

 MOTOROLA SOLUTIONS	 MS ISO/IEC 17025 TESTING SAMM No. 0825																						
MOTOROLA PENANG ADV. COMM. LABORATORY Motorola Solutions Malaysia Sdn Bhd, Innoplex Plot 2A, Medan Bayan Lepas, Mukim 12 S.W.D, 11900 Bayan Lepas, Penang, Malaysia.	FCC / IC TEST REPORT Report Revision : Rev.B																						
<table><tr><td>Date/s Tested</td><td>: 20-Nov-2017 - 8-Feb-2018</td></tr><tr><td>Manufacturer/Location</td><td>: Motorola Solutions – Penang</td></tr><tr><td>Requestor</td><td>: RONI KOZIEL</td></tr><tr><td>Product Type</td><td>: LEX L11 Mission Critical LTE Device</td></tr><tr><td>Model Number</td><td>: LEX L11n</td></tr><tr><td>Frequency Band</td><td>: Refer to section 1.4</td></tr><tr><td>Applicant Name</td><td>: Motorola Solutions, Inc</td></tr><tr><td>Applicant Address</td><td>: 8000 West Sunrise Boulevard, Fort Lauderdale, Florida 33322</td></tr><tr><td>FCC Registrations</td><td>: 461337</td></tr><tr><td>IC Registrations</td><td>: 109AK</td></tr></table> The equipment was tested accordance to the requirement listed below: <table><tr><td>(UMTS Band 4) FCC 47 CFR Part 2 / 27 ISED RSS GEN Issue 4, November 2014 ISED RSS 139 Issue 3, July 2015</td><td>PASS</td></tr></table>		Date/s Tested	: 20-Nov-2017 - 8-Feb-2018	Manufacturer/Location	: Motorola Solutions – Penang	Requestor	: RONI KOZIEL	Product Type	: LEX L11 Mission Critical LTE Device	Model Number	: LEX L11n	Frequency Band	: Refer to section 1.4	Applicant Name	: Motorola Solutions, Inc	Applicant Address	: 8000 West Sunrise Boulevard, Fort Lauderdale, Florida 33322	FCC Registrations	: 461337	IC Registrations	: 109AK	(UMTS Band 4) FCC 47 CFR Part 2 / 27 ISED RSS GEN Issue 4, November 2014 ISED RSS 139 Issue 3, July 2015	PASS
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Prepared By:  Maheshvaran Rajagopal Technician	Approved By:  Goh Aik Hong Responsible Engineer																						

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REVISION HISTORY

Revision History	Description	Date	Originator
Rev A.	Initial Report	8-February-2018	Maheshvaran Rajagopal
Rev B.	i. Applicant name and address has been added. ii. The battery model number has been revised. iii. AC adapter accessories devices	30-May-2018	Maheshvaran Rajagopal

	information has been added. iv. The Test report number of page format is corrected. v. RSSs version standard have been added to the cover page. vi. Justification statement of accessory devices is included at section 1.5.		
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1.0. Summary of Test Results

FCC Clause	ISED Clause	Test Item	Results	Remarks
2.1046 27.50(d)(6)	RSS-Gen 6.12 RSS-139 4.1	Conducted RF Output Power	Pass	Meet the requirement of limit
27.50(d)(5)	RSS-139 6.5	Peak-to-Average Power Ratio	Pass	Meet the requirement of limit
2.1049 27.53(h)(3)	RSS-Gen 6.6	Occupied Bandwidth (26dBc, 99%)	Pass	Meet the requirement of limit
2.1055 27.54	RSS-139 6.4	Frequency Stability	Pass	Meet the requirement of limit
2.1051 27.53(h)(1)(3)	RSS-Gen 6.13 RSS-139 6.6	Band Edge Conducted Spurious Emission	Pass	Meet the requirement of limit
2.1051 27.53(h)(1)	RSS-Gen 6.13 RSS-139 6.6	Conducted Spurious Emissions	Pass	Meet the requirement of limit
2.1053 27.53 (h)	RSS-139 6.6	Radiated Spurious Emission	Pass	Meet the requirement of limit
2.1049 27.50(d)(4)	RSS-139 6.5	Equivalent Isotropically Radiated Power (EIRP)	Pass	Meet the requirement of limit

1.1. Measurement Uncertainty

Measurement	Frequency	Expanded 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

1.2. Equipment List

Description	Model	Serial Number	Calibration Date	Calibration Due Date
Broadband ATE 1				
Wideband Radio Communication Tester	CMW500	154550	14-Feb-17	14-Feb-19
Signal Analyzer	FSV40	101431	13-Jul-17	12-Jul-19
Chamber	SH-641	92002651	6-Mar-17	6-Mar-18
Power Supply	6621A	US37370810	5-Jun-17	5-Jun-18
Radiated Emission				
DRG HORN FREQ.	SAS-571	719	18-Jul-17	18-Jul-19
DRG HORN FREQ.	SAS-571	720	2-Mar-17	2-Mar-19

POWER SUPPLY	6032A	2615A01178	6-Jun-17	6-Jun-18
MICROWAVE SIGNAL GENERATOR	SMP04	100127	19-Jul-17	18-Jul-18
EMI TEST RECEIVER	ESIB26	100336	13-Jul-17	12-Jul-18
SIGNAL ANALYZER	FSV40	101103	18-Jul-17	17-Jul-18
5m Semi-anechoic Chamber	S800-HX	J2308	Not Required	Not Required
BILOG ANTENNA	CBL6112B	2950	23-Feb-16	23-Feb-18
BILOG ANTENNA	CBL6112B	2964	3-Feb-17	3-Feb-18
BROAD-BAND HORN ANTENNA	BBHA9170	BBHA9170143	20-Mar-17	10-Apr-18
DATA LOGGER	SDL500	A.016776	18-Mar-17	18-Mar-18
LOOP ANTENNA	6502	208416	27-Jul-17	27-Jul-18
SYSTEM CONTROLLER	SC104V	050806-1	Not Required	Not Required
TURNTABLE FLUSH MOUNT 2M	FM2011	NA	Not Required	Not Required
ANTENNA POSITIONING TOWER	TLT2	NA	Not Required	Not Required
18 - 40GHz PREAMPLIFIER	BBV9721	9721-007	Not Required	Not Required
PREAMPLIFIER	PAM-0118P	361	Not Required	Not Required
Wideband Radio Communication Tester	CMW500	153174	9-Jan-17	9-Jan-19

1.3. General Information

General Description of EUT

Product	LEX L11 Mission Critical LTE Device	
Brand	Motorola Solutions	
Test Model	LEX L11n	
Power Supply Rating	3.7Vdc (Battery), 5Vdc (Adapter)	
Mode of operation	UMTS Band 4 (RMC 12.2kbps, HSDPA, HSUPA)	
Modulation Type	QPSK	
Operating Frequency	UMTS Band 4	1712.4MHz~1752.6MHz
Max. EIRP Power	UMTS Band 4 (RMC 12.2kbps)	24.68dBm (0.294W)
Antenna Type	UMTS Band 4	Monopole with 1.59dBi gain
SW Version	L11_D01.00.28	
HW Version	P3a	

Note:

1. The EUT contains following accessory devices and data cable.

Item	Brand	Model or P/N	Specification
Rechargeable Lithium ion battery	Motorola Solutions	PMNN4545A	2500mAH 3.7V LI-ION STD
Rechargeable Lithium ion battery	Motorola Solutions	PMNN4546A	5000mAH 3.7V LI-ION HICAP
Charger Vehicular Adapter VPA	Motorola Solutions	PMLN7779A	18W
Power Supply Adaptor, Power supply Wall cube, AC, DC (USB type A-C)	Motorola Solutions	PS000150A31 - US/JPN plug	7.5W, 100V-240V
Power Supply Adaptor (USB type C-C)	Motorola Solutions	PS000278A01 - US/JPN plug	27W

Detachable Power/Data Cable USB-A to USB-C	Motorola Solutions	CB000756A01	-
Detachable Power/Data Cable USB-C to USB-C	Motorola Solutions	CB000754A01	-

Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	Product	Brand	Model No.	Serial No.	FCC ID
1	Wideband Radio Communication Tester	R&S	CMW500	154550	NA

NO.	Signal Cable Description of The above Support Units
1	NA

Note:

1. All power cords of the above support units are non-shielded.
2. Item 1 acted as a communication partner to transfer data.

EUT Operating Conditions

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency.

General Description of Applied Standards

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

FCC 47 CFR Part 2

FCC 47 CFR Part 27

KDB 971168 D01 Power Meas License Digital Systems v03r01

KDB 971168 D02 Misc OOB License Digital Systems v02r01

ANSI C63.26-2015

NOTE: All test items have been performed and recorded as per the above standards.

1.4. Channel number and frequency info

Band	Available Channel Number	Test Channel Number			Test Channel Frequency (MHz)		
		Low Channel	Mid Channel	High Channel	Low Channel	Mid Channel	High Channel
UMTS Band 4	1312~1513	1312	1413	1513	1712.4	1732.6	1752.6

1.5. Test Mode Applicability and Tested Channel Detail

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The Radiated Emission worst case was found when positioned on X-Plane for UMTS Band 4.

Pre-scan also have been conducted with the accessory devices listed in section table 1.3, only the worst case radiated emission results of the combination test configuration is reported in this report.

The following channel(s) was (were) selected for the final test as listed below:

UMTS Band 4

Test Item	Available Channel	Tested Channel	Modulation	Mode
Conducted RF Output Power	1312~ 1513	1312, 1413, 1513	QPSK	All Modes, per table 1.6.3
Peak to Average Power Ratio	1312~ 1513	1312, 1413, 1513	QPSK	RMC 12.2kbps
Occupied Bandwidth	1312~ 1513	1312, 1413, 1513	QPSK	RMC 12.2kbps
Frequency Stability	1312~ 1513	1413	QPSK	RMC 12.2kbps
Band Edge Conducted Spurious Emission	1312~ 1513	1312, 1513	QPSK	RMC 12.2kbps
Conducted Spurious Emission	1312~ 1513	1312, 1413, 1513	QPSK	RMC 12.2kbps
Radiated Spurious Emission	1312~ 1513	1312, 1413, 1513	QPSK	RMC 12.2kbps
Equivalent Isotropically Radiated Power (EIRP)	1312~ 1513	1312, 1413, 1513	QPSK	All Modes, per table 1.6.4

NOTE:

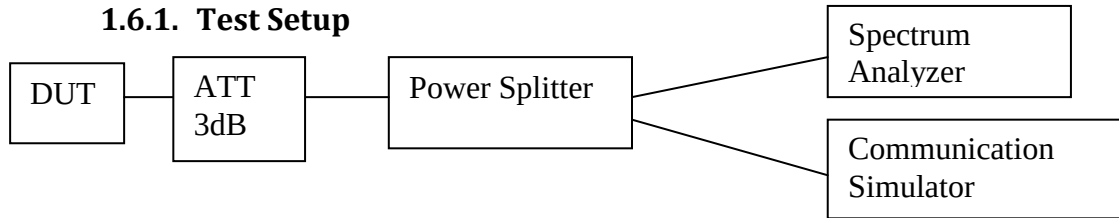
1. Pre-test was performed on Peak to Average Power ratio, occupied bandwidth, Band edge conducted spurious emission, Conducted spurious emission and RMC 12.2kbps was selected for final results reporting because it is the worst case.
2. Effective Isotropically Radiated power (EIRP) was calculated from the all modes of Conducted RF Output Power results.

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
Conducted RF Output Power/ Equivalent Isotropically Radiated Power (EIRP)	25°C, 50% RH	3.7V DC	Maheshvaran
Peak-to-Average Power Ratio	25°C, 50% RH	3.7V DC	Maheshvaran
Occupied Bandwidth	25°C, 50% RH	3.7V DC	Maheshvaran
Frequency Stability	25°C, 50% RH	3.7V DC	Maheshvaran
Band Edge Conducted Spurious Emission	25°C, 50% RH	3.7V DC	Maheshvaran
Conducted Spurious Emission	25°C, 50% RH	3.7V DC	Maheshvaran
Radiated Spurious Emission	25°C, 63.7% RH	3.7V DC	Nazrin/Qawiman

1.6. Conducted RF Output Power

1.6.1. Test Setup



1. The DUT transmitter output port was connected to communication simulator with above setup.
2. Path loss for the measurement included.
3. Set DUT to transmit maximum power through communication simulator
4. All the measurement was done at low, mid, high channel for each band and different modulation.
5. Record the average power into the test report.

1.6.2. Test Limits

FCC: Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.
 ISSED: The equivalent isotropically radiated power (e.i.r.p.) for mobile and portable transmitters shall not exceed one watt.

1.6.3. Conducted RF Output Power – UMTS Band 4 (1710-1755MHz)

Conducted Output Power (dBm)				
	Test Mode	Conducted Output Power (dBm)		
		Low CH	Mid CH	High CH
		1312	1413	1513
		1712.4 MHz	1732.6 MHz	1752.6 MHz
RMC 12.2kbps	RMC 12.2Kbps Test Loop 1	22.945	23.09	22.905
HSDPA	Sub-test 1	21.937	21.697	21.9
	Sub-test 2	21.946	21.834	21.897
	Sub-test 3	21.446	21.26	21.403
	Sub-test 4	21.418	21.236	21.371
HSUPA	Sub-test 1	21.99	22.19	21.96
	Sub-test 2	19.99	20.07	19.91
	Sub-test 3	20.93	21.24	20.94
	Sub-test 4	19.96	19.71	19.96
	Sub-test 5	21.96	22.15	21.94

1.6.4. Equivalent Isotropically Radiated Power (EIRP)

EIRP (dBm)				
	Test Mode	Conducted Output Power (dBm)		
		Low CH	Mid CH	High CH
		1312	1413	1513
		1712.4 MHz	1732.6 MHz	1752.6 MHz
RMC 12.2kbps	RMC 12.2Kbps Test Loop 1	24.535	24.68	24.495
HSDPA	Sub-test 1	23.527	23.287	23.49
	Sub-test 2	23.536	23.424	23.487
	Sub-test 3	23.036	22.85	22.993
	Sub-test 4	23.008	22.826	22.961
HSUPA	Sub-test 1	23.58	23.78	23.55
	Sub-test 2	21.58	21.66	21.5
	Sub-test 3	22.52	22.83	22.53
	Sub-test 4	21.55	21.3	21.55
	Sub-test 5	23.55	23.74	23.53

The maximum ERP/EIRP from the measured RF output power is given in Equation as follows:

$$\text{EIRP} = \text{P}_{\text{Meas}} + \text{G}_T$$

$$\text{ERP} = \text{EIRP} - 2.15$$

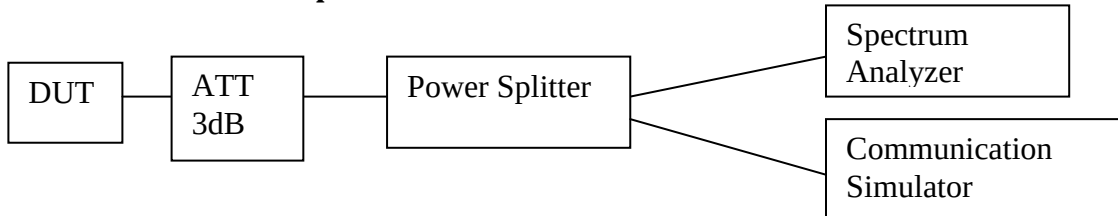
Where, ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively
 (Expressed in the same units as P_{Meas} , e.g., dBm)

P_{Meas} measured transmitter output power, in dBm

G_T gain of the transmitting antenna, in dBi (EIRP)

1.7. Peak-to-Average Power Ratio

1.7.1. Test Setup



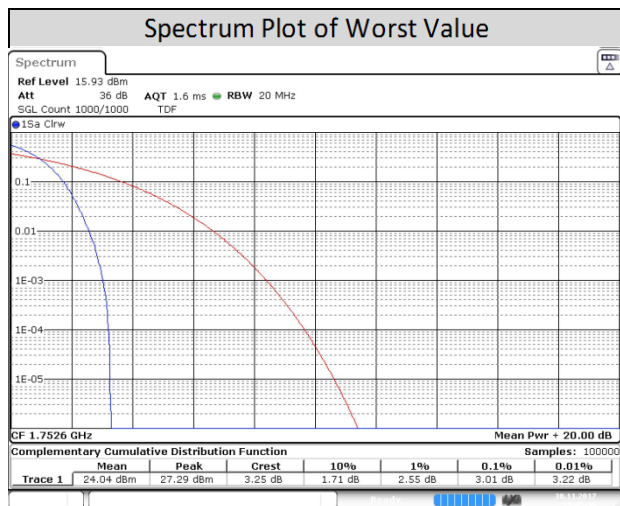
1. The DUT transmitter output port was connected to communication simulator with above setup.
2. Path loss for the measurement included.
3. Set DUT to transmit maximum power through communication simulator
4. Set the CCDF (Complementary Cumulative Distribution Function) option in the spectrum analyzer.
5. Spectrum Analyzer setting, RBW = 20MHz.
6. Recorded the maximum PAR level associated with a probability of 0.1% as Peak to Average Ratio.
7. All the measurement was done at low, mid, high channel for each band and different modulation.

1.7.2. Test Limit

In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

1.7.3. Peak-to-Average Power Ratio - UMTS Band 4 (1710-1755MHz)

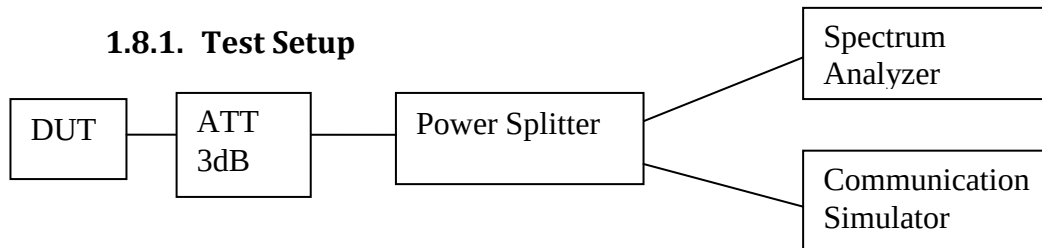
Mode	Channel Number	Tx Frequency (MHz)	Peak To Average (dB)
RMC-12.2kbps	Low CH 1312	1712.4 MHz	2.957
	Mid CH 1413	1732.6 MHz	2.957
	High CH 1513	1752.6 MHz	3.014



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1.8. Occupied Bandwidth

1.8.1. Test Setup



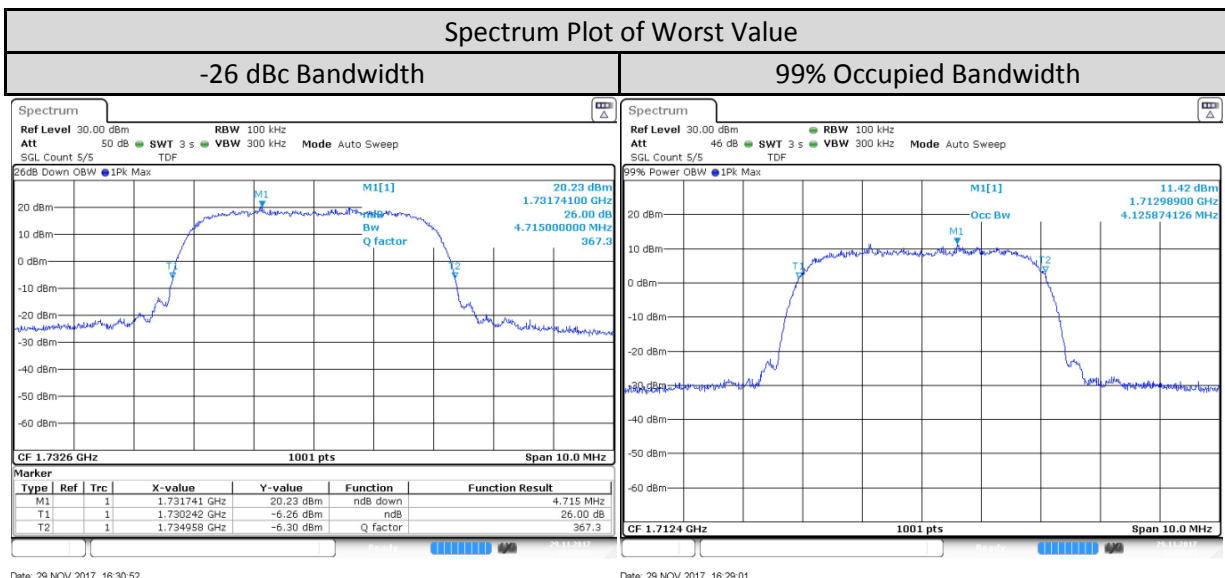
- 1) The DUT transmitter output port was connected to communication simulator with above setup.
- 2) Path loss for the measurement included.
- 3) For UMTS measurement, set DUT to transmit maximum power through communication simulator.
- 4) Spectrum Analyzer setting, RBW is 1% of OBW and VBW is 3 times of RBW.
- 5) Measure & record -26dBc and 99% occupied bandwidth (BW).
- 6) All the measurement was done at low, mid, high channel for each band and different modulation.

1.8.2. Test Limit

The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

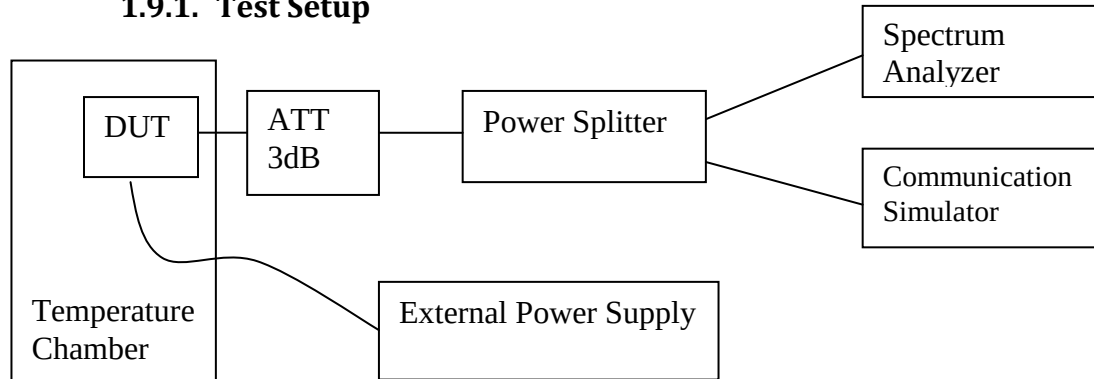
1.8.3. Occupied Bandwidth - UMTS Band 4 (1710-1755MHz)

Mode	Channel Number	Tx Frequency (MHz)	-26 dBc Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
RMC-12.2kbps	Low CH 1312	1712.4 MHz	4.705	4.126
	Mid CH 1413	1732.6 MHz	4.715	4.126
	High CH 1513	1752.6 MHz	4.705	4.116



1.9. Frequency Stability

1.9.1. Test Setup



- 1) The DUT is placed in the temperature chamber and DUT is power up by external power supply to control the DC input voltage.
- 2) The temperature chamber could control the temperature and humidity and external power supply could control the test voltage range from minimum to maximum operating voltage.
- 3) Measured frequency error from the communication simulator by vary below step :
 - i. Vary temperature of the temperature chamber from -30 ~ 50 deg C (10 deg C / Step) and set external supply voltage constant at nominal voltage.
 - ii. Vary external supply voltage from minimum to maximum operation voltage support by DUT and set temperature chamber constant at room temp.
- 4) All the measurement was done at mid channel for each band.

1.9.2. Test Limit

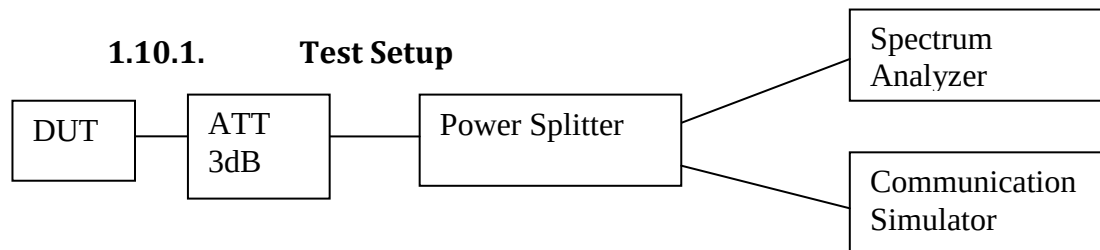
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

1.9.3. Frequency Stability – UMTS Band 4 (1710-1755MHz)

Band	Temp (Deg C)	Frequency Error VS Temperature			
		RMC-12.2kbps			
		Low Channel		High Channel	
		1712.4MHz		1752.6MHz	
		Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
UMTS Band 4	50	1712.400029	0.016858	1752.59998	-0.011578
	40	1712.400026	0.014999	1752.599981	-0.011035
	30	1712.400017	0.009945	1752.599987	-0.007497
	20	1712.400007	0.003985	1752.600006	0.003567
	10	1712.399986	-0.008024	1752.600018	0.010007
	0	1712.399976	-0.01421	1752.600029	0.016463
	-10	1712.39997	-0.017531	1752.600036	0.020548
	-20	1712.399968	-0.018967	1752.60004	0.022662
	-30	1712.399971	-0.017042	1752.600038	0.021405

Band	Voltage (V)	Frequency Error VS Voltage			
		RMC-12.2kbps			
		Low Channel		High Channel	
		1712.4MHz		1752.6MHz	
UMTS Band 4		Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
	4.35	1712.400011	0.006274	1752.599994	-0.003293
	3.7	1712.400013	0.007535	1752.59999	-0.005844
	3.2	1712.400013	0.007848	1752.600018	0.010182

1.10. Band Edge Conducted Spurious Emission

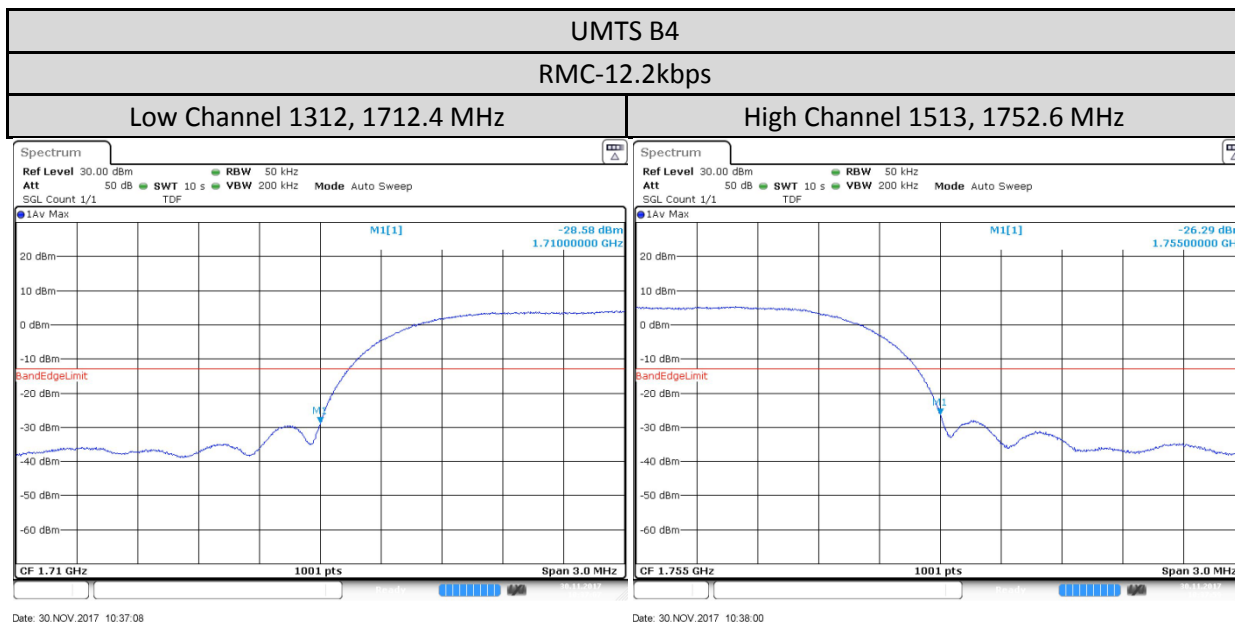


- 1) The DUT transmitter output port was connected to communication simulator with above setup.
- 2) Path loss for the measurement included.
- 3) Set DUT to transmit maximum power through communication simulator.
- 4) The band edges of lowest and highest channels with the highest RF powers were measured.
- 5) The center frequency of spectrum is the band edge frequency, span is 3MHz, RBW is 1~3% of EBW and VBW is at least 3 times of RBW.
- 6) Record the maximum trace plot into the test report.

1.10.2. Test Limit

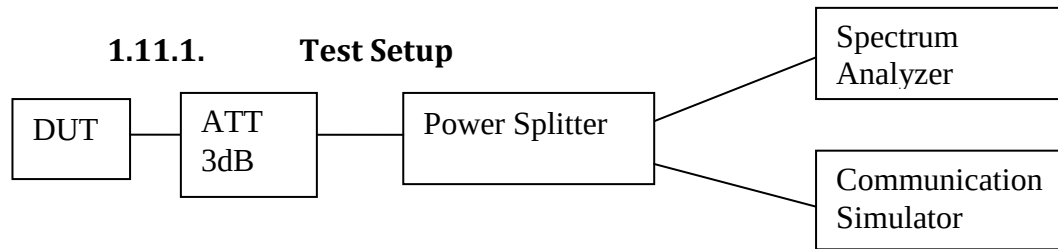
For operations in the 1710-1755 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB. In the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

1.10.3. Band Edge Conducted Spurious Emission – UMTS Band 4 (1710-1755MHz)



1.11. Conducted Spurious Emission

1.11.1. Test Setup

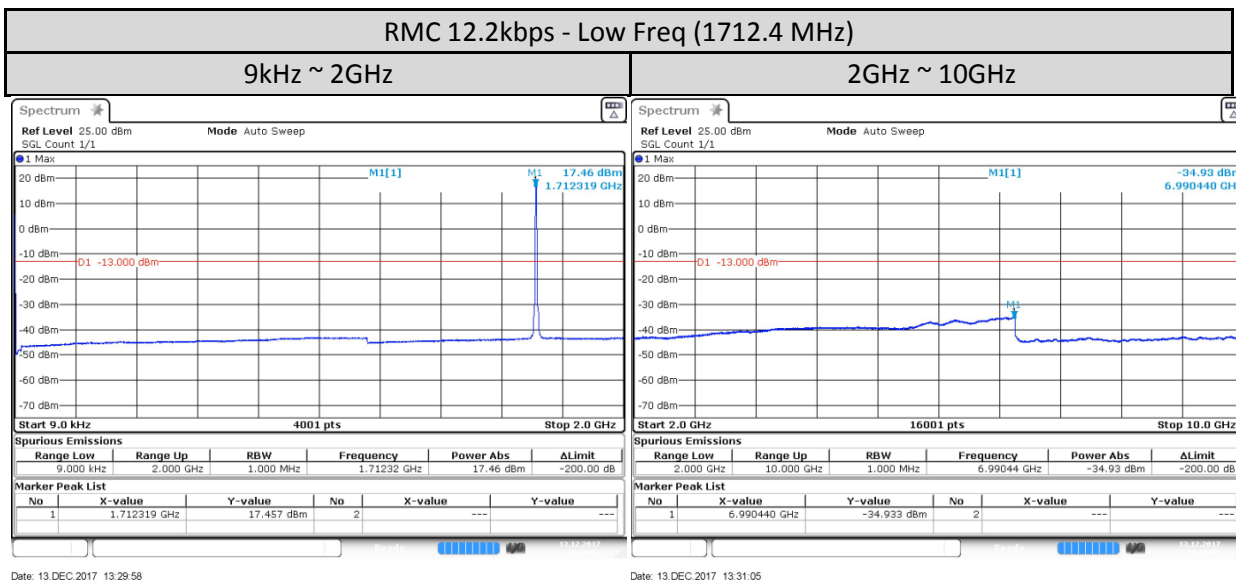


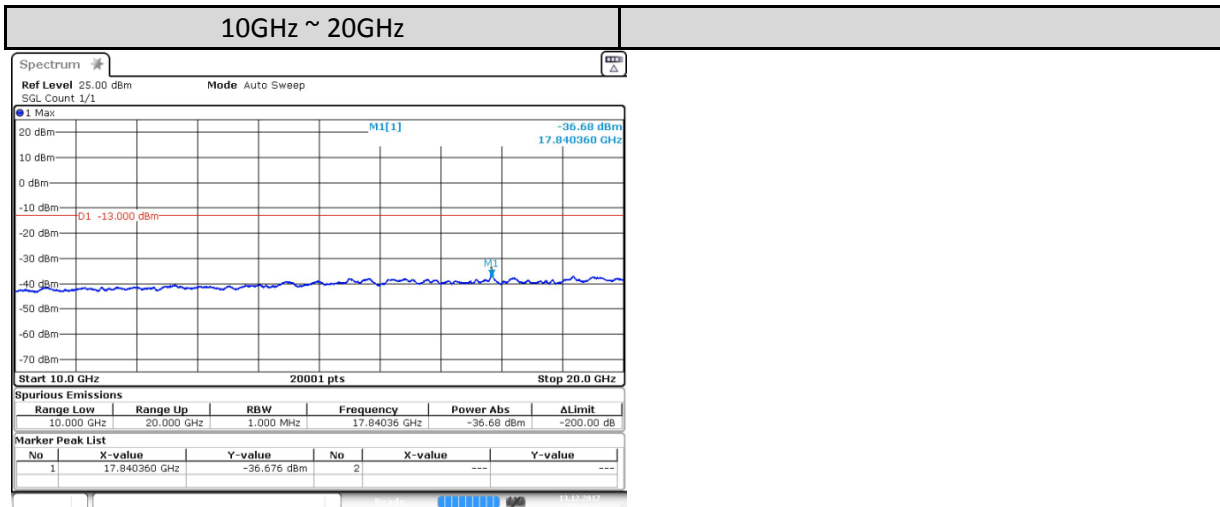
- 1) The DUT transmitter output port was connected to communication simulator with above setup.
- 2) Path loss for the measurement included.
- 3) Set DUT to transmit maximum power through communication simulator.
- 4) Spectrum Analyzer setting, RBW = 1 MHz, VBW = 3 MHz.
- 5) The spurious emission of lowest, middle and highest channels with the highest RF powers were measured.
- 6) Record the maximum trace plot into the test report.

1.11.2. Test Limit

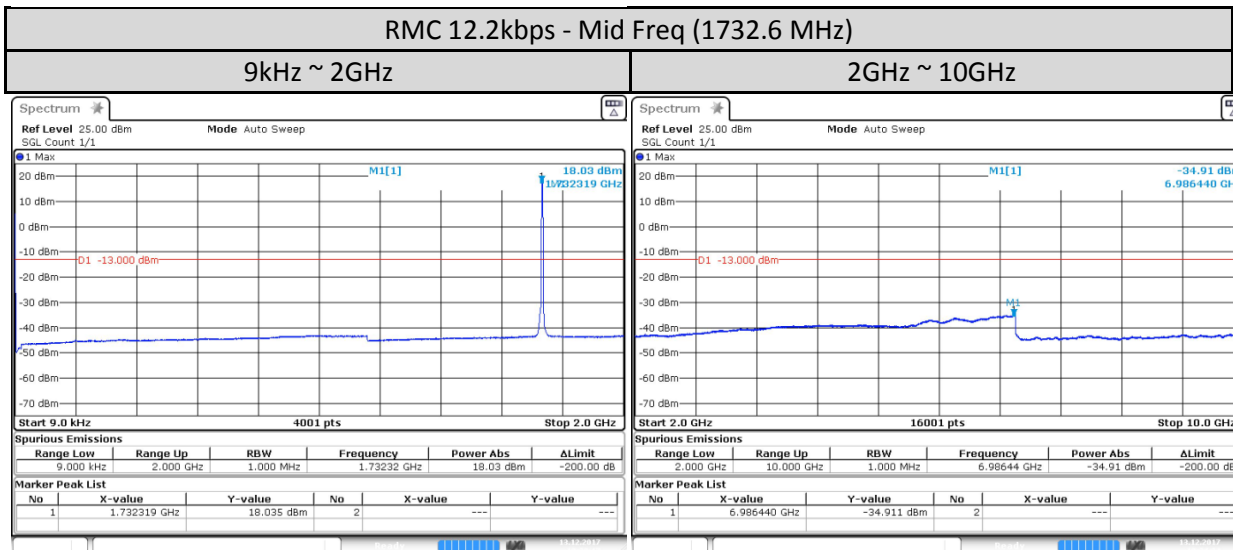
For operations in the 1710-1755 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB. The measurement instrumentation is employing a resolution bandwidth of 1 megahertz or greater.

1.11.3. Conducted Spurious Emissions – UMTS Band 4 (1710-1755MHz)



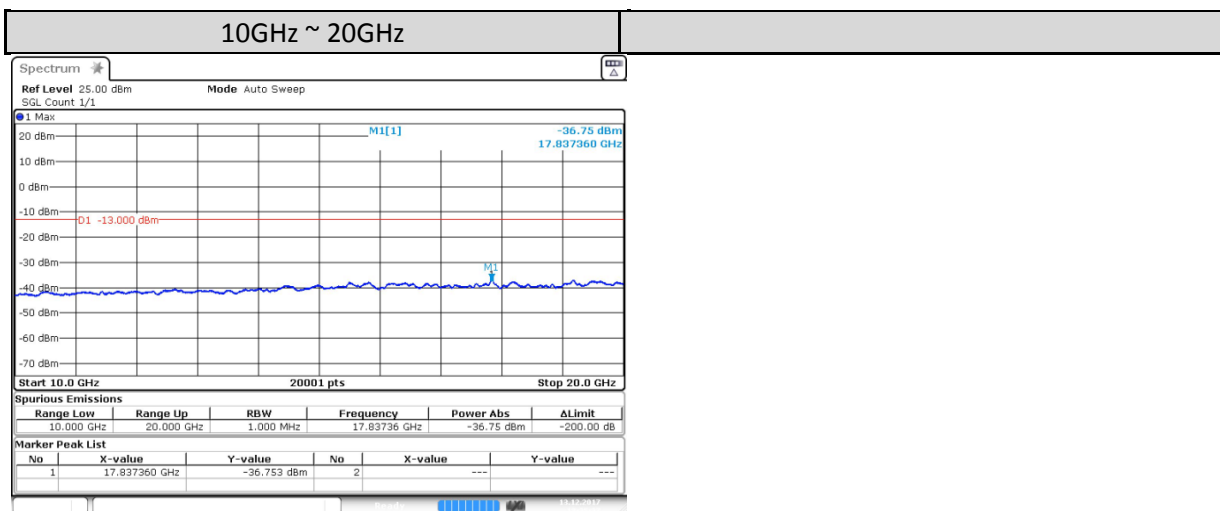


Date: 13 DEC 2017 13:32:17

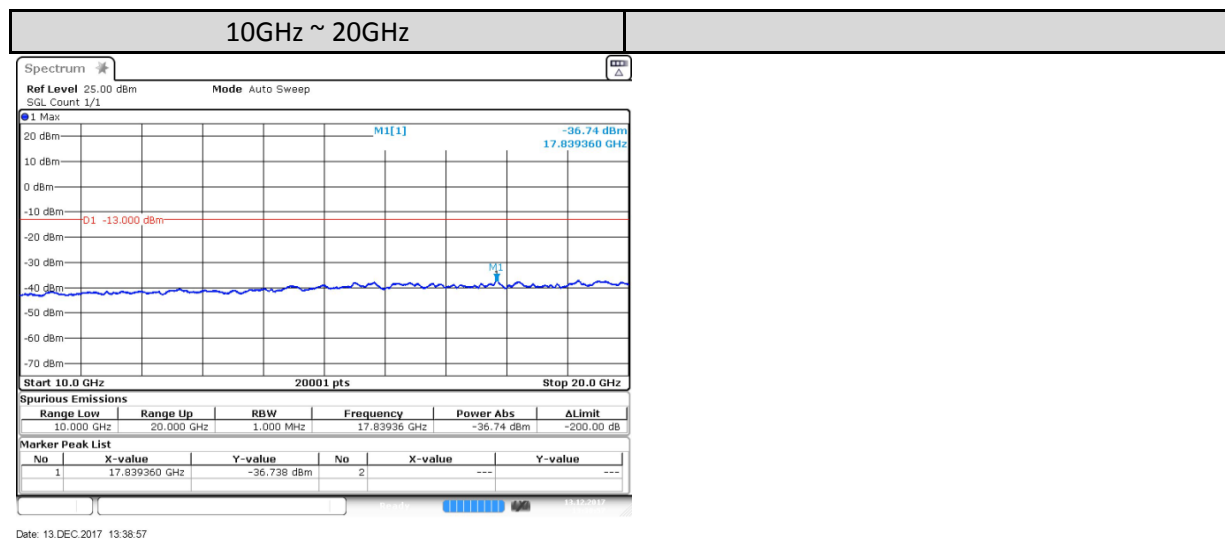
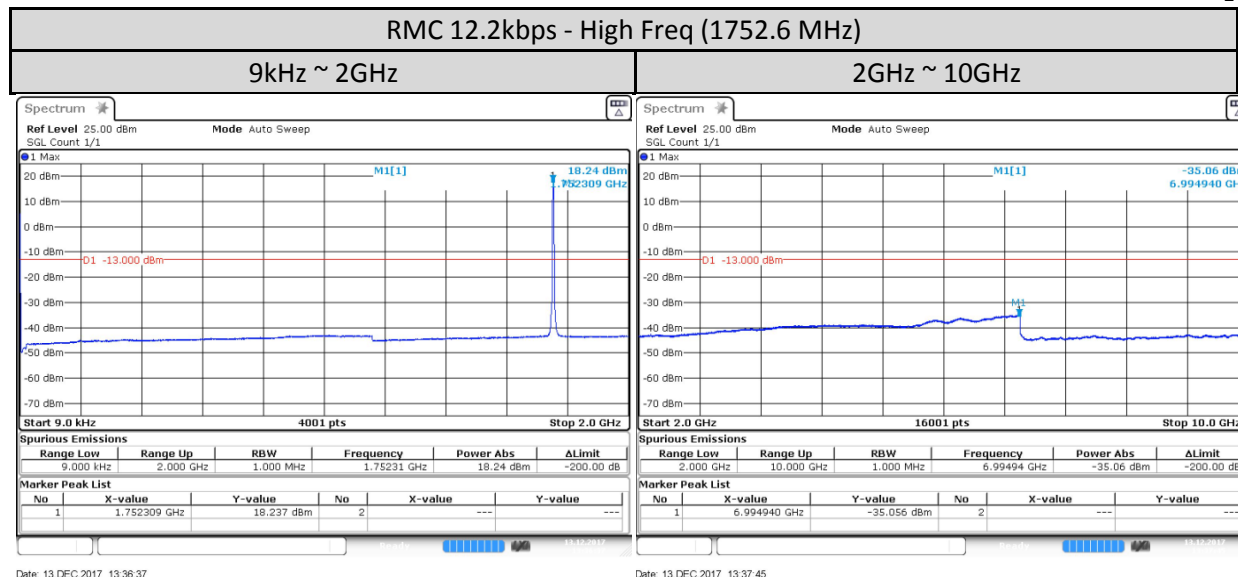


Date: 13 DEC 2017 13:33:17

Date: 13 DEC 2017 13:34:25

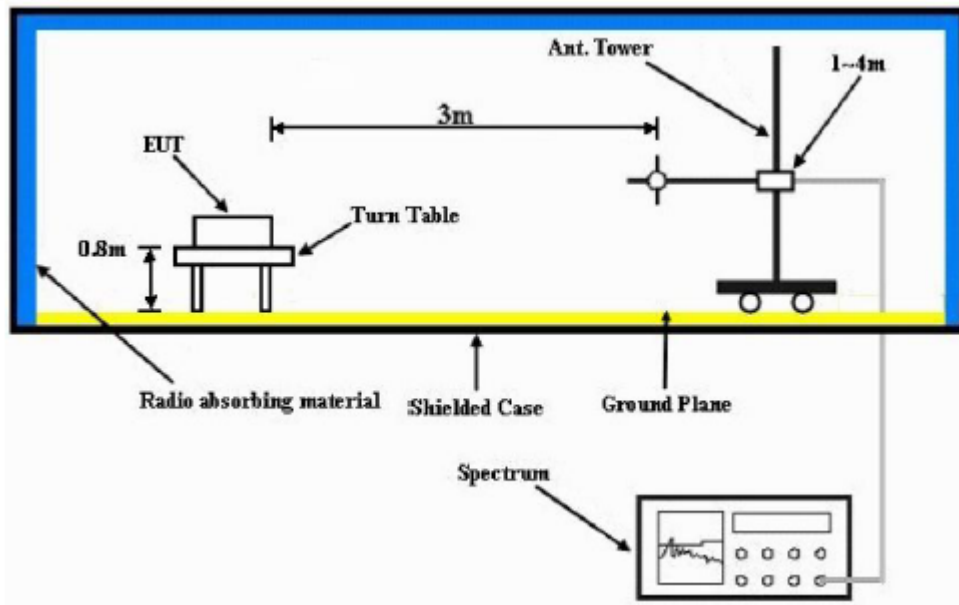


Date: 13 DEC 2017 13:35:37



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.

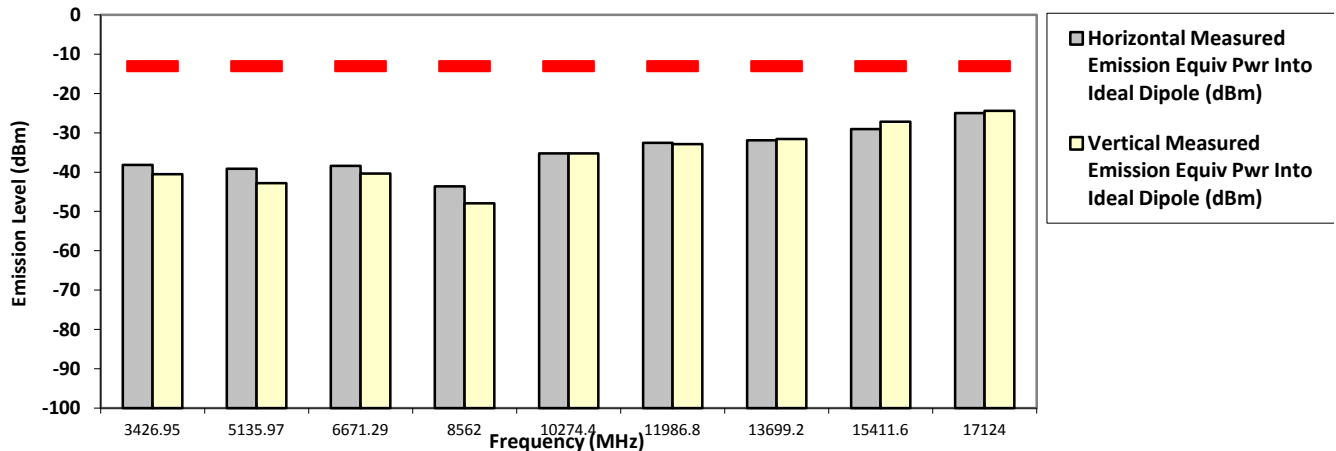
1.12.3. Radiated Spurious Emission – UMTS Band 4 (1710-1755MHz)

DC configuration: Link Mode 12V

Model Number: LEX L11n Link Mode Radiated Emission: S/N: 790TTV0214 SR:08397-EMC-00064
 Battery Part No: PMNN4546A Accy Part No: 8397-PMLN7779A-2, 8397-PMLN7779A-5
 Test Mode: TX WCDMA (UMTS B4)
 1712.400000 MHz (Low) Bandwidth 3.7MHz 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)
3426.9500	-13.0000	-38.1500 *	-40.5100 *
5135.9700	-13.0000	-39.1000 *	-42.8100 *
6671.2900	-13.0000	-38.4400 *	-40.3600 *
8562.0000	-13.0000	-43.6027 **	-47.9380 **
10274.4000	-13.0000	-35.2633 **	-35.2659 **
11986.8000	-13.0000	-32.5206 **	-32.8789 **
13699.2000	-13.0000	-31.8755 **	-31.5661 **
15411.6000	-13.0000	-29.0504 **	-27.1884 **
17124.0000	-13.0000	-24.9386 **	-24.4257 **

RADIATED SPURIOUS EMISSIONS



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

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

Sun, Dec 24, 2017

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): 71.2

System MU: 5.01 dB

Remarks:

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

Model Number: LEX L11n
 Battery Part No: PMNN4546A

Link Mode Radiated Emission:
 S/N: 790TTV0214
 Accy Part No: 8397-PMLN7779A-2, 8397-PMLN7779A-5
 Test Mode: TX WCDMA UMTS B4)
 Bandwidth 3.7MHz

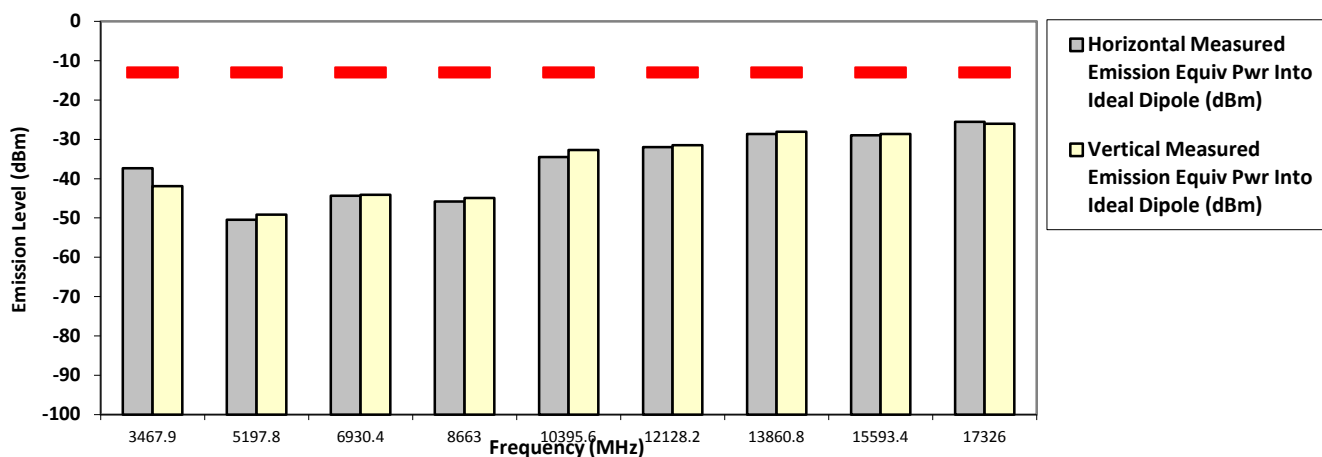
SR:08397-EMC-00064

1732.600000 MHz (Mid)

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)
3467.9000	-13.0000	-37.3300 *	-41.9400 *
5197.8000	-13.0000	-50.4143 **	-49.1398 **
6930.4000	-13.0000	-44.3232 **	-44.0788 **
8663.0000	-13.0000	-45.8148 **	-44.9480 **
10395.6000	-13.0000	-34.4678 **	-32.7132 **
12128.2000	-13.0000	-31.9675 **	-31.4599 **
13860.8000	-13.0000	-28.6389 **	-28.0470 **
15593.4000	-13.0000	-28.9349 **	-28.6067 **
17326.0000	-13.0000	-25.5236 **	-26.0369 **

RADIATED SPURIOUS EMISSIONS



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

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

Sun, Dec 24, 2017

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): 71.2

System MU: 5.01 dB

Remarks:

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

Model Number: LEX L11n
Battery Part No: PMNN4546A

Link Mode Radiated Emission:
S/N: 790TTV0214

SR:08397-EMC-00064
Accy Part No: 8397-PMLN7779A-2, 8397-PMLN7779A-5

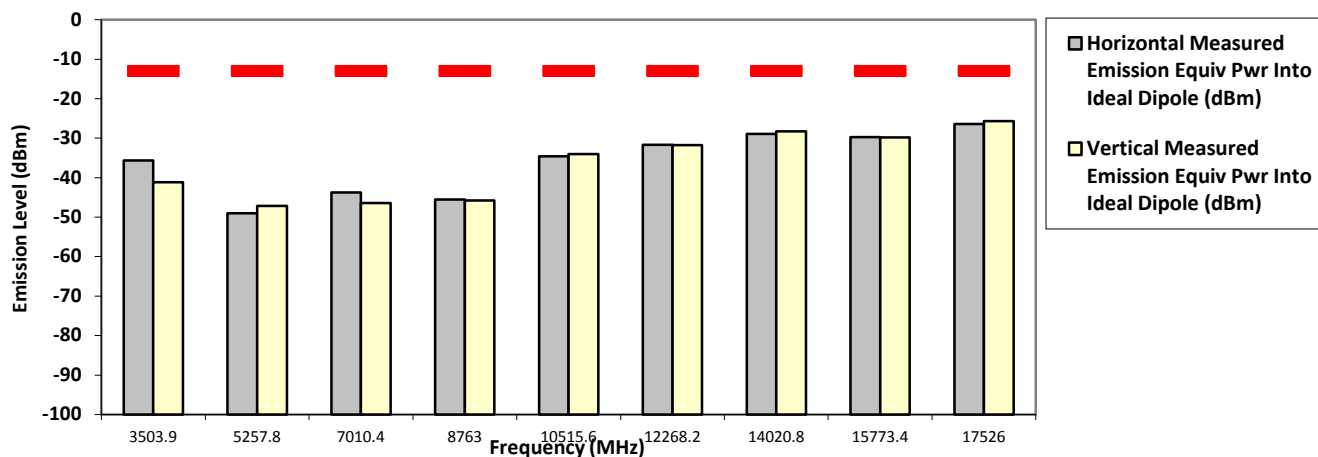
1752.600000 MHz (High)

Test Mode: TX WCDMA (UMTS B4)
Bandwidth 3.7MHz

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)
3503.9000	-13.0000	-35.6800 *	-41.1600 *
5257.8000	-13.0000	-49.0403 **	-47.1807 **
7010.4000	-13.0000	-43.7407 **	-46.4435 **
8763.0000	-13.0000	-45.5607 **	-45.7669 **
10515.6000	-13.0000	-34.6280 **	-33.9957 **
12268.2000	-13.0000	-31.6789 **	-31.7562 **
14020.8000	-13.0000	-28.8945 **	-28.2539 **
15773.4000	-13.0000	-29.7522 **	-29.8253 **
17526.0000	-13.0000	-26.3771 **	-25.6980 **

RADIATED SPURIOUS EMISSIONS



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

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

Sun, Dec 24, 2017

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): 71.2

System MU: 5.01 dB

Remarks:

Passed Results	Marginal Results	Failed Results
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DC configuration: Link Mode 24V

Model Number: LEX L11n
 Battery Part No: PMNN4546A

Link Mode Radiated Emission:
 S/N: 790TTV0214

SR:08397-EMC-00064

Accy Part No: 8397-PMLN7779A-2, 8397-PMLN7779A-5

Test Mode: TX WCDMA (UMTS B4)

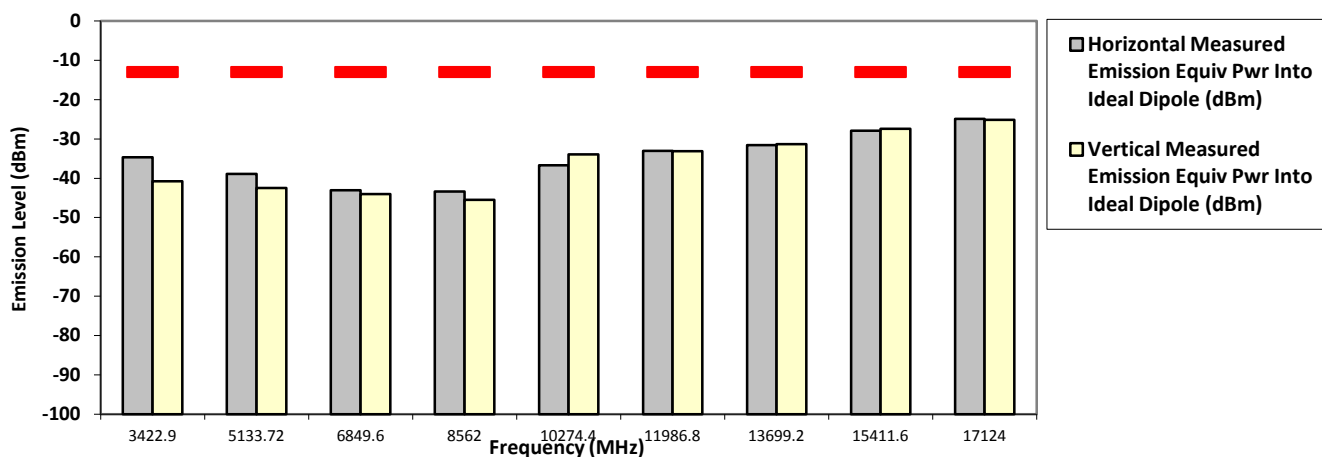
1712.400000 MHz (Low)

Bandwidth 3.7MHz

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)
3422.9000	-13.0000	-34.6700 *	-40.7800 *
5133.7200	-13.0000	-38.9300 *	-42.4400 *
6849.6000	-13.0000	-43.0107 **	-44.0007 **
8562.0000	-13.0000	-43.3516 **	-45.4661 **
10274.4000	-13.0000	-36.6567 **	-33.9159 **
11986.8000	-13.0000	-32.9956 **	-33.0884 **
13699.2000	-13.0000	-31.5334 **	-31.2826 **
15411.6000	-13.0000	-27.8638 **	-27.3774 **
17124.0000	-13.0000	-24.8895 **	-25.1169 **

RADIATED SPURIOUS EMISSIONS



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

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

Sun, Dec 24, 2017

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): 71.2

System MU: 5.01 dB

Remarks:

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

Model Number: LEX L11n
 Battery Part No: PMNN4546A

Link Mode Radiated Emission:
 S/N: 790TTV0214
 Accy Part No: 8397-PMLN7779A-2, 8397-PMLN7779A-5
 Test Mode: TX WCDMA (UMTS B4)
 Bandwidth 3.7MHz

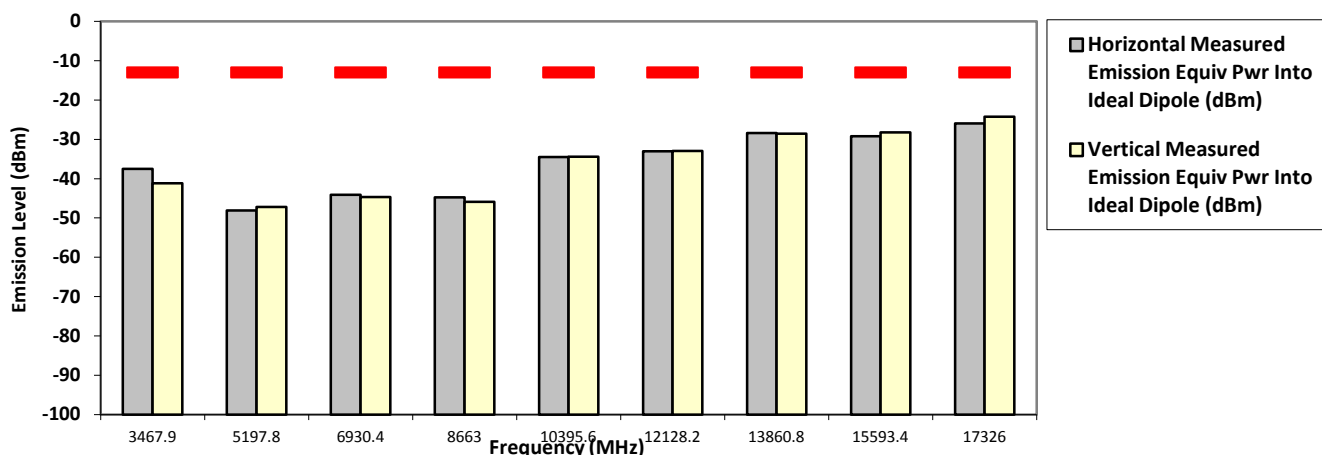
SR:08397-EMC-00064

1732.600000 MHz (Mid)

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)
3467.9000	-13.0000	-37.5400 *	-41.2000 *
5197.8000	-13.0000	-48.0638 **	-47.1997 **
6930.4000	-13.0000	-44.0720 **	-44.6557 **
8663.0000	-13.0000	-44.7856 **	-45.8966 **
10395.6000	-13.0000	-34.5288 **	-34.4035 **
12128.2000	-13.0000	-33.0642 **	-32.9601 **
13860.8000	-13.0000	-28.3783 **	-28.5533 **
15593.4000	-13.0000	-29.1963 **	-28.1969 **
17326.0000	-13.0000	-25.9312 **	-24.2082 **

RADIATED SPURIOUS EMISSIONS



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

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

Sun, Dec 24, 2017

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): 71.2

System MU: 5.01 dB

Remarks:

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

Link Mode Radiated Emission:

S/N: 790TTV0214

SR:08397-EMC-00064

Battery Part No: PMNN4546A

Accy Part No: 8397-PMLN7779A-2, 8397-PMLN7779A-5

Test Mode: TX WCDMA (UMTS B4)

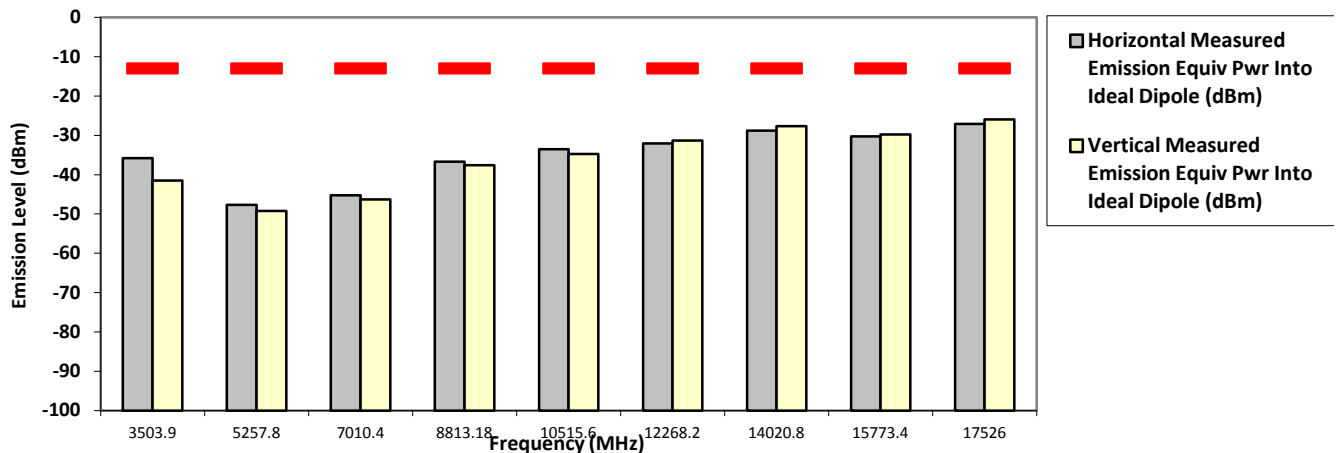
1752.600000 MHz (High)

Bandwidth 3.7MHz

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)
3503.9000	-13.0000	-35.8200 *	-41.4600 *
5257.8000	-13.0000	-47.7197 **	-49.2583 **
7010.4000	-13.0000	-45.2731 **	-46.3298 **
8813.1800	-13.0000	-36.7200 *	-37.5700 *
10515.6000	-13.0000	-33.4913 **	-34.7712 **
12268.2000	-13.0000	-32.0776 **	-31.2837 **
14020.8000	-13.0000	-28.7710 **	-27.6193 **
15773.4000	-13.0000	-30.2664 **	-29.7718 **
17526.0000	-13.0000	-27.1051 **	-25.9698 **

RADIATED SPURIOUS EMISSIONS



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

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

Sun, Dec 24, 2017

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): 71.2

System MU: 5.01 dB

Remarks:

Passed Results	Marginal Results	Failed Results
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--Test Report End--