



## Appendix B. Radiated Spurious Emission

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

| WIFI Ant.                   | Note | Frequency | Level      | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Ant Pos | Table Pos | Peak Avg. | Pol.    |
|-----------------------------|------|-----------|------------|------------|------------|------------|----------------|------------|---------------|---------|-----------|-----------|---------|
| 1                           |      | ( MHz )   | ( dBμV/m ) | ( dB )     | ( dBμV/m ) | ( dBμV )   | ( dB/m )       | ( dB )     | ( dB )        | ( cm )  | ( deg )   | ( P/A )   | ( H/V ) |
| 802.11b<br>CH 01<br>2412MHz |      | 2335.65   | 51.23      | -22.77     | 74         | 52.24      | 27.1           | 34.06      | 5.95          | 104     | 280       | P         | H       |
|                             |      | 2388.39   | 39.11      | -14.89     | 54         | 39.91      | 27.23          | 34.04      | 6.01          | 104     | 280       | A         | H       |
|                             | *    | 2412      | 97.12      | -          | -          | 97.84      | 27.28          | 34.04      | 6.04          | 104     | 280       | P         | H       |
|                             | *    | 2412      | 94.8       | -          | -          | 95.52      | 27.28          | 34.04      | 6.04          | 104     | 280       | A         | H       |
|                             |      |           |            |            |            |            |                |            |               |         |           |           | H       |
|                             |      |           |            |            |            |            |                |            |               |         |           |           | H       |
|                             |      | 2384.97   | 51.48      | -22.52     | 74         | 52.32      | 27.19          | 34.04      | 6.01          | 109     | 279       | P         | V       |
|                             |      | 2388.3    | 39.84      | -14.16     | 54         | 40.64      | 27.23          | 34.04      | 6.01          | 109     | 279       | A         | V       |
|                             | *    | 2412      | 101.59     | -          | -          | 102.31     | 27.28          | 34.04      | 6.04          | 109     | 279       | P         | V       |
|                             | *    | 2412      | 99.37      | -          | -          | 100.09     | 27.28          | 34.04      | 6.04          | 109     | 279       | A         | V       |
|                             |      |           |            |            |            |            |                |            |               |         |           |           | V       |
|                             |      |           |            |            |            |            |                |            |               |         |           |           | V       |
| 802.11b<br>CH 06<br>2437MHz |      | 2327.82   | 51.11      | -22.89     | 74         | 52.17      | 27.05          | 34.06      | 5.95          | 133     | 280       | P         | H       |
|                             |      | 2390.00   | 38.71      | -15.29     | 54         | 39.51      | 27.23          | 34.04      | 6.01          | 133     | 280       | A         | H       |
|                             | *    | 2437      | 98.66      | -          | -          | 99.28      | 27.37          | 34.03      | 6.04          | 133     | 280       | P         | H       |
|                             | *    | 2437      | 96.42      | -          | -          | 97.04      | 27.37          | 34.03      | 6.04          | 133     | 280       | A         | H       |
|                             |      | 2487.52   | 52.25      | -21.75     | 74         | 52.67      | 27.5           | 34.01      | 6.09          | 133     | 280       | P         | H       |
|                             |      | 2492.76   | 39.54      | -14.46     | 54         | 39.95      | 27.5           | 34         | 6.09          | 133     | 280       | A         | H       |
|                             |      | 2384.7    | 50.92      | -23.08     | 74         | 51.76      | 27.19          | 34.04      | 6.01          | 353     | 283       | P         | V       |
|                             |      | 2381.82   | 39.53      | -14.47     | 54         | 40.37      | 27.19          | 34.04      | 6.01          | 353     | 283       | A         | V       |
|                             | *    | 2437      | 103.43     | -          | -          | 104.05     | 27.37          | 34.03      | 6.04          | 353     | 283       | P         | V       |
|                             | *    | 2437      | 101.19     | -          | -          | 101.81     | 27.37          | 34.03      | 6.04          | 353     | 283       | A         | V       |
|                             |      | 2486.52   | 51.87      | -22.13     | 74         | 52.33      | 27.46          | 34.01      | 6.09          | 353     | 283       | P         | V       |
|                             |      | 2492.36   | 40.28      | -13.72     | 54         | 40.69      | 27.5           | 34         | 6.09          | 353     | 283       | A         | V       |



|                                                  |                                                                                             |         |        |        |    |        |       |       |      |     |     |   |   |
|--------------------------------------------------|---------------------------------------------------------------------------------------------|---------|--------|--------|----|--------|-------|-------|------|-----|-----|---|---|
| <b>802.11b</b><br><b>CH 11</b><br><b>2462MHz</b> | *                                                                                           | 2462    | 98.43  | -      | -  | 98.97  | 27.41 | 34.02 | 6.07 | 101 | 108 | P | H |
|                                                  | *                                                                                           | 2462    | 95.99  | -      | -  | 96.53  | 27.41 | 34.02 | 6.07 | 101 | 108 | A | H |
|                                                  |                                                                                             | 2489.88 | 51.74  | -22.26 | 74 | 52.16  | 27.5  | 34.01 | 6.09 | 101 | 108 | P | H |
|                                                  |                                                                                             | 2483.64 | 39.65  | -14.35 | 54 | 40.11  | 27.46 | 34.01 | 6.09 | 101 | 108 | A | H |
|                                                  |                                                                                             |         |        |        |    |        |       |       |      |     |     |   | H |
|                                                  |                                                                                             |         |        |        |    |        |       |       |      |     |     |   | H |
|                                                  | *                                                                                           | 2462    | 102.42 | -      | -  | 102.96 | 27.41 | 34.02 | 6.07 | 325 | 354 | P | V |
|                                                  | *                                                                                           | 2462    | 100.05 | -      | -  | 100.59 | 27.41 | 34.02 | 6.07 | 325 | 354 | A | V |
|                                                  |                                                                                             | 2484.88 | 52.1   | -21.9  | 74 | 52.56  | 27.46 | 34.01 | 6.09 | 325 | 354 | P | V |
|                                                  |                                                                                             | 2486.64 | 40.09  | -13.91 | 54 | 40.55  | 27.46 | 34.01 | 6.09 | 325 | 354 | A | V |
|                                                  |                                                                                             |         |        |        |    |        |       |       |      |     |     |   | V |
|                                                  |                                                                                             |         |        |        |    |        |       |       |      |     |     |   | V |
| <b>Remark</b>                                    | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |         |        |        |    |        |       |       |      |     |     |   |   |



## 2.4GHz 2400~2483.5MHz

## WIFI 802.11b (Harmonic @ 3m)

| WIFI<br>Ant.<br>1           | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-----------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11b<br>CH 01<br>2412MHz |                                                                                             | 4824                 | 40.07               | -33.93                  | 74                          | 33.65                     | 31.32                         | 33.55                   | 8.65                       | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4824                 | 39.47               | -34.53                  | 74                          | 33.05                     | 31.32                         | 33.55                   | 8.65                       | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
| 802.11b<br>CH 06<br>2437MHz |                                                                                             | 4874                 | 40.71               | -33.29                  | 74                          | 34.15                     | 31.41                         | 33.54                   | 8.69                       | 100                  | 0                       | P                       | H               |
|                             |                                                                                             | 7311                 | 46.22               | -27.78                  | 74                          | 33.99                     | 36.28                         | 34.44                   | 10.39                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4874                 | 40.32               | -33.68                  | 74                          | 33.76                     | 31.41                         | 33.54                   | 8.69                       | 100                  | 0                       | P                       | V               |
|                             |                                                                                             | 7311                 | 44.76               | -29.24                  | 74                          | 32.53                     | 36.28                         | 34.44                   | 10.39                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
| 802.11b<br>CH 11<br>2462MHz |                                                                                             | 4924                 | 39.88               | -34.12                  | 74                          | 33.14                     | 31.49                         | 33.54                   | 8.79                       | 100                  | 0                       | P                       | H               |
|                             |                                                                                             | 7386                 | 45.37               | -28.63                  | 74                          | 32.9                      | 36.47                         | 34.48                   | 10.48                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4924                 | 39.67               | -34.33                  | 74                          | 32.93                     | 31.49                         | 33.54                   | 8.79                       | 100                  | 0                       | P                       | V               |
|                             |                                                                                             | 7386                 | 45.95               | -28.05                  | 74                          | 33.48                     | 36.47                         | 34.48                   | 10.48                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
| Remark                      | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         |                 |



## 2.4GHz 2400~2483.5MHz

## WIFI 802.11g (Band Edge @ 3m)

| WIFI<br>Ant.<br>1           | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-----------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11g<br>CH 01<br>2412MHz |      | 2389.56              | 66.05               | -7.95                   | 74                          | 66.85                     | 27.23                         | 34.04                   | 6.01                       | 100                  | 105                     | P                       | H               |
|                             |      | 2390                 | 51.09               | -2.91                   | 54                          | 51.89                     | 27.23                         | 34.04                   | 6.01                       | 100                  | 105                     | A                       | H               |
|                             | *    | 2410                 | 101.4               | -                       | -                           | 102.12                    | 27.28                         | 34.04                   | 6.04                       | 100                  | 105                     | P                       | H               |
|                             | *    | 2410                 | 91.84               | -                       | -                           | 92.56                     | 27.28                         | 34.04                   | 6.04                       | 100                  | 105                     | A                       | H               |
|                             |      |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |      |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |      | 2389.83              | 69.88               | -4.12                   | 74                          | 70.68                     | 27.23                         | 34.04                   | 6.01                       | 100                  | 63                      | P                       | V               |
|                             |      | 2390                 | 52.33               | -1.67                   | 54                          | 53.13                     | 27.23                         | 34.04                   | 6.01                       | 100                  | 63                      | A                       | V               |
|                             | *    | 2414                 | 102.84              | -                       | -                           | 103.56                    | 27.28                         | 34.04                   | 6.04                       | 100                  | 63                      | P                       | V               |
|                             | *    | 2414                 | 92.35               | -                       | -                           | 93.07                     | 27.28                         | 34.04                   | 6.04                       | 100                  | 63                      | A                       | V               |
|                             |      |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                             |      |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
| 802.11g<br>CH 06<br>2437MHz |      | 2347.53              | 51.68               | -22.32                  | 74                          | 52.68                     | 27.1                          | 34.05                   | 5.95                       | 127                  | 279                     | P                       | H               |
|                             |      | 2384.88              | 39.97               | -14.03                  | 54                          | 40.81                     | 27.19                         | 34.04                   | 6.01                       | 127                  | 279                     | A                       | H               |
|                             | *    | 2437                 | 100.08              | -                       | -                           | 100.7                     | 27.37                         | 34.03                   | 6.04                       | 127                  | 279                     | P                       | H               |
|                             | *    | 2437                 | 90.51               | -                       | -                           | 91.13                     | 27.37                         | 34.03                   | 6.04                       | 127                  | 279                     | A                       | H               |
|                             |      | 2489.52              | 52.58               | -21.42                  | 74                          | 53                        | 27.5                          | 34.01                   | 6.09                       | 127                  | 279                     | P                       | H               |
|                             |      | 2489.2               | 40.85               | -13.15                  | 54                          | 41.27                     | 27.5                          | 34.01                   | 6.09                       | 127                  | 279                     | A                       | H               |
|                             |      | 2384.61              | 52.04               | -21.96                  | 74                          | 52.88                     | 27.19                         | 34.04                   | 6.01                       | 370                  | 359                     | P                       | V               |
|                             |      | 2384.88              | 41.2                | -12.8                   | 54                          | 42.04                     | 27.19                         | 34.04                   | 6.01                       | 370                  | 359                     | A                       | V               |
|                             | *    | 2437                 | 103.53              | -                       | -                           | 104.15                    | 27.37                         | 34.03                   | 6.04                       | 370                  | 359                     | P                       | V               |
|                             | *    | 2437                 | 94.08               | -                       | -                           | 94.7                      | 27.37                         | 34.03                   | 6.04                       | 370                  | 359                     | A                       | V               |
|                             |      | 2484.56              | 53.36               | -20.64                  | 74                          | 53.82                     | 27.46                         | 34.01                   | 6.09                       | 370                  | 359                     | P                       | V               |
|                             |      | 2489.08              | 41.98               | -12.02                  | 54                          | 42.4                      | 27.5                          | 34.01                   | 6.09                       | 370                  | 359                     | A                       | V               |



|                                                  |                                                                                             |         |        |       |    |        |       |       |      |     |     |   |   |
|--------------------------------------------------|---------------------------------------------------------------------------------------------|---------|--------|-------|----|--------|-------|-------|------|-----|-----|---|---|
| <b>802.11g</b><br><b>CH 11</b><br><b>2462MHz</b> | *                                                                                           | 2464    | 101.61 | -     | -  | 102.15 | 27.41 | 34.02 | 6.07 | 230 | 101 | P | H |
|                                                  | *                                                                                           | 2464    | 92.75  | -     | -  | 93.29  | 27.41 | 34.02 | 6.07 | 230 | 101 | A | H |
|                                                  |                                                                                             | 2483.92 | 69.24  | -4.76 | 74 | 69.7   | 27.46 | 34.01 | 6.09 | 230 | 101 | P | H |
|                                                  |                                                                                             | 2483.76 | 51.38  | -2.62 | 54 | 51.84  | 27.46 | 34.01 | 6.09 | 230 | 101 | A | H |
|                                                  |                                                                                             |         |        |       |    |        |       |       |      |     |     |   | H |
|                                                  |                                                                                             |         |        |       |    |        |       |       |      |     |     |   | H |
|                                                  | *                                                                                           | 2464    | 104.3  | -     | -  | 104.84 | 27.41 | 34.02 | 6.07 | 259 | 356 | P | V |
|                                                  | *                                                                                           | 2464    | 93.59  | -     | -  | 94.13  | 27.41 | 34.02 | 6.07 | 259 | 356 | A | V |
|                                                  |                                                                                             | 2483.8  | 69.68  | -4.32 | 74 | 70.14  | 27.46 | 34.01 | 6.09 | 259 | 356 | P | V |
|                                                  |                                                                                             | 2483.52 | 53.51  | -0.49 | 54 | 53.97  | 27.46 | 34.01 | 6.09 | 259 | 356 | A | V |
|                                                  |                                                                                             |         |        |       |    |        |       |       |      |     |     |   | V |
|                                                  |                                                                                             |         |        |       |    |        |       |       |      |     |     |   | V |
| <b>Remark</b>                                    | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |         |        |       |    |        |       |       |      |     |     |   |   |



## 2.4GHz 2400~2483.5MHz

## WIFI 802.11g (Harmonic @ 3m)

| WIFI<br>Ant.<br>1           | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-----------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11g<br>CH 01<br>2412MHz |                                                                                             | 4824                 | 41.19               | -32.81                  | 74                          | 34.77                     | 31.32                         | 33.55                   | 8.65                       | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4824                 | 38.91               | -35.09                  | 74                          | 32.49                     | 31.32                         | 33.55                   | 8.65                       | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
| 802.11g<br>CH 06<br>2437MHz |                                                                                             | 4874                 | 40.39               | -33.61                  | 74                          | 33.83                     | 31.41                         | 33.54                   | 8.69                       | 100                  | 0                       | P                       | H               |
|                             |                                                                                             | 7311                 | 45.51               | -28.49                  | 74                          | 33.28                     | 36.28                         | 34.44                   | 10.39                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4874                 | 39.94               | -34.06                  | 74                          | 33.38                     | 31.41                         | 33.54                   | 8.69                       | 100                  | 0                       | P                       | V               |
|                             |                                                                                             | 7311                 | 45.92               | -28.08                  | 74                          | 33.69                     | 36.28                         | 34.44                   | 10.39                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
| 802.11g<br>CH 11<br>2462MHz |                                                                                             | 4924                 | 40.31               | -33.69                  | 74                          | 33.57                     | 31.49                         | 33.54                   | 8.79                       | 100                  | 0                       | P                       | H               |
|                             |                                                                                             | 7386                 | 46.08               | -27.92                  | 74                          | 33.61                     | 36.47                         | 34.48                   | 10.48                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4924                 | 40.19               | -33.81                  | 74                          | 33.45                     | 31.49                         | 33.54                   | 8.79                       | 100                  | 0                       | P                       | V               |
|                             |                                                                                             | 7386                 | 45.25               | -28.75                  | 74                          | 32.78                     | 36.47                         | 34.48                   | 10.48                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
| Remark                      | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         |                 |



## 2.4GHz 2400~2483.5MHz

## WIFI 802.11n HT20 (Band Edge @ 3m)

| WIFI<br>Ant.<br>1                   | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT20<br>CH 01<br>2412MHz |      | 2390                 | 61.55               | -12.45                  | 74                          | 62.35                     | 27.23                         | 34.04                   | 6.01                       | 227                  | 63                      | P                       | H               |
|                                     |      | 2390                 | 44.98               | -9.02                   | 54                          | 45.78                     | 27.23                         | 34.04                   | 6.01                       | 227                  | 63                      | A                       | H               |
|                                     | *    | 2412                 | 96.72               | -                       | -                           | 97.44                     | 27.28                         | 34.04                   | 6.04                       | 227                  | 63                      | P                       | H               |
|                                     | *    | 2412                 | 87.64               | -                       | -                           | 88.36                     | 27.28                         | 34.04                   | 6.04                       | 227                  | 63                      | A                       | H               |
|                                     |      |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                                     |      |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                                     |      | 2389.92              | 63.95               | -10.05                  | 74                          | 64.75                     | 27.23                         | 34.04                   | 6.01                       | 370                  | 358                     | P                       | V               |
|                                     |      | 2390                 | 47.59               | -6.41                   | 54                          | 48.39                     | 27.23                         | 34.04                   | 6.01                       | 370                  | 358                     | A                       | V               |
|                                     | *    | 2412                 | 100.06              | -                       | -                           | 100.78                    | 27.28                         | 34.04                   | 6.04                       | 370                  | 358                     | P                       | V               |
|                                     | *    | 2412                 | 90.91               | -                       | -                           | 91.63                     | 27.28                         | 34.04                   | 6.04                       | 370                  | 358                     | A                       | V               |
|                                     |      |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                                     |      |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 06<br>2437MHz |      | 2376.87              | 50.72               | -23.28                  | 74                          | 51.56                     | 27.19                         | 34.04                   | 6.01                       | 226                  | 101                     | P                       | H               |
|                                     |      | 2385.15              | 39.29               | -14.71                  | 54                          | 40.13                     | 27.19                         | 34.04                   | 6.01                       | 226                  | 101                     | A                       | H               |
|                                     | *    | 2437                 | 97.32               | -                       | -                           | 97.94                     | 27.37                         | 34.03                   | 6.04                       | 226                  | 101                     | P                       | H               |
|                                     | *    | 2437                 | 87.3                | -                       | -                           | 87.92                     | 27.37                         | 34.03                   | 6.04                       | 226                  | 101                     | A                       | H               |
|                                     |      | 2489.12              | 51.94               | -22.06                  | 74                          | 52.36                     | 27.5                          | 34.01                   | 6.09                       | 226                  | 101                     | P                       | H               |
|                                     |      | 2488.96              | 39.79               | -14.21                  | 54                          | 40.21                     | 27.5                          | 34.01                   | 6.09                       | 226                  | 101                     | A                       | H               |
|                                     |      | 2385.15              | 52.72               | -21.28                  | 74                          | 53.56                     | 27.19                         | 34.04                   | 6.01                       | 371                  | 354                     | P                       | V               |
|                                     |      | 2385.15              | 40.79               | -13.21                  | 54                          | 41.63                     | 27.19                         | 34.04                   | 6.01                       | 371                  | 354                     | A                       | V               |
|                                     | *    | 2437                 | 101.29              | -                       | -                           | 101.91                    | 27.37                         | 34.03                   | 6.04                       | 371                  | 354                     | P                       | V               |
|                                     | *    | 2437                 | 92.29               | -                       | -                           | 92.91                     | 27.37                         | 34.03                   | 6.04                       | 371                  | 354                     | A                       | V               |
|                                     |      | 2488.96              | 52.82               | -21.18                  | 74                          | 53.24                     | 27.5                          | 34.01                   | 6.09                       | 371                  | 354                     | P                       | V               |
|                                     |      | 2489.16              | 41.72               | -12.28                  | 54                          | 42.14                     | 27.5                          | 34.01                   | 6.09                       | 371                  | 354                     | A                       | V               |



|                                               |                                                                                             |         |       |       |    |        |       |       |      |     |     |   |   |
|-----------------------------------------------|---------------------------------------------------------------------------------------------|---------|-------|-------|----|--------|-------|-------|------|-----|-----|---|---|
| <b>802.11n<br/>HT20<br/>CH 11<br/>2462MHz</b> | *                                                                                           | 2464    | 99.48 | -     | -  | 100.02 | 27.41 | 34.02 | 6.07 | 148 | 110 | P | H |
|                                               | *                                                                                           | 2464    | 90.15 | -     | -  | 90.69  | 27.41 | 34.02 | 6.07 | 148 | 110 | A | H |
|                                               |                                                                                             | 2484.16 | 66.27 | -7.73 | 74 | 66.73  | 27.46 | 34.01 | 6.09 | 148 | 110 | P | H |
|                                               |                                                                                             | 2483.6  | 48.39 | -5.61 | 54 | 48.85  | 27.46 | 34.01 | 6.09 | 148 | 110 | A | H |
|                                               |                                                                                             |         |       |       |    |        |       |       |      |     |     |   | H |
|                                               |                                                                                             |         |       |       |    |        |       |       |      |     |     |   | H |
|                                               | *                                                                                           | 2464    | 100.2 | -     | -  | 100.74 | 27.41 | 34.02 | 6.07 | 100 | 61  | P | V |
|                                               | *                                                                                           | 2464    | 90.61 | -     | -  | 91.15  | 27.41 | 34.02 | 6.07 | 100 | 61  | A | V |
|                                               |                                                                                             | 2484.84 | 67.68 | -6.32 | 74 | 68.14  | 27.46 | 34.01 | 6.09 | 100 | 61  | P | V |
|                                               |                                                                                             | 2483.52 | 49.33 | -4.67 | 54 | 49.79  | 27.46 | 34.01 | 6.09 | 100 | 61  | A | V |
|                                               |                                                                                             |         |       |       |    |        |       |       |      |     |     |   | V |
|                                               |                                                                                             |         |       |       |    |        |       |       |      |     |     |   | V |
| <b>Remark</b>                                 | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |         |       |       |    |        |       |       |      |     |     |   |   |



## 2.4GHz 2400~2483.5MHz

## WIFI 802.11n HT20 (Harmonic @ 3m)

| WIFI<br>Ant.<br>1                   | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT20<br>CH 01<br>2412MHz |                                                                                             | 4824                 | 40                  | -34                     | 74                          | 33.58                     | 31.32                         | 33.55                   | 8.65                       | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                                     |                                                                                             | 4824                 | 39.68               | -34.32                  | 74                          | 33.26                     | 31.32                         | 33.55                   | 8.65                       | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 06<br>2437MHz |                                                                                             | 4874                 | 39.9                | -34.1                   | 74                          | 33.34                     | 31.41                         | 33.54                   | 8.69                       | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             | 7311                 | 45.57               | -28.43                  | 74                          | 33.34                     | 36.28                         | 34.44                   | 10.39                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                                     |                                                                                             | 4874                 | 39.94               | -34.06                  | 74                          | 33.38                     | 31.41                         | 33.54                   | 8.69                       | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             | 7311                 | 45.47               | -28.53                  | 74                          | 33.24                     | 36.28                         | 34.44                   | 10.39                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 11<br>2462MHz |                                                                                             | 4924                 | 40.79               | -33.21                  | 74                          | 34.05                     | 31.49                         | 33.54                   | 8.79                       | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             | 7386                 | 46.09               | -27.91                  | 74                          | 33.62                     | 36.47                         | 34.48                   | 10.48                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | H               |
|                                     |                                                                                             | 4924                 | 40.64               | -33.36                  | 74                          | 33.9                      | 31.49                         | 33.54                   | 8.79                       | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             | 7386                 | 45.38               | -28.62                  | 74                          | 32.91                     | 36.47                         | 34.48                   | 10.48                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         | V               |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                         |                            |                      |                         |                         |                 |

**2.4GHz 2400~2483.5MHz**

## Emission below 1GHz

**2.4GHz WIFI 802.11g (LF)**

| WIFI                    | Note                                                                       | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Cable  | Preamp | Ant    | Table   | Peak    | Pol.    |
|-------------------------|----------------------------------------------------------------------------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|---------|
| Ant.                    |                                                                            | ( MHz )   | ( dBμV/m ) | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.    |         |
| 1                       |                                                                            |           |            | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | ( P/A ) | ( H/V ) |
| 2.4GHz<br>802.11g<br>LF |                                                                            | 69.69     | 17.68      | -22.32 | 40         | 43.26    | 5.17     | 31.79  | 1.04   |        |         | P       | H       |
|                         |                                                                            | 149.88    | 11.94      | -31.56 | 43.5       | 32.25    | 10.01    | 31.78  | 1.46   |        |         | P       | H       |
|                         |                                                                            | 245.73    | 19.42      | -26.58 | 46         | 37.76    | 11.49    | 31.77  | 1.94   |        |         | P       | H       |
|                         |                                                                            | 378.4     | 18.54      | -27.46 | 46         | 33.13    | 14.88    | 31.79  | 2.32   |        |         | P       | H       |
|                         |                                                                            | 650.7     | 23.02      | -22.98 | 46         | 32.95    | 19.09    | 32.04  | 3.02   |        |         | P       | H       |
|                         |                                                                            | 913.2     | 23.85      | -22.15 | 46         | 31.5     | 20.13    | 31.33  | 3.55   | 105    | 62      | P       | H       |
|                         |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                         |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                         |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                         |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                         |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                         |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                         |                                                                            | 48.36     | 24.12      | -15.88 | 40         | 46.61    | 8.27     | 31.8   | 1.04   | 129    | 114     | P       | V       |
|                         |                                                                            | 115.59    | 18.34      | -25.16 | 43.5       | 37.53    | 11.31    | 31.78  | 1.28   |        |         | P       | V       |
|                         |                                                                            | 231.96    | 13.26      | -32.74 | 46         | 33.5     | 9.74     | 31.77  | 1.79   |        |         | P       | V       |
|                         |                                                                            | 422.5     | 18.85      | -27.15 | 46         | 31.61    | 16.65    | 31.82  | 2.41   |        |         | P       | V       |
|                         |                                                                            | 646.5     | 21.69      | -24.31 | 46         | 31.61    | 19.1     | 32.04  | 3.02   |        |         | P       | V       |
|                         |                                                                            | 912.5     | 23.52      | -22.48 | 46         | 31.19    | 20.12    | 31.34  | 3.55   |        |         | P       | V       |
|                         |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
|                         |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
|                         |                                                                            |           |            |        |            |          |          |        |        |        |         | V       |         |
|                         |                                                                            |           |            |        |            |          |          |        |        |        |         | V       |         |
|                         |                                                                            |           |            |        |            |          |          |        |        |        |         | V       |         |
|                         |                                                                            |           |            |        |            |          |          |        |        |        |         | V       |         |
|                         |                                                                            |           |            |        |            |          |          |        |        |        |         | V       |         |
| Remark                  | 1. No other spurious found.<br>2. All results are PASS against limit line. |           |            |        |            |          |          |        |        |        |         |         |         |



**Note symbol**

|     |                                                                                                                                                          |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| *   | <b>Fundamental Frequency</b> which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency. |
| !   | Test result is <b>over limit</b> line.                                                                                                                   |
| P/A | <b>Peak</b> or <b>Average</b>                                                                                                                            |
| H/V | <b>Horizontal</b> or <b>Vertical</b>                                                                                                                     |



A calculation example for radiated spurious emission is shown as below:

| WIFI    | Note | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Cable  | Preamp | Ant    | Table   | Peak    | Pol.    |
|---------|------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|---------|
| Ant.    |      |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.    |         |
| 1       |      | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | ( P/A ) | ( H/V ) |
| 802.11b |      | 2390      | 55.45      | -18.55 | 74         | 54.51    | 32.22    | 4.58   | 35.86  | 103    | 308     | P       | H       |
| CH 01   |      |           |            |        |            |          |          |        |        |        |         |         |         |
| 2412MHz |      | 2390      | 43.54      | -10.46 | 54         | 42.6     | 32.22    | 4.58   | 35.86  | 103    | 308     | A       | H       |

1. Level(dBμV/m) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

**For Peak Limit @ 2390MHz:**

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

**For Average Limit @ 2390MHz:**

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

**Both peak and average measured complies with the limit line, so test result is “PASS”.**