

 MOTOROLA SOLUTIONS	 TESTING CERT # 2786.01																						
MOTOROLA PENANG ADV. COMM. LABORATORY Motorola Solutions Malaysia Sdn Bhd, Plot 2, Bayan Lepas Industrial Park, Mukim 12 S.W.D, 11900 Bayan Lepas, Penang, Malaysia.	FCC TEST REPORT Report Revision : Rev.A																						
<table><tr><td>Date/s Tested</td><td>: 17-July-2016 to 21-July-2016</td></tr><tr><td>Manufacturer/Location</td><td>: Others - Vertex Standard LMR, Inc.</td></tr><tr><td>Requestor</td><td>: TOSHIYUKI OWAKI</td></tr><tr><td>Product Type</td><td>: Portable</td></tr><tr><td>Model Number</td><td>: EVX-261-G7-5</td></tr><tr><td>Frequency Band</td><td>: 450MHz - 520MHz</td></tr><tr><td>Rated / Max RF Output Power</td><td>: 1-5 Watts / 5.5 Watts</td></tr><tr><td>Applicant Name</td><td>: Vertex Standard USA, Inc</td></tr><tr><td>Applicant Address</td><td>: 8000 West Sunrise Blvd, Plantation Florida, 33322</td></tr><tr><td>FCC Registrations</td><td>: 772092</td></tr></table> The equipment was tested accordance to the requirement listed below: <table><tr><td>(LMR) FCC 47 CFR Part 90</td><td>PASS</td></tr></table>		Date/s Tested	: 17-July-2016 to 21-July-2016	Manufacturer/Location	: Others - Vertex Standard LMR, Inc.	Requestor	: TOSHIYUKI OWAKI	Product Type	: Portable	Model Number	: EVX-261-G7-5	Frequency Band	: 450MHz - 520MHz	Rated / Max RF Output Power	: 1-5 Watts / 5.5 Watts	Applicant Name	: Vertex Standard USA, Inc	Applicant Address	: 8000 West Sunrise Blvd, Plantation Florida, 33322	FCC Registrations	: 772092	(LMR) FCC 47 CFR Part 90	PASS
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(LMR) FCC 47 CFR Part 90	PASS																						
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Prepared By: Azil Ezzaddin Khalil Technician	Approved By: Tey Pei Loo Responsible Engineer																						

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1.0 General Information

EUT Description:

Technologies	LMR
Modulation Type	FM, TDMA

The EUT tested with the following accessory:

Item	Brand	Model or P/N
HI-CAP 2,300mAh	MOTOROLA	FNB-V134LI-UNI

General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, the EUT is to comply with the requirements of the following standards:

ANSI/TIA/-603-D
ANSI C63.4.2014
TIA-102 CCAA-A
TIA-102 CAAB-D
TIA-102 CAAA-D

2.0 Summary of Test Results

FCC General Rules Part (47CFR)	IC General Rules Part	Test Item	Result
2.1053, 90.210	RSS 119	Radiated Spurious Emission	Pass

3.0. Measurement Uncertainty

Measurement	Frequency	Expended Uncertainty (k=1.96) (±)
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	5.01
	200MHz ~ 1000MHz	5.01
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	5.01
	18GHz ~ 25GHz	5.01

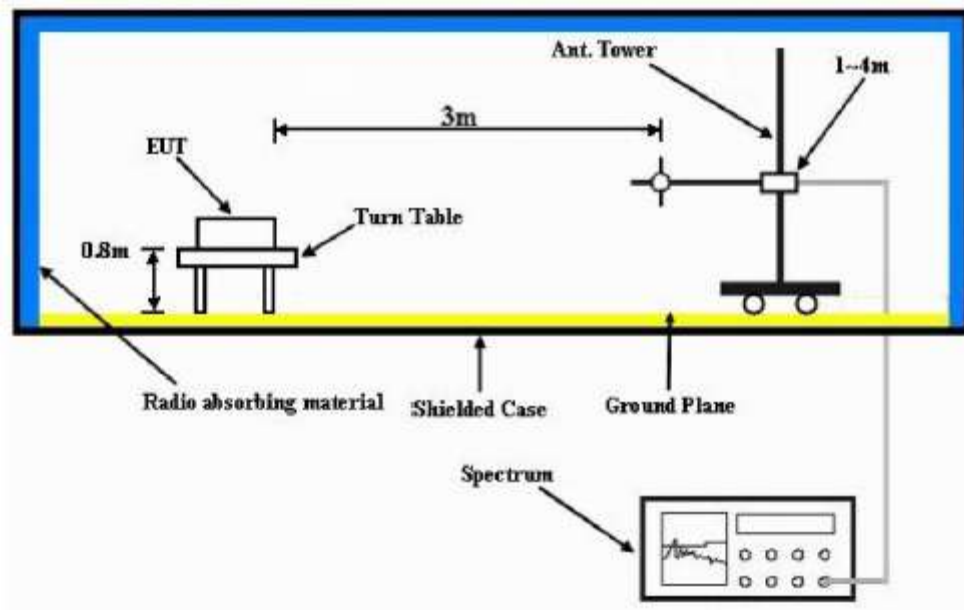
4. Equipment List

Description	Model	Serial Number	Calibration Date	Calibration Due Date
DRG Horn Freq.	SAS-571	566	2-Aug-15	2-Aug-16
Bilog Antenna	CBL6112B	2964	23-Jan-15	23-Jan-17
Power Supply	6031A	3121A02341	24-Feb-15	24-Feb-17
Microwave Signal Generator	SMP04	100131	5-Jul-16	5-Jul-17
EMI Test Receiver	ESIB26	827769/009	4-Jul-16	4-Jul-17
Signal Analyzer	FSV40	101103	25-Jun-16	25-Jun-17
5m Semi-Anechoic Chamber	S800-HX	J2308	29-Jul-16	29-Jul-17
Bilog Antenna	CBL6112D	25516	23-Jan-16	23-Jan-17
Broad-Band Horn Antenna	BBHA9170	BBHA9170143	24-Nov-15	24-Nov-16
Data Logger	TM320	12249289	27-Apr-16	27-Apr-17
Power Supply	6032A	3232A08417	20-Apr-15	20-Apr-17
System Controller	SC104V	050806-1	No Cal. Req'd	No Cal. Req'd
Turntable Flush Mount 2m	FM2011	NA	No Cal. Req'd	No Cal. Req'd
Antenna Positioning Tower	TLT2	NA	No Cal. Req'd	No Cal. Req'd
18 - 40ghz PREAMPLIFIER	BBV9721	9721-007	No Cal. Req'd	No Cal. Req'd
Preamplifier	PAM-0118	427	No Cal. Req'd	No Cal. Req'd

5.0. Transmitter Test Parameters

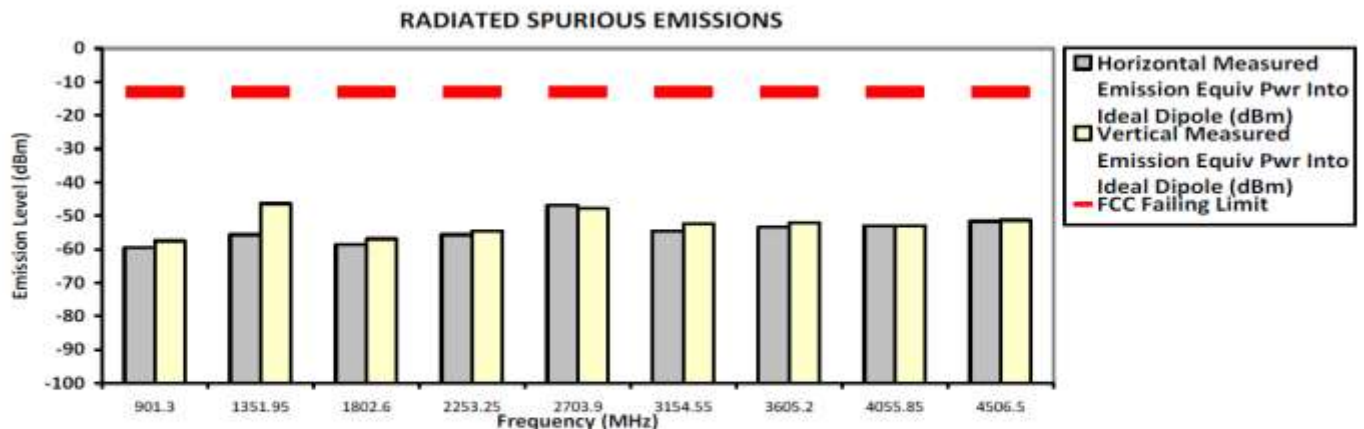
5.1 Radiated Spurious Emission

5.1.1 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 0.8m height 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 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.

450.650000 MHz	25 kHz	5.500 Watt(s) /Max Power
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[illegible]

The data presented here was taken using the substitution method as found in the TIA/EIA-603D document.
 Motorola Penang EMC Lab - Test Performed by: Qawliman&Nazrin Tue, Jul 19, 2016
 FCC Registration: 772092 Industry Canada: 109AK

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): 23.8 Hum(%RH): 75.4

System MU: 5.01 dB

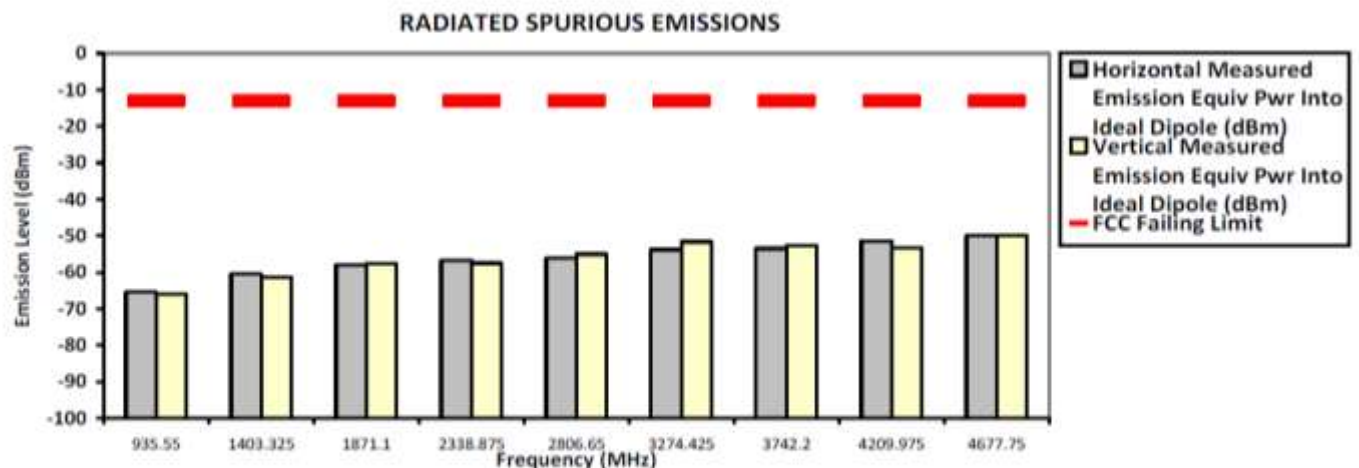
Remarks:	Passed Results	Marginal Results	Failed Results
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5.500 Watt(s) /Max Power

Failed Results

SAC Transmitter Radiated Emission: EVX-261-G7-5 450-520MHZ 5W
 Model #: EVX-261-G7-5 S/N: 2B6G110026 SR:05128-EMC-00001
 Battery Part No: FNB-V134LI-UNI Accy Part No: NA
 Test Mode: TX Analog
 467.775000 MHz 25 kHz 1.000 Watt(s) /Low Power

Frequency (MHz)	FCC Failing Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
935.5500	-13.0000	-65.4300 *	-66.0500 *
1403.3250	-13.0000	-60.5176 **	-61.3292 **
1871.1000	-13.0000	-58.0001 **	-57.7096 **
2338.8750	-13.0000	-56.7801 **	-57.4915 **
2806.6500	-13.0000	-56.0029 **	-54.9888 **
3274.4250	-13.0000	-53.6981 **	-51.5826 **
3742.2000	-13.0000	-53.5076 **	-52.7152 **
4209.9750	-13.0000	-51.3649 **	-53.2337 **
4677.7500	-13.0000	-49.9411 **	-49.9314 **



The data presented here was taken using the substitution method as found in the TIA/EIA-603D document.
 Motorola Penang EMC Lab - Test Performed by: Qawiman&Nazrin Tue, Jul 19, 2016
 FCC Registration: 772092 Industry Canada: 109AK

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

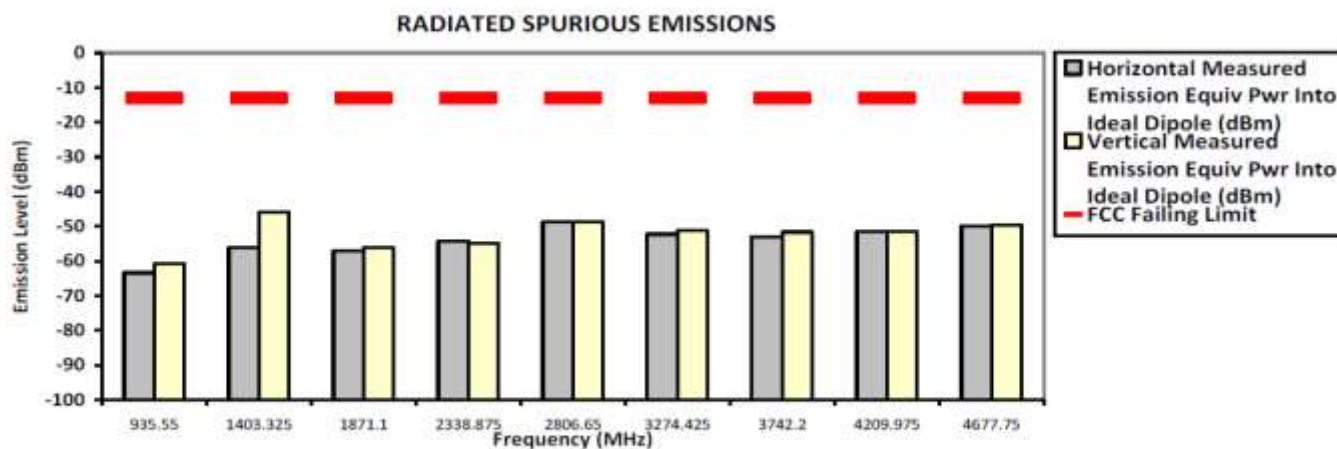
*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 23.8 Hum(%RH): 75.4

System MU: 5.01 dB

Remarks: Passed Results Marginal Results Failed Results

SAC Transmitter Radiated Emission: EVX-261-G7-5 450-520MHz 5W
Model #: EVX-261-G7-5 S/N: 2B6G110026 SR:05128-EMC-00001
Battery Part No: FNB-V134LI-UNI Accy Part No: NA
Test Mode: TX Analog
467.775000 MHz 25 kHz 5.500 Watt(s) /Max Power

Frequency (MHz)	FCC Failing Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
935.5500	-13.0000	-63.3200 *	-60.6700 *
1403.3250	-13.0000	-56.1000 *	-45.8200 *
1871.1000	-13.0000	-57.1072 **	-56.0104 **
2338.8750	-13.0000	-54.1372 **	-54.8603 **
2806.6500	-13.0000	-48.5900 *	-48.6800 *
3274.4250	-13.0000	-52.2325 **	-51.2196 **
3742.2000	-13.0000	-52.8718 **	-51.6082 **
4209.9750	-13.0000	-51.4560 **	-51.4760 **
4677.7500	-13.0000	-49.8032 **	-49.6508 **



The data presented here was taken using the substitution method as found in the TIA/EIA-603D document.

Motorola Penang EMC Lab - Test Performed by: Qawiman&Nazrin

Tue, Jul 19, 2016

FCC Registration: 772092

Industry Canada: 109AK

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): 23.8 Hum(%RH): 75.4

System MU: 5.01 dB

Remarks:

Passed Results

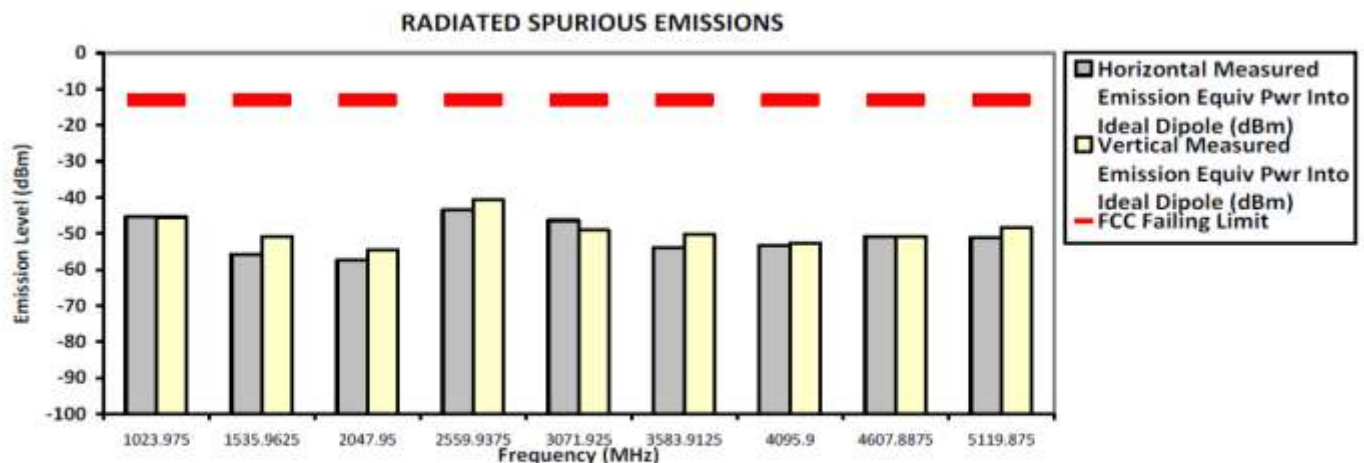
Marginal Results

Failed Results

1.000 Watt(s) /Low Power

SAC Transmitter Radiated Emission: EVX-261-G7-5 450-520MHZ 5W
Model #: EVX-261-G7-5 S/N: 2B6G110026 SR:05128-EMC-00001
Battery Part No: FNB-V134LI-UNI Accy Part No: NA
Test Mode: TX Analog
511.987500 MHz 25 kHz 5.500 Watt(s) /Max Power

Frequency (MHz)	FCC Failing Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
1023.9750	-13.0000	-45.3100 *	-45.4300 *
1535.9625	-13.0000	-55.7300 *	-50.7900 *
2047.9500	-13.0000	-57.3359 **	-54.5238 **
2559.9375	-13.0000	-43.3400 *	-40.5800 *
3071.9250	-13.0000	-46.3200 *	-49.0300 *
3583.9125	-13.0000	-53.8083 **	-50.2842 **
4095.9000	-13.0000	-53.2318 **	-52.7240 **
4607.8875	-13.0000	-50.7918 **	-50.7927 **
5119.8750	-13.0000	-51.0452 **	-48.3373 **



The data presented here was taken using the substitution method as found in the TIA/EIA-603D document.
Motorola Penang EMC Lab - Test Performed by: Qawiman&Nazrin Tue, Jul 19, 2016
FCC Registration: 772092 Industry Canada: 109AK

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

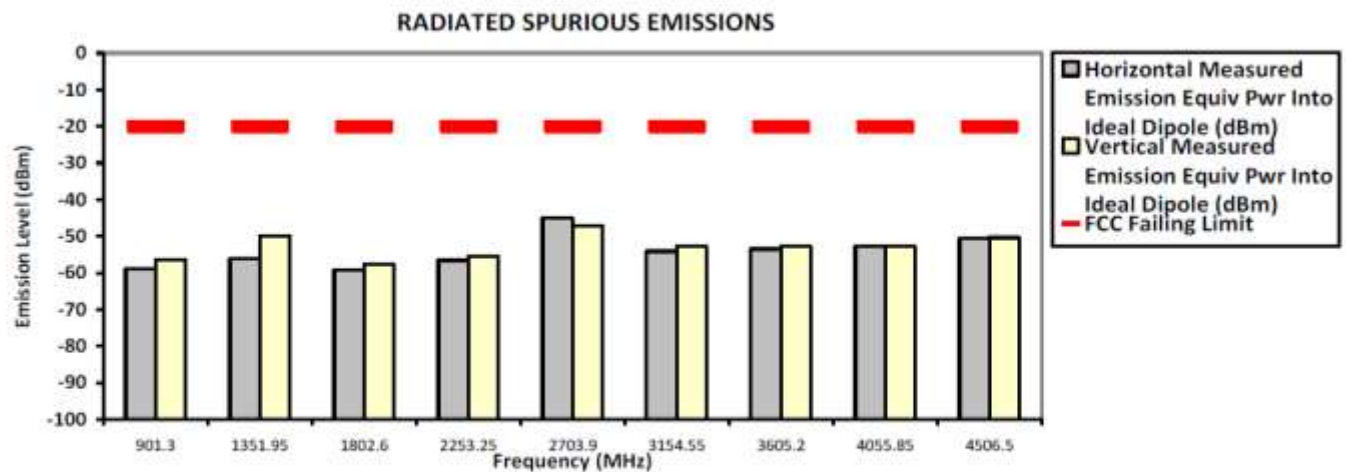
*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
Temp(Deg): 23.8 Hum(%RH): 75.4

System MU: 5.01 dB

Remarks: Passed Results Marginal Results Failed Results

5.500 Watt(s) /Max Power

450.650000 MHz	12.5 kHz	5.500 Watt(s) /Max Power
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[illegible]

The data presented here was taken using the substitution method as found in the TIA/EIA-603D document.

Motorola Penang EMC Lab - Test Performed by: Qawiman&Nazrin

Tue, Jul 19, 2016

FCC Registration: 772092

Industry Canada: 109AK

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): 23.8 Hum(%RH): 75.4

System MU: 5.01 dB

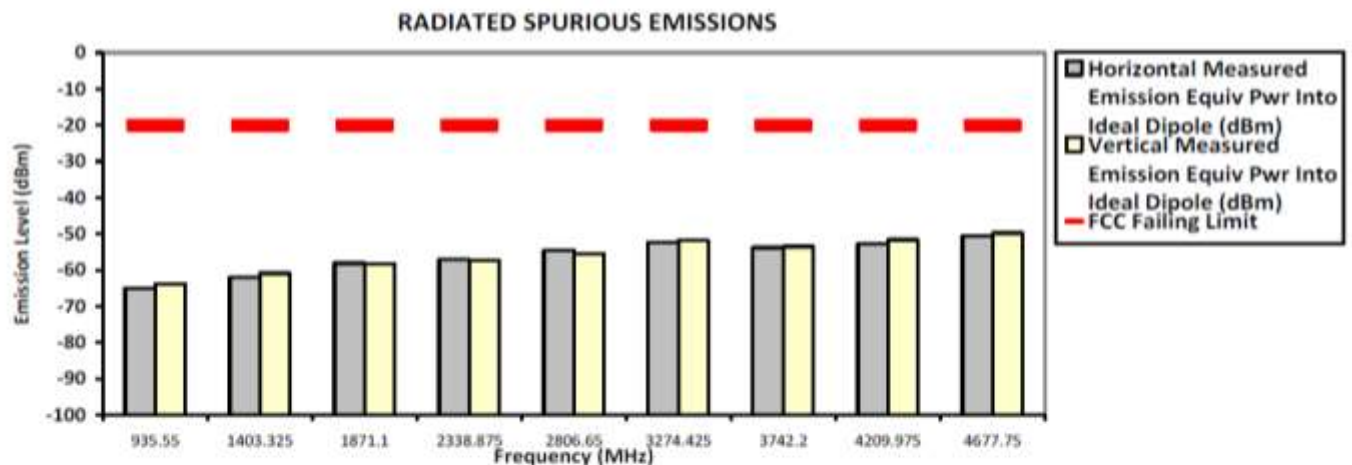
Remarks:

Passed Results

Marginal Results

Failed Results

467.775000 MHz	12.5 kHz	1.000 Watt(s) /Low Power
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[illegible]

The data presented here was taken using the substitution method as found in the TIA/EIA-603D document.
 Motorola Penang EMC Lab - Test Performed by: Qawiman&Nazrin Tue, Jul 19, 2016
 FCC Registration: 772092 Industry Canada: 109AK

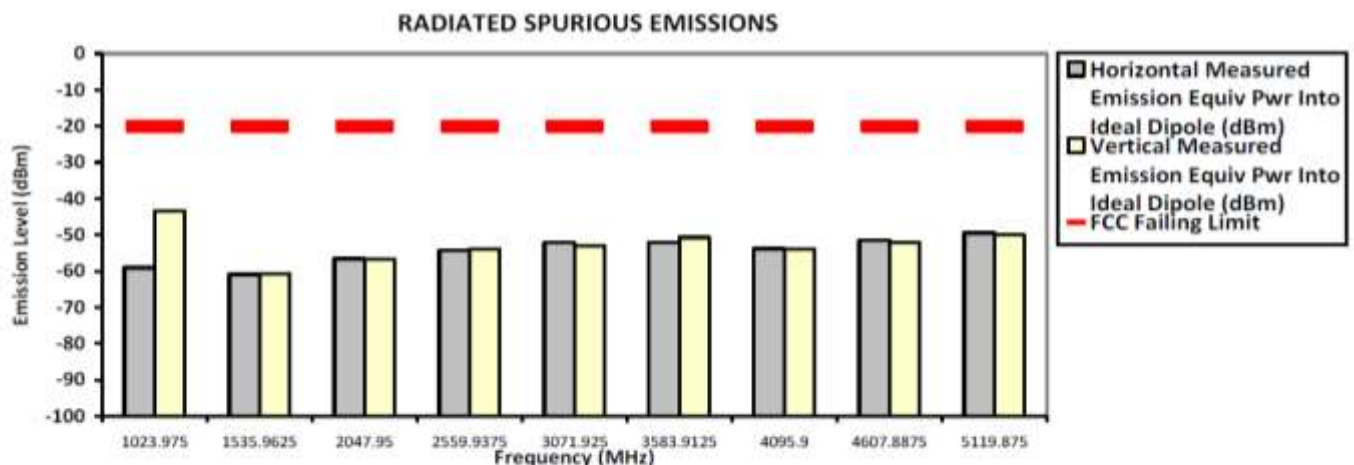
*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
Temp(Deg): 23.8 Hum(%RH): 75.4

System MU: 5.01 dB

Remarks:	Passed Results	Marginal Results	Failed Results
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5.500 Watt(s) /Max Power

511.987500 MHz	12.5 kHz	1.000 Watt(s) /Low Power
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[illegible]

The data presented here was taken using the substitution method as found in the TIA/EIA-603D document.

Motorola Penang EMC Lab - Test Performed by: Qawiman&Nazrin

Wed, Jul 20, 2016

FCC Registration: 772092

Industry Canada: 109AK

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

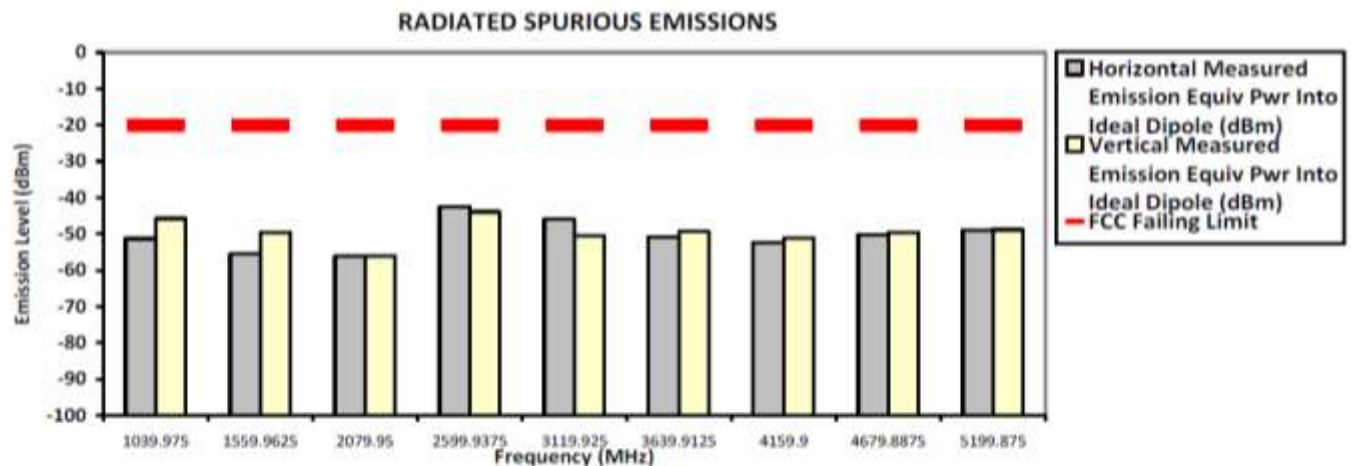
*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
Temp(Deg): 23.8 Hum(%RH): 75.4

System MU: 5.01 dB

Remarks:	Passed Results	Marginal Results	Failed Results
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5.500 Watt(s) /Max Power

519.987500 MHz 12.5 kHz 5.500 Watt(s) /Max Power

[illegible]

Wed, Jul 20, 2016

Industry Canada: 109AK

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): 23.8 Hum(%RH): 75.4

System MU: 5.01 dB

Remarks:

Passed Results

Marginal Results

Failed Results

6.0 Appendix: Test Setup Photo

6.1 Radiated Spur Emission Station Setup

