55.35 | 17.07 | 38.28  | 74.00 | -18.65 | 349  | 82   | Peak   | Vertical  |      |

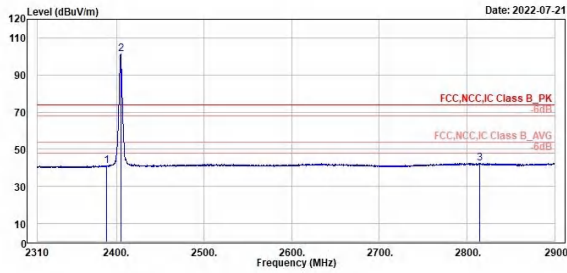
ZIGBEE 250kbps

CH11 (Horizontal) Average

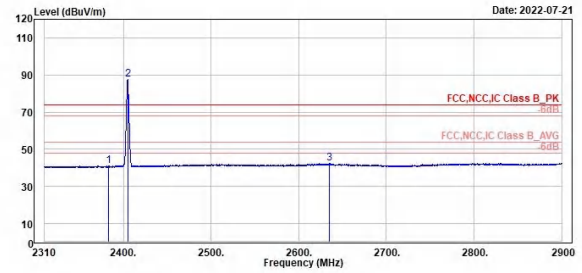
CH11 (Vertical) Average



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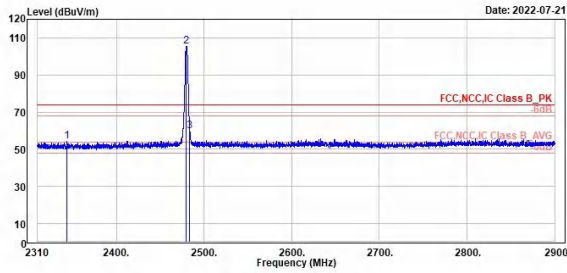
ZIGBEE 250kbps

CH26 (Horizontal) Peak

CH26 (Vertical) Peak



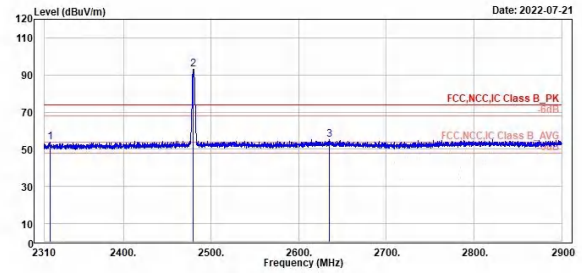
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| Peak | Freq    | Level  | Read  | Factor | Limit  | Over   | APos | TPos | Remark | Pol/Phase  | Note |
|------|---------|--------|-------|--------|--------|--------|------|------|--------|------------|------|
|      | MHz     | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg  |        |            |      |
| 1    | 2343.51 | 54.48  | 17.12 | 37.36  | 74.00  | -19.52 | 299  | 20   | Peak   | Horizontal |      |
| 2 *  | 2480.00 | 105.37 | 67.56 | 37.79  | 74.00  | 31.37  | 299  | 20   | Peak   | Horizontal |      |
| 3    | 2483.46 | 59.92  | 22.12 | 37.80  | 74.00  | -14.08 | 299  | 20   | Peak   | Horizontal |      |



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| 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    | 2316.25 | 53.72  | 16.46 | 37.26  | 74.00  | -20.28 | 400  | 108  | Peak   | Vertical  |      |
| 2 *  | 2480.00 | 93.30  | 55.51 | 37.79  | 74.00  | 19.30  | 400  | 108  | Peak   | Vertical  |      |
| 3    | 2634.50 | 55.39  | 17.38 | 38.01  | 74.00  | -18.61 | 400  | 108  | Peak   | Vertical  |      |

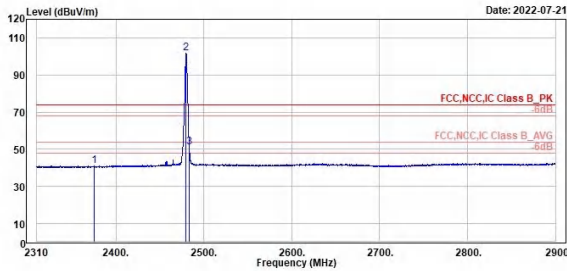
**ZIGBEE 250kbps**

**CH26 (Horizontal) Average**

**CH26 (Vertical) Average**



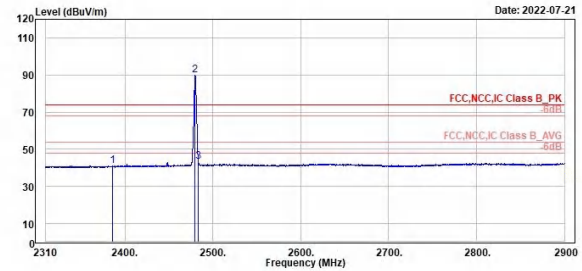
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| Freq | Level   | Read   | Level | Factor | Limit | Over   | APos | TPos | Remark  | Pol/Phase  | Note |
|------|---------|--------|-------|--------|-------|--------|------|------|---------|------------|------|
| MHz  | dBuV/m  | dBuV   | dB/m  | dBuV/m | dB    | dB     | cm   | deg  |         |            |      |
| 1    | 2375.02 | 41.07  | 3.57  | 37.50  | 54.00 | -12.93 | 299  | 20   | Average | Horizontal |      |
| 2 *  | 2480.00 | 101.92 | 64.13 | 37.79  | 54.00 | 47.92  | 299  | 20   | Average | Horizontal |      |
| 3 !  | 2483.46 | 50.93  | 13.13 | 37.80  | 54.00 | -3.07  | 299  | 20   | Average | Horizontal |      |



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| 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    | 2386.46 | 40.95 | 3.38  | 37.57  | 54.00 | -13.05 | 400  | 100  | Average | Vertical  |      |
| 2 *  | 2480.00 | 89.85 | 52.06 | 37.79  | 54.00 | 35.85  | 400  | 100  | Average | Vertical  |      |
| 3    | 2483.46 | 43.42 | 5.62  | 37.80  | 54.00 | -10.58 | 400  | 100  | Average | Vertical  |      |

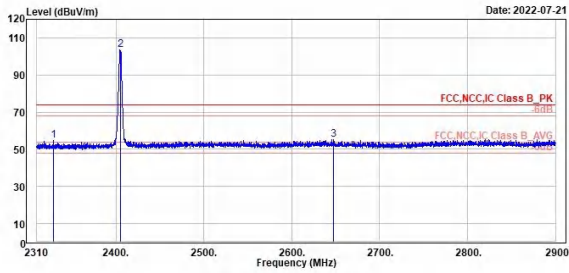
ZIGBEE 2Mbps

CH11 (Horizontal) Peak

CH11 (Vertical) Peak



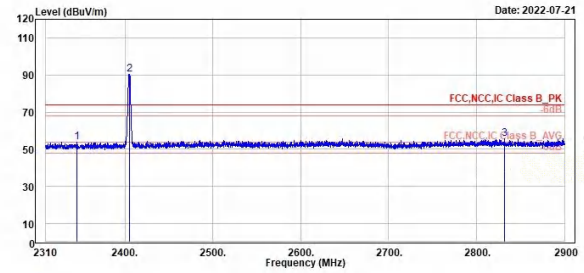
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| Freq | Level   | Read   | Level | Factor | Limit | Over   | APos | TPos | Remark | Pol/Phase  | Note |
|------|---------|--------|-------|--------|-------|--------|------|------|--------|------------|------|
| MHz  | dBuV/m  | dBuV   | dB/m  | dBuV/m | dB    | dB     | cm   | deg  |        |            |      |
| 1    | 2329.12 | 54.53  | 17.22 | 37.31  | 74.00 | -19.47 | 249  | 0    | Peak   | Horizontal |      |
| 2 *  | 2405.00 | 103.36 | 65.72 | 37.64  | 74.00 | 29.36  | 249  | 0    | Peak   | Horizontal |      |
| 3    | 2647.83 | 55.38  | 17.36 | 38.02  | 74.00 | -18.62 | 249  | 0    | Peak   | Horizontal |      |



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| 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    | 2345.16 | 53.75 | 16.39 | 37.36  | 74.00 | -20.25 | 349  | 79   | Peak   | Vertical  |      |
| 2 *  | 2405.00 | 90.44 | 52.09 | 37.64  | 74.00 | 16.44  | 349  | 79   | Peak   | Vertical  |      |
| 3    | 2831.56 | 55.56 | 17.38 | 38.18  | 74.00 | -18.44 | 349  | 79   | Peak   | Vertical  |      |

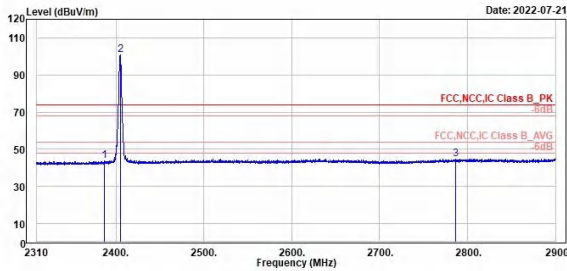
ZIGBEE 2Mbps

CH11 (Horizontal) Average

CH11 (Vertical) Average



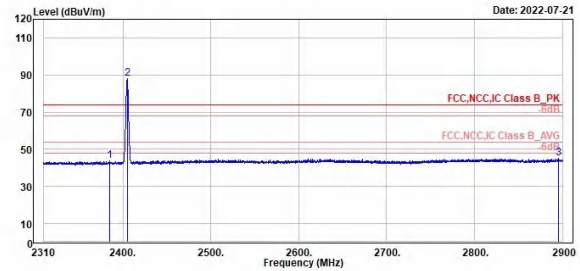
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|     | Freq    | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos    | Remark     | Pol/Phase | Note |
|-----|---------|--------|-------|-------|--------|--------|------|------|---------|------------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg     |            |           |      |
| 1   | 2386.94 | 43.66  | 6.09  | 37.57 | 54.00  | -10.34 | 249  | 0    | Average | Horizontal |           |      |
| 2 * | 2485.00 | 100.86 | 63.22 | 37.64 | 54.00  | 46.86  | 249  | 0    | Average | Horizontal |           |      |
| 3   | 2786.01 | 44.92  | 6.73  | 38.19 | 54.00  | -9.08  | 249  | 0    | Average | Horizontal |           |      |



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|     | 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   | 2384.69 | 43.85  | 6.30  | 37.55 | 54.00  | -10.15 | 349  | 79   | Average | Vertical |           |      |
| 2 * | 2485.00 | 87.86  | 50.22 | 37.64 | 54.00  | 33.86  | 349  | 79   | Average | Vertical |           |      |
| 3   | 2895.40 | 45.83  | 6.63  | 38.40 | 54.00  | -8.97  | 349  | 79   | Average | Vertical |           |      |

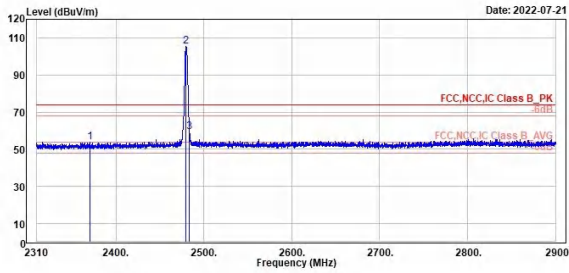
ZIGBEE 2Mbps

CH26 (Horizontal) Peak

CH26 (Vertical) Peak



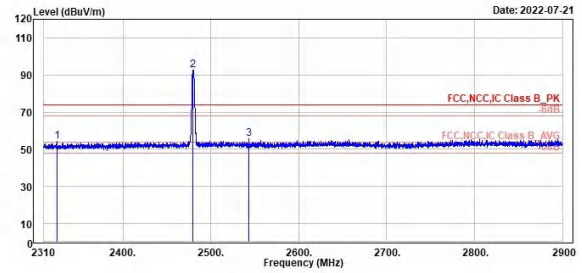
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| Freq | Level   | Read   | Level | Factor | Limit | Over   | APos | TPos | Remark | Pol/Phase  | Note |
|------|---------|--------|-------|--------|-------|--------|------|------|--------|------------|------|
| MHz  | dBuV/m  | dBuV   | dB/m  | dBuV/m | dB    | dB     | cm   | deg  |        |            |      |
| 1    | 2370.53 | 53.83  | 16.35 | 37.48  | 74.00 | -20.17 | 300  | 198  | Peak   | Horizontal |      |
| 2 *  | 2480.00 | 105.20 | 67.41 | 37.79  | 74.00 | 31.20  | 300  | 198  | Peak   | Horizontal |      |
| 3    | 2483.46 | 59.10  | 21.30 | 37.80  | 74.00 | -14.90 | 300  | 198  | Peak   | Horizontal |      |



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| 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    | 2324.87 | 54.29 | 17.00 | 37.29  | 74.00 | -19.71 | 400  | 282  | Peak   | Vertical  |      |
| 2 *  | 2480.00 | 92.85 | 55.06 | 37.79  | 74.00 | 18.85  | 400  | 282  | Peak   | Vertical  |      |
| 3    | 2543.05 | 55.73 | 17.83 | 37.90  | 74.00 | -18.27 | 400  | 282  | Peak   | Vertical  |      |

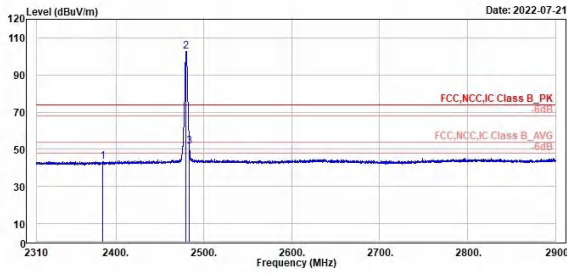
ZIGBEE 2Mbps

CH26 (Horizontal) Average

CH26 (Vertical) Average



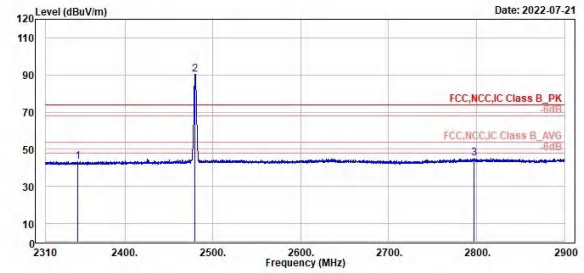
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| Freq | Level   | Read   | Level | Factor | Limit | Over   | APos | TPos | Remark  | Pol/Phase  | Note |
|------|---------|--------|-------|--------|-------|--------|------|------|---------|------------|------|
| MHz  | dBuV/m  | dBuV   | dB/m  | dBuV/m | dB    | dB     | cm   | deg  |         |            |      |
| 1    | 2385.17 | 43.36  | 5.81  | 37.55  | 54.00 | -10.64 | 300  | 198  | Average | Horizontal |      |
| 2 *  | 2480.00 | 102.67 | 64.88 | 37.79  | 54.00 | 48.67  | 300  | 198  | Average | Horizontal |      |
| 3 !  | 2483.46 | 51.40  | 13.60 | 37.80  | 54.00 | -2.60  | 300  | 198  | Average | Horizontal |      |



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| 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    | 2346.11 | 43.49 | 6.13  | 37.36  | 54.00 | -10.51 | 400  | 282  | Average | Vertical  |      |
| 2 *  | 2480.00 | 90.24 | 52.45 | 37.79  | 54.00 | 36.24  | 400  | 282  | Average | Vertical  |      |
| 3    | 2797.10 | 45.09 | 6.89  | 38.20  | 54.00 | -8.91  | 400  | 282  | Average | Vertical  |      |

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

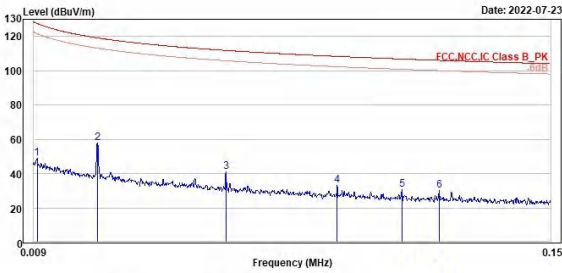
## ZIGBEE 2Mbps

### CH17 (Open) 9kHz~150kHz

### CH17 (Open) 150kHz~30MHz



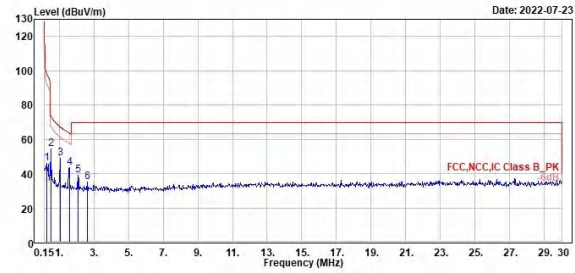
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|   | Freq | Level  | Read  | Limit | Over   | APos   | TPos | Remark | Pol/Phase | Note |
|---|------|--------|-------|-------|--------|--------|------|--------|-----------|------|
|   | MHz  | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg    |           |      |
| 1 | 0.01 | 48.78  | 31.07 | 17.71 | 127.68 | -78.82 | 100  | 118 QP | Open      |      |
| 2 | 0.03 | 57.70  | 38.51 | 19.19 | 119.13 | -61.43 | 100  | 340 QP | Open      |      |
| 3 | 0.06 | 41.10  | 22.04 | 19.06 | 111.82 | -70.72 | 100  | 103 QP | Open      |      |
| 4 | 0.09 | 33.34  | 14.95 | 18.39 | 108.34 | -75.00 | 100  | 156 QP | Open      |      |
| 5 | 0.11 | 30.51  | 12.26 | 18.25 | 106.62 | -76.31 | 100  | 190 QP | Open      |      |
| 6 | 0.12 | 30.19  | 11.90 | 18.29 | 106.05 | -75.86 | 100  | 164 QP | Open      |      |



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|   | Freq | Level  | Read  | Limit | Over   | APos   | TPos | Remark | Pol/Phase | Note |
|---|------|--------|-------|-------|--------|--------|------|--------|-----------|------|
|   | MHz  | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg    |           |      |
| 1 | 0.27 | 45.88  | 27.06 | 18.82 | 98.99  | -53.11 | 100  | 170 QP | Open      |      |
| 2 | 0.51 | 54.59  | 35.64 | 18.95 | 73.48  | -18.89 | 100  | 164 QP | Open      |      |
| 3 | 1.05 | 48.90  | 29.63 | 19.27 | 67.22  | -18.32 | 100  | 166 QP | Open      |      |
| 4 | 1.58 | 43.44  | 24.09 | 19.35 | 63.62  | -20.18 | 100  | 177 QP | Open      |      |
| 5 | 2.09 | 39.27  | 19.85 | 19.42 | 69.50  | -30.23 | 100  | 177 QP | Open      |      |
| 6 | 2.63 | 35.00  | 15.52 | 19.48 | 69.50  | -34.50 | 100  | 163 QP | Open      |      |

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

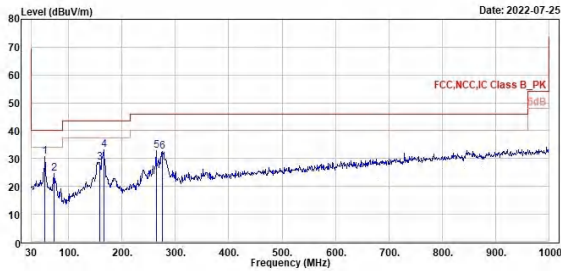
**ZIGBEE 2Mbps**

**CH17 (Horizontal)**

**CH17 (Vertical)**



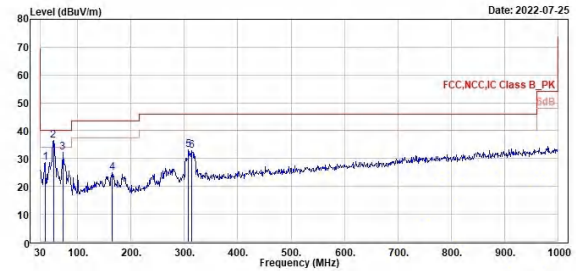
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|   | Freq   | Level  | Read  | Limit | Over   | APos   | TPos | Remark | Pol/Phase  | Note |
|---|--------|--------|-------|-------|--------|--------|------|--------|------------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg    |            |      |
| 1 | 55.22  | 30.76  | 37.28 | -6.52 | 40.00  | -9.24  | 100  | 113 QP | Horizontal |      |
| 2 | 72.68  | 24.61  | 33.63 | -9.02 | 40.00  | -15.39 | 100  | 266 QP | Horizontal |      |
| 3 | 158.04 | 28.74  | 34.81 | -6.07 | 43.50  | -14.76 | 200  | 90 QP  | Horizontal |      |
| 4 | 165.80 | 33.06  | 39.05 | -5.99 | 43.50  | -10.44 | 200  | 256 QP | Horizontal |      |
| 5 | 263.77 | 32.72  | 38.88 | -6.16 | 46.00  | -13.28 | 100  | 258 QP | Horizontal |      |
| 6 | 275.41 | 32.46  | 37.89 | -5.43 | 46.00  | -13.54 | 100  | 273 QP | Horizontal |      |



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|   | Freq   | Level  | Read  | Limit | Over   | APos   | TPos | Remark | Pol/Phase | Note |
|---|--------|--------|-------|-------|--------|--------|------|--------|-----------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg    |           |      |
| 1 | 38.73  | 28.63  | 34.98 | -6.35 | 40.00  | -11.37 | 100  | 19 QP  | Vertical  |      |
| 2 | 54.25  | 36.45  | 42.85 | -6.40 | 40.00  | -3.55  | 100  | 282 QP | Vertical  |      |
| 3 | 71.71  | 32.13  | 41.04 | -8.91 | 40.00  | -7.87  | 100  | 141 QP | Vertical  |      |
| 4 | 164.83 | 25.03  | 30.95 | -5.92 | 43.50  | -18.47 | 200  | 12 QP  | Vertical  |      |
| 5 | 307.42 | 33.10  | 37.81 | -4.71 | 46.00  | -12.90 | 100  | 216 QP | Vertical  |      |
| 6 | 314.21 | 33.00  | 37.61 | -4.61 | 46.00  | -13.00 | 100  | 216 QP | Vertical  |      |

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

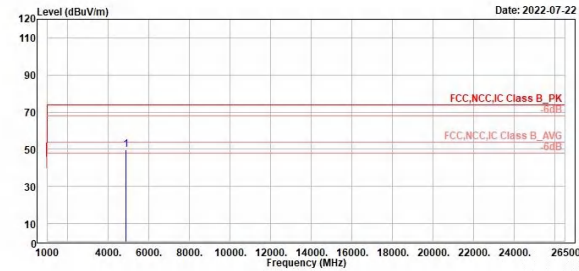
**ZIGBEE 250kbps**

**CH17 (Horizontal)**

**CH17 (Vertical)**



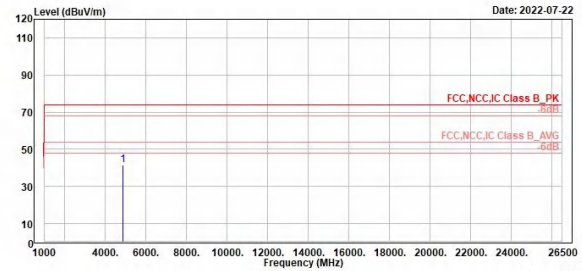
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| Freq | Level   | Read  | Level | Limit  | Over  | APos   | TPos | Remark   | Pol/Phase  | Note |
|------|---------|-------|-------|--------|-------|--------|------|----------|------------|------|
| MHz  | dBuV/m  | dBuV  | dB/m  | dBuV/m | dB    | cm     | deg  |          |            |      |
| 1    | 4870.00 | 49.94 | 59.78 | -9.76  | 74.00 | -24.06 | 100  | 325 Peak | Horizontal |      |



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| Freq | Level   | Read  | Level | Limit  | Over  | APos   | TPos | Remark   | Pol/Phase | Note |
|------|---------|-------|-------|--------|-------|--------|------|----------|-----------|------|
| MHz  | dBuV/m  | dBuV  | dB/m  | dBuV/m | dB    | cm     | deg  |          |           |      |
| 1    | 4870.00 | 41.39 | 51.15 | -9.76  | 74.00 | -32.61 | 275  | 237 Peak | Vertical  |      |

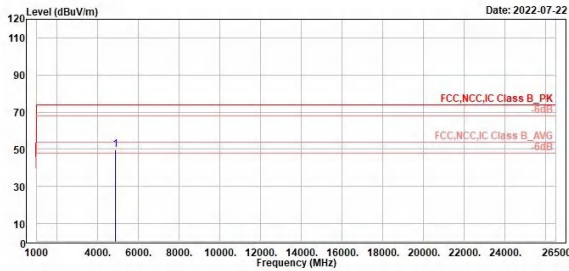
**ZIGBEE 2Mbps**

**CH17 (Horizontal)**

**CH17 (Vertical)**



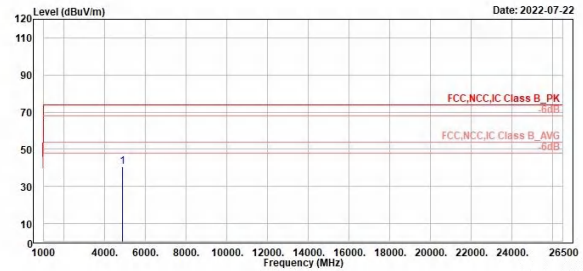
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| Freq      | Level  | Read  | Level | Limit  | Over   | APos | TPos | Remark | Pol/Phase  | Note |
|-----------|--------|-------|-------|--------|--------|------|------|--------|------------|------|
| MHz       | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg  |        |            |      |
| 1 4870.00 | 49.89  | 59.65 | -9.76 | 74.00  | -24.11 | 100  | 317  | Peak   | Horizontal |      |



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| Freq      | Level  | Read  | Level | Limit  | Over   | APos | TPos | Remark | Pol/Phase | Note |
|-----------|--------|-------|-------|--------|--------|------|------|--------|-----------|------|
| MHz       | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg  |        |           |      |
| 1 4870.00 | 40.61  | 50.37 | -9.76 | 74.00  | -33.39 | 400  | 23   | Peak   | Vertical  |      |

# Test Results of Radiated Spurious Emissions & Mains Conducted

## Emission Test for ANT 4 (UFL, ECC, 2 Source, Buck PWM On)

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

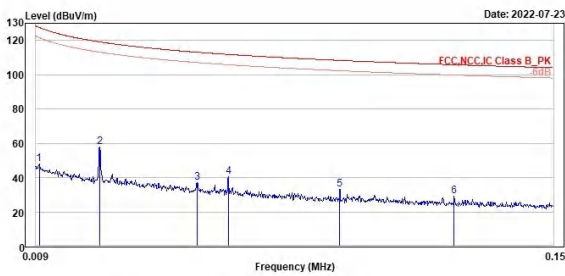
#### ZIGBEE 2Mbps

##### CH17 (Open) 9kHz~150kHz

##### CH17 (Open) 150kHz~30MHz



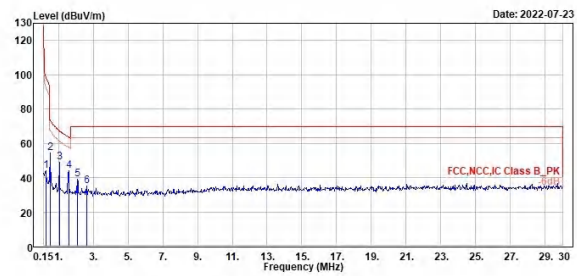
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|   | Freq | Level  | Read  | Factor | Limit  | Over   | APos | TPos | Remark | Pol/Phase | Note |
|---|------|--------|-------|--------|--------|--------|------|------|--------|-----------|------|
|   | MHz  | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg  |        |           |      |
| 1 | 0.01 | 47.95  | 30.24 | 17.71  | 127.60 | -79.65 | 100  | 228  | QP     | Open      |      |
| 2 | 0.03 | 58.04  | 38.05 | 19.19  | 119.13 | -61.09 | 100  | 320  | QP     | Open      |      |
| 3 | 0.05 | 37.31  | 18.07 | 19.24  | 113.11 | -75.08 | 100  | 252  | QP     | Open      |      |
| 4 | 0.06 | 40.58  | 21.52 | 19.06  | 111.82 | -71.24 | 100  | 34   | QP     | Open      |      |
| 5 | 0.09 | 33.29  | 14.90 | 18.39  | 108.34 | -75.05 | 100  | 173  | QP     | Open      |      |
| 6 | 0.12 | 29.02  | 10.72 | 18.30  | 105.00 | -76.78 | 100  | 302  | QP     | Open      |      |



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|   | Freq | Level  | Read  | Factor | Limit  | Over   | APos | TPos | Remark | Pol/Phase | Note |
|---|------|--------|-------|--------|--------|--------|------|------|--------|-----------|------|
|   | MHz  | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg  |        |           |      |
| 1 | 0.27 | 44.16  | 25.34 | 18.82  | 98.99  | -54.83 | 100  | 201  | QP     | Open      |      |
| 2 | 0.51 | 54.60  | 35.65 | 18.95  | 73.40  | -18.88 | 100  | 157  | QP     | Open      |      |
| 3 | 1.05 | 49.00  | 29.73 | 19.27  | 67.22  | -18.22 | 100  | 160  | QP     | Open      |      |
| 4 | 1.58 | 43.81  | 24.46 | 19.35  | 63.62  | -19.81 | 100  | 165  | QP     | Open      |      |
| 5 | 2.09 | 39.15  | 19.73 | 19.42  | 69.50  | -30.35 | 100  | 162  | QP     | Open      |      |
| 6 | 2.63 | 34.91  | 15.43 | 19.48  | 69.50  | -34.59 | 100  | 149  | QP     | Open      |      |

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

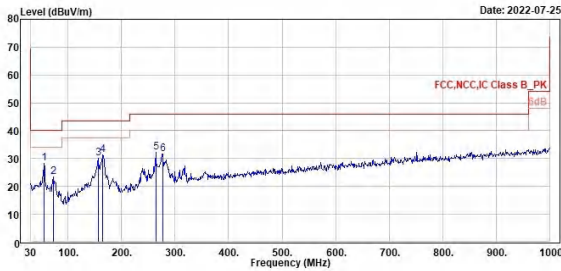
## ZIGBEE 2Mbps

### CH17 (Horizontal)

### CH17 (Vertical)



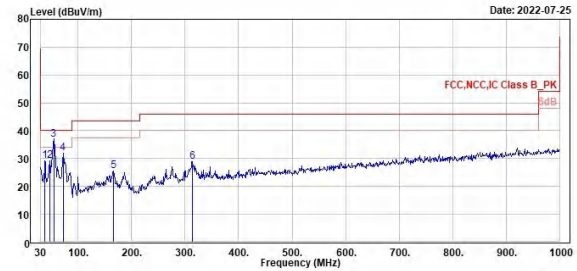
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|   | Freq   | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark     | Pol/Phase | Note |
|---|--------|--------|-------|-------|--------|--------|------|------|------|------------|-----------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg  |      |            |           |      |
| 1 | 55.22  | 28.41  | 34.93 | -6.52 | 40.00  | -11.59 | 200  | 47   | QP   | Horizontal |           |      |
| 2 | 72.68  | 23.42  | 32.44 | -9.02 | 40.00  | -16.58 | 100  | 277  | QP   | Horizontal |           |      |
| 3 | 156.10 | 30.13  | 36.21 | -6.08 | 43.50  | -13.37 | 200  | 106  | QP   | Horizontal |           |      |
| 4 | 164.83 | 31.37  | 37.29 | -5.92 | 43.50  | -12.13 | 200  | 291  | QP   | Horizontal |           |      |
| 5 | 263.77 | 32.36  | 38.52 | -6.16 | 46.00  | -13.64 | 100  | 101  | QP   | Horizontal |           |      |
| 6 | 276.38 | 31.53  | 36.94 | -5.41 | 46.00  | -14.47 | 100  | 308  | QP   | Horizontal |           |      |



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|   | 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 | 37.76  | 29.18  | 35.75 | -6.57 | 40.00  | -10.82 | 100  | 112  | QP   | Vertical |           |      |
| 2 | 46.49  | 29.29  | 35.16 | -5.87 | 40.00  | -10.71 | 100  | 202  | QP   | Vertical |           |      |
| 3 | 54.25  | 36.85  | 43.25 | -6.40 | 40.00  | -3.15  | 100  | 28   | QP   | Vertical |           |      |
| 4 | 71.71  | 32.03  | 40.94 | -8.91 | 40.00  | -7.97  | 100  | 58   | QP   | Vertical |           |      |
| 5 | 165.80 | 25.49  | 31.48 | -5.99 | 43.50  | -18.01 | 200  | 201  | QP   | Vertical |           |      |
| 6 | 313.24 | 28.88  | 35.51 | -6.63 | 46.00  | -17.12 | 100  | 207  | QP   | Vertical |           |      |

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

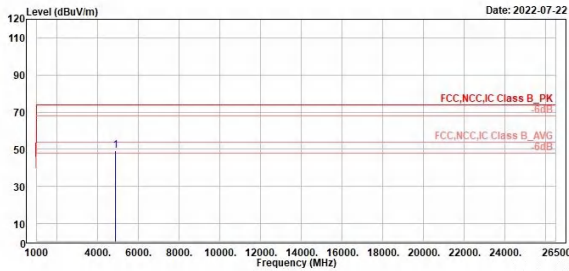
### ZIGBEE 2Mbps

#### CH17 (Horizontal)

#### CH17 (Vertical)



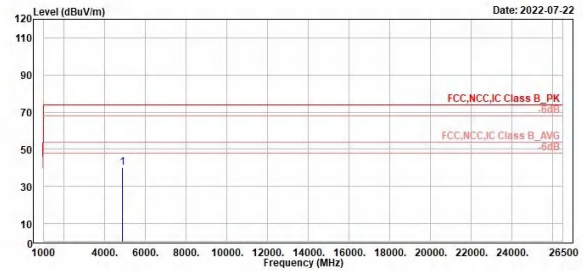
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| Freq      | Level  | Read  | Level | Limit  | Over   | APos | TPos | Remark | Pol/Phase  | Note |
|-----------|--------|-------|-------|--------|--------|------|------|--------|------------|------|
| MHz       | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg  |        |            |      |
| 1 4870.00 | 49.23  | 58.99 | -9.76 | 74.00  | -24.77 | 266  | 0    | Peak   | Horizontal |      |



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| Freq      | Level  | Read  | Level | Limit  | Over   | APos | TPos | Remark | Pol/Phase | Note |
|-----------|--------|-------|-------|--------|--------|------|------|--------|-----------|------|
| MHz       | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg  |        |           |      |
| 1 4870.00 | 40.15  | 49.91 | -9.76 | 74.00  | -33.85 | 400  | 160  | Peak   | Vertical  |      |

# Test Results of Radiated Spurious Emissions & Mains Conducted

## Emission Test for ANT 4 (UFL, Non-ECC)

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

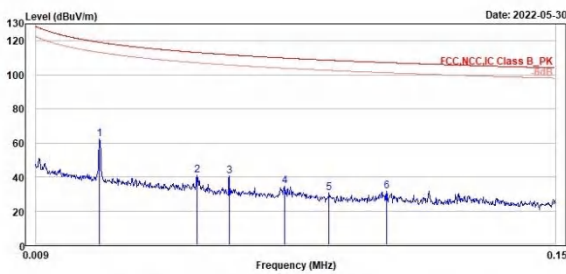
#### ZIGBEE 250kbps

##### CH11 (Open) 9kHz~150kHz

##### CH11 (Open) 150kHz~30MHz



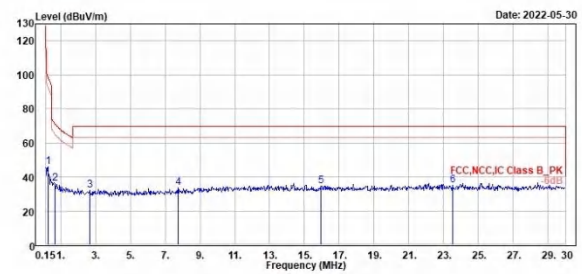
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|   | Freq | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark | Pol/Phase | Note |
|---|------|--------|-------|-------|--------|--------|------|------|------|--------|-----------|------|
|   | MHz  | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg  |      |        |           |      |
| 1 | 0.03 | 62.12  | 42.94 | 19.18 | 119.18 | -57.06 | 100  | 42   | QP   | Open   |           |      |
| 2 | 0.05 | 41.21  | 21.96 | 19.25 | 113.16 | -71.95 | 100  | 85   | QP   | Open   |           |      |
| 3 | 0.06 | 40.56  | 21.50 | 19.06 | 111.82 | -71.26 | 100  | 305  | QP   | Open   |           |      |
| 4 | 0.08 | 34.52  | 15.79 | 18.73 | 109.93 | -75.41 | 100  | 32   | QP   | Open   |           |      |
| 5 | 0.09 | 30.54  | 12.08 | 18.46 | 108.65 | -78.11 | 100  | 11   | QP   | Open   |           |      |
| 6 | 0.10 | 31.61  | 13.38 | 18.23 | 107.24 | -75.63 | 100  | 18   | QP   | Open   |           |      |



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|   | 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 | 0.27  | 45.86  | 27.04 | 18.82 | 98.99  | -53.13 | 100  | 164  | QP   | Open   |           |      |
| 2 | 0.66  | 36.07  | 17.03 | 19.04 | 71.25  | -35.18 | 100  | 164  | QP   | Open   |           |      |
| 3 | 2.66  | 32.21  | 12.72 | 19.49 | 69.50  | -37.29 | 100  | 21   | QP   | Open   |           |      |
| 4 | 7.73  | 33.61  | 13.12 | 20.49 | 69.50  | -35.89 | 100  | 34   | QP   | Open   |           |      |
| 5 | 15.97 | 34.75  | 12.83 | 21.92 | 69.50  | -34.75 | 100  | 275  | QP   | Open   |           |      |
| 6 | 23.52 | 35.09  | 12.73 | 22.36 | 69.50  | -34.41 | 100  | 81   | QP   | Open   |           |      |

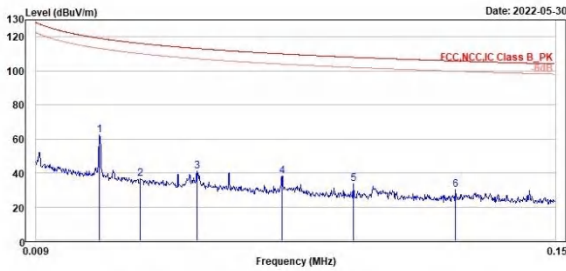
ZIGBEE 250kbps

CH11 (Close) 9kHz~150kHz

CH11 (Close) 150kHz~30MHz



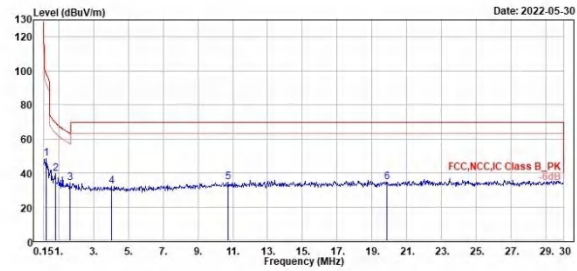
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|   | Freq | Level  | Read  | Factor | Limit  | Over   | APos | TPos | Remark | Pol/Phase | Note |
|---|------|--------|-------|--------|--------|--------|------|------|--------|-----------|------|
|   | MHz  | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg  |        |           |      |
| 1 | 0.03 | 62.05  | 42.07 | 19.18  | 119.18 | -57.13 | 100  | 335  | QP     | Close     |      |
| 2 | 0.04 | 36.36  | 16.92 | 19.44  | 116.15 | -79.79 | 100  | 101  | QP     | Close     |      |
| 3 | 0.05 | 40.97  | 21.72 | 19.25  | 113.13 | -72.16 | 100  | 156  | QP     | Close     |      |
| 4 | 0.08 | 38.26  | 19.52 | 18.74  | 110.00 | -71.74 | 100  | 115  | QP     | Close     |      |
| 5 | 0.10 | 33.46  | 15.13 | 18.33  | 108.03 | -74.57 | 100  | 155  | QP     | Close     |      |
| 6 | 0.12 | 29.91  | 11.61 | 18.30  | 105.80 | -75.89 | 100  | 152  | QP     | Close     |      |



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|   | Freq  | Level  | Read  | Factor | Limit  | Over   | APos | TPos | Remark | Pol/Phase | Note |
|---|-------|--------|-------|--------|--------|--------|------|------|--------|-----------|------|
|   | MHz   | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg  |        |           |      |
| 1 | 0.30  | 48.68  | 29.74 | 18.94  | 98.08  | -68.34 | 100  | 61   | QP     | Close     |      |
| 2 | 0.81  | 39.46  | 20.32 | 19.14  | 69.47  | -49.15 | 100  | 360  | QP     | Close     |      |
| 3 | 1.64  | 34.09  | 14.73 | 19.36  | 63.29  | -48.56 | 100  | 360  | QP     | Close     |      |
| 4 | 4.03  | 32.09  | 12.64 | 19.45  | 69.50  | -56.86 | 100  | 153  | QP     | Close     |      |
| 5 | 10.75 | 34.84  | 13.29 | 21.55  | 69.50  | -56.21 | 100  | 24   | QP     | Close     |      |
| 6 | 19.85 | 34.75  | 12.56 | 22.19  | 69.50  | -56.94 | 100  | 31   | QP     | Close     |      |

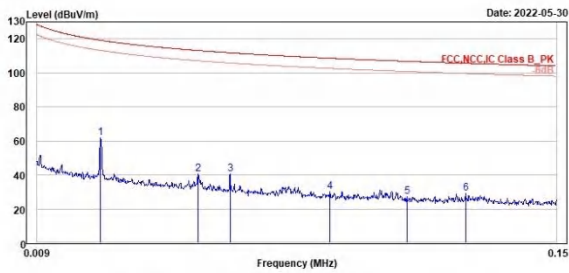
ZIGBEE 2Mbps

CH11 (Open) 9kHz~150kHz

CH11 (Open) 150kHz~30MHz



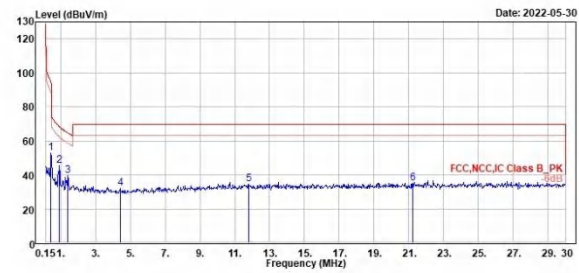
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|   | Freq | Level  | Read  | Factor | Limit  | Over   | APos | TPos   | Remark | Pol/Phase | Note |
|---|------|--------|-------|--------|--------|--------|------|--------|--------|-----------|------|
|   | MHz  | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg    |        |           |      |
| 1 | 0.03 | 61.86  | 42.68 | 19.18  | 119.18 | -76.50 | 100  | 39 QP  | Open   |           |      |
| 2 | 0.05 | 48.78  | 21.45 | 19.25  | 113.13 | -91.68 | 100  | 4 QP   | Open   |           |      |
| 3 | 0.06 | 48.67  | 21.61 | 19.06  | 111.82 | -90.21 | 100  | 128 QP | Open   |           |      |
| 4 | 0.09 | 38.17  | 11.71 | 18.46  | 108.65 | -96.94 | 100  | 288 QP | Open   |           |      |
| 5 | 0.11 | 27.13  | 8.88  | 18.25  | 106.82 | -97.94 | 100  | 125 QP | Open   |           |      |
| 6 | 0.13 | 28.95  | 10.64 | 18.31  | 105.64 | -95.00 | 100  | 146 QP | Open   |           |      |



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|   | Freq  | Level  | Read  | Factor | Limit  | Over   | APos | TPos   | Remark | Pol/Phase | Note |
|---|-------|--------|-------|--------|--------|--------|------|--------|--------|-----------|------|
|   | MHz   | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg    |        |           |      |
| 1 | 0.45  | 52.81  | 33.86 | 18.95  | 94.57  | -60.71 | 100  | 126 QP | Open   |           |      |
| 2 | 0.93  | 45.41  | 26.18 | 19.23  | 68.27  | -42.09 | 100  | 126 QP | Open   |           |      |
| 3 | 1.48  | 39.73  | 20.48 | 19.33  | 64.66  | -44.18 | 100  | 126 QP | Open   |           |      |
| 4 | 4.42  | 31.96  | 12.55 | 19.41  | 69.58  | -57.03 | 100  | 360 QP | Open   |           |      |
| 5 | 11.79 | 34.36  | 12.73 | 21.63  | 69.58  | -56.85 | 100  | 110 QP | Open   |           |      |
| 6 | 21.22 | 35.13  | 12.87 | 22.26  | 69.58  | -56.71 | 100  | 334 QP | Open   |           |      |

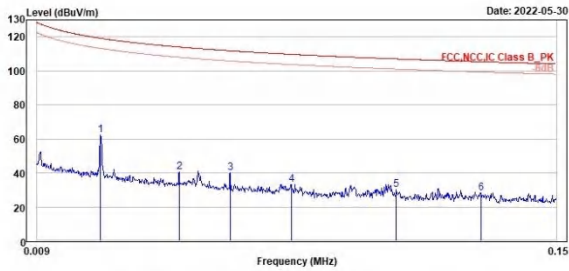
ZIGBEE 2Mbps

CH11 (Close) 9kHz~150kHz

CH11 (Close) 150kHz~30MHz



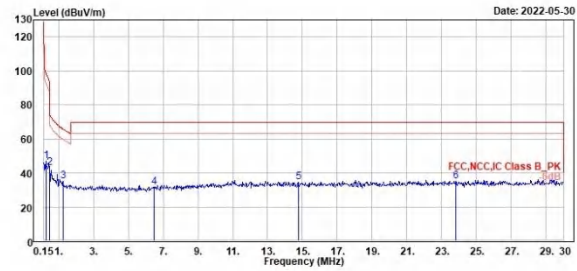
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|   | Freq | Level  | Read  | Factor | Limit  | Over   | APos | TPos | Remark | Pol/Phase | Note |
|---|------|--------|-------|--------|--------|--------|------|------|--------|-----------|------|
|   | MHz  | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg  |        |           |      |
| 1 | 0.03 | 62.06  | 42.08 | 19.18  | 119.18 | -57.12 | 100  | 113  | QP     | Close     |      |
| 2 | 0.05 | 48.33  | 21.00 | 19.33  | 114.03 | -73.70 | 100  | 139  | QP     | Close     |      |
| 3 | 0.06 | 39.82  | 20.76 | 19.06  | 111.82 | -72.00 | 100  | 231  | QP     | Close     |      |
| 4 | 0.08 | 33.35  | 14.66 | 18.69  | 109.74 | -76.39 | 100  | 155  | QP     | Close     |      |
| 5 | 0.11 | 30.34  | 12.10 | 18.24  | 107.04 | -76.70 | 100  | 158  | QP     | Close     |      |
| 6 | 0.13 | 28.28  | 9.96  | 18.32  | 105.35 | -77.07 | 100  | 155  | QP     | Close     |      |



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|   | Freq  | Level  | Read  | Factor | Limit  | Over   | APos | TPos | Remark | Pol/Phase | Note |
|---|-------|--------|-------|--------|--------|--------|------|------|--------|-----------|------|
|   | MHz   | dBuV/m | dBuV  | dB/m   | dBuV/m | dB     | cm   | deg  |        |           |      |
| 1 | 0.27  | 46.82  | 28.00 | 18.82  | 98.99  | -52.17 | 100  | 146  | QP     | Close     |      |
| 2 | 0.48  | 42.76  | 23.81 | 18.95  | 94.81  | -51.25 | 100  | 322  | QP     | Close     |      |
| 3 | 1.25  | 35.00  | 15.69 | 19.31  | 65.64  | -30.64 | 100  | 62   | QP     | Close     |      |
| 4 | 6.48  | 31.88  | 11.91 | 19.97  | 69.50  | -37.62 | 100  | 29   | QP     | Close     |      |
| 5 | 14.78 | 34.52  | 12.68 | 21.84  | 69.50  | -34.98 | 100  | 53   | QP     | Close     |      |
| 6 | 23.79 | 35.22  | 12.85 | 22.37  | 69.50  | -34.28 | 100  | 249  | QP     | Close     |      |

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

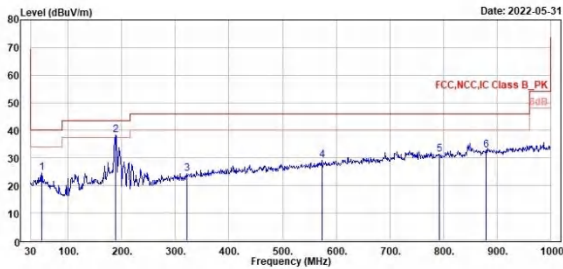
**ZIGBEE 250kbps**

**CH11 (Horizontal)**

**CH11 (Vertical)**



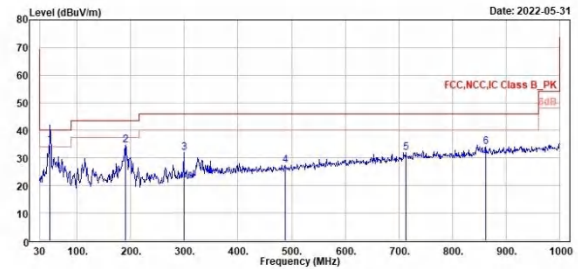
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|   | Freq   | Level  | Read  | Limit | Over   | APos   | TPos | Remark | Pol/Phase  | Note |
|---|--------|--------|-------|-------|--------|--------|------|--------|------------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg    |            |      |
| 1 | 50.37  | 24.58  | 30.70 | -6.12 | 40.00  | -15.42 | 147  | 360 QP | Horizontal |      |
| 2 | 188.11 | 38.26  | 46.50 | -8.24 | 43.50  | -5.24  | 200  | 287 QP | Horizontal |      |
| 3 | 321.00 | 24.30  | 28.67 | -4.37 | 46.00  | -21.70 | 200  | 152 QP | Horizontal |      |
| 4 | 573.20 | 29.22  | 29.55 | -0.33 | 46.00  | -16.78 | 200  | 44 QP  | Horizontal |      |
| 5 | 792.42 | 31.38  | 28.26 | 3.12  | 46.00  | -14.62 | 200  | 96 QP  | Horizontal |      |
| 6 | 879.72 | 32.97  | 28.73 | 4.24  | 46.00  | -13.03 | 200  | 34 QP  | Horizontal |      |



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|   | Freq   | Level  | Read  | Limit | Over   | APos   | TPos | Remark | Pol/Phase | Note |
|---|--------|--------|-------|-------|--------|--------|------|--------|-----------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg    |           |      |
| 1 | 49.40  | 34.61  | 40.70 | -6.09 | 40.00  | -5.39  | 200  | 200 QP | Vertical  |      |
| 2 | 190.05 | 34.53  | 42.94 | -8.41 | 43.50  | -8.97  | 200  | 117 QP | Vertical  |      |
| 3 | 298.69 | 32.05  | 36.80 | -4.75 | 46.00  | -13.95 | 172  | 360 QP | Vertical  |      |
| 4 | 487.84 | 27.25  | 29.15 | -1.90 | 46.00  | -18.75 | 200  | 6 QP   | Vertical  |      |
| 5 | 712.88 | 31.95  | 30.21 | 1.74  | 46.00  | -14.05 | 100  | 2 QP   | Vertical  |      |
| 6 | 862.26 | 34.22  | 30.05 | 4.17  | 46.00  | -11.78 | 200  | 332 QP | Vertical  |      |

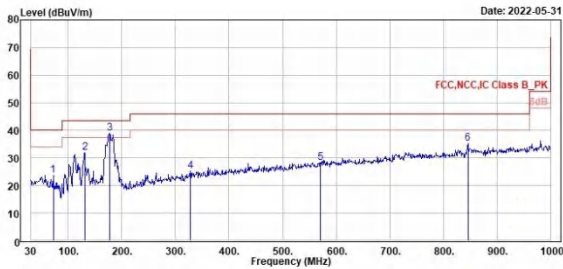
ZIGBEE 2Mbps

CH11 (Horizontal)

CH11 (Vertical)



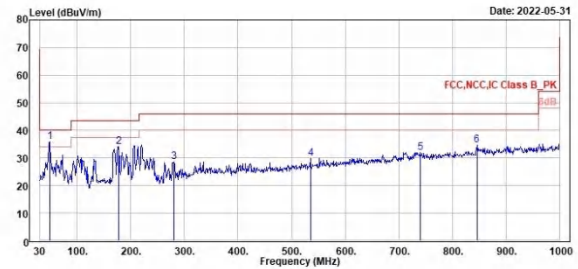
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|   | Freq   | Level  | Read  | Limit | Over   | APos   | TPos | Remark | Pol/Phase  | Note |
|---|--------|--------|-------|-------|--------|--------|------|--------|------------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg    |            |      |
| 1 | 71.71  | 23.76  | 32.67 | -8.91 | 40.00  | -16.24 | 200  | 263 QP | Horizontal |      |
| 2 | 130.68 | 31.92  | 39.13 | -7.21 | 43.50  | -11.58 | 200  | 263 QP | Horizontal |      |
| 3 | 176.47 | 38.80  | 45.72 | -6.92 | 43.50  | -4.70  | 200  | 263 QP | Horizontal |      |
| 4 | 327.79 | 25.20  | 29.26 | -4.06 | 46.00  | -20.80 | 100  | 58 QP  | Horizontal |      |
| 5 | 570.29 | 28.31  | 28.68 | -0.37 | 46.00  | -17.69 | 100  | 310 QP | Horizontal |      |
| 6 | 845.77 | 35.21  | 31.48 | 3.73  | 46.00  | -10.79 | 101  | 360 QP | Horizontal |      |



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|   | Freq   | Level  | Read  | Limit | Over   | APos   | TPos | Remark | Pol/Phase | Note |
|---|--------|--------|-------|-------|--------|--------|------|--------|-----------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg    |           |      |
| 1 | 48.43  | 35.76  | 41.85 | -6.09 | 40.00  | -4.24  | 200  | 204 QP | Vertical  |      |
| 2 | 176.47 | 34.21  | 41.13 | -6.92 | 43.50  | -9.29  | 100  | 332 QP | Vertical  |      |
| 3 | 280.26 | 28.62  | 33.93 | -5.31 | 46.00  | -17.38 | 100  | 199 QP | Vertical  |      |
| 4 | 535.37 | 29.85  | 31.02 | -1.17 | 46.00  | -16.15 | 200  | 106 QP | Vertical  |      |
| 5 | 741.01 | 31.92  | 29.48 | 2.44  | 46.00  | -14.00 | 100  | 283 QP | Vertical  |      |
| 6 | 845.77 | 34.58  | 30.85 | 3.73  | 46.00  | -11.42 | 200  | 177 QP | Vertical  |      |

## Test Results of Radiated Spurious Emissions for ANT 4

### (Non-ECC)\_2<sup>nd</sup> Source

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

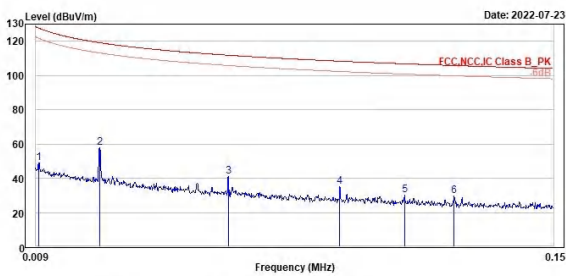
#### ZIGBEE 2Mbps

##### CH17 (Open) 9kHz~150kHz

##### CH17 (Open) 150kHz~30MHz



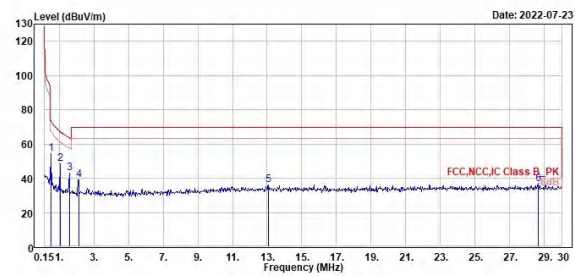
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|   | Freq | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark | Pol/Phase | Note |
|---|------|--------|-------|-------|--------|--------|------|------|------|--------|-----------|------|
|   | MHz  | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg  |      |        |           |      |
| 1 | 0.01 | 48.77  | 31.01 | 17.76 | 127.72 | -78.95 | 100  | 187  | QP   | Open   |           |      |
| 2 | 0.03 | 57.80  | 38.61 | 19.19 | 119.13 | -61.33 | 100  | 160  | QP   | Open   |           |      |
| 3 | 0.06 | 41.10  | 22.04 | 19.06 | 111.82 | -70.72 | 100  | 252  | QP   | Open   |           |      |
| 4 | 0.09 | 34.99  | 16.60 | 18.39 | 106.34 | -73.35 | 100  | 194  | QP   | Open   |           |      |
| 5 | 0.11 | 30.13  | 11.88 | 18.25 | 106.62 | -76.69 | 100  | 215  | QP   | Open   |           |      |
| 6 | 0.12 | 29.54  | 11.24 | 18.30 | 105.80 | -76.26 | 100  | 214  | QP   | Open   |           |      |



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|   | 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 | 0.51  | 54.41  | 35.46 | 18.95 | 73.48  | -19.07 | 100  | 162  | QP   | Open   |           |      |
| 2 | 1.05  | 48.28  | 29.01 | 19.27 | 67.22  | -18.94 | 100  | 163  | QP   | Open   |           |      |
| 3 | 1.58  | 43.07  | 23.72 | 19.35 | 63.62  | -20.55 | 100  | 149  | QP   | Open   |           |      |
| 4 | 2.12  | 39.04  | 19.62 | 19.42 | 69.50  | -30.46 | 100  | 146  | QP   | Open   |           |      |
| 5 | 13.08 | 35.99  | 14.28 | 21.71 | 69.50  | -33.51 | 100  | 162  | QP   | Open   |           |      |
| 6 | 28.63 | 36.73  | 14.14 | 22.59 | 69.50  | -32.77 | 100  | 134  | QP   | Open   |           |      |

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

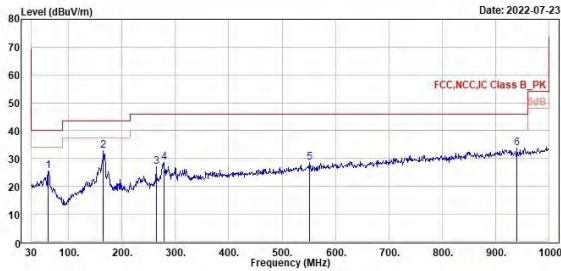
## ZIGBEE 2Mbps

### CH17 (Horizontal)

### CH17 (Vertical)



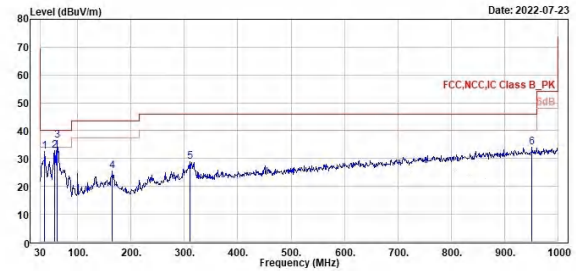
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|   | Freq   | Level  | Read  | Limit | Over   | APos   | TPos | Remark | Pol/Phase  | Note |
|---|--------|--------|-------|-------|--------|--------|------|--------|------------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg    |            |      |
| 1 | 61.04  | 25.68  | 32.85 | -7.17 | 40.00  | -14.32 | 400  | 90 QP  | Horizontal |      |
| 2 | 164.83 | 32.79  | 38.71 | -5.92 | 43.50  | -10.71 | 200  | 276 QP | Horizontal |      |
| 3 | 263.77 | 27.01  | 33.17 | -6.16 | 46.00  | -18.99 | 100  | 77 QP  | Horizontal |      |
| 4 | 278.32 | 28.49  | 33.86 | -5.37 | 46.00  | -17.51 | 100  | 72 QP  | Horizontal |      |
| 5 | 550.89 | 28.69  | 29.47 | -0.78 | 46.00  | -17.31 | 100  | 296 QP | Horizontal |      |
| 6 | 940.83 | 33.63  | 28.38 | 5.25  | 46.00  | -12.37 | 100  | 302 QP | Horizontal |      |



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|   | Freq   | Level  | Read  | Limit | Over   | APos   | TPos | Remark | Pol/Phase | Note |
|---|--------|--------|-------|-------|--------|--------|------|--------|-----------|------|
|   | MHz    | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg    |           |      |
| 1 | 37.76  | 32.48  | 39.05 | -6.57 | 40.00  | -7.52  | 100  | 182 QP | Vertical  |      |
| 2 | 57.16  | 32.86  | 39.57 | -6.71 | 40.00  | -7.14  | 100  | 351 QP | Vertical  |      |
| 3 | 62.01  | 36.36  | 43.82 | -7.46 | 40.00  | -3.64  | 200  | 351 QP | Vertical  |      |
| 4 | 164.83 | 25.67  | 31.59 | -5.92 | 43.50  | -17.83 | 300  | 198 QP | Vertical  |      |
| 5 | 310.33 | 28.77  | 33.44 | -4.67 | 46.00  | -17.23 | 100  | 360 QP | Vertical  |      |
| 6 | 951.50 | 34.04  | 28.52 | 5.52  | 46.00  | -11.96 | 200  | 72 QP  | Vertical  |      |

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

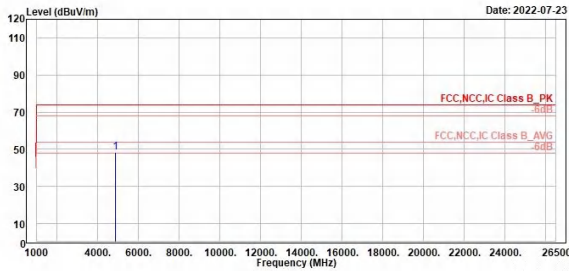
### ZIGBEE

#### CH17 (Horizontal)

#### CH17 (Vertical)



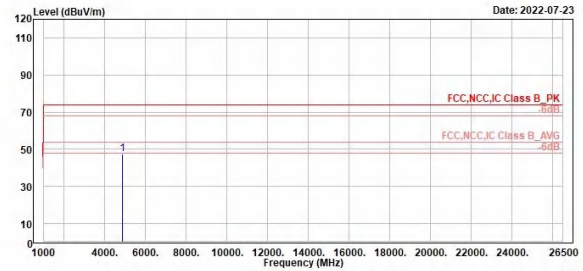
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| Freq | Level   | Read  | Level | Limit  | Over  | APos   | TPos | Remark   | Pol/Phase  | Note |
|------|---------|-------|-------|--------|-------|--------|------|----------|------------|------|
| MHz  | dBuV/m  | dBuV  | dB/m  | dBuV/m | dB    | cm     | deg  |          |            |      |
| 1    | 4870.00 | 48.32 | 58.08 | -9.76  | 74.00 | -25.68 | 100  | 330 Peak | Horizontal |      |



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| Freq | Level   | Read  | Level | Limit  | Over  | APos   | TPos | Remark   | Pol/Phase | Note |
|------|---------|-------|-------|--------|-------|--------|------|----------|-----------|------|
| MHz  | dBuV/m  | dBuV  | dB/m  | dBuV/m | dB    | cm     | deg  |          |           |      |
| 1    | 4870.00 | 47.49 | 57.25 | -9.76  | 74.00 | -26.51 | 400  | 207 Peak | Vertical  |      |

# Mains Conducted Emission for Ant 4, 150kHz ~ 30MHz

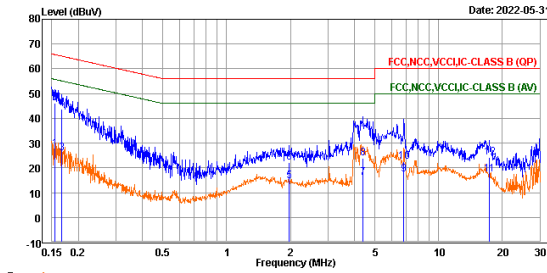
## Worst Band (ECC)

### (Line)

### (Neutral)



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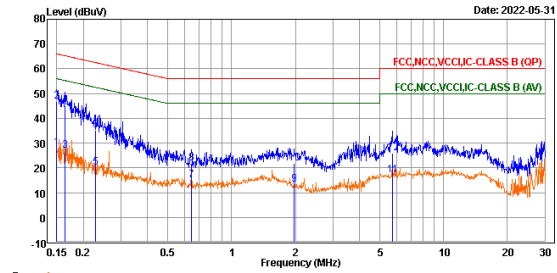


Trace: 1

|    | Freq  | Level | Read         | Limit | Over  |                |                |
|----|-------|-------|--------------|-------|-------|----------------|----------------|
|    | MHz   | dBuV  | Level Factor | Line  | Limit | Remark         | Pol/Phase Note |
|    | MHz   | dBuV  | dB           | dBuV  | dB    |                |                |
| 1  | 0.15  | 27.50 | 17.89        | 9.61  | 55.75 | -28.25 Average | line1          |
| 2  | 0.15  | 46.23 | 36.62        | 9.61  | 65.75 | -19.52 QP      | line1          |
| 3  | 0.17  | 26.06 | 16.45        | 9.61  | 55.13 | -29.07 Average | line1          |
| 4  | 0.17  | 43.68 | 34.07        | 9.61  | 65.13 | -21.45 QP      | line1          |
| 5  | 1.96  | 14.66 | 5.01         | 9.65  | 46.00 | -31.34 Average | line1          |
| 6  | 1.96  | 22.15 | 12.50        | 9.65  | 56.00 | -33.85 QP      | line1          |
| 7  | 4.40  | 15.97 | 6.29         | 9.68  | 46.00 | -30.03 Average | line1          |
| 8  | 4.40  | 23.88 | 14.20        | 9.68  | 56.00 | -32.12 QP      | line1          |
| 9  | 6.86  | 17.29 | 7.58         | 9.71  | 50.00 | -32.71 Average | line1          |
| 10 | 6.86  | 22.44 | 12.73        | 9.71  | 60.00 | -37.56 QP      | line1          |
| 11 | 17.34 | 17.26 | 7.54         | 9.72  | 50.00 | -32.74 Average | line1          |
| 12 | 17.34 | 24.22 | 14.58        | 9.72  | 60.00 | -35.78 QP      | line1          |



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Trace: 1

|    | Freq | Level | Read         | Limit | Over  |                |                |
|----|------|-------|--------------|-------|-------|----------------|----------------|
|    | MHz  | dBuV  | Level Factor | Line  | Limit | Remark         | Pol/Phase Note |
|    | MHz  | dBuV  | dB           | dBuV  | dB    |                |                |
| 1  | 0.15 | 28.01 | 18.42        | 9.59  | 56.00 | -27.99 Average | neutral        |
| 2  | 0.15 | 46.64 | 37.05        | 9.59  | 66.00 | -19.36 QP      | neutral        |
| 3  | 0.16 | 27.12 | 17.53        | 9.59  | 55.30 | -28.18 Average | neutral        |
| 4  | 0.16 | 45.25 | 35.66        | 9.59  | 65.30 | -20.05 QP      | neutral        |
| 5  | 0.23 | 20.16 | 10.57        | 9.59  | 52.52 | -32.36 Average | neutral        |
| 6  | 0.23 | 35.25 | 25.66        | 9.59  | 62.52 | -27.27 QP      | neutral        |
| 7  | 0.65 | 14.90 | 5.30         | 9.60  | 46.00 | -31.10 Average | neutral        |
| 8  | 0.65 | 21.69 | 12.09        | 9.60  | 56.00 | -34.31 QP      | neutral        |
| 9  | 1.97 | 13.26 | 3.63         | 9.63  | 46.00 | -32.74 Average | neutral        |
| 10 | 1.97 | 21.76 | 12.13        | 9.63  | 56.00 | -34.24 QP      | neutral        |
| 11 | 5.73 | 17.17 | 7.48         | 9.69  | 50.00 | -32.83 Average | neutral        |
| 12 | 5.73 | 25.92 | 16.23        | 9.69  | 60.00 | -34.08 QP      | neutral        |

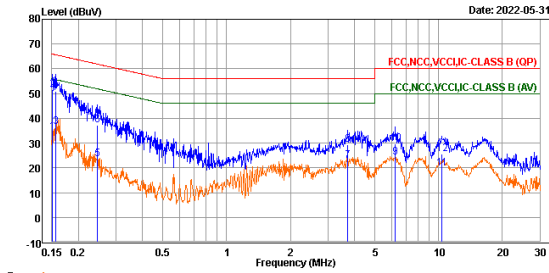
Worst Band (Non-ECC)

(Line)

(Neutral)



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Tel: +886-2112-1000 Fax: +886-2112-1322

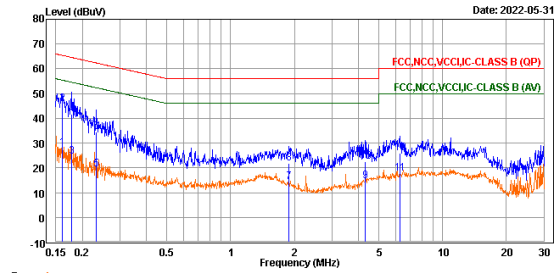


Trace: 1

|    | Freq  | Level | Read   | Limit | Over  |                |           |
|----|-------|-------|--------|-------|-------|----------------|-----------|
|    | MHz   | dBuV  | Level  | Line  | Limit | Remark         | Pol/Phase |
|    |       |       | Factor |       |       |                | Note      |
|    |       |       | dB     | dB    | dB    |                |           |
| 1  | 0.15  | 34.37 | 24.76  | 9.61  | 55.96 | -21.59 Average | line1     |
| 2  | 0.15  | 51.52 | 41.91  | 9.61  | 65.96 | -14.44 QP      | line1     |
| 3  | 0.16  | 36.56 | 26.95  | 9.61  | 55.67 | -19.11 Average | line1     |
| 4  | 0.16  | 50.75 | 41.14  | 9.61  | 65.67 | -14.92 QP      | line1     |
| 5  | 0.25  | 23.48 | 13.87  | 9.61  | 51.90 | -28.42 Average | line1     |
| 6  | 0.25  | 37.17 | 27.56  | 9.61  | 61.90 | -24.73 QP      | line1     |
| 7  | 3.74  | 22.84 | 13.17  | 9.67  | 46.00 | -23.16 Average | line1     |
| 8  | 3.74  | 29.35 | 19.68  | 9.67  | 56.00 | -26.65 QP      | line1     |
| 9  | 6.24  | 24.09 | 14.40  | 9.69  | 50.00 | -25.91 Average | line1     |
| 10 | 6.24  | 29.67 | 19.98  | 9.69  | 60.00 | -30.33 QP      | line1     |
| 11 | 10.32 | 19.86 | 10.13  | 9.73  | 50.00 | -30.14 Average | line1     |
| 12 | 10.32 | 25.46 | 15.73  | 9.73  | 60.00 | -34.54 QP      | line1     |



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Tel: +886-2112-1000 Fax: +886-2112-1322



Trace: 1

|    | Freq | Level | Read   | Limit | Over  |                |           |
|----|------|-------|--------|-------|-------|----------------|-----------|
|    | MHz  | dBuV  | Level  | Line  | Limit | Remark         | Pol/Phase |
|    |      |       | Factor |       |       |                | Note      |
|    |      |       | dB     | dB    | dB    |                |           |
| 1  | 0.16 | 27.98 | 18.39  | 9.59  | 55.42 | -27.44 Average | neutral   |
| 2  | 0.16 | 45.67 | 36.08  | 9.59  | 65.42 | -19.75 QP      | neutral   |
| 3  | 0.18 | 24.56 | 14.97  | 9.59  | 54.59 | -30.03 Average | neutral   |
| 4  | 0.18 | 41.73 | 32.14  | 9.59  | 64.59 | -22.86 QP      | neutral   |
| 5  | 0.23 | 19.53 | 9.94   | 9.59  | 52.36 | -32.83 Average | neutral   |
| 6  | 0.23 | 34.34 | 24.75  | 9.59  | 62.36 | -28.02 QP      | neutral   |
| 7  | 1.89 | 14.34 | 4.71   | 9.63  | 46.00 | -31.66 Average | neutral   |
| 8  | 1.89 | 21.75 | 12.12  | 9.63  | 56.00 | -34.25 QP      | neutral   |
| 9  | 4.32 | 14.78 | 5.11   | 9.67  | 46.00 | -31.22 Average | neutral   |
| 10 | 4.32 | 22.60 | 12.93  | 9.67  | 56.00 | -33.40 QP      | neutral   |
| 11 | 6.27 | 17.70 | 8.00   | 9.70  | 50.00 | -32.30 Average | neutral   |
| 12 | 6.27 | 25.85 | 16.15  | 9.70  | 60.00 | -34.15 QP      | neutral   |

# Test Results of Radiated Spurious Emissions & Mains Conducted

## Emission Test for ANT 5 (ECC)

### Band Edges, 2.31GHz ~ 2.9GHz

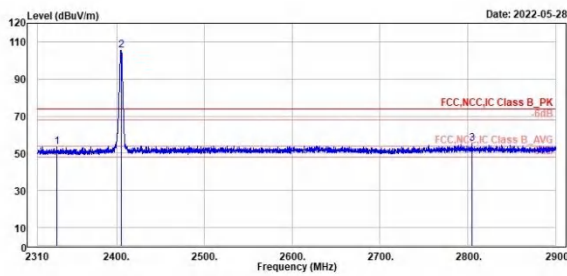
#### ZIGBEE 250kbps

##### CH11 (Horizontal) Peak

##### CH11 (Vertical) Peak



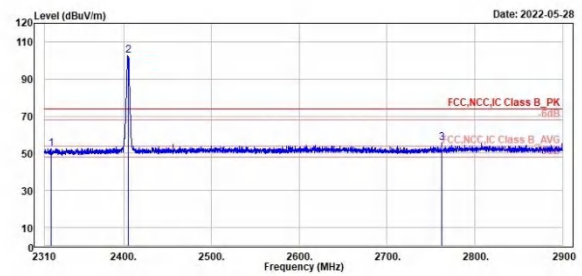
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Tel: +886-2172-1000 Fax: +886-2172-1322



|     | Freq    | Level  | Read  | Limit | Over   | APos   | TPos | Remark  | Pol/Phase  | Note |
|-----|---------|--------|-------|-------|--------|--------|------|---------|------------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg     |            |      |
| 1   | 2331.83 | 53.44  | 16.13 | 37.31 | 74.00  | -20.56 | 277  | 70 Peak | Horizontal |      |
| 2 * | 2405.00 | 105.46 | 67.82 | 37.64 | 74.00  | 31.46  | 277  | 70 Peak | Horizontal |      |
| 3   | 2804.30 | 55.01  | 16.81 | 38.20 | 74.00  | -18.99 | 277  | 70 Peak | Horizontal |      |



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|     | Freq    | Level  | Read  | Limit | Over   | APos   | TPos | Remark   | Pol/Phase | Note |
|-----|---------|--------|-------|-------|--------|--------|------|----------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm   | deg      |           |      |
| 1   | 2317.79 | 52.69  | 15.42 | 37.27 | 74.00  | -21.31 | 315  | 165 Peak | Vertical  |      |
| 2 * | 2405.00 | 102.44 | 64.80 | 37.64 | 74.00  | 28.44  | 315  | 165 Peak | Vertical  |      |
| 3   | 2762.53 | 55.58  | 17.42 | 38.16 | 74.00  | -18.42 | 315  | 165 Peak | Vertical  |      |

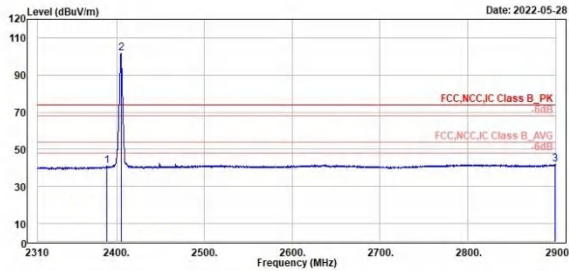
ZIGBEE 250kbps

CH11 (Horizontal) Average

CH11 (Vertical) Average



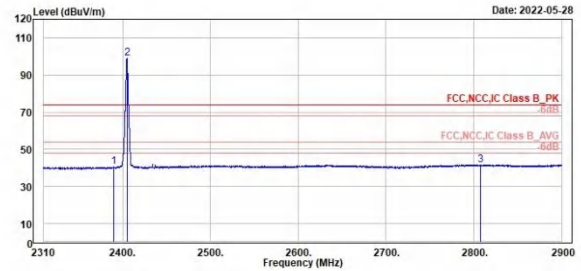
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Tel: +886-2172-1000 Fax: +886-2172-1322



|     | 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   | 2389.30 | 41.06  | 3.48  | 37.58 | 54.00  | -12.94 | 277  | 70   | Average | Horizontal |           |      |
| 2 * | 2405.00 | 101.77 | 64.13 | 37.64 | 54.00  | 47.77  | 277  | 70   | Average | Horizontal |           |      |
| 3   | 2899.29 | 41.81  | 3.39  | 38.42 | 54.00  | -12.19 | 277  | 70   | Average | Horizontal |           |      |



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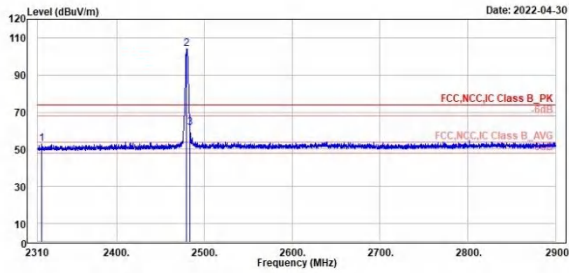
|     | Freq    | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos    | Remark   | Pol/Phase | Note |
|-----|---------|--------|-------|-------|--------|--------|------|------|---------|----------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg     |          |           |      |
| 1   | 2389.65 | 40.60  | 3.02  | 37.58 | 54.00  | -13.40 | 315  | 165  | Average | Vertical |           |      |
| 2 * | 2405.00 | 98.99  | 61.35 | 37.64 | 54.00  | 44.99  | 315  | 165  | Average | Vertical |           |      |
| 3   | 2897.25 | 41.74  | 3.54  | 38.20 | 54.00  | -12.26 | 315  | 165  | Average | Vertical |           |      |

**ZIGBEE 250kbps**

**CH26 (Horizontal) Peak**



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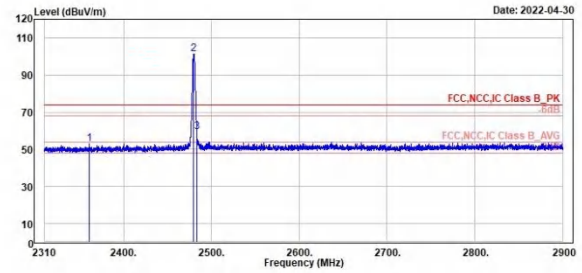


|     | Freq    | Level  | Read  | Level | Factor | Limit  | Over | APos | TPos | Remark     | Pol/Phase | Note |
|-----|---------|--------|-------|-------|--------|--------|------|------|------|------------|-----------|------|
|     | MHz     | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | dB   | cm   | deg  |            |           |      |
| 1   | 2314.48 | 52.87  | 15.61 | 37.26 | 74.00  | -21.13 | 233  | 70   | Peak | Horizontal |           |      |
| 2 * | 2480.00 | 104.03 | 66.24 | 37.79 | 74.00  | 30.03  | 233  | 70   | Peak | Horizontal |           |      |
| 3   | 2483.46 | 61.68  | 23.88 | 37.80 | 74.00  | -12.32 | 233  | 70   | Peak | Horizontal |           |      |

**CH26 (Vertical) Peak**



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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   | 2358.62 | 52.76  | 15.33 | 37.43 | 74.00  | -21.24 | 324  | 180  | Peak | Vertical |           |      |
| 2 * | 2480.00 | 101.17 | 63.38 | 37.79 | 74.00  | 27.17  | 324  | 180  | Peak | Vertical |           |      |
| 3   | 2483.46 | 59.13  | 21.33 | 37.80 | 74.00  | -14.87 | 324  | 180  | Peak | Vertical |           |      |