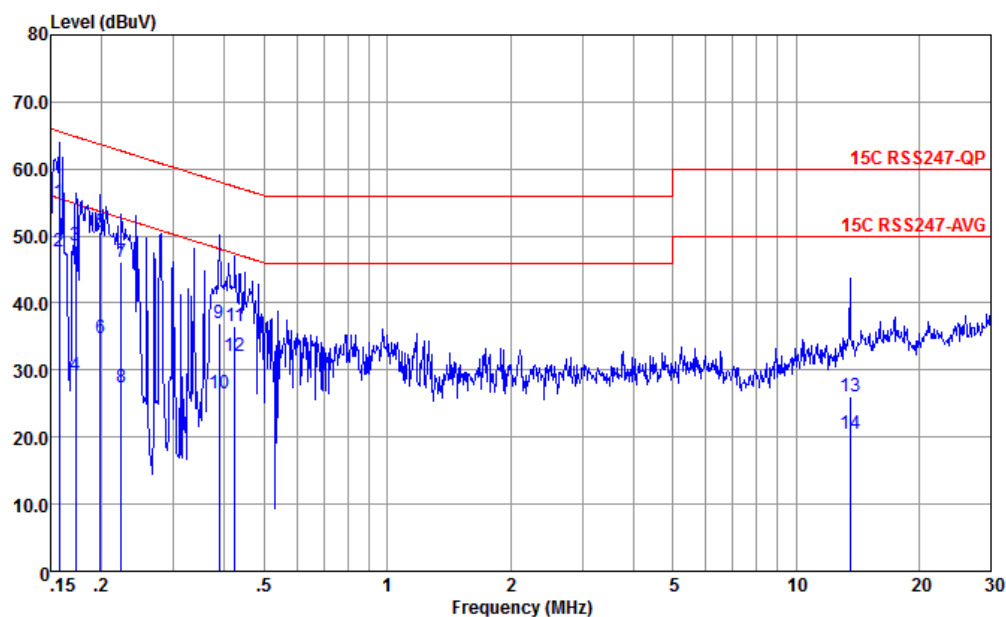




Appendix B. AC Conducted Emission Test Results

| | | | |
|-----------------|---|---------------------|-------------|
| Test Engineer : | Amos | Temperature : | 25.3~26.2°C |
| | | Relative Humidity : | 38~40% |
| Test Voltage : | 120Vac / 60Hz | Phase : | Line |
| Remark : | All emissions not reported here are more than 10 dB below the prescribed limit. | | |

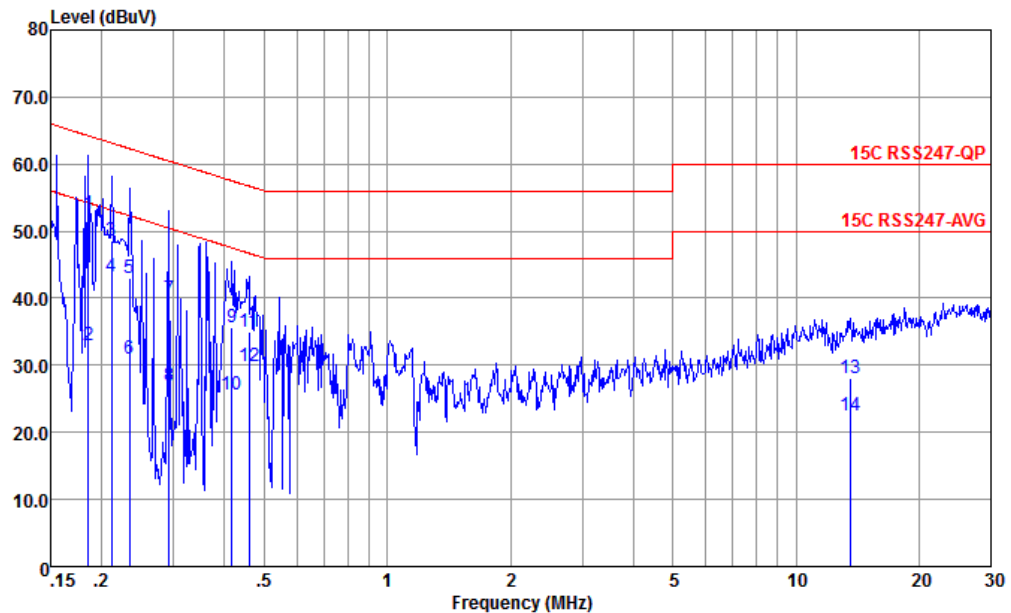


Site : CO01-KS
Condition : 15C RSS247-QP LISN-060105-LINE LINE

| | Freq | Level | Over | Limit | Read | LISN | Cable | Remark |
|-----|--------|-------|--------|-------|-------|--------|-------|---------|
| | MHz | dBuV | Limit | Line | Level | Factor | Loss | |
| | | | dB | dBuV | dBuV | dB | dB | |
| 1 | 0.157 | 55.09 | -10.51 | 65.60 | 44.60 | 0.06 | 10.43 | QP |
| 2 * | 0.157 | 47.59 | -8.01 | 55.60 | 37.10 | 0.06 | 10.43 | Average |
| 3 | 0.173 | 48.67 | -16.14 | 64.81 | 38.19 | 0.05 | 10.43 | QP |
| 4 | 0.173 | 29.27 | -25.54 | 54.81 | 18.79 | 0.05 | 10.43 | Average |
| 5 | 0.199 | 50.64 | -13.03 | 63.67 | 40.20 | 0.02 | 10.42 | QP |
| 6 | 0.199 | 34.74 | -18.93 | 53.67 | 24.30 | 0.02 | 10.42 | Average |
| 7 | 0.223 | 46.23 | -16.47 | 62.70 | 35.80 | 0.03 | 10.40 | QP |
| 8 | 0.223 | 27.33 | -25.37 | 52.70 | 16.90 | 0.03 | 10.40 | Average |
| 9 | 0.387 | 36.92 | -21.20 | 58.12 | 26.60 | 0.01 | 10.31 | QP |
| 10 | 0.387 | 26.62 | -21.50 | 48.12 | 16.30 | 0.01 | 10.31 | Average |
| 11 | 0.424 | 36.48 | -20.89 | 57.37 | 26.20 | 0.00 | 10.28 | QP |
| 12 | 0.424 | 32.17 | -15.20 | 47.37 | 21.89 | 0.00 | 10.28 | Average |
| 13 | 13.560 | 26.12 | -33.88 | 60.00 | 15.20 | -0.20 | 11.12 | QP |
| 14 | 13.560 | 20.52 | -29.48 | 50.00 | 9.60 | -0.20 | 11.12 | Average |



| | | | |
|-----------------|---|---------------------|-------------|
| Test Engineer : | Amos | Temperature : | 25.3~26.2°C |
| | | Relative Humidity : | 38~40% |
| Test Voltage : | 120Vac / 60Hz | Phase : | Neutral |
| Remark : | All emissions not reported here are more than 10 dB below the prescribed limit. | | |



Site : CO01-KS
Condition : 15C RSS247-QP LISN-060105-NEUTRAL NEUTRAL

| | Freq | Level | Over | Limit | Read | LISN | Cable | |
|-----|--------|-------|--------|-------|-------|--------|-------|---------|
| | MHz | dBuV | Limit | Line | Level | Factor | Loss | Remark |
| | | | dB | dBuV | dBuV | dB | dB | |
| 1 | 0.185 | 52.67 | -11.57 | 64.24 | 42.21 | 0.04 | 10.42 | QP |
| 2 | 0.185 | 33.07 | -21.17 | 54.24 | 22.61 | 0.04 | 10.42 | Average |
| 3 | 0.212 | 48.65 | -14.49 | 63.14 | 38.20 | 0.04 | 10.41 | QP |
| 4 * | 0.212 | 43.15 | -9.99 | 53.14 | 32.70 | 0.04 | 10.41 | Average |
| 5 | 0.234 | 42.90 | -19.40 | 62.30 | 32.50 | 0.01 | 10.39 | QP |
| 6 | 0.234 | 31.00 | -21.30 | 52.30 | 20.60 | 0.01 | 10.39 | Average |
| 7 | 0.292 | 39.91 | -20.55 | 60.46 | 29.60 | -0.04 | 10.35 | QP |
| 8 | 0.292 | 26.91 | -23.55 | 50.46 | 16.60 | -0.04 | 10.35 | Average |
| 9 | 0.417 | 35.71 | -21.80 | 57.51 | 25.50 | -0.07 | 10.28 | QP |
| 10 | 0.417 | 25.71 | -21.80 | 47.51 | 15.50 | -0.07 | 10.28 | Average |
| 11 | 0.459 | 34.97 | -21.74 | 56.71 | 24.81 | -0.08 | 10.24 | QP |
| 12 | 0.459 | 29.87 | -16.84 | 46.71 | 19.71 | -0.08 | 10.24 | Average |
| 13 | 13.560 | 28.14 | -31.86 | 60.00 | 17.20 | -0.18 | 11.12 | QP |
| 14 | 13.560 | 22.44 | -27.56 | 50.00 | 11.50 | -0.18 | 11.12 | Average |

Note:

1. Level(dBμV) = Read Level(dBμV) + LISN Factor(dB) + Cable Loss(dB)
2. Over Limit(dB) = Level(dBμV) – Limit Line(dBμV)



Appendix C Radiated Spurious Emission

| | | | |
|-----------------|----------|---------------------|----------|
| Test Engineer : | Carry Xu | Temperature : | 22~23 °C |
| | | Relative Humidity : | 41~42 %% |

Note: All modes had been tested and only the worst channel test data shown in the report

2.4GHz 2400~2483.5MHz

BT (Band Edge @ 3m)

| BT | Note | Frequency | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Path Loss | Preampl Factor | Ant Pos | Table Pos | Peak Avg. | Pol. |
|------------------------|---|-----------|------------|------------|------------|------------|----------------|-----------|----------------|---------|-----------|-----------|---------|
| | | (MHz) | (dBμV/m) | (dB) | (dBμV/m) | (dBμV) | (dB/m) | (dB) | (dB) | (cm) | (deg) | (P/A) | (H/V) |
| BT CH 78 2480MHz | * | 2480 | 111.84 | | | 105.32 | 32.43 | 6.73 | 32.64 | 164 | 24 | P | H |
| | | 2480 | 87.05 | | | | | | | | | A | H |
| | | 2483.5 | 55.84 | -18.16 | 74 | 49.32 | 32.43 | 6.73 | 32.64 | 164 | 24 | P | H |
| | | 2483.5 | 31.05 | -22.95 | 54 | | | | | | | A | H |
| | * | 2480 | 110.83 | | | 104.31 | 32.43 | 6.73 | 32.64 | 210 | 271 | P | V |
| | | 2480 | 86.04 | | | | | | | | | A | V |
| | | 2489.02 | 54.40 | -19.60 | 74 | 47.79 | 32.5 | 6.75 | 32.64 | 210 | 271 | P | V |
| | | 2489.02 | 29.61 | -24.39 | 54 | | | | | | | A | V |
| Remark | 1. No other spurious found. 2. All results are PASS against Peak and Average limit line. | | | | | | | | | | | | |

**2.4GHz 2400~2483.5MHz****BT (Harmonic @ 3m)**

| BT | Note | Frequency (MHz) | Level (dBμV/m) | Over Limit (dB) | Limit Line (dBμV/m) | Read Level (dBμV) | Antenna Factor (dB/m) | Path Loss (dB) | Preamp Factor (dB) | Ant Pos (cm) | Table Pos (deg) | Peak Avg. (P/A) | Pol. (H/V) |
|---------------------------------|---|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| BT CH 78 2480MHz | | 4965 | 41.27 | -32.73 | 74 | 59.27 | 34.1 | 9.61 | 61.71 | 300 | 0 | P | H |
| | | 7440 | 43.41 | -30.59 | 74 | 58 | 35.7 | 11.78 | 62.07 | 300 | 0 | P | H |
| | | 4965 | 40.64 | -33.36 | 74 | 58.64 | 34.1 | 9.61 | 61.71 | 100 | 0 | P | V |
| | | 7440 | 43.48 | -30.52 | 74 | 58.07 | 35.7 | 11.78 | 62.07 | 100 | 0 | P | V |
| Remark | 1. No other spurious found. 2. All results are PASS against Peak and Average limit line. | | | | | | | | | | | | |



Emission below 1GHz

2.4GHz BT (LF)

| BT | Note | Frequency | Level | Over | Limit | Read | Antenna | Path | Preamp | Ant | Table | Peak | Pol. |
|--------------------|--|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|---------|
| | | | | Limit | Line | Level | Factor | Loss | Factor | Pos | Pos | Avg. | |
| | | (MHz) | (dBμV/m) | (dB) | (dBμV/m) | (dBμV) | (dB/m) | (dB) | (dB) | (cm) | (deg) | (P/A) | (H/V) |
| 2.4GHz BT LF | | 30.97 | 22.81 | -17.19 | 40 | 29.36 | 25.09 | 0.76 | 32.4 | | | P | H |
| | | 91.11 | 15.33 | -28.17 | 43.5 | 31.42 | 14.96 | 1.35 | 32.4 | | | P | H |
| | | 186.17 | 19.41 | -24.09 | 43.5 | 34.75 | 15.06 | 2 | 32.4 | | | P | H |
| | | 350.1 | 21.35 | -24.65 | 46 | 30.38 | 20.61 | 2.76 | 32.4 | | | P | H |
| | | 567.38 | 25.69 | -20.31 | 46 | 29.26 | 25.48 | 3.35 | 32.4 | | | P | H |
| | | 831.22 | 30.36 | -15.64 | 46 | 29.6 | 28.48 | 4.25 | 31.97 | | | P | H |
| | | 30 | 26.6 | -13.4 | 40 | 34.31 | 24.86 | 0.45 | 33.02 | | | P | V |
| | | 66.86 | 27.84 | -12.16 | 40 | 47.51 | 12.29 | 0.91 | 32.87 | | | P | V |
| | | 98.87 | 21.53 | -21.97 | 43.5 | 37.13 | 15.93 | 1.34 | 32.87 | | | P | V |
| | | 250.19 | 19.37 | -26.63 | 46 | 31.36 | 18.65 | 2.13 | 32.77 | | | P | V |
| | | 324.88 | 21.24 | -24.76 | 46 | 31.96 | 19.71 | 2.43 | 32.86 | | | P | V |
| | | 677.96 | 27.36 | -18.64 | 46 | 30.19 | 26.67 | 3.52 | 33.02 | | | P | V |
| Remark | 1. No other spurious found. 2. All results are PASS against limit line. | | | | | | | | | | | | |

**Note symbol**

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



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

| BT | Note | Frequency | Level | Over | Limit | Read | Antenna | Path | Preamp | Ant | Table | Peak | Pol. |
|------------------------|------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|---------|
| | | | | Limit | Line | Level | Factor | Loss | Factor | Pos | Pos | Avg. | |
| | | (MHz) | (dBμV/m) | (dB) | (dBμV/m) | (dBμV) | (dB/m) | (dB) | (dB) | (cm) | (deg) | (P/A) | (H/V) |
| BT CH 00 2402MHz | | 2390 | 55.45 | -18.55 | 74 | 54.51 | 32.22 | 4.58 | 35.86 | 103 | 308 | P | H |
| | | 2390 | 43.54 | -10.46 | 54 | 42.6 | 32.22 | 4.58 | 35.86 | 103 | 308 | A | H |

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) =
Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
3. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)
= Antenna Factor(dB/m) + Path 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)

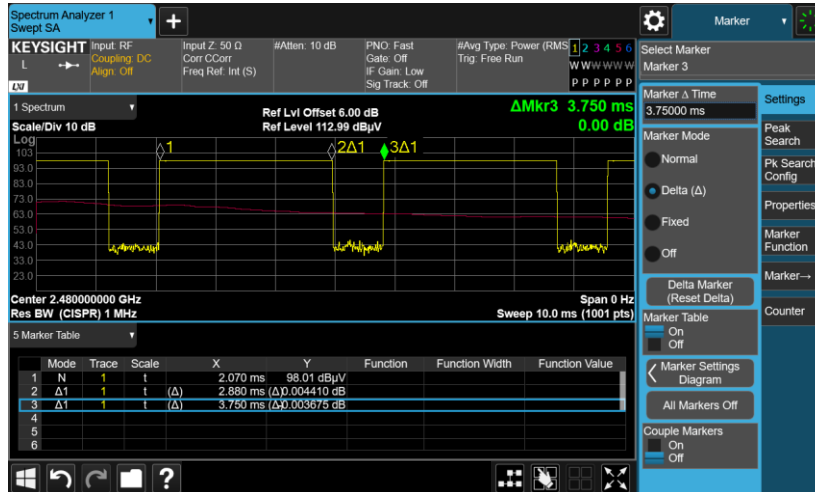
For Average Limit @ 2390MHz:

1. Level(dBμV/m)
= Antenna Factor(dB/m) + Path 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)

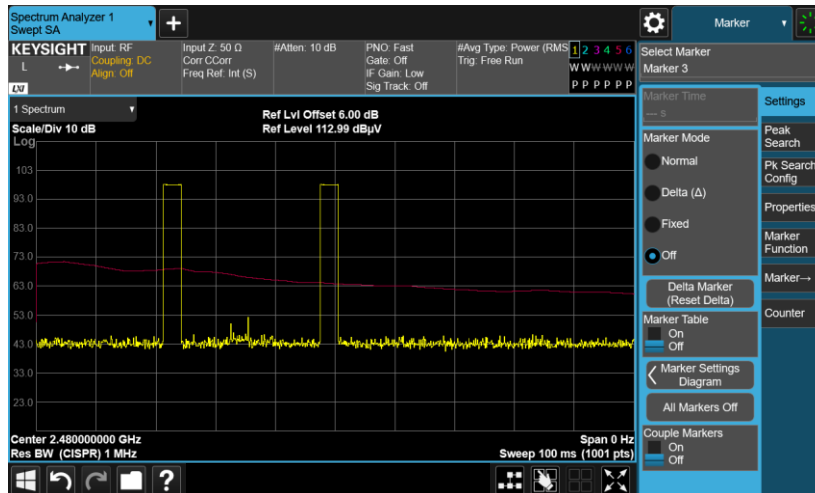
Both peak and average measured complies with the limit line, so test result is “PASS”.

Appendix D. Duty Cycle Plots

3DH5 on time (One Pulse) Plot on Channel 39



3DH5 on time (Count Pulses) Plot on Channel 39



Note:

1. Worst case Duty cycle = on time/100 milliseconds = $2 * 2.88 / 100 = 5.76 \%$
2. Worst case Duty cycle correction factor = $20 * \log(\text{Duty cycle}) = -24.79 \text{ dB}$
3. 3DH5 has the highest duty cycle worst case and is reported.