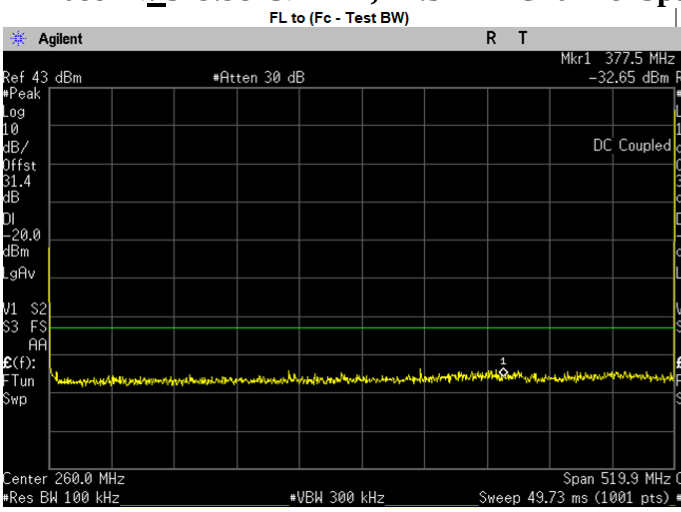
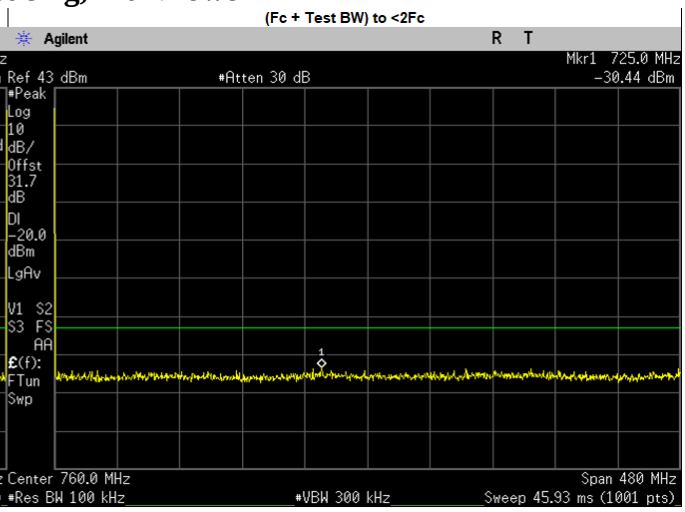
Phase II : 519.9875 MHz, 12.5 kHz Channel Spacing, Max Power

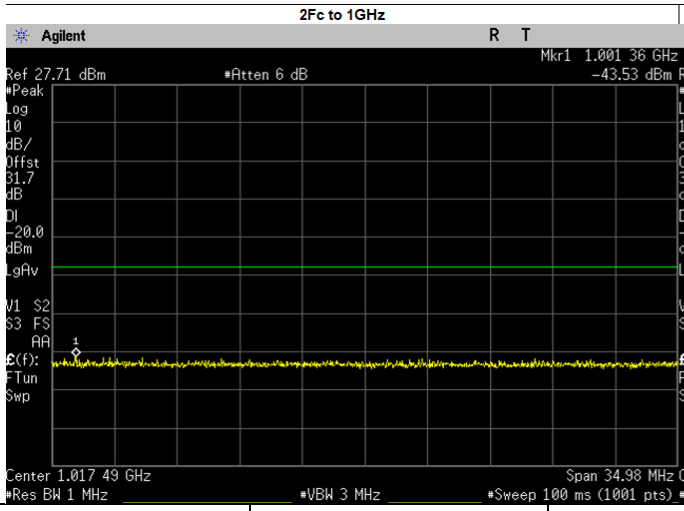
FL to (Fc - Test BW)



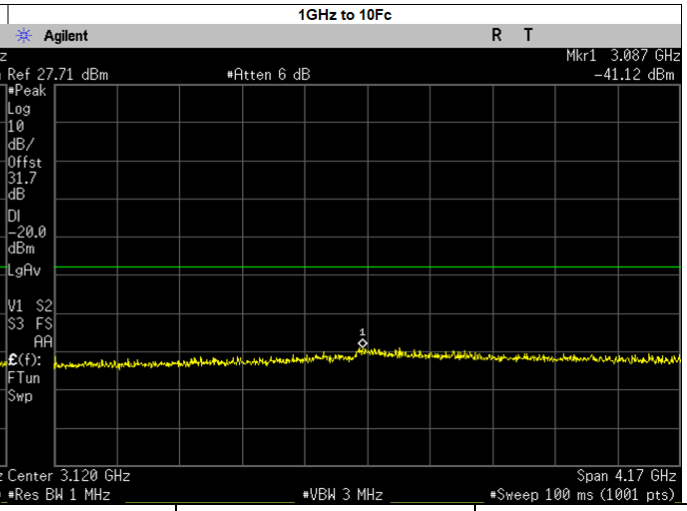
(Fc + Test BW) to <2Fc



2Fc to 1GHz



1GHz to 10Fc



Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	377.5000	-32.6490	-20.00	PASS
(Fc + Test BW) to <2Fc	724.9854	-30.4400	-20.00	PASS
2Fc to 1GHz	1001.3640	-43.5300	-20.00	PASS
1GHz to 10Fc	3086.5660	-41.1200	-20.00	PASS
	1039.9750	-44.1453	-20.00	PASS
	1559.9630	-46.2295	-20.00	PASS
	2079.9500	-45.2618	-20.00	PASS
	2599.9370	-44.5142	-20.00	PASS
	3119.9250	-42.5360	-20.00	PASS
	3639.9120	-43.6775	-20.00	PASS
	4159.9000	-43.7930	-20.00	PASS
	4679.8870	-44.1161	-20.00	PASS
	5199.8750	-43.6823	-20.00	PASS

6.10.4. Test Limit

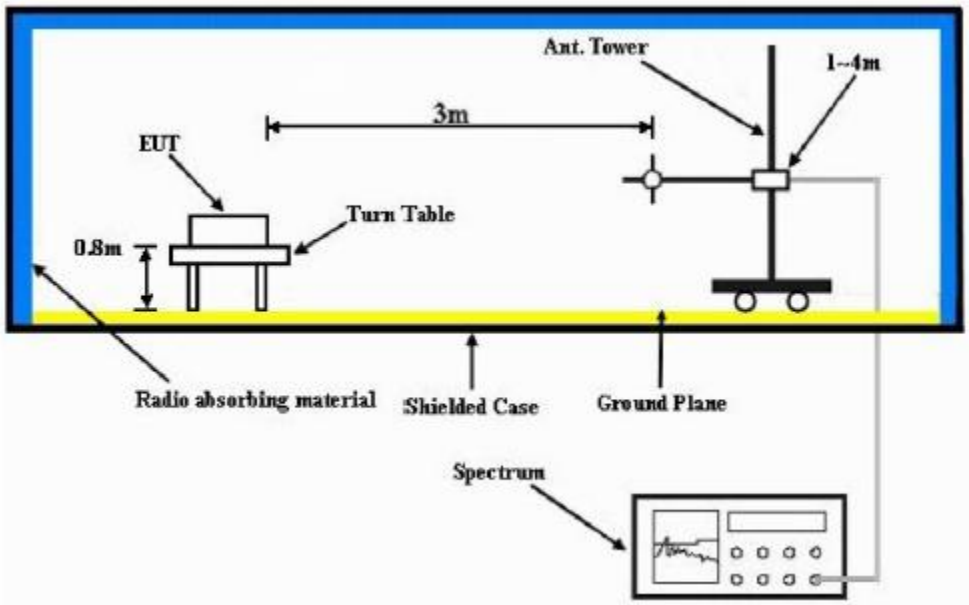
Table below summarized the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least

Channel Spacing	Part 22	Part 24D	Part 74	Part 80	Part 90 (UHF, VHF, 800, 900)	Part 90 (700)
12.5kHz	43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)	Not Applicable	50 + log10(P) (-20 dBm)	43 + log10(P) (-13 dBm)
25kHz		Not Applicable		43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)

Channel Spacing	RSS 134	RSS 182	RSS 119 (UHF, VHF, 800, 900)	RSS 119 (700)
12.5kHz	43 + log10(P) (-13 dBm)	Not Applicable	50 + log10(P) (-20 dBm)	43 + log10(P) (-13 dBm)
25kHz	Not Applicable	43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)

6.11. Radiated Spurious Emission

6.11.1. Test Setup



1) The Resolution Bandwidth for scanning Radiated Emission below 1 GHz is 100 kHz with Video Bandwidth = 300 kHz and Resolution Bandwidth for above 1 GHz is 1 MHz with Video Bandwidth = 3 MHz. Detector mode is positive peak.
2) In the semi- anechoic chamber, setup as illustrated above the DUT placed on the 0.8m height (for Fc < 1GHz) or 1.5m height (for Fc > 1GHz) of Turn Table, 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 DUT 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.

6.11.2. Test Result (Analog)

SAC Transmitter Radiated Emission:

Model Number: H91TGD9PW9AN **S/N: 581TWT0057** **SR:09377-EMC-00027**

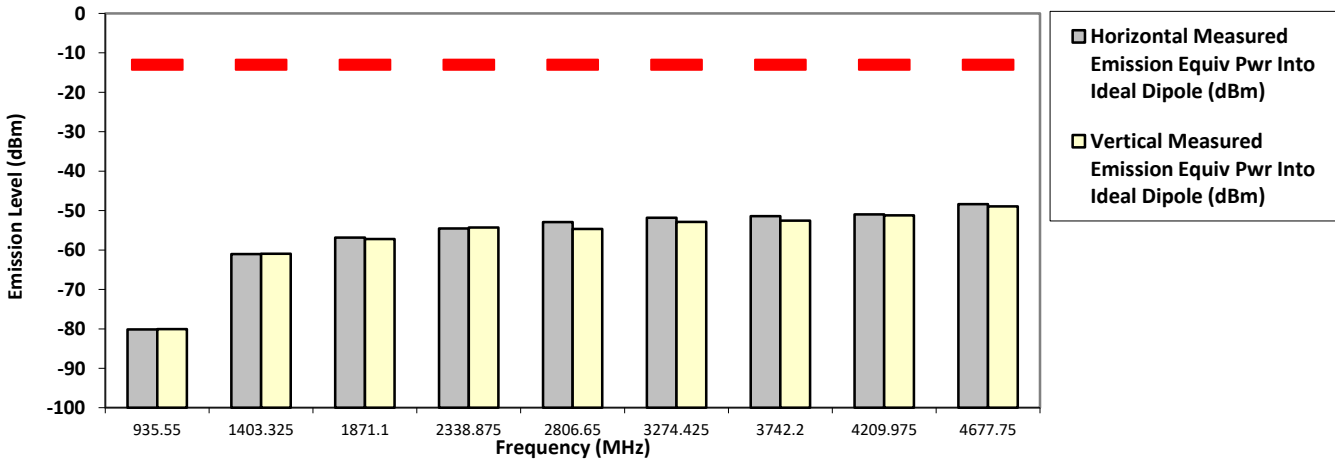
Battery Part No: PMNN4487A **Accy Part No: NA**

Test Mode: TX Analog

467.775000 MHz **25 kHz** **5.700 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)
935.5500	-13.0000	-80.1518 **	-80.0401 **
1403.3250	-13.0000	-61.0273 **	-60.9362 **
1871.1000	-13.0000	-56.8505 **	-57.2336 **
2338.8750	-13.0000	-54.5529 **	-54.3076 **
2806.6500	-13.0000	-52.8933 **	-54.6510 **
3274.4250	-13.0000	-51.8162 **	-52.8614 **
3742.2000	-13.0000	-51.3989 **	-52.5340 **
4209.9750	-13.0000	-50.9711 **	-51.2175 **
4677.7500	-13.0000	-48.3683 **	-48.9270 **

RADIATED SPURIOUS EMISSIONS



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: Qawiman&Fendi **Wed, 30 Sep, 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): 24.1 Hum(%RH): 69.8

System MU: 4.03 dB

Remarks:

Passed Results	**Marginal Results**	**Failed Results**

SAC Transmitter Radiated Emission:

Model Number: H91TGD9PW9AN **S/N: 581TWT0057** **SR:09377-EMC-00027**

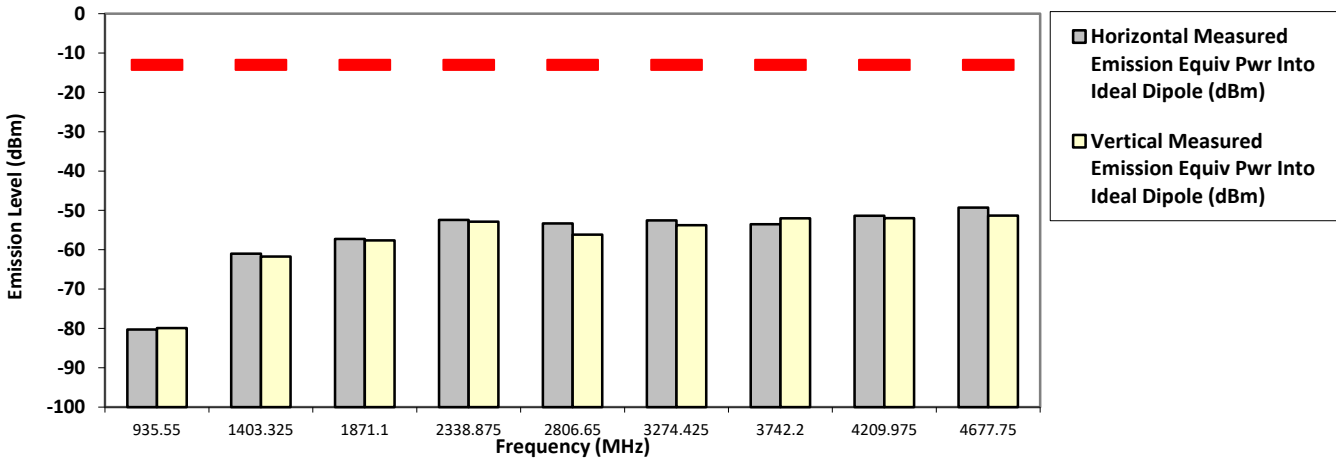
Battery Part No: PMNN4487A **Accy Part No: NA**

Test Mode: TX Analog

467.775000 MHz **25 kHz** **1.000 Watt(s) /Low Power**

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
935.5500	-13.0000	-80.2764 **	-79.9000 **
1403.3250	-13.0000	-60.9991 **	-61.7517 **
1871.1000	-13.0000	-57.2652 **	-57.6106 **
2338.8750	-13.0000	-52.4233 **	-52.8699 **
2806.6500	-13.0000	-53.3062 **	-56.1512 **
3274.4250	-13.0000	-52.5385 **	-53.7627 **
3742.2000	-13.0000	-53.5106 **	-52.0261 **
4209.9750	-13.0000	-51.3509 **	-51.9758 **
4677.7500	-13.0000	-49.2815 **	-51.3072 **

RADIATED SPURIOUS EMISSIONS



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: Qawiman&Fendi **Wed, 30 Sep, 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): 24.1 Hum(%RH): 69.8

System MU: 4.03 dB

Remarks:

Passed Results	**Marginal Results**	**Failed Results**

6.11.3. Test Result (Digital)

Not Applicable.

6.11.4. Test Limit

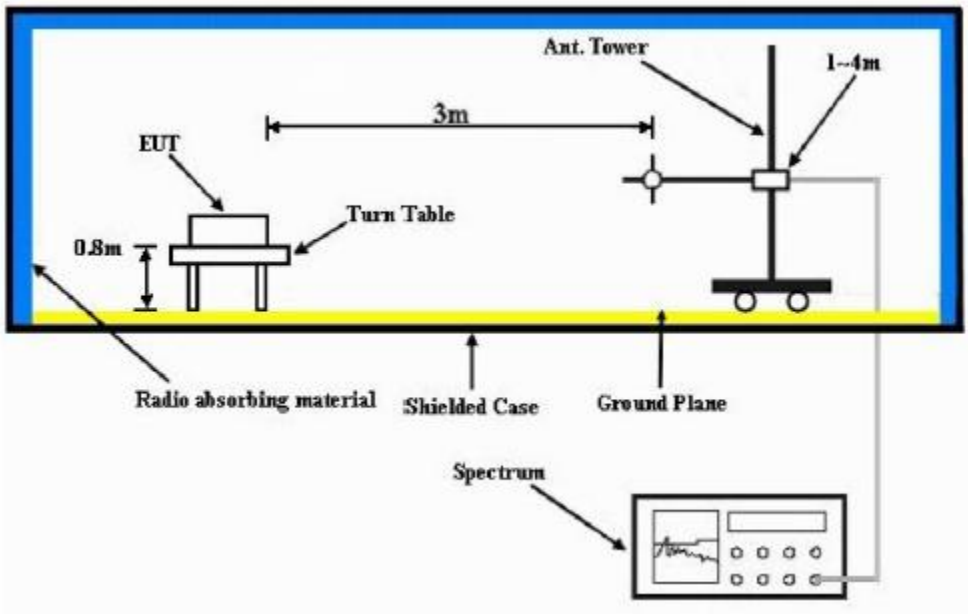
Table below summarized the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least

Channel Spacing	Part 22	Part 24D	Part 74	Part 80	Part 90 (UHF, VHF, 800, 900)	Part 90 (700)
12.5kHz	43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)	Not Applicable	50 + log10(P) (-20 dBm)	43 + log10(P) (-13 dBm)
25kHz		Not Applicable		43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)

Channel Spacing	RSS 134	RSS 182	RSS 119 (UHF, VHF, 800, 900)	RSS 119 (700)
12.5kHz	43 + log10(P) (-13 dBm)	Not Applicable	50 + log10(P) (-20 dBm)	43 + log10(P) (-13 dBm)
25kHz	Not Applicable	43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)

6.12. Effective Radiated Power (ERP)

6.12.1. Test Setup



1) The Resolution Bandwidth for Equivalent Radiated Power (ERP) below 1 GHz is 100 kHz with Video Bandwidth = 300 kHz and Resolution Bandwidth for EIRP above 1 GHz is 1 MHz with Video Bandwidth = 3 MHz. Detector Mode is RMS.
2) In the semi-anechoic chamber, setup as illustrated above the DUT placed on the 0.8m height (for Fc < 1GHz) or 1.5m (for Fc > 1GHz) of Turn Table, rotated the table 45 degree each interval 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 for each degree interval. The "Read Value" is the spectrum reading of maximum power value.
3) The substitution antenna is substituted for DUT 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

6.12.2. Test Result

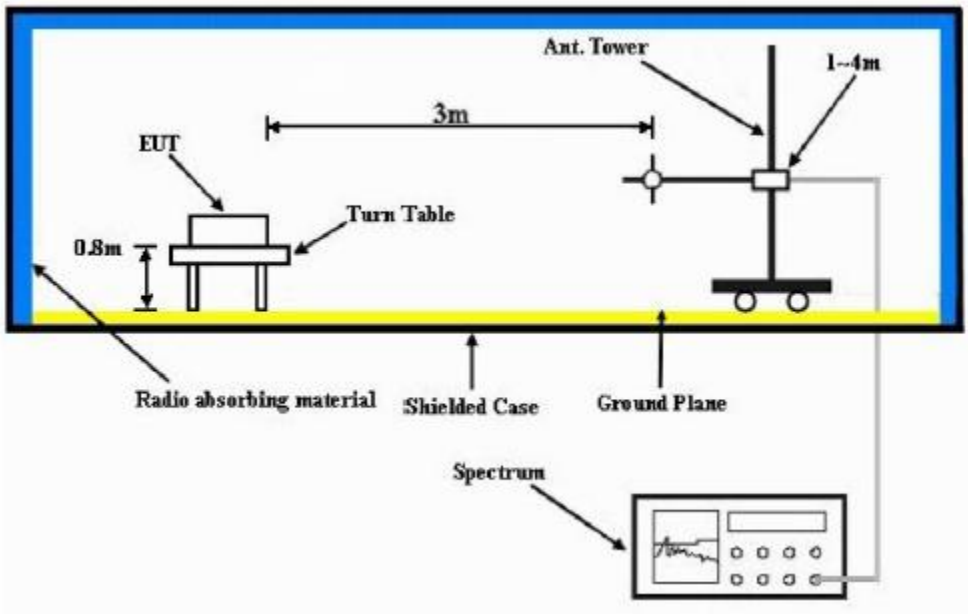
Not Applicable.

6.12.3. Test Limit

The maximum output power of the transmitter for mobile stations is 100 watts (20 dB). Power is given in terms of effective radiated power (ERP).

6.13. GNSS (EIRP for 1559 - 1610MHz)

6.13.1. Test Setup



4) The Resolution Bandwidth for Equivalent Isotropically Radiated Power (EIRP) below 1 GHz is 100 kHz with Video Bandwidth = 300 kHz and Resolution Bandwidth for EIRP above 1 GHz is 1 MHz with Video Bandwidth = 3 MHz. Detector Mode is RMS.
5) In the semi-anechoic chamber, setup as illustrated above the DUT placed on the 0.8m height of Turn Table, rotated the table 45 degree each interval 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 for each degree interval. The “Read Value” is the spectrum reading of maximum power value.
6) The substitution antenna is substituted for DUT 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.
7) EIRP = “Read Value” + Measured substitution value + 2.15.

6.13.1. Test Result

Not Applicable

6.13.2. Test Limit

For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

~ End of Test Report ~