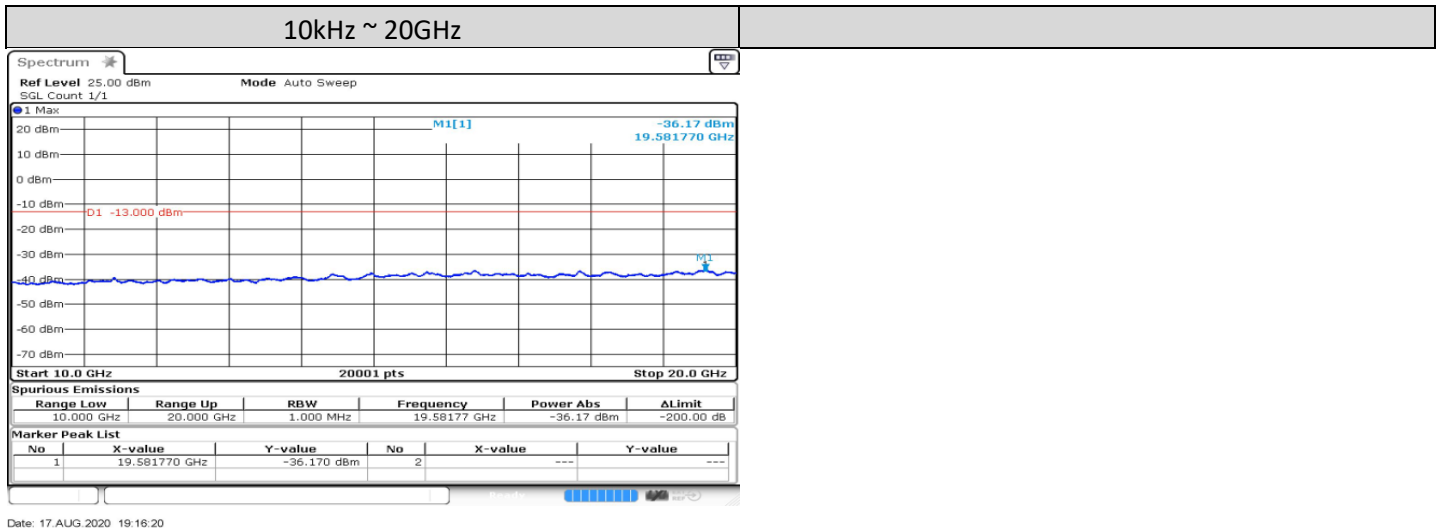
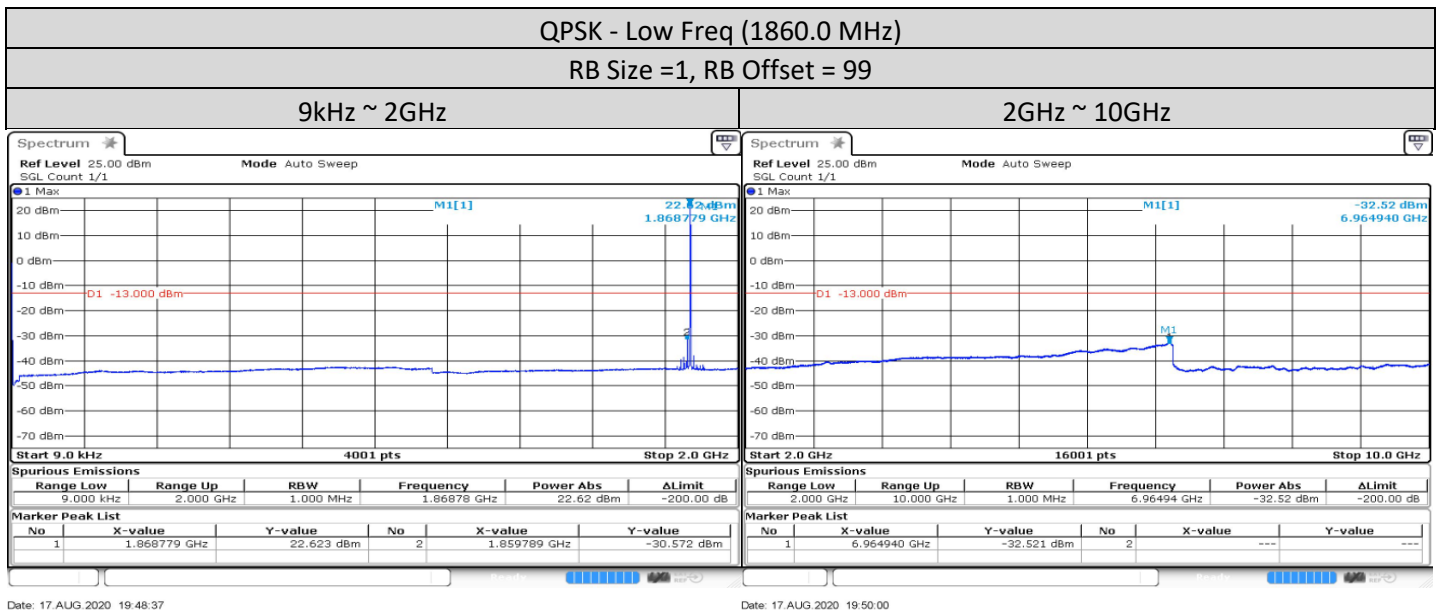
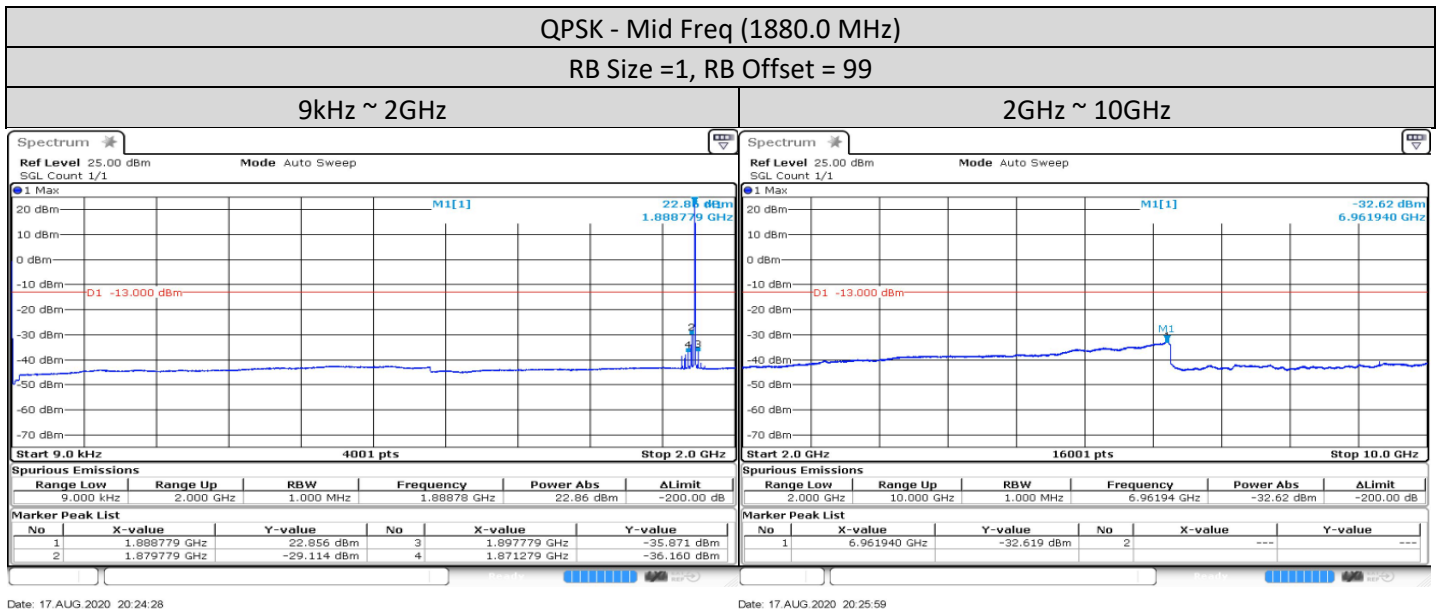
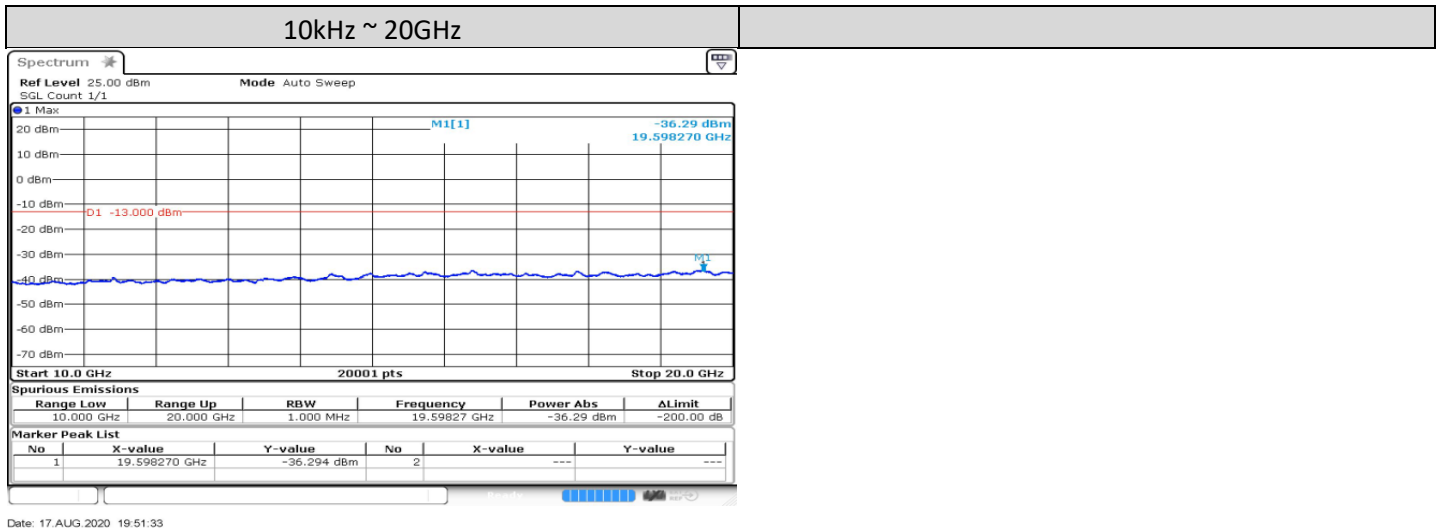
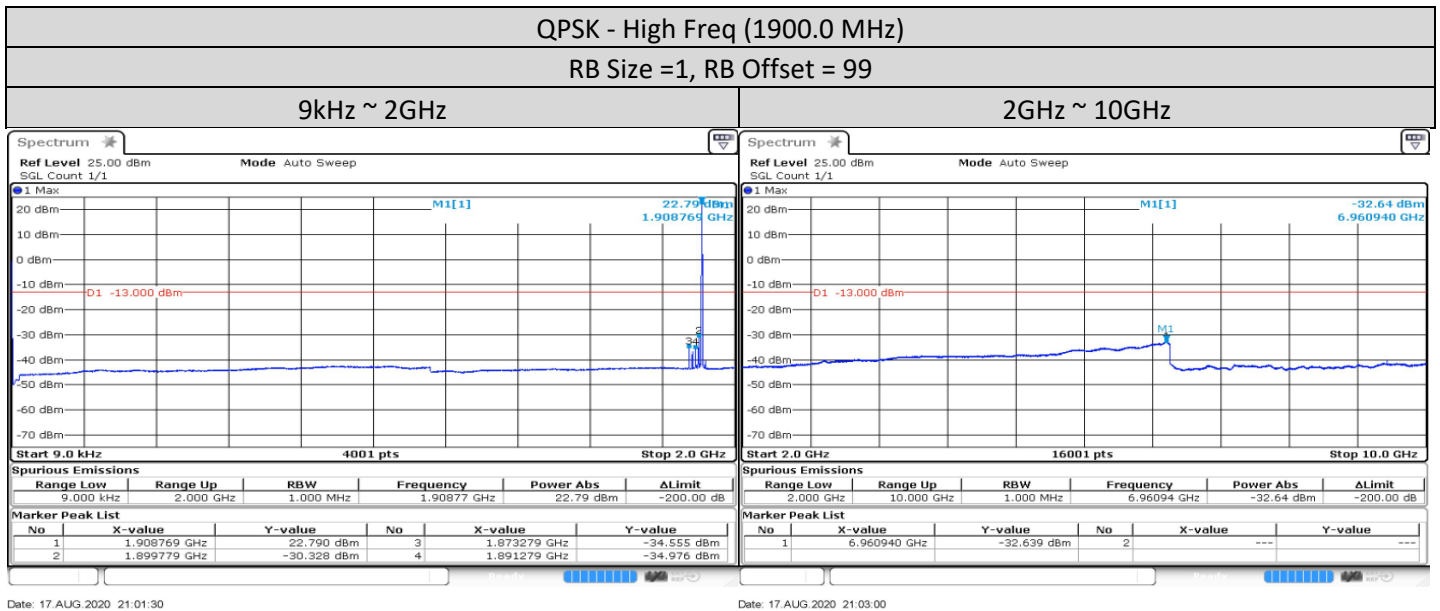
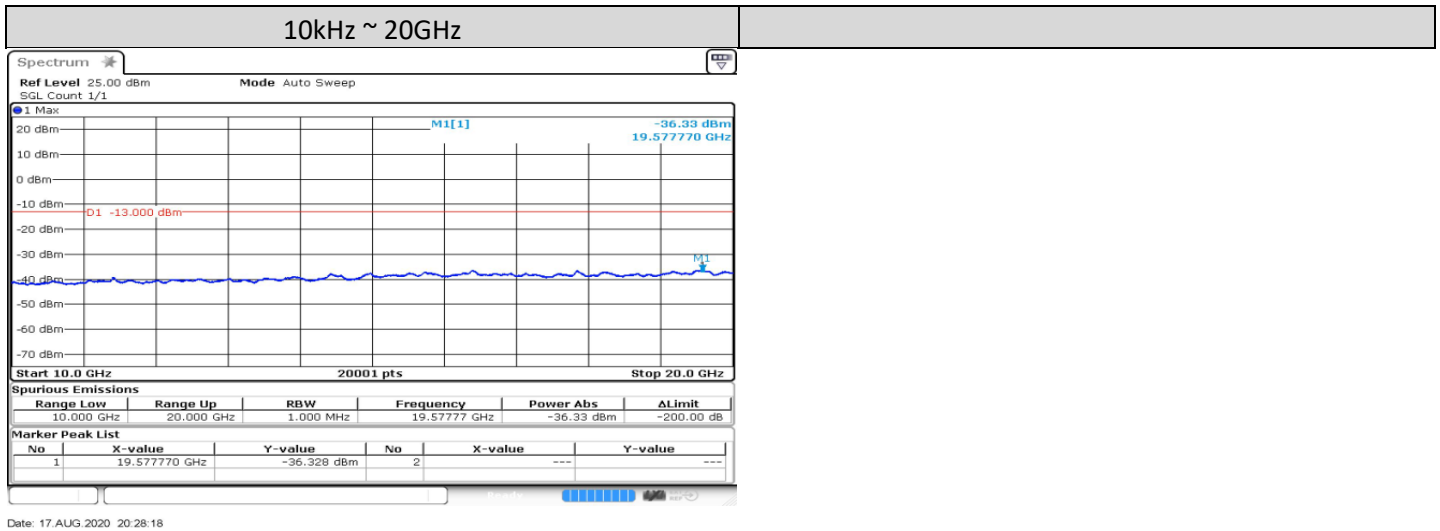


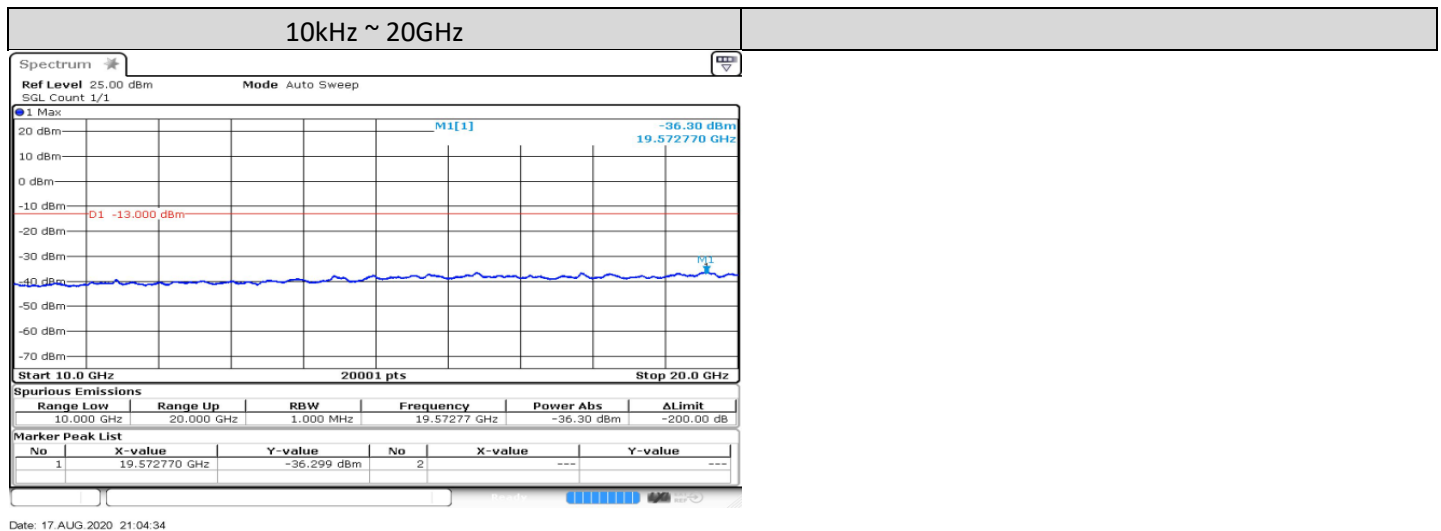


20MHz



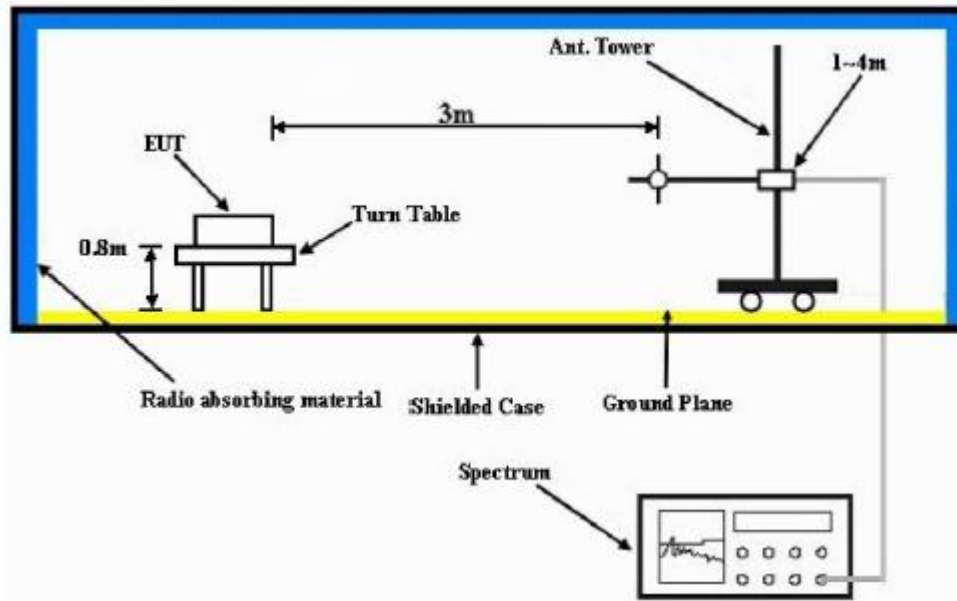






1.12. Radiated Spurious Emission

1.12.1. Test Setup



- 1) The spectrum setting for scanning Radiated Emission below 1 GHz is RBW = 100 kHz, VBW = 300 kHz and above 1 GHz is RBW = 1MHz, VBW = 3MHz. Detector mode is positive peak.
- 2) In the semi-anechoic chamber, setup as illustrated above the EUT placed on the Turn Table at 0.8m height for below 1Ghz measurement and at 1.5m height for above 1GHz measurement, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
- 3) The substitution antenna is substituted for EUT at the same position and signals generator (S.G) export the CW signal to the substitution antenna via a TX cable. The receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum radiation power. Record the power level of maximum radiation power from spectrum. So, the measured substitution value = Ref level of S.G + TX cables loss – Substituted Antenna Gain.
- 4) Final Radiated Spurious Emission = “Read Value” + Measured substitution value.

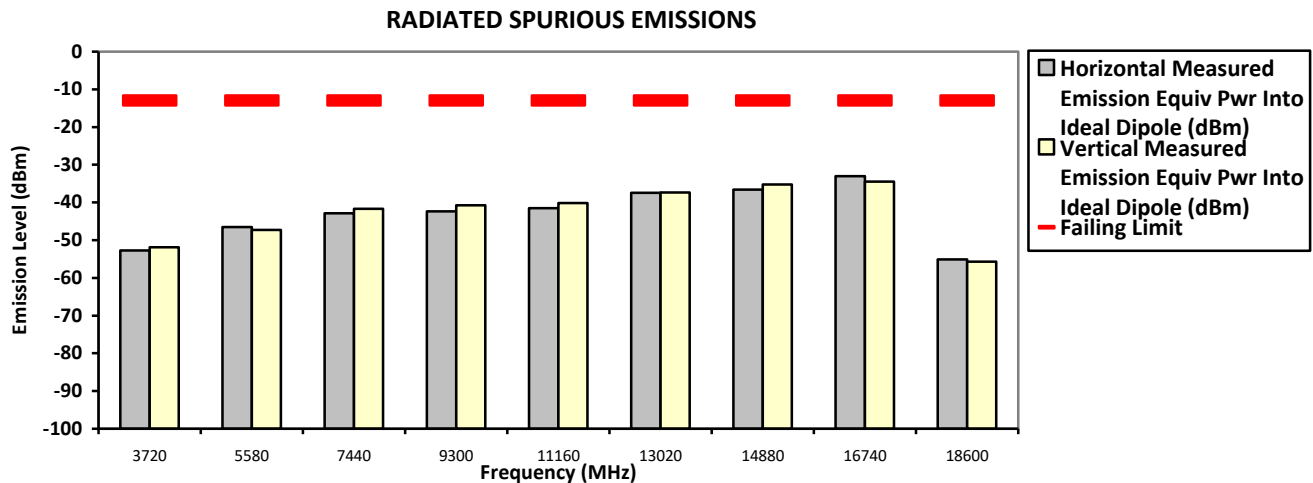
1.12.2. Test Limit

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10} (P)$ dB. The emission limit equal to -13dBm.

1.12.3. Radiated Spurious Emission – LTE Band 2 (1850-1910MHz)

SAC Transmitter Radiated Emission:
Model Number: AAH90ZDU9RH1AN **S/N:** 734TWP0308 **SR:**18058-EMC-00048
Battery Part No: PMNN4804A **Accy Part No:** AN000348A01
Test Mode: TX LTE (Band 2) X-Plane
1860.000000 MHz (Low) **Bandwidth** 20MHz **0.317 Watt(s) /Max Power**

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
3720.0000	-13.0000	-52.6900 **	-51.8875 **
5580.0000	-13.0000	-46.4774 **	-47.2732 **
7440.0000	-13.0000	-42.8972 **	-41.6410 **
9300.0000	-13.0000	-42.3692 **	-40.7089 **
11160.0000	-13.0000	-41.5166 **	-40.1930 **
13020.0000	-13.0000	-37.4371 **	-37.3825 **
14880.0000	-13.0000	-36.5505 **	-35.2170 **
16740.0000	-13.0000	-33.0225 **	-34.4804 **
18600.0000	-13.0000	-55.0798 **	-55.6792 **



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Fendi Wed, Aug 26, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.

*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 24.5 Hum(%RH): 70.1

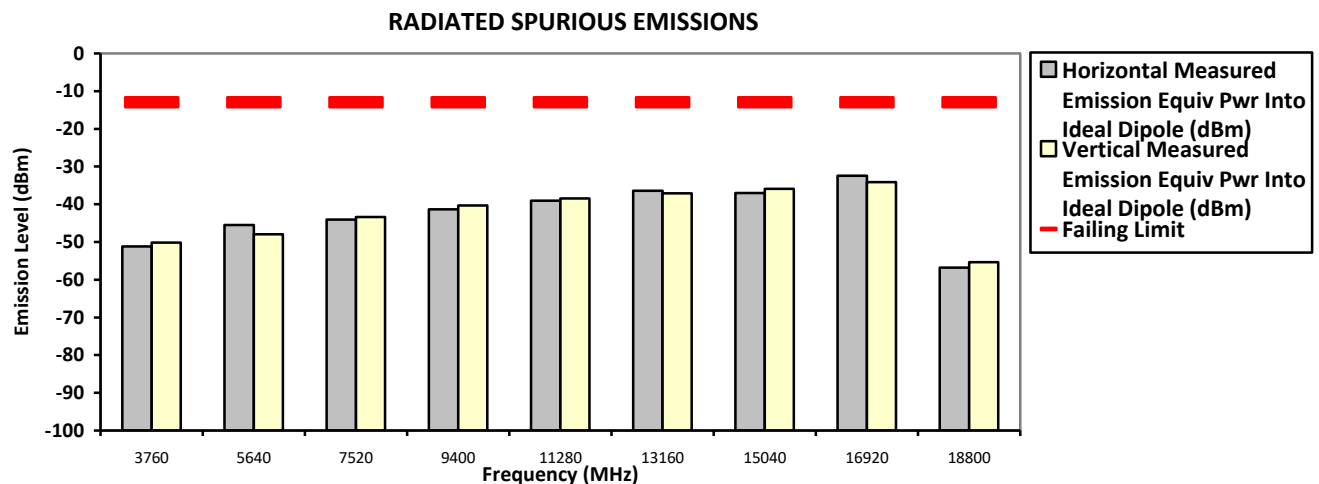
System MU: 4.03 dB

Remarks:

Passed Results	Marginal Results	Failed Results
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SAC Transmitter Radiated Emission:
Model Number: AAH90ZDU9RH1AN **S/N: 734TWP0308** **SR:18058-EMC-00048**
Battery Part No: PMNN4804A **Accy Part No: AN000348A01**
Test Mode: TX LTE (Band 2) X-Plane
1880.000000 MHz (Mid) **Bandwidth 10MHz** **0.317 Watt(s) /Max Power**

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
3760.0000	-13.0000	-51.2112 **	-50.1936 **
5640.0000	-13.0000	-45.5326 **	-47.9247 **
7520.0000	-13.0000	-44.0231 **	-43.3540 **
9400.0000	-13.0000	-41.3018 **	-40.3040 **
11280.0000	-13.0000	-39.0349 **	-38.4556 **
13160.0000	-13.0000	-36.4360 **	-37.0553 **
15040.0000	-13.0000	-36.9963 **	-35.8661 **
16920.0000	-13.0000	-32.4479 **	-34.1175 **
18800.0000	-13.0000	-56.7953 **	-55.3202 **



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Fendi Wed, Aug 26, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.

*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 24.5 Hum(%RH): 70.1

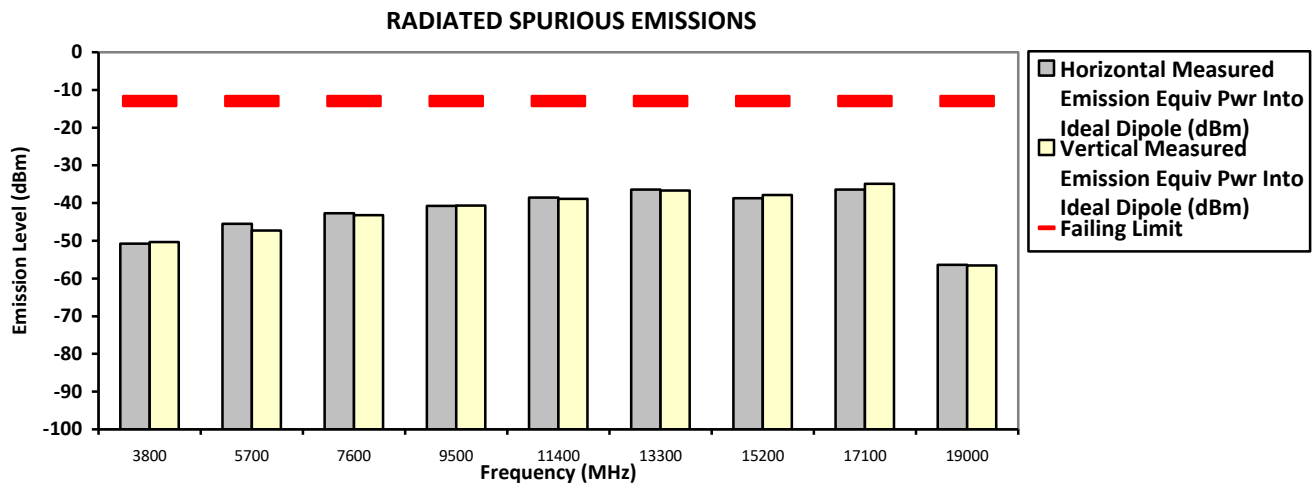
System MU: 4.03 dB

Remarks:

Passed Results	Marginal Results	Failed Results
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Model Number: AAH90ZDU9RH1AN SAC Transmitter Radiated Emission: S/N: 734TWP0308 SR:18058-EMC-00048
Battery Part No: PMNN4804A Accy Part No: AN000348A01
Test Mode: TX LTE (Band 2) X-Plane
1900.000000 MHz (High) Bandwidth 20MHz 0.317 Watt(s) /Max Power

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
3800.0000	-13.0000	-50.7450 **	-50.3080 **
5700.0000	-13.0000	-45.5130 **	-47.3156 **
7600.0000	-13.0000	-42.6847 **	-43.2185 **
9500.0000	-13.0000	-40.7628 **	-40.6936 **
11400.0000	-13.0000	-38.5224 **	-38.9001 **
13300.0000	-13.0000	-36.4544 **	-36.6795 **
15200.0000	-13.0000	-38.7234 **	-37.8207 **
17100.0000	-13.0000	-36.4441 **	-34.8588 **
19000.0000	-13.0000	-56.3545 **	-56.5665 **



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
Motorola Penang EMC Lab - Test Performed by: Nazrin&Fendi Wed, Aug 26, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.

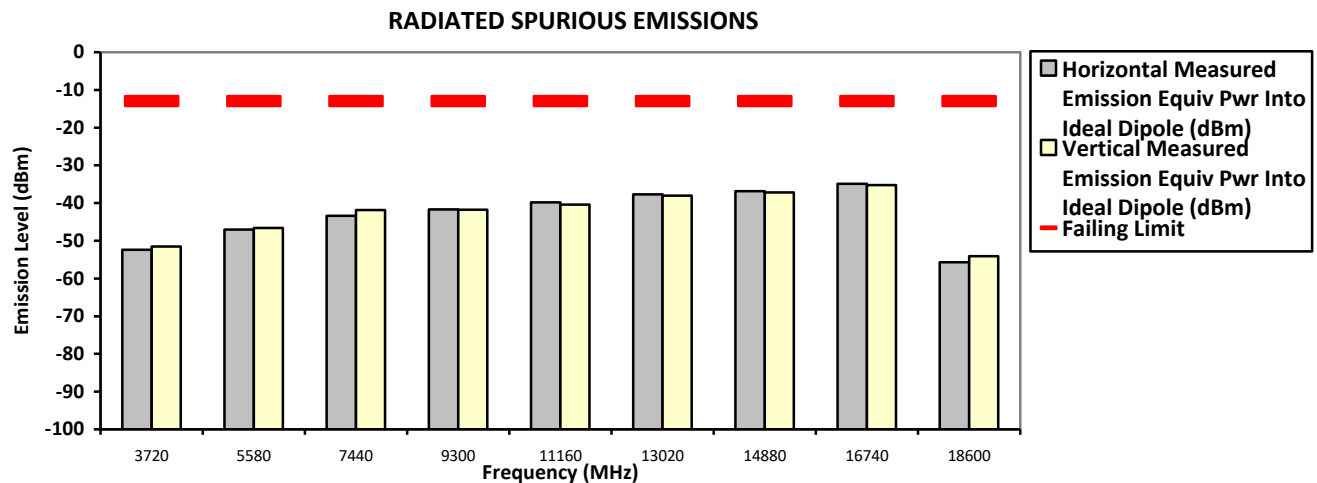
*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
Temp(Deg): 24.5 Hum(%RH): 70.1

System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

Model Number: AAH90ZDU9RH1AN SAC Transmitter Radiated Emission: S/N: 734TWP0308 SR:18058-EMC-00048
 Battery Part No: PMNN4804A Accy Part No: AN000348A01
 Test Mode: TX LTE (Band 2) Y-Plane
 1860.000000 MHz (Low) Bandwidth 20MHz 0.317 Watt(s) /Max Power

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
3720.0000	-13.0000	-52.3619 **	-51.5261 **
5580.0000	-13.0000	-47.0237 **	-46.5755 **
7440.0000	-13.0000	-43.3401 **	-41.8834 **
9300.0000	-13.0000	-41.6447 **	-41.7478 **
11160.0000	-13.0000	-39.8414 **	-40.4367 **
13020.0000	-13.0000	-37.7305 **	-38.0327 **
14880.0000	-13.0000	-36.8072 **	-37.1703 **
16740.0000	-13.0000	-34.8512 **	-35.1914 **
18600.0000	-13.0000	-55.6747 **	-54.0726 **



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Fendi Wed, Aug 26, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.

*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 24.5 Hum(%RH): 70.1

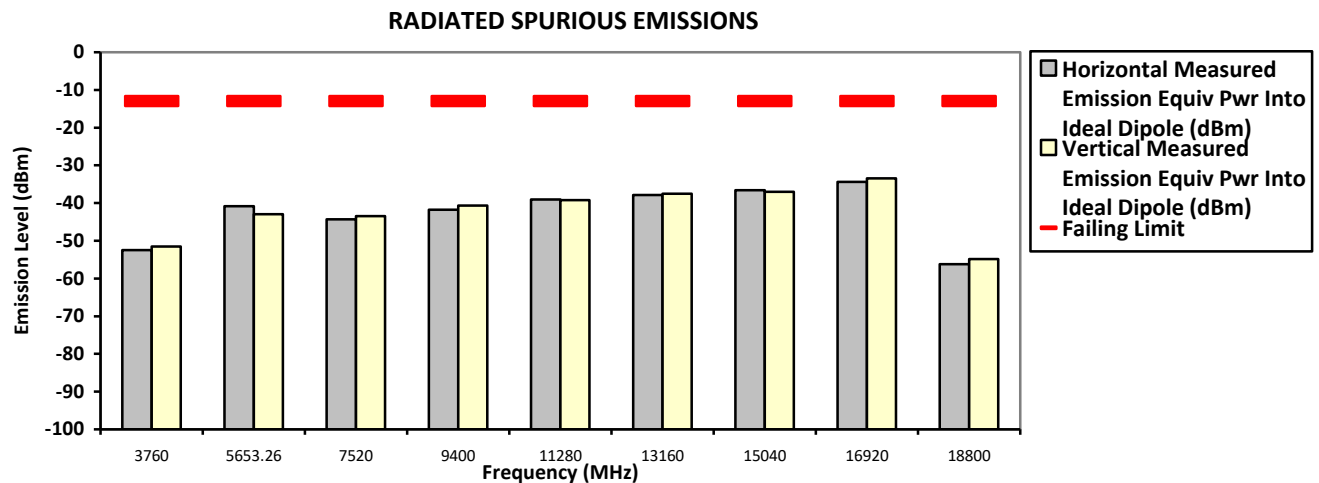
System MU: 4.03 dB

Remarks:

Passed Results	Marginal Results	Failed Results
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Model Number: AAH90ZDU9RH1AN **SAC Transmitter Radiated Emission:** **S/N: 734TWP0308** **SR:18058-EMC-00048**
Battery Part No: PMNN4804A **Accy Part No: AN000348A01**
Test Mode: TX LTE (Band 2) Y-Plane
1880.000000 MHz (Mid) **Bandwidth 10MHz** **0.317 Watt(s) /Max Power**

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
3760.0000	-13.0000	-52.4391 **	-51.5074 **
5653.2600	-13.0000	-40.8200 *	-42.9200 *
7520.0000	-13.0000	-44.3461 **	-43.4835 **
9400.0000	-13.0000	-41.7388 **	-40.6942 **
11280.0000	-13.0000	-39.0290 **	-39.2412 **
13160.0000	-13.0000	-37.8407 **	-37.5180 **
15040.0000	-13.0000	-36.6174 **	-36.9860 **
16920.0000	-13.0000	-34.3635 **	-33.4557 **
18800.0000	-13.0000	-56.1561 **	-54.8325 **



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Fendi Tue, Aug 25, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.

*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 24.5 Hum(%RH): 70.1

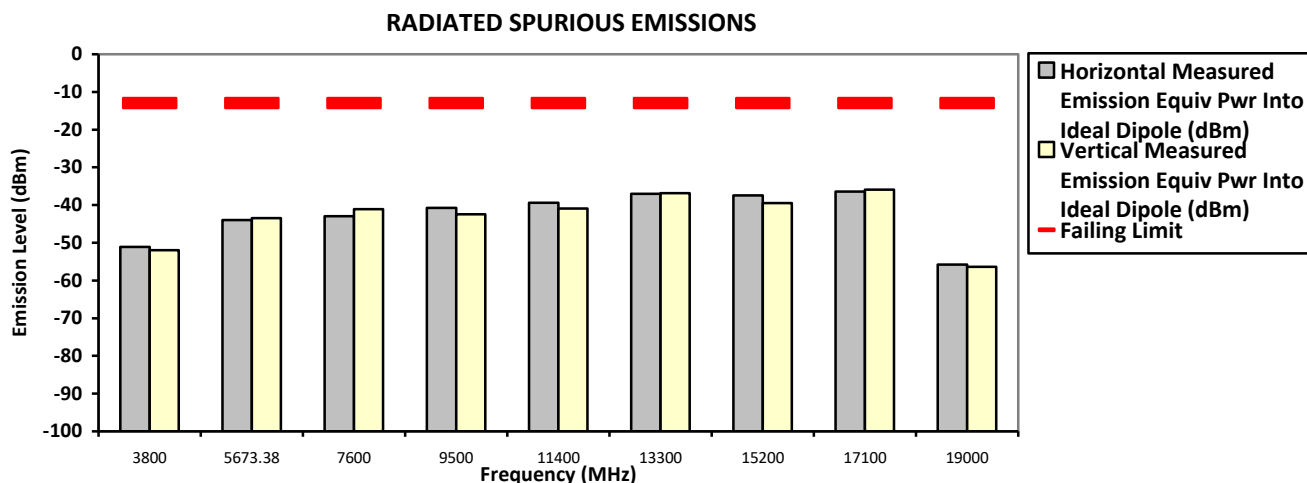
System MU: 4.03 dB

Remarks:

Passed Results	Marginal Results	Failed Results
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Model Number: AAH90ZDU9RH1AN SAC Transmitter Radiated Emission: S/N: 734TWP0308 SR:18058-EMC-00048
 Battery Part No: PMNN4804A Accy Part No: AN000348A01
 Test Mode: TX LTE (Band 2) Y-Plane
 1900.000000 MHz (High) Bandwidth 20MHz 0.317 Watt(s) /Max Power

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
3800.0000	-13.0000	-51.1167 **	-51.9684 **
5673.3800	-13.0000	-43.9500 *	-43.4300 *
7600.0000	-13.0000	-42.9158 **	-41.0947 **
9500.0000	-13.0000	-40.7281 **	-42.4661 **
11400.0000	-13.0000	-39.4256 **	-40.9271 **
13300.0000	-13.0000	-37.0015 **	-36.8690 **
15200.0000	-13.0000	-37.4471 **	-39.4403 **
17100.0000	-13.0000	-36.3800 **	-35.8823 **
19000.0000	-13.0000	-55.7522 **	-56.3874 **



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Fendi Tue, Aug 25, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.

*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 24.5 Hum(%RH): 70.1

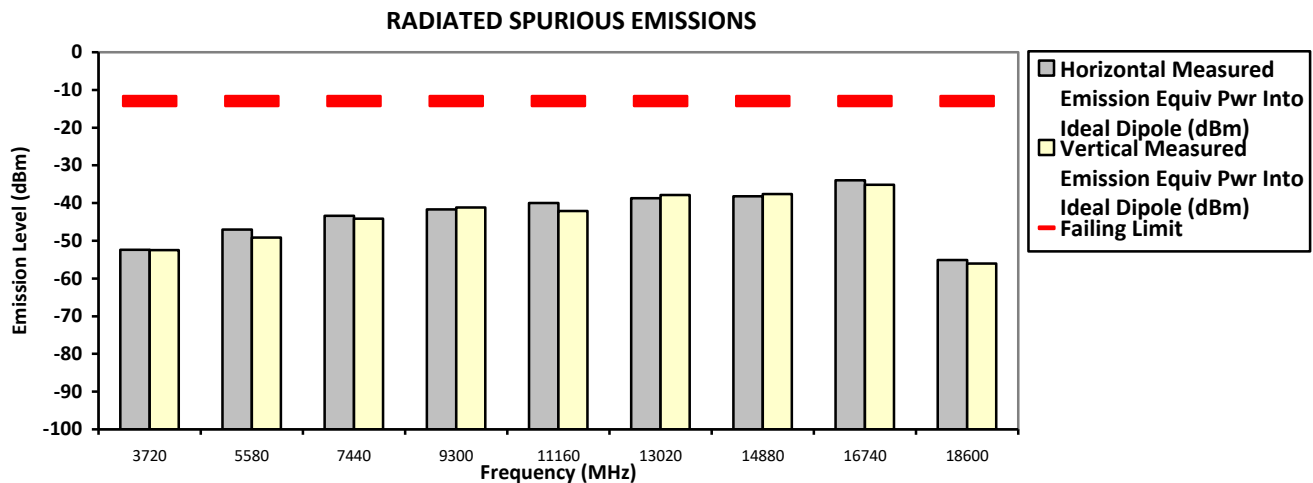
System MU: 4.03 dB

Remarks:

Passed Results	Marginal Results	Failed Results
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Model Number: AAH90ZDU9RH1AN SAC Transmitter Radiated Emission: S/N: 734TWP0308 SR:18058-EMC-00048
 Battery Part No: PMNN4804A Accy Part No: AN000348A01
 Test Mode: TX LTE (Band 2) Z-Plane
 1860.000000 MHz (Low) Bandwidth 20MHz 0.317 Watt(s) /Max Power

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
3720.0000	-13.0000	-52.3703 **	-52.4815 **
5580.0000	-13.0000	-46.9881 **	-49.1913 **
7440.0000	-13.0000	-43.3917 **	-44.1205 **
9300.0000	-13.0000	-41.6969 **	-41.1871 **
11160.0000	-13.0000	-40.0004 **	-42.1471 **
13020.0000	-13.0000	-38.6982 **	-37.8876 **
14880.0000	-13.0000	-38.1754 **	-37.5747 **
16740.0000	-13.0000	-33.9847 **	-35.1636 **
18600.0000	-13.0000	-55.1025 **	-56.0093 **



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Fendi Wed, Aug 26, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.

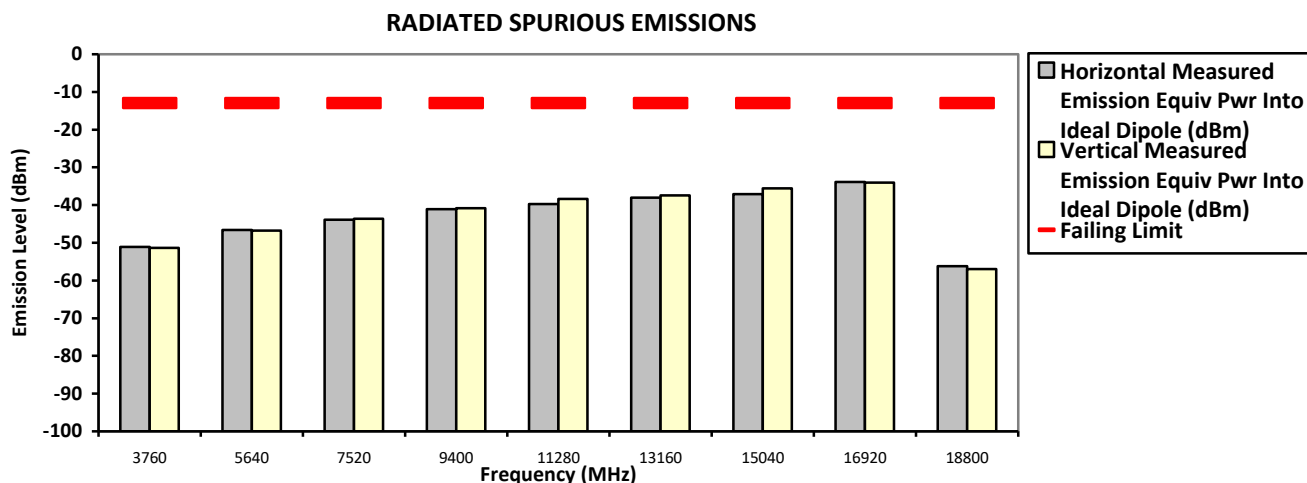
*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 24.5 Hum(%RH): 70.1

System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

SAC Transmitter Radiated Emission:
Model Number: AAH90ZDU9RH1AN **S/N: 734TWP0308** **SR:18058-EMC-00048**
Battery Part No: PMNN4804A **Accy Part No: AN000348A01**
Test Mode: TX LTE (Band 2) Z-Plane
1880.000000 MHz (Mid) **Bandwidth 10MHz** **0.317 Watt(s) /Max Power**

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
3760.0000	-13.0000	-51.1270 **	-51.3186 **
5640.0000	-13.0000	-46.5872 **	-46.7457 **
7520.0000	-13.0000	-43.9153 **	-43.6456 **
9400.0000	-13.0000	-41.0748 **	-40.8636 **
11280.0000	-13.0000	-39.7357 **	-38.3292 **
13160.0000	-13.0000	-38.0537 **	-37.4125 **
15040.0000	-13.0000	-37.0814 **	-35.5583 **
16920.0000	-13.0000	-33.8471 **	-34.0146 **
18800.0000	-13.0000	-56.1617 **	-56.9825 **



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Fendi Wed, Aug 26, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.

*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 24.5 Hum(%RH): 70.1

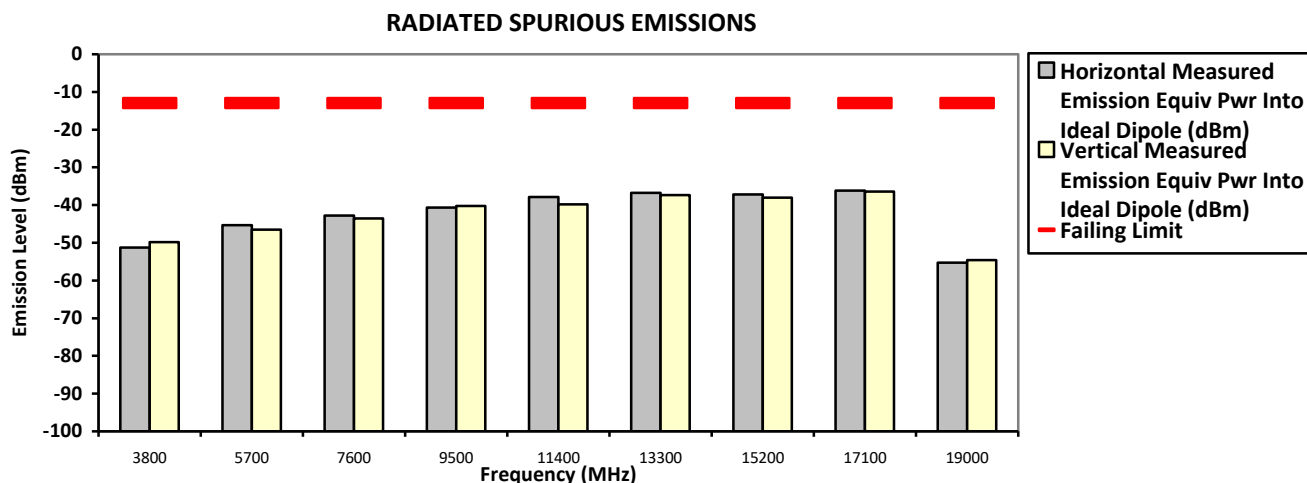
System MU: 4.03 dB

Remarks:

Passed Results	Marginal Results	Failed Results
----------------	------------------	----------------

Model Number: AAH90ZDU9RH1AN SAC Transmitter Radiated Emission: S/N: 734TWP0308 SR:18058-EMC-00048
Battery Part No: PMNN4804A Accy Part No: AN000348A01
Test Mode: TX LTE (Band 2) Z-Plane
1900.000000 MHz (High) Bandwidth 20MHz 0.317 Watt(s) /Max Power

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
3800.0000	-13.0000	-51.2784 **	-49.7905 **
5700.0000	-13.0000	-45.3186 **	-46.5342 **
7600.0000	-13.0000	-42.7839 **	-43.5282 **
9500.0000	-13.0000	-40.6451 **	-40.2144 **
11400.0000	-13.0000	-37.8310 **	-39.8543 **
13300.0000	-13.0000	-36.7447 **	-37.3585 **
15200.0000	-13.0000	-37.1693 **	-38.0538 **
17100.0000	-13.0000	-36.1716 **	-36.3806 **
19000.0000	-13.0000	-55.2551 **	-54.5551 **



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
Motorola Penang EMC Lab - Test Performed by: Nazrin&Fendi Wed, Aug 26, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.

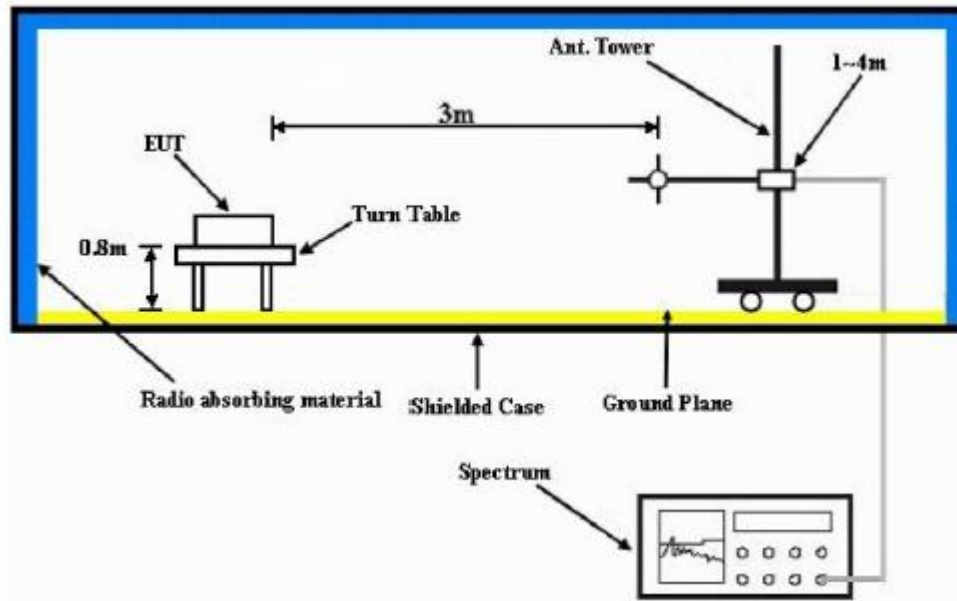
*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
Temp(Deg): 24.5 Hum(%RH): 70.1

System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

1.13. Equivalent Isotropically Radiated Power (EIRP)

1.13.1. Test Setup



- 1) The spectrum setting for scanning Radiated Emission below 1 GHz is RBW = 100 kHz, VBW = 300 kHz and above 1 GHz is RBW = 1MHz, VBW = 3MHz. Detector mode is RMS.
- 2) In the semi-anechoic chamber, setup as illustrated above the EUT placed on the Turn Table at 0.8m height for below 1Ghz measurement and at 1.5m height for above 1GHz measurement, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
- 3) The substitution antenna is substituted for EUT at the same position and signals generator (S.G) export the CW signal to the substitution antenna via a TX cable. The receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum radiation power. Record the power level of maximum radiation power from spectrum. So, the measured substitution value = Ref level of S.G + TX cables loss – Substituted Antenna Gain.
- 4) $EIRP = \text{“Read Value”} + \text{Measured substitution value.}$

1.13.2. Test Limit

Mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

1.13.3. Equivalent Isotropically Radiated Power (EIRP) - LTE Band 2 (1850 - 1910MHz)

Not Performed

--End of Test Report--