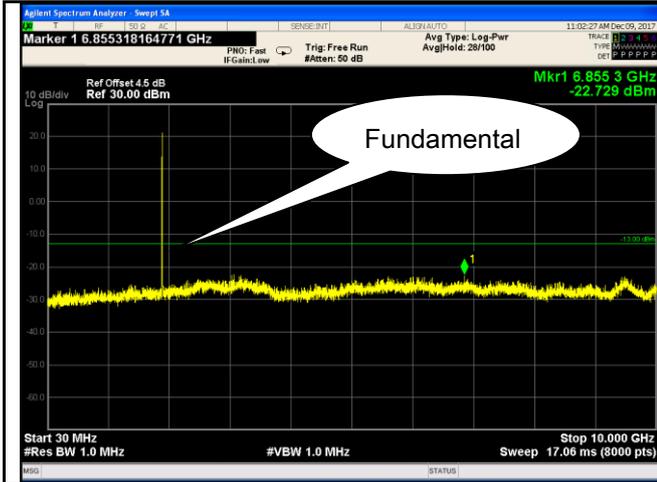
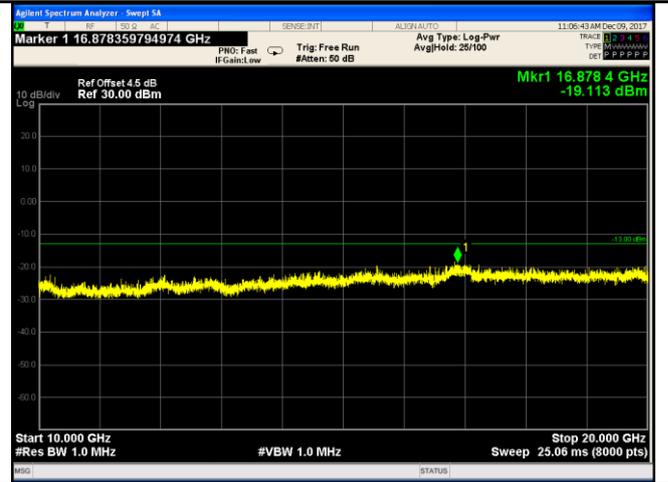


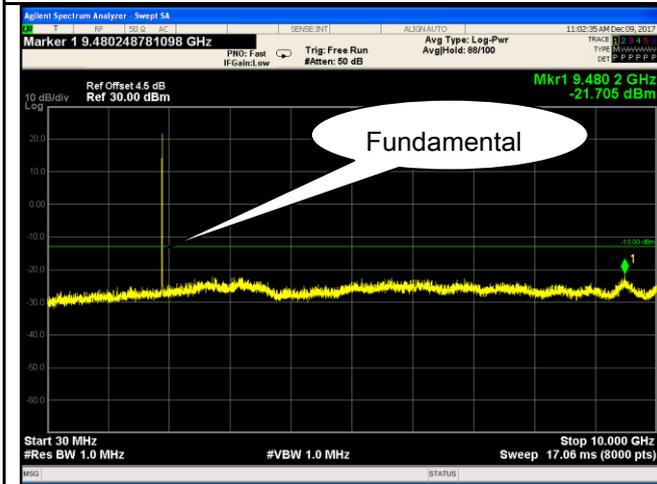
UMTS-FDD Band IV (Part 27)



Band IV - Low Channel-1



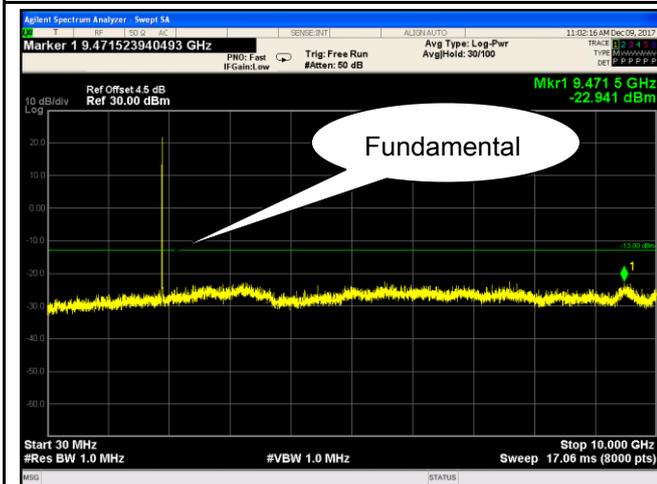
Band IV - Low Channel-2



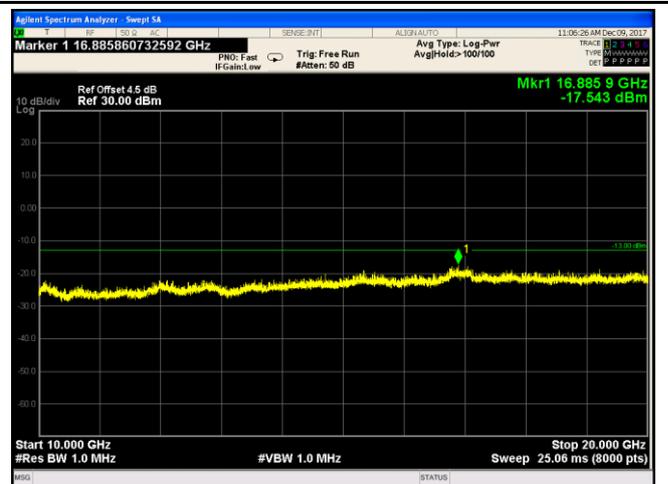
Band IV - Middle Channel-1



Band IV - Middle Channel-2



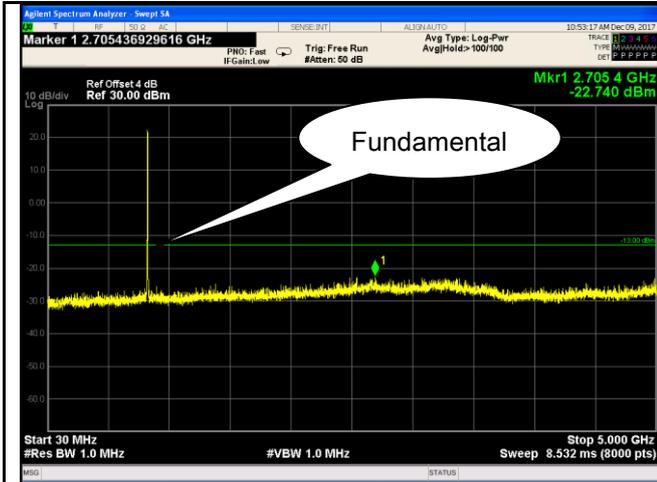
Band IV - High Channel-1



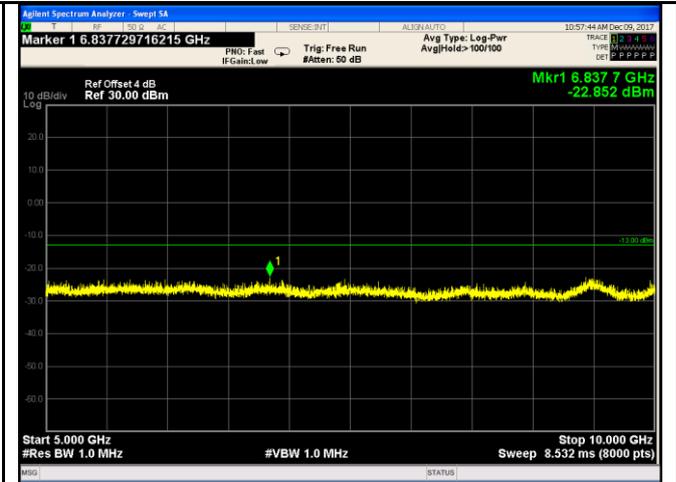
Band IV - High Channel-2

HSDPA:

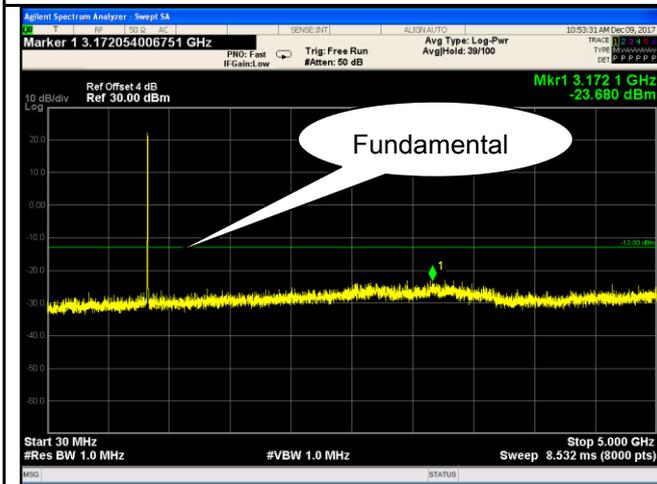
UMTS-FDD Band V (Part 22H)



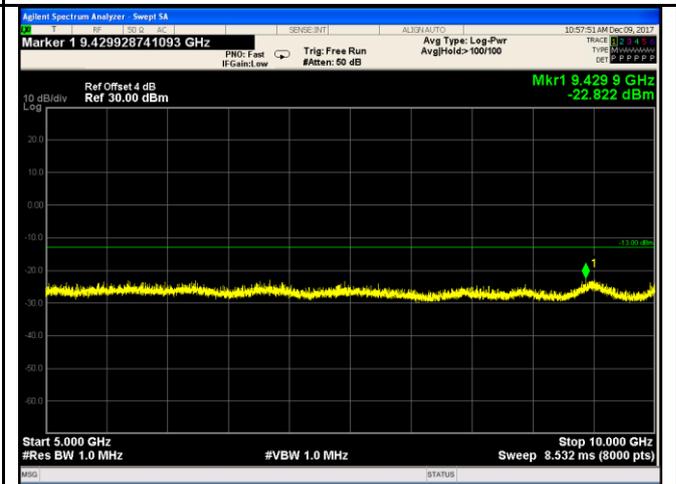
Band V - Low Channel-1



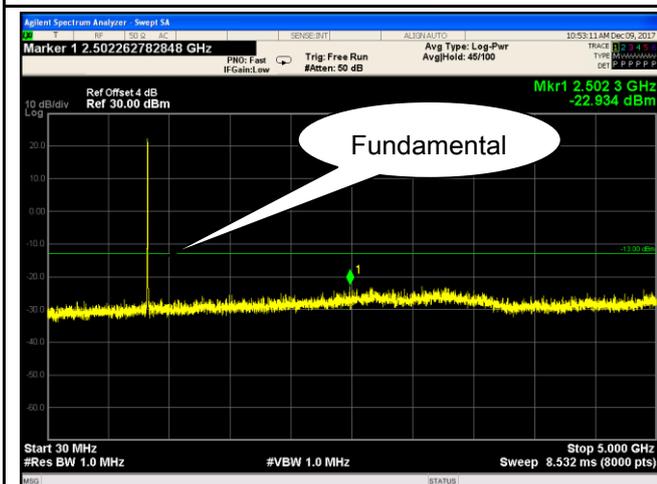
Band V - Low Channel-2



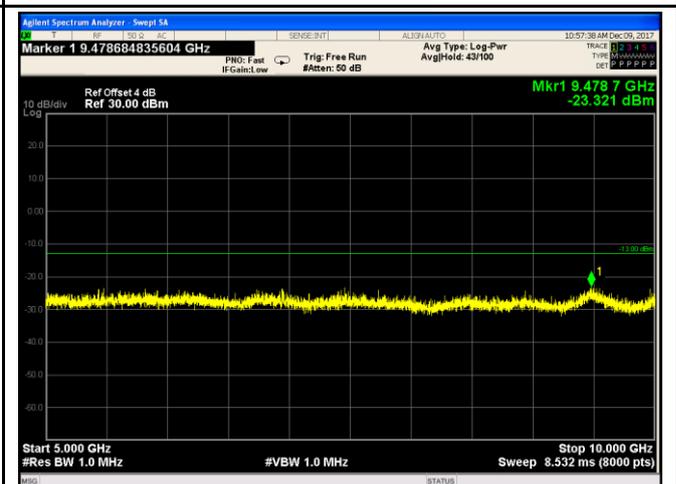
Band V - Middle Channel-1



Band V - Middle Channel-2

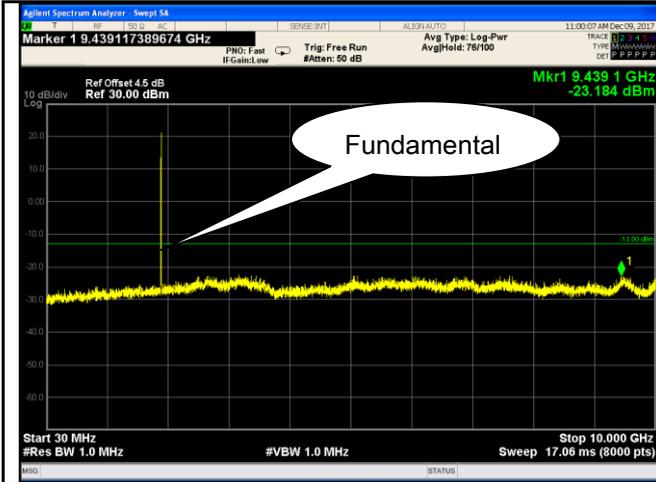


Band V - High Channel-1

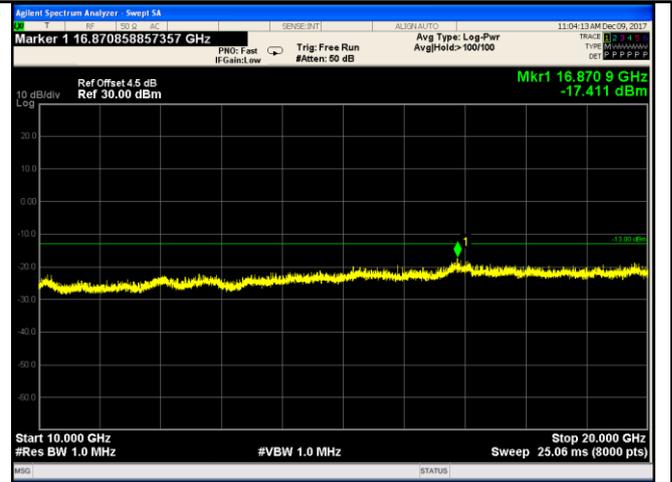


Band V - High Channel-2

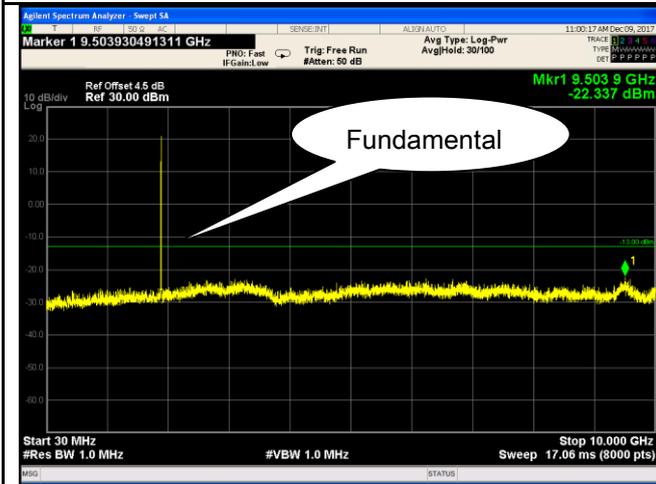
UMTS-FDD Band II (Part 24E)



Band II - Low Channel-1



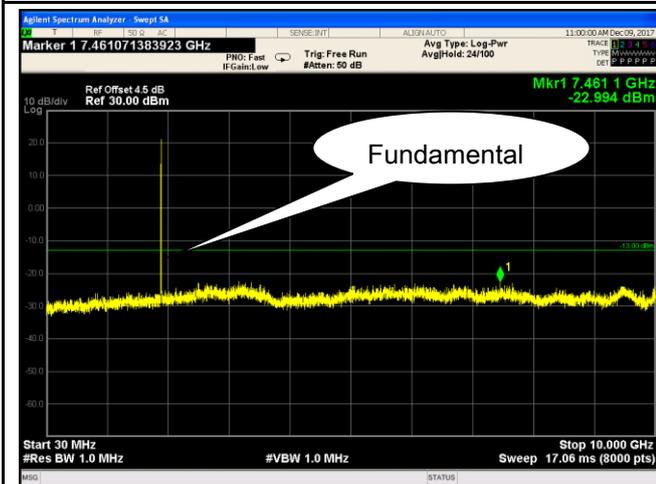
Band II - Low Channel-2



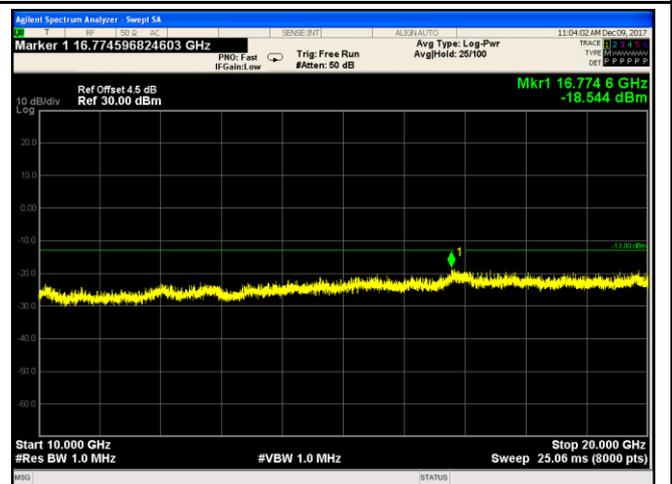
Band II - Middle Channel-1



Band II - Middle Channel-2

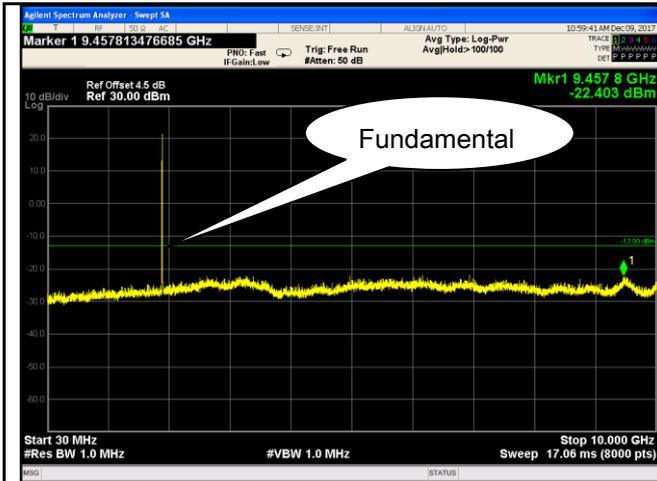


Band II - High Channel-1

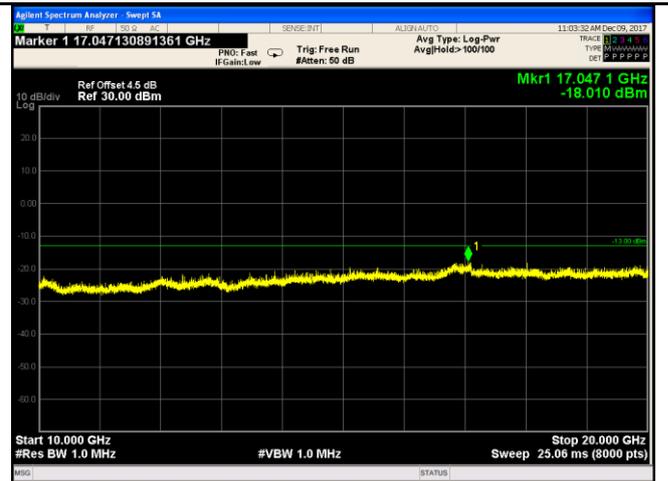


Band II - High Channel-2

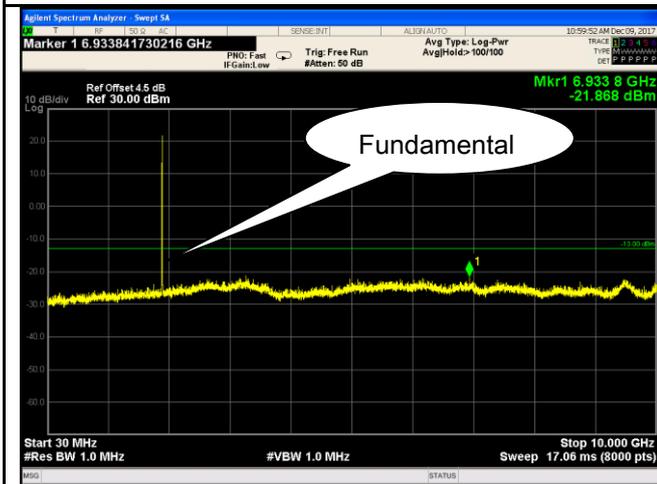
UMTS-FDD Band IV (Part 27)



Band IV - Low Channel-1



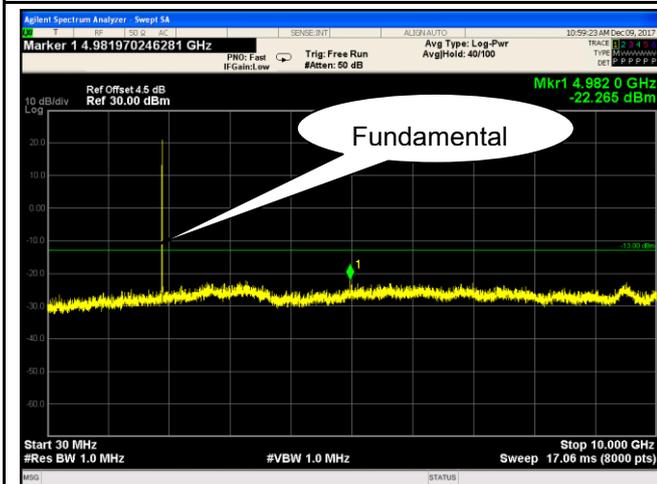
Band IV - Low Channel-2



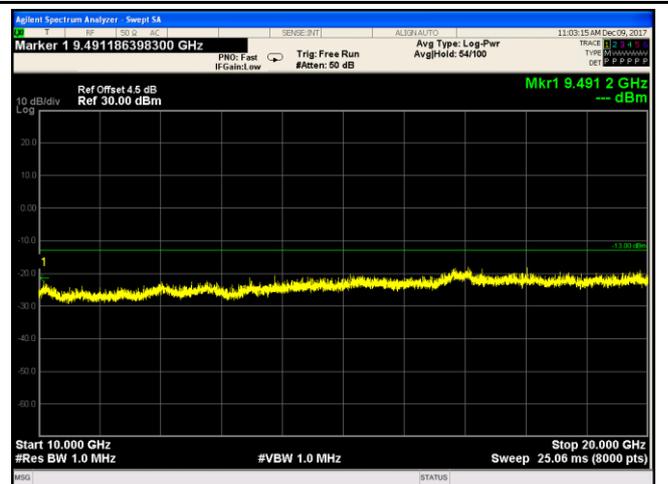
Band IV - Middle Channel-1



Band IV - Middle Channel-2



Band IV - High Channel-1



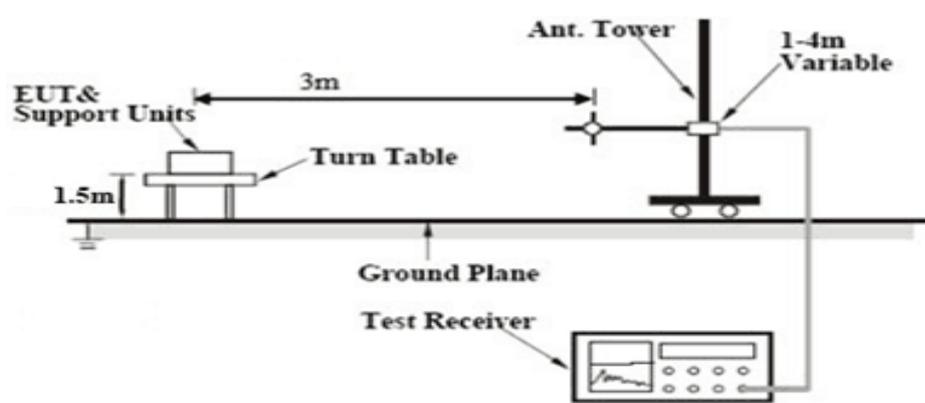
Band IV - High Channel-2

6.6 Spurious Radiated Emissions

| | |
|----------------------|-------------------|
| Temperature | 25 °C |
| Relative Humidity | 56% |
| Atmospheric Pressure | 1018mbar |
| Test date : | December 09, 2017 |
| Tested By : | Aaron Liang |

Requirement(s):

| Spec | Item | Requirement | Applicable |
|--|------|---|-------------------------------------|
| §2.1053, §22.917 & §24.238 § 27.53(h) | a) | The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic. | <input checked="" type="checkbox"/> |

| | |
|------------|--|
| Test setup |  |
|------------|--|

| | |
|----------------|--|
| Test Procedure | <ol style="list-style-type: none"> The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis. Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution. <p>Sample Calculation:</p> <p>EUT Field Strength = Raw Amplitude (dBμV/m) – Amplifier Gain (dB) + Antenna Factor (dB) + Cable Loss (dB) + Filter Attenuation (dB, if used)</p> |
|----------------|--|

| | |
|--------|--|
| Remark | |
| Result | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail |

Test Data Yes N/A
 Test Plot Yes (See below) N/A

Cellular Band (Part 22H) result

Low channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 1648.4 | -43.57 | V | 7.95 | 0.67 | -36.29 | -13 | -23.29 |
| 1648.4 | -44.83 | H | 7.95 | 0.67 | -37.55 | -13 | -24.55 |
| 236.08 | -52.94 | V | 5.96 | 0.22 | -47.2 | -13 | -34.2 |
| 326.28 | -52.85 | H | 6.03 | 0.31 | -47.13 | -13 | -34.13 |

Middle channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 1673.2 | -42.95 | V | 7.95 | 0.67 | -35.67 | -13 | -22.67 |
| 1673.2 | -43.71 | H | 7.95 | 0.67 | -36.43 | -13 | -23.43 |
| 756.37 | -52.65 | V | 6.42 | 0.33 | -46.56 | -13 | -33.56 |
| 649.83 | -53.2 | H | 6.14 | 0.34 | -47.4 | -13 | -34.4 |

High channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 1697.6 | -43.37 | V | 7.95 | 0.68 | -36.1 | -13 | -23.1 |
| 1697.6 | -44.47 | H | 7.95 | 0.68 | -37.2 | -13 | -24.2 |
| 513.17 | -51.74 | V | 6.01 | 0.33 | -46.06 | -13 | -33.06 |
| 769.93 | -52.28 | H | 6.39 | 0.42 | -46.31 | -13 | -33.31 |

Note:

1, The testing has been conformed to $10 \times 848.8 \text{ MHz} = 8,488 \text{ MHz}$

2, All other emissions more than 30 dB below the limit

3, GSM voice, GPRS and EGPRS mode were investigated. The results above show only the worse cases

4, X-Axis, Y-Axis and Z-Axis were investigated. The results above show only the worst case.

5, The radiated spurious test above 18GHz is subcontracted to SIEMIC (Nanjing-China) Laboratories. and found 30dB below the limit at least.

PCS Band (Part24E) result

Low channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 3700.4 | -48.9 | V | 10.25 | 1 | -39.65 | -13 | -26.65 |
| 3700.4 | -48.53 | H | 10.25 | 1 | -39.28 | -13 | -26.28 |
| 817.3 | -52.66 | V | 6.4 | 0.46 | -46.72 | -13 | -33.72 |
| 762.55 | -54.28 | H | 6.38 | 0.45 | -48.35 | -13 | -35.35 |

Middle channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 3760 | -48.1 | V | 10.25 | 1.01 | -38.86 | -13 | -25.86 |
| 3760 | -49.23 | H | 10.25 | 1.01 | -39.99 | -13 | -26.99 |
| 477.43 | -52.69 | V | 6.05 | 0.26 | -46.9 | -13 | -33.9 |
| 276.17 | -52.72 | H | 5.96 | 0.25 | -47.01 | -13 | -34.01 |

High channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 3819.6 | -48.08 | V | 10.36 | 1.02 | -38.74 | -13 | -25.74 |
| 3819.6 | -50.23 | H | 10.36 | 1.02 | -40.89 | -13 | -27.89 |
| 521.18 | -52.97 | V | 6.44 | 0.38 | -46.91 | -13 | -33.91 |
| 552.24 | -52.72 | H | 6.41 | 0.36 | -46.67 | -13 | -33.67 |

Note:

- 1, The testing has been conformed to $10 \times 1909.8 \text{ MHz} = 19,098 \text{ MHz}$
- 2, All other emissions more than 30 dB below the limit
- 3, GSM voice, GPRS and EGPRS mode were investigated. The results above show only the worse cases
- 4, X-Axis, Y-Axis and Z-Axis were investigated. The results above show only the worst case.
- 5, The radiated spurious test above 18GHz is subcontracted to SIEMIC (Nanjing-China) Laboratories. and found 30dB below the limit at least.

UMTS-FDD Band V (Part 22H)

Low channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 1652.8 | -46.41 | V | 7.95 | 0.67 | -39.13 | -13 | -26.13 |
| 1652.8 | -46.37 | H | 7.95 | 0.67 | -39.09 | -13 | -26.09 |
| 572.42 | -52.4 | V | 6.42 | 0.37 | -46.35 | -13 | -33.35 |
| 785.54 | -52.97 | H | 6.39 | 0.44 | -47.02 | -13 | -34.02 |

Middle channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 1670 | -46.64 | V | 7.95 | 0.67 | -39.36 | -13 | -26.36 |
| 1670 | -45.47 | H | 7.95 | 0.67 | -38.19 | -13 | -25.19 |
| 715.36 | -52.53 | V | 6.43 | 0.44 | -46.54 | -13 | -33.54 |
| 817.14 | -52.77 | H | 6.45 | 0.42 | -46.74 | -13 | -33.74 |

High channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 1693.2 | -46.78 | V | 7.95 | 0.68 | -39.51 | -13 | -26.51 |
| 1693.2 | -46.3 | H | 7.95 | 0.68 | -39.03 | -13 | -26.03 |
| 610.01 | -52.26 | V | 6.36 | 0.44 | -46.34 | -13 | -33.34 |
| 305.4 | -53.91 | H | 5.95 | 0.27 | -48.23 | -13 | -35.23 |

Note:

1, The testing has been conformed to $10 \times 846.6 \text{ MHz} = 8,466 \text{ MHz}$

2, All other emissions more than 30 dB below the limit

3, RMC, HSUPA and HSDPA mode were investigated. The results above show only the worse cases

4, X-Axis, Y-Axis and Z-Axis were investigated. The results above show only the worst case.

5, The radiated spurious test above 18GHz is subcontracted to SIEMIC (Nanjing-China) Laboratories. and found 30dB below the limit at least.

UMTS-FDD Band II (Part 24E)

Low channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 3704.8 | -50.22 | V | 10.25 | 1 | -40.97 | -13 | -27.97 |
| 3704.8 | -48.83 | H | 10.25 | 1 | -39.58 | -13 | -26.58 |
| 568.29 | -53.23 | V | 6.44 | 0.37 | -47.16 | -13 | -34.16 |
| 314.56 | -53.91 | H | 5.96 | 0.22 | -48.17 | -13 | -35.17 |

Middle channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 3760 | -49.65 | V | 10.25 | 1.01 | -40.41 | -13 | -27.41 |
| 3760 | -50.23 | H | 10.25 | 1.01 | -40.99 | -13 | -27.99 |
| 837.04 | -52.92 | V | 6.39 | 0.42 | -46.95 | -13 | -33.95 |
| 581.15 | -52.74 | H | 6.42 | 0.33 | -46.65 | -13 | -33.65 |

High channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 3815.2 | -49.51 | V | 10.36 | 1.02 | -40.17 | -13 | -27.17 |
| 3815.2 | -49.67 | H | 10.36 | 1.02 | -40.33 | -13 | -27.33 |
| 383.57 | -52.98 | V | 6.03 | 0.28 | -47.23 | -13 | -34.23 |
| 200.21 | -54.58 | H | 5.96 | 0.25 | -48.87 | -13 | -35.87 |

Note:

- 1, The testing has been conformed to $10 \times 1907.6 \text{ MHz} = 19,076 \text{ MHz}$
- 2, All other emissions more than 30 dB below the limit
- 3, RMC, HSUPA and HSDPA mode were investigated. The results above show only the worse cases
- 4, X-Axis, Y-Axis and Z-Axis were investigated. The results above show only the worst case
- 5, The radiated spurious test above 18GHz is subcontracted to SIEMIC (Nanjing-China) Laboratories. and found 30dB below the limit at least.

UMTS-FDD Band IV (Part 27)

Low channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 3424.8 | -42.69 | V | 10.07 | 0.96 | -33.58 | -13 | -20.58 |
| 3424.8 | -44.4 | H | 10.07 | 0.96 | -35.29 | -13 | -22.29 |
| 210.51 | -52.58 | V | 5.97 | 0.27 | -46.88 | -13 | -33.88 |
| 536.62 | -52.38 | H | 6.05 | 0.36 | -46.69 | -13 | -33.69 |

Middle channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 3480 | -43.67 | V | 10.09 | 0.96 | -34.54 | -13 | -21.54 |
| 3480 | -43.08 | H | 10.09 | 0.96 | -33.95 | -13 | -20.95 |
| 407.2 | -52.9 | V | 6.11 | 0.31 | -47.1 | -13 | -34.1 |
| 305.03 | -52.88 | H | 5.96 | 0.28 | -47.2 | -13 | -34.2 |

High channel

| Frequency (MHz) | Substituted level (dBm) | Polarity (H/V) | Antenna Gain Correction (dB) | Cable Loss (dB) | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) |
|-----------------|-------------------------|----------------|------------------------------|-----------------|-------------------------|-------------|-------------|
| 3505.2 | -43.38 | V | 10.09 | 0.97 | -34.26 | -13 | -21.26 |
| 3505.2 | -44.3 | H | 10.09 | 0.97 | -35.18 | -13 | -22.18 |
| 764.24 | -52.34 | V | 6.34 | 0.43 | -46.43 | -13 | -33.43 |
| 495.36 | -52.06 | H | 6.09 | 0.33 | -46.3 | -13 | -33.3 |

Note:

1, The testing has been conformed to $10 \times 1752.6 \text{ MHz} = 17,526 \text{ MHz}$

2, All other emissions more than 30 dB below the limit

3, RMC, HSUPA and HSDPA mode were investigated. The results above show only the worse cases.

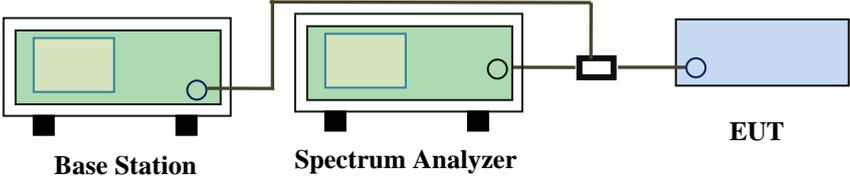
4, X-Axis, Y-Axis and Z-Axis were investigated. The results above show only the worst case.

5, The radiated spurious test above 18GHz is subcontracted to SIEMIC (Nanjing-China) Laboratories. and found 30dB below the limit at least.

6.7 Band Edge

| | |
|----------------------|-------------------|
| Temperature | 25 °C |
| Relative Humidity | 56% |
| Atmospheric Pressure | 1018mbar |
| Test date : | December 09, 2017 |
| Tested By : | Aaron Liang |

Requirement(s):

| Spec | Item | Requirement | Applicable |
|--|--|--|-------------------------------------|
| §22.917(a) §24.238(a) § 27.53(h) | a) | The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB. | <input checked="" type="checkbox"/> |
| Test setup |  <p>The diagram shows a Base Station (green box) and a Spectrum Analyzer (green box) connected to an EUT (blue box) via a power divider (black box). The Base Station and Spectrum Analyzer are connected to the power divider, which then splits the signal to the EUT.</p> | | |
| Procedure | <ul style="list-style-type: none"> - The EUT was connected to Spectrum Analyzer and Base Station via power divider. - The Band Edges of low and high channels for the highest RF powers were measured. Setting RBW as roughly BW/100. | | |
| Remark | | | |
| Result | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail | | |

Test Data Yes N/A
 Test Plot Yes (See below) N/A

GSM Voice:

Cellular Band (Part 22H) result

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|-----------------|----------------|-------------|
| 823.995 | -14.683 | -13 |
| 849.0025 | -17.958 | -13 |

PCS Band (Part24E) result

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|-----------------|----------------|-------------|
| 1849.9975 | -17.046 | -13 |
| 1910.0225 | -15.105 | -13 |

GPRS:

Cellular Band (Part 22H) result

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|-----------------|----------------|-------------|
| 823.9975 | -17.669 | -13 |
| 849.0225 | -17.131 | -13 |

PCS Band (Part24E) result

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|-----------------|----------------|-------------|
| 1849.9975 | -16.379 | -13 |
| 1910.005 | -16.330 | -13 |

EGPRS (MCS1):

Cellular Band (Part 22H) result

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|-----------------|----------------|-------------|
| 823.9975 | -15.28 | -13 |
| 849.015 | -18.67 | -13 |

PCS Band (Part24E) result

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|-----------------|----------------|-------------|
| 1849.9975 | -19.56 | -13 |
| 1910.02 | -17.61 | -13 |

RCM:

UMTS-FDD Band V (Part 22H)

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|-----------------|----------------|-------------|
| 823.125 | -21.715 | -13 |
| 850.125 | -28.743 | -13 |

UMTS-FDD Band II (Part 24E)

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|-----------------|----------------|-------------|
| 1849.175 | -23.802 | -13 |
| 1910.05 | -27.707 | -13 |

UMTS-FDD Band IV (Part 27)

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|-----------------|----------------|-------------|
| 1708.775 | -25.090 | -13 |
| 1755.275 | -22.193 | -13 |

HSUPA:

UMTS-FDD Band V (Part 22H)

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|-----------------|----------------|-------------|
| 823.025 | -21.366 | -13 |
| 850.05 | -27.876 | -13 |

UMTS-FDD Band II (Part 24E)

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|-----------------|----------------|-------------|
| 1849.2 | -23.680 | -13 |
| 1910.05 | -27.215 | -27.66 |

UMTS-FDD Band IV (Part 27)

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|-----------------|----------------|-------------|
| 1709.875 | -26.113 | -13 |
| 1756 | -22.679 | -13 |

HSDPA:

UMTS-FDD Band V (Part 22H)

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|-----------------|----------------|-------------|
| 823.1 | -20.248 | -13 |
| 849.85 | -28.941 | -13 |

UMTS-FDD Band II (Part 24E)

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|-----------------|----------------|-------------|
| 1849.125 | -24.935 | -13 |
| 1910.05 | -26.584 | -13 |

UMTS-FDD Band IV (Part 27)

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|-----------------|----------------|-------------|
| 1709.075 | -26.304 | -13 |
| 1755.1 | -23.921 | -13 |

**GSM Voice:
Test Plots**



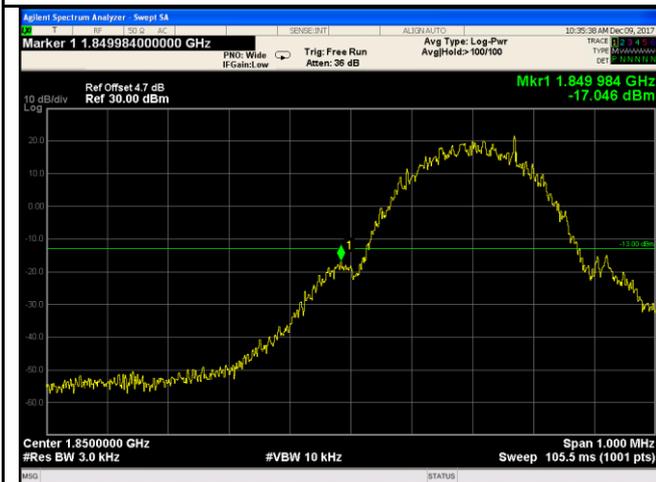
Cellular Band - Low Channel

Note: Offset=Cable loss (4.0) + 10log
(3.18/3)=4.0+0.3=4.3dB



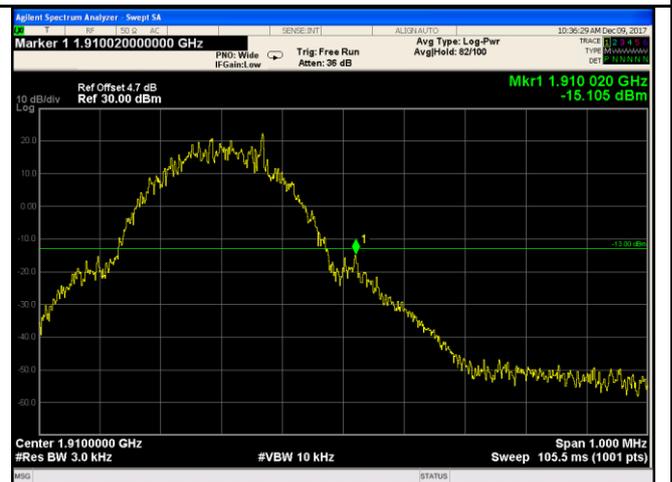
Cellular Band - High Channel

Note: Offset=Cable loss (4.0) + 10log
(3.18/3)=4.0+0.3=4.3dB



PCS Band - Low Channel

Note: Offset=Cable loss (4.0) + 10log
(3.11/3)=4.5+0.2=4.7dB



PCS Band - High Channel

Note: Offset=Cable loss (4.0) + 10log
(3.13/3)=4.5+0.2=4.7dB

GPRS:

Test Plots



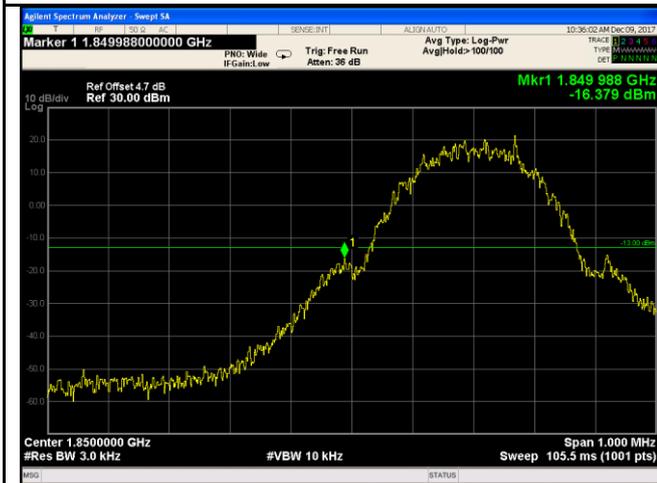
Cellular Band - Low Channel

Note: Offset=Cable loss (4.0) + 10log
(3.21/3)=4.0+0.3=4.3dB



Cellular Band - High Channel

Note: Offset=Cable loss (4.0) + 10log
(3.18/3)=4.0+0.3=4.3dB



PCS Band - Low Channel

Note: Offset=Cable loss (4.5) + 10log
(3.17/3)=4.5+0.2=4.7dB

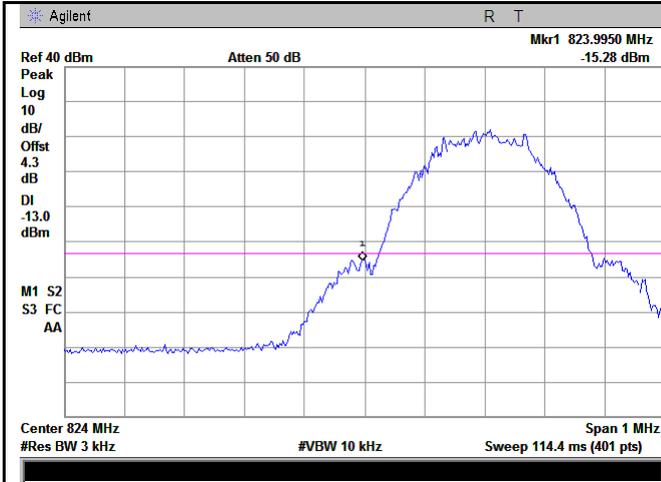


PCS Band - High Channel

Note: Offset=Cable loss (4.5) + 10log
(3.10/3)=4.5+0.2=4.7dB

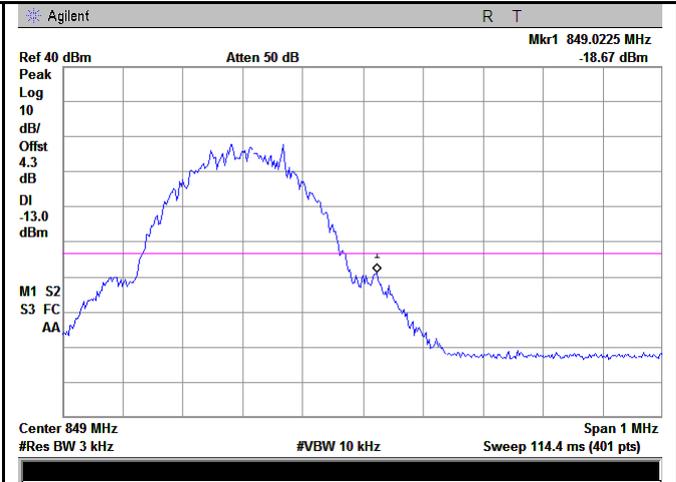
EGPRS (MCS1):

Test Plots



Cellular Band - Low Channel

Note: Offset=Cable loss (4.0) + 10log
(3.19/3)=4.0+0.3=4.3dB



Cellular Band - High Channel

Note: Offset=Cable loss (4.0) + 10log
(3.19/3)=4.0+0.3=4.3dB



PCS Band - Low Channel

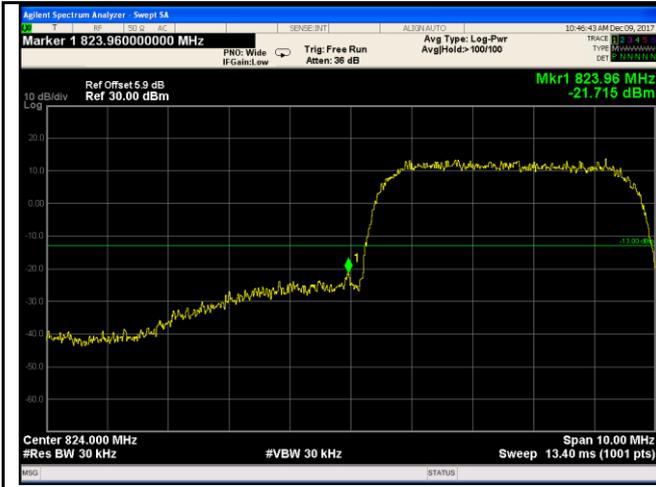
Note: Offset=Cable loss (4.5) + 10log
(3.19/3)=4.5+0.3=4.8dB



PCS Band - High Channel

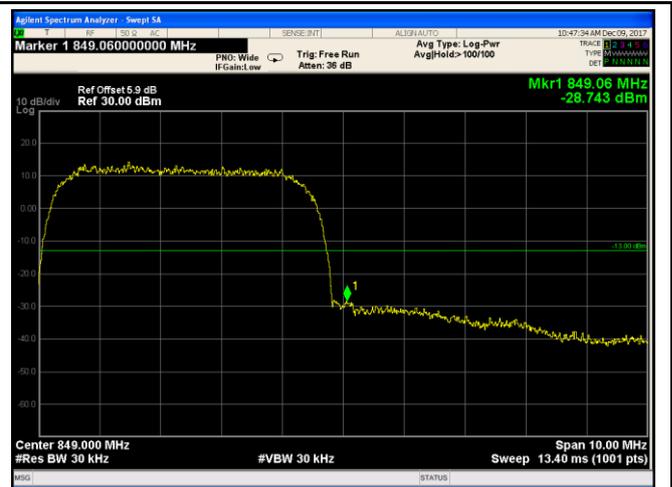
Note: Offset=Cable loss (4.5) + 10log
(3.19/3)=4.5+0.3=4.8dB

RMC:



UMTS-FDD Band V - Low Channel

Note: Offset=Cable loss (4.0) + 10log
(47.00/30)=4.0+1.9=5.9dB



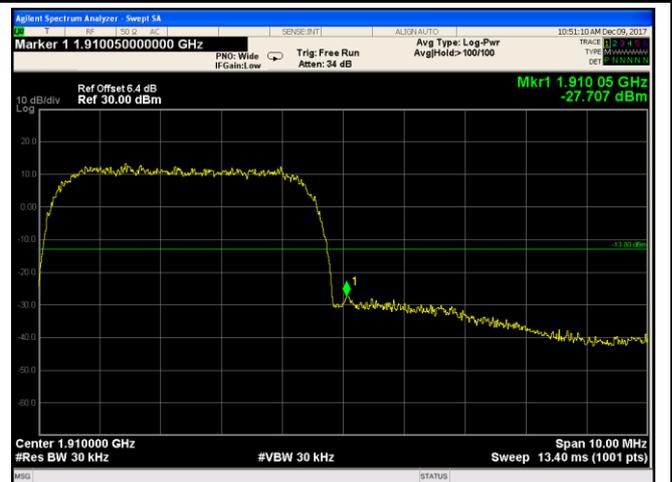
UMTS-FDD Band V - High Channel

Note: Offset=Cable loss (4.0) + 10log
(46.73/30)=4.0+1.9=5.9dB



UMTS-FDD Band II - Low Channel

Note: Offset=Cable loss (4.5) + 10log
(47.00/30)=4.5+1.9=6.4dB



UMTS-FDD Band II - High Channel

Note: Offset=Cable loss (4.5) + 10log
(46.91/30)=4.5+1.9=6.4dB



UMTS-FDD Band IV - Low Channel

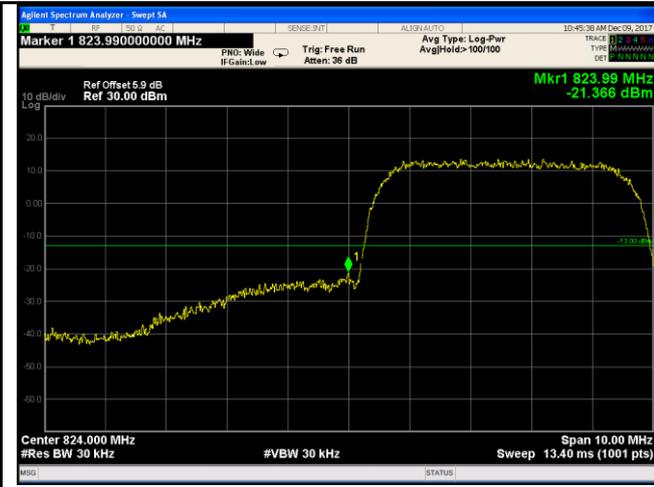
Note: Offset=Cable loss (4.5) + 10log
(46.77/30)=4.5+1.9=6.4dB



UMTS-FDD Band IV - High Channel

Note: Offset=Cable loss (4.0) + 10log
(47.08/30)=4.5+1.9=6.4dB

HSUPA:



UMTS-FDD Band V - Low Channel

Note: Offset=Cable loss (4.0) + 10log
(46.95/30)=4.0+1.9=5.9dB



UMTS-FDD Band V - High Channel

Note: Offset=Cable loss (4.0) + 10log
(46.62/30)=4.0+1.9=5.9dB



UMTS-FDD Band II - Low Channel

Note: Offset=Cable loss (4.5) + 10log
(46.86/30)=4.5+1.9=6.4dB



UMTS-FDD Band II - High Channel

Note: Offset=Cable loss (4.5) + 10log
(46.69/30)=4.5+1.9=6.4dB



UMTS-FDD Band IV - Low Channel

Note: Offset=Cable loss (4.5) + 10log
(46.73/30)=4.5+1.9=6.4dB



UMTS-FDD Band IV - High Channel

Note: Offset=Cable loss (4.5) + 10log
(47.09/30)=4.5+1.9=6.4dB

HSDPA:



UMTS-FDD Band V - Low Channel

Note: Offset=Cable loss (4.0) + 10log
(46.93/30)=4.0+1.9=5.9dB



UMTS-FDD Band V - High Channel

Note: Offset=Cable loss (4.0) + 10log
(46.82/30)=4.0+1.9=5.9dB



UMTS-FDD Band II - Low Channel

Note: Offset=Cable loss (4.5) + 10log
(46.86/30)=4.5+1.9=6.4dB



UMTS-FDD Band II - High Channel

Note: Offset=Cable loss (4.5) + 10log
(46.97/30)=4.5+1.9=6.4dB



UMTS-FDD Band IV - Low Channel

Note: Offset=Cable loss (4.5) + 10log
(46.80/30)=4.5+1.9=6.4dB



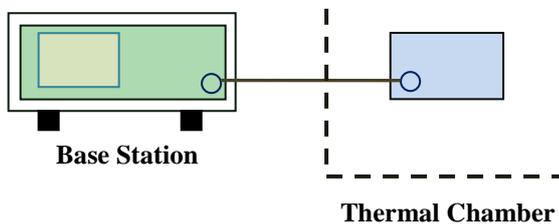
UMTS-FDD Band IV - High Channel

Note: Offset=Cable loss (4.5) + 10log
(47.04/30)=4.5+1.9=6.4dB

6.8 Frequency Stability

| | |
|----------------------|-------------------|
| Temperature | 25 °C |
| Relative Humidity | 53% |
| Atmospheric Pressure | 1010mbar |
| Test date : | December 12, 2017 |
| Tested By : | Aaron Liang |

Requirement(s):

| Spec | Item | Requirement | Applicable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|------|---|-------------------------------------|-----------------------|------------------------|------------------------|------------------------|----------|------|------|------|-----------|-----|-----|------|------------|-----|-----|----|------------|-----|-----|-----|------------|-----|-----|-----|------------|-----|-----|-----|--------------|------|-----|-----|
| §2.1055, §22.355 & §24.235 § 27.5(h); § 27.54 | a) | According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table below: Frequency Tolerance for Transmitters in the Public Mobile Services | <input checked="" type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | <table border="1"> <thead> <tr> <th>Frequency Range (MHz)</th> <th>Base, fixed (ppm)</th> <th>Mobile ≤ 3 watts (ppm)</th> <th>Mobile ≤ 3 watts (ppm)</th> </tr> </thead> <tbody> <tr> <td>25 to 50</td> <td>20.0</td> <td>20.0</td> <td>50.0</td> </tr> <tr> <td>50 to 450</td> <td>5.0</td> <td>5.0</td> <td>50.0</td> </tr> <tr> <td>450 to 512</td> <td>2.5</td> <td>5.0</td> <td>10</td> </tr> <tr> <td>821 to 896</td> <td>1.5</td> <td>2.5</td> <td>2.5</td> </tr> <tr> <td>928 to 929</td> <td>5.0</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>929 to 960</td> <td>1.5</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>2110 to 2220</td> <td>10.0</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table> | | Frequency Range (MHz) | Base, fixed (ppm) | Mobile ≤ 3 watts (ppm) | Mobile ≤ 3 watts (ppm) | 25 to 50 | 20.0 | 20.0 | 50.0 | 50 to 450 | 5.0 | 5.0 | 50.0 | 450 to 512 | 2.5 | 5.0 | 10 | 821 to 896 | 1.5 | 2.5 | 2.5 | 928 to 929 | 5.0 | N/A | N/A | 929 to 960 | 1.5 | N/A | N/A | 2110 to 2220 | 10.0 | N/A | N/A |
| | | Frequency Range (MHz) | | Base, fixed (ppm) | Mobile ≤ 3 watts (ppm) | Mobile ≤ 3 watts (ppm) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 25 to 50 | | 20.0 | 20.0 | 50.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 50 to 450 | | 5.0 | 5.0 | 50.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 450 to 512 | | 2.5 | 5.0 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 821 to 896 | | 1.5 | 2.5 | 2.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 928 to 929 | | 5.0 | N/A | N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 929 to 960 | 1.5 | N/A | N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2110 to 2220 | 10.0 | N/A | N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized frequency block. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  <p style="text-align: center;"> Base Station Thermal Chamber </p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | |
|-----------|---|
| Procedure | <p>A communication link was established between EUT and base station. The frequency error was monitored and measured by base station under variation of ambient temperature and variation of primary supply voltage.</p> <p>Limit: The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ ($\pm 2.5\text{ppm}$) of the center frequency.</p> |
| Remark | |
| Result | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail |

Test Data Yes N/A

Test Plot Yes (See below) N/A

GSM Voice:

Cellular Band (Part 22H) result

| Middle Channel, $f_0 = 836.6$ MHz | | | | |
|-----------------------------------|-----------------------------------|----------------------|-----------------------|-------------|
| Temperature (°C) | Power Supplied (V _{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -10 | 3.7 | 22 | 0.0263 | 2.5 |
| 0 | | 18 | 0.0215 | 2.5 |
| 10 | | 17 | 0.0203 | 2.5 |
| 20 | | 14 | 0.0167 | 2.5 |
| 30 | | 13 | 0.0155 | 2.5 |
| 40 | | 16 | 0.0191 | 2.5 |
| 50 | | 18 | 0.0215 | 2.5 |
| 55 | | 17 | 0.0203 | 2.5 |
| 25 | 4.2 | 20 | 0.0239 | 2.5 |
| | 3.5 | 19 | 0.0227 | 2.5 |

PCS Band (Part 24E) result

| Middle Channel, $f_0 = 1880$ MHz | | | | |
|----------------------------------|-----------------------------------|----------------------|-----------------------|-------------|
| Temperature (°C) | Power Supplied (V _{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -10 | 3.7 | 22 | 0.0117 | 2.5 |
| 0 | | 18 | 0.0096 | 2.5 |
| 10 | | 16 | 0.0085 | 2.5 |
| 20 | | 16 | 0.0085 | 2.5 |
| 30 | | 16 | 0.0085 | 2.5 |
| 40 | | 16 | 0.0085 | 2.5 |
| 50 | | 22 | 0.0117 | 2.5 |
| 55 | | 17 | 0.0090 | 2.5 |
| 25 | 4.2 | 18 | 0.0096 | 2.5 |
| | 3.5 | 17 | 0.0090 | 2.5 |

RMC:

UMTS-FDD Band V (Part 22H)

| Middle Channel, $f_0 = 835$ MHz | | | | |
|---------------------------------|-----------------------------------|----------------------|-----------------------|-------------|
| Temperature (°C) | Power Supplied (V _{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -10 | 3.7 | 19 | 0.0228 | 2.5 |
| 0 | | 14 | 0.0168 | 2.5 |
| 10 | | 16 | 0.0192 | 2.5 |
| 20 | | 15 | 0.0180 | 2.5 |
| 30 | | 15 | 0.0180 | 2.5 |
| 40 | | 17 | 0.0204 | 2.5 |
| 50 | | 22 | 0.0263 | 2.5 |
| 55 | | 18 | 0.0216 | 2.5 |
| 25 | 4.2 | 18 | 0.0216 | 2.5 |
| | 3.5 | 17 | 0.0204 | 2.5 |

UMTS-FDD Band II (Part 24E)

| Middle Channel, $f_0 = 1880$ MHz | | | | |
|----------------------------------|-----------------------------------|----------------------|-----------------------|-------------|
| Temperature (°C) | Power Supplied (V _{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -10 | 3.7 | 18 | 0.0096 | 2.5 |
| 0 | | 16 | 0.0085 | 2.5 |
| 10 | | 14 | 0.0074 | 2.5 |
| 20 | | 14 | 0.0074 | 2.5 |
| 30 | | 14 | 0.0074 | 2.5 |
| 40 | | 16 | 0.0085 | 2.5 |
| 50 | | 22 | 0.0117 | 2.5 |
| 55 | | 21 | 0.0112 | 2.5 |
| 25 | 4.2 | 20 | 0.0106 | 2.5 |
| | 3.5 | 16 | 0.0085 | 2.5 |

UMTS-FDD Band IV (Part 27)

| Middle Channel, $f_0 = 1733$ MHz | | | | |
|----------------------------------|-----------------------------------|----------------------|-----------------------|-------------|
| Temperature (°C) | Power Supplied (V _{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -10 | 3.7 | 21 | 0.0251 | 2.5 |
| 0 | | 16 | 0.0192 | 2.5 |
| 10 | | 15 | 0.0180 | 2.5 |
| 20 | | 14 | 0.0168 | 2.5 |
| 30 | | 17 | 0.0204 | 2.5 |
| 40 | | 15 | 0.0180 | 2.5 |
| 50 | | 18 | 0.0216 | 2.5 |
| 55 | | 17 | 0.0204 | 2.5 |
| 25 | | 4.2 | 19 | 0.0228 |
| | 3.5 | 18 | 0.0216 | 2.5 |

Annex A. TEST INSTRUMENT

| Instrument | Model | Serial # | Cal Date | Cal Due | In use |
|--|-------------------|------------|------------|------------|-------------------------------------|
| RF Conducted Test | | | | | |
| Agilent ESA-E SERIES SPECTRUM ANALYZER | E4407B | MY45108319 | 09/14/2017 | 09/13/2018 | <input checked="" type="checkbox"/> |
| Power Splitter | 1# | 1# | 08/30/2017 | 08/29/2018 | <input checked="" type="checkbox"/> |
| Universal Radio Communication Tester | CMU200 | 121393 | 09/23/2017 | 09/22/2018 | <input checked="" type="checkbox"/> |
| Temperature/Humidity Chamber | UHL-270 | 001 | 10/07/2017 | 10/06/2018 | <input checked="" type="checkbox"/> |
| DC Power Supply | E3640A | MY40004013 | 09/15/2017 | 09/14/2018 | <input checked="" type="checkbox"/> |
| RF Power Sensor | Dare RPR3006C/P/W | AY554013 | 09/15/2017 | 09/14/2018 | <input checked="" type="checkbox"/> |
| Radiated Emissions | | | | | |
| EMI test receiver | ESL6 | 100262 | 09/15/2017 | 09/14/2018 | <input checked="" type="checkbox"/> |
| OPT 010 AMPLIFIER (0.1-1300MHz) | 8447E | 2727A02430 | 08/30/2017 | 08/29/2018 | <input checked="" type="checkbox"/> |
| Horn Antenna | BBHA9170 | 3145226D1 | 09/27/2017 | 09/26/2018 | <input checked="" type="checkbox"/> |
| Microwave Preamplifier (1 ~ 26.5GHz) | 8449B | 3008A02402 | 03/23/2017 | 03/22/2018 | <input checked="" type="checkbox"/> |
| Bilog Antenna (30MHz~6GHz) | JB6 | A110712 | 09/19/2017 | 09/18/2018 | <input checked="" type="checkbox"/> |
| Bilog Antenna (30MHz~2GHz) | JB1 | A112017 | 09/19/2017 | 09/18/2018 | <input checked="" type="checkbox"/> |
| Double Ridge Horn Antenna (1 ~18GHz) | AH-118 | 71259 | 09/22/2017 | 09/21/2018 | <input checked="" type="checkbox"/> |
| Double Ridge Horn Antenna (1 ~18GHz) | AH-118 | 71283 | 09/22/2017 | 09/21/2018 | <input checked="" type="checkbox"/> |
| SYNTHESIZED SIGNAL GENERATOR | 8665B | 3744A01293 | 09/15/2017 | 09/14/2018 | <input checked="" type="checkbox"/> |
| Power Amplifier | SMC150D | R1553-0313 | 03/08/2017 | 03/07/2018 | <input checked="" type="checkbox"/> |
| Power Amplifier | S41-25D | R1553-0314 | 05/26/2017 | 05/25/2018 | <input checked="" type="checkbox"/> |

| | | | | | |
|----------------------|-----------------|------|------------|------------|-------------------------------------|
| Tunable Notch Filter | 3NF-800/1000-S | AA4 | 08/30/2017 | 08/29/2018 | <input checked="" type="checkbox"/> |
| Tunable Notch Filter | 3NF-1000/2000-S | AM 4 | 08/30/2017 | 08/29/2018 | <input checked="" type="checkbox"/> |

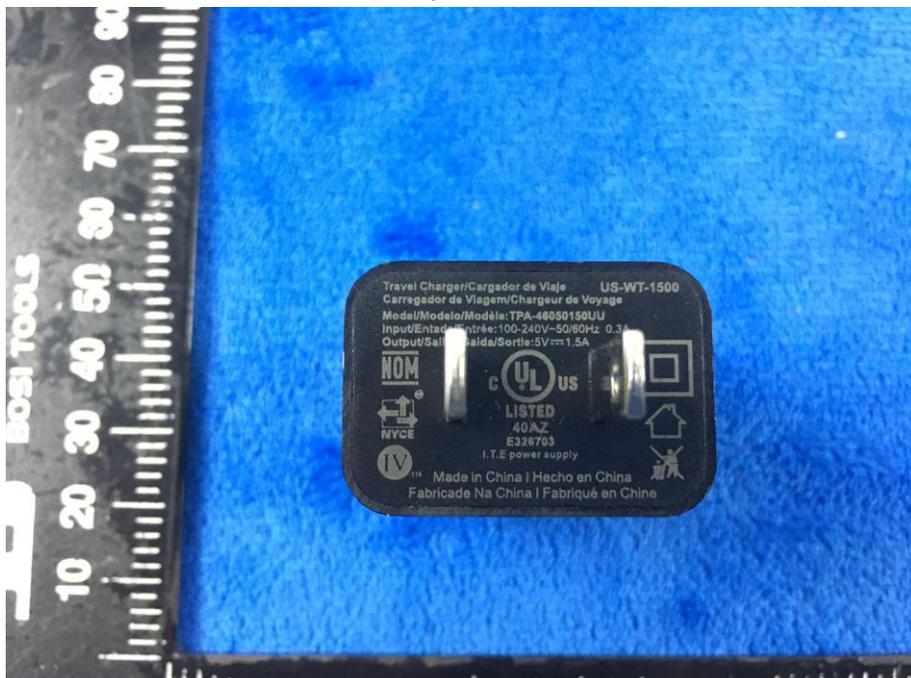
Annex B. EUT And Test Setup Photographs

Annex B.i. Photograph: EUT External Photo

Whole Package View



Adapter View



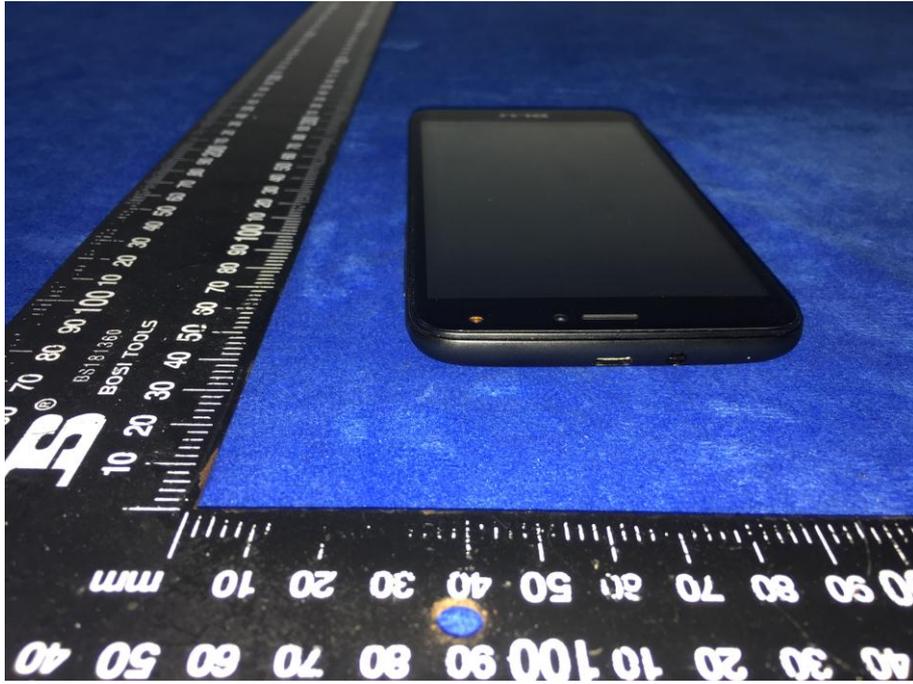
EUT - Front View



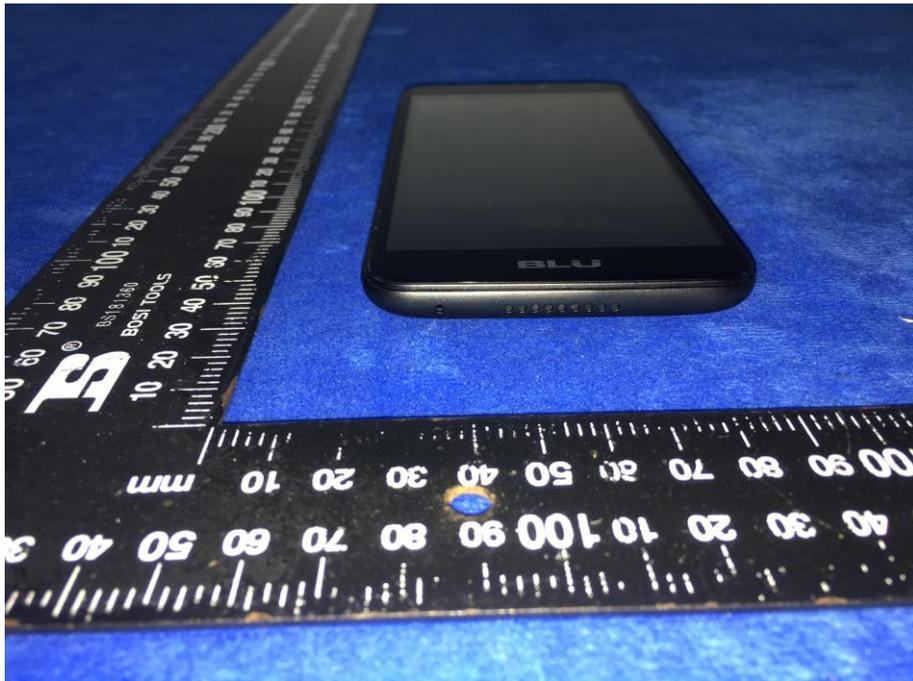
EUT - Rear View



EUT - Top View



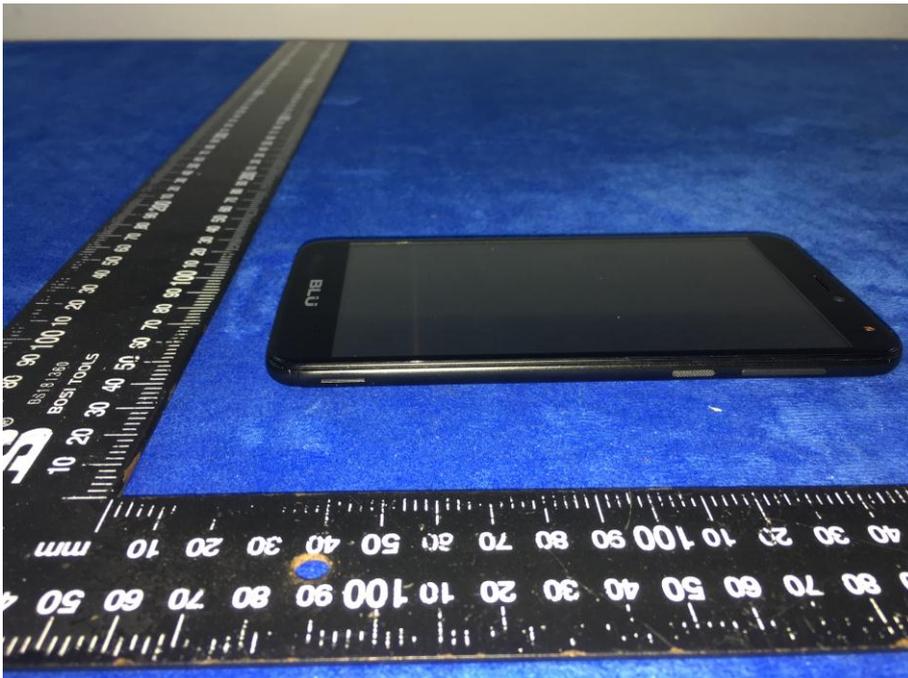
EUT - Bottom View



EUT - Left View



EUT - Right View



Annex B.ii. Photograph: EUT Internal Photo

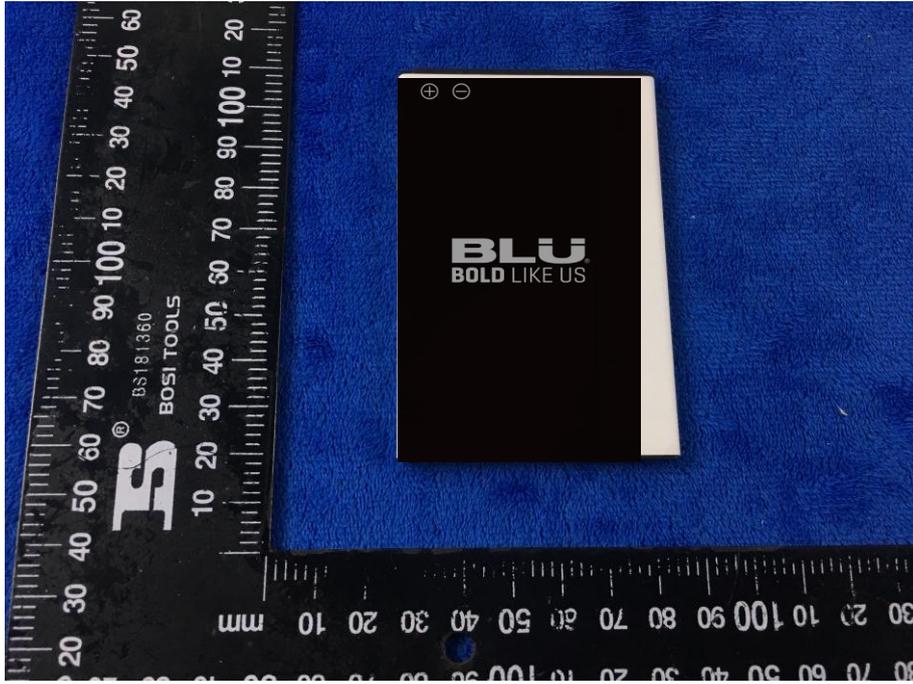
Cover Off - Top View 1



Cover Off - Top View 2



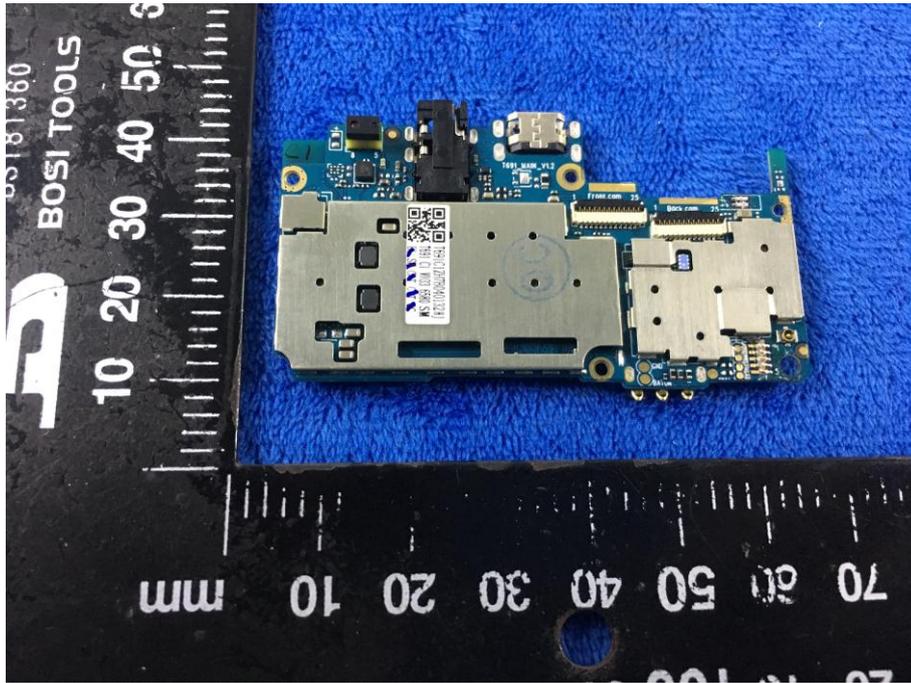
Battery - Front View



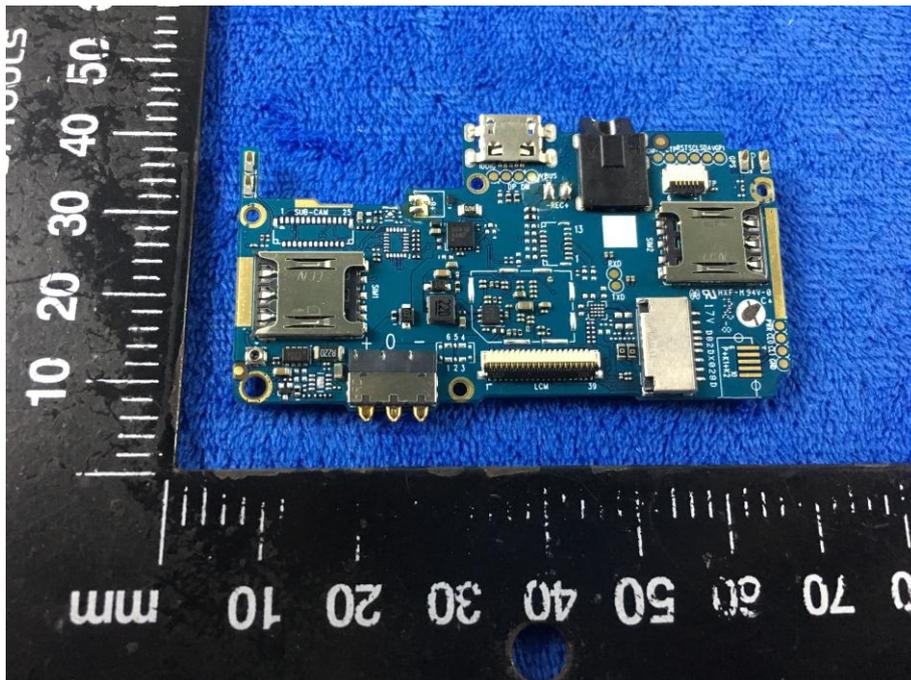
Battery - Rear View



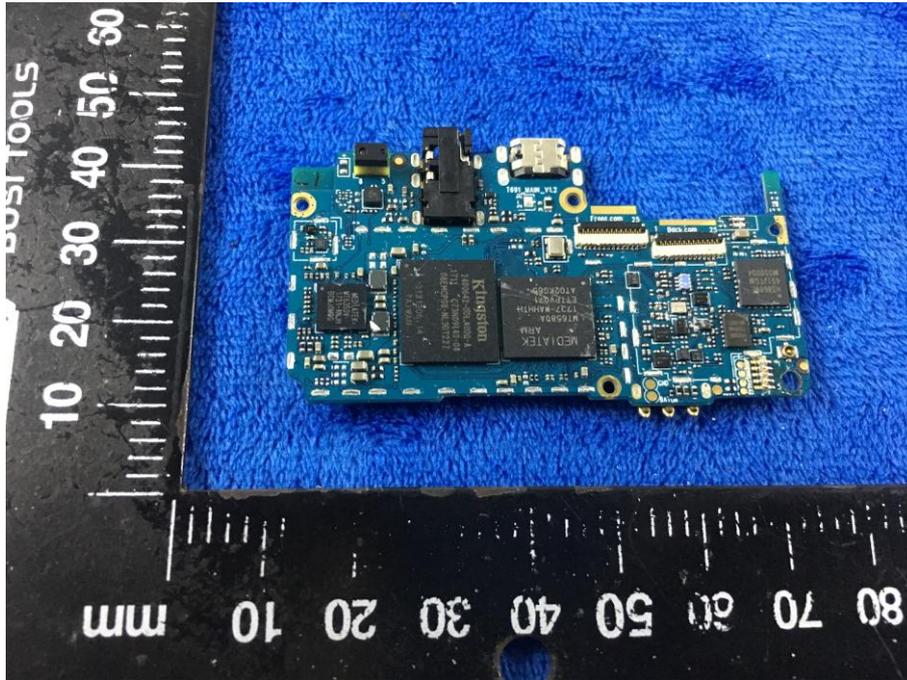
Mainboard with Shielding – Front View



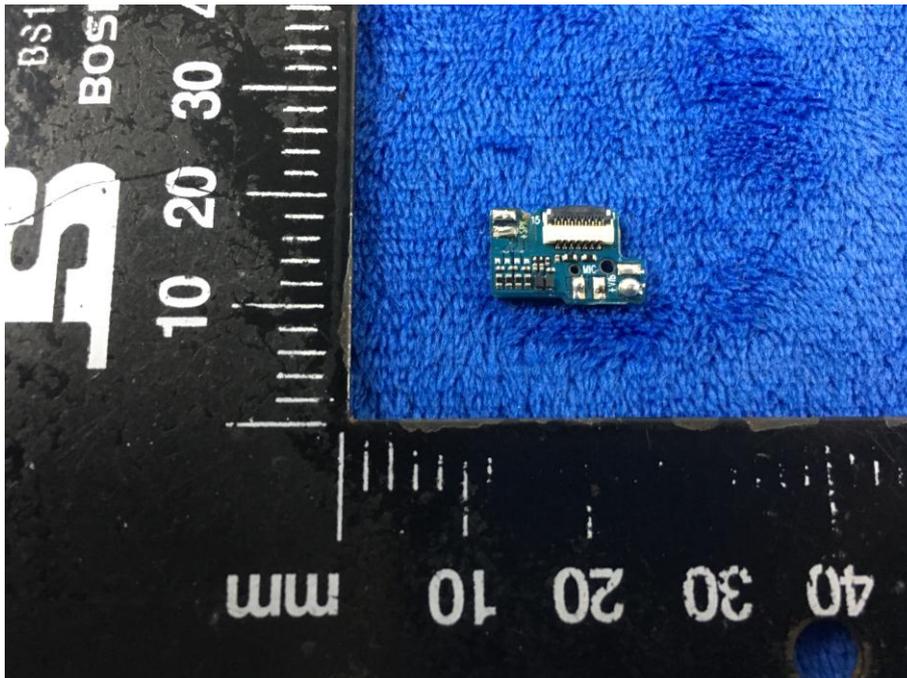
Mainboard with Shielding – Rear View



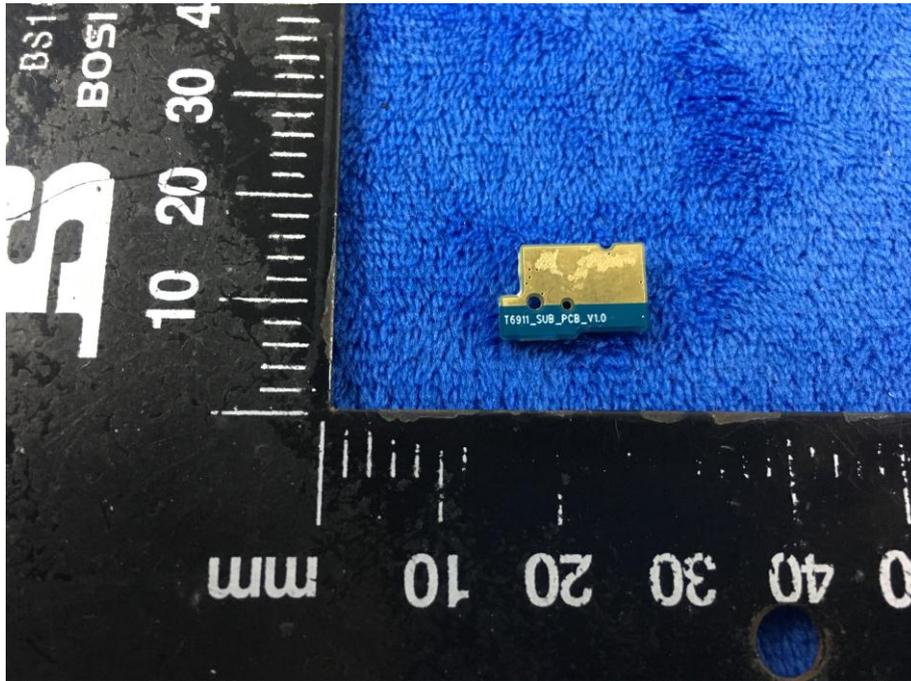
Mainboard without Shielding – Rear View



Small Mainboard – Front View



Small Mainboard – Rear View



LCD – Front View



LCD – Rear View



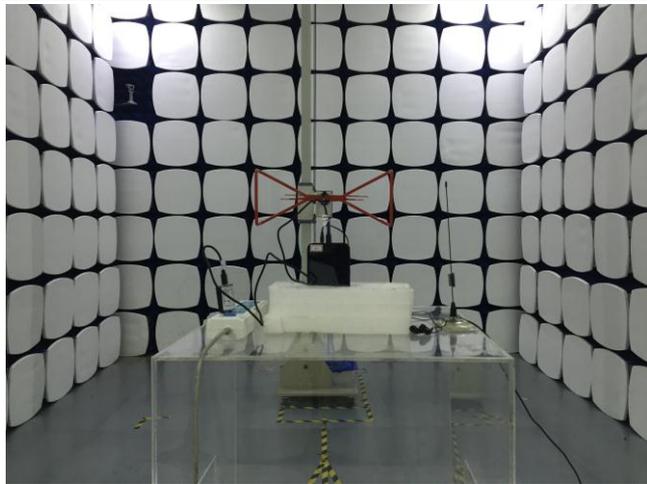
GSM/PCS/UMTS-FDD - Antenna View



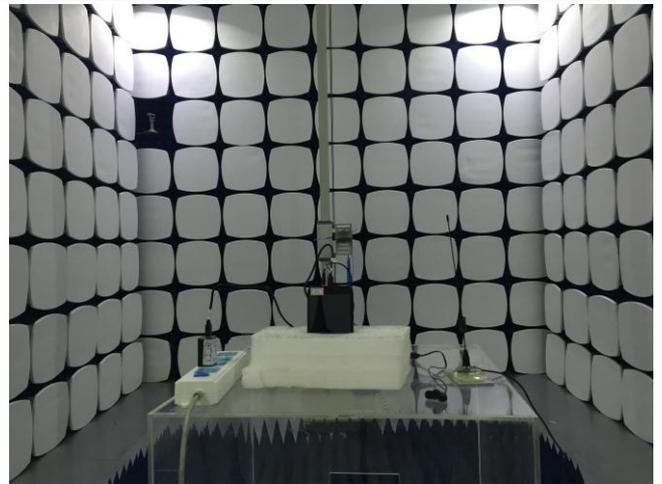
WIFI/BT/BLE/GPS - Antenna View



Annex B.iii. Photograph: Test Setup Photo



Radiated Spurious Emissions Test Setup Below 1GHz

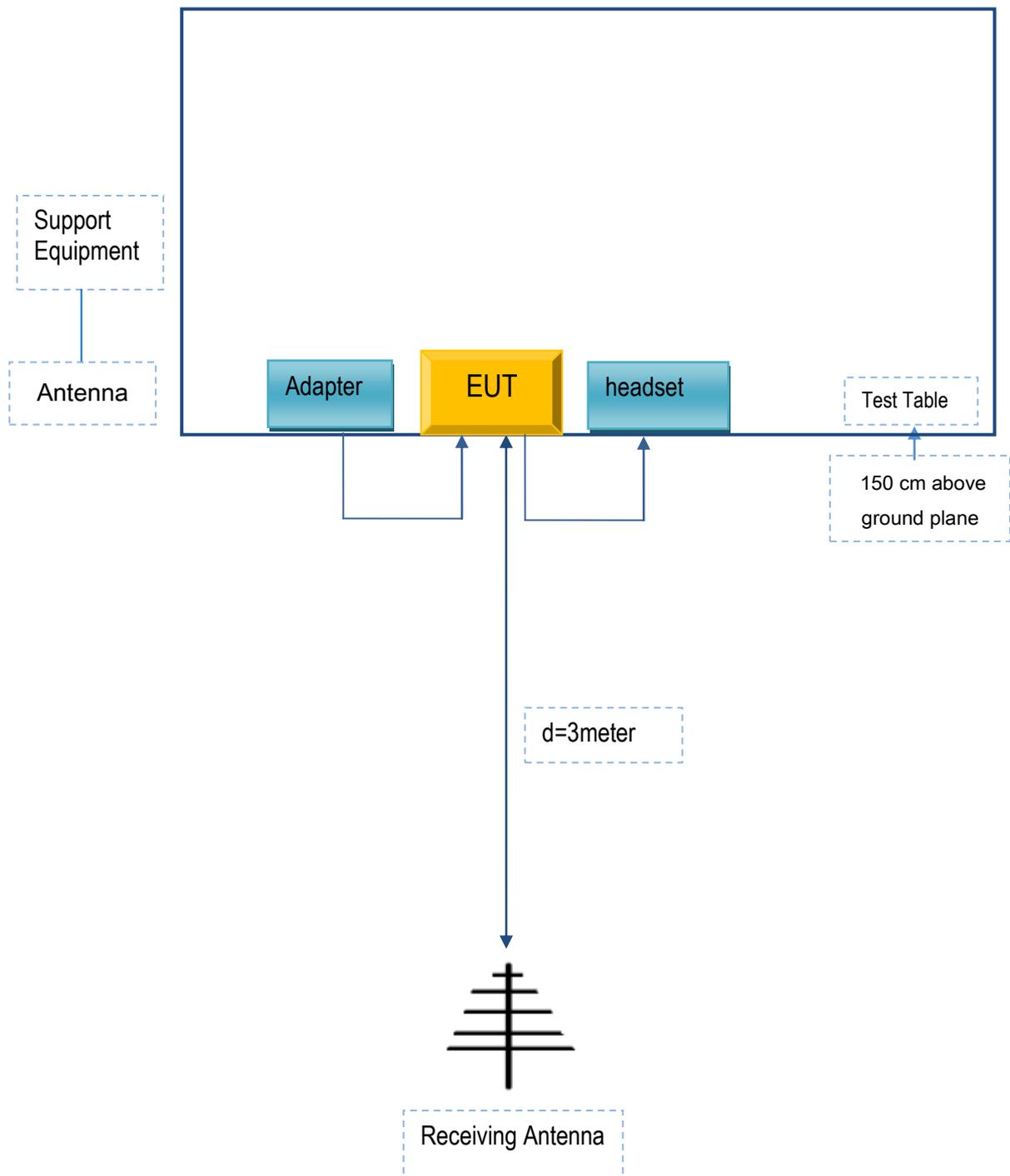


Radiated Spurious Emissions Test Setup Above
1GHz

Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

Annex C.ii. TEST SET UP BLOCK

Block Configuration Diagram for Radiated Emissions



Annex C. ii. SUPPORTING EQUIPMENT DESCRIPTION

The following is a description of supporting equipment and details of cables used with the EUT.

Supporting Equipment:

| Manufacturer | Equipment Description | Model | Serial No |
|--------------------|-----------------------|----------------|-----------|
| BLU Products, Inc. | Adapter | TPA-46050150UU | N/A |
| BLU Products, Inc. | headset | HORIZON R2 | N/A |

Supporting Cable:

| Cable type | Shield Type | Ferrite Core | Length | Serial No |
|------------|--------------|--------------|--------|-----------|
| USB Cable | Un-shielding | No | 0.8m | N/A |

Annex C.ii. EUT OPERATING CONKITIONS

N/A

| | |
|-------------|-----------------|
| Test Report | 18070843-FCC-R1 |
| Page | 103 of 104 |

Annex D. User Manual / Block Diagram / Schematics / Partlist

Please see the attachment

Annex E. DECLARATION OF SIMILARITY

BLU Products, Inc.

To: SIEMIC, 775 Montague Expressway, Milpitas, CA95035, USA

Declaration Letter

Dear Sir,

For our business issue and marketing requirement, we'd like to shift the main and serial model numbers in the reports, No.17071301, as following:

Main Model No.: C6
Serial Model No.: STUDIO J7

And we'd like to use all the former data in the reports of 17071301.

We declare that each of the model's PCB, antenna and appearance shape, accessories are the same. The difference between the two is model name only.

Thank you!

Signature:



Printed name/title: Zeng wei
Address: Address: 10814 NW 33rd St # 100 Doral, FL 33172