

### 5.8.2 Transmitter emission above 1GHz

| Test mode: |               | 802.11n20(6.5Mbps) |                | Test channel: |        | 36            |           |
|------------|---------------|--------------------|----------------|---------------|--------|---------------|-----------|
| Frequency  | Meter Reading | Factor             | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)      | (dBμV)        | (dB)               | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 10360.000  | 53.04         | 2.42               | 55.46          | 74            | -18.54 | peak          | H         |
| 10360.000  | 43.98         | 2.42               | 46.40          | 54            | -7.60  | AVG           | H         |
| 15540.000  | 52.32         | 3.92               | 56.24          | 74            | -17.76 | peak          | H         |
| 15540.000  | 39.21         | 3.92               | 43.13          | 54            | -10.87 | AVG           | H         |
| 10360.000  | 54.34         | 2.42               | 56.76          | 74            | -17.24 | peak          | V         |
| 10360.000  | 41.95         | 2.42               | 44.37          | 54            | -9.63  | AVG           | V         |
| 15540.000  | 50.61         | 3.92               | 54.53          | 74            | -19.47 | peak          | V         |
| 15540.000  | 40.89         | 3.92               | 44.81          | 54            | -9.19  | AVG           | V         |

| Test mode: |               | 802.11n20(6.5Mbps) |                | Test channel: |        | 40            |           |
|------------|---------------|--------------------|----------------|---------------|--------|---------------|-----------|
| Frequency  | Meter Reading | Factor             | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)      | (dBμV)        | (dB)               | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 10440.000  | 54.37         | 2.23               | 56.60          | 74            | -17.40 | peak          | H         |
| 10440.000  | 41.74         | 2.23               | 43.97          | 54            | -10.03 | AVG           | H         |
| 15660.000  | 52.66         | 3.75               | 56.41          | 74            | -17.59 | peak          | H         |
| 15660.000  | 40.24         | 3.75               | 43.99          | 54            | -10.01 | AVG           | H         |
| 10440.000  | 52.62         | 2.23               | 54.85          | 74            | -19.15 | peak          | V         |
| 10440.000  | 43.99         | 2.23               | 46.22          | 54            | -7.78  | AVG           | V         |
| 15660.000  | 52.28         | 3.75               | 56.03          | 74            | -17.97 | peak          | V         |
| 15660.000  | 41.81         | 3.75               | 45.56          | 54            | -8.44  | AVG           | V         |

| Test mode: |               | 802.11n20(6.5Mbps) |                | Test channel: |        | 48            |           |
|------------|---------------|--------------------|----------------|---------------|--------|---------------|-----------|
| Frequency  | Meter Reading | Factor             | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)      | (dBμV)        | (dB)               | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 10480.000  | 54.35         | 2.31               | 56.66          | 74            | -17.34 | peak          | H         |
| 10480.000  | 41.50         | 2.31               | 43.81          | 54            | -10.19 | AVG           | H         |
| 15720.000  | 50.83         | 3.82               | 54.65          | 74            | -19.35 | peak          | H         |
| 15720.000  | 39.07         | 3.82               | 42.89          | 54            | -11.11 | AVG           | H         |
| 10480.000  | 54.82         | 2.31               | 57.13          | 74            | -16.87 | peak          | V         |
| 10480.000  | 42.96         | 2.31               | 45.27          | 54            | -8.73  | AVG           | V         |
| 15720.000  | 51.90         | 3.82               | 55.72          | 74            | -18.28 | peak          | V         |
| 15720.000  | 39.52         | 3.82               | 43.34          | 54            | -10.66 | AVG           | V         |

| Test mode: |               | 802.11n20(6.5Mbps) |                | Test channel: |        | 149           |           |
|------------|---------------|--------------------|----------------|---------------|--------|---------------|-----------|
| Frequency  | Meter Reading | Factor             | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)      | (dBμV)        | (dB)               | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 11490.000  | 52.54         | 2.42               | 54.96          | 74            | -19.04 | peak          | H         |
| 11490.000  | 41.52         | 2.42               | 43.94          | 54            | -10.06 | AVG           | H         |
| 17235.000  | 52.59         | 3.92               | 56.51          | 74            | -17.49 | peak          | H         |
| 17235.000  | 40.20         | 3.92               | 44.12          | 54            | -9.88  | AVG           | H         |
| 11490.000  | 54.61         | 2.42               | 57.03          | 74            | -16.97 | peak          | V         |
| 11490.000  | 41.98         | 2.42               | 44.40          | 54            | -9.60  | AVG           | V         |
| 17235.000  | 52.32         | 3.92               | 56.24          | 74            | -17.76 | peak          | V         |
| 17235.000  | 41.24         | 3.92               | 45.16          | 54            | -8.84  | AVG           | V         |

| Test mode: |               | 802.11n20(6.5Mbps) |                | Test channel:  |        | 157           |           |
|------------|---------------|--------------------|----------------|----------------|--------|---------------|-----------|
| Frequency  | Meter Reading | Factor             | Emission Level | Limits         | Over   | Detector Type | Ant. Pol. |
| (MHz)      | (dB $\mu$ V)  | (dB)               | (dB $\mu$ V/m) | (dB $\mu$ V/m) | (dB)   |               | H/V       |
| 11570.000  | 54.93         | 2.47               | 57.40          | 74             | -16.60 | peak          | H         |
| 11570.000  | 42.68         | 2.47               | 45.15          | 54             | -8.85  | AVG           | H         |
| 17355.000  | 50.03         | 3.96               | 53.99          | 74             | -20.01 | peak          | H         |
| 17355.000  | 39.74         | 3.96               | 43.70          | 54             | -10.30 | AVG           | H         |
| 11570.000  | 54.62         | 2.47               | 57.09          | 74             | -16.91 | peak          | V         |
| 11570.000  | 42.98         | 2.47               | 45.45          | 54             | -8.55  | AVG           | V         |
| 17355.000  | 50.19         | 3.96               | 54.15          | 74             | -19.85 | peak          | V         |
| 17355.000  | 40.73         | 3.96               | 44.69          | 54             | -9.31  | AVG           | V         |

| Test mode: |               | 802.11n20(6.5Mbps) |                | Test channel:  |        | 165           |           |
|------------|---------------|--------------------|----------------|----------------|--------|---------------|-----------|
| Frequency  | Meter Reading | Factor             | Emission Level | Limits         | Over   | Detector Type | Ant. Pol. |
| (MHz)      | (dB $\mu$ V)  | (dB)               | (dB $\mu$ V/m) | (dB $\mu$ V/m) | (dB)   |               | H/V       |
| 11650.000  | 53.20         | 2.55               | 55.75          | 74             | -18.25 | peak          | H         |
| 11650.000  | 43.42         | 2.55               | 45.97          | 54             | -8.03  | AVG           | H         |
| 17475.000  | 50.45         | 4.01               | 54.46          | 74             | -19.54 | peak          | H         |
| 17475.000  | 40.85         | 4.01               | 44.86          | 54             | -9.14  | AVG           | H         |
| 11650.000  | 52.58         | 2.55               | 55.13          | 74             | -18.87 | peak          | V         |
| 11650.000  | 41.39         | 2.55               | 43.94          | 54             | -10.06 | AVG           | V         |
| 17475.000  | 51.79         | 4.01               | 55.80          | 74             | -18.20 | peak          | V         |
| 17475.000  | 39.10         | 4.01               | 43.11          | 54             | -10.89 | AVG           | V         |

| Test mode: |               | 802.11ac20(6.5Mbps) |                | Test channel: |        | 36            |           |
|------------|---------------|---------------------|----------------|---------------|--------|---------------|-----------|
| Frequency  | Meter Reading | Factor              | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)      | (dBμV)        | (dB)                | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 10360.000  | 52.63         | 2.13                | 54.76          | 74            | -19.24 | peak          | H         |
| 10360.000  | 42.13         | 2.13                | 44.26          | 54            | -9.74  | AVG           | H         |
| 15540.000  | 50.94         | 3.62                | 54.56          | 74            | -19.44 | peak          | H         |
| 15540.000  | 39.91         | 3.62                | 43.53          | 54            | -10.47 | AVG           | H         |
| 10360.000  | 53.48         | 2.13                | 55.61          | 74            | -18.39 | peak          | V         |
| 10360.000  | 41.34         | 2.13                | 43.47          | 54            | -10.53 | AVG           | V         |
| 15540.000  | 52.17         | 3.62                | 55.79          | 74            | -18.21 | peak          | V         |
| 15540.000  | 40.39         | 3.62                | 44.01          | 54            | -9.99  | AVG           | V         |

| Test mode: |               | 802.11ac20(6.5Mbps) |                | Test channel: |        | 40            |           |
|------------|---------------|---------------------|----------------|---------------|--------|---------------|-----------|
| Frequency  | Meter Reading | Factor              | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)      | (dBμV)        | (dB)                | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 10440.000  | 54.34         | 2.23                | 56.57          | 74            | -17.43 | peak          | H         |
| 10440.000  | 42.12         | 2.23                | 44.35          | 54            | -9.65  | AVG           | H         |
| 15660.000  | 52.49         | 3.75                | 56.24          | 74            | -17.76 | peak          | H         |
| 15660.000  | 39.24         | 3.75                | 42.99          | 54            | -11.01 | AVG           | H         |
| 10440.000  | 54.69         | 2.23                | 56.92          | 74            | -17.08 | peak          | V         |
| 10440.000  | 42.40         | 2.23                | 44.63          | 54            | -9.37  | AVG           | V         |
| 15660.000  | 52.95         | 3.75                | 56.70          | 74            | -17.30 | peak          | V         |
| 15660.000  | 41.11         | 3.75                | 44.86          | 54            | -9.14  | AVG           | V         |

| Test mode: |               | 802.11ac20(6.5Mbps) |                | Test channel: |        | 48            |           |
|------------|---------------|---------------------|----------------|---------------|--------|---------------|-----------|
| Frequency  | Meter Reading | Factor              | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)      | (dBμV)        | (dB)                | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 10480.000  | 52.13         | 2.31                | 54.44          | 74            | -19.56 | peak          | H         |
| 10480.000  | 43.29         | 2.31                | 45.60          | 54            | -8.40  | AVG           | H         |
| 15720.000  | 52.71         | 3.82                | 56.53          | 74            | -17.47 | peak          | H         |
| 15720.000  | 40.43         | 3.82                | 44.25          | 54            | -9.75  | AVG           | H         |
| 10480.000  | 53.11         | 2.31                | 55.42          | 74            | -18.58 | peak          | V         |
| 10480.000  | 42.45         | 2.31                | 44.76          | 54            | -9.24  | AVG           | V         |
| 15720.000  | 52.02         | 3.82                | 55.84          | 74            | -18.16 | peak          | V         |
| 15720.000  | 39.69         | 3.82                | 43.51          | 54            | -10.49 | AVG           | V         |

| Test mode: |               | 802.11ac20(6.5Mbps) |                | Test channel: |        | 149           |           |
|------------|---------------|---------------------|----------------|---------------|--------|---------------|-----------|
| Frequency  | Meter Reading | Factor              | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)      | (dBμV)        | (dB)                | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 11490.000  | 53.85         | 2.42                | 56.27          | 74            | -17.73 | peak          | H         |
| 11490.000  | 42.89         | 2.42                | 45.31          | 54            | -8.69  | AVG           | H         |
| 17235.000  | 52.34         | 3.92                | 56.26          | 74            | -17.74 | peak          | H         |
| 17235.000  | 40.11         | 3.92                | 44.03          | 54            | -9.97  | AVG           | H         |
| 11490.000  | 52.77         | 2.42                | 55.19          | 74            | -18.81 | peak          | V         |
| 11490.000  | 43.59         | 2.42                | 46.01          | 54            | -7.99  | AVG           | V         |
| 17235.000  | 52.88         | 3.92                | 56.80          | 74            | -17.20 | peak          | V         |
| 17235.000  | 41.54         | 3.92                | 45.46          | 54            | -8.54  | AVG           | V         |

| Test mode: |               | 802.11ac20(6.5Mbps) |                | Test channel: |        | 157           |           |
|------------|---------------|---------------------|----------------|---------------|--------|---------------|-----------|
| Frequency  | Meter Reading | Factor              | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)      | (dBμV)        | (dB)                | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 11570.000  | 52.99         | 2.47                | 55.46          | 74            | -18.54 | peak          | H         |
| 11570.000  | 43.47         | 2.47                | 45.94          | 54            | -8.06  | AVG           | H         |
| 17355.000  | 52.77         | 3.96                | 56.73          | 74            | -17.27 | peak          | H         |
| 17355.000  | 41.50         | 3.96                | 45.46          | 54            | -8.54  | AVG           | H         |
| 11570.000  | 52.60         | 2.47                | 55.07          | 74            | -18.93 | peak          | V         |
| 11570.000  | 41.09         | 2.47                | 43.56          | 54            | -10.44 | AVG           | V         |
| 17355.000  | 52.64         | 3.96                | 56.60          | 74            | -17.40 | peak          | V         |
| 17355.000  | 41.92         | 3.96                | 45.88          | 54            | -8.12  | AVG           | V         |

| Test mode: |               | 802.11ac20(6.5Mbps) |                | Test channel: |        | 165           |           |
|------------|---------------|---------------------|----------------|---------------|--------|---------------|-----------|
| Frequency  | Meter Reading | Factor              | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)      | (dBμV)        | (dB)                | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 11650.000  | 52.53         | 2.55                | 55.08          | 74            | -18.92 | peak          | H         |
| 11650.000  | 41.65         | 2.55                | 44.20          | 54            | -9.80  | AVG           | H         |
| 17475.000  | 50.07         | 4.01                | 54.08          | 74            | -19.92 | peak          | H         |
| 17475.000  | 41.28         | 4.01                | 45.29          | 54            | -8.71  | AVG           | H         |
| 11650.000  | 54.96         | 2.55                | 57.51          | 74            | -16.49 | peak          | V         |
| 11650.000  | 41.81         | 2.55                | 44.36          | 54            | -9.64  | AVG           | V         |
| 17475.000  | 51.85         | 4.01                | 55.86          | 74            | -18.14 | peak          | V         |
| 17475.000  | 40.98         | 4.01                | 44.99          | 54            | -9.01  | AVG           | V         |

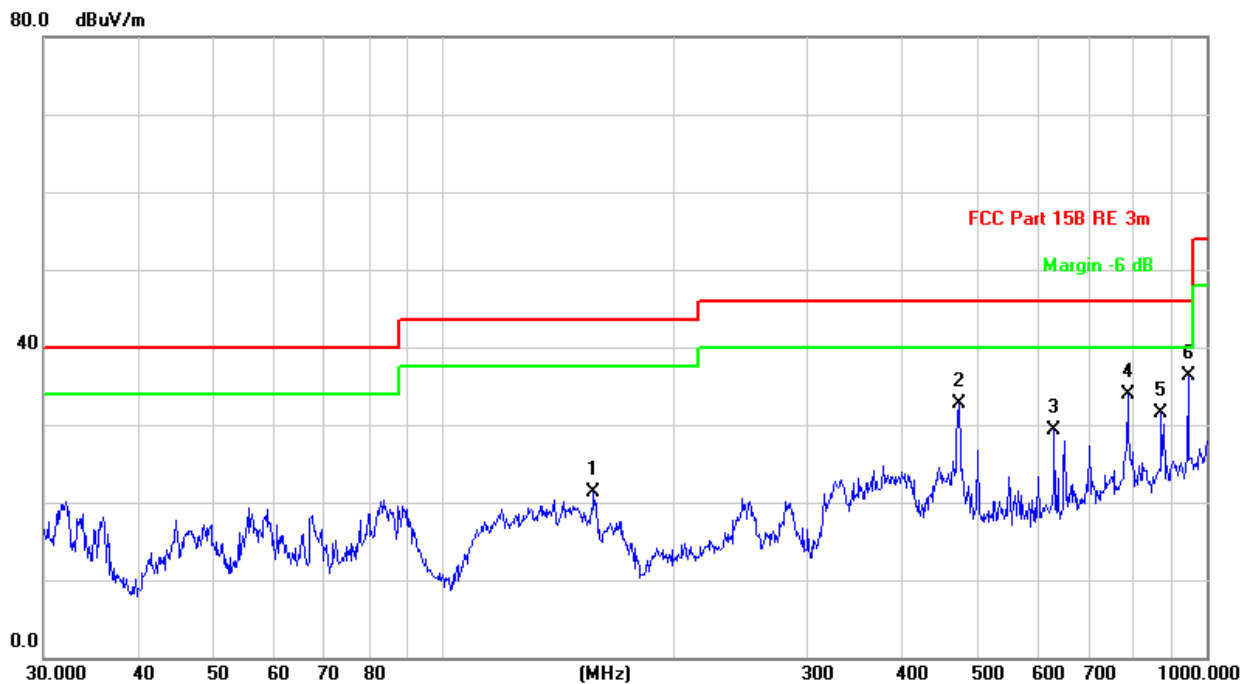
Remark:

- 1) The 6.5Mbps of rate of 802.11n is the worst case.
- 2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:  
Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor
- 3) Scan from 9kHz to 40GHz, The disturbance above 18GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

### Simultaneous Tx Radiated Spurious Emissions Measurements

|                           |                  |                |
|---------------------------|------------------|----------------|
| Description               | 2.4 GHz Emission | 5 GHz Emission |
| Channel                   | 1                | 38             |
| Operating Frequency (MHz) | 2412             | 5190           |
| Data Rate (Mbps)          | DSSS/1Mbps       | OFDM/13.5Mbps  |
| Mode                      | 2.4GWIFI-802.11b | UNII-AC40      |

| 30MHz~1GHz |  |            |
|------------|--|------------|
| Test mode: | Transmitting<br>(802.11b- 2412MHz & UNII-AC40-5190MHz) | Horizontal |



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB/m | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Antenna<br>Height<br>cm | Table<br>Degree<br>degree | Comment |
|-----|-----|--------------|--------------------------|---------------------------|----------------------------|-----------------|------------|-------------------------|---------------------------|---------|
| 1   |     | 157.5588     | 34.19                    | -12.87                    | 21.32                      | 43.50           | -18.68     | QP                      |                           |         |
| 2   |     | 473.8347     | 39.78                    | -7.06                     | 32.72                      | 46.00           | -14.28     | QP                      |                           |         |
| 3   |     | 631.6884     | 33.45                    | -4.23                     | 29.22                      | 46.00           | -17.78     | QP                      |                           |         |
| 4   |     | 787.8513     | 35.66                    | -1.80                     | 33.86                      | 46.00           | -13.14     | QP                      |                           |         |
| 5   |     | 872.1832     | 32.35                    | -0.78                     | 31.57                      | 46.00           | -15.43     | QP                      |                           |         |
| 6   | *   | 945.4399     | 35.98                    | 0.27                      | 36.25                      | 46.00           | -10.75     | QP                      |                           |         |

**Remark:**

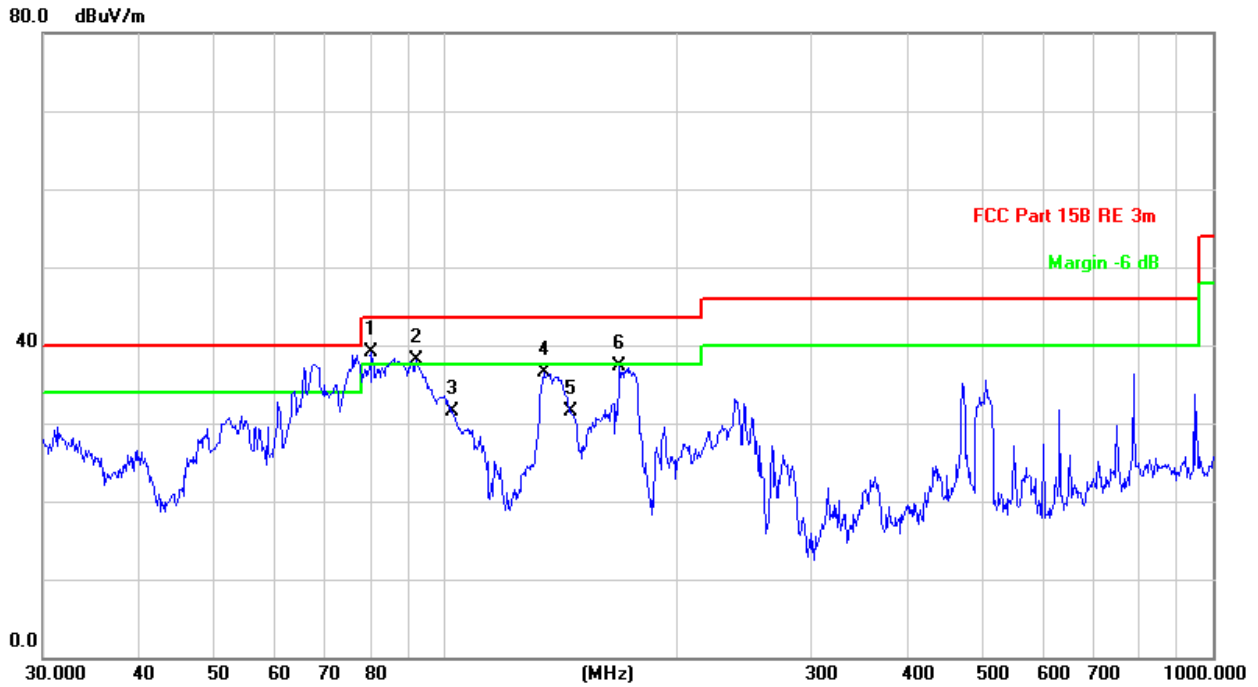
The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Factor= Antenna Factor + Cable Factor – Preamplifier Factor,

Level = Read Level + Factor,

Over Limit=Level-Limit Line.

|            |  |          |
|------------|--|----------|
| Test mode: | Transmitting<br>(802.11b- 2412MHz & UNII-AC40-5190MHz) | Vertical |
|------------|--|----------|



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Antenna Height | Table Degree |         |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------------|--------------|---------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     | cm             | degree       | Comment |
| 1   | *   | 80.3619  | 58.34         | -18.84         | 39.50       | 43.50  | -4.00  | QP             |              |         |
| 2   | !   | 91.8163  | 55.10         | -16.93         | 38.17       | 43.50  | -5.33  | QP             |              |         |
| 3   |     | 102.3597 | 46.15         | -14.56         | 31.59       | 43.50  | -11.91 | QP             |              |         |
| 4   | !   | 134.5592 | 49.13         | -12.61         | 36.52       | 43.50  | -6.98  | QP             |              |         |
| 5   |     | 145.8611 | 44.29         | -12.78         | 31.51       | 43.50  | -11.99 | QP             |              |         |
| 6   | !   | 169.0054 | 50.81         | -13.56         | 37.25       | 43.50  | -6.25  | QP             |              |         |

Remark:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Factor= Antenna Factor + Cable Factor – Preamplifier Factor,

Level = Read Level + Factor,

Over Limit=Level-Limit Line.



Above 1GHz

| Frequency | Meter Reading | Factor | Emission Level | Limits         | Over   | Detector Type | Ant. Pol. |
|-----------|---------------|--------|----------------|----------------|--------|---------------|-----------|
| (MHz)     | (dB $\mu$ V)  | (dB)   | (dB $\mu$ V/m) | (dB $\mu$ V/m) | (dB)   |               | H/V       |
| 4824      | 53.29         | -4.26  | 49.03          | 74             | -24.97 | PK            | H         |
| 4824      | 37.60         | -4.26  | 33.34          | 54             | -20.66 | AV            | H         |
| 7236      | 52.20         | 1.18   | 53.38          | 74             | -20.62 | PK            | H         |
| 7236      | 37.49         | 1.18   | 38.67          | 54             | -15.33 | AV            | H         |
| 10360.000 | 51.26         | 2.13   | 53.39          | 74             | -20.61 | peak          | H         |
| 10360.000 | 41.38         | 2.13   | 43.51          | 54             | -10.49 | AVG           | H         |
| 15540.000 | 54.55         | 3.62   | 58.17          | 74             | -15.83 | peak          | H         |
| 15540.000 | 43.80         | 3.62   | 47.42          | 54             | -6.58  | AVG           | H         |
| 4824      | 54.57         | -4.26  | 50.31          | 74             | -23.69 | PK            | V         |
| 4824      | 39.88         | -4.26  | 35.62          | 54             | -18.38 | AV            | V         |
| 7236      | 50.85         | 1.18   | 52.03          | 74             | -21.97 | PK            | V         |
| 7236      | 36.39         | 1.18   | 37.57          | 54             | -16.43 | AV            | V         |
| 10360.000 | 50.70         | 2.13   | 52.83          | 74             | -21.17 | peak          | V         |
| 10360.000 | 40.05         | 2.13   | 42.18          | 54             | -11.82 | AVG           | V         |
| 15540.000 | 52.31         | 3.62   | 55.93          | 74             | -18.07 | peak          | V         |
| 15540.000 | 43.47         | 3.62   | 47.09          | 54             | -6.91  | AVG           | V         |

Remark:

- 1) Scan from 9kHz to 40GHz, The disturbance above 18GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

### 5.9 Restricted bands around fundamental frequency

|                   |   |  |                                  |
|-------------------|---|--|----------------------------------|
| Test Requirement: | FCC 47 CFR Part 15 Subpart E Section 15.407 (b)(1)(2)(3)(4)(6)<br>FCC 47 CFR Part 15 Subpart C Section 15.209/205 |  |                                  |
| Test Method:      | KDB 789033 D02 v02r01 Section G.3, G.4, G.5, and G.6  |  |                                  |
| Test Site:        | Measurement Distance: 3m (Semi-Anechoic Chamber)  |  |                                  |
| Limit:            | <b>Applicable To</b>  | <b>Limit</b>   |                                  |
|                   | <b>789033 D02 General U-NII Test Procedures<br/>New Rules v02r01</b>  | <b>Field Strength at 3 m</b>   |                                  |
|                   |   | <b>PK: 74 (dBμV/m)</b>   | <b>AV: 54 (dBμV/m)</b>           |
|                   | Applicable To   | EIRP Limit   | Equivalent Field Strength at 3 m |
|                   | FCC 47 CFR Part 15<br>Subpart E Section 6.2.1.2   | PK: -27 (dBm/MHz)  | PK: 74 (dBμV/m)                  |
|                   | FCC 47 CFR Part 15<br>Subpart E Section 6.2.2.2   | PK: -27 (dBm/MHz)  | PK: 74 (dBμV/m)                  |
|                   | FCC 47 CFR Part 15<br>Subpart E Section 6.2.3.2   | PK: -27 (dBm/MHz)  | PK: 68.2 (dBμV/m)                |
|                   | FCC 47 CFR Part 15<br>Subpart E Section 6.2.4.2   | 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges;      | PK: 68.2 (dBμV/m)                |
|                   |   | 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges; |                                  |
|                   |   | 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; |                                  |
| -27 dBm/MHz at    |   |  |                                  |

|  |  |   |  |
|--|--|---|--|
|  |  | frequencies more than 75 MHz above or below the band edges. |  |
|--|--|---|--|

**Test Setup:**

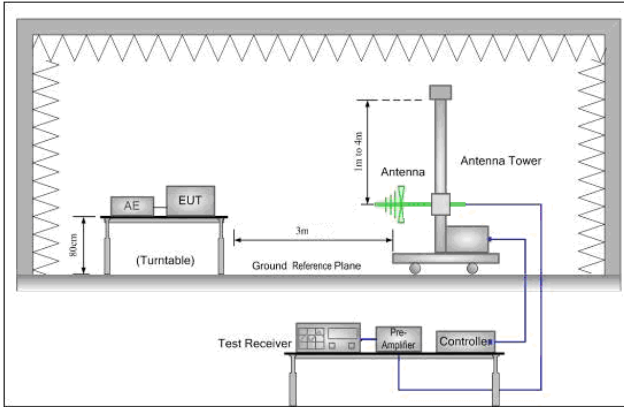


Figure 1. 30MHz to 1GHz

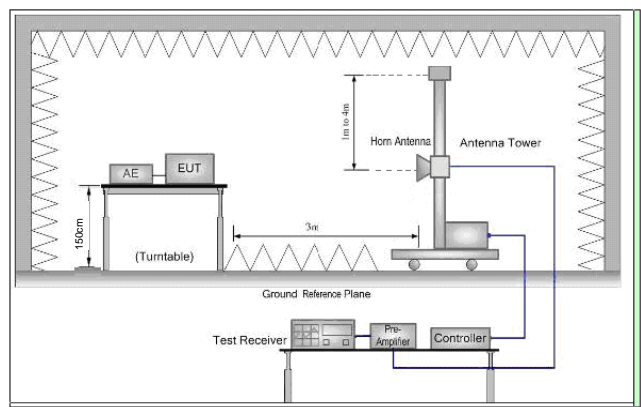


Figure 2. Above 1 GHz

**Test Procedure:**

- a. 1) Below 1G: The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.  
2) Above 1G: The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.  
Note: For the radiated emission test above 1GHz:  
Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel
- g. Test the EUT in the lowest channel , the Highest channel
- h. Repeat above procedures until all frequencies measured was complete.

|                   |      |   |
|-------------------|------|---|
| Exploratory Mode: | Test | Transmitting with all kind of modulations, data rates.<br>Transmitting mode.  |
| Final Test Mode:  |      | Pretest the EUT at Transmitting mode, found the Transmitting mode which it is worse case<br>Through Pre-scan, find 6.5Mbps of rate is the worst case of 802.11n(HT20) ; 13.5Mbps of rate is the worst case of 802.11n(HT40); 6.5Mbps of rate is the worst case of 802.11ac(VHT20) ; 13.5Mbps of rate is the worst case of 802.11ac(VHT40); Only the worst case is recorded in the report. |
| Test Results:     |      | Pass  |

**Test data:**

| Worse case mode: |               | 802.11n(HT20)(6.5Mbps) |                | Test channel: |        | 36            |           |
|------------------|---------------|------------------------|----------------|---------------|--------|---------------|-----------|
| Frequency        | Meter Reading | Factor                 | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)            | (dBμV)        | (dB)                   | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 5150.00          | 53.71         | -3.63                  | 50.08          | 74            | -23.92 | peak          | H         |
| 5150.00          | 41.62         | -3.63                  | 37.99          | 54            | -16.01 | AVG           | H         |
| 5150.00          | 50.25         | -3.63                  | 46.62          | 74            | -27.38 | peak          | V         |
| 5150.00          | 40.31         | -3.63                  | 36.68          | 54            | -17.32 | AVG           | V         |

| Worse case mode: |               | 802.11n(HT20)(6.5Mbps) |                | Test channel: |        | 48            |           |
|------------------|---------------|------------------------|----------------|---------------|--------|---------------|-----------|
| Frequency        | Meter Reading | Factor                 | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)            | (dBμV)        | (dB)                   | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 5350.00          | 53.78         | -3.59                  | 50.19          | 74            | -23.81 | peak          | H         |
| 5350.00          | 41.56         | -3.59                  | 37.97          | 54            | -16.03 | AVG           | H         |
| 5350.00          | 52.88         | -3.59                  | 49.29          | 74            | -24.71 | peak          | V         |
| 5350.00          | 40.96         | -3.59                  | 37.37          | 54            | -16.63 | AVG           | V         |

| Worse case mode: |               | 802.11n(HT20)(6.5Mbps) |                | Test channel: |        | 149           |           |
|------------------|---------------|------------------------|----------------|---------------|--------|---------------|-----------|
| Frequency        | Meter Reading | Factor                 | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)            | (dBμV)        | (dB)                   | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 5650.00          | 53.86         | -3.46                  | 50.40          | 74            | -23.60 | peak          | H         |
| 5751.09          | 42.15         | -3.44                  | 38.71          | 54            | -15.29 | peak          | H         |
| 5650.00          | 50.45         | -3.46                  | 46.99          | 74            | -27.01 | peak          | V         |
| 5744.27          | 41.94         | -3.44                  | 38.50          | 54            | -15.50 | peak          | V         |

| Worse case mode: |               | 802.11n(HT20)(6.5Mbps) |                | Test channel: |        | 165           |           |
|------------------|---------------|------------------------|----------------|---------------|--------|---------------|-----------|
| Frequency        | Meter Reading | Factor                 | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)            | (dBμV)        | (dB)                   | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 5823.41          | 55.00         | -3.42                  | 51.58          | 74            | -22.42 | peak          | H         |
| 5925.00          | 43.29         | -3.41                  | 39.88          | 54            | -14.12 | peak          | H         |
| 5824.65          | 50.23         | -3.42                  | 46.81          | 74            | -27.19 | peak          | V         |
| 5925.00          | 39.36         | -3.41                  | 35.95          | 54            | -18.05 | peak          | V         |

| Worse case mode: |               | 802.11n(HT40)(13.5Mbps) |                | Test channel: |        | 38            |           |
|------------------|---------------|-------------------------|----------------|---------------|--------|---------------|-----------|
| Frequency        | Meter Reading | Factor                  | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)            | (dBμV)        | (dB)                    | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 5150.00          | 53.78         | -3.63                   | 50.15          | 74            | -23.85 | peak          | H         |
| 5150.00          | 43.99         | -3.63                   | 40.36          | 54            | -13.64 | AVG           | H         |
| 5150.00          | 51.12         | -3.63                   | 47.49          | 74            | -26.51 | peak          | V         |
| 5150.00          | 41.01         | -3.63                   | 37.38          | 54            | -16.62 | AVG           | V         |

| Worse case mode: |               | 802.11n(HT40)(13.5Mbps) |                | Test channel: |        | 46            |           |
|------------------|---------------|-------------------------|----------------|---------------|--------|---------------|-----------|
| Frequency        | Meter Reading | Factor                  | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)            | (dBμV)        | (dB)                    | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 5350.00          | 53.42         | -3.59                   | 49.83          | 74            | -24.17 | peak          | H         |
| 5350.00          | 41.29         | -3.59                   | 37.70          | 54            | -16.30 | AVG           | H         |
| 5350.00          | 50.45         | -3.59                   | 46.86          | 74            | -27.14 | peak          | V         |
| 5350.00          | 41.65         | -3.59                   | 38.06          | 54            | -15.94 | AVG           | V         |

| Worse case mode: |               | 802.11n(HT40)(13.5Mbps) |                | Test channel: |        | 151           |           |
|------------------|---------------|-------------------------|----------------|---------------|--------|---------------|-----------|
| Frequency        | Meter Reading | Factor                  | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)            | (dBμV)        | (dB)                    | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 5650.00          | 54.64         | -3.46                   | 51.18          | 74            | -22.82 | peak          | H         |
| 5762.61          | 43.02         | -3.44                   | 39.58          | 54            | -14.42 | peak          | H         |
| 5650.00          | 50.95         | -3.46                   | 47.49          | 74            | -26.51 | peak          | V         |
| 5741.70          | 40.68         | -3.44                   | 37.24          | 54            | -16.76 | peak          | V         |

| Worse case mode: |               | 802.11n(HT40)(13.5Mbps) |                | Test channel: |        | 159           |           |
|------------------|---------------|-------------------------|----------------|---------------|--------|---------------|-----------|
| Frequency        | Meter Reading | Factor                  | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)            | (dBμV)        | (dB)                    | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 5743.60          | 54.99         | -3.42                   | 51.57          | 74            | -22.43 | peak          | H         |
| 5925.00          | 43.92         | -3.41                   | 40.51          | 54            | -13.49 | peak          | H         |
| 5779.52          | 50.24         | -3.42                   | 46.82          | 74            | -27.18 | peak          | V         |
| 5925.00          | 41.68         | -3.41                   | 38.27          | 54            | -15.73 | peak          | V         |

| Worse case mode: |               | 802.11ac(HT20)(6.5Mbps) |                | Test channel: |        | 36            |           |
|------------------|---------------|-------------------------|----------------|---------------|--------|---------------|-----------|
| Frequency        | Meter Reading | Factor                  | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)            | (dBμV)        | (dB)                    | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 5150.00          | 52.22         | -3.63                   | 48.59          | 74            | -25.41 | peak          | H         |
| 5150.00          | 43.13         | -3.63                   | 39.50          | 54            | -14.50 | AVG           | H         |
| 5150.00          | 52.83         | -3.63                   | 49.20          | 74            | -24.80 | peak          | V         |
| 5150.00          | 40.64         | -3.63                   | 37.01          | 54            | -16.99 | AVG           | V         |

| Worse case mode: |               | 802.11ac(HT20)(6.5Mbps) |                | Test channel: |        | 48            |           |
|------------------|---------------|-------------------------|----------------|---------------|--------|---------------|-----------|
| Frequency        | Meter Reading | Factor                  | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)            | (dBμV)        | (dB)                    | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 5350.00          | 54.84         | -3.59                   | 51.25          | 74            | -22.75 | peak          | H         |
| 5350.00          | 41.20         | -3.59                   | 37.61          | 54            | -16.39 | AVG           | H         |
| 5350.00          | 51.80         | -3.59                   | 48.21          | 74            | -25.79 | peak          | V         |
| 5350.00          | 40.39         | -3.59                   | 36.80          | 54            | -17.20 | AVG           | V         |

| Worse case mode: |               | 802.11ac(HT20)(6.5Mbps) |                | Test channel: |        | 149           |           |
|------------------|---------------|-------------------------|----------------|---------------|--------|---------------|-----------|
| Frequency        | Meter Reading | Factor                  | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)            | (dBμV)        | (dB)                    | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 5650.00          | 52.35         | -3.46                   | 48.89          | 74            | -25.11 | peak          | H         |
| 5743.54          | 41.89         | -3.44                   | 38.45          | 54            | -15.55 | peak          | H         |
| 5650.00          | 50.66         | -3.46                   | 47.20          | 74            | -26.80 | peak          | V         |
| 5739.28          | 41.73         | -3.44                   | 38.29          | 54            | -15.71 | peak          | V         |

| Worse case mode: |               | 802.11ac(HT20)(6.5Mbps) |                | Test channel: |        | 165           |           |
|------------------|---------------|-------------------------|----------------|---------------|--------|---------------|-----------|
| Frequency        | Meter Reading | Factor                  | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)            | (dBμV)        | (dB)                    | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 5831.03          | 53.91         | -3.42                   | 50.49          | 74            | -23.51 | peak          | H         |
| 5925.00          | 43.22         | -3.41                   | 39.81          | 54            | -14.19 | peak          | H         |
| 5825.11          | 53.00         | -3.42                   | 49.58          | 74            | -24.42 | peak          | V         |
| 5925.00          | 40.27         | -3.41                   | 36.86          | 54            | -17.14 | peak          | V         |

| Worse case mode: |               | 802.11ac(VHT40)(13.5Mbps) |                | Test channel: |        | 38            |           |
|------------------|---------------|---------------------------|----------------|---------------|--------|---------------|-----------|
| Frequency        | Meter Reading | Factor                    | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)            | (dBμV)        | (dB)                      | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 5150.00          | 53.92         | -3.63                     | 50.29          | 74            | -23.71 | peak          | H         |
| 5150.00          | 43.41         | -3.63                     | 39.78          | 54            | -14.22 | AVG           | H         |
| 5150.00          | 51.64         | -3.63                     | 48.01          | 74            | -25.99 | peak          | V         |
| 5150.00          | 40.93         | -3.63                     | 37.30          | 54            | -16.70 | AVG           | V         |

| Worse case mode: |               | 802.11ac(VHT40)(13.5Mbps) |                | Test channel: |        | 46            |           |
|------------------|---------------|---------------------------|----------------|---------------|--------|---------------|-----------|
| Frequency        | Meter Reading | Factor                    | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)            | (dBμV)        | (dB)                      | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 5350.00          | 53.77         | -3.59                     | 50.18          | 74            | -23.82 | peak          | H         |
| 5350.00          | 43.00         | -3.59                     | 39.41          | 54            | -14.59 | AVG           | H         |
| 5350.00          | 50.42         | -3.59                     | 46.83          | 74            | -27.17 | peak          | V         |
| 5350.00          | 41.55         | -3.59                     | 37.96          | 54            | -16.04 | AVG           | V         |

| Worse case mode: |               | 802.11ac(VHT40)(13.5Mbps) |                | Test channel: |        | 151           |           |
|------------------|---------------|---------------------------|----------------|---------------|--------|---------------|-----------|
| Frequency        | Meter Reading | Factor                    | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)            | (dBμV)        | (dB)                      | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 5650.00          | 53.74         | -3.46                     | 50.28          | 74            | -23.72 | peak          | H         |
| 5751.19          | 42.72         | -3.44                     | 39.28          | 54            | -14.72 | peak          | H         |
| 5650.00          | 50.27         | -3.46                     | 46.81          | 74            | -27.19 | peak          | V         |
| 5741.72          | 41.49         | -3.44                     | 38.05          | 54            | -15.95 | peak          | V         |

| Worse case mode: |               | 802.11ac(VHT40)(13.5Mbps) |                | Test channel: |        | 159           |           |
|------------------|---------------|---------------------------|----------------|---------------|--------|---------------|-----------|
| Frequency        | Meter Reading | Factor                    | Emission Level | Limits        | Over   | Detector Type | Ant. Pol. |
| (MHz)            | (dBμV)        | (dB)                      | (dBμV/m)       | (dBμV/m)      | (dB)   |               | H/V       |
| 5771.12          | 53.29         | -3.42                     | 49.87          | 74            | -24.13 | peak          | H         |
| 5925.00          | 41.97         | -3.41                     | 38.56          | 54            | -15.44 | peak          | H         |
| 5806.53          | 52.21         | -3.42                     | 48.79          | 74            | -25.21 | peak          | V         |
| 5925.00          | 39.44         | -3.41                     | 36.03          | 54            | -17.97 | peak          | V         |

**Note:**

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

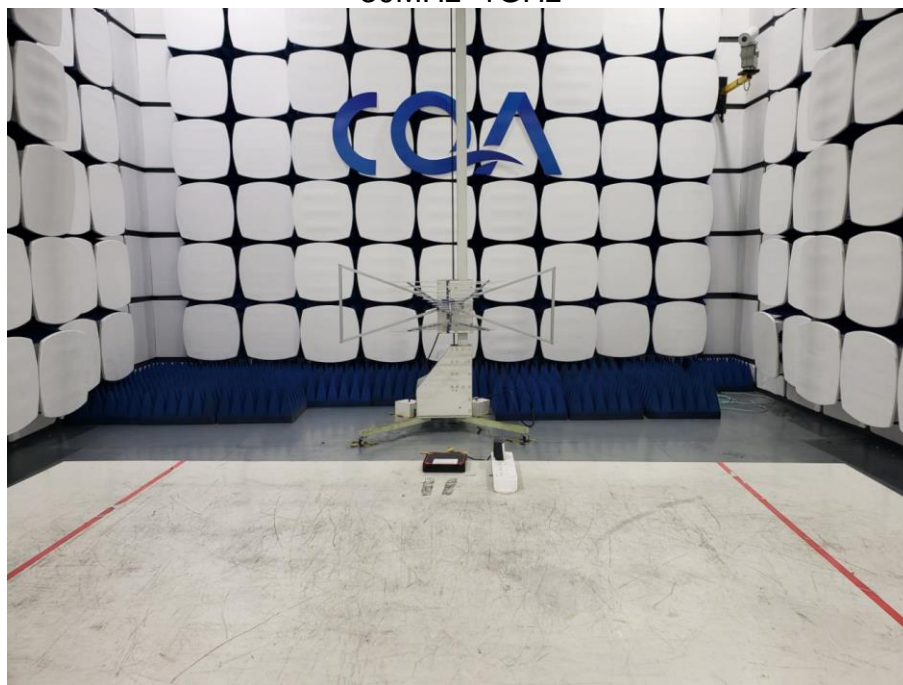
*Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor*



## 6 Photographs - EUT Test Setup

Please refer to test setup file

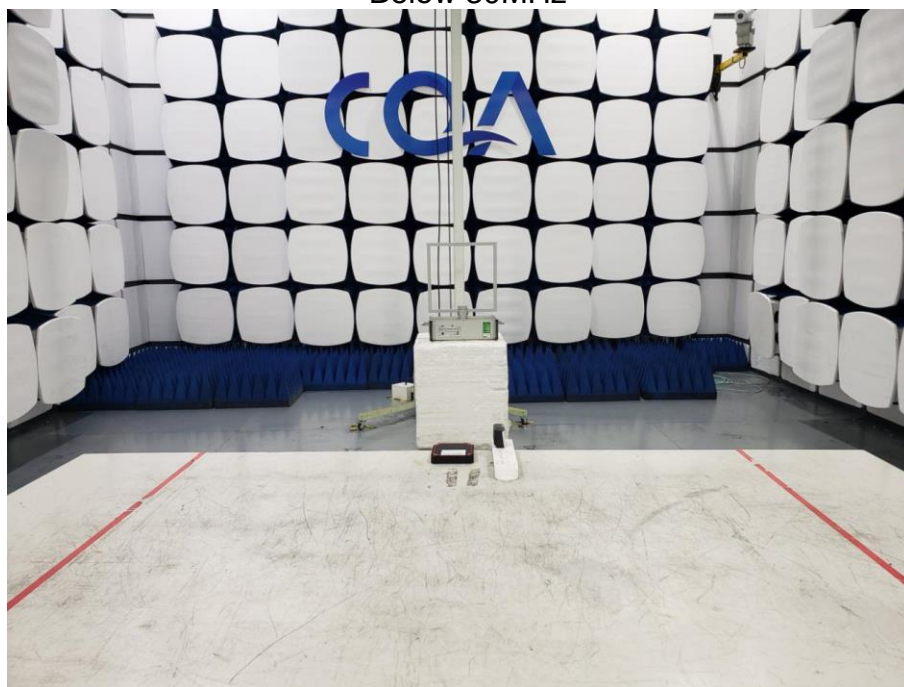
30MHz~1GHz



Above 1GHz



Below 30MHz



Conducted emission Test Setup



## **7 Photographs - EUT Constructional Details**

Please refer to the report No: CQASZ20210100002EX-01

**THE END**