

	    CERTIFICATE 2518.08 MS ISO/IEC 17025 TESTING SAMM NO. 0825																												
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.	FCC / ISED TEST REPORT Report Revision : Rev.B																												
<table><tr><td>Date/s Tested</td><td>: 31-March-2022 - 6-July-2022</td></tr><tr><td>Manufacturer/Location</td><td>: Motorola Solutions Malaysia Sdn Bhd</td></tr><tr><td>Manufacturer Address</td><td>: Plot 2A, Medan Bayan Lepas, Mukim 12 SWD, 11900 Bayan Lepas, Penang, Malaysia</td></tr><tr><td>Requestor</td><td>: SIEW KHENG TAN</td></tr><tr><td>Product Type</td><td>: Hand-held</td></tr><tr><td>Product Version (PMN)</td><td>: MSLB-MKZ920</td></tr><tr><td>Model Number (HVIN)</td><td>: AAH90UCU9RH1AN</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>ISED Registrations</td><td>: MY0001</td></tr><tr><td>Firmware Version (FVIN)</td><td>: D02.22.01.0103 (BP), D00.01.86 (AP)</td></tr></table>  The equipment was tested accordance to the requirement listed below: <table><tr><td>(LTE Band 13) FCC 47 CFR Part 2 / 27 ISED RSS GEN / 130</td><td>PASS</td></tr></table>		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)	(LTE Band 13) FCC 47 CFR Part 2 / 27 ISED RSS GEN / 130	PASS
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Prepared By:  Lim Khay Kwang Technician	Approve Signatory:  Ho Sze Khian Technical Manager																												

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REVISION HISTORY

Revision History	Description	Date	Originator
Rev A.	Initial Report	7-July-2022	Lim Khay Kwang
Rev B.	Update Frequency Stability Spec Limit	27-July-2022	Lim Khay Kwang

1.0. Summary of Test Results

FCC Clause	ISED Clause	Test Item	Results	Remarks	Serial Number Tested
2.1046 27.50(b)(12)	RSS-Gen 6.12 RSS-130 4.4	Conducted RF Output Power	Pass	Meet the requirement of limit	734TYF0012
-	RSS 130 4.4	Peak-to-Average Power Ratio	Pass	Meet the requirement of limit	734TYF0012
2.1049	RSS-Gen 6.7	Occupied Bandwidth (26dBc, 99%)	Pass	Meet the requirement of limit	734TYF0012
2.1055 27.54	RSS-130 4.3	Frequency Stability	Pass	Meet the requirement of limit	734TYF0012
2.1051 27.53(c)	RSS-Gen 6.13 RSS-130 4.7	Band Edge Conducted Spurious Emission	Pass	Meet the requirement of limit	734TYF0012
2.1051 27.53(c)(2)	RSS-Gen 6.13 RSS-130 4.6	Conducted Spurious Emissions	Pass	Meet the requirement of limit	734TYF0012
2.1053 27.53(c)(2)	RSS-130 4.6	Radiated Spurious Emission	Pass	Meet the requirement of limit	734TYF0069
2.1049 27.50(b)(10)	RSS-130 4.4	Effective Radiated Power (ERP)	Pass	Meet the requirement of limit	734TYF0012
27.53(f)	RSS – 130 4.7.2 (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 8/900MHZ NAG MODEL			
Brand	Motorola Solutions			
Test Model	AAH90UCU9RH1AN			
Power Supply Rating	7.5Vdc			
Mode of operation	LTE Band 13			
Modulation Type	QPSK, 16QAM			
Operating Frequency	LTE Band 13	Channel Bandwidth 5MHz	779.5MHz~784.5MHz	
		Channel Bandwidth 10MHz	782MHz	
Max. ERP Power	LTE Band 13 QPSK	Channel Bandwidth 5MHz	21.892dBm (0.155W)	
		Channel Bandwidth 10MHz	21.767dBm (0.150W)	
	LTE Band 13 16QAM	Channel Bandwidth 5MHz	21.197dBm (0.132W)	
		Channel Bandwidth 10MHz	20.905dBm (0.123W)	
Emission Designator	LTE Band 13		QPSK	16QAM
		Channel Bandwidth 5MHz	4M47G7D	4M48D7W
		Channel Bandwidth 10MHz	8M91G7D	8M91D7W
Antenna Type	LTE Band 13	LTE LOW BAND MAIN ANTENNA (0.29dBi)		
SW Version	D02.22.01.0103 (BP), D00.01.86 (AP)			

HW Version	P2
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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 27

KDB 971168 D01 Power Meas License Digital Systems v03r01

KDB 971168 D02 Misc OOB License Digital Systems v02r01

ANSI C63.26

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 13	5 MHz	23025 ~ 23255	23205	23230	23255	779.5	782	784.5
	10 MHz	23230		23230			782	

1.5. Test Mode Applicability and Tested Channel Detail

LTE Band 13

Test Item	Available Channel	Tested Channel	Channel Bandwidth	Uplink Modulation	Mode
Conducted RF Output Power	23025 ~ 23255	23205, 23230, 23255	5 MHz	QPSK, 16QAM	As per table 1.6.3
	23025 ~ 23255	23230	10 MHz		
Peak to Average Power Ratio	23025 ~ 23255	23205, 23230, 23255	5 MHz	QPSK, 16QAM	25 RB / 0 RB Offset
	23025 ~ 23255	23230	10 MHz		50 RB / 0 RB Offset
Occupied Bandwidth	23025 ~ 23255	23205, 23230, 23255	5 MHz	QPSK, 16QAM	25 RB / 0 RB Offset
	23025 ~ 23255	23230	10 MHz		50 RB / 0 RB Offset
Frequency Stability	23025 ~ 23255	23205, 23255	5 MHz	QPSK	25 RB / 0 RB Offset
	23025 ~ 23255	23230	10 MHz		50 RB / 0 RB Offset
Band Edge Conducted Spurious Emission	23025 ~ 23255	23205, 23255	5 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 24 RB Offset 25 RB / 0 RB Offset
	23025 ~ 23255	23230	10 MHz		1 RB / 0 RB Offset 1 RB / 49 RB Offset 50 RB / 0 RB Offset
Conducted Spurious Emission	23025 ~ 23255	23205, 23230, 23255	5 MHz	QPSK	1 RB / 24 RB Offset
	23025 ~ 23255	23230	10 MHz		1 RB / 25 RB Offset
Radiated Spurious Emission	23025 ~ 23255	23205	5 MHz	QPSK	1 RB / 24 RB Offset
		23230			1 RB / 13 RB Offset
		23255			1 RB / 13 RB Offset
GNSS (EIRP for 1599 – 1610MHz)	23025 ~ 23255	23205	5 MHz	QPSK	1 RB / 24 RB Offset
		23255			1 RB / 13 RB Offset
Effective Radiated Power (ERP)	23025 ~ 23255	23205, 23230, 23255	5 MHz	QPSK, 16QAM	As per table 1.6.4
	23025 ~ 23255	23230	10 MHz		

NOTE:

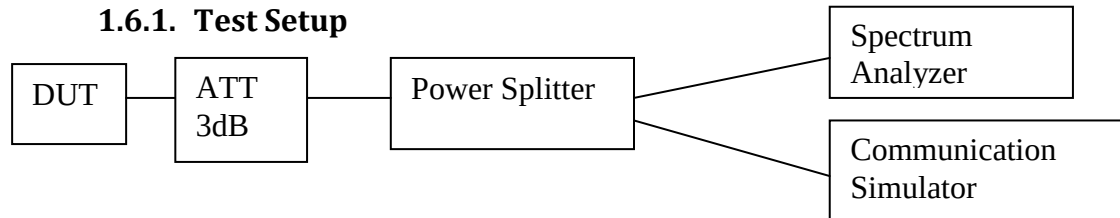
1. The Conducted RF Output Power for QPSK and 16QAM, measured value of QPSK mode is higher than 16QAM mode. Therefore, only Conducted Spurious Emission, Radiated Emission and GNSS (EIRP for 1599 – 1610MHz) had been tested under QPSK modes.
2. Band Edge was performed with 1 and full Resource Block at the lowest and highest operating frequency band.
3. The Equivalent 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 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. Limits

FCC: Portable stations (hand-held devices) transmitting in the 776-788 MHz band is limited to 3 watts ERP.
 ISSED: The e.i.r.p. shall not exceed 50 watts for mobile equipment or for outdoor fixed subscriber equipment, nor shall it exceed 5 watts for portable equipment or for indoor fixed subscriber equipment.

1.6.3. Conducted RF Output Power – LTE Band 13(777-787MHz)

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
			23205	23230	23255	23205	23230	23255
			779.5MHz	782 MHz	784.5 MHz	779.5 MHz	782 MHz	784.5 MHz
Band 13 / 5MHz	1	0	23.459	23.594	23.712	22.759	22.756	22.767
	1	13	23.729	23.695	23.729	23.045	22.836	22.802
	1	24	23.752	23.639	23.64	23.057	22.793	22.708
	12	0	22.73	22.728	22.821	21.806	21.734	21.901
	12	6	22.737	22.722	22.795	21.808	21.725	21.871
	12	13	22.835	22.678	22.787	21.878	21.715	21.831
	25	0	22.862	22.731	22.793	21.891	21.755	21.828

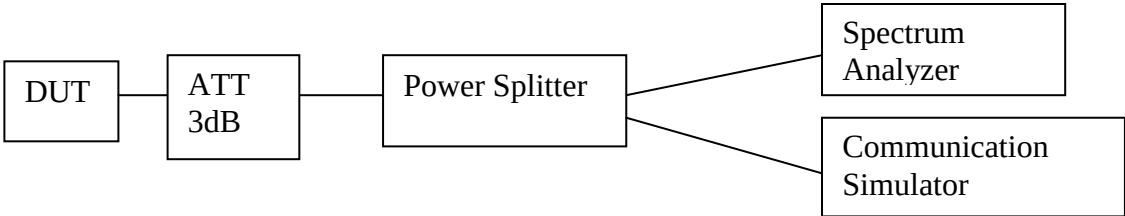
Conducted Output Power (dBm)								
LTE Band/BW	RB Size	RB Offset	QPSK Modulation			16QAM Modulation		
			Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
				23230			23230	
				782 MHz			782 MHz	
Band 13 / 10MHz	1	0		23.571			22.647	
	1	25		23.627			22.765	
	1	49		23.574			22.74	
	25	0		22.724			21.872	
	25	13		22.742			21.887	
	25	25		22.7			21.83	
	50	0		22.718			21.788	

1.6.4. Effective Radiated Power (ERP) - LTE Band 13 (777-787MHz))

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
			23205	23230	23255	23205	23230	23255
			779.5MHz	782 MHz	784.5 MHz	779.5 MHz	782 MHz	784.5 MHz
Band 13 / 5MHz	1	0	21.599	21.734	21.852	20.899	20.896	20.907
	1	13	21.869	21.835	21.869	21.185	20.976	20.942
	1	24	21.892	21.779	21.78	21.197	20.933	20.848
	12	0	20.87	20.868	20.961	19.946	19.874	20.041
	12	6	20.877	20.862	20.935	19.948	19.865	20.011
	12	13	20.975	20.818	20.927	20.018	19.855	19.971
	25	0	21.002	20.871	20.933	20.031	19.895	19.968

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
				23230			23230	
				782 MHz			782 MHz	
Band 13 / 10MHz	1	0		21.711			20.787	
	1	25		21.767			20.905	
	1	49		21.714			20.88	
	25	0		20.864			20.012	
	25	13		20.882			20.027	
	25	25		20.84			19.97	
	50	0		20.858			19.928	

1.7.1. Test Setup



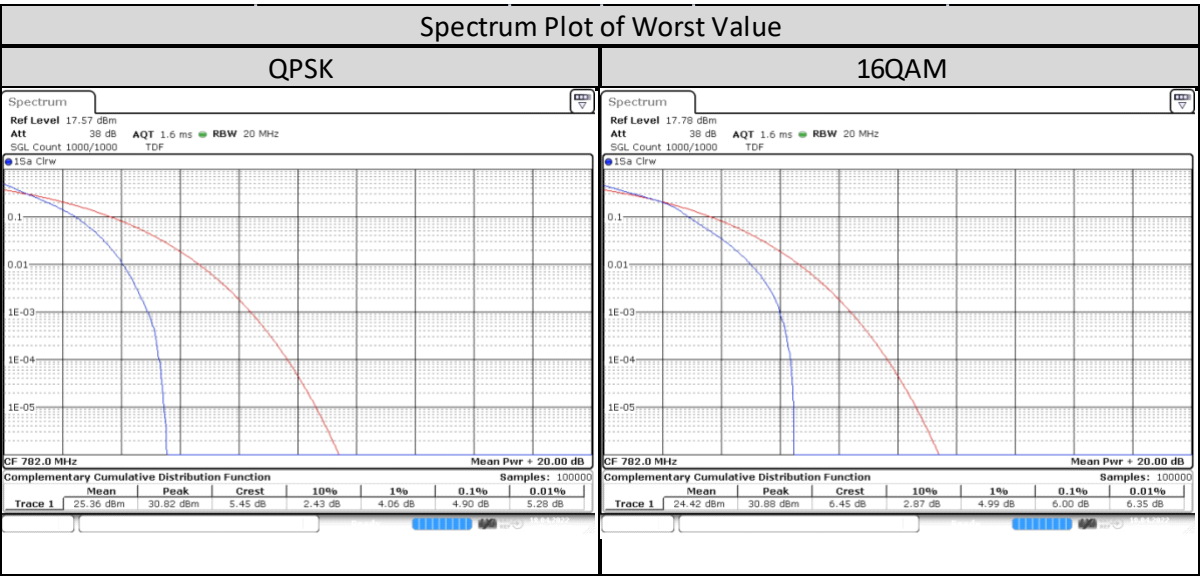
- 1. The DUT transmitter output port was connected to communication simulator with above setup.
- 2. Path loss for the measurement included.
- 3. Set DUT to transmit maximum power through communication simulator
- 4. Set the CCDF (Complementary Cumulative Distribution Function) option in the spectrum 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

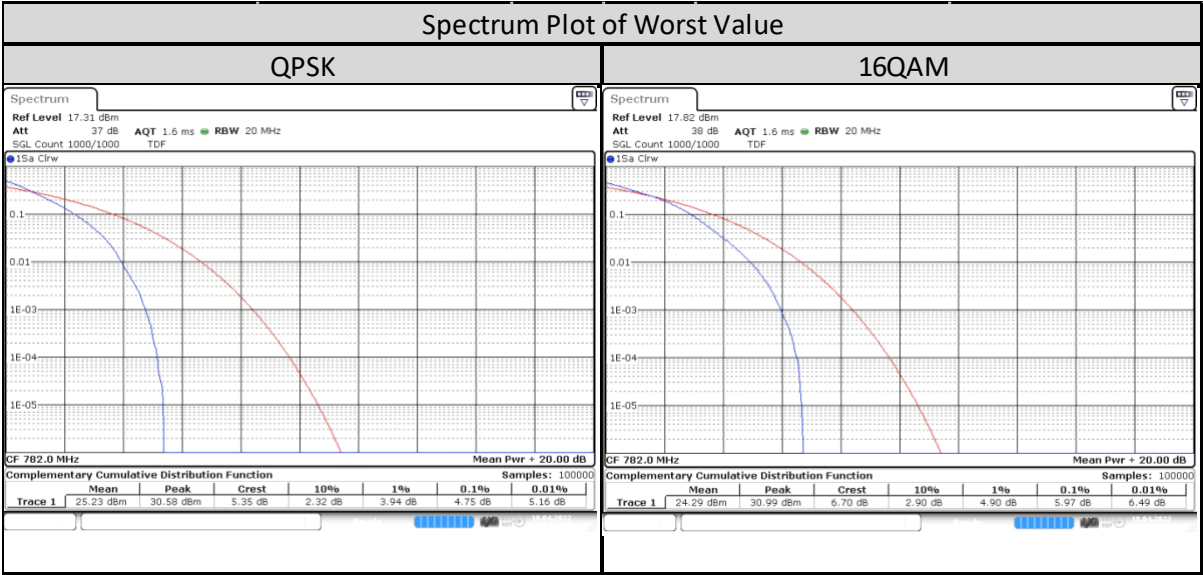
The peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time and shall use a signal corresponding to the highest PAPR during periods of continuous transmission.

1.7.3. Peak-to-Average Power Ratio - LTE Band 13 (777-787MHz)

LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	Peak To Average (dB)	
			QPSK Modulation	16QAM Modulation
Band 13/5MHz/25/0	Low CH 23205	779.5 MHz	4.841	5.913
	Mid CH 23230	782 MHz	4.899	6
	High CH 23255	784.5 MHz	4.899	6

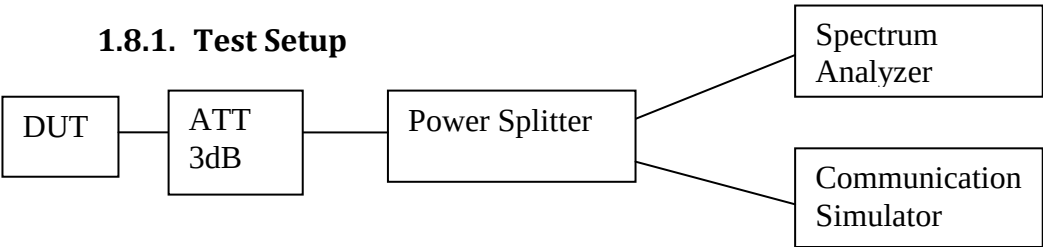


LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	Peak To Average (dB)	
			QPSK Modulation	16QAM Modulation
Band 13/10MHz/50/0	Low CH			
	Mid CH 23230	782 MHz	4.754	5.971
	High CH			



1.8. Occupied Bandwidth

1.8.1. Test Setup



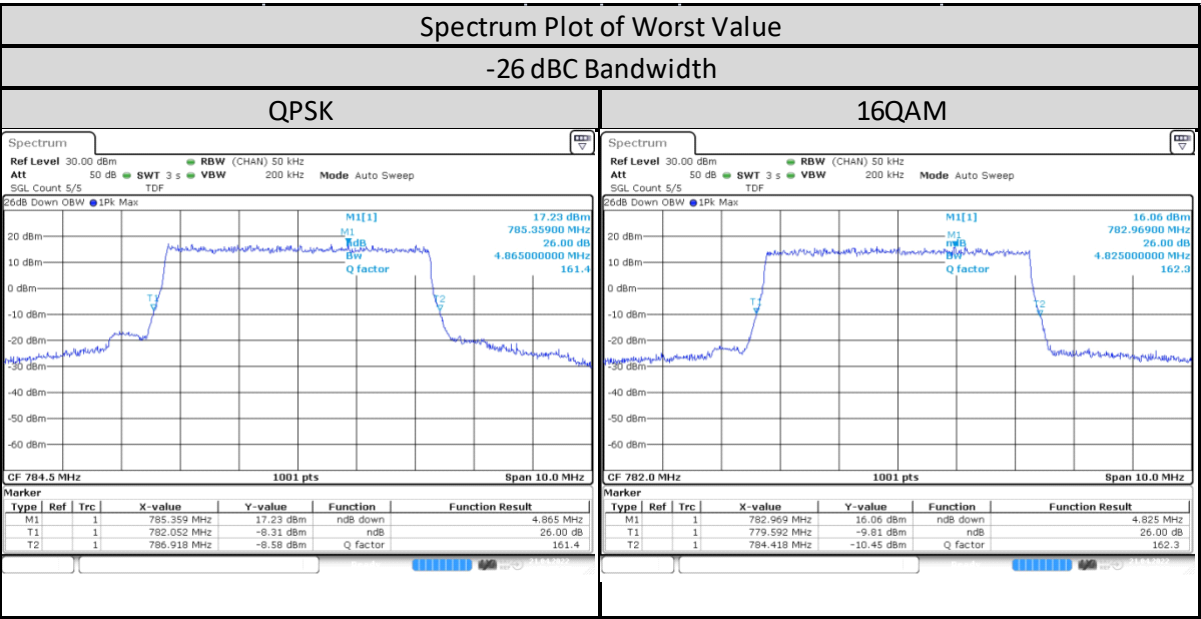
- 1) The DUT transmitter output port was connected to communication simulator with above setup.
- 2) Path loss for the measurement included.
- 3) For LTE measurement, set DUT to transmit maximum power & full RB size through communication simulator.
- 4) For LTE measurement, set DUT to transmit maximum 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

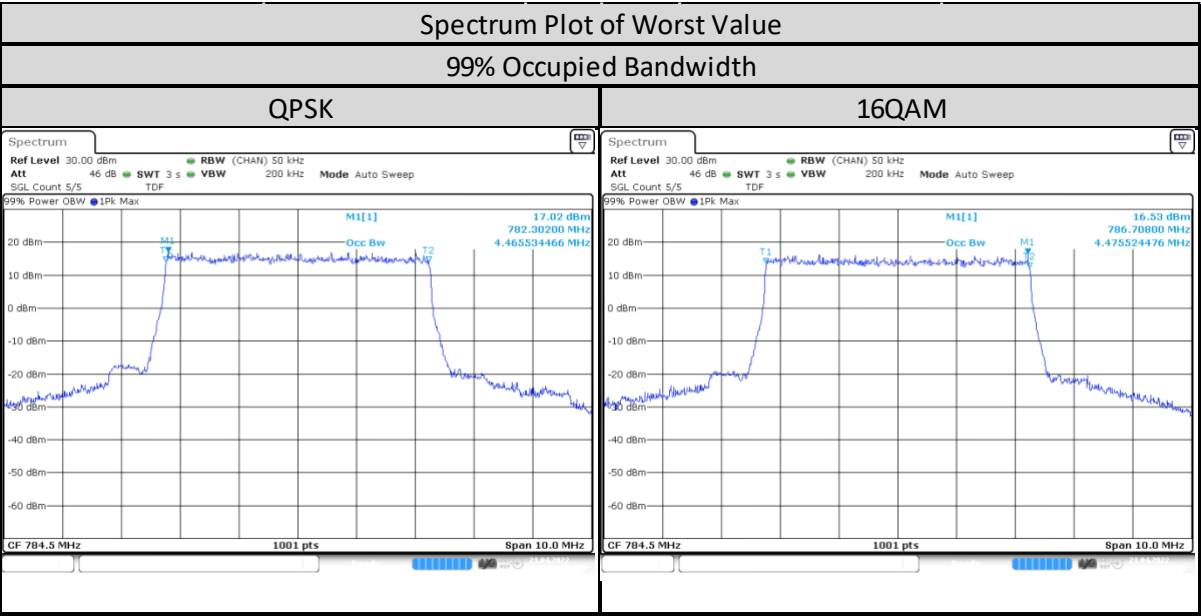
For measurement 99% of occupied bandwidth that is required by FCC 2.1049 and RSS Gen 6.6.

1.8.3. Occupied Bandwidth – LTE Band 13 (777-787MHz)

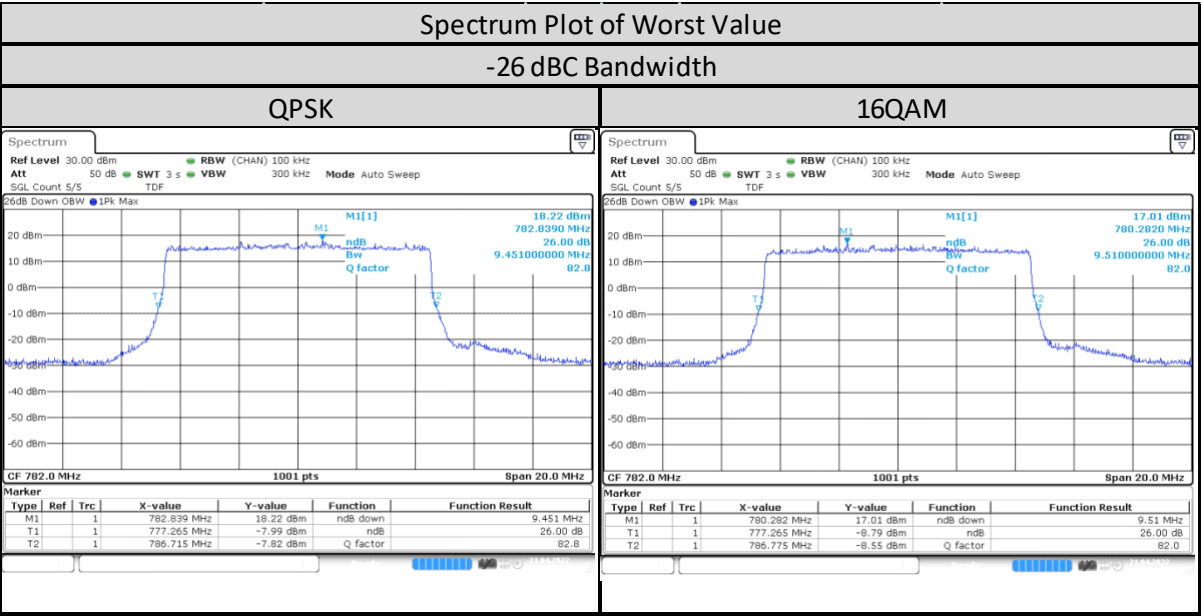
LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	-26 dBc Bandwidth (MHz)	
			QPSK Modulation	16QAM Modulation
Band 13/5MHz/25/0	Low CH 23205	779.5 MHz	4.785	4.755
	Mid CH 23230	782 MHz	4.785	4.825
	High CH 23255	784.5 MHz	4.865	4.815



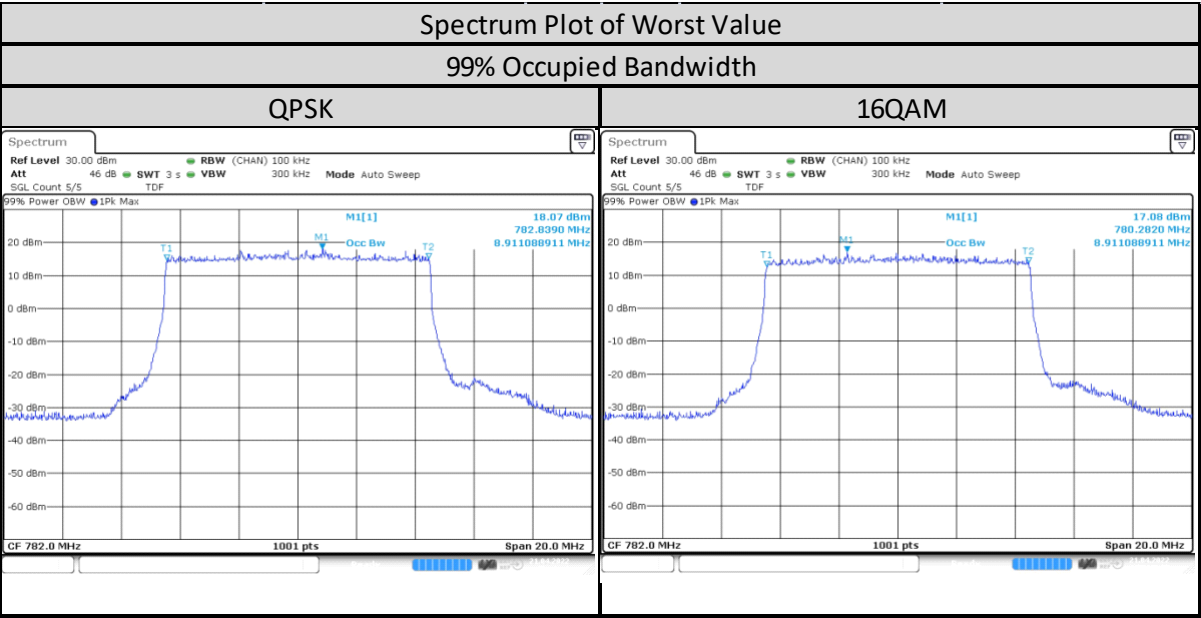
LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	99% Occupied Bandwidth (MHz)	
			QPSK Modulation	16QAM Modulation
Band 13/5MHz/25/0	Low CH 23205	779.5 MHz	4.446	4.466
	Mid CH 23230	782 MHz	4.456	4.466
	High CH 23255	784.5 MHz	4.466	4.476



LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	-26 dBc Bandwidth (MHz)	
			QPSK Modulation	16QAM Modulation
Band 13/10MHz/50/0	Low CH			
	Mid CH 23230	782 MHz	9.451	9.51
	High CH			

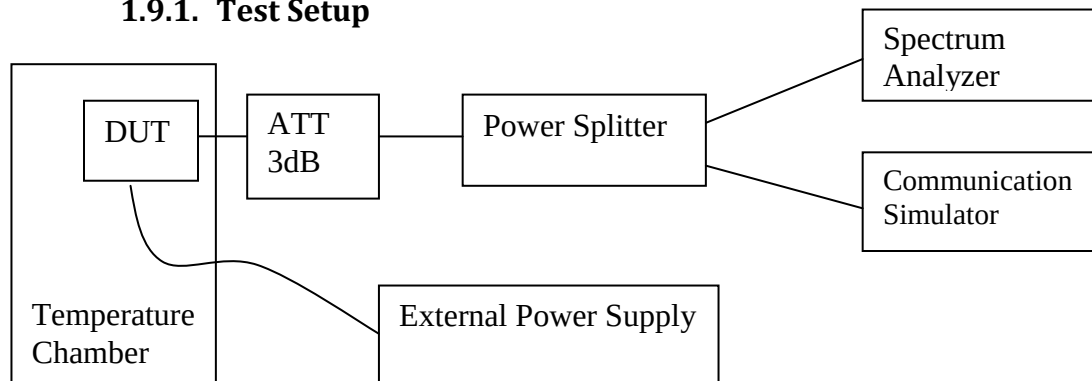


LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	99% Occupied Bandwidth (MHz)	
			QPSK Modulation	16QAM Modulation
Band 13/10MHz/50/0	Low CH			
	Mid CH 23230	782 MHz	8.911	8.911
	High CH			



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

As per manufacturer declared product operating at -30 to 60 deg C with spec of +/- 0.1ppm.

1.9.3. Frequency Stability – LTE Band 13 (777-787MHz)

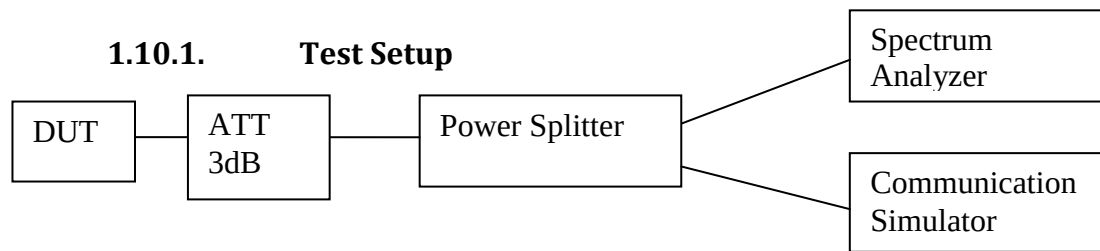
Band	Temp (Deg C)	Frequency Error VS Temperature			
		Channel Bandwidth: 5 MHz			
		Low Channel		High Channel	
		779.5MHz		784.5MHz	
		Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
LTE Band 13	60	779.500008	0.009965	784.500009	0.01209
	50	779.499988	-0.015691	784.500012	0.014715
	40	779.500008	0.010589	784.500011	0.014606
	30	779.499992	-0.009671	784.50001	0.013238
	20	779.499988	-0.015158	784.50001	0.012874
	10	779.500009	0.011543	784.500011	0.014004
	0	779.500007	0.008809	784.500013	0.01632
	-10	779.500009	0.012112	784.500012	0.01508
	-20	779.500011	0.014369	784.500013	0.016904
	-30	779.500013	0.017049	784.500011	0.014278

Band	Voltage (V)	Frequency Error VS Voltage			
		Channel Bandwidth: 5 MHz			
		Low Channel		High Channel	
		779.5MHz		784.5MHz	
LTE Band 13		Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
	9V	779.499993	-0.008937	784.500011	0.014442
	7.5V	779.499993	-0.009249	784.500009	0.011834
	6V	779.500001	0.012534	784.500001	0.013293

Band	Temp (Deg C)		
		Channel Bandwidth: 10 MHz	
		Mid Channel	
		782MHz	
LTE Band 13		Frequency (MHz)	Frequency Error (ppm)
	60	781.99999	-0.012238
	50	781.999989	-0.014415
	40	781.999989	-0.014506
	30	781.99999	-0.013116
	20	781.999988	-0.01564
	10	781.99999	-0.012933
	0	781.999991	-0.011506
	-10	781.999991	-0.011634
	-20	781.999989	-0.014012
	-30	781.999989	-0.013683

Band	Voltage (V)	Frequency Error VS Voltage	
		Channel Bandwidth: 10 MHz	
		Mid Channel	
		782MHz	
LTE Band 13		Frequency (MHz)	Frequency Error (ppm)
	9V	781.999988	-0.015842
	7.5V	781.999989	-0.013958
	6V	781.999988	-0.014836

1.10. Band Edge Conducted Spurious Emission



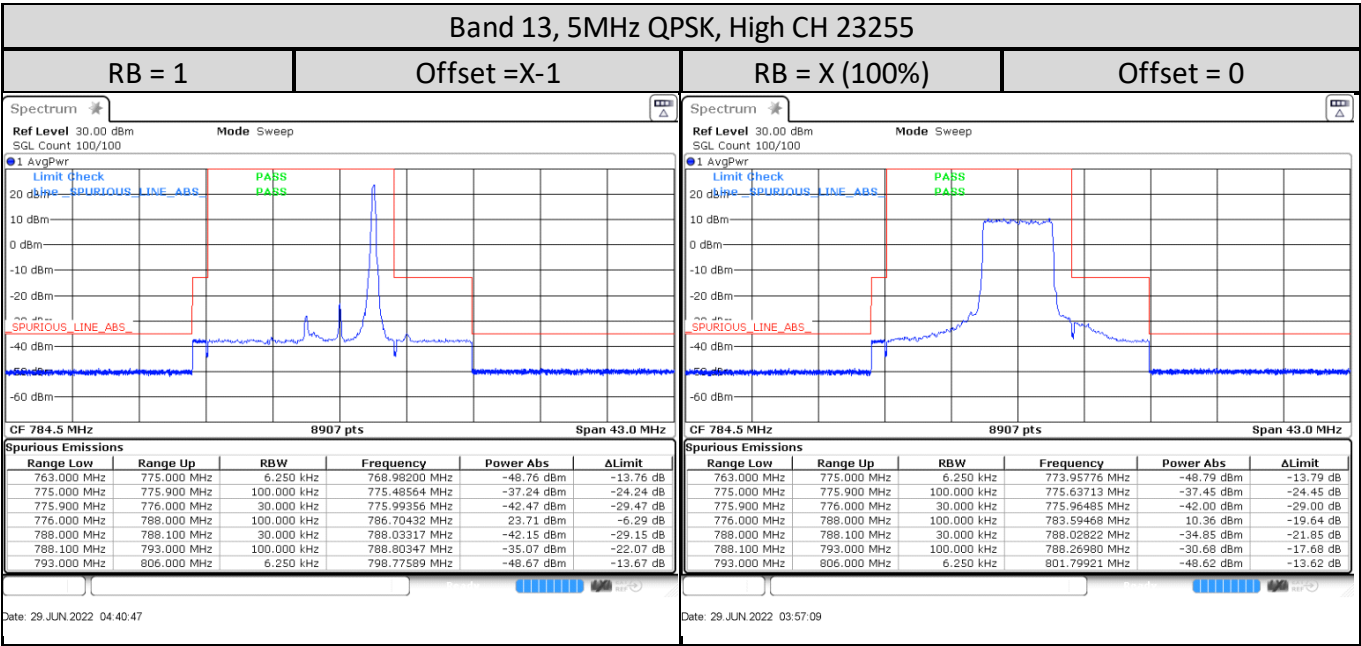
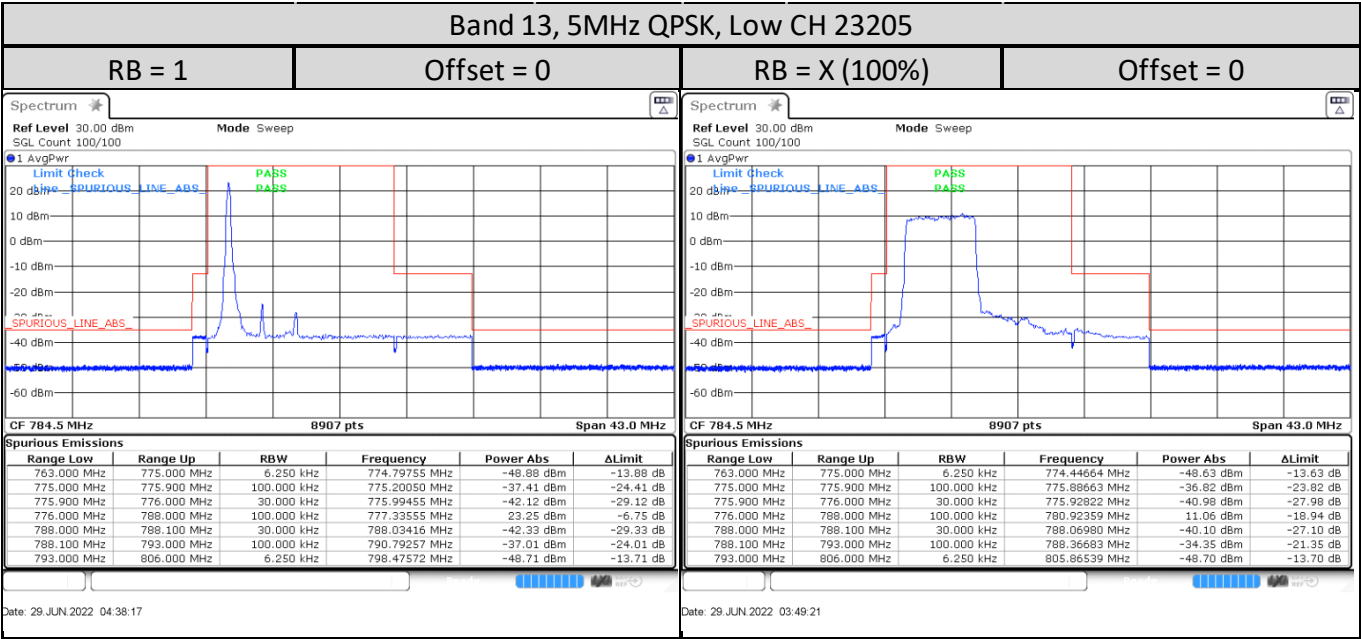
- 1) The DUT transmitter output port was connected to communication simulator with above setup.
- 2) Path loss for the measurement included.
- 3) Set DUT to transmit maximum power through communication simulator.
- 4) The band edges of lowest and highest channels with the highest RF powers were measured.
- 5) On frequency outside the 776-788 MHz band, the instrumentation employed a resolution bandwidth of 100 kHz. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz is employed.
- 6) Record the maximum trace plot into the test report.

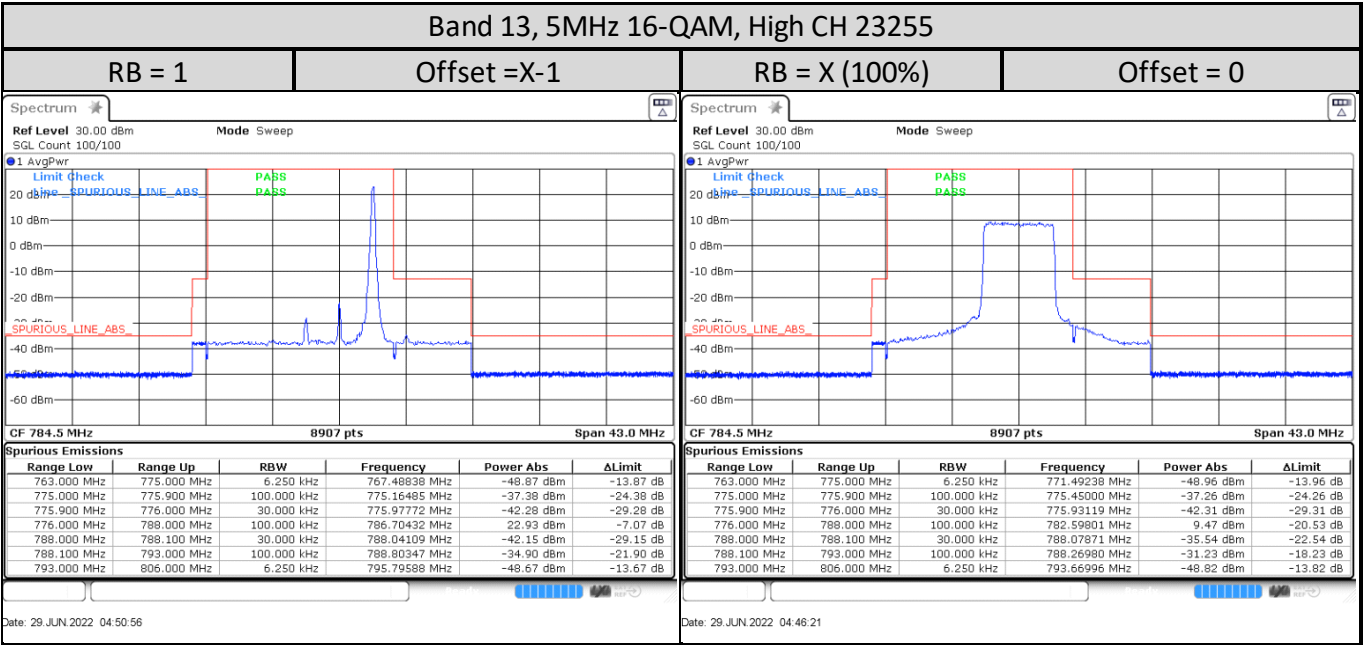
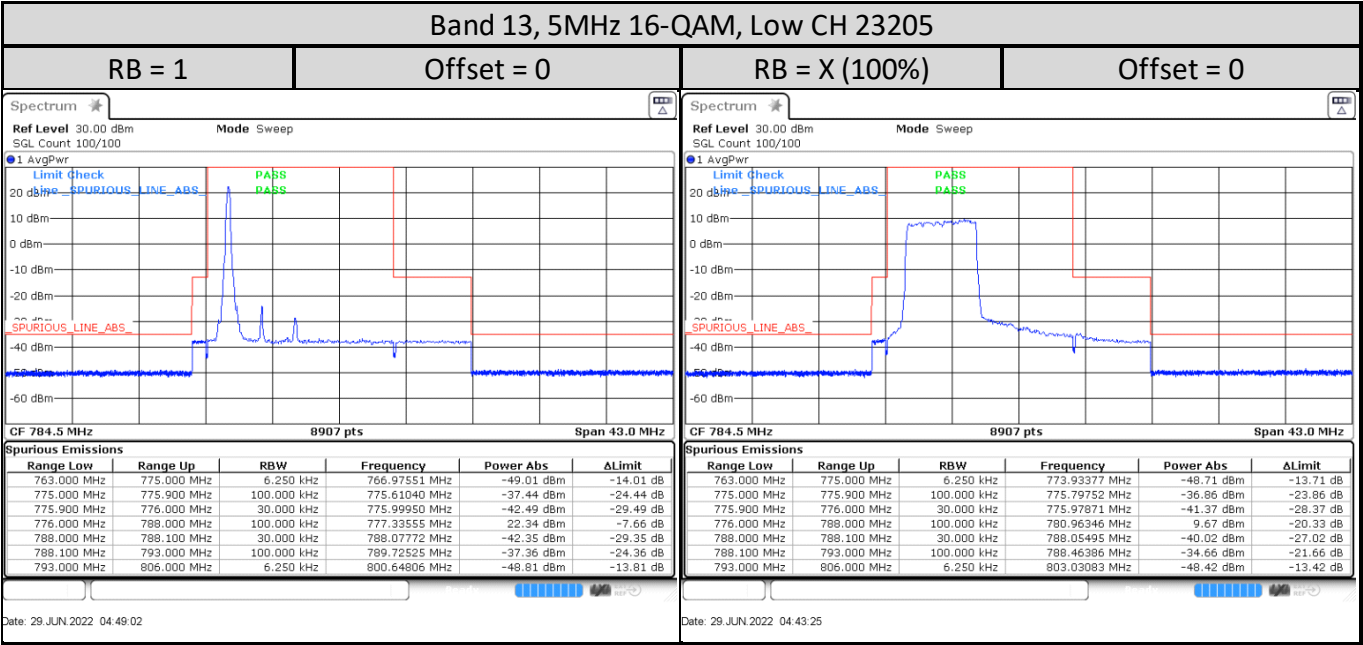
1.10.2. Test Limit

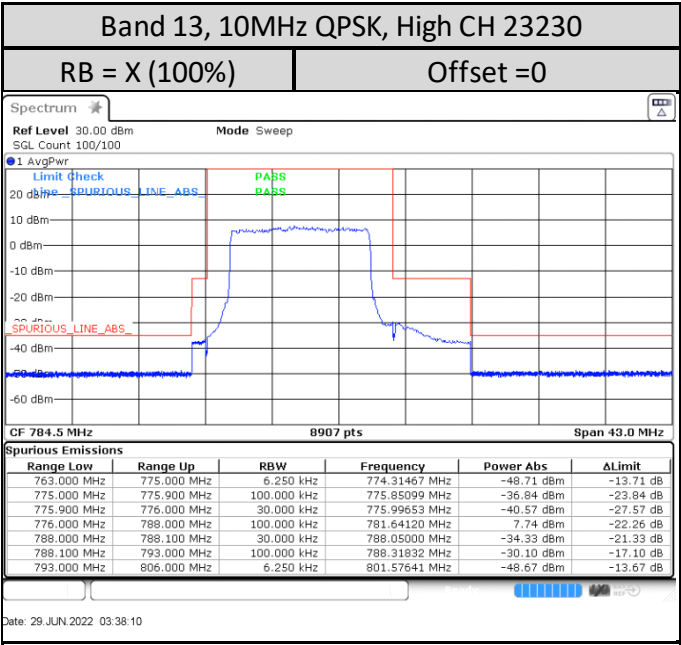
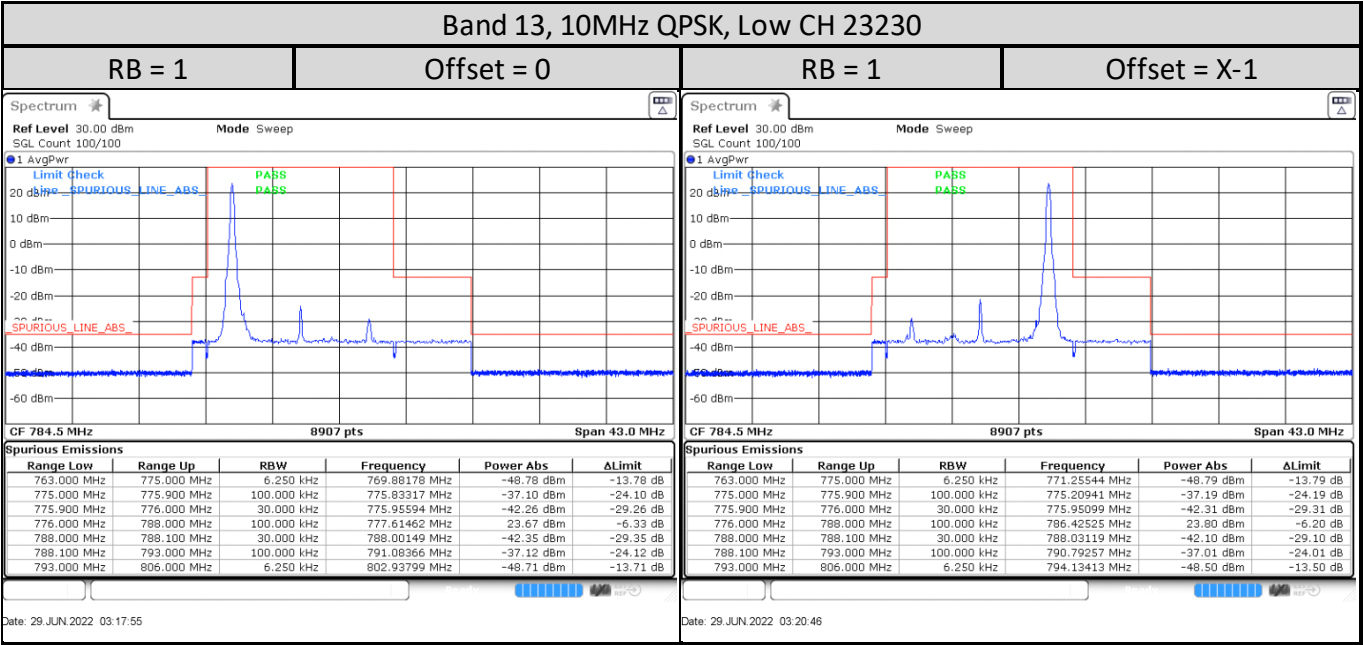
For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

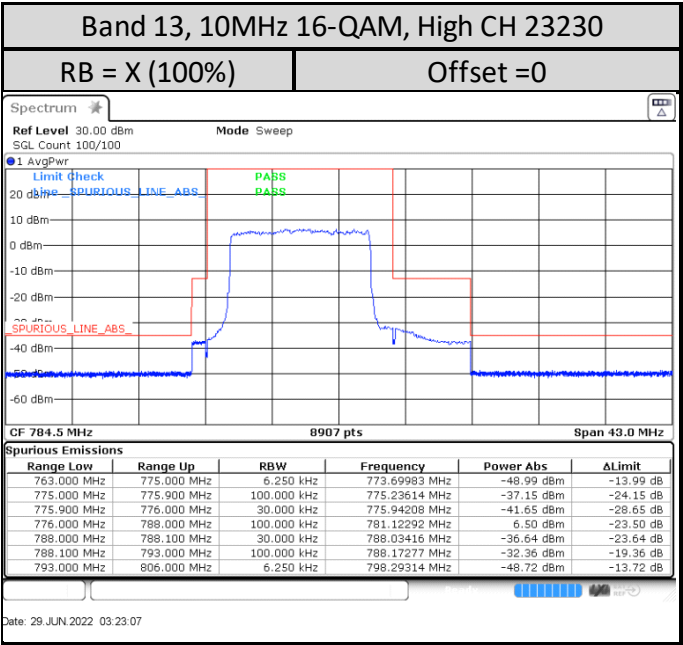
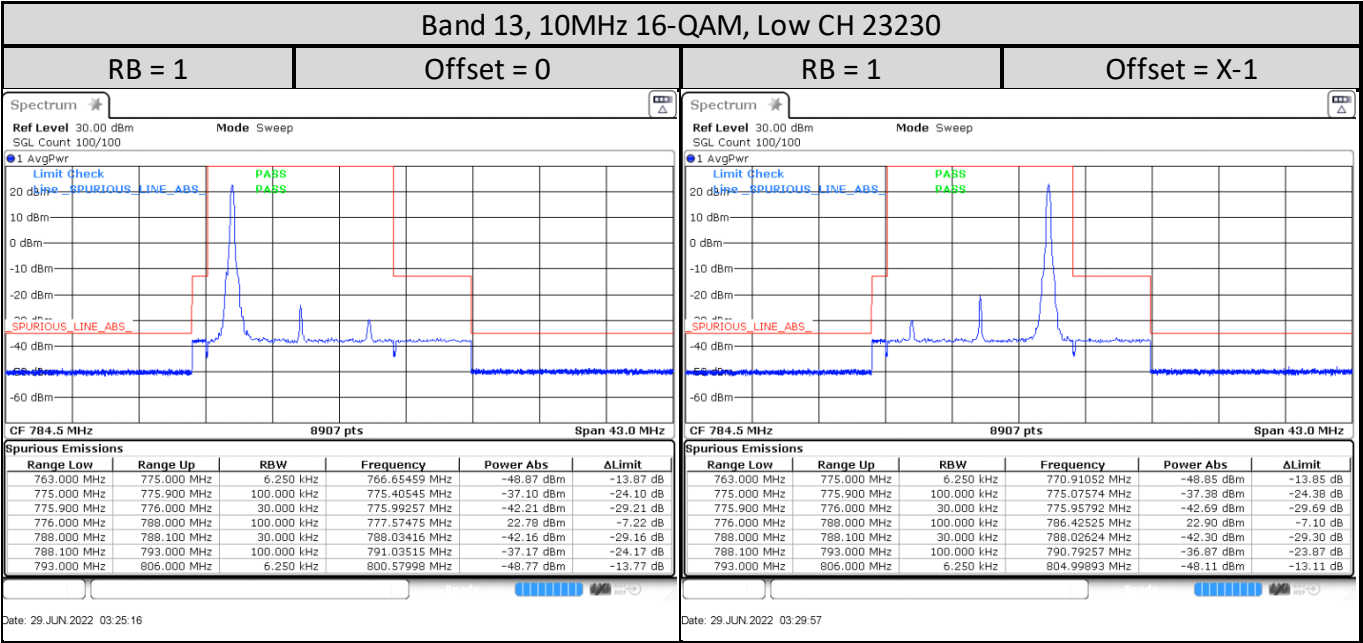
- (1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;
- (2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;
- (3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations;
- (4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations;
- (5) Compliance with the provisions of paragraphs (1) and (2) 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 at least 30 kHz may be employed;

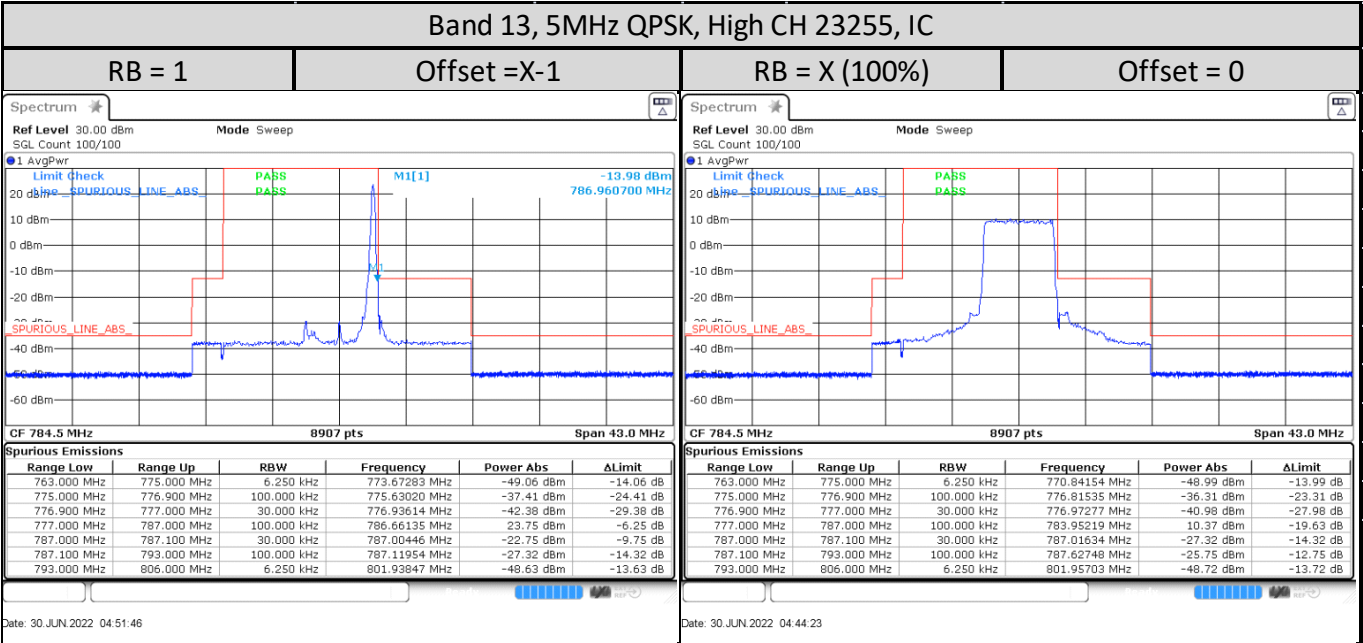
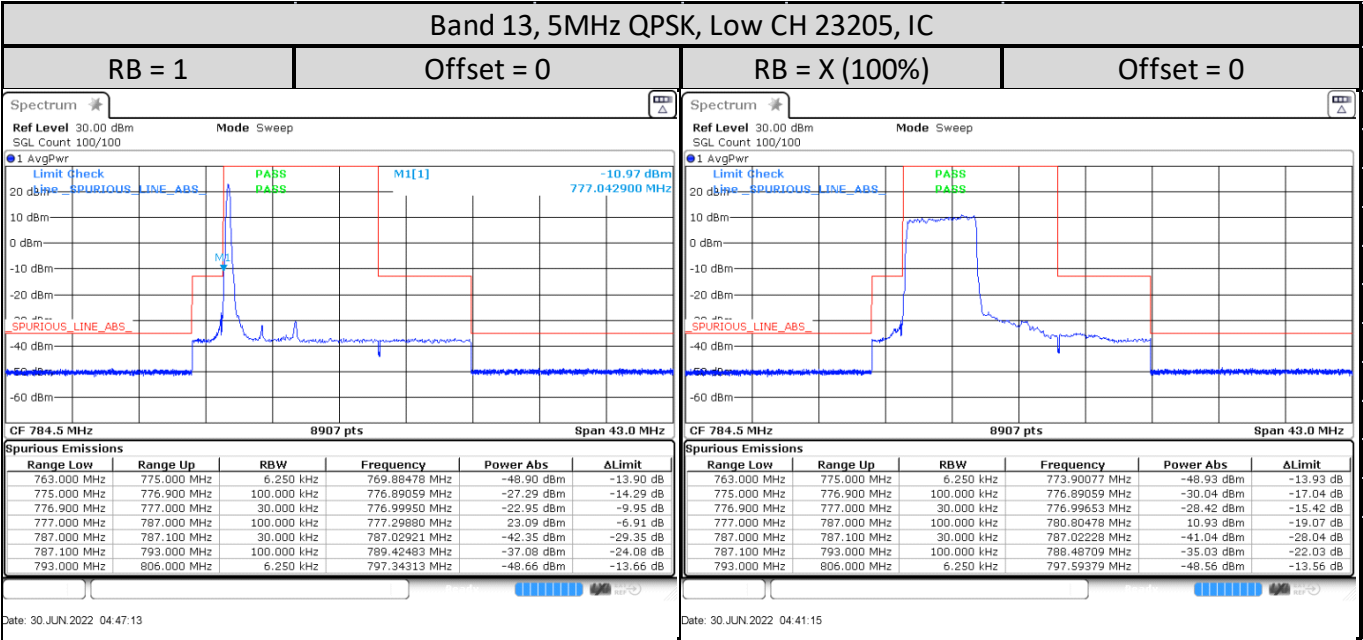
1.10.3. Band Edge / Emission Mask Conducted Spurious Emission – LTE Band 13 (777-787MHz)

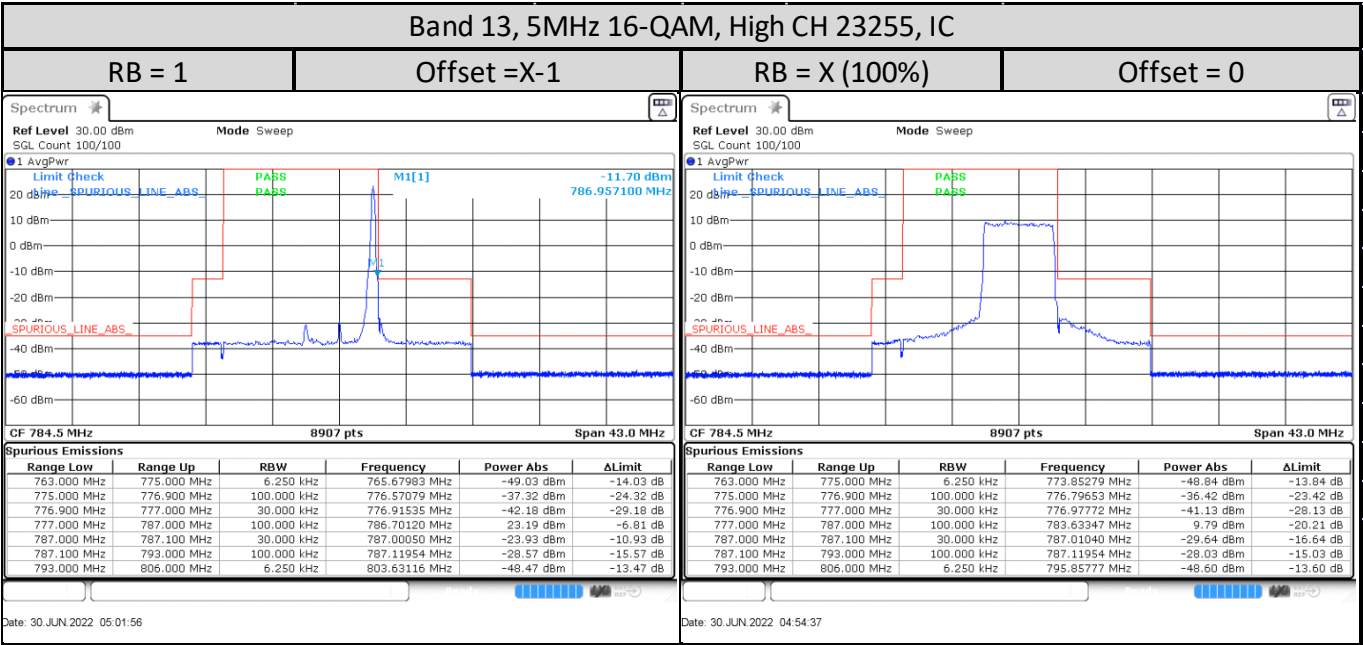
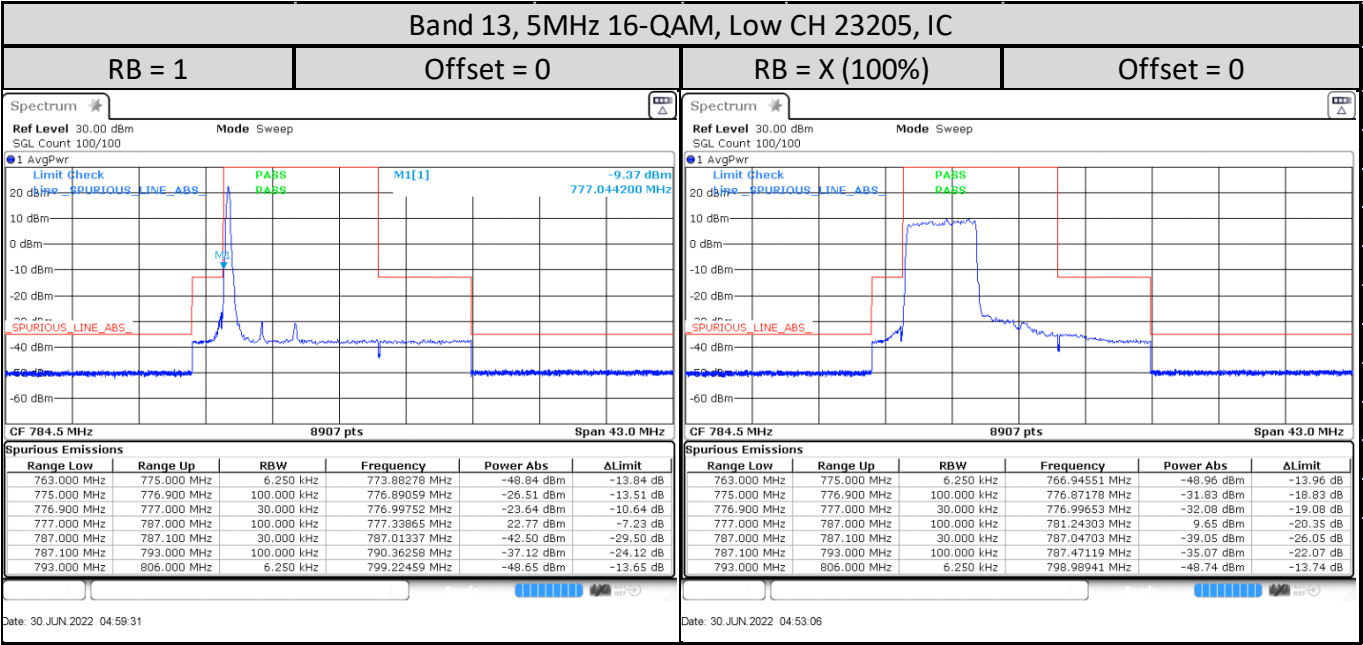


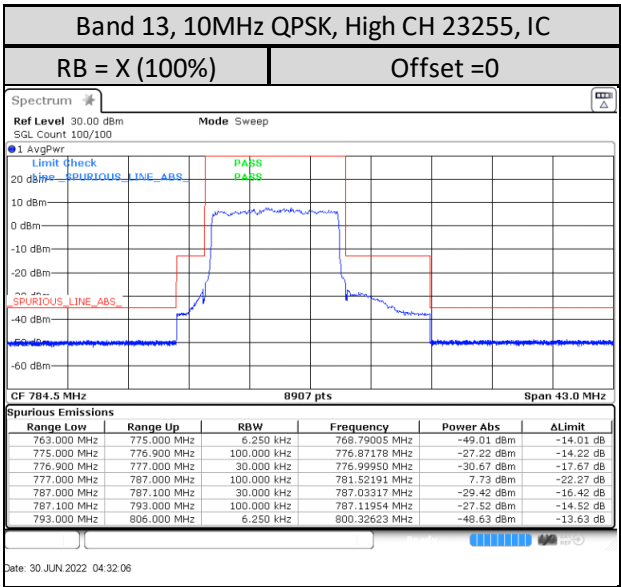
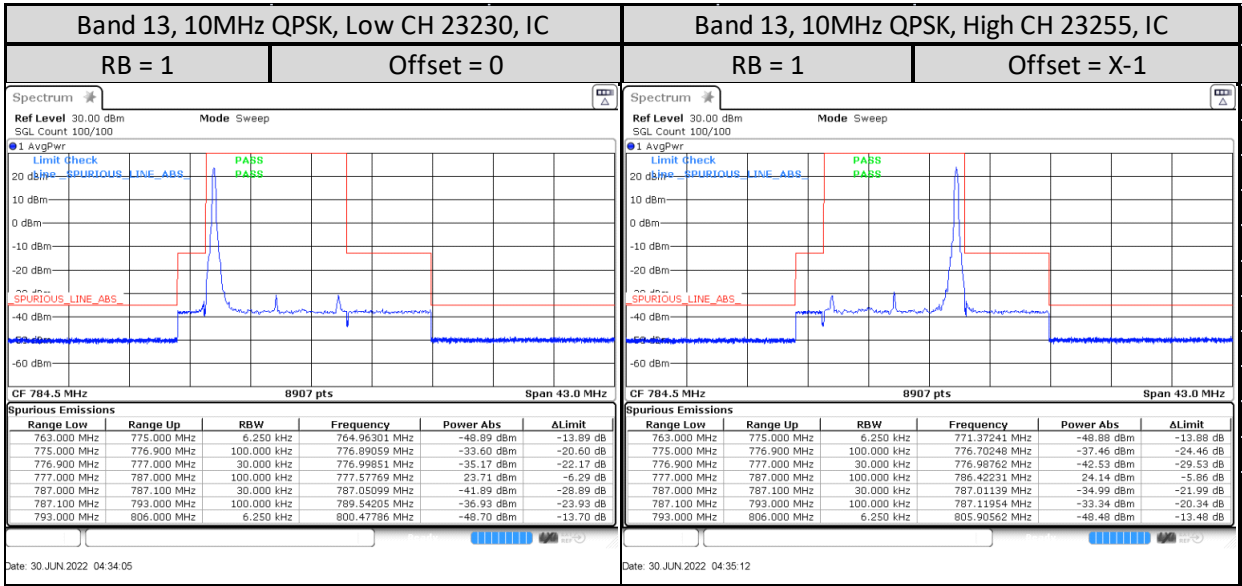


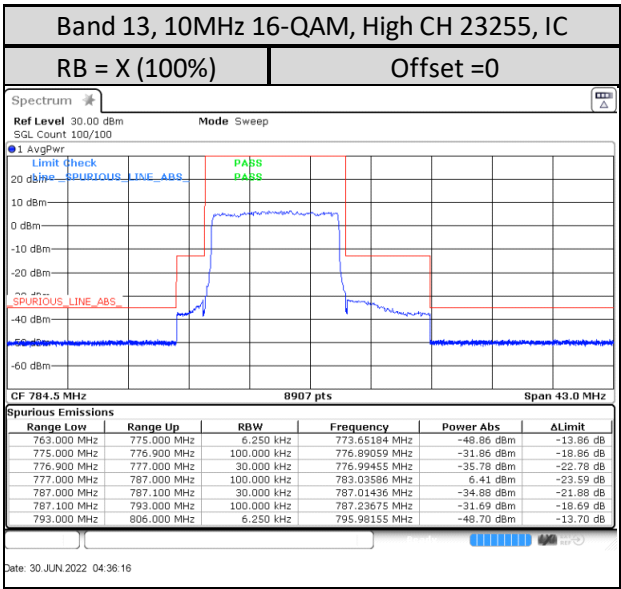
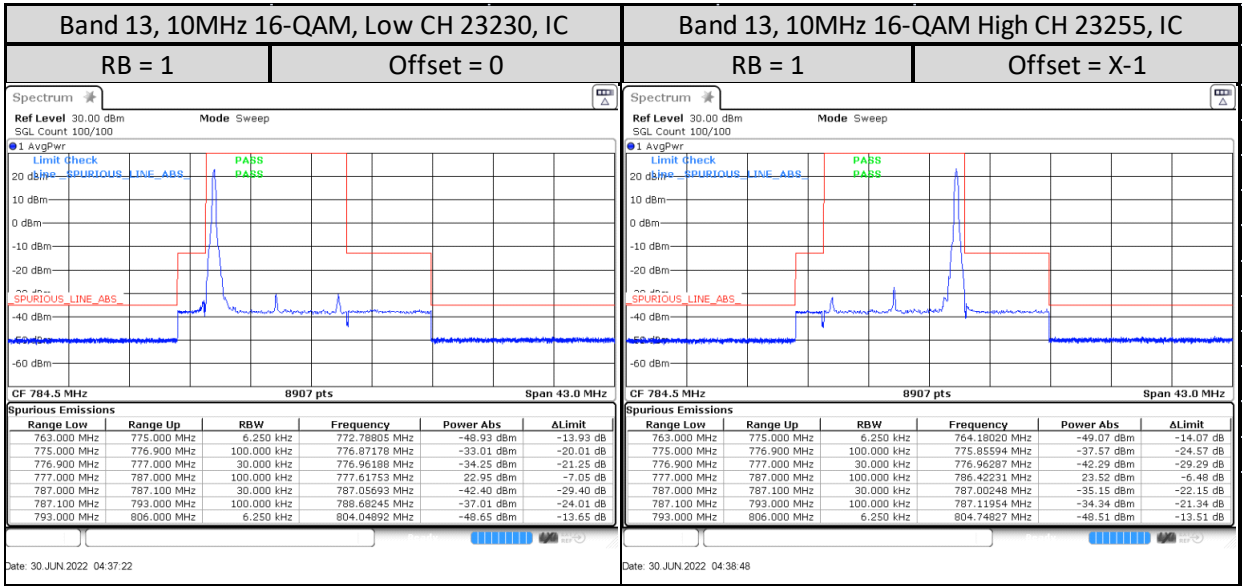






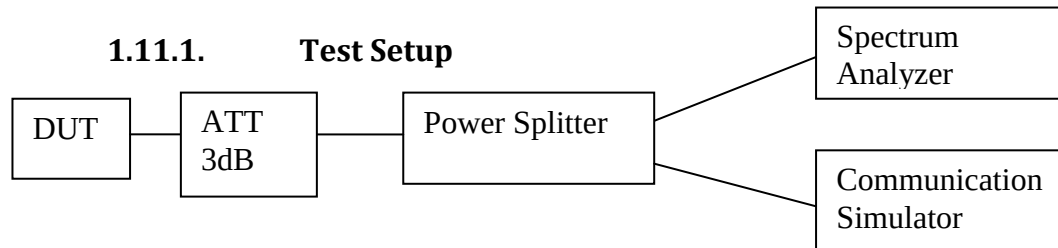






1.11. Conducted Spurious Emission

1.11.1. Test Setup



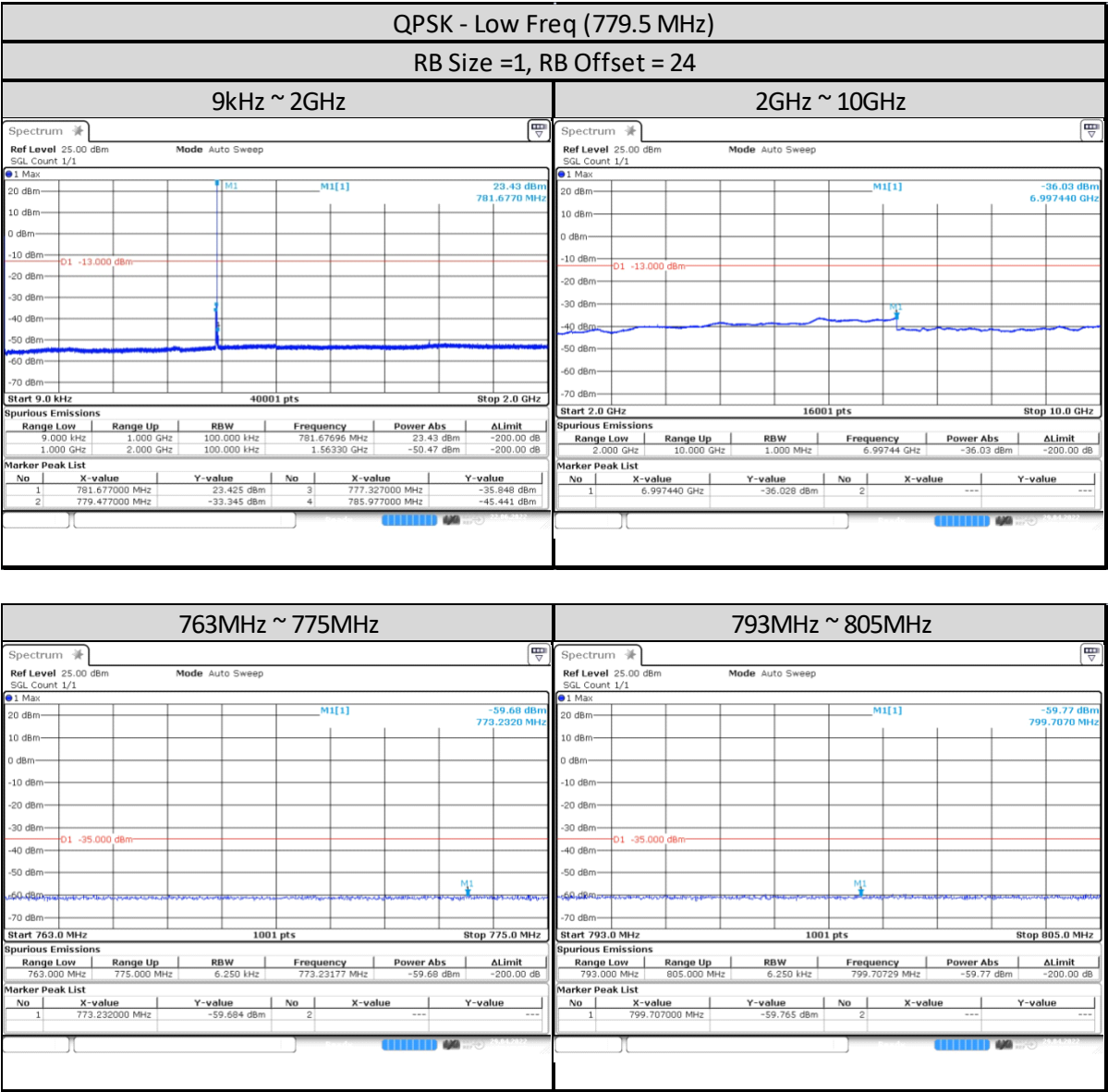
- 1) The DUT transmitter output port was connected to communication simulator with above setup.
- 2) Path loss for the measurement included.
- 3) Set DUT to transmit maximum power through communication simulator.
- 4) Spectrum Analyzer setting, RBW = 1 MHz, VBW = 3 MHz.
- 5) The spurious emission of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

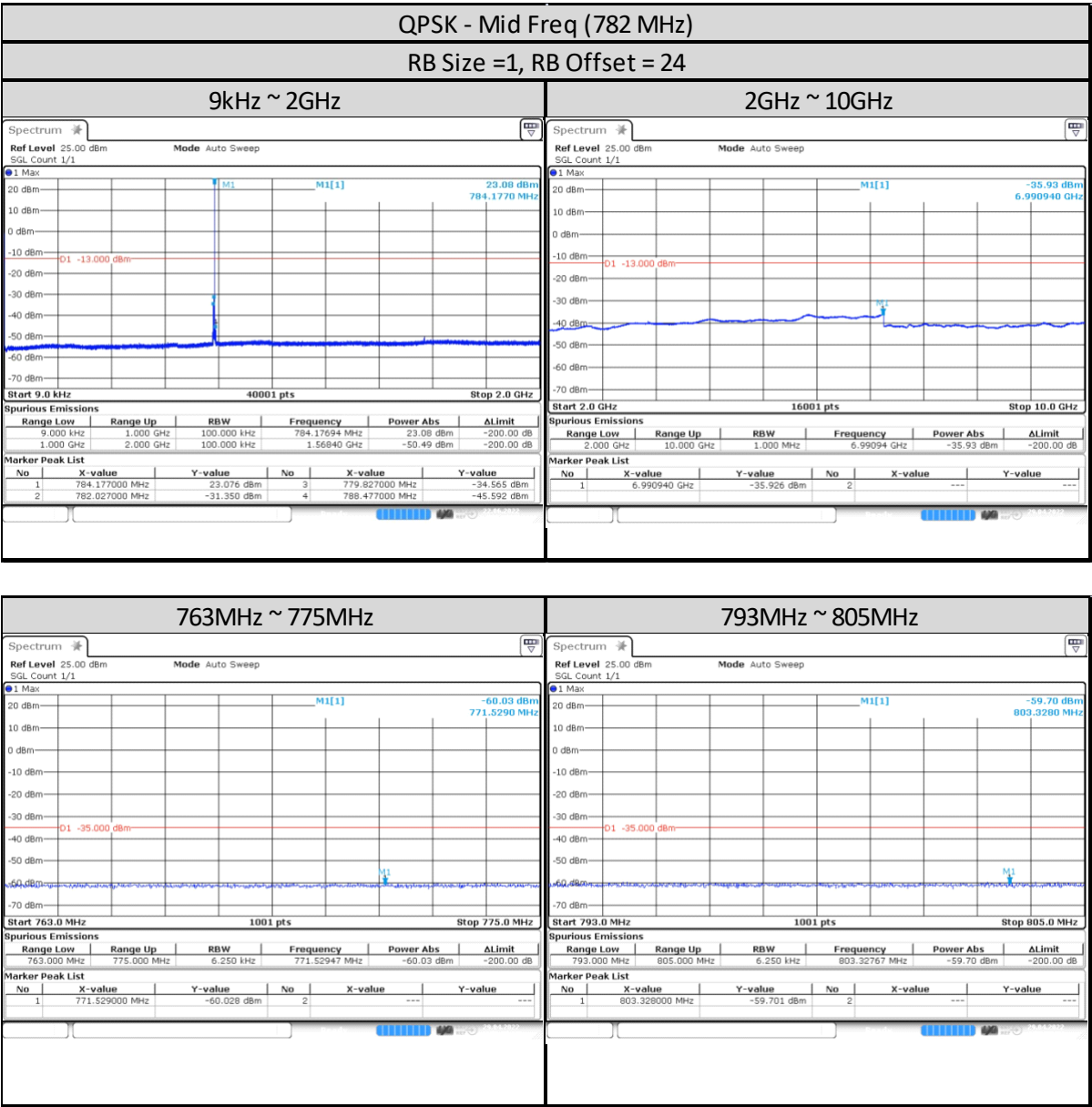
1.11.2. Test Limit

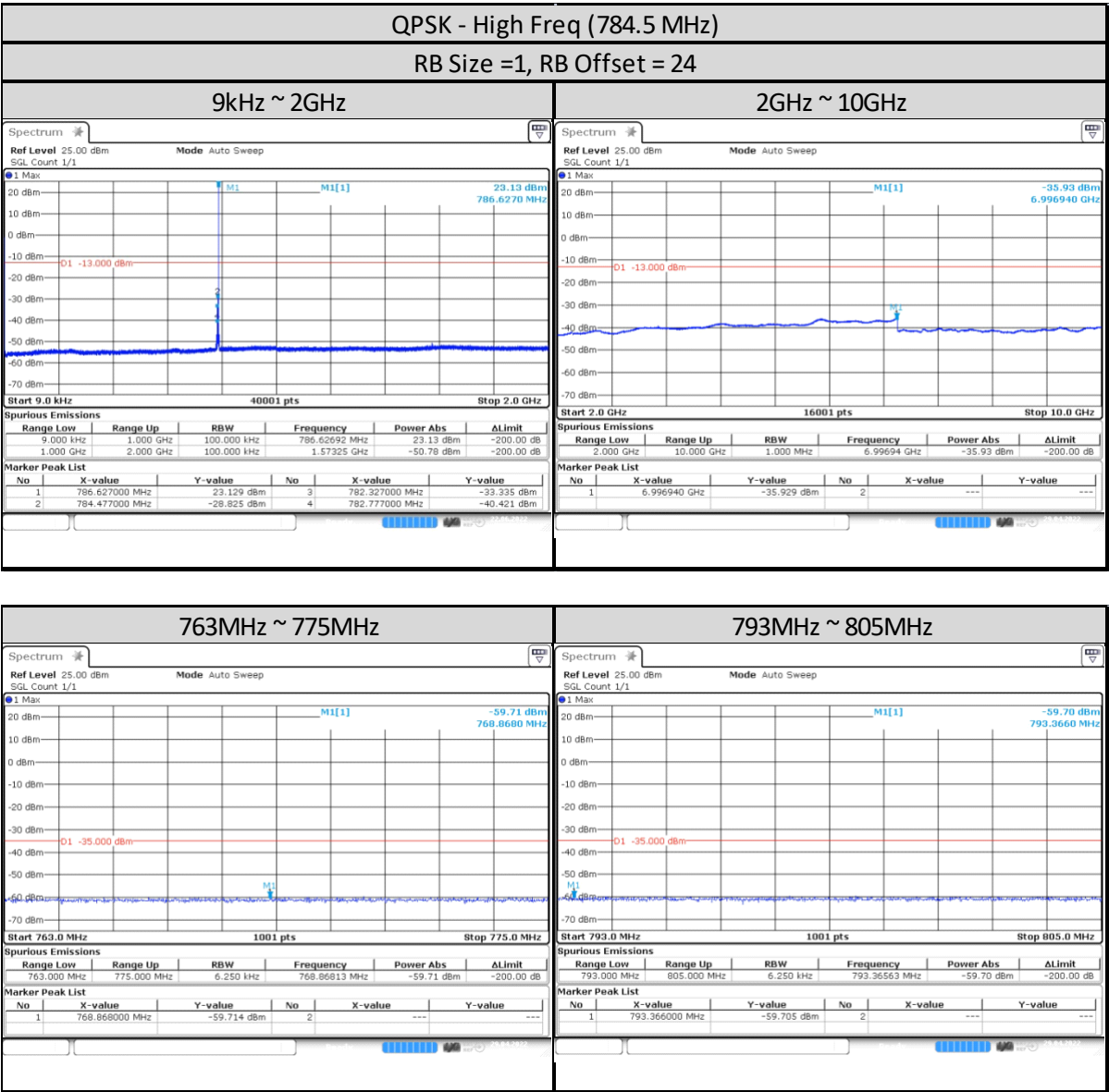
For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;
- (2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;
- (3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations;
- (4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations;
- (5) Compliance with the provisions of paragraphs (1) and (2) 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 at least 30 kHz may be employed;

1.11.3. Conducted Spurious Emissions – LTE Band 13 (777-787MHz)
5MHz





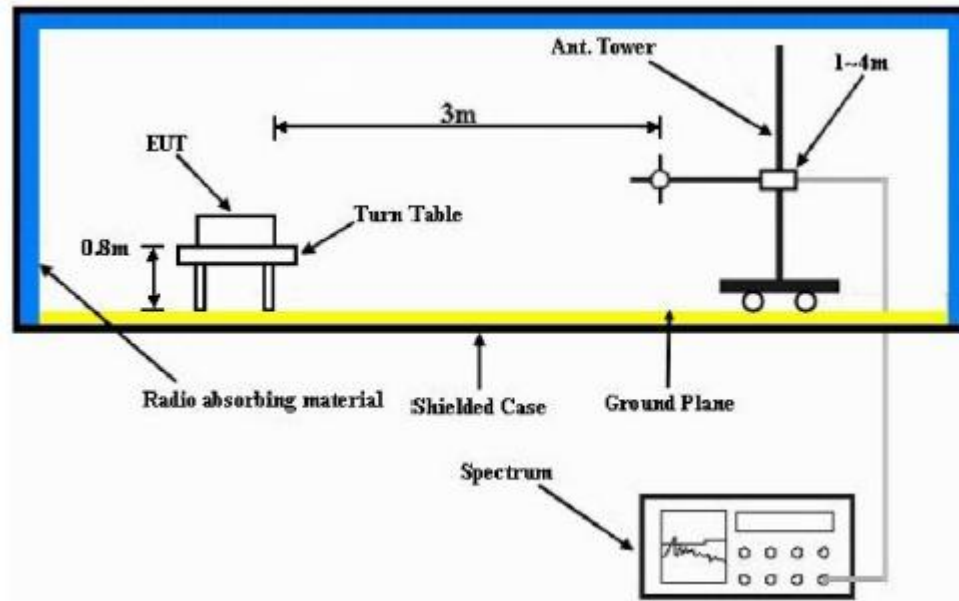


10MHz



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

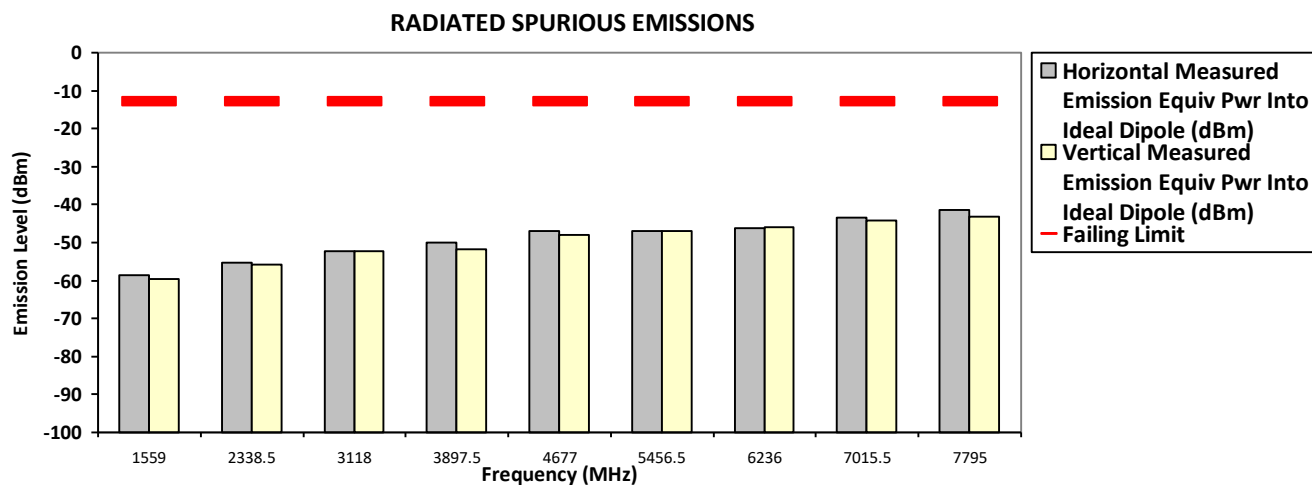
For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;
- (2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;
- (3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations;
- (4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations;
- (5) Compliance with the provisions of paragraphs (1) and (2) 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 at least 30 kHz may be employed;

1.12.3. Radiated Spurious Emission – LTE Band 13 (777-787MHz)

SAC Transmitter Radiated Emission:
Model Number: AAH90UCU9RH1AN S/N: 734TYF0069 SR:27331-EMC-00032
Battery Part No: PMNN4805A Accy Part No: AN000415A01
Test Mode: TX LTE (Band 13) X-Plane
779.500000 MHz (Low) Bandwidth 5MHz 0.282 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)
1559.0000	-13.0000	-58.4881 **	-59.6517 **
2338.5000	-13.0000	-55.4172 **	-55.6930 **
3118.0000	-13.0000	-52.3471 **	-52.1538 **
3897.5000	-13.0000	-50.0547 **	-51.6486 **
4677.0000	-13.0000	-46.9363 **	-48.0387 **
5456.5000	-13.0000	-46.9016 **	-46.9271 **
6236.0000	-13.0000	-46.1319 **	-45.8695 **
7015.5000	-13.0000	-43.4046 **	-44.1437 **
7795.0000	-13.0000	-41.4099 **	-43.1342 **



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

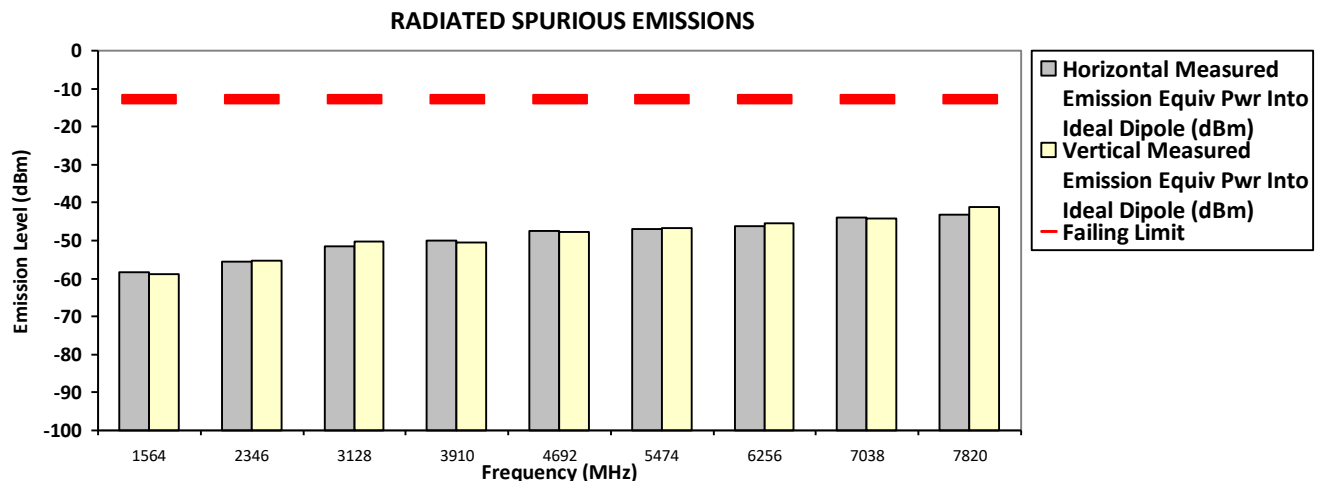
Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
Temp(Deg): 23.3 Hum(%RH): 69.3

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-00032**
Battery Part No: PMNN4805A **Accy Part No: AN000415A01**
Test Mode: TX LTE (Band 13) X-Plane
782.000000 MHz (Mid) **Bandwidth 5MHz** **0.282 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)
1564.0000	-13.0000	-58.4015 **	-58.8253 **
2346.0000	-13.0000	-55.5790 **	-55.2350 **
3128.0000	-13.0000	-51.6308 **	-50.1910 **
3910.0000	-13.0000	-50.0802 **	-50.4068 **
4692.0000	-13.0000	-47.3817 **	-47.7447 **
5474.0000	-13.0000	-47.0755 **	-46.7413 **
6256.0000	-13.0000	-46.1828 **	-45.4981 **
7038.0000	-13.0000	-43.9462 **	-44.2201 **
7820.0000	-13.0000	-43.2266 **	-41.1566 **



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

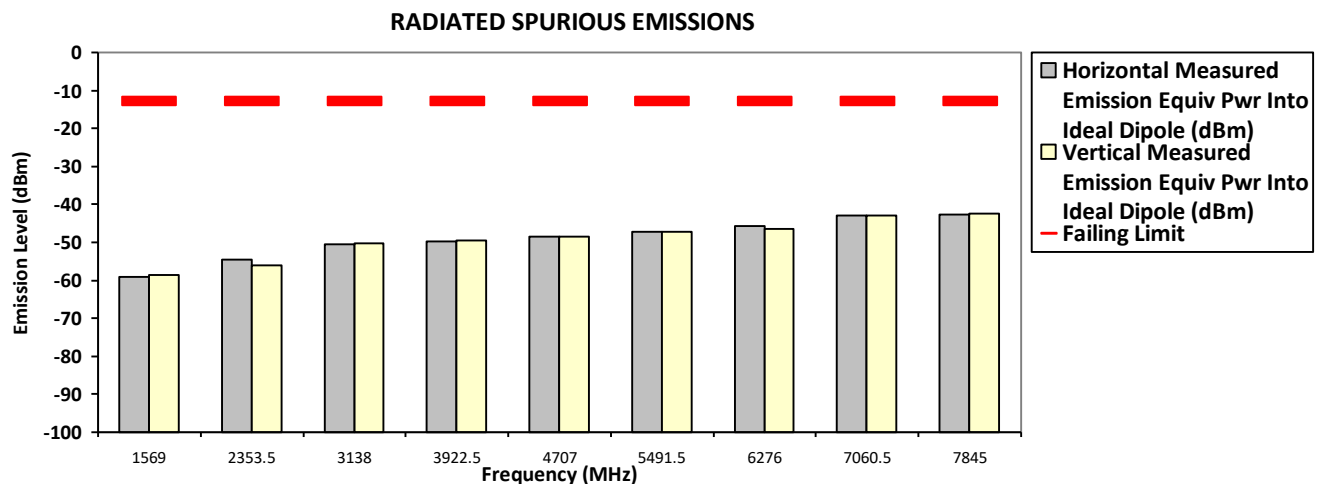
System MU: 4.03 dB

Remarks:

Passed Results	Marginal Results	Failed Results
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SAC Transmitter Radiated Emission:
Model Number: AAH90UCU9RH1AN **S/N: 734TYF0069** **SR:27331-EMC-00032**
Battery Part No: PMNN4805A **Accy Part No: AN000415A01**
Test Mode: TX LTE (Band 13) X-Plane
784.500000 MHz (High) **Bandwidth 5MHz** **0.282 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)
1569.0000	-13.0000	-59.1876 **	-58.6356 **
2353.5000	-13.0000	-54.6075 **	-55.9537 **
3138.0000	-13.0000	-50.4993 **	-50.2387 **
3922.5000	-13.0000	-49.8115 **	-49.5783 **
4707.0000	-13.0000	-48.5576 **	-48.3672 **
5491.5000	-13.0000	-47.2625 **	-47.2906 **
6276.0000	-13.0000	-45.7027 **	-46.4083 **
7060.5000	-13.0000	-43.0275 **	-42.8355 **
7845.0000	-13.0000	-42.5621 **	-42.4167 **



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

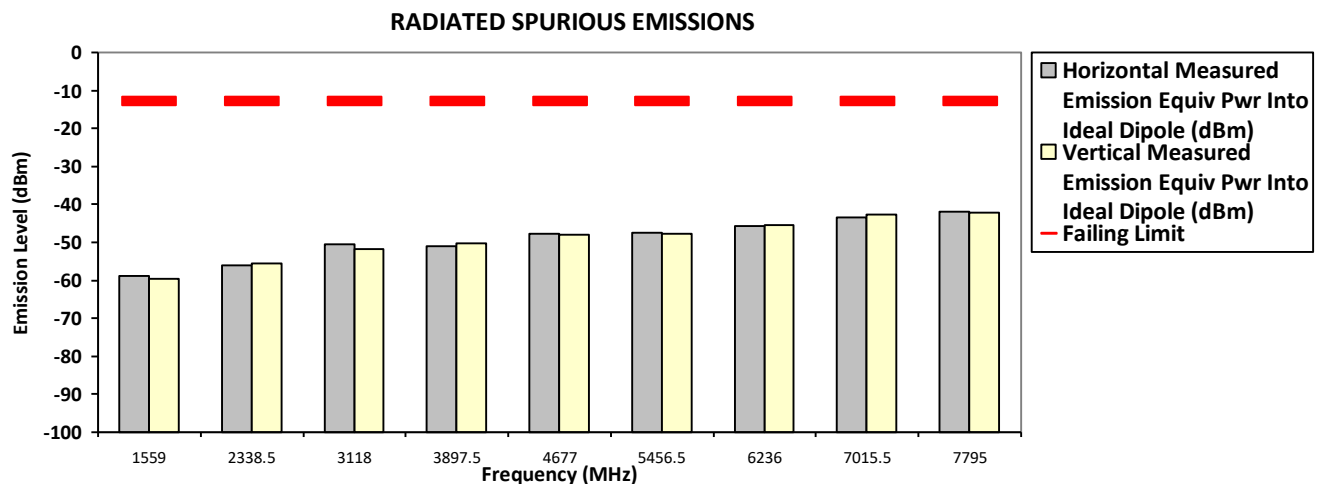
System MU: 4.03 dB

Remarks:

Passed Results	Marginal Results	Failed Results
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Model Number: AAH90UCU9RH1AN SAC Transmitter Radiated Emission: S/N: 734TYF0069 SR:27331-EMC-00032
 Battery Part No: PMNN4805A Accy Part No: AN000415A01
 Test Mode: TX LTE (Band 13) Y-Plane
 779.500000 MHz (Low) Bandwidth 5MHz 0.282 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)
1559.0000	-13.0000	-58.7836 **	-59.6172 **
2338.5000	-13.0000	-56.0113 **	-55.6224 **
3118.0000	-13.0000	-50.4727 **	-51.6726 **
3897.5000	-13.0000	-50.9603 **	-50.1978 **
4677.0000	-13.0000	-47.7715 **	-47.9392 **
5456.5000	-13.0000	-47.4716 **	-47.6152 **
6236.0000	-13.0000	-45.7500 **	-45.5147 **
7015.5000	-13.0000	-43.3472 **	-42.6006 **
7795.0000	-13.0000	-41.9405 **	-42.0879 **



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

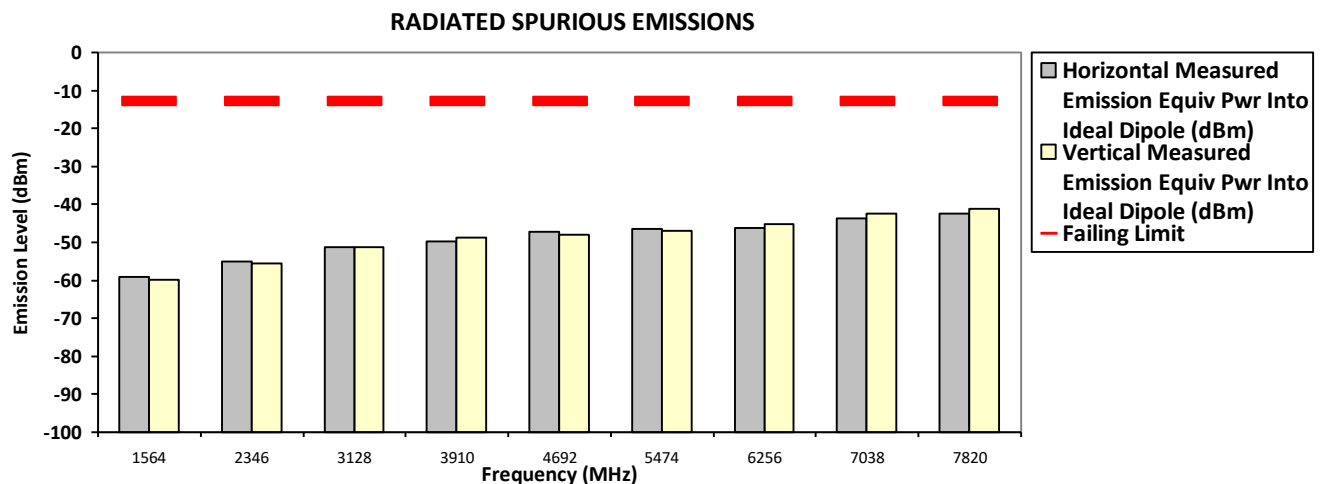
System MU: 4.03 dB

Remarks:

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

Model Number: AAH90UCU9RH1AN SAC Transmitter Radiated Emission: S/N: 734TYF0069 SR:27331-EMC-00032
Battery Part No: PMNN4805A Accy Part No: AN000415A01
Test Mode: TX LTE (Band 13) Y-Plane
782.000000 MHz (Mid) Bandwidth 5MHz 0.282 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)
1564.0000	-13.0000	-59.1788 **	-59.7332 **
2346.0000	-13.0000	-55.0336 **	-55.5266 **
3128.0000	-13.0000	-51.3398 **	-51.3339 **
3910.0000	-13.0000	-49.7603 **	-48.8097 **
4692.0000	-13.0000	-47.2912 **	-48.0996 **
5474.0000	-13.0000	-46.4732 **	-46.9303 **
6256.0000	-13.0000	-46.3366 **	-45.1806 **
7038.0000	-13.0000	-43.7408 **	-42.4442 **
7820.0000	-13.0000	-42.3854 **	-41.2060 **



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:

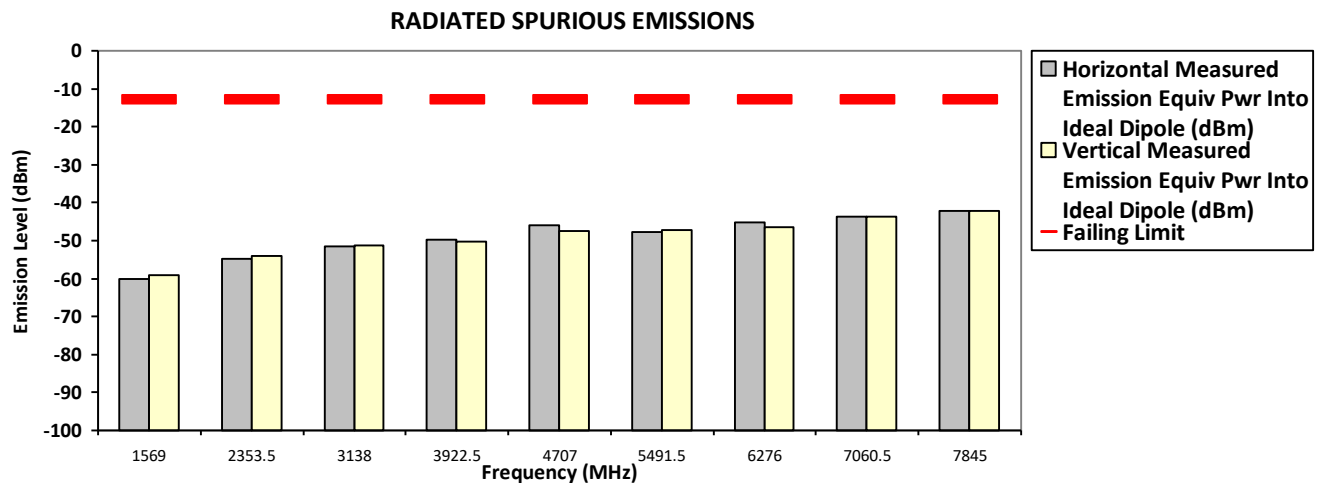
Passed Results	Marginal Results	Failed Results
----------------	------------------	----------------

S/N: 734TYF0069
 Battery Part No: PMNN4805A

SR:27331-EMC-00032
 Accy Part No: AN000415A01

Test Mode: TX LTE (Band 13) Y-Plane
 Bandwidth 5MHz
 784.500000 MHz (High) 0.282 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)
1569.0000	-13.0000	-60.2067 **	-59.1959 **
2353.5000	-13.0000	-54.6993 **	-54.0407 **
3138.0000	-13.0000	-51.4133 **	-51.3352 **
3922.5000	-13.0000	-49.8356 **	-50.3551 **
4707.0000	-13.0000	-45.9731 **	-47.4950 **
5491.5000	-13.0000	-47.8407 **	-47.2147 **
6276.0000	-13.0000	-45.0931 **	-46.3411 **
7060.5000	-13.0000	-43.6425 **	-43.6027 **
7845.0000	-13.0000	-42.2012 **	-42.2425 **



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

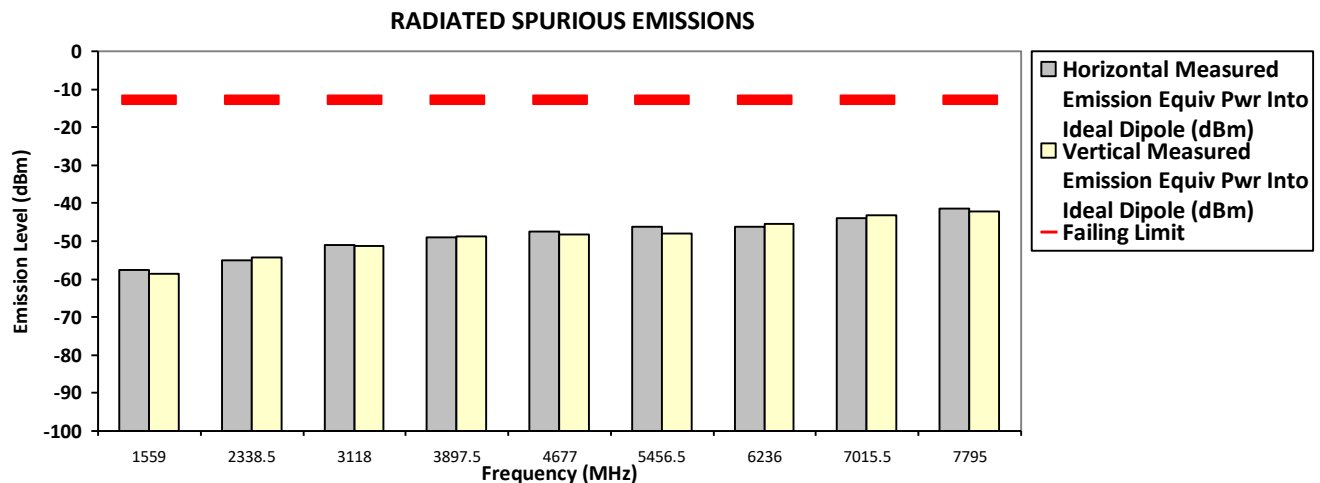
System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

SAC Transmitter Radiated Emission:

Model Number: AAH90UCU9RH1AN S/N: 734TYF0069 SR:27331-EMC-00032
Battery Part No: PMNN4805A Accy Part No: AN000415A01
Test Mode: TX LTE (Band 13) Z-Plane
779.500000 MHz (Low) Bandwidth 5MHz 0.282 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)
1559.0000	-13.0000	-57.5864 **	-58.5487 **
2338.5000	-13.0000	-54.9334 **	-54.3573 **
3118.0000	-13.0000	-50.9973 **	-51.2475 **
3897.5000	-13.0000	-48.9281 **	-48.7675 **
4677.0000	-13.0000	-47.4751 **	-48.3198 **
5456.5000	-13.0000	-46.2606 **	-47.9904 **
6236.0000	-13.0000	-46.2779 **	-45.4299 **
7015.5000	-13.0000	-43.9122 **	-43.1872 **
7795.0000	-13.0000	-41.3889 **	-42.2637 **



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

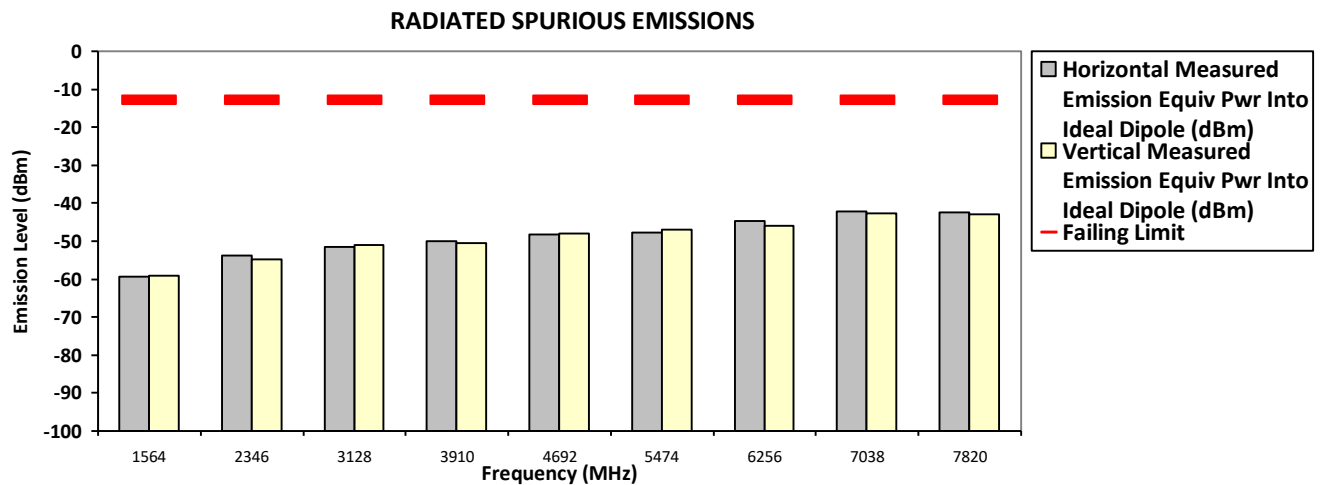
System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

SAC Transmitter Radiated Emission:

Model Number: AAH90UCU9RH1AN S/N: 734TYF0069 SR:27331-EMC-00032
 Battery Part No: PMNN4805A Accy Part No: AN000415A01
 Test Mode: TX LTE (Band 13) Z-Plane
 782.000000 MHz (Mid) Bandwidth 5MHz 0.282 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)
1564.0000	-13.0000	-59.3522 **	-58.9769 **
2346.0000	-13.0000	-53.8502 **	-54.7999 **
3128.0000	-13.0000	-51.4083 **	-50.9028 **
3910.0000	-13.0000	-50.0803 **	-50.3875 **
4692.0000	-13.0000	-48.1432 **	-47.8540 **
5474.0000	-13.0000	-47.6518 **	-46.8907 **
6256.0000	-13.0000	-44.6894 **	-45.8767 **
7038.0000	-13.0000	-42.1251 **	-42.5617 **
7820.0000	-13.0000	-42.4398 **	-43.0400 **



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

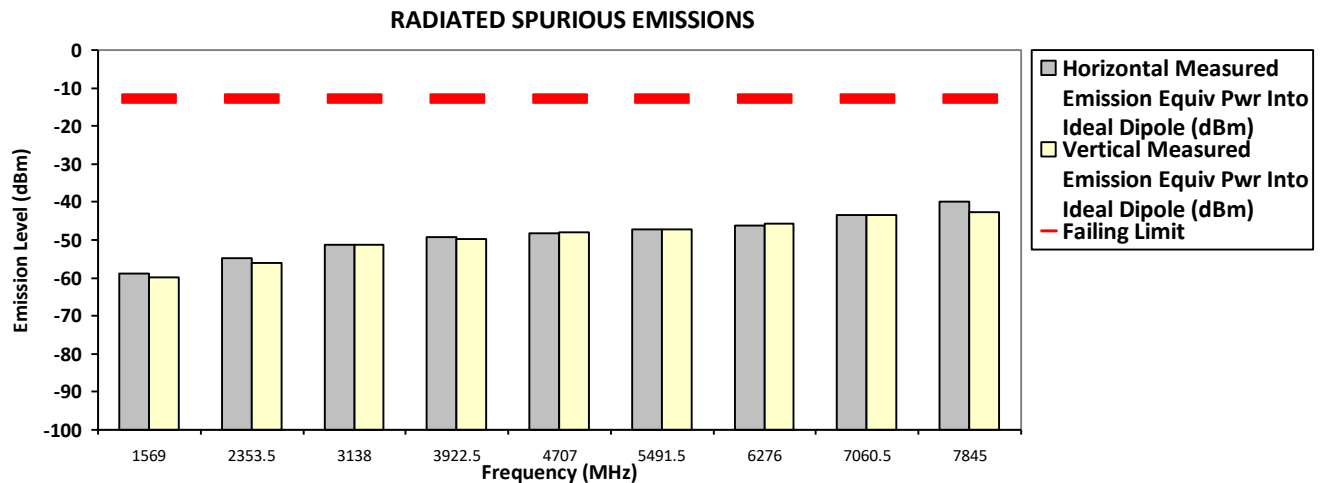
System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

SAC Transmitter Radiated Emission:

Model Number: AAH90UCU9RH1AN S/N: 734TYF0069 SR:27331-EMC-00032
 Battery Part No: PMNN4805A Accy Part No: AN000415A01
 Test Mode: TX LTE (Band 13) Z-Plane
 784.500000 MHz (High) Bandwidth 5MHz 0.282 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)
1569.0000	-13.0000	-58.7241 **	-59.7565 **
2353.5000	-13.0000	-54.8275 **	-55.9799 **
3138.0000	-13.0000	-51.3307 **	-51.3764 **
3922.5000	-13.0000	-49.2130 **	-49.7291 **
4707.0000	-13.0000	-48.3161 **	-47.9182 **
5491.5000	-13.0000	-47.2356 **	-47.1515 **
6276.0000	-13.0000	-46.2654 **	-45.7815 **
7060.5000	-13.0000	-43.5201 **	-43.3698 **
7845.0000	-13.0000	-39.9695 **	-42.5841 **



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.

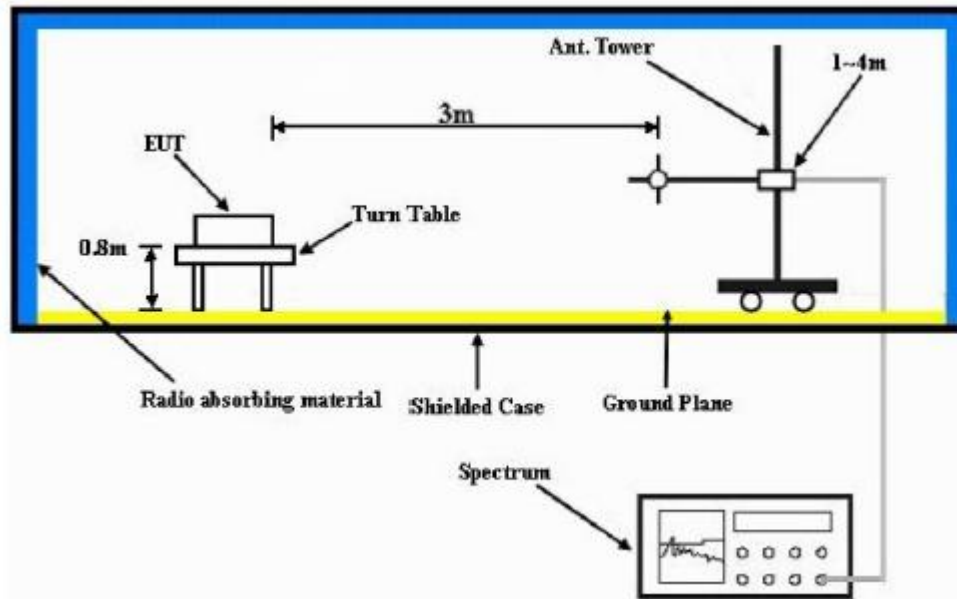
*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 23.3 Hum(%RH): 69.3

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

1.13.2. Test Limit

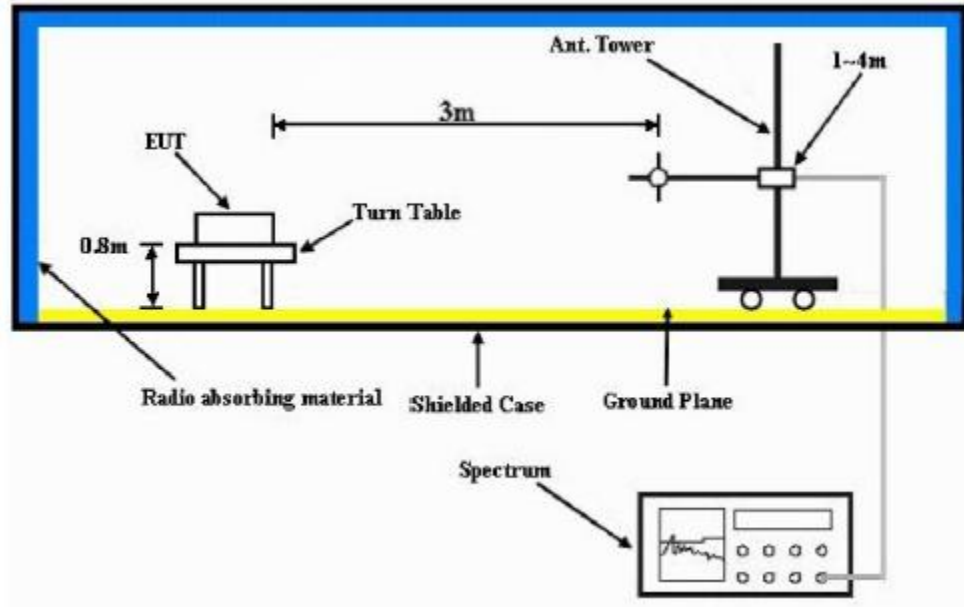
FCC: Portable stations (hand-held devices) transmitting in the 776-788 MHz band is limited to 3 watts ERP.
ISED: The e.i.r.p. shall not exceed 50 watts for mobile equipment or for outdoor fixed subscriber equipment, nor shall it exceed 5 watts for portable equipment or for indoor fixed subscriber equipment.

1.13.3. Effective Radiated Power (ERP) - LTE Band 13 (777-787MHz)

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 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions 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 e.i.r.p. in the band 1559-1610 MHz shall not exceed -70 dBW/MHz for wideband signal and -80 dBW for discrete emission with bandwidth less than 700 Hz.

1.14.3. GNSS (EIRP for 1599 – 1610MHz) - LTE Band 13 (777-787MHz)

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

Tx Power: 0.282 Watts
Modulation: QPSK

Frequency Channel: 784.5000 MHz (LTE Band 13)

Antenna Polarization	2Fc (MHz)	EIRP (dBm)	Limit (dBm)
Horizontal	1569.0000	-56.52	-40
Vertical	1569.0000	-55.95	-40

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

Tx Power: 0.282 Watts
Modulation: QPSK

Frequency Channel: 779.5000 MHz (LTE Band 13)

Antenna Polarization	2Fc (MHz)	EIRP (dBm)	Limit (dBm)
Horizontal	1559.0000	-54.88	-40
Vertical	1559.0000	-54.48	-40