

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

## Radiated Emission Test (POE with 4T4R Mode)

### Band Edges, 2.31GHz ~ 2.9GHz

802.11ax20

#### Middle Channel (Horizontal) Peak

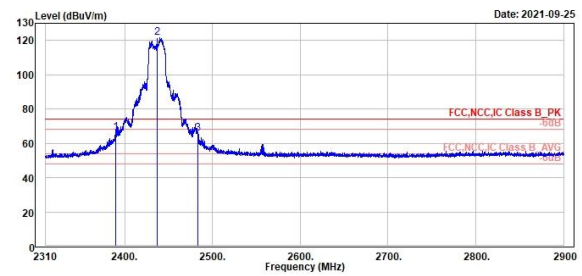
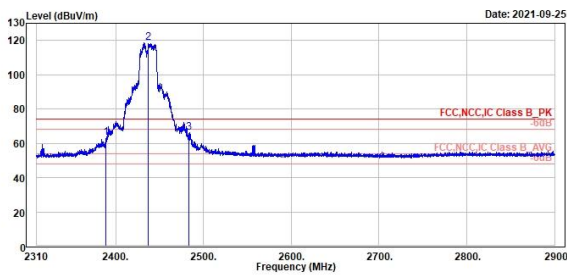
#### Middle Channel (Vertical) Peak



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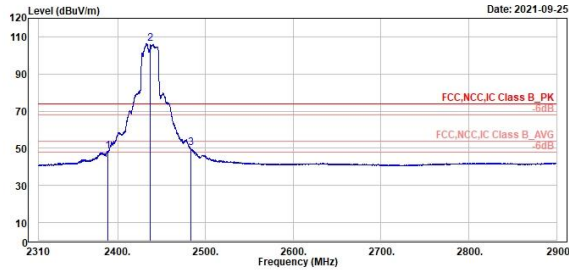


| 1          | 2          | 3          |
|------------|------------|------------|
| Level      | Read Level | Factor     |
| dBuV/m     | dBuV       | dB/m       |
| 63.47      | 118.57     | 80.67      |
| 25.92      | 37.98      | 74.00      |
| 37.55      | 44.57      | 74.00      |
| -10.53     | -7.85      |            |
| 230        | 230        | 230        |
| 303 Peak   | 303 Peak   | 303 Peak   |
| Horizontal | Horizontal | Horizontal |

| 1        | 2          | 3        |
|----------|------------|----------|
| Level    | Read Level | Factor   |
| dBuV/m   | dBuV       | dB/m     |
| 66.23    | 121.48     | 83.58    |
| 28.67    | 37.98      | 74.00    |
| 37.56    | 47.48      | 205      |
| -7.77    | -8.45      |          |
| 230      | 230        | 230      |
| 324 Peak | 324 Peak   | 324 Peak |
| Vertical | Vertical   | Vertical |

**802.11ax20**
**Middle Channel (Horizontal) Average**
**Middle Channel (Vertical) Average**

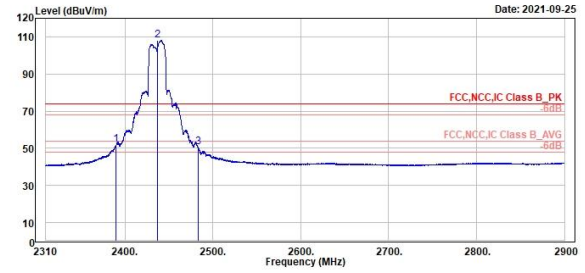

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| Freq        | Level  | Read Level | Factor | Limit Line | Over Limit | APos | TPos | Remark  | Pol/Phase  | Note |
|-------------|--------|------------|--------|------------|------------|------|------|---------|------------|------|
| MHz         | dBuV/m | dBuV       | dB/m   | dBuV/m     | dB         | cm   | deg  |         |            |      |
| 1   2388.51 | 48.36  | 10.81      | 37.55  | 54.00      | -5.64      | 230  | 303  | Average | Horizontal |      |
| 2 * 2437.00 | 106.41 | 69.53      | 37.99  | 54.00      | 52.41      | 230  | 303  | Average | Horizontal |      |
| 3 ! 2483.50 | 49.96  | 11.80      | 38.16  | 54.00      | -4.04      | 230  | 303  | Average | Horizontal |      |



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| Freq        | Level  | Read Level | Factor | Limit Line | Over Limit | APos | TPos | Remark  | Pol/Phase | Note |
|-------------|--------|------------|--------|------------|------------|------|------|---------|-----------|------|
| MHz         | dBuV/m | dBuV       | dB/m   | dBuV/m     | dB         | cm   | deg  |         |           |      |
| 1   2389.73 | 51.84  | 14.28      | 37.56  | 54.00      | -2.16      | 285  | 324  | Average | Vertical  |      |
| 2 * 2437.00 | 108.25 | 70.35      | 37.99  | 54.00      | 54.25      | 285  | 324  | Average | Vertical  |      |
| 3 ! 2483.50 | 50.57  | 12.41      | 38.16  | 54.00      | -3.43      | 285  | 324  | Average | Vertical  |      |

Spurious Emissions, Tx Mode, 9kHz ~ 30MHz

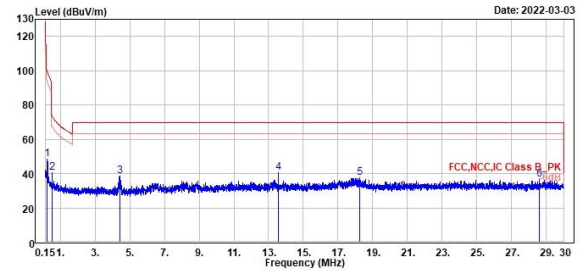
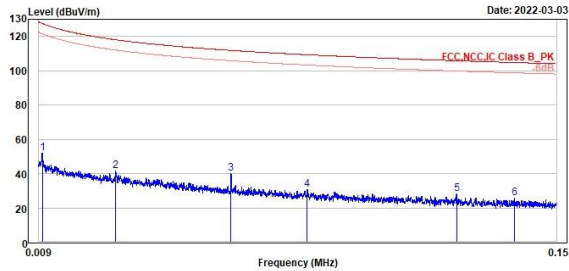
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Middle Channel (Open) 9kHz~150kHz

Middle Channel (Open) 150kHz~30MHz

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| 1      | 2      | 3      | 4      | 5      | 6      |
|--------|--------|--------|--------|--------|--------|
| 0.01   | 0.03   | 0.06   | 0.08   | 0.12   | 0.14   |
| 52.10  | 41.58  | 40.15  | 30.57  | 28.20  | 25.50  |
| 34.36  | 22.03  | 21.05  | 11.92  | 9.86   | 7.11   |
| 17.74  | 19.55  | 19.10  | 18.65  | 18.34  | 18.39  |
| 127.58 | 118.05 | 111.83 | 109.30 | 105.82 | 104.77 |
| -75.48 | -76.47 | -71.68 | -78.73 | -77.62 | -79.27 |
| 100    | 100    | 100    | 100    | 100    | 100    |
| 40     | 221    | 105    | 260    | 108    | 211    |
| QP     | QP     | QP     | QP     | QP     | QP     |
| Open   | Open   | Open   | Open   | Open   | Open   |

| 1      | 2      | 3      | 4      | 5      | 6      |
|--------|--------|--------|--------|--------|--------|
| 0.26   | 0.52   | 4.41   | 13.56  | 18.24  | 28.59  |
| 48.57  | 40.71  | 38.66  | 40.59  | 37.67  | 36.79  |
| 29.75  | 21.71  | 19.26  | 18.97  | 15.74  | 14.42  |
| 18.02  | 19.00  | 19.40  | 21.62  | 21.93  | 22.37  |
| 99.39  | 73.28  | 69.50  | 69.50  | 69.50  | 69.50  |
| -50.82 | -32.57 | -30.84 | -28.91 | -31.83 | -32.71 |
| 100    | 100    | 100    | 100    | 100    | 100    |
| 305    | 288    | 124    | 251    | 130    | 30     |
| QP     | QP     | QP     | QP     | QP     | QP     |
| Open   | Open   | Open   | Open   | Open   | Open   |

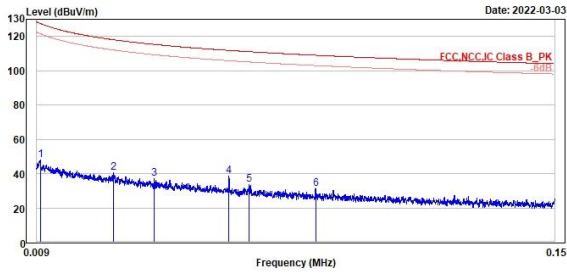
802.11ax20

Middle Channel (Close) 9kHz~150kHz

Middle Channel (Close) 150kHz~30MHz



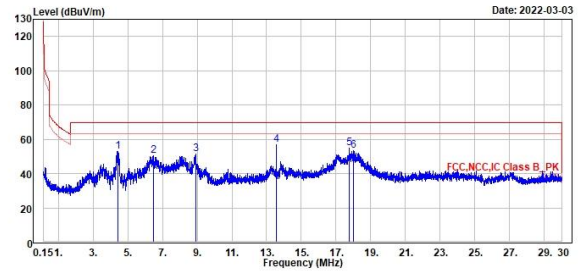
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| Freq | Level  | Read  | Limit | Over   | APos   | TPos   | Remark | Pol/Phase | Note  |
|------|--------|-------|-------|--------|--------|--------|--------|-----------|-------|
| MHz  | dBuV/m | dBuV  | dB/m  | dBuV/m | dB     | cm     | deg    |           |       |
| 1    | 0.01   | 47.93 | 30.19 | 17.74  | 127.56 | -79.63 | 100    | 34 QP     | Close |
| 2    | 0.03   | 40.67 | 21.12 | 19.55  | 118.06 | -77.39 | 100    | 279 QP    | Close |
| 3    | 0.04   | 36.94 | 17.50 | 19.44  | 115.33 | -78.39 | 100    | 213 QP    | Close |
| 4    | 0.06   | 38.60 | 19.50 | 19.10  | 111.84 | -73.24 | 100    | 180 QP    | Close |
| 5    | 0.07   | 33.39 | 14.41 | 18.98  | 111.10 | -77.71 | 100    | 31 QP     | Close |
| 6    | 0.08   | 31.00 | 12.41 | 18.59  | 109.01 | -76.01 | 100    | 314 QP    | Close |



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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    | 4.41   | 53.03 | 33.63 | 19.40  | 69.50 | -16.47 | 100    | 218 QP    | Close |
| 2    | 6.47   | 50.22 | 30.27 | 19.95  | 69.50 | -19.28 | 100    | 106 QP    | Close |
| 3    | 8.93   | 51.45 | 30.51 | 20.94  | 69.50 | -18.05 | 100    | 204 QP    | Close |
| 4    | 13.56  | 56.97 | 35.35 | 21.62  | 69.50 | -12.53 | 100    | 207 QP    | Close |
| 5    | 17.76  | 55.02 | 33.11 | 21.91  | 69.50 | -14.48 | 100    | 158 QP    | Close |
| 6    | 17.99  | 53.37 | 31.45 | 21.92  | 69.50 | -16.13 | 100    | 12 QP     | Close |

Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

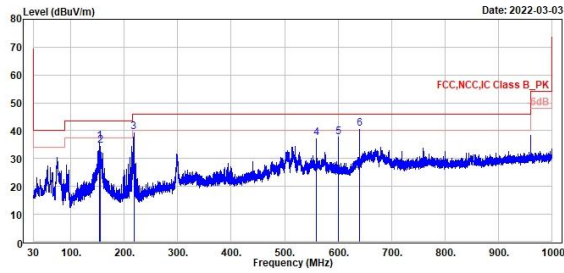
802.11ax20

Middle Channel (Horizontal)

Middle Channel (Vertical)



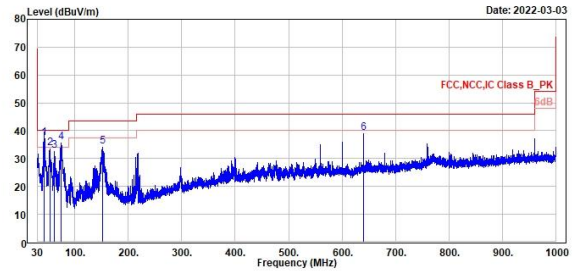
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| Freq | Level  | Read  | Limit | Over   | APos  | TPos  | Remark | Pol/Phase | Note       |
|------|--------|-------|-------|--------|-------|-------|--------|-----------|------------|
| MHz  | dBuV/m | dBuV  | dB/m  | dBuV/m | dB    | cm    | deg    |           |            |
| 1    | 153.58 | 36.26 | 44.25 | -7.99  | 43.50 | -7.24 | 100    | 240 QP    | Horizontal |
| 2    | 155.71 | 34.82 | 42.69 | -7.87  | 43.50 | -8.68 | 100    | 108 QP    | Horizontal |
| 3    | 217.60 | 39.45 | 50.35 | -10.90 | 46.00 | -6.55 | 100    | 1 QP      | Horizontal |
| 4    | 560.01 | 37.29 | 40.01 | -2.72  | 46.00 | -8.71 | 100    | 360 QP    | Horizontal |
| 5    | 599.97 | 37.70 | 39.12 | -1.42  | 46.00 | -8.30 | 100    | 6 QP      | Horizontal |
| 6    | 640.03 | 40.69 | 41.60 | -0.91  | 46.00 | -5.31 | 100    | 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    | 42.22  | 37.45 | 45.71 | -8.26  | 40.00 | -2.55 | 100    | 10 QP     | Vertical |
| 2    | 52.89  | 33.79 | 41.61 | -7.82  | 40.00 | -6.21 | 100    | 352 QP    | Vertical |
| 3    | 61.62  | 32.72 | 41.78 | -9.06  | 40.00 | -7.28 | 100    | 110 QP    | Vertical |
| 4    | 73.94  | 36.04 | 47.57 | -11.53 | 40.00 | -3.96 | 100    | 360 QP    | Vertical |
| 5    | 152.32 | 34.47 | 42.38 | -7.91  | 43.50 | -9.03 | 100    | 355 QP    | Vertical |
| 6    | 640.03 | 39.19 | 40.10 | -0.91  | 46.00 | -6.81 | 100    | 360 QP    | Vertical |

Spurious Emissions, Tx Mode, 1GHz ~ 26.5GHz

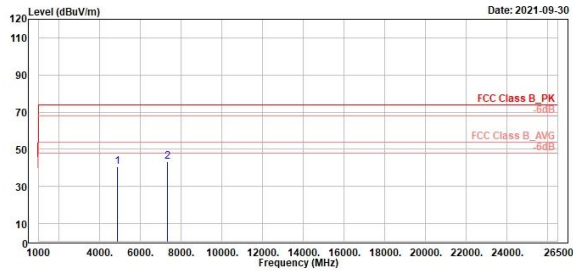
802.11ax20

Middle Channel (Horizontal)

Middle Channel (Vertical)



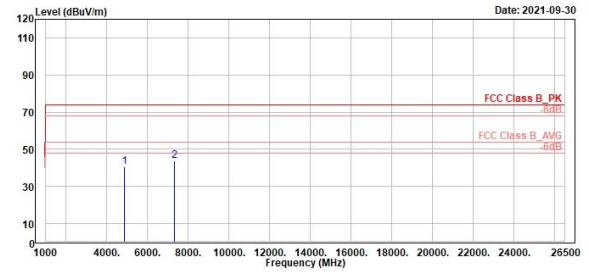
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| Freq | Level   | Read Level | Factor | Limit Line | Over Limit | APos   | TPos | Remark   | Pol/Phase  | Note |
|------|---------|------------|--------|------------|------------|--------|------|----------|------------|------|
| MHz  | dBuV/m  | dBuV       | dB/m   | dBuV/m     | dB         | cm     | deg  |          |            |      |
| 1    | 4874.00 | 48.65      | 50.32  | -9.67      | 74.00      | -33.35 | 200  | 355 Peak | Horizontal |      |
| 2    | 7311.00 | 43.44      | 50.69  | -7.25      | 74.00      | -30.56 | 100  | 358 Peak | Horizontal |      |



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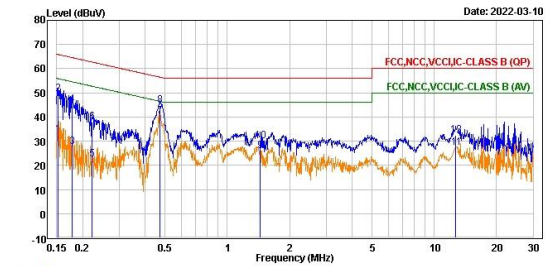
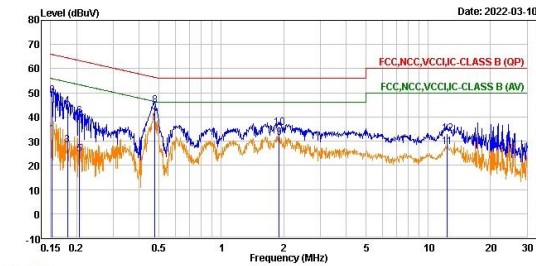
| Freq | Level   | Read Level | Factor | Limit Line | Over Limit | APos   | TPos | Remark  | Pol/Phase | Note |
|------|---------|------------|--------|------------|------------|--------|------|---------|-----------|------|
| MHz  | dBuV/m  | dBuV       | dB/m   | dBuV/m     | dB         | cm     | deg  |         |           |      |
| 1    | 4874.00 | 40.48      | 50.15  | -9.67      | 74.00      | -33.52 | 400  | 37 Peak | Vertical  |      |
| 2    | 7311.00 | 43.79      | 51.04  | -7.25      | 74.00      | -30.21 | 400  | 48 Peak | Vertical  |      |

Mains Conducted Emission, Tx Mode (POE)150kHz ~ 30MHz

Worst Band

(Line)

(Neutral)



Trace: 1

| Line | Freq  | Level | Read Level | Factor | Limit | Over   | Remark  | Pol/Phase | Note |
|------|-------|-------|------------|--------|-------|--------|---------|-----------|------|
|      | MHz   | dBuV  | dBuV       | dB     | dBuV  | dB     |         |           |      |
| 1    | 0.15  | 32.88 | 23.19      | 9.69   | 55.88 | -23.00 | Average | line1     |      |
| 2    | 0.15  | 48.91 | 39.22      | 9.69   | 65.88 | -16.97 | QP      | line1     |      |
| 3    | 0.18  | 28.21 | 18.53      | 9.68   | 54.47 | -26.26 | Average | line1     |      |
| 4    | 0.18  | 44.34 | 34.66      | 9.68   | 64.47 | -20.13 | QP      | line1     |      |
| 5    | 0.21  | 24.71 | 15.03      | 9.68   | 53.39 | -28.68 | Average | line1     |      |
| 6    | 0.21  | 40.21 | 30.53      | 9.68   | 63.39 | -23.18 | QP      | line1     |      |
| 7    | 0.48  | 39.38 | 29.70      | 9.68   | 46.40 | -7.02  | Average | line1     |      |
| 8    | 0.48  | 44.64 | 34.96      | 9.68   | 56.40 | -11.76 | QP      | line1     |      |
| 9    | 1.91  | 31.46 | 21.74      | 9.72   | 46.00 | -14.54 | Average | line1     |      |
| 10   | 1.91  | 35.55 | 25.83      | 9.72   | 56.00 | -20.45 | QP      | line1     |      |
| 11   | 12.29 | 27.70 | 17.89      | 9.81   | 50.00 | -22.30 | Average | line1     |      |
| 12   | 12.29 | 33.00 | 23.19      | 9.81   | 60.00 | -27.00 | QP      | line1     |      |

Trace: 1

| Line | Freq  | Level | Read Level | Factor | Limit | Over   | Remark  | Pol/Phase | Note |
|------|-------|-------|------------|--------|-------|--------|---------|-----------|------|
|      | MHz   | dBuV  | dBuV       | dB     | dBuV  | dB     |         |           |      |
| 1    | 0.15  | 32.72 | 23.05      | 9.67   | 55.92 | -23.20 | Average | neutral   |      |
| 2    | 0.15  | 49.67 | 40.00      | 9.67   | 65.92 | -16.25 | QP      | neutral   |      |
| 3    | 0.18  | 27.68 | 18.02      | 9.66   | 54.55 | -26.87 | Average | neutral   |      |
| 4    | 0.18  | 44.95 | 35.29      | 9.66   | 64.55 | -19.60 | QP      | neutral   |      |
| 5    | 0.22  | 22.34 | 12.68      | 9.66   | 52.77 | -30.43 | Average | neutral   |      |
| 6    | 0.22  | 37.77 | 28.11      | 9.66   | 62.77 | -25.00 | QP      | neutral   |      |
| 7    | 0.47  | 40.34 | 30.58      | 9.66   | 46.44 | -6.20  | Average | neutral   |      |
| 8    | 0.47  | 44.83 | 35.17      | 9.66   | 56.44 | -11.61 | QP      | neutral   |      |
| 9    | 1.44  | 25.97 | 16.29      | 9.68   | 46.00 | -20.03 | Average | neutral   |      |
| 10   | 1.44  | 29.87 | 20.19      | 9.68   | 56.00 | -26.13 | QP      | neutral   |      |
| 11   | 12.73 | 27.32 | 17.50      | 9.82   | 50.00 | -22.68 | Average | neutral   |      |
| 12   | 12.73 | 32.50 | 22.68      | 9.82   | 60.00 | -27.50 | QP      | neutral   |      |