

 MOTOROLA SOLUTIONS	    CERTIFICATE 2518.08 SAMM 825																																
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>: 06-January-2024 - 18-January-2024</td></tr><tr><td>Report Issue Date</td><td>: 3-April-2024</td></tr><tr><td>Manufacturer/Location</td><td>: MOTOROLA SOLUTIONS INC. (SCHAUMBURG)</td></tr><tr><td>Manufacturer Address</td><td>: 1301 E. ALGONQUIN ROAD, BLDG IL02 ROOM 3035, SCHAUMBURG, IL 60196</td></tr><tr><td>Requestor</td><td>: ROLANDO HERNANDEZ</td></tr><tr><td>Product Type</td><td>: Hand-held</td></tr><tr><td>Product Version (PMN)</td><td>: APX NEXT</td></tr><tr><td>Model Number (HVIN)</td><td>: H55TGT9PW8AN</td></tr><tr><td>Frequency Band</td><td>: Refer to section 1.4</td></tr><tr><td>Max RF Output Power</td><td>: 252 mW</td></tr><tr><td>Applicant Name</td><td>: Motorola Solutions Inc</td></tr><tr><td>Applicant Address</td><td>: Plot 2A, Medan Bayan lepas, Mukim 12, S.W.D. 11900 Bayan Lepas, Penang, Malaysia</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>: D05.75.54 (BP), D00.00.14 (AP)</td></tr></table> The equipment was tested accordance to the requirement listed below: <table><tr><td>(LTE Band 14) FCC 47 CFR Part 2 / 90 ISED RSS GEN / 140</td><td>PASS</td></tr></table>		Date/s Tested	: 06-January-2024 - 18-January-2024	Report Issue Date	: 3-April-2024	Manufacturer/Location	: MOTOROLA SOLUTIONS INC. (SCHAUMBURG)	Manufacturer Address	: 1301 E. ALGONQUIN ROAD, BLDG IL02 ROOM 3035, SCHAUMBURG, IL 60196	Requestor	: ROLANDO HERNANDEZ	Product Type	: Hand-held	Product Version (PMN)	: APX NEXT	Model Number (HVIN)	: H55TGT9PW8AN	Frequency Band	: Refer to section 1.4	Max RF Output Power	: 252 mW	Applicant Name	: Motorola Solutions Inc	Applicant Address	: Plot 2A, Medan Bayan lepas, Mukim 12, S.W.D. 11900 Bayan Lepas, Penang, Malaysia	FCC Registrations	: 461337	ISED Registrations	: MY0001	Firmware Version (FVIN)	: D05.75.54 (BP), D00.00.14 (AP)	(LTE Band 14) FCC 47 CFR Part 2 / 90 ISED RSS GEN / 140	PASS
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Prepared By:  Awatif Rahman Technician	Approve Signatory:  Maheshvaran A/L Rajagopal Responsible Engineer																																

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REVISION HISTORY

Revision History	Description	Date	Originator
Rev A.	Initial Report	22-January-2024	Awatif Rahman

Rev B.	Update FCC and ISED Clause in Summary Table	03-April-2024	Maheshvaran A/L Rajagopal
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1.0. Summary of Test Results

FCC Clause	ISED Clause	Test Item	Results	Remarks	Serial Number Tested
2.1046	RSS-140 3.1	Conducted RF Output Power	Pass	Meet the requirement of limit	437TZP0846
2.1046	RSS 140 4.3	Peak-to-Average Power Ratio	NA	NA	SEE NOTE1
2.1049 90.209(7)	RSS-Gen 6.7	Occupied Bandwidth (26dBc, 99%)	NA	NA	SEE NOTE1
2.1055 90.213	RSS-140 4.2	Frequency Stability	NA	NA	SEE NOTE1
2.1051 90.543(e)	RSS-Gen 6.13 RSS-140 4.4	Band Edge Conducted Spurious Emission	NA	NA	SEE NOTE1
2.1051 90.543(e)	RSS-Gen 6.13 RSS-140 4.4	Conducted Spurious Emissions	Pass	Meet the requirement of limit	437TZP0846
2.1051 90.543(e)	RSS-140 4.4	Radiated Spurious Emission	Pass	Meet the requirement of limit	437TZP0815
90.635(b)	RSS-140 4.3	Effective Radiated Power (ERP)	Pass	Meet the requirement of limit	437TZP0846

NOTE1: Selection of test parameters, the report contain a limited number of parameters deemed to be influenced by the relevant design changes, as agreed with the applicant.

1.1. Measurement Uncertainty

Measurement	Frequency	Expanded 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)				
WIDEBAND RADIO COMMUNICATION TESTER	CMW500	154550	08-AUG-23	08-AUG-24
SIGNAL ANALYZER	FSV40	101431	07-AUG-23	07-AUG-24
CHAMBER	SH-641	92003150	15-SEP-23	15-SEP-24
POWER SUPPLY	6652A	3640A02967	15-OCT-23	15-OCT-24
TEST SOFTWARE	CMWRUN			
VERSION	V1.9.8			
EMC CHAMBER 1				
DRG HORN FREQ.	SAS-571	1143	08-MAR-23	08-MAR-25
DRG HORN FREQ.	SAS-571	720	18-APR-23	18-APR-25
DC POWER SUPPLY	NR973A	MY54180189	30-AUG-23	30-AUG-24
SIGNAL GENERATOR	SMB 100A	182511	04-JUN-21	04-JUN-24
EMI TEST RECEIVER	ESW44	101731	11-AUG-23	11-AUG-24
5m SEMI-ANECHOIC CHAMBER	S800-HX	J2308	NOT REQUIRED	NOT REQUIRED
BILOG ANTENNA	CBL6112B	2950	14-DEC-23	14-DEC-24
BILOG ANTENNA	CBL6112B	2964	25-SEP-23	25-SEP-24
DATA LOGGER THERMOHYGROMETER	SDL500	A.016800	21-JUN-23	21-JUN-24
SYSTEM CONTROLLER	SC104V	050806-1	NOT REQUIRED	NOT REQUIRED
TURNTABLE FLUSH MOUNT 2M	FM2011	NA	NOT REQUIRED	NOT REQUIRED
ANTENNA POSITIONING TOWER	TLT2	NA	NOT REQUIRED	NOT REQUIRED
BROAD-BAND HORN ANTENNA	BBHA9170	BBHA9170255	22-FEB-23	22-FEB-24
PREAMPLIFIER 18-40GHz	MITEQ HI GAIN SUCOFLEX	002	NOT REQUIRED	NOT REQUIRED
PREAMPLIFIER	PAM-0118P	269	28-MAR-23	28-MAR-24
LOOP ANTENNA	6502	00203479	16-FEB-23	16-FEB-24
TEST SOFTWARE	EMC_FCC_IC_BLUETOOTH_RE_TEST			
VERSION	EMC_FCC_RE_v1.6.5			

1.3. General Information

General Description of EUT

Product	APX NEXT		
Brand	Motorola Solutions		
Test Model	H55TGT9PW8AN		
Power Supply Rating	7.5Vdc		
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	23.417dBm (0.219W)
		Channel Bandwidth 10MHz	23.340dBm (0.215W)
	LTE Band 14 16QAM	Channel Bandwidth 5MHz	22.715dBm (0.186W)
		Channel Bandwidth 10MHz	22.458dBm (0.176W)
Antenna Type	LTE Band 14	Stamped Metal with -3.52dBi gain	

Note:

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

Item	Brand	Model or P/N	Specification
BATTERY	MOTOROLA	NNTN9089B	BATTERY PACK,BATTERY PACK,IMPRES GEN2, LIION, IP68, 5850T
CABLE	MOTOROLA	PMKN4012B	DMR PORTABLE PROGRAMMING CABLE
LAPTOP	MOTOROLA	AH422508	-
ANTENNA	MOTOROLA	AN000296A01	SHORT STUBBY 7/800MHZ, (760 - 870 MHZ)

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	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		
Conducted Spurious Emission	23305~ 23355	23305, 23330, 23355	5 MHz	QPSK	1 RB / 13 RB Offset
	23330	23330	10 MHz		1 RB / 0 RB Offset
Radiated Spurious Emission	23305~ 23355	23305	5 MHz	QPSK	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:

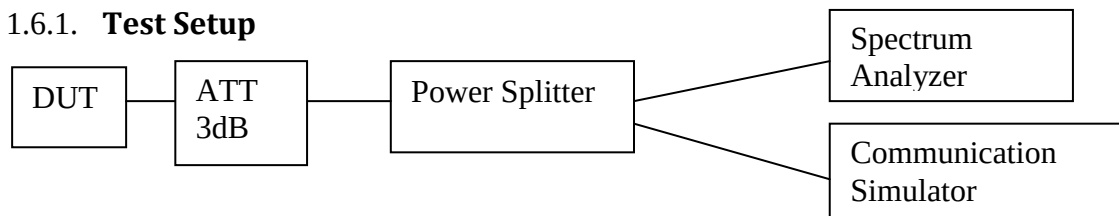
1. The Conducted RF Output Power for QPSK and 16QAM, measured value of QPSK is higher than 16QAM mode. Therefore, only Conducted Spurious Emission and Radiated Emission had been tested under QPSK modes.
2. Band Edge was performed with 1 and full Resource Block at the lowest and highest operating frequency band.
3. The Effective Radiated Power (ERP) was performed based on worst case mode from Conducted RF Output Power 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	Awatif Rahman
Peak-to-Average Power Ratio	NA	NA	NA
Occupied Bandwidth	NA	NA	NA
Frequency Stability	NA	NA	NA
Band Edge Conducted Spurious Emission	NA	NA	NA
Conducted Spurious Emission	25°C, 50% RH	7.5V DC	Awatif Rahman
Radiated Spurious Emission	23.7°C, 69.2% RH	7.5V DC	Nazrin & Fuad
Effective Radiated Power (ERP)	25°C, 50% RH	7.5V DC	Awatif Rahman

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	23.388	23.348	23.206	22.663	22.492	22.275
	1	13	23.417	23.352	23.245	22.715	22.476	22.298
	1	24	23.375	23.284	23.152	22.665	22.445	22.209
	12	0	22.391	22.326	22.321	21.463	21.36	21.402
	12	6	22.402	22.35	22.305	21.472	21.374	21.387
	12	13	22.363	22.287	22.269	21.428	21.409	21.346
	25	0	22.402	22.359	22.276	21.483	21.436	21.353

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		23.34			22.458	
	1	25		23.283			22.435	
	1	49		23.216			22.38	
	25	0		22.357			21.521	
	25	13		22.362			21.506	
	25	25		22.351			21.506	
	50	0		22.368			21.447	

1.6.4 Effective Radiated Power (ERP) – LTE Band 14 (788-798MHz)

ERP (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	17.718	17.678	17.536	16.993	16.822	16.605
	1	13	17.747	17.682	17.575	17.045	16.806	16.628
	1	24	17.705	17.614	17.482	16.995	16.775	16.539
	12	0	16.721	16.656	16.651	15.793	15.69	15.732
	12	6	16.732	16.68	16.635	15.802	15.704	15.717
	12	13	16.693	16.617	16.599	15.758	15.739	15.676
	25	0	16.732	16.689	16.606	15.813	15.766	15.683

ERP (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		17.67			16.788	
	1	25		17.613			16.765	
	1	49		17.546			16.71	
	25	0		16.687			15.851	
	25	13		16.692			15.836	
	25	25		16.681			15.836	
	50	0		16.698			15.777	

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

$$\mathbf{EIRP = P_{Meas} + G_T}$$

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

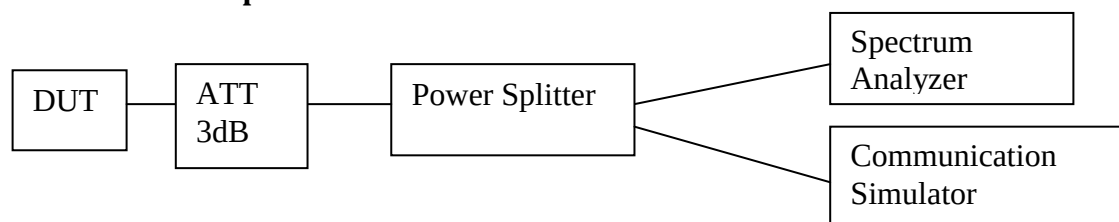
Where, ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (Expressed in the same units as P_{Meas}, e.g., dBm)

P_{Meas} measured transmitter output power, in dBm

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

1.7. Peak-to-Average Power Ratio

1.7.1. Test Setup



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

1.7.2. Test Limit

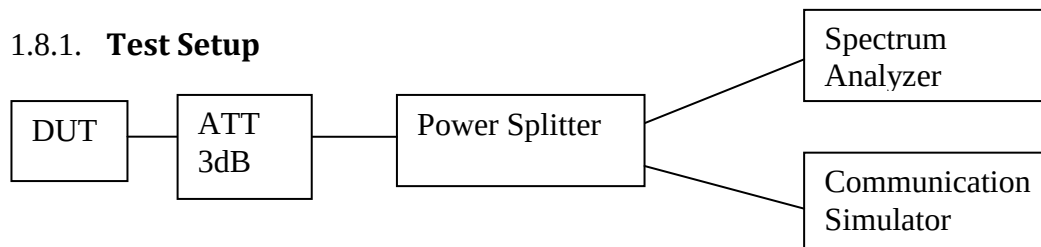
The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB

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

NA

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

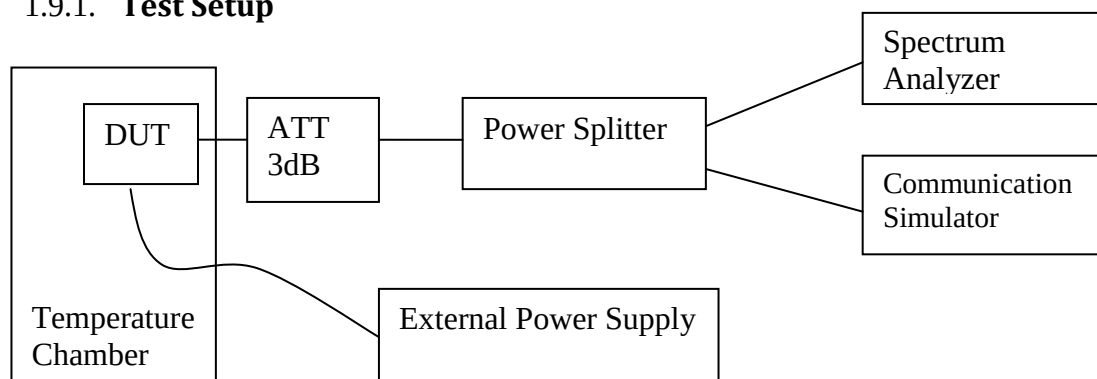
For measurement 99% of occupied bandwidth that is required by FCC 2.1049 and RSS Gen 6.6.

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

NA

1.9. Frequency Stability

1.9.1. Test Setup



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

1.9.2. Test Limit

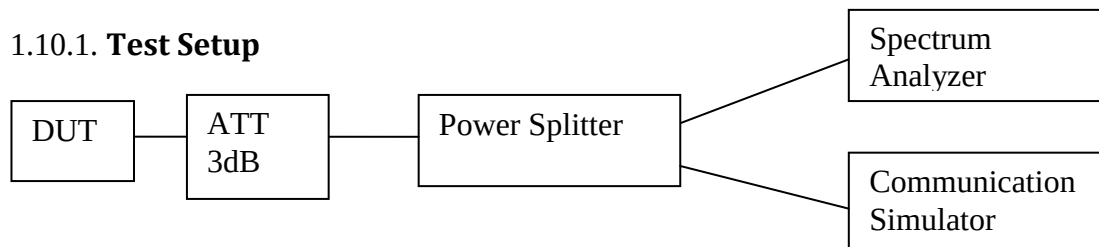
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

1.9.3. Frequency Stability - LTE Band 14 (788-798MHz)

NA

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:

(b) *Emission Mask B.* For transmitters that are equipped with an audio low-pass filter, the power of any emission must be attenuated below the unmodulated carrier power (P) as follows:

- (1) On any frequency removed from the assigned frequency by more than 50 percent, but not more than 100 percent of the authorized bandwidth: At least 25 dB.
- (2) On any frequency removed from the assigned frequency by more than 100 percent, but not more than 250 percent of the authorized bandwidth: At least 35 dB.
- (3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least $43 + 10 \log (P)$ dB.

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

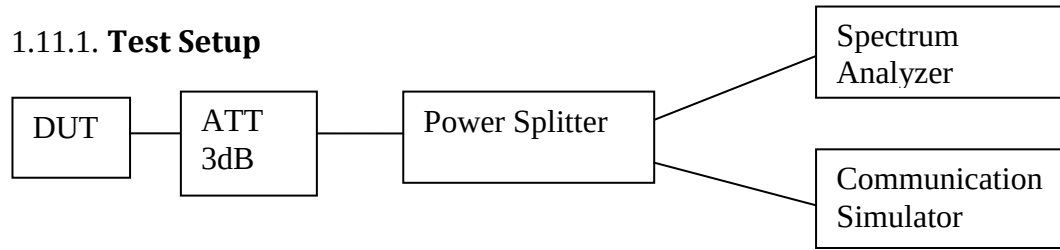
For any frequency between 775-788 MHz, above 806 MHz, and below 758 MHz: $43 + 10 \log (p)$, dB in a bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency bands 758-768 MHz and 788-798 MHz, a resolution bandwidth of 30 kHz may be employed.

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

NA

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:

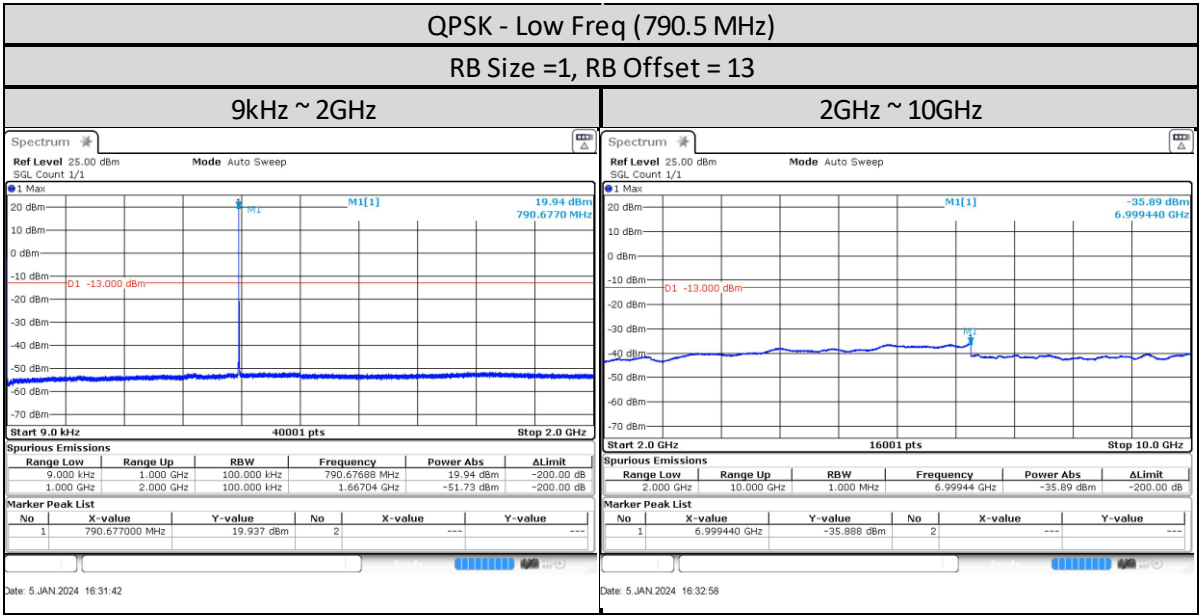
The power of any unwanted emission outside the bands 758-768 MHz and 788-798 MHz shall be attenuated below the transmitter output power P in dBW as follows, where p is the transmitter output power in watts:

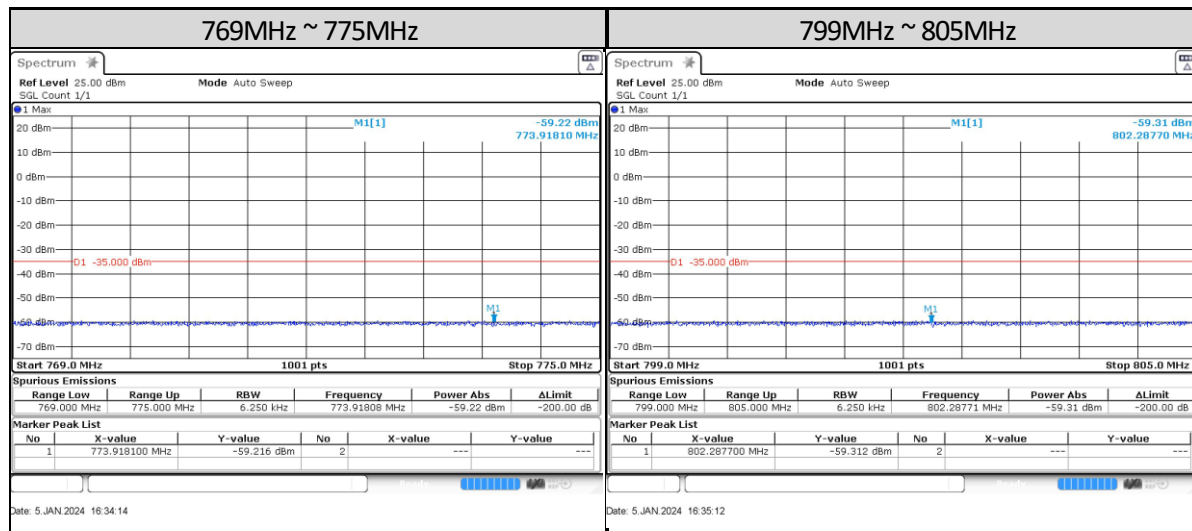
For any frequency between 769-775 MHz and 799-806 MHz:
76 + 10 log (p), dB in a 6.25 kHz band for fixed and base station equipment
65 + 10 log (p), dB in a 6.25 kHz band for mobile and portable/hand-held equipment

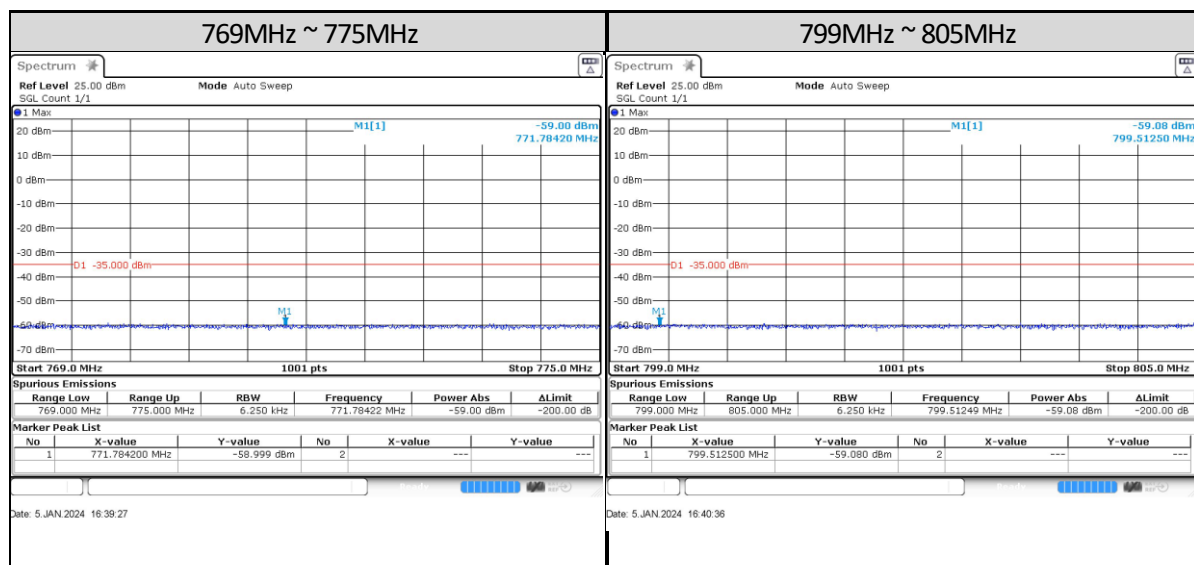
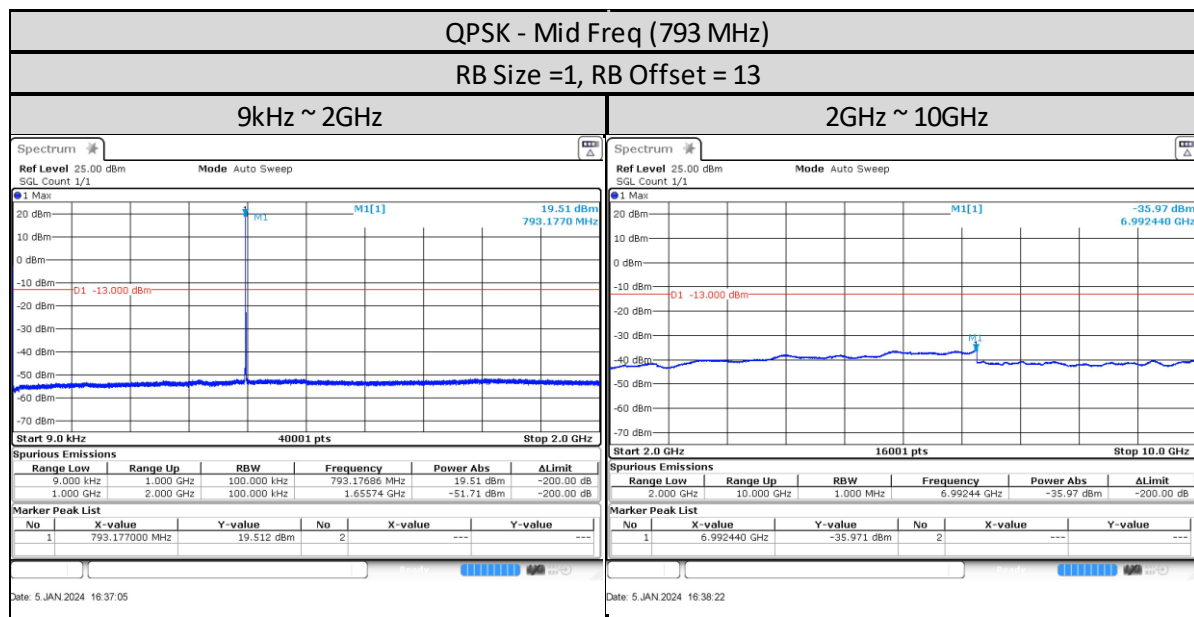
For any frequency between 775-788 MHz, above 806 MHz, and below 758 MHz: 43 + 10 log (p), dB in a bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency bands 758-768 MHz and 788-798 MHz, a resolution bandwidth of 30 kHz may be employed.

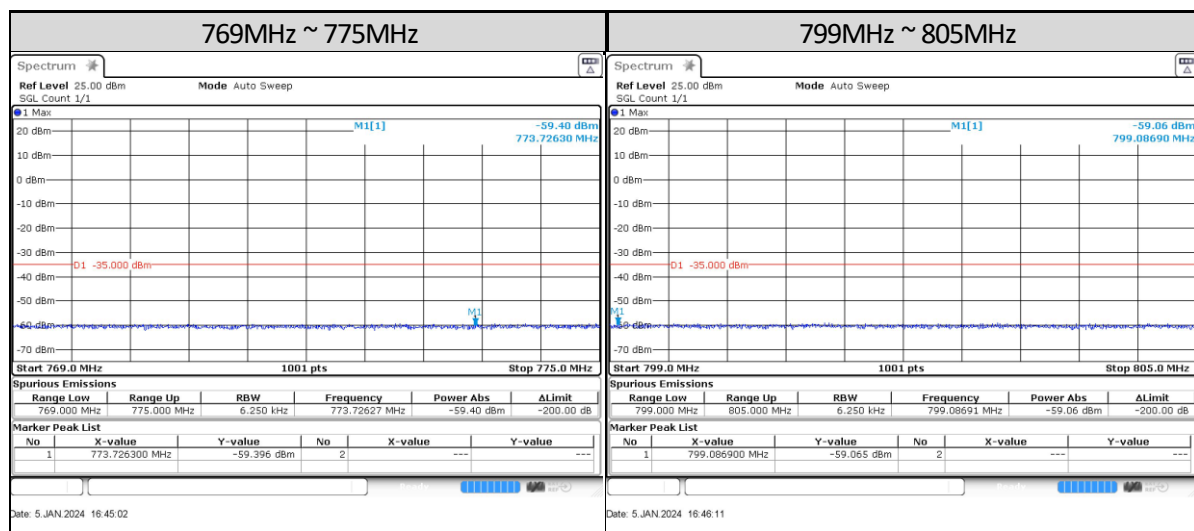
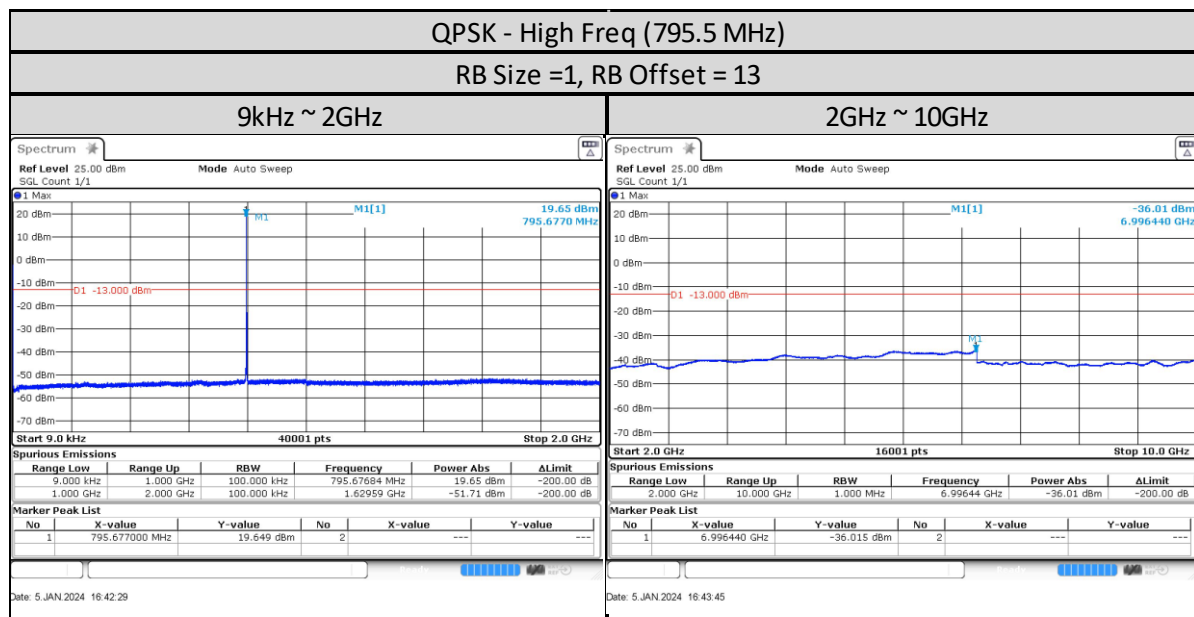
1.11.3. Conducted Spurious Emission - LTE Band 14 (788-798MHz)

5MHz

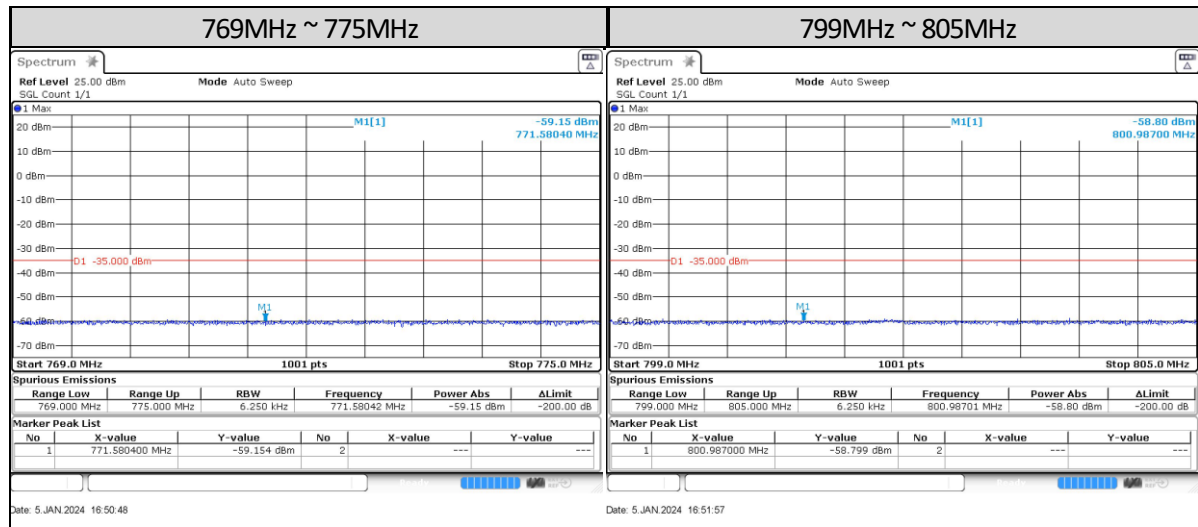
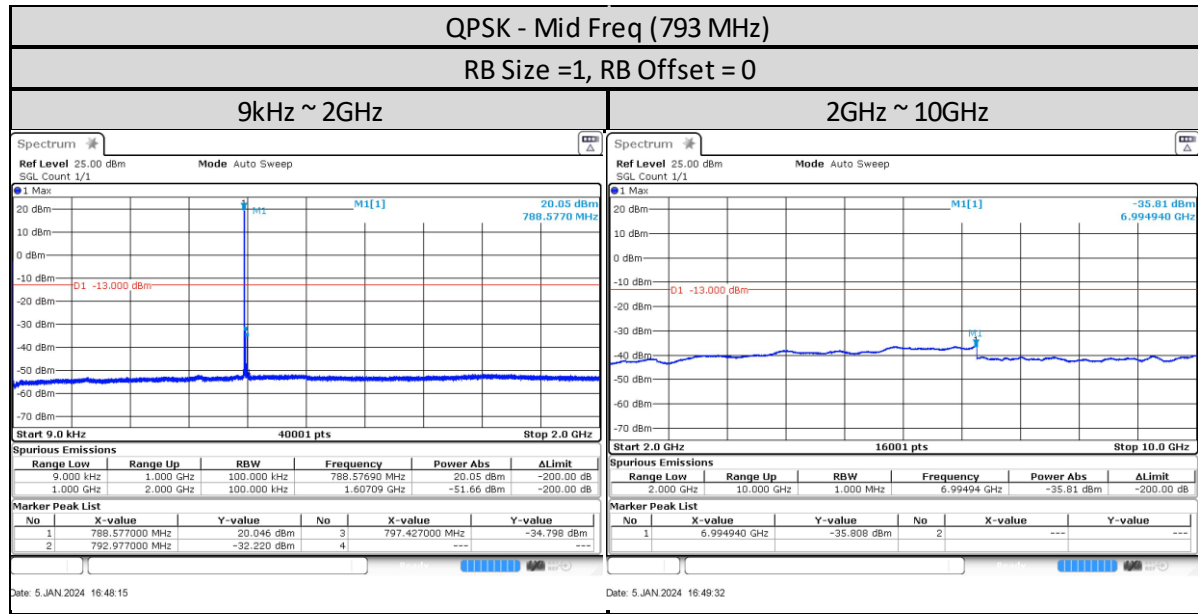






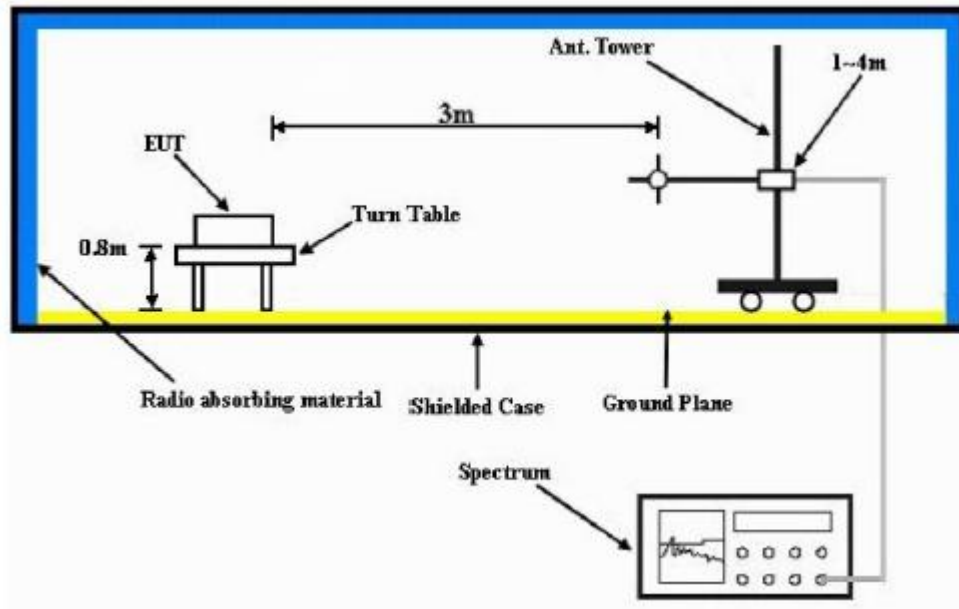


10MHz



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)

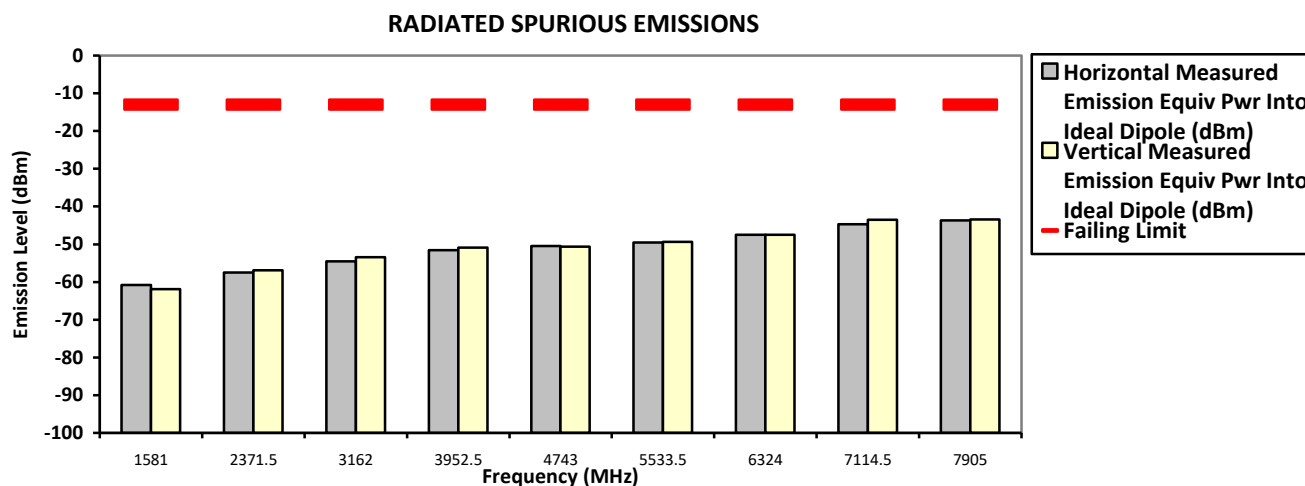
Model Number: H55TGT9PW8AN
 Battery Part No: NNTN9089B

SAC Transmitter Radiated Emission:
 S/N: 437TZP0815
 Accy Part No: AN000296A01, PMKN4012B-C1, Laptop (AH422508)
 Test Mode: TX LTE (Band 14) X-Plane
 Bandwidth 5MHz

SR:12464-EMC-00265
 0.252 Watt(s) /Max Power

790.500000 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	-60.7892 **	-61.8632 **
2371.5000	-13.0000	-57.4911 **	-56.8642 **
3162.0000	-13.0000	-54.5222 **	-53.4190 **
3952.5000	-13.0000	-51.5735 **	-50.9025 **
4743.0000	-13.0000	-50.4408 **	-50.6672 **
5533.5000	-13.0000	-49.5081 **	-49.3621 **
6324.0000	-13.0000	-47.4947 **	-47.4902 **
7114.5000	-13.0000	-44.6934 **	-43.5601 **
7905.0000	-13.0000	-43.7230 **	-43.4403 **



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: Nazrin & Fuad
 Thu, 18 Jan, 2024

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): 23.7 Hum(%RH): 69.2

System MU: 4.03 dB

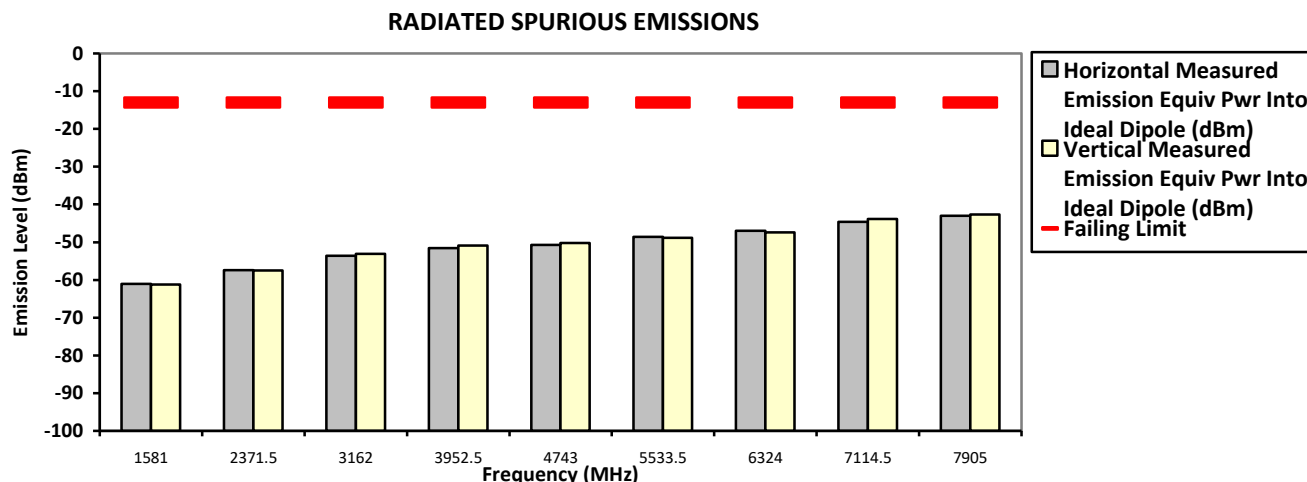
Remarks: Passed Results Marginal Results Failed Results

Model Number: H55TGT9PW8AN
Battery Part No: NNTN9089B
790.500000 MHz (Low)

SAC Transmitter Radiated Emission:
S/N: 437TZP0815
Accy Part No: AN000296A01, PMKN4012B-C1, Laptop (AH422508)
Test Mode: TX LTE (Band 14) Y-Plane
Bandwidth 5MHz
0.252 Watt(s) /Max Power

SR:12464-EMC-00265

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	-61.0277 **	-61.1837 **
2371.5000	-13.0000	-57.3906 **	-57.4873 **
3162.0000	-13.0000	-53.6177 **	-53.0615 **
3952.5000	-13.0000	-51.5408 **	-50.9271 **
4743.0000	-13.0000	-50.7098 **	-50.1706 **
5533.5000	-13.0000	-48.5773 **	-48.8715 **
6324.0000	-13.0000	-46.9999 **	-47.4229 **
7114.5000	-13.0000	-44.6545 **	-43.8845 **
7905.0000	-13.0000	-43.0179 **	-42.6448 **



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: Nazrin & Fuad
 Thu, 18 Jan, 2024

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): 23.7 Hum(%RH): 69.2

System MU: 4.03 dB

Remarks:

Passed Results	Marginal Results	Failed Results
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Model Number: H55TGT9PW8AN
 Battery Part No: NNTN9089B

SAC Transmitter Radiated Emission:

S/N: 437TZP0815

SR:12464-EMC-00265

Accy Part No: AN000296A01, PMKN4012B-C1, Laptop (AH422508)

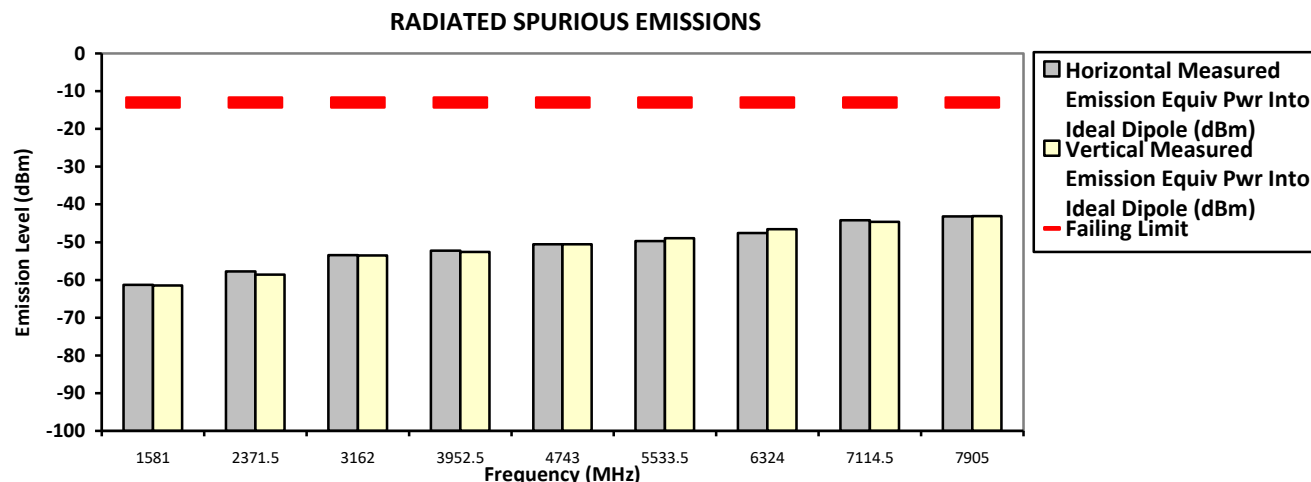
Test Mode: TX LTE (Band 14) Z-Plane

Bandwidth 5MHz

0.252 Watt(s) /Max Power

790.500000 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	-61.3124 **	-61.4388 **
2371.5000	-13.0000	-57.7224 **	-58.5652 **
3162.0000	-13.0000	-53.4302 **	-53.4798 **
3952.5000	-13.0000	-52.2302 **	-52.5718 **
4743.0000	-13.0000	-50.5417 **	-50.5413 **
5533.5000	-13.0000	-49.7280 **	-48.9027 **
6324.0000	-13.0000	-47.5534 **	-46.5629 **
7114.5000	-13.0000	-44.2054 **	-44.6379 **
7905.0000	-13.0000	-43.1887 **	-43.1369 **



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: Nazrin & Fuad

Thu, 18 Jan, 2024

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): 23.7 Hum(%RH): 69.2

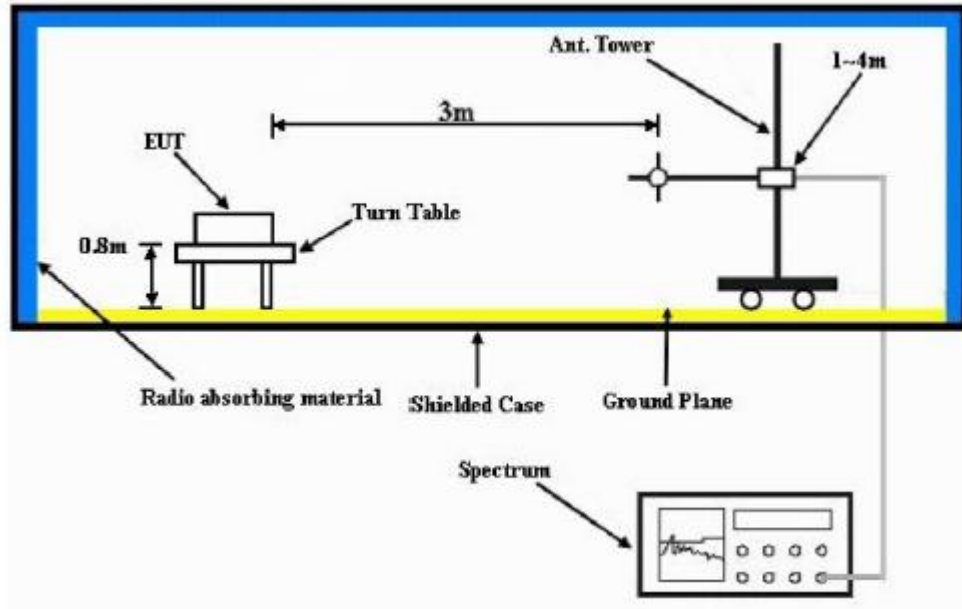
System MU: 4.03 dB

Remarks:

Passed Results	Marginal Results	Failed Results
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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) $ERP = \text{“Read Value”} + \text{Measured substitution value.}$

1.13.2. Test Limit

FCC :

The maximum output power of the transmitter for mobile stations is 100 watts (20 dBw). Power is given in terms of effective radiated power (ERP).

ISED :

The equivalent radiated power (e.r.p.) for control and mobile equipment shall not exceed 30 W. 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)

NA

--End of Test Report--