



## Appendix B. Radiated Spurious Emission

|                 |                                  |                     |         |
|-----------------|----------------------------------|---------------------|---------|
| Test Engineer : | Nick Yu, Derreck Chen and Ken Wu | Temperature :       | 23~25°C |
|                 |                                  | Relative Humidity : | 48~51%  |

### 15E Band 1 - 5150~5250MHz

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

| 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 ) |
| 802.11a<br>CH 36<br>5180MHz |      | 5013.5    | 55.74      | -18.26 | 74         | 42.24    | 34.42    | 11.37  | 32.29  | 100    | 0       | P       | H       |
|                             |      | 5149.7    | 42.34      | -11.66 | 54         | 28.67    | 34.61    | 11.55  | 32.49  | 100    | 0       | A       | H       |
|                             | *    | 5177      | 57.32      | -      | -          | 43.63    | 34.66    | 11.55  | 32.52  | 100    | 0       | P       | H       |
|                             |      |           |            |        |            |          |          |        |        |        |         |         | H       |
|                             |      |           |            |        |            |          |          |        |        |        |         |         | H       |
|                             |      |           |            |        |            |          |          |        |        |        |         |         | H       |
|                             |      | 5023.55   | 56.51      | -17.49 | 74         | 42.97    | 34.45    | 11.41  | 32.32  | 100    | 0       | P       | V       |
|                             |      | 5148.35   | 42.39      | -11.61 | 54         | 28.72    | 34.61    | 11.55  | 32.49  | 100    | 0       | A       | V       |
|                             | *    | 5180      | 56.89      | -      | -          | 43.2     | 34.66    | 11.55  | 32.52  | 100    | 0       | P       | V       |
|                             |      |           |            |        |            |          |          |        |        |        |         |         | V       |
|                             |      |           |            |        |            |          |          |        |        |        |         |         | V       |
| 802.11a<br>CH 44<br>5220MHz |      | 5079.8    | 56.61      | -17.39 | 74         | 43.02    | 34.52    | 11.46  | 32.39  | 100    | 0       | P       | H       |
|                             |      | 5142.05   | 42.33      | -11.67 | 54         | 28.62    | 34.61    | 11.55  | 32.45  | 100    | 0       | A       | H       |
|                             | *    | 5217      | 60.34      | -      | -          | 46.6     | 34.7     | 11.59  | 32.55  | 100    | 0       | P       | H       |
|                             |      | 5407.64   | 56.6       | -17.4  | 74         | 43.29    | 34.96    | 11.74  | 33.39  | 100    | 0       | P       | H       |
|                             |      | 5386.74   | 42.71      | -11.29 | 54         | 29.31    | 34.94    | 11.74  | 33.28  | 100    | 0       | A       | H       |
|                             |      |           |            |        |            |          |          |        |        |        |         |         | H       |
|                             |      | 5140.85   | 56.26      | -17.74 | 74         | 42.55    | 34.61    | 11.55  | 32.45  | 100    | 0       | P       | V       |
|                             |      | 5145.8    | 42.37      | -11.63 | 54         | 28.7     | 34.61    | 11.55  | 32.49  | 100    | 0       | A       | V       |
|                             | *    | 5218      | 58.35      | -      | -          | 44.61    | 34.7     | 11.59  | 32.55  | 100    | 0       | P       | V       |
|                             |      | 5388.94   | 56.27      | -17.73 | 74         | 42.87    | 34.94    | 11.74  | 33.28  | 100    | 0       | P       | V       |
|                             |      | 5380.47   | 42.62      | -11.38 | 54         | 29.22    | 34.94    | 11.74  | 33.28  | 100    | 0       | A       | V       |
|                             |      |           |            |        |            |          |          |        |        |        |         |         | V       |



| 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) |
| 802.11a<br>CH 48<br>5240MHz |                                                                                             | 5082.3    | 56.55      | -17.45 | 74         | 42.96  | 34.52    | 11.46  | 32.39  | 100    | 0       | P     | H     |
|                             |                                                                                             | 5143.7    | 42.05      | -11.95 | 54         | 28.34  | 34.61    | 11.55  | 32.45  | 100    | 0       | A     | H     |
|                             | *                                                                                           | 5239      | 64.88      | -      | -          | 51.18  | 34.73    | 11.62  | 32.65  | 100    | 0       | P     | H     |
|                             |                                                                                             | 5412.26   | 55.96      | -18.04 | 74         | 42.63  | 34.98    | 11.74  | 33.39  | 100    | 0       | P     | H     |
|                             |                                                                                             | 5375.74   | 42.59      | -11.41 | 54         | 29.25  | 34.91    | 11.71  | 33.28  | 100    | 0       | A     | H     |
|                             |                                                                                             |           |            |        |            |        |          |        |        |        |         |       | H     |
|                             |                                                                                             | 5142.7    | 56.03      | -17.97 | 74         | 42.32  | 34.61    | 11.55  | 32.45  | 100    | 0       | P     | V     |
|                             |                                                                                             | 5144.1    | 42.18      | -11.82 | 54         | 28.51  | 34.61    | 11.55  | 32.49  | 100    | 0       | A     | V     |
|                             | *                                                                                           | 5239      | 62.72      | -      | -          | 49.02  | 34.73    | 11.62  | 32.65  | 100    | 0       | P     | V     |
|                             |                                                                                             | 5364.3    | 56.93      | -17.07 | 74         | 43.49  | 34.91    | 11.71  | 33.18  | 100    | 0       | P     | V     |
|                             |                                                                                             | 5399.94   | 42.69      | -11.31 | 54         | 29.38  | 34.96    | 11.74  | 33.39  | 100    | 0       | A     | V     |
|                             |                                                                                             |           |            |        |            |        |          |        |        |        |         |       | V     |
| Remark                      | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |           |            |        |            |        |          |        |        |        |         |       |       |



## 15E band 1 5150~5250MHz

## WIFI 802.11a (Harmonic @ 3m)

| 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 ) |
| 802.11a<br>CH 36<br>5180MHz |                                                                                             | 10359     | 42.4       | -31.6  | 74         | 47.71    | 37.22    | 16.34  | 58.87  | 100    | 0       | P       | H       |
|                             |                                                                                             | 15540     | 47.01      | -26.99 | 74         | 43.8     | 40.34    | 20.36  | 57.49  | 100    | 0       | P       | H       |
|                             |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | H       |
|                             |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | H       |
|                             |                                                                                             | 10359     | 44.03      | -29.97 | 74         | 49.34    | 37.22    | 16.34  | 58.87  | 100    | 0       | P       | V       |
|                             |                                                                                             | 15540     | 47.27      | -26.73 | 74         | 44.06    | 40.34    | 20.36  | 57.49  | 100    | 0       | P       | V       |
|                             |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | V       |
|                             |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | V       |
| 802.11a<br>CH 44<br>5220MHz |                                                                                             | 10440     | 42.1       | -31.9  | 74         | 47.31    | 37.26    | 16.41  | 58.88  | 100    | 0       | P       | H       |
|                             |                                                                                             | 15660     | 46.25      | -27.75 | 74         | 42.7     | 40.49    | 20.41  | 57.35  | 100    | 0       | P       | H       |
|                             |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | H       |
|                             |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | H       |
|                             |                                                                                             | 10440     | 43.6       | -30.4  | 74         | 48.81    | 37.26    | 16.41  | 58.88  | 100    | 0       | P       | V       |
|                             |                                                                                             | 15660     | 46.57      | -27.43 | 74         | 43.02    | 40.49    | 20.41  | 57.35  | 100    | 0       | P       | V       |
|                             |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | V       |
|                             |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | V       |
| 802.11a<br>CH 48<br>5240MHz |                                                                                             | 10479     | 42.55      | -31.45 | 74         | 47.7     | 37.29    | 16.45  | 58.89  | 100    | 0       | P       | H       |
|                             |                                                                                             | 15720     | 47.37      | -26.63 | 74         | 43.62    | 40.57    | 20.45  | 57.27  | 100    | 0       | P       | H       |
|                             |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | H       |
|                             |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | H       |
|                             |                                                                                             | 10479     | 42.69      | -31.31 | 74         | 47.84    | 37.29    | 16.45  | 58.89  | 100    | 0       | P       | V       |
|                             |                                                                                             | 15720     | 47.81      | -26.19 | 74         | 44.06    | 40.57    | 20.45  | 57.27  | 100    | 0       | P       | V       |
|                             |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | V       |
|                             |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | V       |
| Remark                      | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |           |            |        |            |          |          |        |        |        |         |         |         |



## 15E Band 2 - 5250~5350MHz

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

| 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 ) |
| 802.11a<br>CH 52<br>5260MHz |      | 5083.4    | 56.72      | -17.28 | 74         | 43.13    | 34.52    | 11.46  | 32.39  | 100    | 0       | P       | H       |
|                             |      | 5149.85   | 42.56      | -11.44 | 54         | 28.89    | 34.61    | 11.55  | 32.49  | 100    | 0       | A       | H       |
|                             | *    | 5265      | 62.97      | -      | -          | 49.31    | 34.77    | 11.65  | 32.76  | 100    | 0       | P       | H       |
|                             |      | 5421.3    | 55.78      | -18.22 | 74         | 42.39    | 34.98    | 11.8   | 33.39  | 100    | 0       | P       | H       |
|                             |      | 5379.88   | 42.13      | -11.87 | 54         | 28.76    | 34.94    | 11.71  | 33.28  | 100    | 0       | A       | H       |
|                             |      |           |            |        |            |          |          |        |        |        |         |         | H       |
|                             |      | 5079.5    | 56.22      | -17.78 | 74         | 42.63    | 34.52    | 11.46  | 32.39  | 100    | 0       | P       | V       |
|                             |      | 5148.5    | 42.41      | -11.59 | 54         | 28.74    | 34.61    | 11.55  | 32.49  | 100    | 0       | A       | V       |
|                             | *    | 5262      | 61.69      | -      | -          | 48.03    | 34.77    | 11.65  | 32.76  | 100    | 0       | P       | V       |
|                             |      | 5371      | 56.71      | -17.29 | 74         | 43.27    | 34.91    | 11.71  | 33.18  | 100    | 0       | P       | V       |
|                             |      | 5409.91   | 42.55      | -11.45 | 54         | 29.24    | 34.96    | 11.74  | 33.39  | 100    | 0       | A       | V       |
|                             |      |           |            |        |            |          |          |        |        |        |         |         | V       |
|                             |      |           |            |        |            |          |          |        |        |        |         |         |         |
| 802.11a<br>CH 60<br>5300MHz |      | 5043.95   | 55.98      | -18.02 | 74         | 42.45    | 34.47    | 11.41  | 32.35  | 100    | 0       | P       | H       |
|                             |      | 5149.4    | 42.4       | -11.6  | 54         | 28.73    | 34.61    | 11.55  | 32.49  | 100    | 0       | A       | H       |
|                             | *    | 5298      | 62.69      | -      | -          | 49.19    | 34.82    | 11.65  | 32.97  | 100    | 0       | P       | H       |
|                             |      | 5370.68   | 55.78      | -18.22 | 74         | 42.34    | 34.91    | 11.71  | 33.18  | 100    | 0       | P       | H       |
|                             |      | 5386.41   | 42.71      | -11.29 | 54         | 29.31    | 34.94    | 11.74  | 33.28  | 100    | 0       | A       | H       |
|                             |      |           |            |        |            |          |          |        |        |        |         |         | H       |
|                             |      | 5016.05   | 56.07      | -17.93 | 74         | 42.57    | 34.42    | 11.37  | 32.29  | 100    | 0       | P       | V       |
|                             |      | 5147.15   | 42.44      | -11.56 | 54         | 28.77    | 34.61    | 11.55  | 32.49  | 100    | 0       | A       | V       |
|                             | *    | 5299      | 61.01      | -      | -          | 47.51    | 34.82    | 11.65  | 32.97  | 100    | 0       | P       | V       |
|                             |      | 5389.38   | 56.38      | -17.62 | 74         | 42.98    | 34.94    | 11.74  | 33.28  | 100    | 0       | P       | V       |
|                             |      | 5390.04   | 42.66      | -11.34 | 54         | 29.26    | 34.94    | 11.74  | 33.28  | 100    | 0       | A       | V       |
|                             |      |           |            |        |            |          |          |        |        |        |         |         | V       |
|                             |      |           |            |        |            |          |          |        |        |        |         |         |         |



| 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) |
| 802.11a<br>CH 64<br>5320MHz | *                                                            | 5319      | 61.47      | -      | -          | 47.92  | 34.84    | 11.68  | 32.97  | 100    | 0       | P     | H     |
|                             |                                                              | 5385.86   | 56.24      | -17.76 | 74         | 42.84  | 34.94    | 11.74  | 33.28  | 100    | 0       | P     | H     |
|                             |                                                              | 5387.95   | 42.69      | -11.31 | 54         | 29.29  | 34.94    | 11.74  | 33.28  | 100    | 0       | A     | H     |
|                             |                                                              |           |            |        |            |        |          |        |        |        |         |       | H     |
|                             |                                                              |           |            |        |            |        |          |        |        |        |         |       | H     |
|                             |                                                              |           |            |        |            |        |          |        |        |        |         |       | H     |
|                             | *                                                            | 5320      | 61.5       | -      | -          | 47.95  | 34.84    | 11.68  | 32.97  | 100    | 0       | P     | V     |
|                             |                                                              | 5414.68   | 56.16      | -17.84 | 74         | 42.83  | 34.98    | 11.74  | 33.39  | 100    | 0       | P     | V     |
|                             |                                                              | 5405.11   | 42.73      | -11.27 | 54         | 29.42  | 34.96    | 11.74  | 33.39  | 100    | 0       | A     | V     |
|                             |                                                              |           |            |        |            |        |          |        |        |        |         |       | V     |
|                             |                                                              |           |            |        |            |        |          |        |        |        |         |       | V     |
|                             |                                                              |           |            |        |            |        |          |        |        |        |         |       | V     |
| Remark                      | 1. No other spurious found.                                  |           |            |        |            |        |          |        |        |        |         |       |       |
|                             | 2. All results are PASS against Peak and Average limit line. |           |            |        |            |        |          |        |        |        |         |       |       |



**15E band 2 5250~5350MHz**  
**WIFI 802.11a (Harmonic @ 3m)**

| 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) |
| 802.11a<br>CH 52<br>5260MHz |                                                                                             | 10521     | 42.98      | -31.02 | 74         | 48.01  | 37.32    | 16.49  | 58.84  | 100    | 0       | P     | H     |
|                             |                                                                                             | 15780     | 47.34      | -26.66 | 74         | 43.47  | 40.63    | 20.46  | 57.22  | 100    | 0       | P     | H     |
|                             |                                                                                             |           |            |        |            |        |          |        |        |        |         |       | H     |
|                             |                                                                                             |           |            |        |            |        |          |        |        |        |         |       | H     |
|                             |                                                                                             | 10521     | 42.07      | -31.93 | 74         | 47.1   | 37.32    | 16.49  | 58.84  | 100    | 0       | P     | V     |
|                             |                                                                                             | 15780     | 47.78      | -26.22 | 74         | 43.91  | 40.63    | 20.46  | 57.22  | 100    | 0       | P     | V     |
|                             |                                                                                             |           |            |        |            |        |          |        |        |        |         |       | V     |
|                             |                                                                                             |           |            |        |            |        |          |        |        |        |         |       | V     |
| 802.11a<br>CH 60<br>5300MHz |                                                                                             | 10599     | 41.22      | -32.78 | 74         | 45.85  | 37.42    | 16.56  | 58.61  | 100    | 0       | P     | H     |
|                             |                                                                                             | 15900     | 48.28      | -25.72 | 74         | 44.06  | 40.78    | 20.52  | 57.08  | 100    | 0       | P     | H     |
|                             |                                                                                             |           |            |        |            |        |          |        |        |        |         |       | H     |
|                             |                                                                                             |           |            |        |            |        |          |        |        |        |         |       | H     |
|                             |                                                                                             | 10600     | 41.85      | -32.15 | 74         | 46.48  | 37.42    | 16.56  | 58.61  | 100    | 0       | P     | V     |
|                             |                                                                                             | 15900     | 47.25      | -26.75 | 74         | 43.03  | 40.78    | 20.52  | 57.08  | 100    | 0       | P     | V     |
|                             |                                                                                             |           |            |        |            |        |          |        |        |        |         |       | V     |
|                             |                                                                                             |           |            |        |            |        |          |        |        |        |         |       | V     |
| 802.11a<br>CH 64<br>5320MHz |                                                                                             | 10641     | 41.3       | -32.7  | 74         | 45.75  | 37.47    | 16.6   | 58.52  | 100    | 0       | P     | H     |
|                             |                                                                                             | 15960     | 46.81      | -27.19 | 74         | 42.4   | 40.86    | 20.55  | 57     | 100    | 0       | P     | H     |
|                             |                                                                                             |           |            |        |            |        |          |        |        |        |         |       | H     |
|                             |                                                                                             |           |            |        |            |        |          |        |        |        |         |       | H     |
|                             |                                                                                             | 10641     | 41.45      | -32.55 | 74         | 45.9   | 37.47    | 16.6   | 58.52  | 100    | 0       | P     | V     |
|                             |                                                                                             | 15960     | 46.92      | -27.08 | 74         | 42.51  | 40.86    | 20.55  | 57     | 100    | 0       | P     | V     |
|                             |                                                                                             |           |            |        |            |        |          |        |        |        |         |       | V     |
|                             |                                                                                             |           |            |        |            |        |          |        |        |        |         |       | V     |
| Remark                      | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |           |            |        |            |        |          |        |        |        |         |       |       |



## 15E Band 3 - 5470~5725MHz

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

| 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) |
| 802.11a<br>CH 100<br>5500MHz |      | 5406.64   | 56.16      | -17.84 | 74         | 42.85  | 34.96    | 11.74  | 33.39  | 100    | 0       | P     | H     |
|                              |      | 5397.84   | 42.67      | -11.33 | 54         | 29.25  | 34.96    | 11.74  | 33.28  | 100    | 0       | A     | H     |
|                              | *    | 5499      | 60.81      | -      | -          | 47.51  | 35.1     | 11.86  | 33.66  | 100    | 0       | P     | H     |
|                              |      |           |            |        |            |        |          |        |        |        |         |       | H     |
|                              |      |           |            |        |            |        |          |        |        |        |         |       | H     |
|                              |      |           |            |        |            |        |          |        |        |        |         |       | H     |
|                              |      | 5406.48   | 57.42      | -16.58 | 74         | 44.11  | 34.96    | 11.74  | 33.39  | 100    | 0       | P     | V     |
|                              |      | 5407.6    | 42.7       | -11.3  | 54         | 29.39  | 34.96    | 11.74  | 33.39  | 100    | 0       | A     | V     |
|                              | *    | 5503      | 58.9       | -      | -          | 45.62  | 35.1     | 11.92  | 33.74  | 100    | 0       | P     | V     |
|                              |      |           |            |        |            |        |          |        |        |        |         |       | V     |
|                              |      |           |            |        |            |        |          |        |        |        |         |       | V     |
|                              |      |           |            |        |            |        |          |        |        |        |         |       | V     |
|                              |      |           |            |        |            |        |          |        |        |        |         |       | V     |
| 802.11a<br>CH 116<br>5580MHz |      | 5444.4    | 55.92      | -18.08 | 74         | 42.59  | 35.01    | 11.8   | 33.48  | 100    | 0       | P     | H     |
|                              |      | 5402.32   | 42.67      | -11.33 | 54         | 29.36  | 34.96    | 11.74  | 33.39  | 100    | 0       | A     | H     |
|                              | *    | 5579      | 62.5       | -      | -          | 49.39  | 35.14    | 11.98  | 34.01  | 100    | 0       | P     | H     |
|                              |      | 5762.76   | 56.36      | -17.64 | 74         | 42.97  | 35.26    | 12.33  | 34.2   | 100    | 0       | P     | H     |
|                              |      | 5753      | 42.41      | -11.59 | 54         | 28.99  | 35.26    | 12.33  | 34.17  | 100    | 0       | A     | H     |
|                              |      |           |            |        |            |        |          |        |        |        |         |       | H     |
|                              |      | 5352.24   | 56.04      | -17.96 | 74         | 42.62  | 34.89    | 11.71  | 33.18  | 100    | 0       | P     | V     |
|                              |      | 5388.24   | 42.67      | -11.33 | 54         | 29.27  | 34.94    | 11.74  | 33.28  | 100    | 0       | A     | V     |
|                              | *    | 5578      | 64.5       | -      | -          | 51.39  | 35.14    | 11.98  | 34.01  | 100    | 0       | P     | V     |
|                              |      | 5728.76   | 55.91      | -18.09 | 74         | 42.57  | 35.23    | 12.26  | 34.15  | 100    | 0       | P     | V     |
|                              |      | 5762.52   | 42.45      | -11.55 | 54         | 29.06  | 35.26    | 12.33  | 34.2   | 100    | 0       | A     | V     |
|                              |      |           |            |        |            |        |          |        |        |        |         |       | V     |
|                              |      |           |            |        |            |        |          |        |        |        |         |       | V     |



| 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) |
| 802.11a<br>CH 140<br>5700MHz | *                                                                                           | 5704      | 58.76      | -      | -          | 45.4   | 35.22    | 12.26  | 34.12  | 100    | 0       | P     | H     |
|                              |                                                                                             | 5761.08   | 56.67      | -17.33 | 74         | 43.28  | 35.26    | 12.33  | 34.2   | 100    | 0       | P     | H     |
|                              |                                                                                             | 5757      | 42.37      | -11.63 | 54         | 28.98  | 35.26    | 12.33  | 34.2   | 100    | 0       | A     | H     |
|                              |                                                                                             |           |            |        |            |        |          |        |        |        |         |       | H     |
|                              |                                                                                             |           |            |        |            |        |          |        |        |        |         |       | H     |
|                              |                                                                                             |           |            |        |            |        |          |        |        |        |         |       | H     |
|                              | *                                                                                           | 5696      | 58.51      | -      | -          | 45.24  | 35.21    | 12.18  | 34.12  | 100    | 0       | P     | V     |
|                              |                                                                                             | 5761.32   | 57.04      | -16.96 | 74         | 43.65  | 35.26    | 12.33  | 34.2   | 100    | 0       | P     | V     |
|                              |                                                                                             | 5757.72   | 42.4       | -11.6  | 54         | 29.01  | 35.26    | 12.33  | 34.2   | 100    | 0       | A     | V     |
|                              |                                                                                             |           |            |        |            |        |          |        |        |        |         |       | V     |
|                              |                                                                                             |           |            |        |            |        |          |        |        |        |         |       | V     |
|                              |                                                                                             |           |            |        |            |        |          |        |        |        |         |       | V     |
| Remark                       | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |           |            |        |            |        |          |        |        |        |         |       |       |



## 15E band 3 - 5470~5725MHz

## WIFI 802.11a (Harmonic @ 3m)

| 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 ) |
| 802.11a<br>CH 100<br>5500MHz |                                                                                             | 11001     | 43.94      | -30.06 | 74         | 46.66    | 37.9     | 16.94  | 57.56  | 100    | 0       | P       | H       |
|                              |                                                                                             | 16500     | 47.94      | -26.06 | 74         | 41.63    | 41.4     | 20.88  | 55.97  | 100    | 0       | P       | H       |
|                              |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | H       |
|                              |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | H       |
|                              |                                                                                             | 11000     | 44.24      | -29.76 | 74         | 46.96    | 37.9     | 16.94  | 57.56  | 100    | 0       | P       | V       |
|                              |                                                                                             | 16500     | 47.19      | -26.81 | 74         | 40.88    | 41.4     | 20.88  | 55.97  | 100    | 0       | P       | V       |
|                              |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | V       |
|                              |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | V       |
| 802.11a<br>CH 116<br>5580MHz |                                                                                             | 11160     | 44.56      | -29.44 | 74         | 46.84    | 38       | 17.08  | 57.36  | 100    | 0       | P       | H       |
|                              |                                                                                             | 16740     | 48.08      | -25.92 | 74         | 41.21    | 41.88    | 21.04  | 56.05  | 100    | 0       | P       | H       |
|                              |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | H       |
|                              |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | H       |
|                              |                                                                                             | 11160     | 43.98      | -30.02 | 74         | 46.26    | 38       | 17.08  | 57.36  | 100    | 0       | P       | V       |
|                              |                                                                                             | 16740     | 48.9       | -25.1  | 74         | 42.03    | 41.88    | 21.04  | 56.05  | 100    | 0       | P       | V       |
|                              |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | V       |
|                              |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | V       |
| 802.11a<br>CH 140<br>5700MHz |                                                                                             | 11400     | 44.09      | -29.91 | 74         | 45.71    | 38.14    | 17.31  | 57.07  | 100    | 0       | P       | H       |
|                              |                                                                                             | 17100     | 50.01      | -23.99 | 74         | 42.58    | 42.32    | 21.27  | 56.16  | 100    | 0       | P       | H       |
|                              |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | H       |
|                              |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | H       |
|                              |                                                                                             | 11400     | 44.97      | -29.03 | 74         | 46.59    | 38.14    | 17.31  | 57.07  | 100    | 0       | P       | V       |
|                              |                                                                                             | 17100     | 48.68      | -25.32 | 74         | 41.25    | 42.32    | 21.27  | 56.16  | 100    | 0       | P       | V       |
|                              |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | V       |
|                              |                                                                                             |           |            |        |            |          |          |        |        |        |         |         | V       |
| Remark                       | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |           |            |        |            |          |          |        |        |        |         |         |         |



## 15E Emission below 1GHz

## WIFI 802.11a (LF @ 3m)

| 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) |
| 802.11a<br>LF |                                                                            | 40.53     | 28.36      | -11.64 | 40         | 44.49  | 13.3     | 1.77   | 31.2   |        |         | P     | H     |
|               |                                                                            | 209.28    | 35.78      | -7.72  | 43.5       | 55     | 9.19     | 2.69   | 31.1   | 197    | 286     | P     | H     |
|               |                                                                            | 288.39    | 26.65      | -19.35 | 46         | 41.51  | 13.04    | 3.16   | 31.06  |        |         | P     | H     |
|               |                                                                            | 324.5     | 25.96      | -20.04 | 46         | 40.08  | 13.6     | 3.28   | 31     |        |         | P     | H     |
|               |                                                                            | 493.2     | 26.24      | -19.76 | 46         | 35.2   | 17.94    | 3.77   | 30.67  |        |         | P     | H     |
|               |                                                                            | 948.9     | 28.09      | -17.91 | 46         | 29.16  | 24.39    | 4.94   | 30.4   |        |         | P     | H     |
|               |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|               |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|               |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|               |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|               |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|               |                                                                            | 46.47     | 28.67      | -11.33 | 40         | 48.3   | 9.8      | 1.77   | 31.2   | 125    | 12      | P     | V     |
|               |                                                                            | 209.28    | 32.11      | -11.39 | 43.5       | 51.33  | 9.19     | 2.69   | 31.1   |        |         | P     | V     |
|               |                                                                            | 275.97    | 27.61      | -18.39 | 46         | 42.56  | 12.84    | 3.16   | 30.95  |        |         | P     | V     |
|               |                                                                            | 344.8     | 29.96      | -16.04 | 46         | 43.34  | 14.25    | 3.39   | 31.02  |        |         | P     | V     |
|               |                                                                            | 620.6     | 32.33      | -13.67 | 46         | 38.45  | 20.22    | 4.22   | 30.56  |        |         | P     | V     |
|               |                                                                            | 897.1     | 32.59      | -13.41 | 46         | 35.13  | 23.11    | 4.66   | 30.31  |        |         | P     | 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 per 15.209(c). |
| !   | 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”.**