

	   <p>CERTIFICATE 2518.08</p> <p>MS ISO/IEC 17025 TESTING SAMM NO. 0825</p>
<p>MOTOROLA PENANG ADV. COMM. LABORATORY Motorola Solutions Malaysia Sdn Bhd, Plot 2A, Medan Bayan Lepas, Mukim 12 S.W.D, 11900 Bayan Lepas, Penang, Malaysia.</p>	<p>FCC / ISED TEST REPORT Report Revision : Rev.A</p>
<p>Date/s Tested : 31-March-2022 - 6-July-2022 Manufacturer/Location : Motorola Solutions Malaysia Sdn Bhd Manufacturer Address : Plot 2A, Medan Bayan Lepas, Mukim 12 SWD, 11900 Bayan Lepas, Penang, Malaysia Requestor : SIEW KHENG TAN Product Type : Hand-held Product Version (PMN) : MSLB-MKZ920 Model Number (HVIN) : AAH90UCU9RH1AN 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 ISED Registrations : MY0001 Firmware Version (FVIN) : D02.22.01.0103 (BP), D00.01.86 (AP)</p>  <p>The equipment was tested accordance to the requirement listed below:</p> <p>(LTE Band 14) FCC 47 CFR Part 2 / 90 PASS ISED RSS GEN / 140</p>	
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REVISION HISTORY

Revision History	Description	Date	Originator
Rev A.	Initial Report	7-July-2022	Lim Khay Kwang

1.0. Summary of Test Results

FCC Clause	ISED Clause	Test Item	Result	Remark	Serial Number Tested
2.1046	RSS-140 3.1	Conducted RF Output Power	Pass	Meet the requirement of limit.	734TYF0012
2.1046	RSS 140 4.3	Peak-to-Average Power Ratio	Pass	Meet the requirement of limit.	734TYF0012
2.1049 90.209(7)	RSS-Gen 6.7	Occupied Bandwidth (26dBc, 99%)	Pass	Meet the requirement of limit.	734TYF0012
2.1055 90.213	RSS-140 4.2	Frequency Stability	Pass	Meet the requirement of limit.	734TYF0012
2.1051 90.543(e)	RSS-Gen 6.13 RSS-140 4.4	Band Edge Conducted Spurious Emission	Pass	Meet the requirement of limit.	734TYF0012
2.1051 90.543(e)	RSS-Gen 6.13 RSS-140 4.4	Conducted Spurious Emissions	Pass	Meet the requirement of limit.	734TYF0012
2.1051 90.543(e)	RSS-140 4.4	Radiated Spurious Emission	Pass	Meet the requirement of limit.	734TYF0069
90.635(b)	RSS-140 4.3	Effective Radiated Power (ERP)	Not Performed.	Not Performed.	734TYF0012
90.543(f)	RSS – 140 4.4(b)	GNSS (EIRP for 1599 – 1610MHz)	Pass	Meet the requirement of limit	734TYF0069

1.1. Measurement Uncertainty

Measurement	Frequency	Expended Uncertainty (k=1.96) (±dB)
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 (RF Conducted Tests); Test Software Version: CMWRun v1.8.9				
Signal Analyzer	FSV40	101431	02-Dec-21	02-Dec-23
Chamber	SH-641	92003150	17-Sep-21	17-Sep-22

Wideband Radio Communication Tester	CMW500	154550	07-Mar-21	07-Mar-23
Power Supply	6652A	MY40001437	26-Aug-21	26-Aug-22
Radiated Spurious Emission (EMC Chamber 1); Test Software Version: EMC_FCC_RE_v1.6.2				
Drg Horn Freq.	SAS-571	720	06-Apr-21	06-Apr-23
Drg Horn Freq.	SAS-571	719	13-Sep-21	13-Sep-22
Power Supply	N7977A	MY54420118	17-Aug-21	17-Aug-22
Signal Generator	SMB 100A	182511	4-Jun-21	4-Jun-24
Emi Test Receiver	ESW44	101731	5-Nov-21	5-Nov-22
5m Semi-Anechoic Chamber	S800-HX	J2308	No Cal. Req'd	No Cal. Req'd
Bilog Antenna	CBL6112D	2950	30-Jul-21	30-Jul-22
Bilog Antenna	CBL6112D	30991	05-Oct-21	05-Oct-22
Data Logger Thermohygrometer	SDL500	A.016800	13-Jun-21	13-Jun-23
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
Broad-Band Horn Antenna	BBHA9170	BBHA9170143	3-Aug-21	3-Aug-22
Preamplifier 18-40ghz	BBV9721	9721-007	No Cal. Req'd	No Cal. Req'd
Preamplifier	PAM-0118P	361	11-Sep-20	11-Sep-23
Loop Antenna	6502	00208416	8-Oct-21	8-Oct-22

1.3. General Information

General Description of EUT

Product	MACKENZIE 8/900 NAG MODEL		
Brand	Motorola Solutions		
Test Model	AAH90UCU9RH1AN		
Power Supply Rating	7.5 Vdc		
Mode of operation	LTE Band 14		
Modulation Type	QPSK, 16QAM		
Operating Frequency	LTE Band 14	Channel Bandwidth 5MHz	790.5MHz~795.5MHz
		Channel Bandwidth 10MHz	793.0MHz
Max. Conducted RF Output Power	LTE Band 14 QPSK	Channel Bandwidth 5MHz	21.84dBm (0.153W)
		Channel Bandwidth 10MHz	21.761dBm (0.150W)
	LTE Band 14 16QAM	Channel Bandwidth 5MHz	21.132dBm (0.130W)
		Channel Bandwidth 10MHz	20.877dBm (0.122W)
Emission Designator	LTE Band 14		QPSK 16QAM
		Channel Bandwidth 5MHz	4M48G7D 4M48D7W
		Channel Bandwidth 10MHz	8M91G7D 8M91D7W
Antenna Type	LTE Band 14	LTE LOW BAND MAIN ANTENNA (0.29dBi)	
SW Version	D02.22.01.0103 (BP), D00.01.86 (AP)		
HW Version	P2		

Note:

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

Item	Brand	Model or P/N	Specification
Li-Ion	MOTOROLA	PMNN4805A	BATTERY PACK,BATTERY PACK,IMPRES GEN2, LIION,IP68, 4400T

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 90

KDB 971168 D01 Power Meas License Digital Systems v03r01

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	Bandwidth supported	Available Channel Number	Test Channel Number			Test Channel Frequency (MHz)		
			Low Channel	Mid Channel	High Channel	Low Channel	Mid Channel	High Channel
LTE Band 14	5 MHz	23305 ~ 23355	23305	23330	23355	790.5	793.0	795.5
	10 MHz	23330	-	23330	-	-	793.0	-

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 and Effective Radiated Power (ERP) worst case was found when positioned on Z-Plane for LTE band 26 (part 90).

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:

LTE Band 14

Test Item	Available Channel	Tested Channel	Channel Bandwidth	Uplink Modulation	Mode
Conducted RF Output Power	23305~ 23355	23305, 23330, 23355	5 MHz	QPSK, 16QAM	As per table 1.6.3
	23330	23330	10 MHz		
Peak to Average Power Ratio	23305~ 23355	23305, 23330, 23355	5 MHz	QPSK, 16QAM	25 RB / 0 RB Offset
	23330	23330	10 MHz		50 RB / 0 RB Offset
Occupied Bandwidth	23305~ 23355	23305, 23330, 23355	5 MHz	QPSK, 16QAM	25 RB / 0 RB Offset
	23330	23330	10 MHz		50 RB / 0 RB Offset
Frequency Stability	23305~ 23355	23305, 23355	5 MHz	QPSK	25 RB / 0 RB Offset
	23330	23330	10 MHz		50 RB / 0 RB Offset
Band Edge Conducted Spurious Emission	23305~ 23355	23305, 23355	5 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 24 RB Offset
	23330	23330	10 MHz		25 RB / 0 RB Offset 1 RB / 0 RB Offset

					1 RB / 49 RB Offset 50 RB / 0 RB Offset
Conducted Spurious Emission	23305~ 23355	23305, 23330, 23355	5 MHz	QPSK	1 RB / 13 RB Offset
	23330	23330	10 MHz		1 RB / 49 RB Offset
Radiated Spurious Emission	23305~ 23355	23305	5 MHz	QPSK	1 RB / 24 RB Offset
		23330			1 RB / 24 RB Offset
		23355			1 RB / 13 RB Offset
GNSS (EIRP for 1599 – 1610MHz)	23305~ 23355	23305	5 MHz	QPSK	1 RB / 24 RB Offset
		23355			1 RB / 13 RB Offset
Effective Radiated Power (ERP)	23305~ 23355	23305, 23330, 23355	5 MHz	QPSK, 16QAM	As per table 1.6.4
	23330	23330	10 MHz		

NOTE:

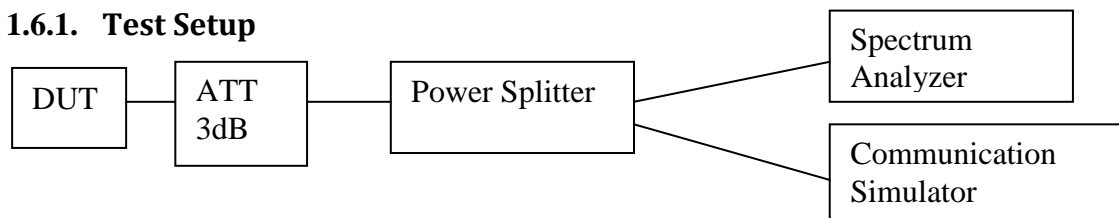
1. The Conducted RF Output Power for QPSK and 16QAM, measured value of QPSK mode is higher than 16QAM mode. Therefore, only Conducted Spurious Emission, Radiated Emission and GNSS (EIRP for 1599 – 1610MHz) had been tested under QPSK modes.
2. Band Edge was performed with 1 and full Resource Block at the lowest and highest operating frequency band.
3. The Effective Radiated Power (ERP) was calculated from Conducted RF Output Power results in QPSK and 16QAM modulation.
4. Peak to Average and Occupied Bandwidth were performed with full Resource Block which is the worst case.
5. Frequency stability was performed with full Resource Block in QPSK modulation.

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
Conducted RF Output Power	25°C, 50% RH	7.5V DC	Khay Kwang
Peak-to-Average Power Ratio	25°C, 50% RH	7.5V DC	Khay Kwang
Occupied Bandwidth	25°C, 50% RH	7.5V DC	Khay Kwang
Frequency Stability	-30°C ~ 60°C	7.5V DC	Khay Kwang
Band Edge Conducted Spurious Emission	25°C, 50% RH	7.5V DC	Khay Kwang
Conducted Spurious Emission	25°C, 50% RH	7.5V DC	Khay Kwang
Radiated Spurious Emission	25°C, 63.7% RH	7.5V DC	Azil&Qawiman
Equivalent Isotropically Radiated Power (EIRP)	25°C, 50% RH	7.5V DC	Khay Kwang

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 were 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: Portable stations (hand-held devices) transmitting in the 758-768 MHz band and the 788-798 MHz band are limited to 3 watts ERP.

ISED: The e.r.p. for portable equipment including handheld devices shall not exceed 3 W.

1.6.3. Conducted RF Output Power – LTE Band 14 (788-798MHz)

Conducted Output Power (dBm)								
LTE Band/BW	RB Size	RB Offset	QPSK Modulation			16QAM Modulation		
			Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
			23305	23330	23355	23305	23330	23355
			790.5MHz	793.0MHz	795.5 MHz	790.5 MHz	793.0MHz	795.5 MHz
Band 14 / 5MHz	1	0	23.676	23.628	23.574	22.949	22.79	22.63
	1	13	23.7	23.671	23.691	22.992	22.791	22.703
	1	24	23.655	23.682	23.601	22.933	22.784	22.612
	12	0	22.666	22.649	22.674	21.744	21.671	21.71
	12	6	22.674	22.682	22.668	21.761	21.667	21.712
	12	13	22.688	22.668	22.711	21.728	21.634	21.767
	25	0	22.715	22.663	22.64	21.746	21.752	21.669

Conducted Output Power (dBm)								
LTE Band/BW	RB Size	RB Offset	QPSK Modulation			16QAM Modulation		
			Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
				23330			23330	
			793.0MHz			793.0MHz		
Band 14 / 10MHz	1	0		23.614			22.737	
	1	25		23.586			22.732	
	1	49		23.621			22.729	
	25	0		22.661			21.809	
	25	13		22.704			21.824	
	25	25		22.658			21.785	
	50	0		22.643			21.722	

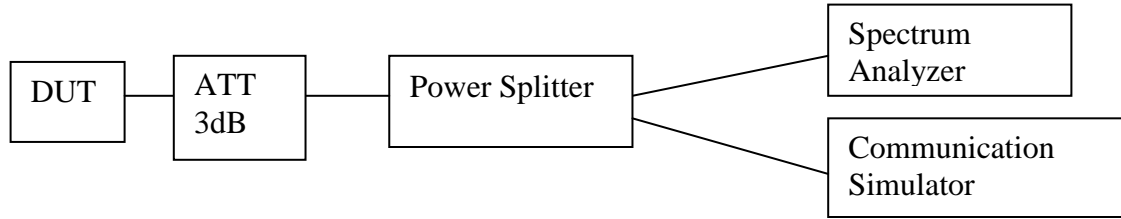
1.6.4 Conducted RF Output Power – LTE Band 14 (788-798MHz)

Effective Radiated Power (dBm)								
LTE Band/BW	RB Size	RB Offset	QPSK Modulation			16QAM Modulation		
			Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
			23305	23330	23355	23305	23330	23355
			790.5MHz	793.0MHz	795.5 MHz	790.5 MHz	793.0MHz	795.5 MHz
Band 14 / 5MHz	1	0	21.816	21.768	21.714	21.089	20.93	20.77
	1	13	21.84	21.811	21.831	21.132	20.931	20.843
	1	24	21.795	21.822	21.741	21.073	20.924	20.752
	12	0	20.806	20.789	20.814	19.884	19.811	19.85
	12	6	20.814	20.822	20.808	19.901	19.807	19.852
	12	13	20.828	20.808	20.851	19.868	19.774	19.907
	25	0	20.855	20.803	20.78	19.886	19.892	19.809

Effective Radiated Power (dBm)								
LTE Band/BW	RB Size	RB Offset	QPSK Modulation			16QAM Modulation		
			Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
				23330			23330	
				793.0MHz			793.0MHz	
Band 14 / 10MHz	1	0		21.754			20.877	
	1	25		21.726			20.872	
	1	49		21.761			20.869	
	25	0		20.801			19.949	
	25	13		20.844			19.964	
	25	25		20.798			19.925	
	50	0		20.783			19.862	

1.7. Peak-to-Average Power Ratio

1.7.1. Test Setup



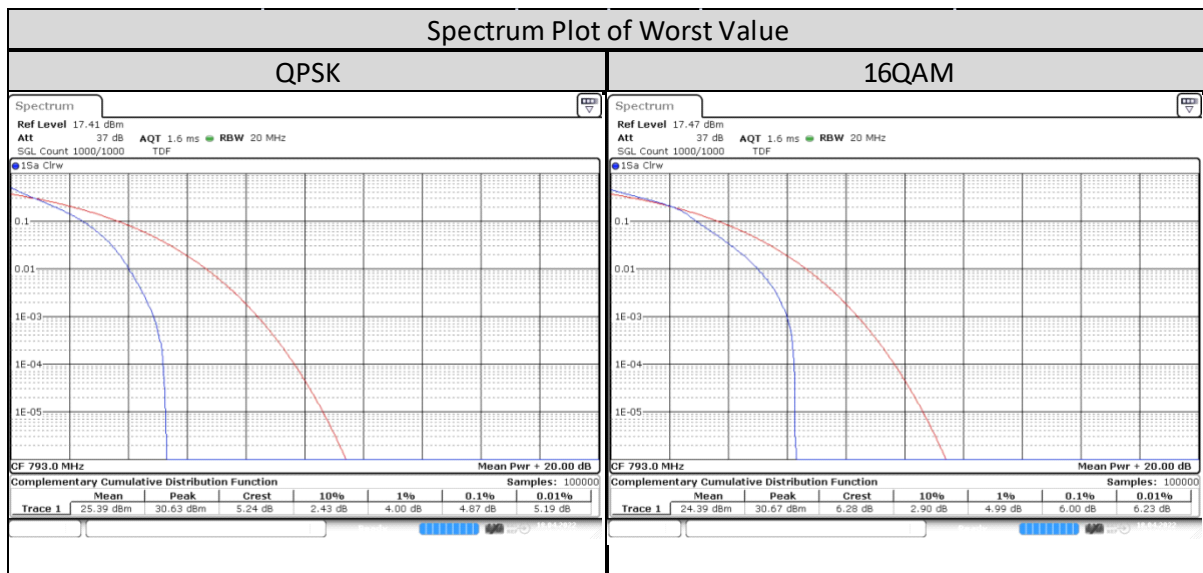
- 1) The DUT transmitter output port was connected to communication simulator with above setup.
- 2) Path loss for the measurement included.
- 3) Set DUT to transmit maximum power through communication simulator
- 4) Set the CCDF (Complementary Cumulative Distribution Function) option in the spectrum 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 measurements were done at low, mid, high channel for each band and different modulation.

1.7.2. Test Limit

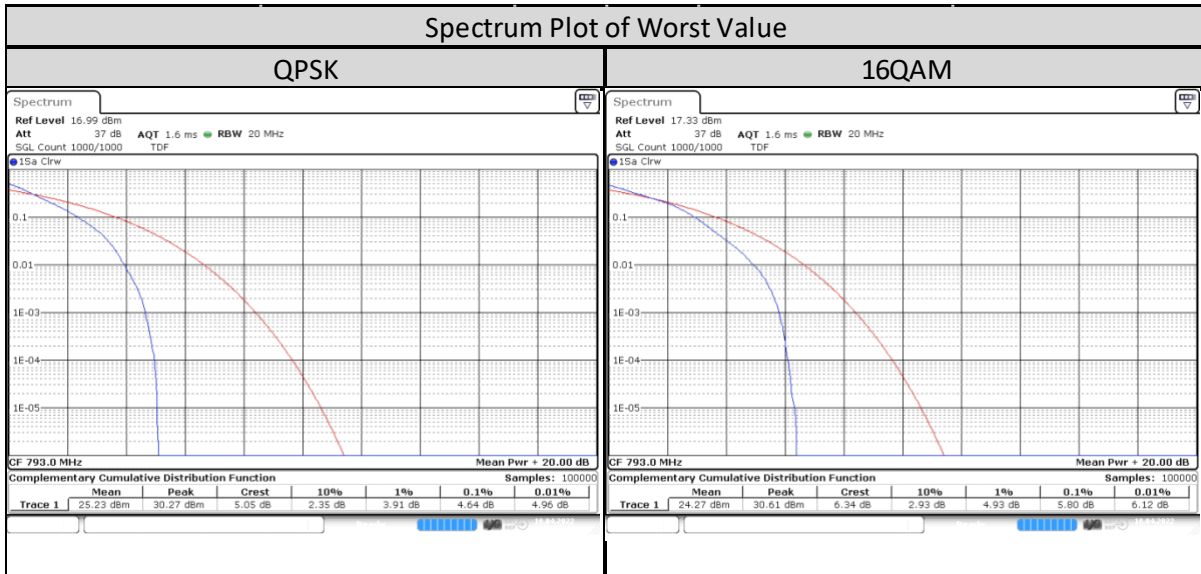
The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB

1.7.3. Peak To Average Power Ratio - LTE Band 14 (788-798MHz)

LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	Peak To Average (dB)	
			QPSK Modulation	16QAM Modulation
Band 14/5MHz/25/0	Low CH 23305	790.5 MHz	4.841	5.913
	Mid CH 23330	793 MHz	4.87	6
	High CH 23355	795.5 MHz	4.667	5.652

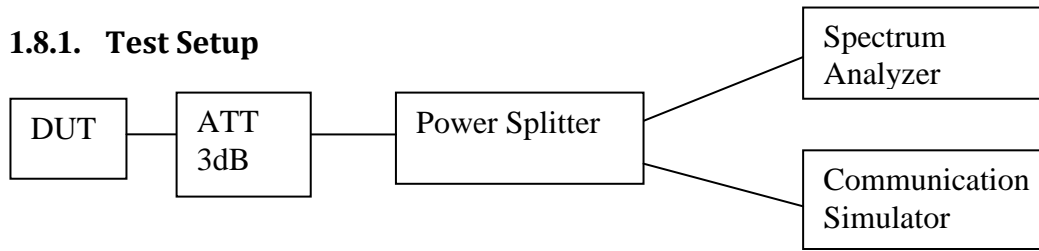


LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	Peak To Average (dB)	
			QPSK Modulation	16QAM Modulation
Band 14/10MHz/50/0	Low CH			
	Mid CH 23330	793 MHz	4.638	5.797
	High CH			



1.8. Occupied Bandwidth

1.8.1. Test Setup



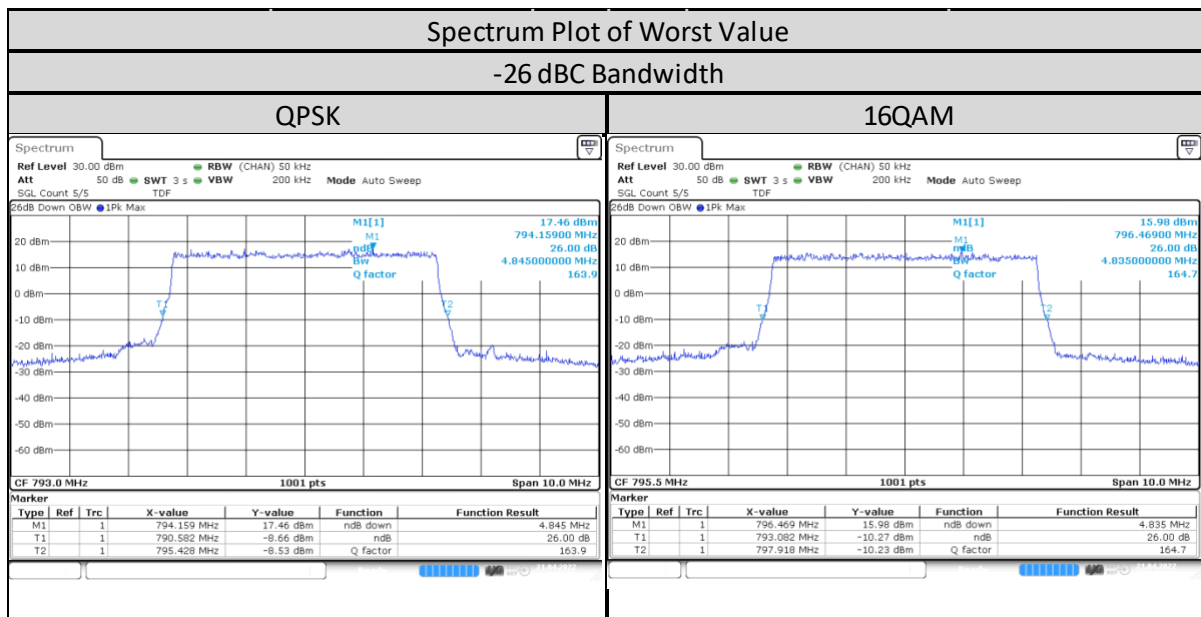
- 1) The DUT transmitter output port was connected to communication simulator with above setup.
- 2) Path loss for the measurement included.
- 3) For LTE measurement, set DUT to transmit maximum power & full RB size through communication simulator.
- 4) For LTE measurement, set DUT to transmit maximum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

1.8.2. Test Limit

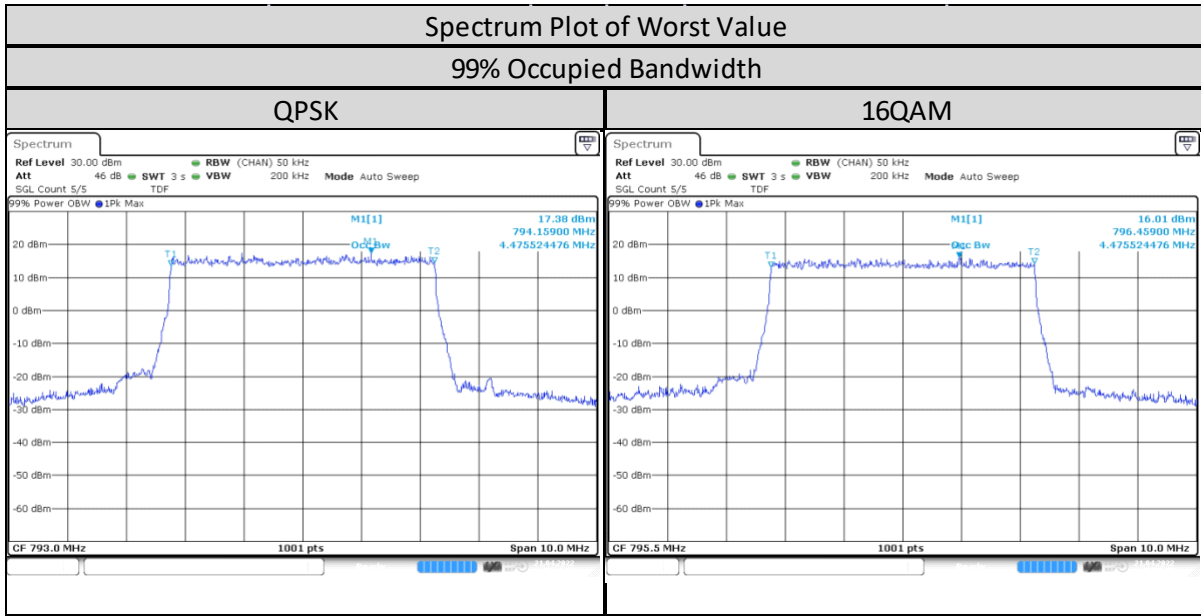
For measurement 99% of occupied bandwidth that is required by FCC 2.1049 and RSS Gen 6.6.

1.8.3. Occupied Bandwidth - LTE Band 14 (788-798MHz)

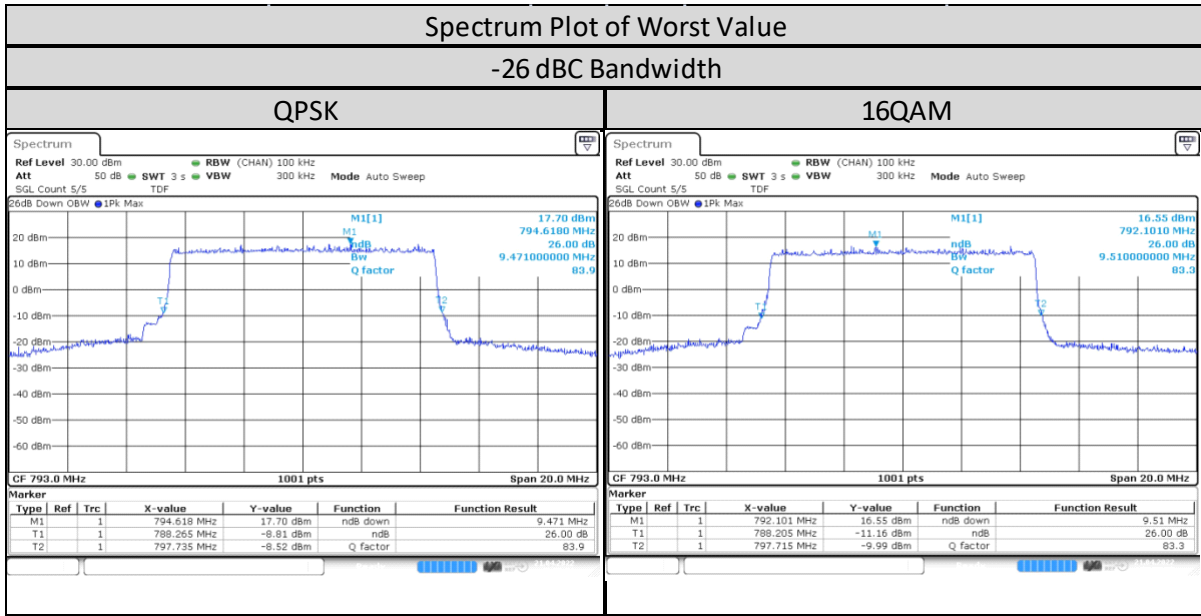
LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	-26 dBc Bandwidth (MHz)	
			QPSK Modulation	16QAM Modulation
Band 14/5MHz/25/0	Low CH 23305	790.5 MHz	4.805	4.785
	Mid CH 23330	793 MHz	4.845	4.805
	High CH 23355	795.5 MHz	4.825	4.835



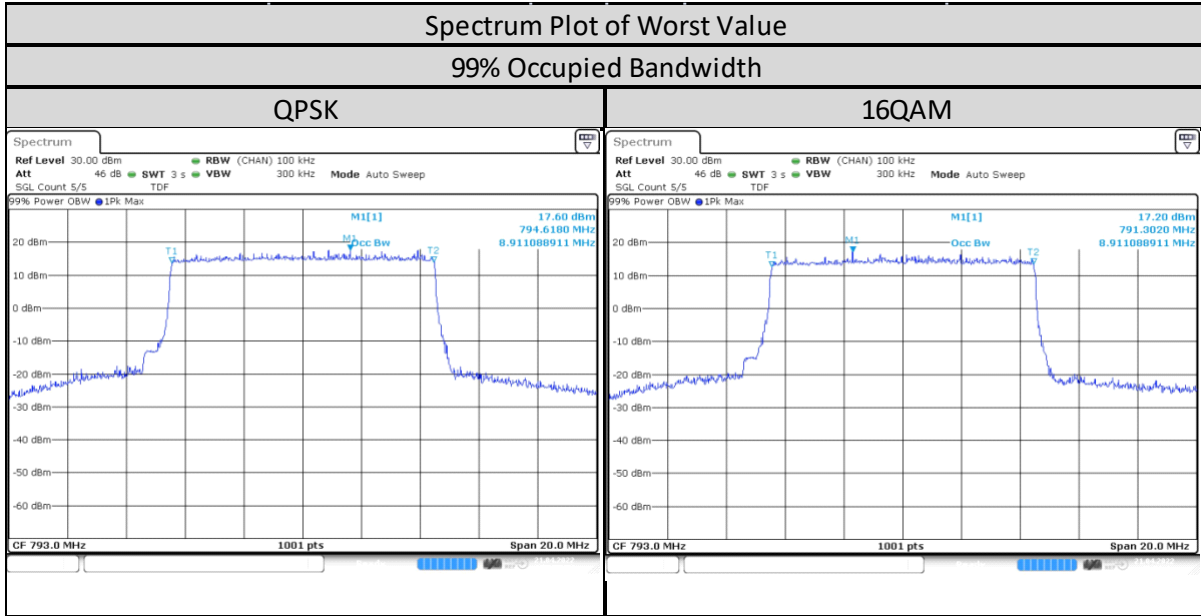
LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	99% Occupied Bandwidth (MHz)	
			QPSK Modulation	16QAM Modulation
Band 14/5MHz/25/0	Low CH 23305	790.5 MHz	4.466	4.466
	Mid CH 23330	793 MHz	4.476	4.466
	High CH 23355	795.5 MHz	4.476	4.476



LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	-26 dBc Bandwidth (MHz)	
			QPSK Modulation	16QAM Modulation
Band 14/10MHz/50/0	Low CH			
	Mid CH 23330	793 MHz	9.471	9.51
	High CH			

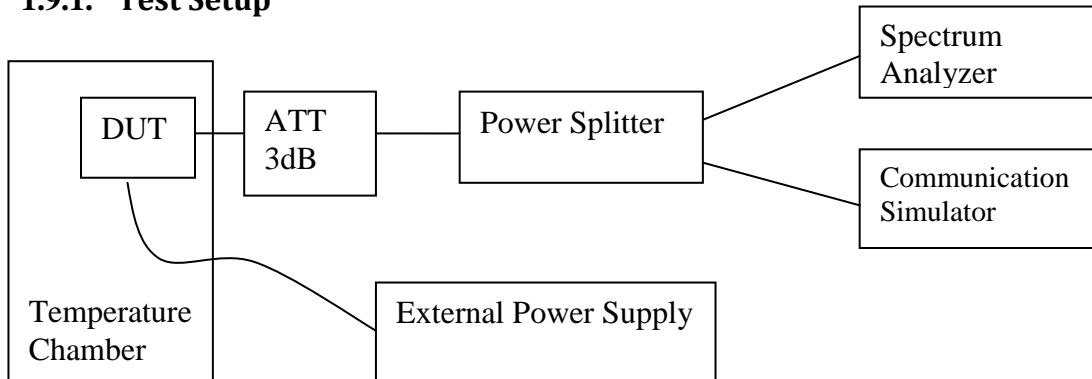


LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	99% Occupied Bandwidth (MHz)	
			QPSK Modulation	16QAM Modulation
Band 14/10MHz/50/0	Low CH			
	Mid CH 23330	793 MHz	8.911	8.911
	High CH			



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 ~ 60 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 - LTE Band 14 (788-798MHz)

Band	Temp (Deg C)	Frequency Error VS Temperature			
		Channel Bandwidth: 5 MHz			
		Low Channel		High Channel	
		790.5MHz		795.5MHz	
		Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
LTE Band 14	60	790.499994	-0.008035	795.500009	0.010808
	50	790.500008	0.010279	795.50001	0.011958
	40	790.500007	0.009283	795.500013	0.016778
	30	790.50001	0.012179	795.500009	0.011257
	20	790.500008	0.010532	795.500011	0.013343
	10	790.500006	0.007619	795.50001	0.013019
	0	790.500006	0.007818	795.500009	0.011707
	-10	790.499993	-0.009048	795.500012	0.015231
	-20	790.500008	0.009899	795.500011	0.014188
	-30	790.500006	0.007257	795.500011	0.013739

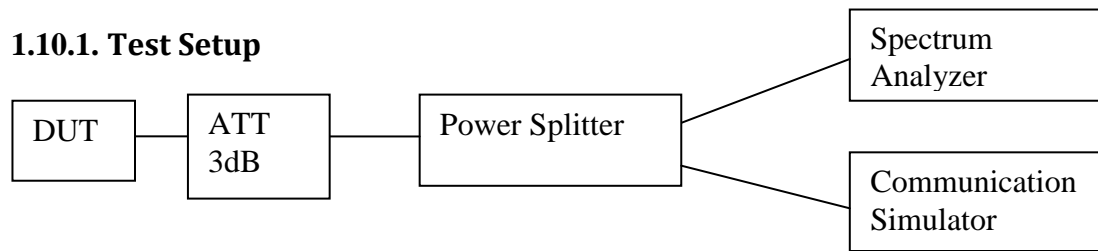
Band	Voltage (V)	Frequency Error VS Voltage			
		Channel Bandwidth: 5 MHz			
		Low Channel		High Channel	
		790.5MHz		795.5MHz	
		Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
LTE Band 14	9	790.499994	-0.007619	795.500011	0.013253
	7.5	790.500006	0.007039	795.500007	0.008901
	6	790.500007	0.009265	795.500012	0.015411

Band	Temp (Deg C)	Frequency Error VS Temperature	
		Channel Bandwidth: 10 MHz	
		Mid Channel	
		793MHz	
LTE Band 14		Frequency (MHz)	Frequency Error (ppm)
	60	792.999992	-0.009525
	50	792.999985	-0.019482
	40	792.999991	-0.011834
	30	792.999991	-0.011311
	20	792.999992	-0.010102
	10	792.999992	-0.010517
	0	792.999989	-0.013782
	-10	792.999993	-0.009038
	-20	792.999991	-0.011744
-30	792.999993	-0.008749	

Band	Voltage (V)	Frequency Error VS Voltage	
		Channel Bandwidth: 10 MHz	
		Mid Channel	
		793MHz	
LTE Band 14		Frequency (MHz)	Frequency Error (ppm)
	9	792.999991	-0.01113
	7.5	792.999992	-0.010715
	6	792.999991	-0.011238

1.10. Band Edge/Emission Mask Conducted Spurious Emission

1.10.1. 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) 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, RBW is 1~3% of OBW and VBW is 3 times of RBW.
- 6) Record the maximum trace plot into the test report.

1.10.2. Test Limit

FCC:

(e) For operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations.
- (2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.
- (3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log (P)$ dB.
- (4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.
- (5) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30 kHz may be employed.

ISED:

The power of any unwanted emission outside the bands 758-768 MHz and 788-798 MHz shall be attenuated below the transmitter output power P in dBW as follows, where p is the transmitter output power in watts:

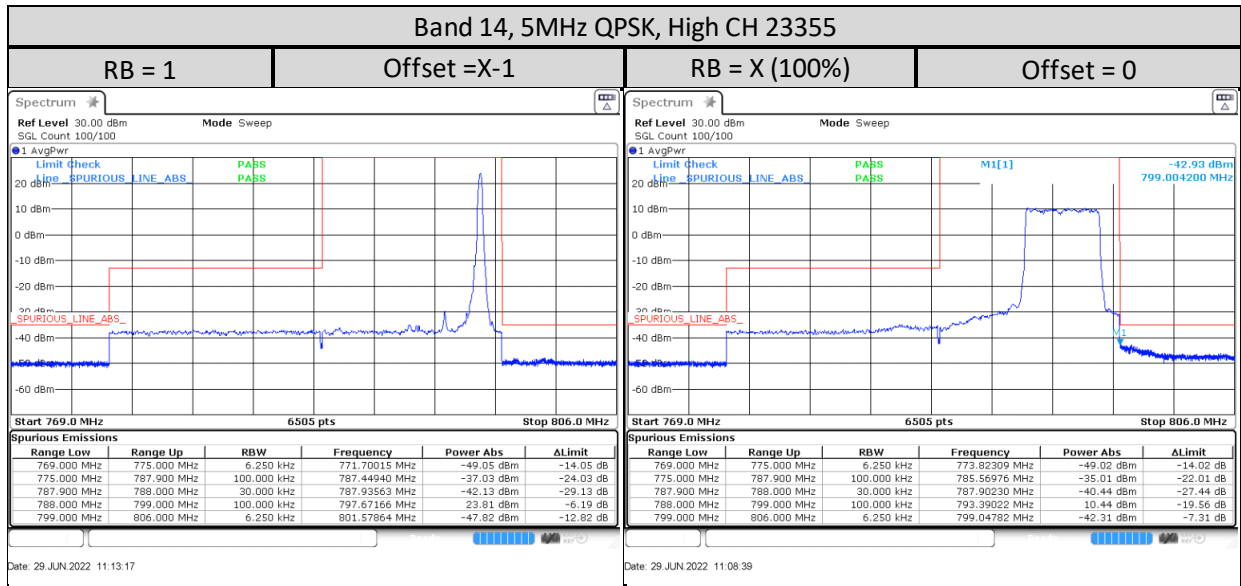
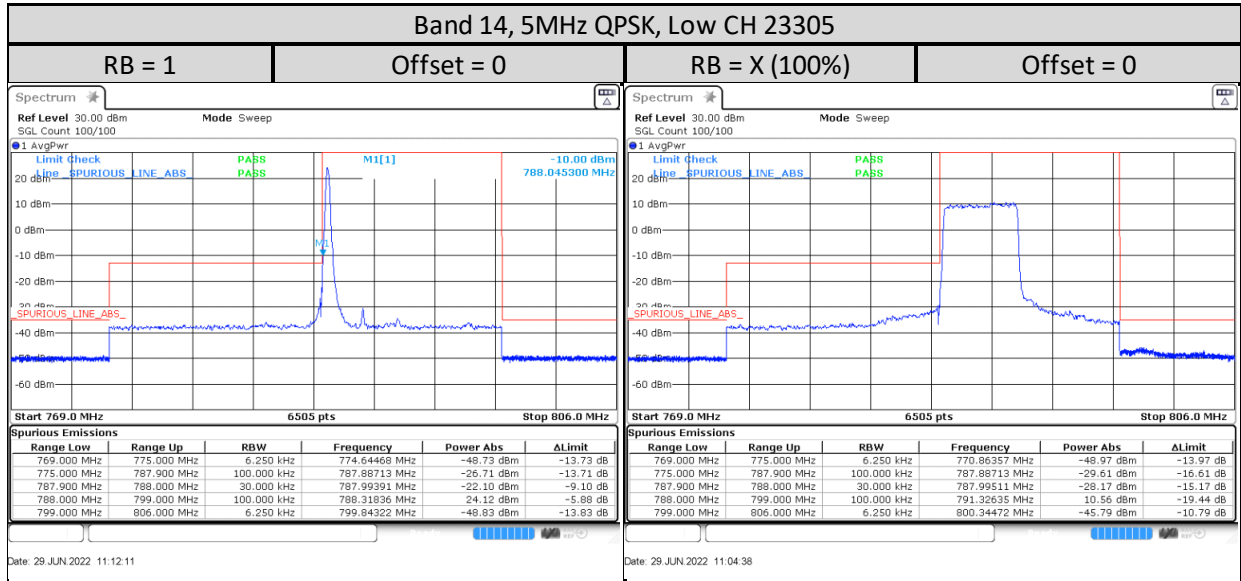
For any frequency between 769-775 MHz and 799-806 MHz:

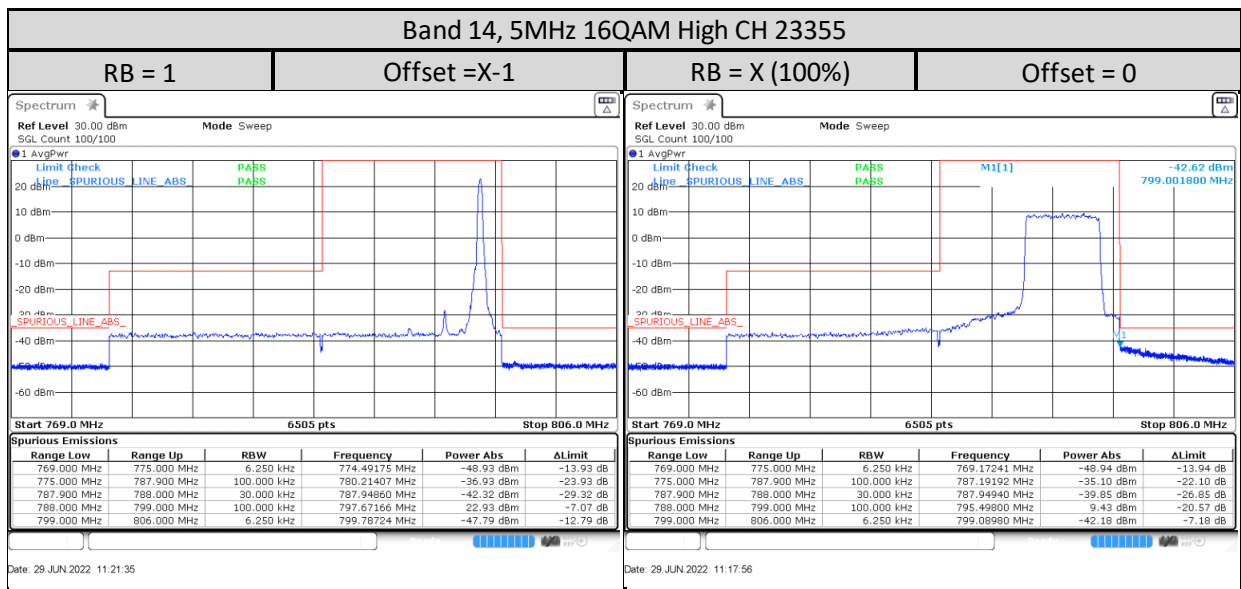
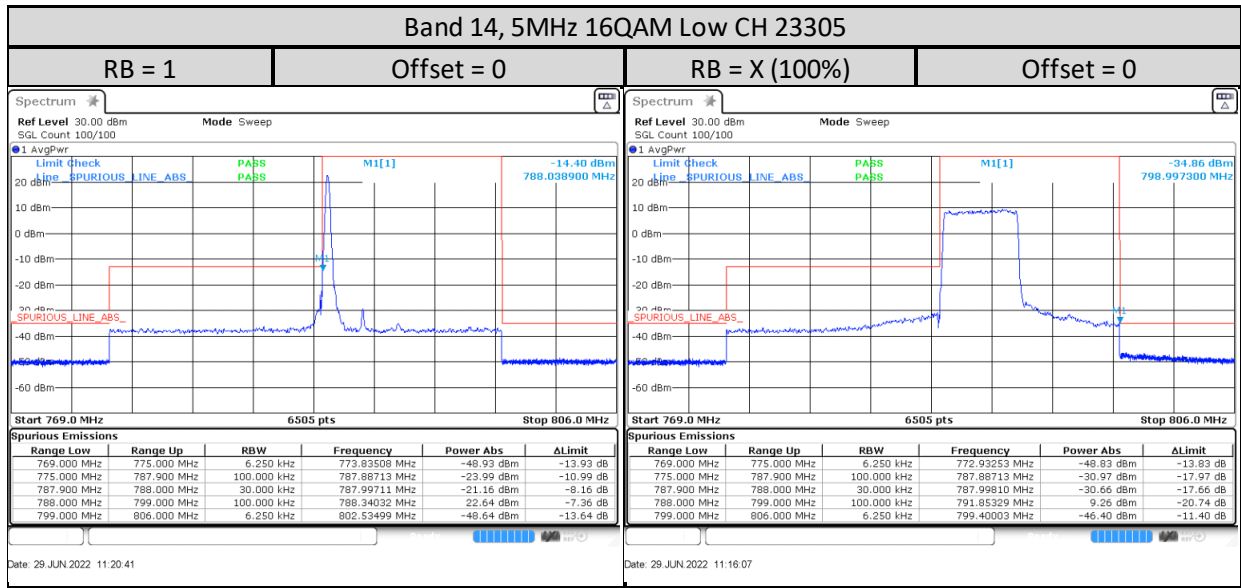
$76 + 10 \log (p)$, dB in a 6.25 kHz band for fixed and base station equipment

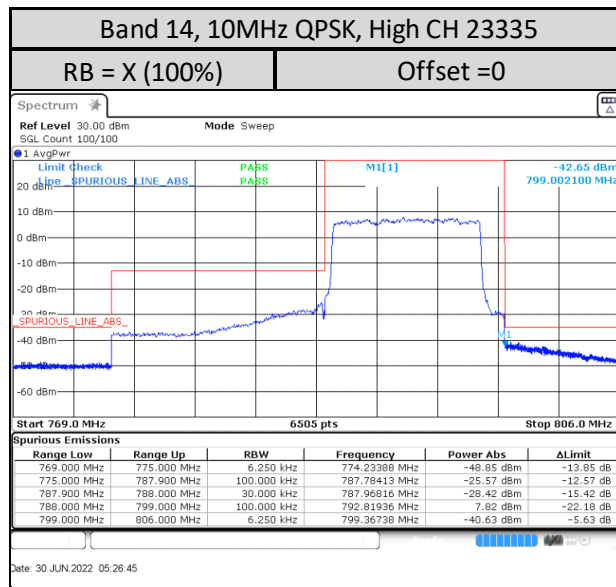
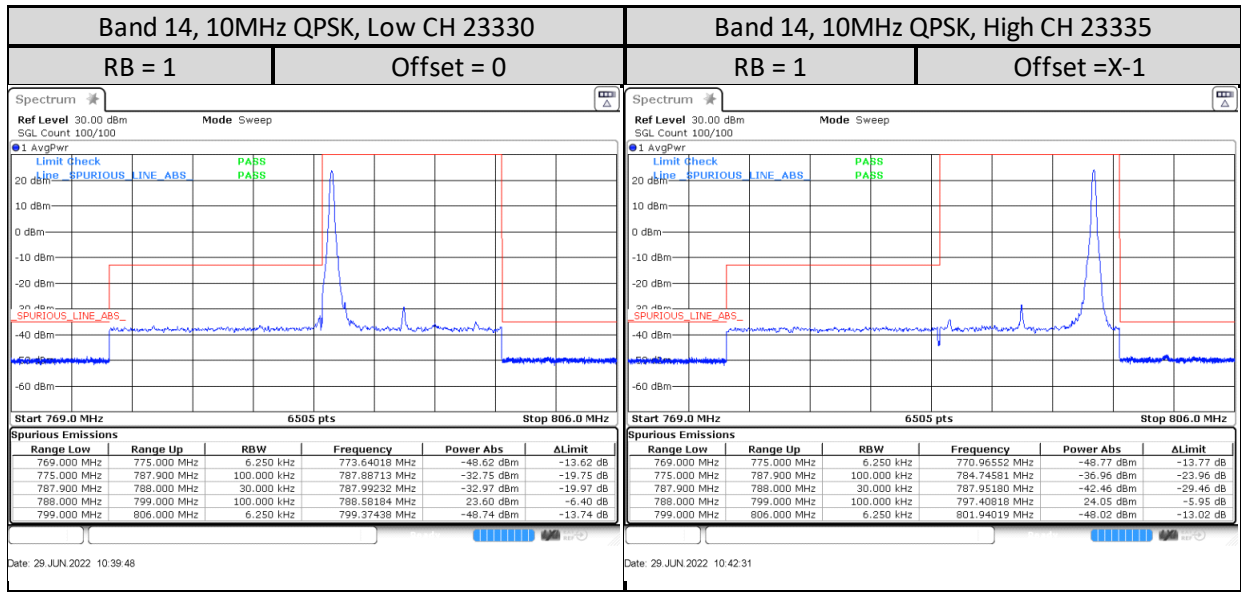
$65 + 10 \log (p)$, dB in a 6.25 kHz band for mobile and portable/hand-held equipment

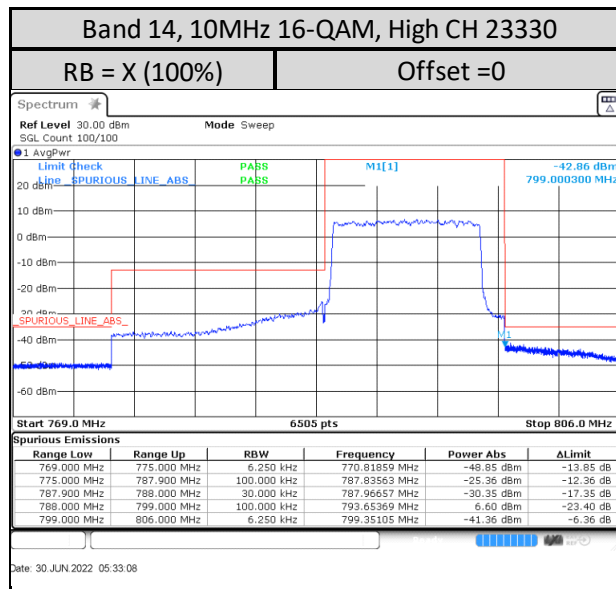
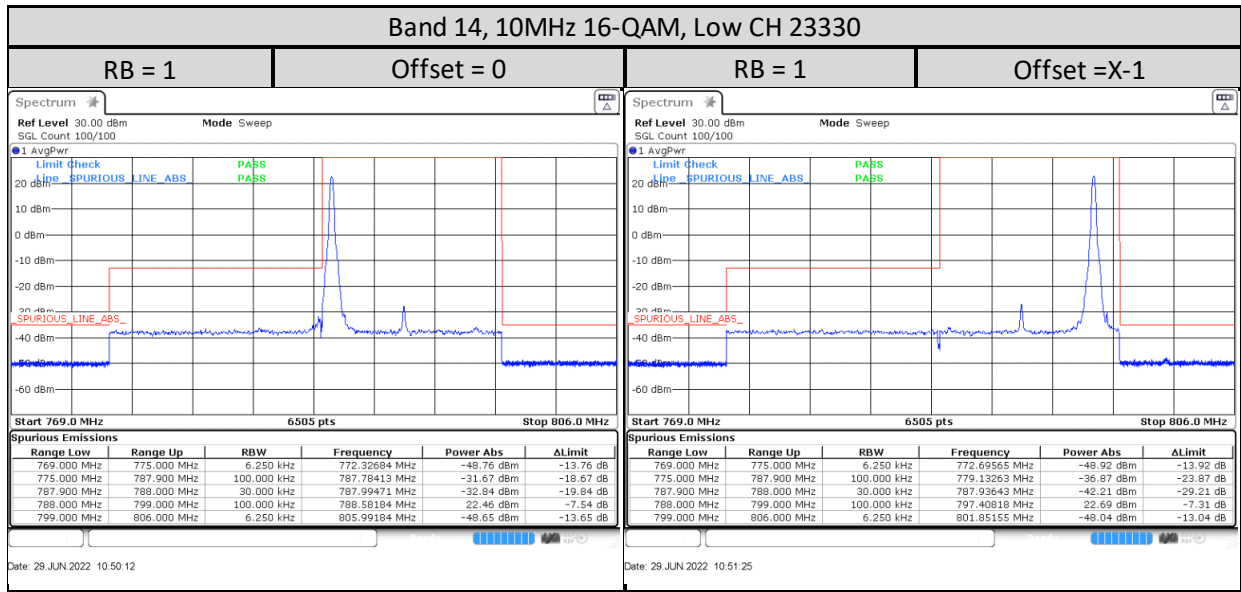
For any frequency between 775-788 MHz, above 806 MHz, and below 758 MHz: $43 + 10 \log (p)$, dB in a bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency bands 758-768 MHz and 788-798 MHz, a resolution bandwidth of 30 kHz may be employed.

1.10.3. Band Edge/Emission Mask Conducted Spurious Emission - LTE Band 14 (788-798MHz)



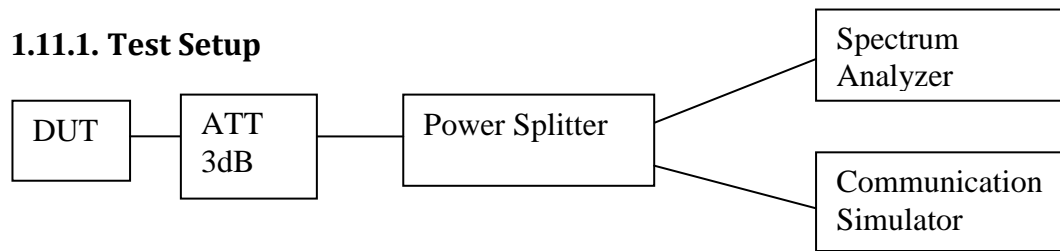






1.11. Conducted Spurious Emission

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*RBW.
- 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

FCC:

(e) For operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations.
- (2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.
- (3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log (P)$ dB.
- (4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.
- (5) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30 kHz may be employed.

ISED:

The power of any unwanted emission outside the bands 758-768 MHz and 788-798 MHz shall be attenuated below the transmitter output power P in dBW as follows, where p is the transmitter output power in watts:

For any frequency between 769-775 MHz and 799-806 MHz:

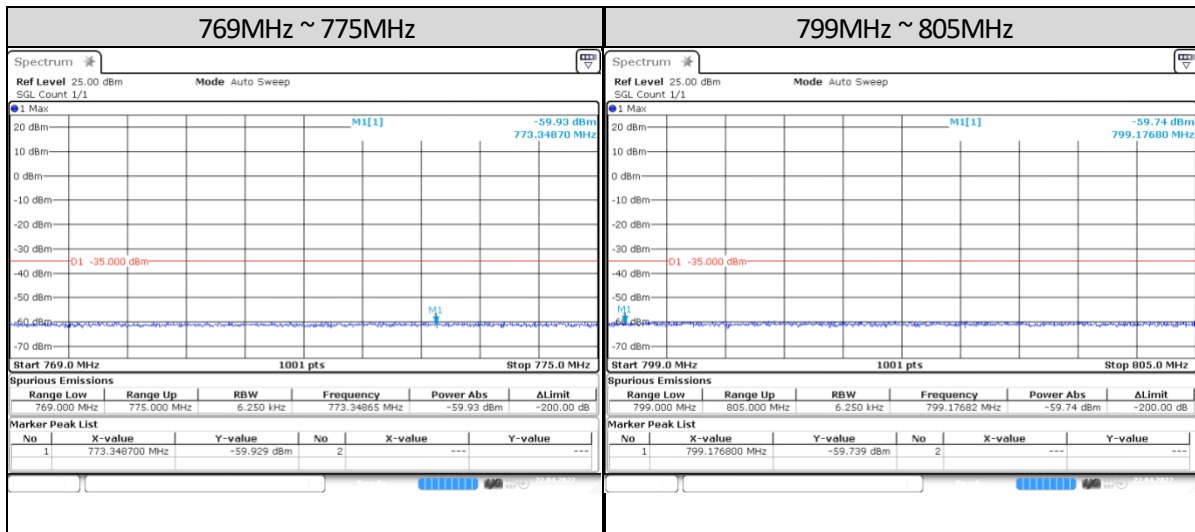
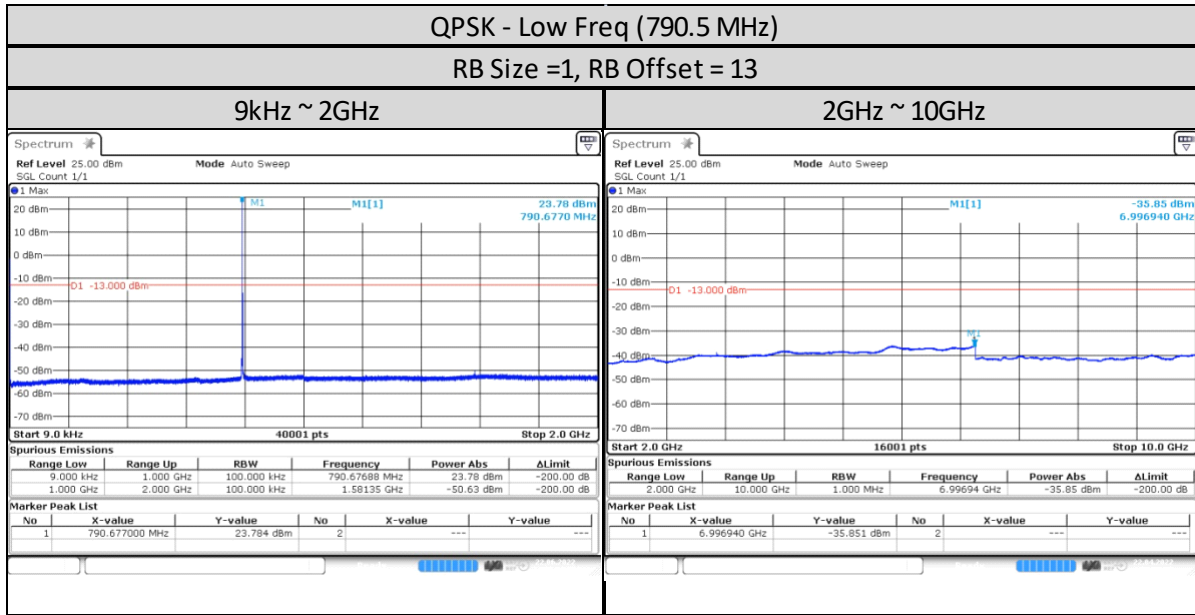
$76 + 10 \log (p)$, dB in a 6.25 kHz band for fixed and base station equipment

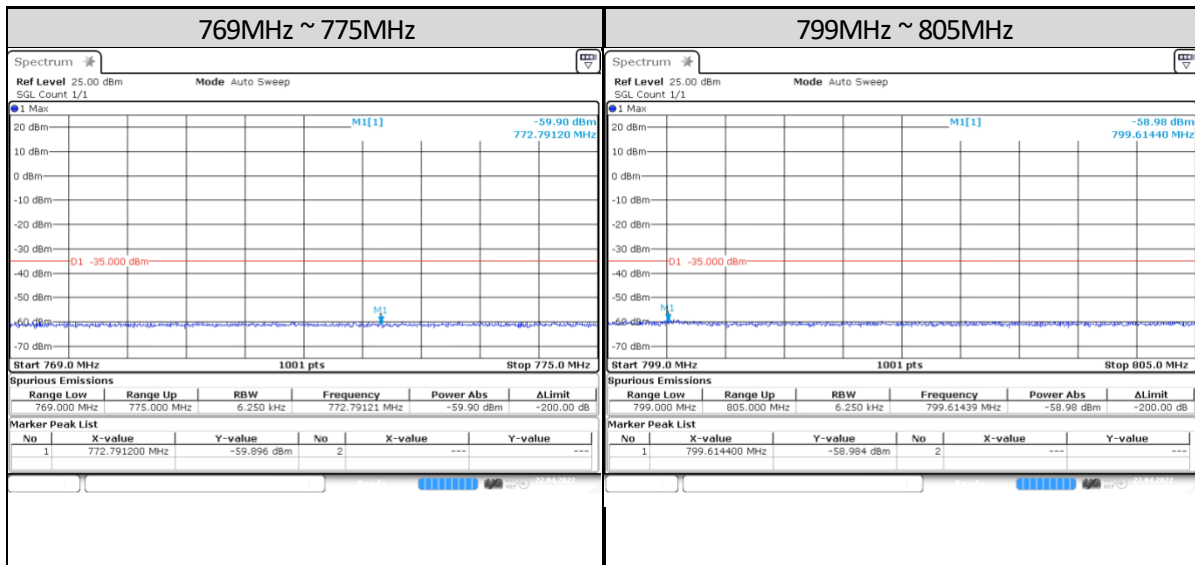
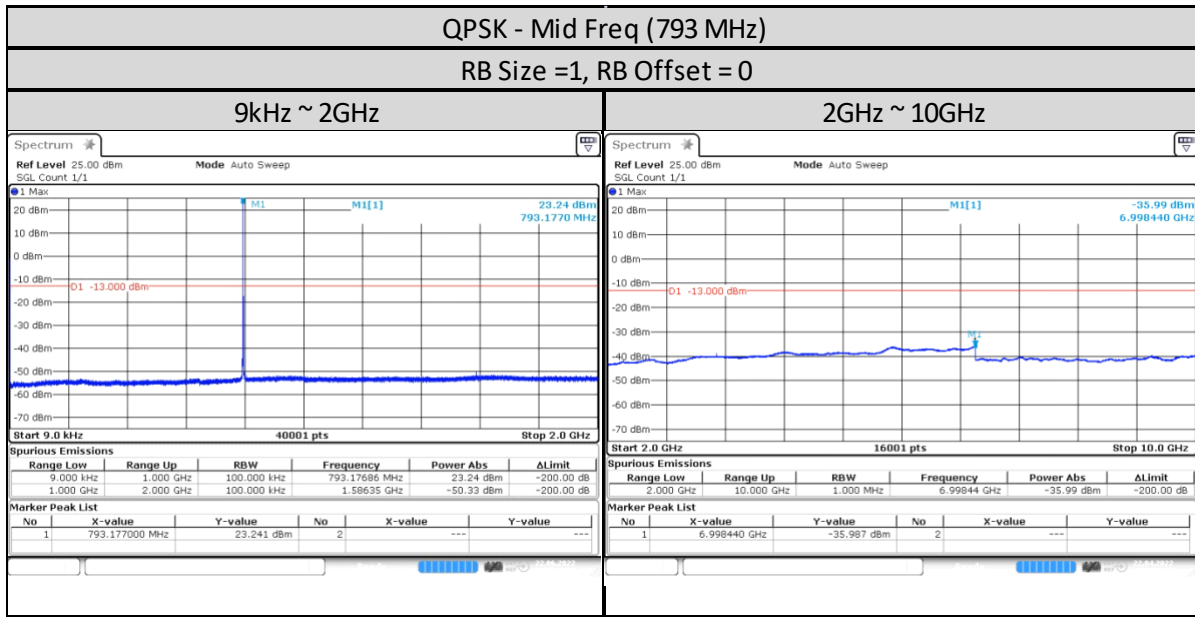
$65 + 10 \log (p)$, dB in a 6.25 kHz band for mobile and portable/hand-held equipment

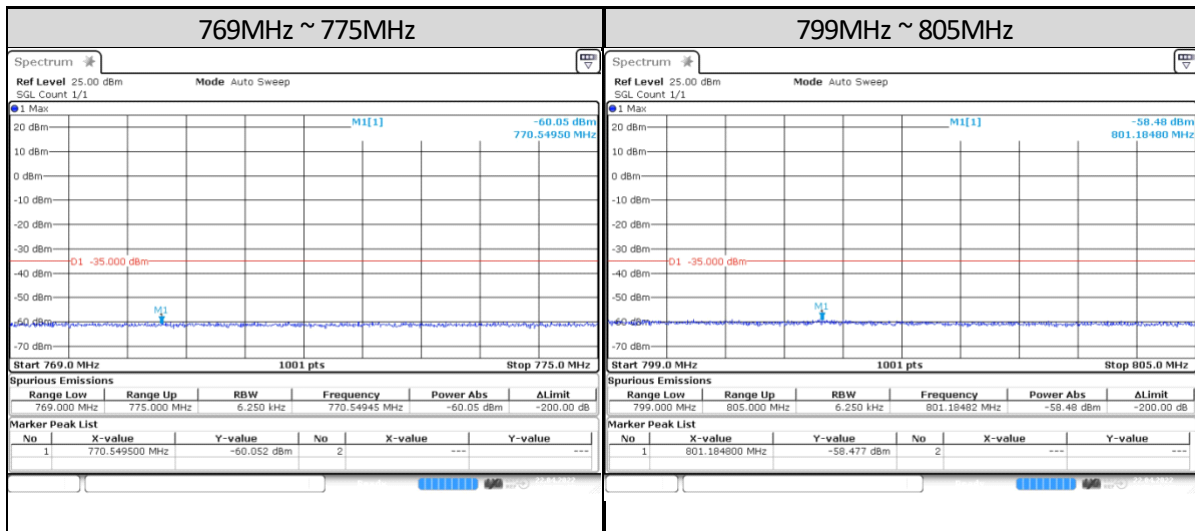
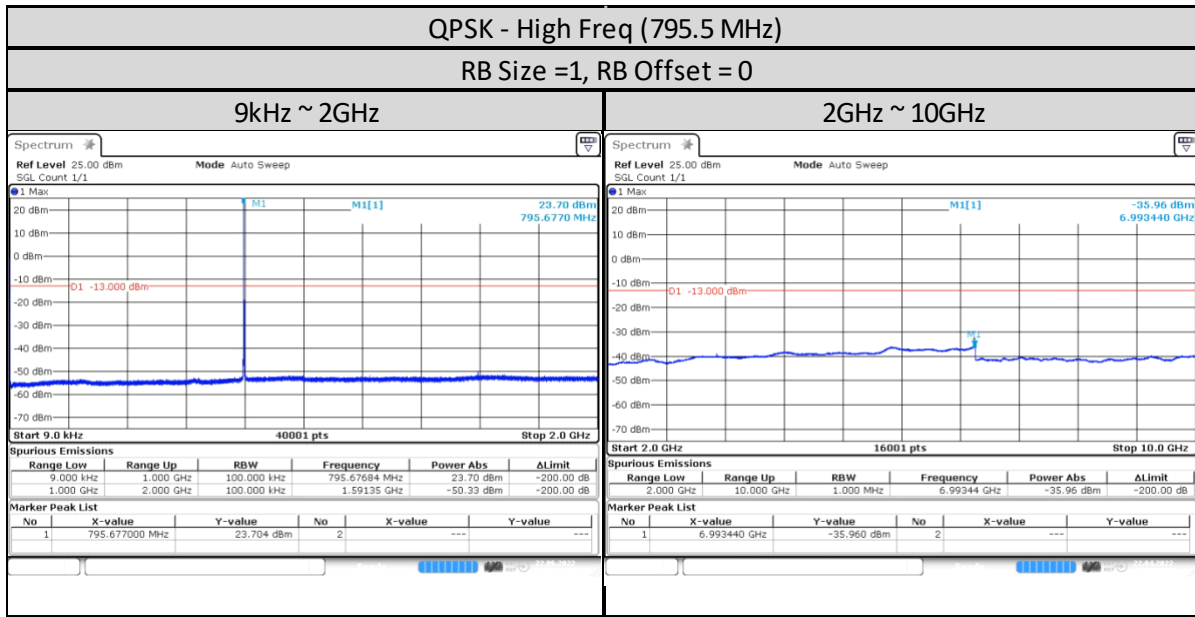
For any frequency between 775-788 MHz, above 806 MHz, and below 758 MHz: $43 + 10 \log (p)$, dB in a bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency bands 758-768 MHz and 788-798 MHz, a resolution bandwidth of 30 kHz may be employed.

1.11.3. Conducted Spurious Emission - LTE Band 14 (788-798MHz)

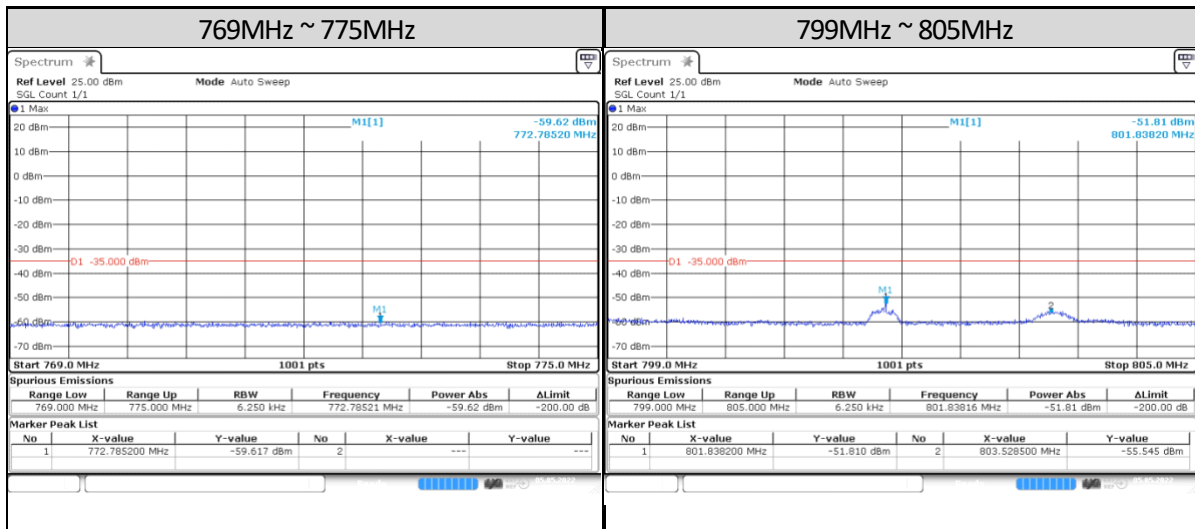
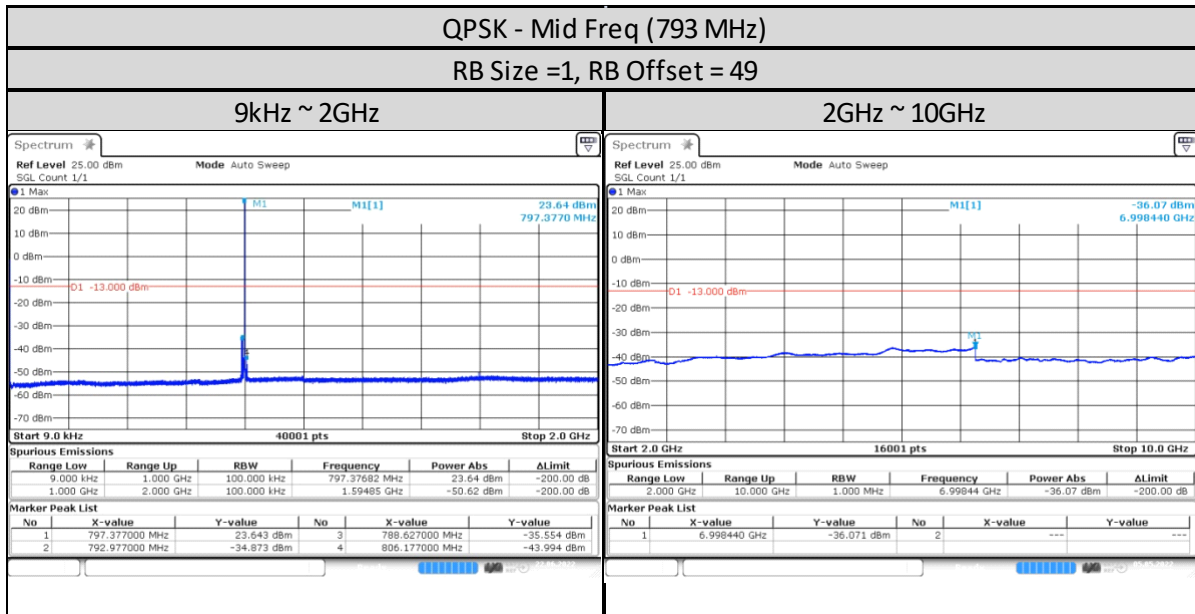
5MHz





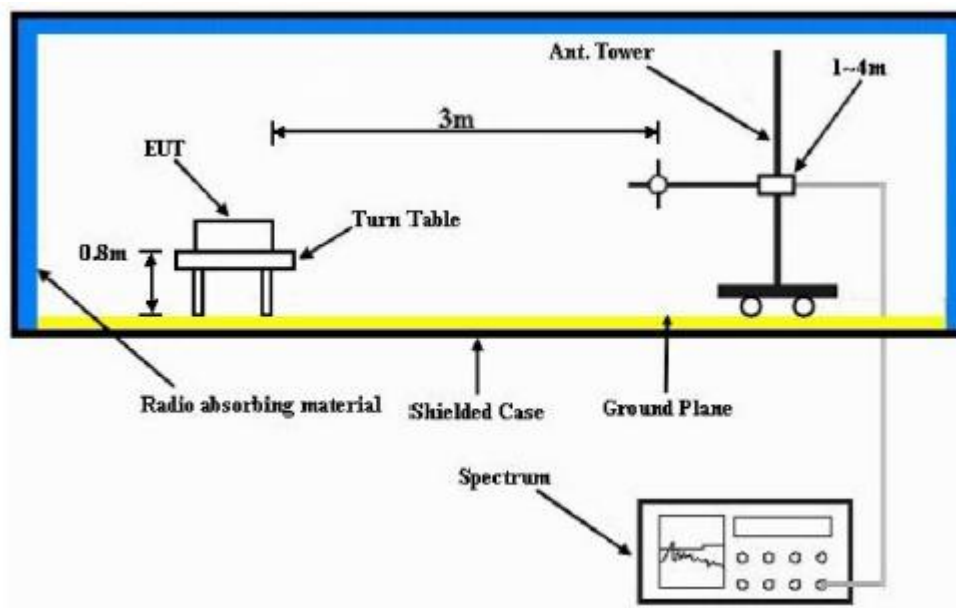


10MHz



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

FCC:

(e) For operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations.
- (2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.
- (3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log (P)$ dB.

(4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

(5) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30 kHz may be employed.

ISED:

The power of any unwanted emission outside the bands 758-768 MHz and 788-798 MHz shall be attenuated below the transmitter output power P in dBW as follows, where p is the transmitter output power in watts:

For any frequency between 769-775 MHz and 799-806 MHz:

$76 + 10 \log (p)$, dB in a 6.25 kHz band for fixed and base station equipment

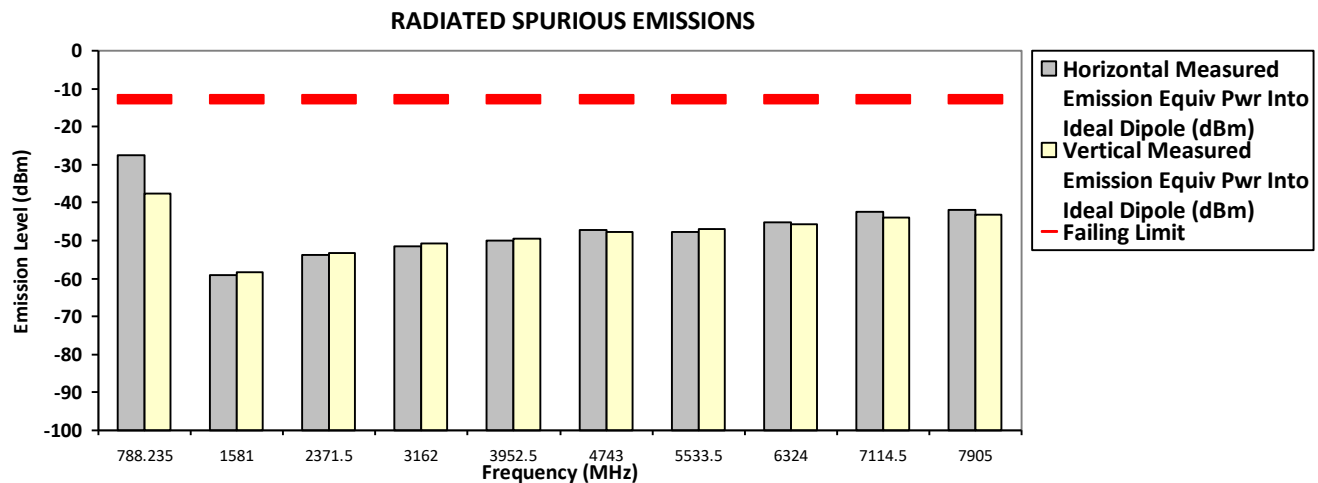
$65 + 10 \log (p)$, dB in a 6.25 kHz band for mobile and portable/hand-held equipment

For any frequency between 775-788 MHz, above 806 MHz, and below 758 MHz: $43 + 10 \log (p)$, dB in a bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency bands 758-768 MHz and 788-798 MHz, a resolution bandwidth of 30 kHz may be employed.

1.12.3. Radiated Spurious Emission - LTE Band 14 (788-798MHz)

SAC Transmitter Radiated Emission:
Model Number: AAH90UCU9RH1AN **S/N:** 734TYF0069 **SR:**27331-EMC-00033
Battery Part No: PMNN4805A **Accy Part No:** AN000415A01
Test Mode: TX LTE (Band 14) X-Plane **Bandwidth** 5MHz **0.317 Watt(s) /Max Power**
790.50000 MHz (Low)

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
1581.0000	-13.0000	-58.9706 **	-58.4180 **
2371.5000	-13.0000	-53.8586 **	-53.4074 **
3162.0000	-13.0000	-51.5725 **	-50.8279 **
3952.5000	-13.0000	-49.9928 **	-49.4124 **
4743.0000	-13.0000	-47.1755 **	-47.7693 **
5533.5000	-13.0000	-47.6175 **	-47.0881 **
6324.0000	-13.0000	-45.3101 **	-45.7068 **
7114.5000	-13.0000	-42.4708 **	-43.8198 **
7905.0000	-13.0000	-41.8030 **	-43.2306 **



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: Azil&Qawiman Fri, 22 Apr, 2022

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): 23.3 Hum(%RH): 69.3

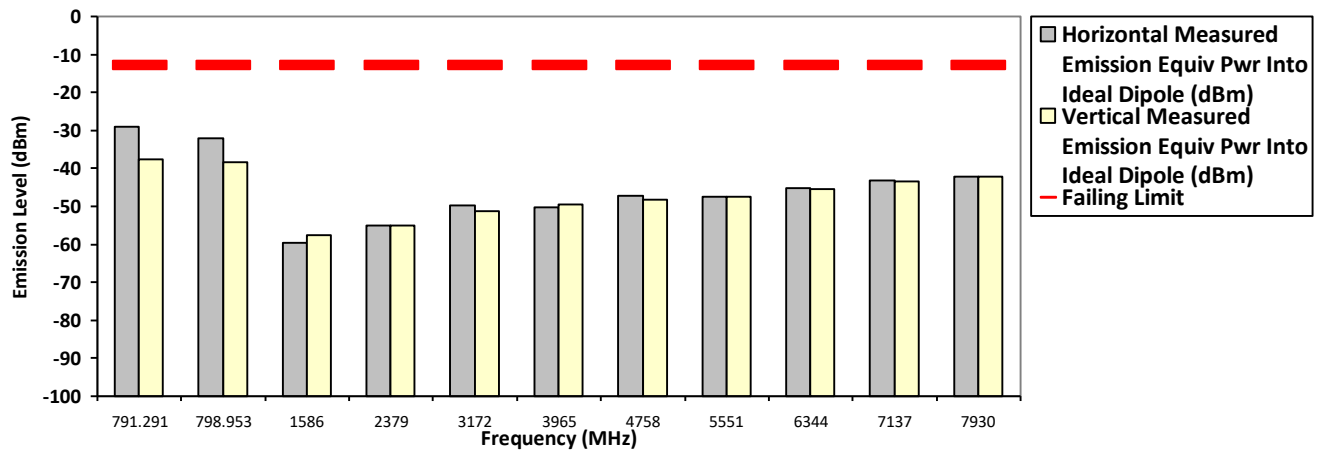
System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

SAC Transmitter Radiated Emission:
Model Number: AAH90UCU9RH1AN **S/N: 734TYF0069** **SR:27331-EMC-00033**
Battery Part No: PMNN4805A **Accy Part No: AN000415A01**
Test Mode: TX LTE (Band 14) X-Plane
793.000000 MHz (Mid) **Bandwidth 5MHz** **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)
1586.0000	-13.0000	-59.6700 **	-57.6750 **
2379.0000	-13.0000	-55.1163 **	-55.1288 **
3172.0000	-13.0000	-49.6646 **	-51.1763 **
3965.0000	-13.0000	-50.2481 **	-49.6163 **
4758.0000	-13.0000	-47.1929 **	-48.3053 **
5551.0000	-13.0000	-47.4985 **	-47.3782 **
6344.0000	-13.0000	-45.2643 **	-45.5571 **
7137.0000	-13.0000	-43.2762 **	-43.5206 **
7930.0000	-13.0000	-42.1139 **	-42.2277 **

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: Azil&Qawiman Fri, 22 Apr, 2022

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): 23.3 Hum(%RH): 69.3

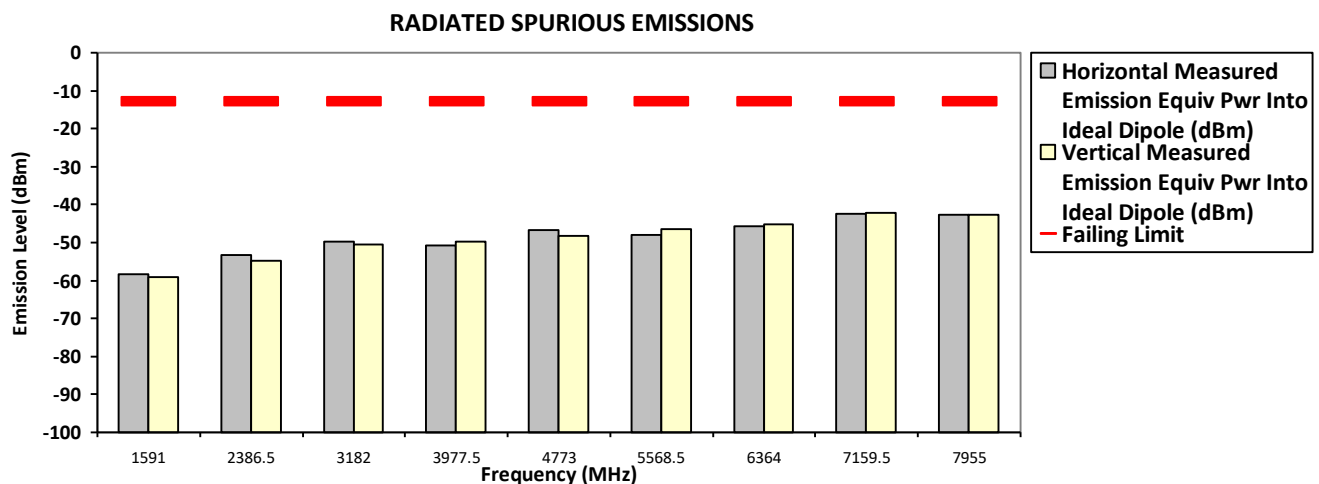
System MU: 4.03 dB

Remarks:

Passed Results	Marginal Results	Failed Results
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SAC Transmitter Radiated Emission:
Model Number: AAH90UCU9RH1AN **S/N: 734TYF0069** **SR:27331-EMC-00033**
Battery Part No: PMNN4805A **Accy Part No: AN000415A01**
Test Mode: TX LTE (Band 14) X-Plane
795.50000 MHz (High) **Bandwidth 5MHz** **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)
1591.0000	-13.0000	-58.2549 **	-59.0687 **
2386.5000	-13.0000	-53.3433 **	-54.8285 **
3182.0000	-13.0000	-49.7391 **	-50.4345 **
3977.5000	-13.0000	-50.8344 **	-49.7603 **
4773.0000	-13.0000	-46.8372 **	-48.1470 **
5568.5000	-13.0000	-48.0589 **	-46.4109 **
6364.0000	-13.0000	-45.6548 **	-45.0848 **
7159.5000	-13.0000	-42.5079 **	-42.2430 **
7955.0000	-13.0000	-42.7145 **	-42.7368 **



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: Azil&Qawiman Fri, 22 Apr, 2022

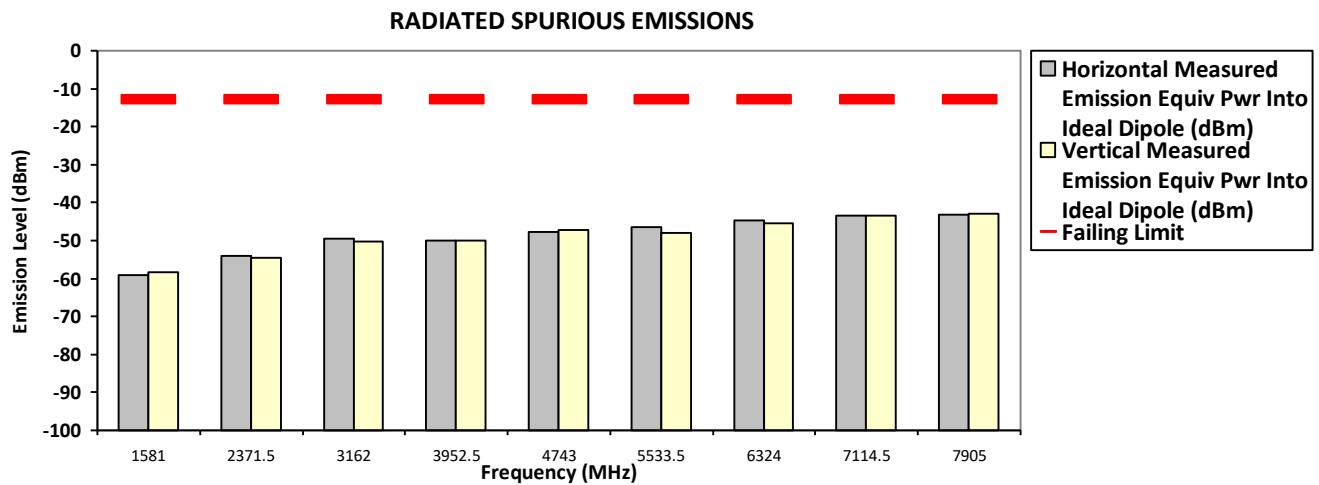
Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
 *Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 23.3 Hum(%RH): 69.3

System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

SAC Transmitter Radiated Emission:
Model Number: AAH90UCU9RH1AN **S/N: 734TYF0069** **SR:27331-EMC-00033**
Battery Part No: PMNN4805A **Accy Part No: AN000415A01**
Test Mode: TX LTE (Band 14) Y-Plane
790.50000 MHz (Low) **Bandwidth 5MHz** **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)
1581.0000	-13.0000	-59.0011 **	-58.2533 **
2371.5000	-13.0000	-53.9370 **	-54.4284 **
3162.0000	-13.0000	-49.4752 **	-50.2691 **
3952.5000	-13.0000	-49.9142 **	-49.9459 **
4743.0000	-13.0000	-47.6562 **	-47.3423 **
5533.5000	-13.0000	-46.4754 **	-48.0674 **
6324.0000	-13.0000	-44.6722 **	-45.5490 **
7114.5000	-13.0000	-43.4819 **	-43.4237 **
7905.0000	-13.0000	-43.1173 **	-43.0085 **



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: Azil&Qawiman Fri, 22 Apr, 2022

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): 23.3 Hum(%RH): 69.3

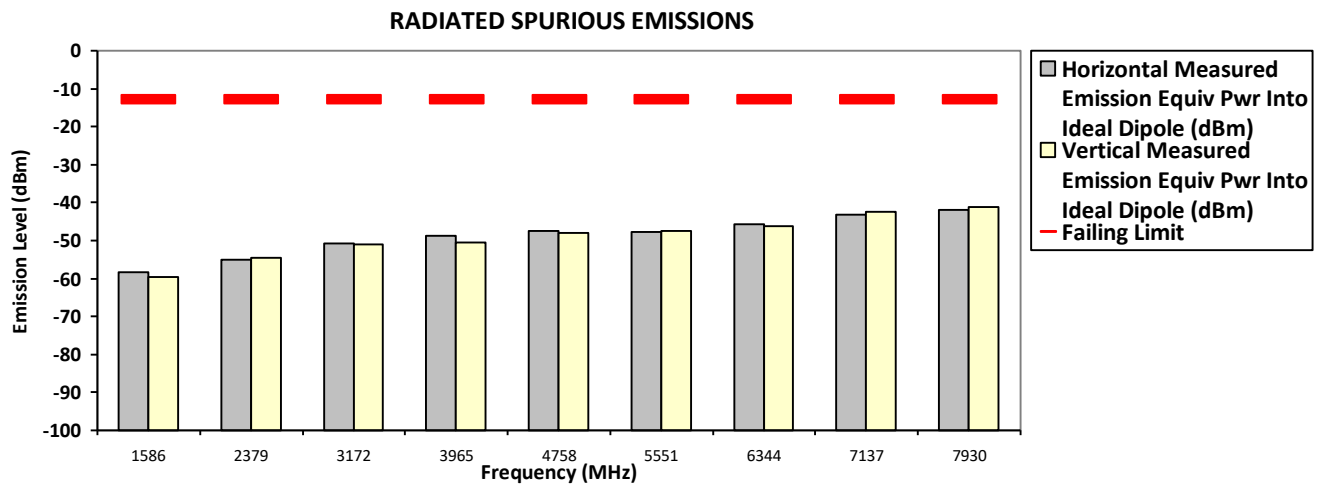
System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

SAC Transmitter Radiated Emission:

Model Number: AAH90UCU9RH1AN **S/N: 734TYF0069** **SR:27331-EMC-00033**
Battery Part No: PMNN4805A **Accy Part No: AN000415A01**
Test Mode: TX LTE (Band 14) Y-Plane
793.000000 MHz (Mid) **Bandwidth 5MHz** **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)
1586.0000	-13.0000	-58.4511 **	-59.6845 **
2379.0000	-13.0000	-54.9957 **	-54.5640 **
3172.0000	-13.0000	-50.6624 **	-51.0405 **
3965.0000	-13.0000	-48.7371 **	-50.4933 **
4758.0000	-13.0000	-47.5505 **	-48.0188 **
5551.0000	-13.0000	-47.7447 **	-47.4589 **
6344.0000	-13.0000	-45.7096 **	-46.2689 **
7137.0000	-13.0000	-43.0629 **	-42.3225 **
7930.0000	-13.0000	-41.9518 **	-41.2070 **



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: Azil&Qawiman Fri, 22 Apr, 2022

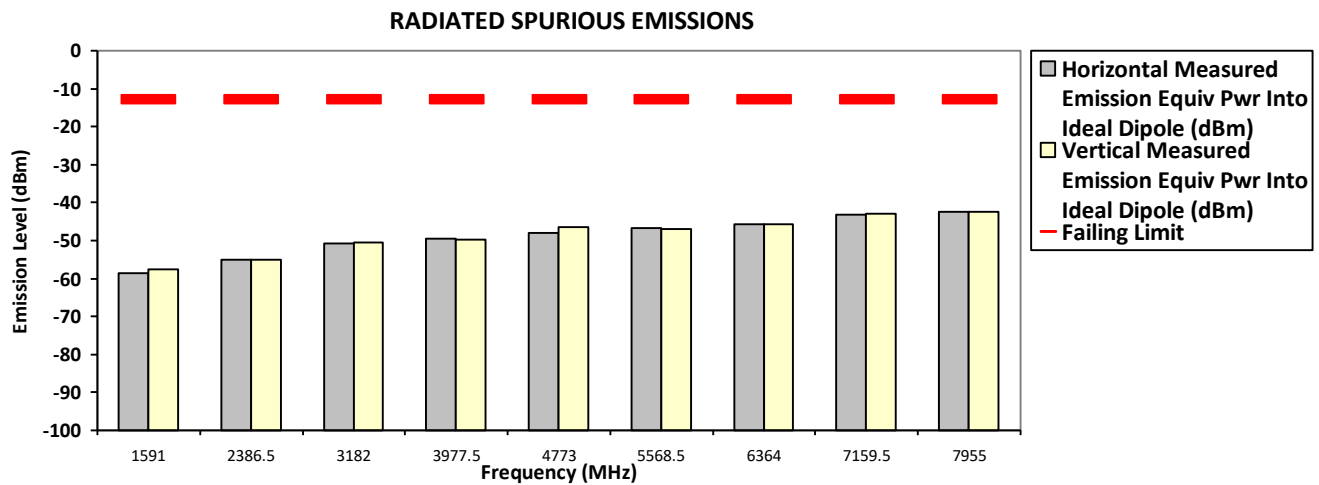
Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
 *Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 23.3 Hum(%RH): 69.3

System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

SAC Transmitter Radiated Emission:
Model Number: AAH90UCU9RH1AN **S/N: 734TYF0069** **SR:27331-EMC-00033**
Battery Part No: PMNN4805A **Accy Part No: AN000415A01**
Test Mode: TX LTE (Band 14) Y-Plane
795.50000 MHz (High) **Bandwidth 5MHz** **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)
1591.0000	-13.0000	-58.6236 **	-57.5867 **
2386.5000	-13.0000	-54.9957 **	-54.9457 **
3182.0000	-13.0000	-50.8174 **	-50.3909 **
3977.5000	-13.0000	-49.3994 **	-49.6755 **
4773.0000	-13.0000	-47.8847 **	-46.4825 **
5568.5000	-13.0000	-46.5984 **	-46.8581 **
6364.0000	-13.0000	-45.7262 **	-45.7471 **
7159.5000	-13.0000	-43.1917 **	-42.9125 **
7955.0000	-13.0000	-42.4849 **	-42.5504 **



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: Azil&Qawiman Fri, 22 Apr, 2022

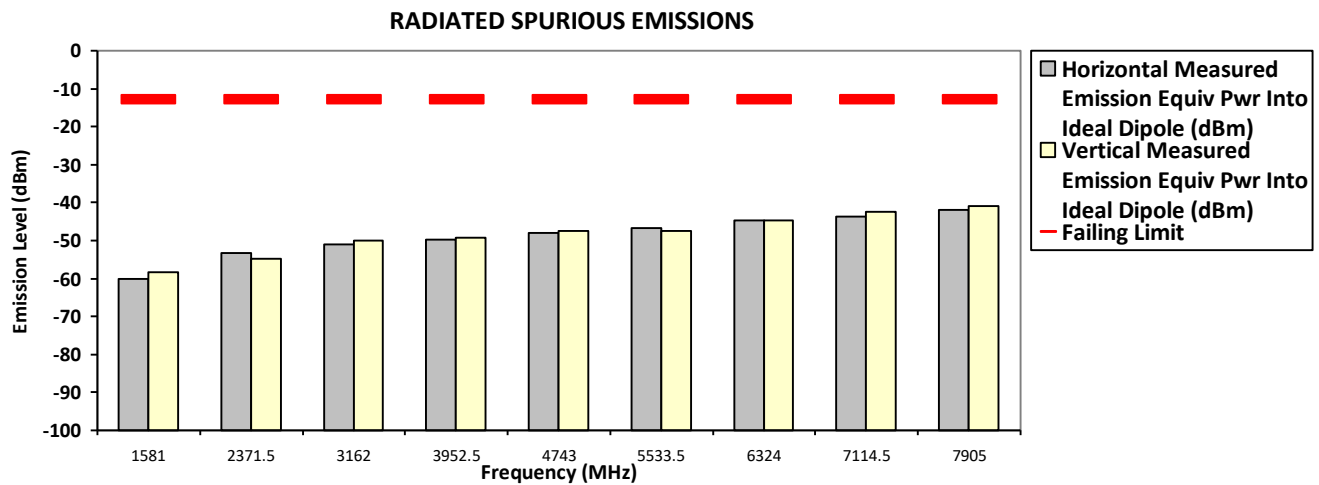
Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
 *Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 23.3 Hum(%RH): 69.3

System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

SAC Transmitter Radiated Emission:
Model Number: AAH90UCU9RH1AN **S/N: 734TYF0069** **SR:27331-EMC-00033**
Battery Part No: PMNN4805A **Accy Part No: AN000415A01**
Test Mode: TX LTE (Band 14) Z-Plane
790.50000 MHz (Low) **Bandwidth 5MHz** **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)
1581.0000	-13.0000	-60.1447 **	-58.4099 **
2371.5000	-13.0000	-53.4066 **	-54.8389 **
3162.0000	-13.0000	-51.1031 **	-50.0699 **
3952.5000	-13.0000	-49.7583 **	-49.2294 **
4743.0000	-13.0000	-47.9139 **	-47.5702 **
5533.5000	-13.0000	-46.6254 **	-47.4282 **
6324.0000	-13.0000	-44.7627 **	-44.6459 **
7114.5000	-13.0000	-43.5853 **	-42.3644 **
7905.0000	-13.0000	-41.8415 **	-40.9226 **



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: Azil&Qawiman Fri, 22 Apr, 2022

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): 23.3 Hum(%RH): 69.3

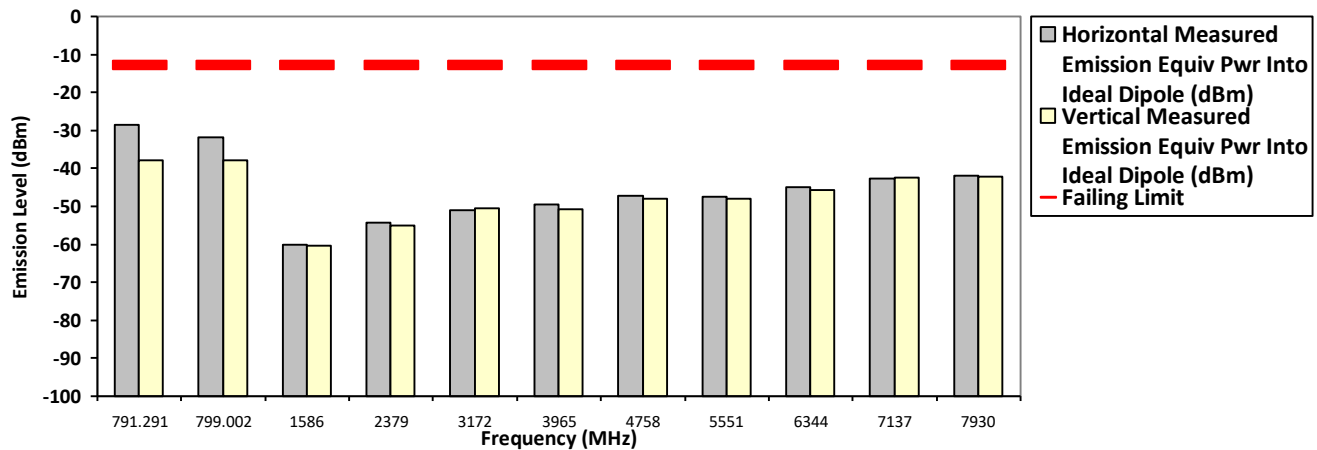
System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

SAC Transmitter Radiated Emission:
Model Number: AAH90UCU9RH1AN **S/N: 734TYF0069** **SR:27331-EMC-00033**
Battery Part No: PMNN4805A **Accy Part No: AN000415A01**
Test Mode: TX LTE (Band 14) Z-Plane
793.000000 MHz (Mid) **Bandwidth 5MHz** **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)
1586.0000	-13.0000	-60.1141 **	-60.2369 **
2379.0000	-13.0000	-54.2518 **	-55.0035 **
3172.0000	-13.0000	-51.0182 **	-50.5104 **
3965.0000	-13.0000	-49.4053 **	-50.6332 **
4758.0000	-13.0000	-47.3476 **	-47.8810 **
5551.0000	-13.0000	-47.4111 **	-47.8720 **
6344.0000	-13.0000	-45.0331 **	-45.6519 **
7137.0000	-13.0000	-42.6535 **	-42.5326 **
7930.0000	-13.0000	-41.8317 **	-42.1767 **

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: Azil&Qawiman Fri, 22 Apr, 2022

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): 23.3 Hum(%RH): 69.3

System MU: 4.03 dB

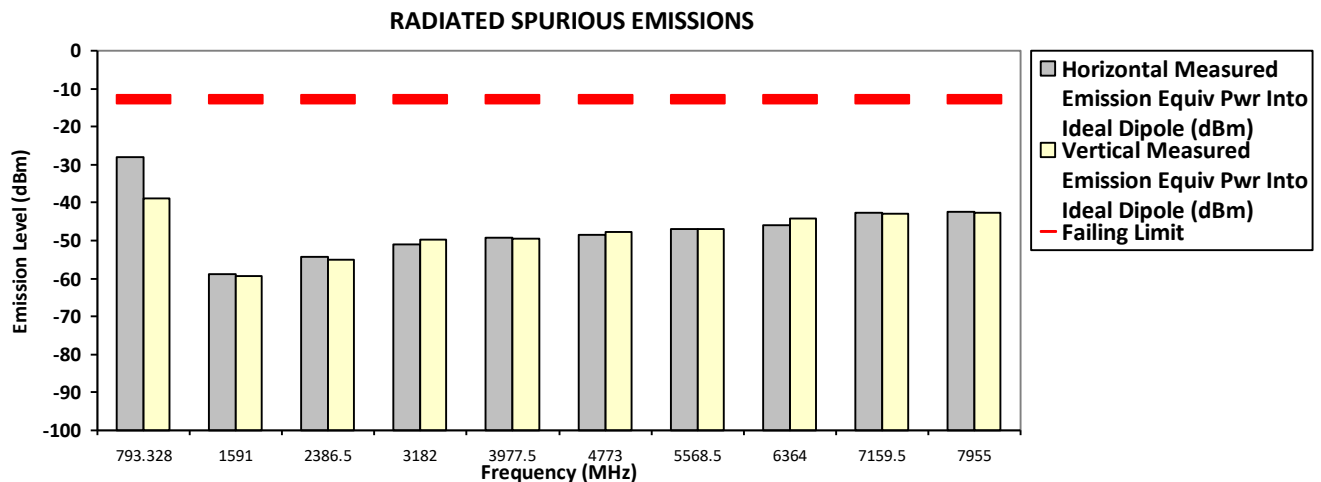
Remarks:

Passed Results	Marginal Results	Failed Results
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SAC Transmitter Radiated Emission:

Model Number: AAH90UCU9RH1AN **S/N: 734TYF0069** **SR:27331-EMC-00033**
Battery Part No: PMNN4805A **Accy Part No: AN000415A01**
Test Mode: TX LTE (Band 14) Z-Plane
795.50000 MHz (High) **Bandwidth 5MHz** **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)
1591.0000	-13.0000	-58.9165 **	-59.2308 **
2386.5000	-13.0000	-54.3658 **	-55.0616 **
3182.0000	-13.0000	-50.9326 **	-49.7710 **
3977.5000	-13.0000	-49.3640 **	-49.5943 **
4773.0000	-13.0000	-48.5589 **	-47.8468 **
5568.5000	-13.0000	-46.8693 **	-47.0016 **
6364.0000	-13.0000	-45.9114 **	-44.1478 **
7159.5000	-13.0000	-42.6251 **	-42.8036 **
7955.0000	-13.0000	-42.4195 **	-42.6785 **



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: Azil&Qawiman Fri, 22 Apr, 2022

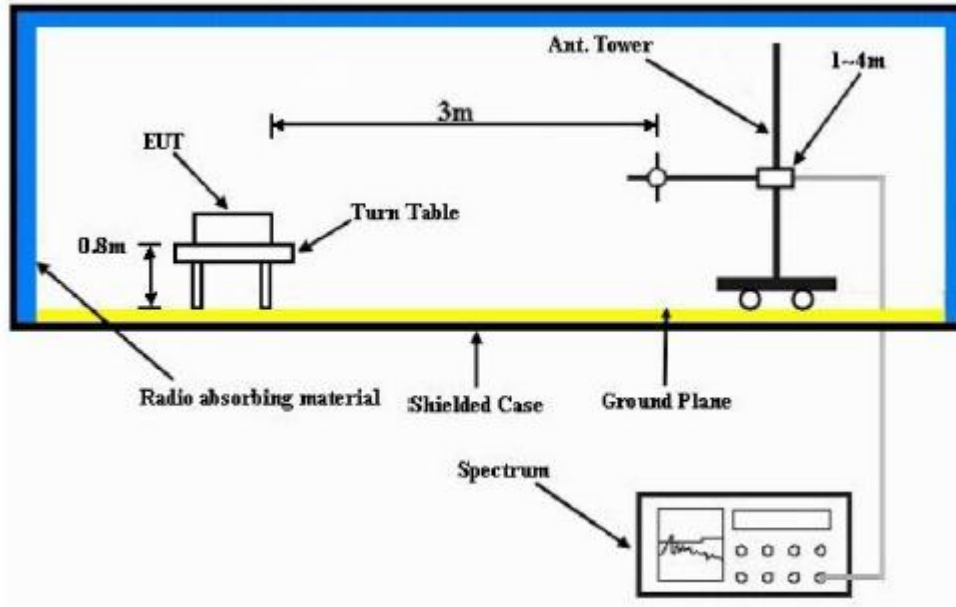
Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
 *Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 23.3 Hum(%RH): 69.3

System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

1.13. Effective Radiated Power (ERP)

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) ERP = “Read Value” + Measured substitution value.

1.13.2. Test Limit

FCC: Portable stations (hand-held devices) transmitting in the 758-768 MHz band and the 788-798 MHz band are limited to 3 watts ERP.

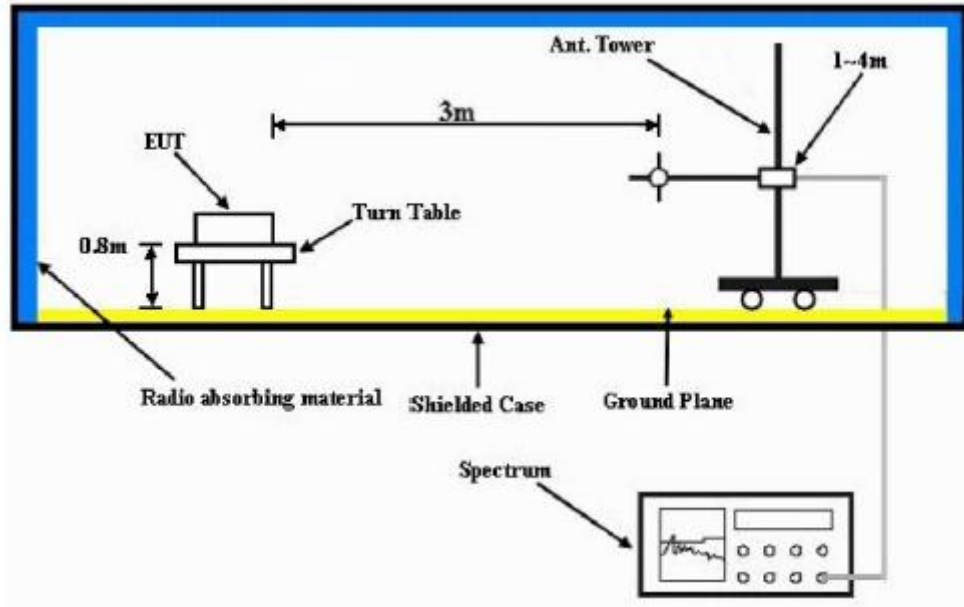
ISED: The e.r.p. for portable equipment including handheld devices shall not exceed 3 W.

1.13.3. Effective Radiated Power (ERP) - LTE Band 14 (788-798MHz)

Not Performed.

1.14. GNSS (EIRP for 1559 - 1610MHz)

1.14.1. Test Setup



- 1) 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.
- 2) 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.
- 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) $EIRP = \text{“Read Value”} + \text{Measured substitution value} + 2.15.$

1.14.2. Test Limit

FCC: 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. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

ISED: The equivalent isotropically radiated power (e.i.r.p.) of all emissions, including harmonics in the band 1559-1610 MHz, shall not exceed -70 dBW/MHz for wideband emissions, and -80 dBW/kHz for discrete emissions of less than 700 Hz bandwidth.

1.14.3. GNSS (EIRP for 1599 - 1610MHz) - LTE Band 14 (788-798MHz)

S/N: 734TYF0069
 Channel BW: 5 MHz
 Accessory: AN000415A01
 Battery: PMNN4805A

Tx Power: 0.282 Watts
 Modulation: QPSK

Frequency Channel: 790.5000 MHz (LTE Band 14)

Antenna Polarization	2Fc (MHz)	EIRP (dBm)	Limit (dBm)
Horizontal	1581.0000	-54.09	-40
Vertical	1581.0000	-54.38	-40

S/N: 734TYF0069
 Channel BW: 5 MHz
 Accessory: AN000415A01
 Battery: PMNN4805A

Tx Power: 0.282 Watts
 Modulation: QPSK

Frequency Channel: 795.5000 MHz (LTE Band 14)

Antenna Polarization	2Fc (MHz)	EIRP (dBm)	Limit (dBm)
Horizontal	1591.0000	-56.60	-40
Vertical	1591.0000	-56.66	-40

--End of Test Report--