

	 TESTING CERT # 2786.01																						
MOTOROLA PENANG ADV. COMM. LABORATORY Motorola Solutions Malaysia Sdn Bhd, Plot 2A, Bayan Lepas Industrial Park, Mukim 12 S.W.D, 11900 Bayan Lepas, Penang, Malaysia.	FCC TEST REPORT Report Revision : Rev.B																						
<table><tr><td>Date/s Tested</td><td>: 01-August-2016 to 03-August-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-D0-5</td></tr><tr><td>Frequency Band</td><td>: 136MHz - 174MHz</td></tr><tr><td>Rated / Max RF Output Power</td><td>: 1-5 Watts / 5.5 Watts (Analog) 1-5 Watts / 5.5 Watts (Digital)</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	: 01-August-2016 to 03-August-2016	Manufacturer/Location	: Others - Vertex Standard LMR, Inc.	Requestor	: TOSHIYUKI OWAKI	Product Type	: Portable	Model Number	: EVX-261-D0-5	Frequency Band	: 136MHz - 174MHz	Rated / Max RF Output Power	: 1-5 Watts / 5.5 Watts (Analog) 1-5 Watts / 5.5 Watts (Digital)	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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Prepared By:  Digitally signed by Azil Ezzaddin Khalil DN: cn=Azil Ezzaddin Khalil, o, ou, email=TFDK36@motorolasolution .com, c=MY Date: 2016.09.01 18:01:29 +08'00' Azil Ezzaddin Khalil Technician	Approved By:  Digitally signed by Soon Oi May DN: cn=Soon Oi May, o=PSR, ou=Penang Advance Communication Lab, email=cos017@motorolasolutions. com, c=MY Date: 2016.09.05 09:46:22 +08'00' Soon Oi May Responsible Engineer																						

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REVISION HISTORY

Revision History	Description	Date	Originator
Rev. A	Initial Report	8-August-2016	Azil Ezzaddin Khalil
Rev. B	Add Remark on Test Data	1-September-2016	Azil Ezzaddin Khalil

1.0. General Information

EUT Description:

Technologies	LMR
Modulation Type	FM, TDMA

The EUT contains following accessory devices and data cable:

Item	Brand	Model or P/N
HI-CAP 2,300mAh battery	MOTOROLA	FNB-V142LI

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

4.0. Equipment List

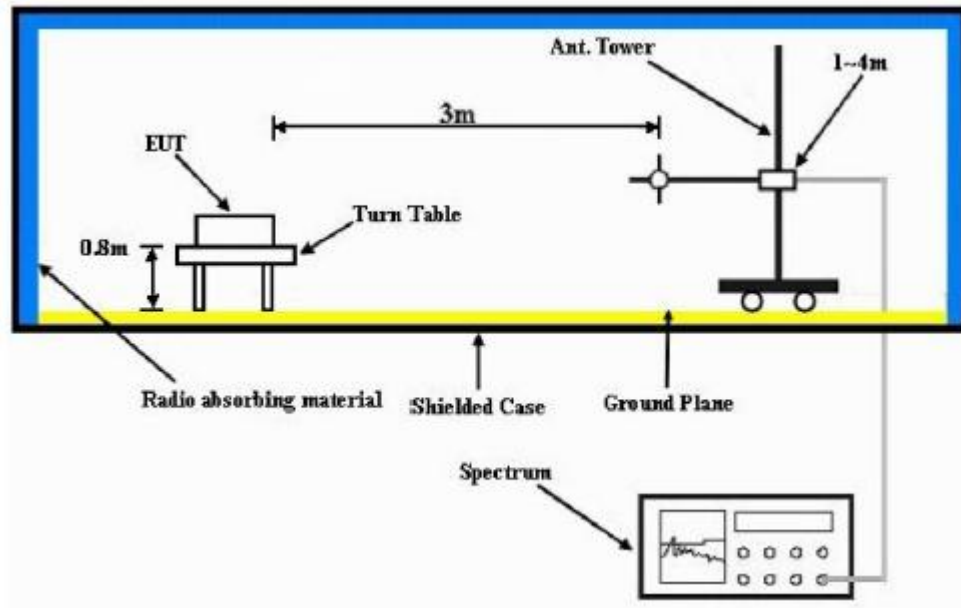
Radiated Emission Station

Description	Model	Serial Number	Calibration Date	Calibration Due Date
DRG HORN FREQ.	SAS-571	566	2-Aug-15	8-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	04-Jul-16	04-Jul-17
EMI TEST RECEIVER	ESIB26	827769/009	28-Jun-16	28-Jun-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

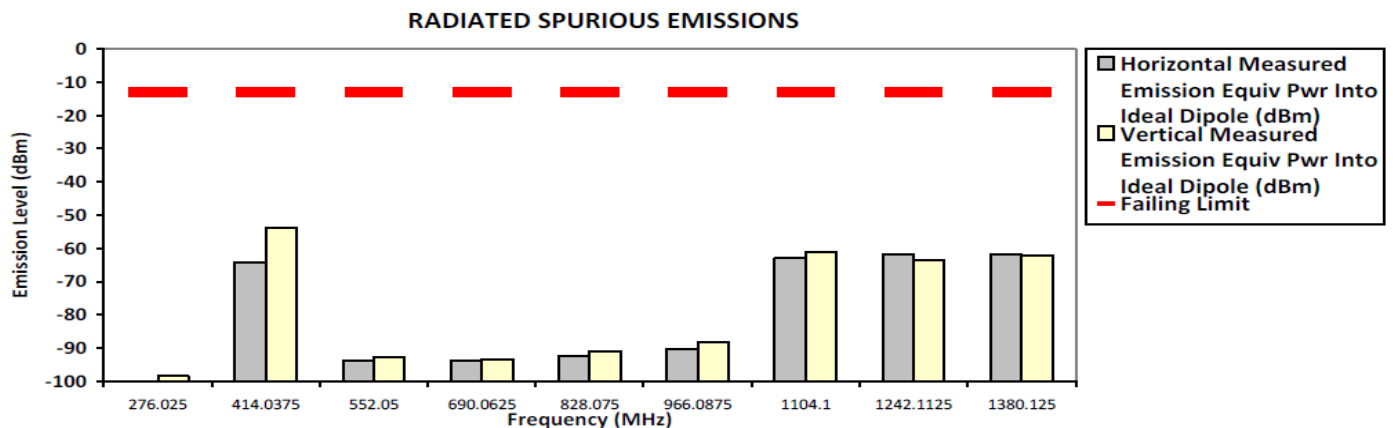
5.1. Radiated Spurious Emission

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.

Model #: EVX-261-D0-5 S/N: 2A6I030005 SR:05129-EMC-00002
Battery Part No: FNB-V134LI-UNI Accy Part No: NA
Test Mode: TX Analog
0 MHz 25 kHz 5.500 Watt(s) /Max Power

[illegible]

Temp(Deg): 24.1 Hum(%RH): 65.8

Failed Results

6

SAC Transmitter Radiated Emission: EVX-261-D0-5 136-174MHz 5W
 Model #: EVX-261-D0-5 S/N: 2A6I030005 SR:05129-EMC-00002
 Battery Part No: FNB-V134LI-UNI Accy Part No: NA

Test Mode: TX Analog

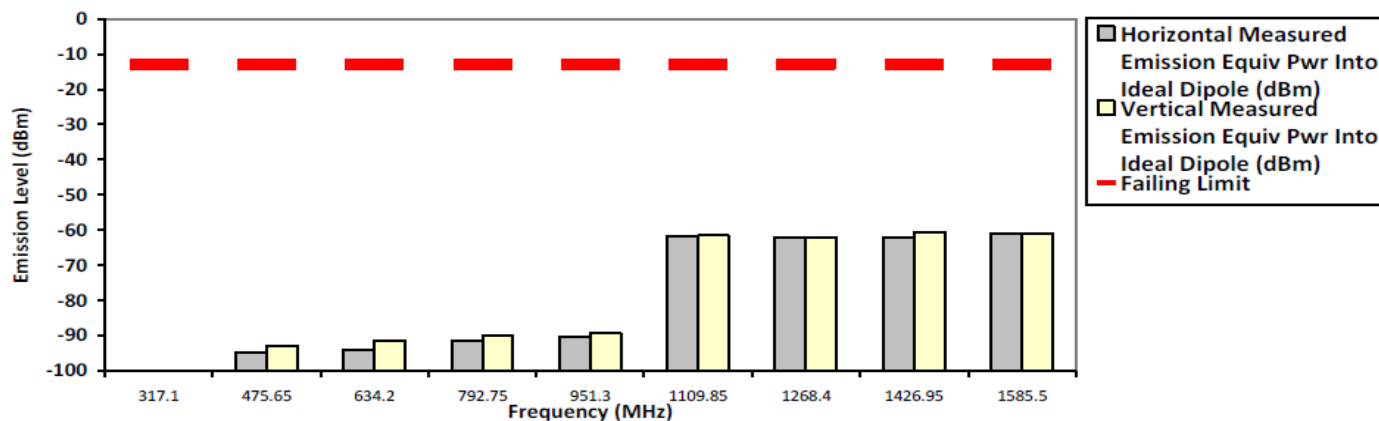
158.550000 MHz

25 kHz

1.000 Watt(s) /Low Power

Frequency (MHz)	Failing Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
317.1000	-13.0000	-100.1969 **	-100.2854 **
475.6500	-13.0000	-94.7598 **	-92.8355 **
634.2000	-13.0000	-94.0379 **	-91.4106 **
792.7500	-13.0000	-91.3175 **	-89.9862 **
951.3000	-13.0000	-90.4345 **	-89.3002 **
1109.8500	-13.0000	-61.7082 **	-61.5236 **
1268.4000	-13.0000	-62.0504 **	-62.1098 **
1426.9500	-13.0000	-62.0462 **	-60.6142 **
1585.5000	-13.0000	-61.0974 **	-60.9418 **

RADIATED SPURIOUS EMISSIONS



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: Nazrin&Qawiman

Wed, Aug 03, 2016

FCC Registration: 772092

Industry Canada: 109AK

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

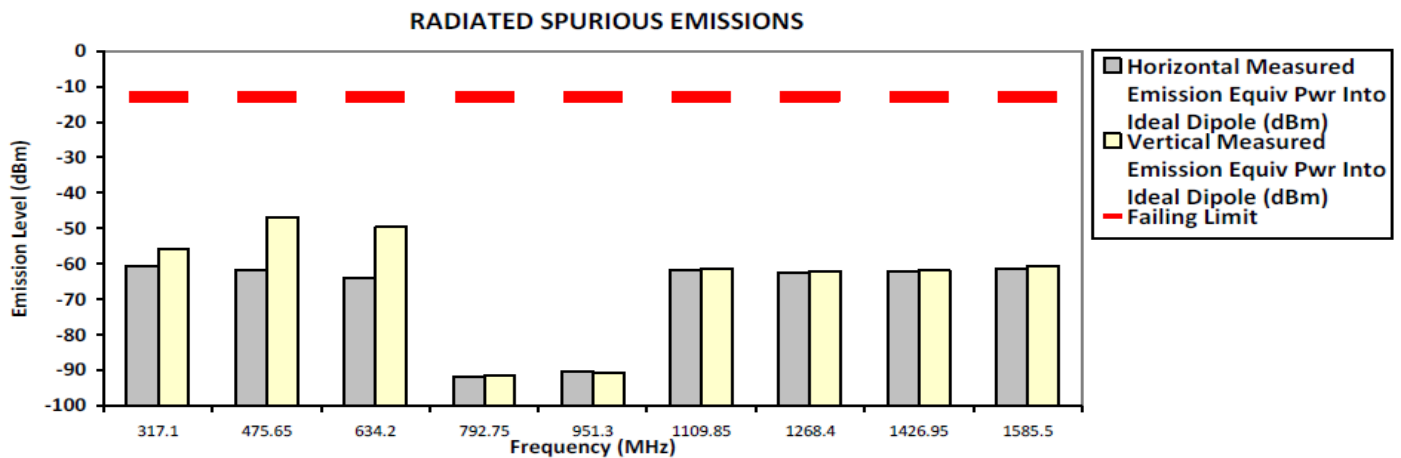
*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 24.1 Hum(%RH): 65.8

System MU: 5.01 dB

Remarks:

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

158.550000 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: Nazrin&Qawiman Wed, Aug 03, 2016
FCC Registration: 772092 Industry Canada: 109AK

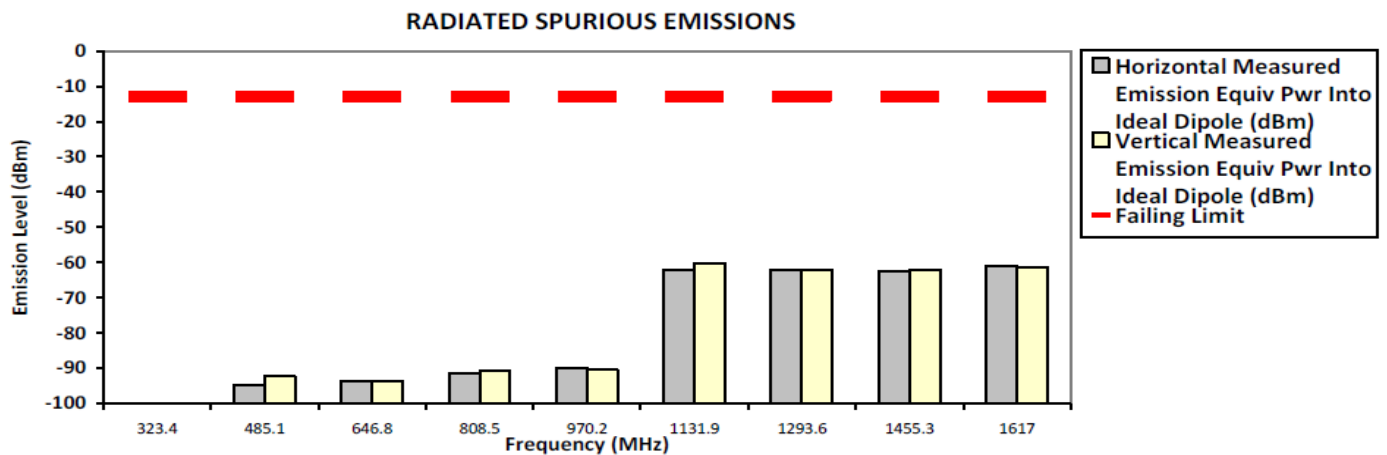
Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
Temp(Deg): 24.1 Hum(%RH): 65.8

System MU: 5.01 dB

Remarks:

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

161.700000 MHz 25 kHz 1.000 Watt(s) /Low Power

[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: Nazrin&Qawiman

Wed, Aug 03, 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

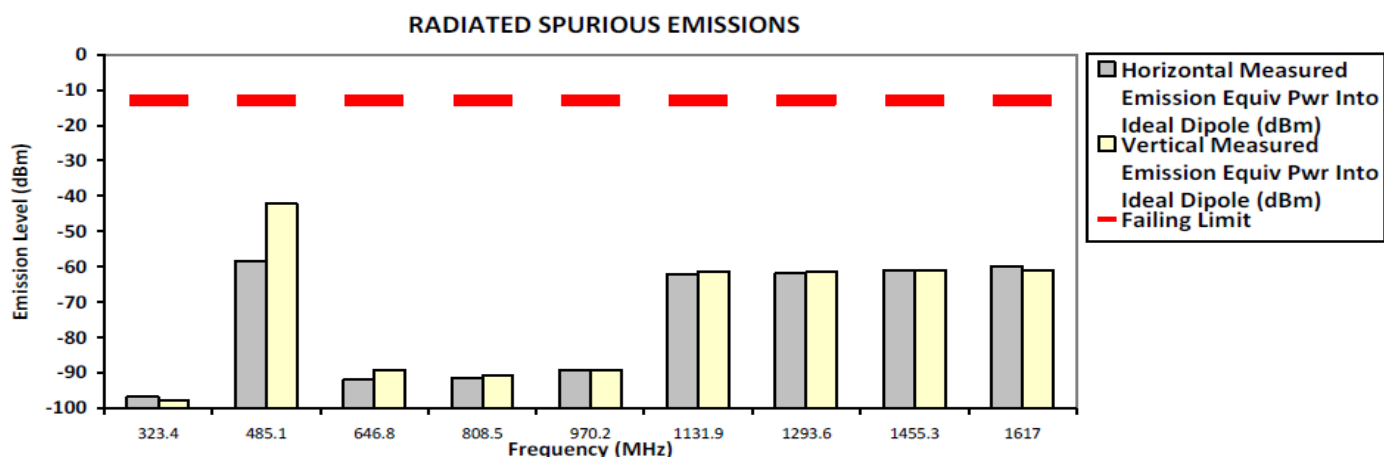
Temp(Deg): 24.1 Hum(%RH): 65.8

System MU: 5.01 dB

Remarks:

Passed Results	Marginal Results	Failed Results
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161.700000 MHz	25 kHz	5.500 Watt(s) /Max Power
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[illegible]

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

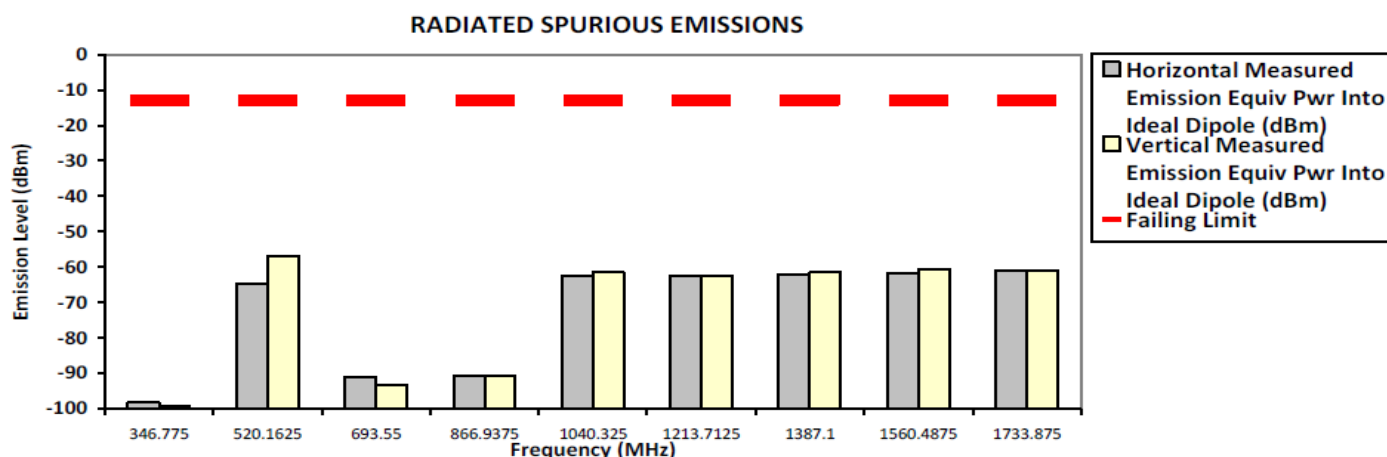
System MU: 5.01 dB

Passed Results

Marginal Results

Failed Results

173.387500 MHz	25 kHz	5.500 Watt(s) /Max Power
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[illegible]

*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): 65.8

Remarks:

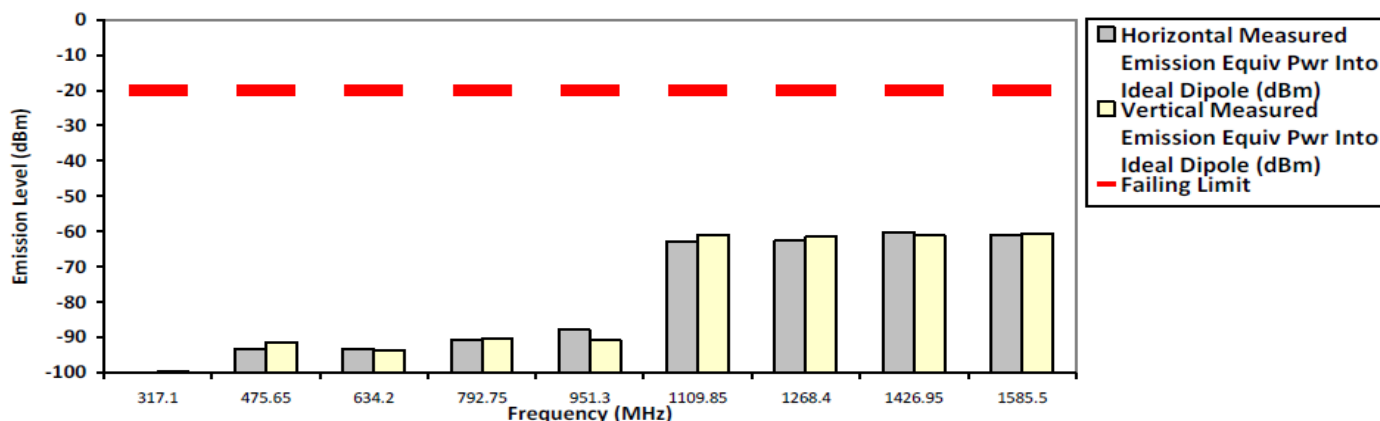
Passed Results	Marginal Results	Failed Results
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SAC Transmitter Radiated Emission: EVX-261-D0-5 136-174MHZ 5W
Model #: EVX-261-D0-5 S/N: 2A6I030005 SR:05129-EMC-00002
Battery Part No: FNB-V134LI-UNI Accy Part No: NA
Test Mode: TX Digital

158.550000 MHz 12.5 kHz 1.000 Watt(s) /Low Power

Frequency (MHz)	Failing Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
317.1000	-20.0000	-100.8205 **	-99.7276 **
475.6500	-20.0000	-93.2386 **	-91.4675 **
634.2000	-20.0000	-93.3336 **	-93.4838 **
792.7500	-20.0000	-90.6379 **	-90.2593 **
951.3000	-20.0000	-87.8316 **	-90.8092 **
1109.8500	-20.0000	-62.9244 **	-60.9833 **
1268.4000	-20.0000	-62.5669 **	-61.4939 **
1426.9500	-20.0000	-60.2037 **	-61.1212 **
1585.5000	-20.0000	-61.1454 **	-60.5233 **

RADIATED SPURIOUS EMISSIONS



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: Nazrin&Qawiman Wed, Aug 03, 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): 24.1 Hum(%RH): 65.8

System MU: 5.01 dB

Remarks:

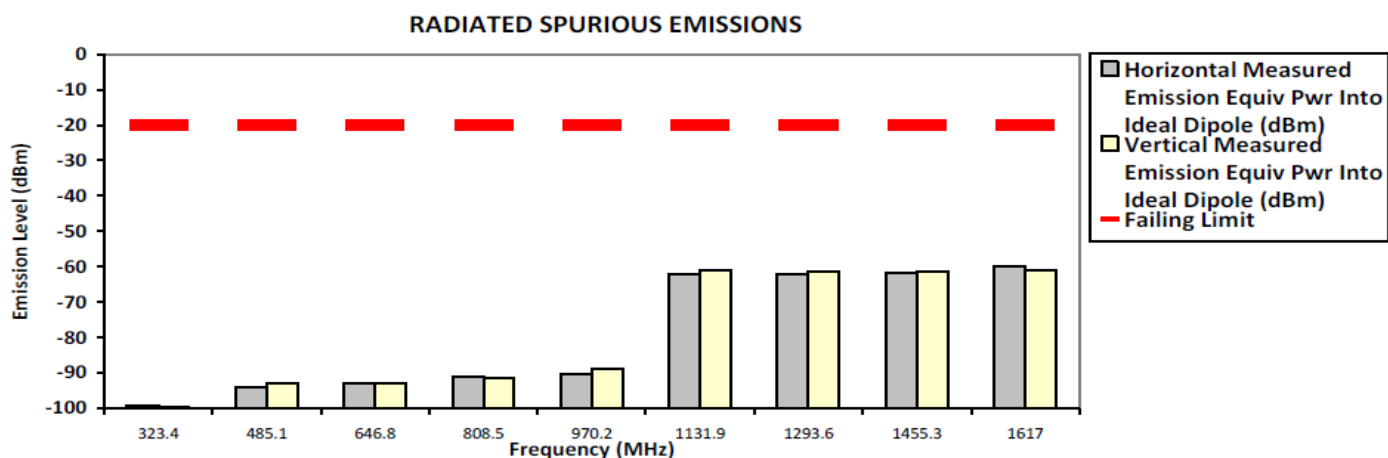
Passed Results	Marginal Results	Failed Results
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158.550000 MHz	12.5 kHz	5.500 Watt(s) /Max Power
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SAC Transmitter Radiated Emission: EVX-261-D0-5 136-174MHz 5W
 Model #: EVX-261-D0-5 S/N: 2A6I030005 SR:05129-EMC-00002
 Battery Part No: FNB-V134LI-UNI Accy Part No: NA
 Test Mode: TX Digital

161.700000 MHz 12.5 kHz 1.000 Watt(s) /Low Power

Frequency (MHz)	Failing Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
323.4000	-20.0000	-99.1584 **	-99.6359 **
485.1000	-20.0000	-93.9451 **	-92.8106 **
646.8000	-20.0000	-92.8519 **	-92.9334 **
808.5000	-20.0000	-91.1019 **	-91.3204 **
970.2000	-20.0000	-90.3774 **	-88.7337 **
1131.9000	-20.0000	-62.0799 **	-60.8235 **
1293.6000	-20.0000	-61.9375 **	-61.2451 **
1455.3000	-20.0000	-61.6082 **	-61.2995 **
1617.0000	-20.0000	-59.9791 **	-60.9377 **



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: Nazrin&Qawiman

Wed, Aug 03, 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): 24.1 Hum(%RH): 65.8

System MU: 5.01 dB

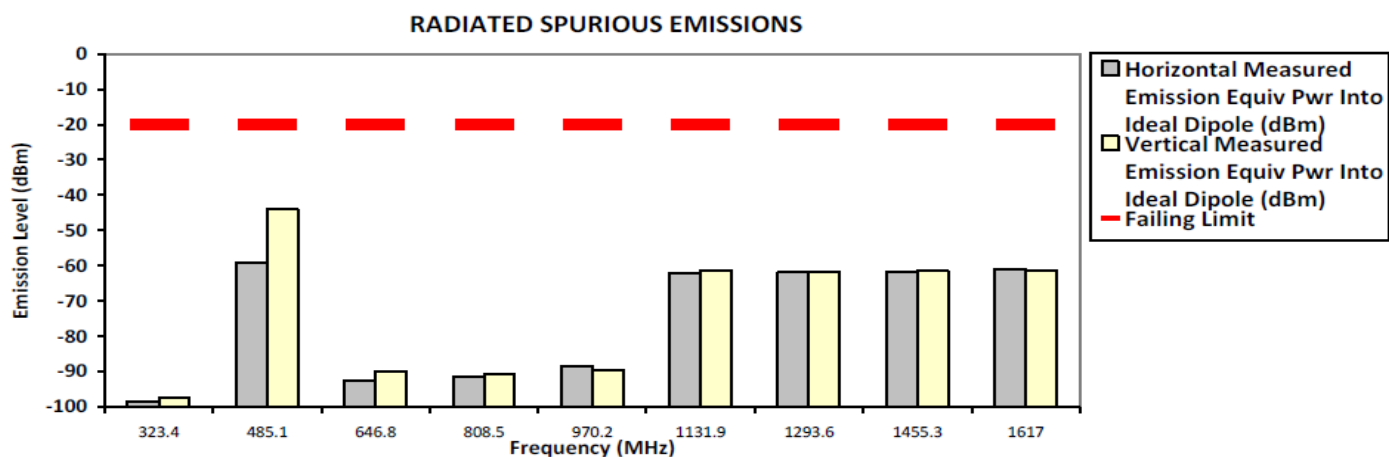
Remarks:

Passed Results

Marginal Results

Failed Results

161.700000 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: Nazrin&Qawiman

Wed, Aug 03, 2016

FCC Registration: 772092

Industry Canada: 109AK

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

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Temp(Deg): 24.1 Hum(%RH): 65.8

System MU: 5.01 dB

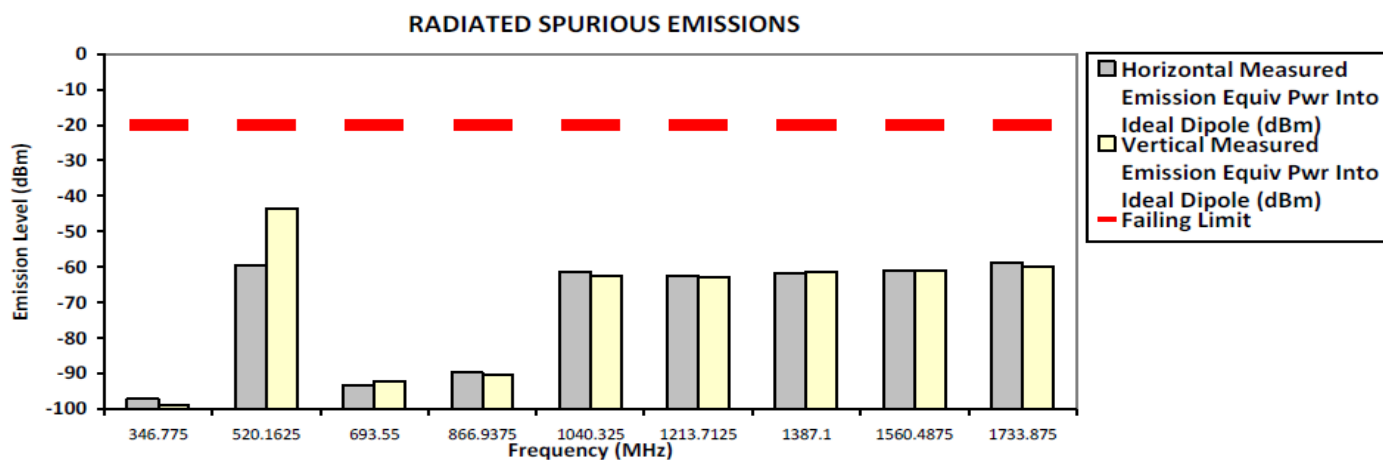
Remarks:

Passed Results	Marginal Results	Failed Results
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SAC Transmitter Radiated Emission: EVX-261-D0-5 136-174MHZ 5W
Model #: EVX-261-D0-5 S/N: 2A6I030005 SR:05129-EMC-00002
Battery Part No: FNB-V134LI-UNI Accy Part No: NA
Test Mode: TX Digital

173.387500 MHz 12.5 kHz 5.500 Watt(s) /Max Power

Frequency (MHz)	Failing Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
346.7750	-20.0000	-97.0511 **	-98.8193 **
520.1625	-20.0000	-59.5800 *	-43.4400 *
693.5500	-20.0000	-93.2067 **	-92.1243 **
866.9375	-20.0000	-89.6378 **	-90.1345 **
1040.3250	-20.0000	-61.2155 **	-62.3799 **
1213.7125	-20.0000	-62.5274 **	-62.8015 **
1387.1000	-20.0000	-61.6763 **	-61.2895 **
1560.4875	-20.0000	-60.9600 **	-60.9210 **
1733.8750	-20.0000	-58.7965 **	-59.7356 **



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: Nazrin&Qawiman Wed, Aug 03, 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): 24.1 Hum(%RH): 65.8

System MU: 5.01 dB

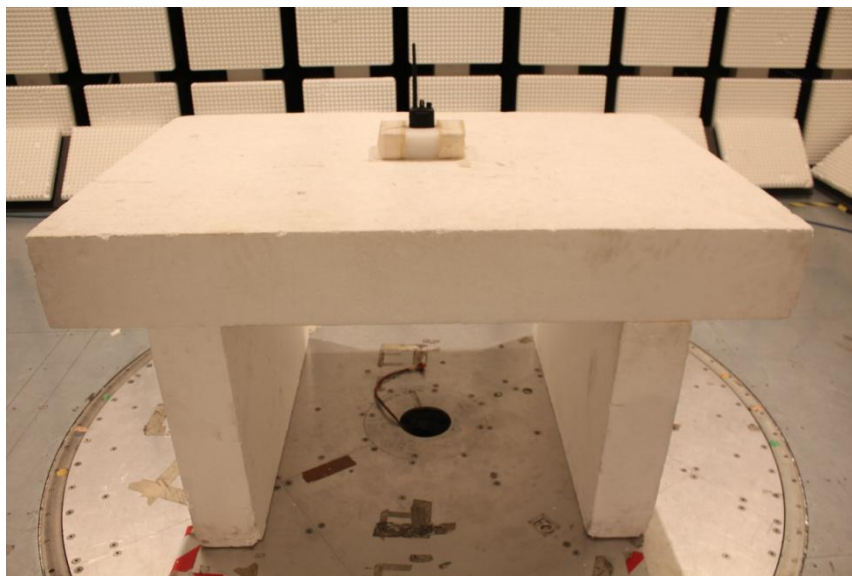
Remarks:

Passed Results	Marginal Results	Failed Results
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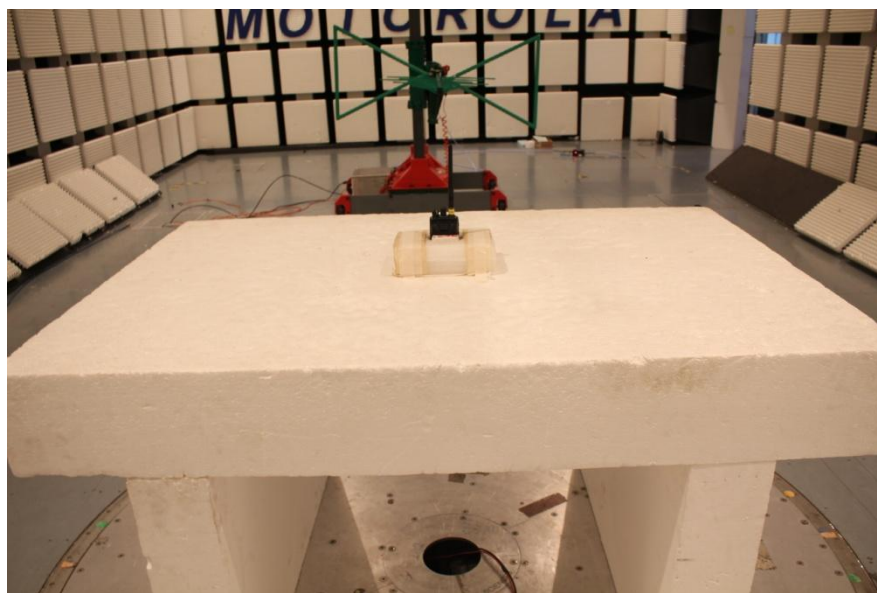
6.0. Appendix: Test Setup Photo

6.1. Radiated Spur Emission Station Setup

6.1.1. Radiated Emission - Photo Front View



6.1.2. Radiated Emission - Photo Rear View



End of Report