

FCC Radio Test Report FCC ID: M82-SCN100

: BTL-FCCP-8-2212T004 Report No. Equipment : Computer Model Name : SCN-100-9, SCN-100-9xxxxxxxxxxxxx (where "x" may be any alphanumeric character, "-" or blank for marketing purpose and no impact safety related critical components and constructions) **Brand Name** 2 AD\4NTECH (1) ADVANTECH or (2): Advantech Co., Ltd. Applicant Address : No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei 11491, Taiwan.

FCC Rule Part(s) : FCC CFR Title 47, Part 90, Subpart S

: LTE Band 26

Date of Receipt	:	2022/12/9
Date of Test	:	2023/2/24 ~ 2023/10/27
Issued Date	:	2023/11/7

The above equipment has been tested and found in compliance with the requirement of the above standards by BTL Inc.

Prepared by

Radio Function

Supervisor

Approved by

Peter Chen, Manager



BTL Inc.

No.18, Ln. 171, Sec. 2, Jiuzong Rd., Neihu Dist., Taipei City 114, Taiwan Tel: +886-2-2657-3299 Fax: +886-2-2657-3331 Web: www.newbtl.com Service mail: btl_qa@newbtl.com





Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

This report is the confidential property of the client. As a mutual protection to the clients, the public and ourselves, the test report shall not be reproduced, except in full, without our written approval.

BTL's laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.



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REVISION HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-8-2212T004	R00	Original Report.	2023/9/4	Invalid
BTL-FCCP-8-2212T004	R01	Added others conducted test items.	2023/11/7	Valid



SUMMARY OF TEST RESULTS 1

Test procedures according to the technical standards.

Standard(s) Section	Description	Test Result	Judgement	Remark
2.1046 90.635 (b)	Conducted Output Power Effective Radiated Power	APPENDIX A	Pass	
2.1049 90.209	Occupied Bandwidth	APPENDIX B	Pass	
2.1053 90.669	Conducted Spurious Emissions	APPENDIX C	Pass	
2.1053 90.691	Radiated Spurious Emissions	APPENDIX D	Pass	
2.1053 90.691	Mask Measurements	APPENDIX E	Pass	
-	Peak To Average Ratio	APPENDIX F	Pass	
2.1055 90.213	Frequency Stability	APPENDIX G	Pass	

NOTE:

(1) "N/A" denotes test is not applicable in this Test Report.(2) The report format version is TP.1.1.1.



1.1 **REFERENCE TEST GUIDANCE**

ANSI C63.26-2015 ANSI/TIA-603-E-2016 FCC KDB 971168 D01 Power Meas License Digital Systems v03r01

1.2 **TEST FACILITY**

The test locations stated below are under the TAF Accreditation Number 0659. The test location(s) used to collect the test data in this report are: No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan (FCC DN: TW0659) C05 □ SR10 ⊠ SR11 No. 72, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan (FCC DN: TW0659) □ CB22

□ C06 ⊠ CB21

1.3 **MEASUREMENT UNCERTAINTY**

The reported uncertainty of measurement $\mathbf{y} \pm \mathbf{U}$, where expanded uncertainty \mathbf{U} is based on a standard uncertainty multiplied by a coverage factor of $\mathbf{k} = 2$, providing a level of confidence of approximately 95 %. The measurement instrumentation uncertainty considerations contained in CISPR 16-4-2. The BTL measurement uncertainty is less than the CISPR 16-4-2 Ucispr requirement.

A. Effective Radiated Power and Radiated emissions test :

Test Site	Measurement Frequency Range	U,(dB)
	0.03 GHz ~ 0.2 GHz	4.17
	0.2 GHz ~ 1 GHz	4.72
CB21	1 GHz ~ 6 GHz	5.21
	6 GHz ~ 18 GHz	5.51
	18 GHz ~ 26 GHz	3.69
	26 GHz ~ 40 GHz	4.23

NOTE:

Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

1.4 **TEST ENVIRONMENT CONDITIONS**

Test Item	Environment Condition	Test Voltage	Tested by
Conducted Output Power	23.4 °C, 59 %	AC 120V	Cora Lin
Effective Radiated Power	Refer to data	AC 120V	Mark Wang
Occupied Bandwidth	25.4 °C, 54 %	AC 120V	Cora Lin
Conducted Spurious Emissions	25.4 °C, 54 %	AC 120V	Cora Lin
Radiated Spurious Emissions	Refer to data	AC 120V	Mark Wang
Mask Measurements	25.4 °C, 54 %	AC 120V	Cora Lin
Peak To Average Ratio	25.4 °C, 54 %	AC 120V	Cora Lin
Frequency Stability	Normal and Ex	Cora Lin	



2 GENERAL INFORMATION

2.1 DESCRIPTION OF EUT

Equipment	Computer					
	SCN-100-9, SCN-10	0-9*********	(where	"x" may be	any alphanumeric	
Model Name	character, "-" or blan					
	components and cor					
Brand Name	(1) ADVANTECH or ADVANTECH (2) SCANIA					
Model Difference	Different model distr	ibute to different are	a.			
Power Source	DC voltage supplied					
Power Rating	EUT: 12-32Vdc, 10-3 For Adapter: I/P: 100-240V~2.3A O/P: 24.0V7.5A	, 50-60Hz				
Products Covered	1 * Adapter: FSP / F	SP180-AAAN3				
WWAN Module	AirPrime / EM7565					
IMEI No.	Description Avg (2) Mosc Mosc TX Power 21.53 21.53 21.53 Dharnel Power 21.53 21.53 21.53 IME Report 5001010125450763 30.5245076 30.5245076 IME Report 50000 50.533106264533 40.544507 POS 49.590 50.533106264533 50.5533106264533 POS - 1 50.533106264533 50.553106264533 50.553106264533 POS - 1 50.553106264533 50.55310626	21.53 dbn 20.3 to 25.7 dbn 1 C. Pears t. 21.53 dbn 1 C. Pears t. 1 Signaling 1 Trace 1 1213				
Operation Frequency	Band	UL Frequency (equency (MHz)	
operation requeitey	LTE 26	814 ~ 824			859 ~ 869	
	Band	BW (MHz)	Мо		Power (W)	
		1.4	QP 16Q		0.197 0.160	
					0.100	
Maximum ERP		3	QPSK 1604M		0.162	
	LTE 26		16QAM		0.162	
		5	QPSK 16QAM			
					0.048	
	10 QPSK 0.204					
T (N (N)	16QAM 0.166					
Test Model	SCN-100-9					
Sample Status	Engineering Sample					
EUT Modification(s)	N/A					

NOTE:

(1) The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

(2) Channel List:

LTE Band 26						
Test Frequency ID	Bandwidth (MHz)	Nul	Frequency of Uplink (MHz)	NDL	Frequency of Downlink (MHz)	
	1.4	26697	814.7	8697	859.7	
Low Range	3	26705	815.5	8705	860.5	
	5	26715	816.5	8715	861.5	
Mid Range	1.4/3/5/10	26740	819	8740	864	
	1.4	26783	823.3	8783	868.3	
High Range	3	26775	822.5	8775	867.5	
	5	26765	821.5	8765	866.5	

(3) Table for Filed Antenna:

Antenna	Manufacture	Part Number	Туре	Connector	Gain (dBi)	Note
Main	AWAN	DC33001WF00	PIFA	I-PEX	2.65	LTE Band 26
Aux	AWAN	DC33001WF10	PIFA	I-PEX	2.35	LTE Band 26

(4) The above Antenna information are derived from the antenna data sheet provided by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.



2.2 TEST MODES

	LTE BAND 26 MODE								
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode				
Conducted	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK, 16QAM, 64QAM	1RB/3RB/6RB				
Output Power &	26705 to 26775	26705, 26740, 26775	3MHz	QPSK, 16QAM, 64QAM	1RB/8RB/15RB				
Effective Radiated	26715 to 26765	26715, 26740, 26765	5MHz	QPSK, 16QAM, 64QAM	1RB/12RB/25RB				
Power	26740	26740	10MHz	QPSK, 16QAM, 64QAM	1RB/25RB/50RB				
	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK, 16QAM, 64QAM	6RB				
Occupied	26705 to 26775	26705, 26740, 26775	3MHz	QPSK, 16QAM, 64QAM	15RB				
Bandwidth	26715 to 26765	26715, 26740, 26765	5MHz	QPSK, 16QAM, 64QAM	25RB				
	26740	26740	10MHz	QPSK, 16QAM, 64QAM	50RB				
Conducted	26697 to 26783	26740	1.4MHz	QPSK	1RB				
Spurious	26705 to 26775	26740	5MHz	QPSK	1RB				
Emissions	26715 to 26765	26740	10MHz	QPSK	1RB				
Radiated Spurious Emissions	26715 to 26765	26740	10MHz	QPSK	1RB				
	26697 to 26783	26697, 26783	1.4MHz	QPSK	1RB/6RB				
Marali	26705 to 26775	26705, 26775	3MHz	QPSK	1RB/15RB				
Mask	26715 to 26765	26715, 26765	5MHz	QPSK	1RB/25RB				
	26740	26740	10MHz	QPSK	1RB/50RB				
	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK, 16QAM, 64QAM	1RB				
Peak To	26705 to 26775	26705, 26740, 26775	3MHz	QPSK, 16QAM, 64QAM	1RB				
Average Ratio	26715 to 26765	26715, 26740, 26765	5MHz	QPSK, 16QAM, 64QAM	1RB				
	26740	26740	10MHz	QPSK, 16QAM, 64QAM	1RB				
Frequency Stability	26715 to 26765	26740	10MHz	QPSK	50RB				

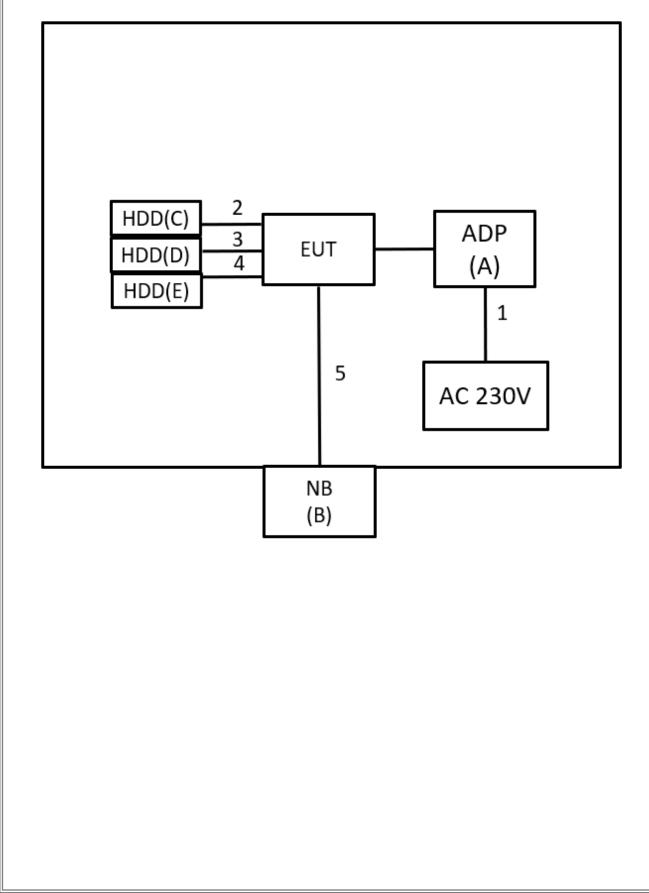
NOTE:

(1) For Radiated Spurious Emissions both QPSK and 16QAM are evaluated, but only the worst case (QPSK) is recorded.



2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Equipment letters and Cable numbers refer to item numbers described in the tables of clause 2.4.



2.4 SUPPORT UNITS

ItemEquipmentBrandModel No.Series No.RemarksAADPFSP GROUPFSP180-AAAN3N/ASupplied by test requester.BNBHPTPN-C125N/AFurnished by test lab.CUSB 2.5" HDDAKITIONeutrino U3.1SK21D1621D003 FFurnished by test lab.DUSB 2.5" HDDAKITIONeutrino U3.1SK21D1621D003 FFurnished by test lab.EUSB 3.0 HDDWDWDBC3C0010B SL-0BWX81A88ALJUCFurnished by test lab.ItemShieldedFerrite CoreLengthCable TypeRemarks1N/AN/A1mPower CableSupplied by test requester.2N/AN/A0.6mTypeC to TypeC CableFurnished by test lab.3N/AN/A1mTypeC to TypeC CableFurnished by test lab.4N/AN/A0.3mTypeC to TypeC CableFurnished by test lab.5N/AN/A12mR145 CableFurnished by test lab.						
BNBHPTPN-C125N/AFurnished by test lab.CUSB 2.5" HDDAKITIONeutrino U3.1SK21D1621D003 FFurnished by test lab.DUSB 2.5" HDDAKITIONeutrino U3.1SK21D1621D003 FFurnished by test lab.EUSB 3.0 HDDWDWDBC3C0010B SL-0BWX81A88ALJUCFurnished by test lab.ItemShieldedFerrite CoreLengthCable TypeRemarks1N/AN/A1mPower CableSupplied by test requester.2N/AN/A0.6mTypeC to TypeC CableFurnished by test lab.3N/AN/A1mTypeC to TypeC CableFurnished by test lab.4N/AN/A0.3mTypeC to TypeC CableFurnished by test lab.	Item	Equipment	Brand	Model No.	Series No.	Remarks
CUSB 2.5" HDDAKITIONeutrino U3.1SK21D1621D003 FFurnished by test lab.DUSB 2.5" HDDAKITIONeutrino U3.1SK21D1621D003 FFurnished by test lab.EUSB 3.0 HDDWDWDBC3C0010B SL-0BWX81A88ALJUCFurnished by test lab.Item Shielded Ferrite CoreLengthCable TypeRemarks1N/AN/A1mPower CableSupplied by test requester.2N/AN/A0.6mTypeC to TypeC CableFurnished by test lab.3N/AN/A1mTypeC to TypeC CableFurnished by test lab.4N/AN/A0.3mTypeC to TypeC CableFurnished by test lab.	A	ADP	FSP GROUP	FSP180-AAAN3	N/A	Supplied by test requester.
CUSB 2.5" HDDAKITIONeutrino U3.1FFurnished by test lab.DUSB 2.5" HDDAKITIONeutrino U3.1SK21D1621D003 FFurnished by test lab.EUSB 3.0 HDDWDWDBC3C0010B SL-0BWX81A88ALJUCFurnished by test lab.ItemShieldedFerrite CoreLengthCable TypeRemarks1N/AN/A1mPower CableSupplied by test requester.2N/AN/A0.6mTypeC to TypeC CableFurnished by test lab.3N/AN/A1mTypeC to TypeC CableFurnished by test lab.4N/AN/A0.3mTypeC to TypeC CableFurnished by test lab.	В	NB	HP	TPN-C125	N/A	Furnished by test lab.
DUSB 2.5" HDDAKITIONeutrino U3.1FFurnished by test lab.EUSB 3.0 HDDWDWDBC3C0010B SL-0BWX81A88ALJUCFurnished by test lab.ItemShieldedFerrite CoreLengthCable TypeRemarks1N/AN/A1mPower CableSupplied by test requester.2N/AN/A0.6mTypeC to TypeC CableFurnished by test lab.3N/AN/A1mTypeC to TypeC CableFurnished by test lab.4N/AN/A0.3mTypeC to TypeC CableFurnished by test lab.	С	USB 2.5" HDD	AKITIO	Neutrino U3.1	_	Furnished by test lab.
E USB 3.0 HDD WD SL-0B WX81A88ALJOC Furnished by test lab. Item Shielded Ferrite Core Length Cable Type Remarks 1 N/A N/A 1m Power Cable Supplied by test requester. 2 N/A N/A 0.6m TypeC to TypeC Cable Furnished by test lab. 3 N/A N/A 1m TypeC to TypeC Cable Furnished by test lab. 4 N/A N/A 0.3m TypeC to TypeC Cable Furnished by test lab.	D	USB 2.5" HDD	AKITIO	Neutrino U3.1		Furnished by test lab.
1N/AN/A1mPower CableSupplied by test requester.2N/AN/A0.6mTypeC to TypeC CableFurnished by test lab.3N/AN/A1mTypeC to TypeC CableFurnished by test lab.4N/AN/A0.3mTypeC to TypeC CableFurnished by test lab.	Е	USB 3.0 HDD	WD		WX81A88ALJUC	Furnished by test lab.
1N/AN/A1mPower CableSupplied by test requester.2N/AN/A0.6mTypeC to TypeC CableFurnished by test lab.3N/AN/A1mTypeC to TypeC CableFurnished by test lab.4N/AN/A0.3mTypeC to TypeC CableFurnished by test lab.						
2N/AN/A0.6mTypeC to TypeC CableFurnished by test lab.3N/AN/A1mTypeC to TypeC CableFurnished by test lab.4N/AN/A0.3mTypeC to TypeC CableFurnished by test lab.	Item	Shielded	Ferrite Core	Length	Cable Type	Remarks
2N/AN/A0.6mCableFurnished by test lab.3N/AN/A1mTypeC to TypeC CableFurnished by test lab.4N/AN/A0.3mTypeC to TypeC CableFurnished by test lab.	1	N/A	N/A	1m	Power Cable	Supplied by test requester.
3 N/A Im Cable Furnished by test lab. 4 N/A N/A 0.3m TypeC to TypeC Cable Furnished by test lab.	2	N/A	N/A	0.6m		Furnished by test lab.
4 N/A N/A 0.3m Cable Furnished by test lab.	3	N/A	N/A	1m		Furnished by test lab.
5 N/A N/A 12m B 145 Cable Euroished by test lab	4	N/A	N/A	0.3m		Furnished by test lab.
	5	N/A	N/A	12m	RJ45 Cable	Furnished by test lab.



CONDUCTED OUTPUT POWER AND EFFECTIVE RADIATED POWER 3 MEASUREMENT

3.1 LIMIT

Mobile / Portable station are limited to 100 watts e.r.p.

NOTE:

(1) The test result calculated as following:

Measurement Value = Reading Level + Correct Factor Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use) Margin Level = Measurement Value - Limit Value

Calculation example:

Reading Level		Correct Factor		Measurement Value
-29.66	+	34.26	=	4.60

Measurement Value		Limit Value		Margin Level
4.60	-	38.45	Ш	-33.85

3.2 **TEST PROCEDURE**

The testing follows FCC KDB 971168 v03r01 Section 5.0.

EIRP / ERP Power Measurement:

EIRP = Conducted Power + Antenna gain. ERP power = EIPR power - 2.15 dBi.

Conducted Measurement:

The EUT was set up for the maximum power with WCDMA and LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

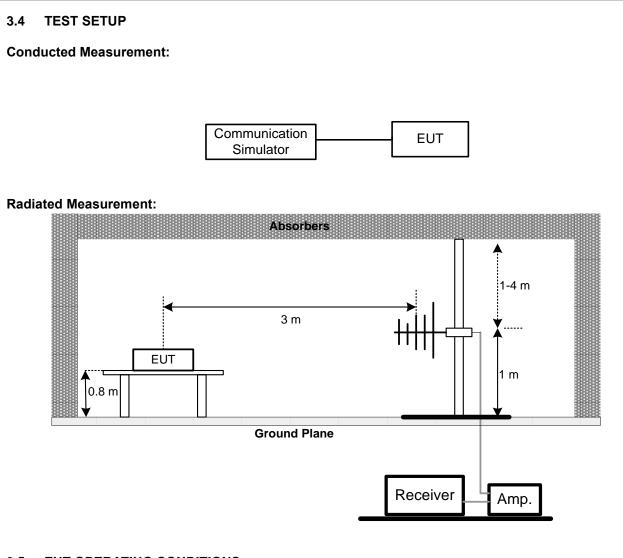
Radiated Measurement:

- Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value " of step a. Record the power level of S.G EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.
- C.
- d. ERP can be calculated form EIRP by subtracting the gain of dipole, ERP = EIPR 2.15dBi..
- e. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

DEVIATION FROM TEST STANDARD 3.3

No deviation.





3.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

3.6 TEST RESULT

Please refer to the APPENDIX A.



4 OCCUPIED BANDWIDTH MEASUREMENT

4.1 TEST PROCEDURE

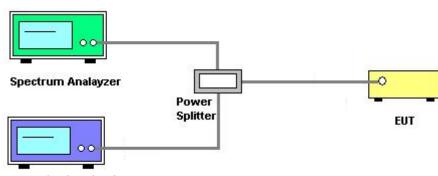
The testing follows FCC KDB 971168 v03r01 Section 4.

- a. The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth and 26dB bandwidth.
- b. The EUT was connected to spectrum analyzer and system simulator via a power divider.
- c. RBW=(1% ~ 5%)*EBW VBW≥3* RBW.
- d. Set spectrum analyzer with Peak detector.

4.2 DEVIATION FROM TEST STANDARD

No deviation.

4.3 TEST SETUP



Communication simulator

4.4 TEST RESULT

Please refer to the APPENDIX B





5 CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

5.1 LIMIT

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P) dB$. The emission limit equal to -13dBm.

5.2 TEST PROCEDURE

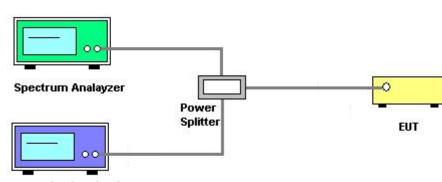
The testing follows FCC KDB 971168 v03r01 Section 6.

- a. The EUT was connected to spectrum analyzer and system simulator via a power divider.
- b. The band edges of low and high channels for the highest RF powers were measured. Set RBW>=1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
- c. Set spectrum analyzer with Peak detector.
- d. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

5.3 DEVIATION FROM TEST STANDARD

No deviation.

5.4 TEST SETUP



Communication simulator

5.5 TEST RESULT

Please refer to the APPENDIX C.



6 RADIATED SPURIOUS EMISSIONS MEASUREMENT

6.1 LIMIT

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P) dB$. The emission limit equal to -13 dBm.

NOTE:

- (1) The measurements of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.
- (2) The test result calculated as following:
 - Measurement Value = Reading Level + Correct Factor
 - Correct Factor = Antenna Factor + Cable Loss Amplifier Gain(if use) Margin Level = Measurement Value - Limit Value

Calculation example:

Reading Level (dBm)		Correct Factor (dB)		Measurement Value (dBm)
-50.43	+	-2.11	=	-52.54

Measurement Value (dBm)		Limit Value (dBm)		Margin Level (dB)
-52.54	-	-13	=	-39.54

6.2 TEST PROCEDURE

The testing follows FCC KDB 971168 v03r01 Section 6.2.

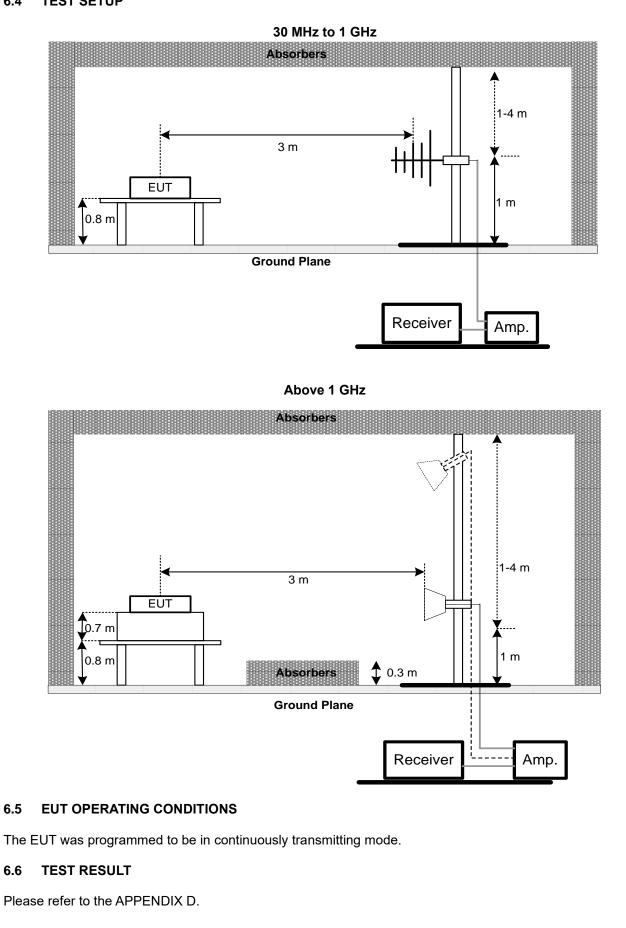
- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step a. Record the power level of S.G
- c. EIRP = Output power level of S.G TX cable loss + Antenna gain of substitution horn.
- d. ERP can be calculated form EIRP by subtracting the gain of dipole, ERP = EIPR 2.15dBi..
- e. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

6.3 DEVIATION FROM TEST STANDARD

No deviation.



6.4 TEST SETUP





7 MASK MEASUREMENTS

7.1 LIMIT

According to FCC part 90.691 shall be tested the emission mask. For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10(f/6.1) decibels or 50+10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz. For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

7.2 TEST PROCEDURE

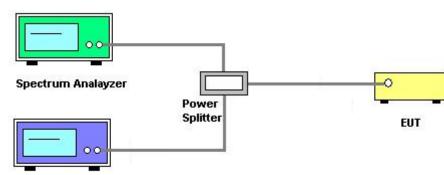
The testing follows FCC KDB 971168 v03r01 Section 6.

- a. All measurements were done at low and high operational frequency range.
- b. Set RBW=1% of 26dBc bandwidth, VBW=3 X RBW, detector=RMS, Sweep time = Auto.
 For Section 90.691(a) compliance testing, use RBW = 300 Hz for offsets less than 37.5 kHz from a chan nel edge; RBW = 100 kHz for offsets greater than 37.5 kHz is allowed.
- c. Record the max trace plot into the test report.

7.3 DEVIATION FROM TEST STANDARD

No deviation.

7.4 TEST SETUP



Communication simulator

7.5 TEST RESULT

Please refer to the APPENDIX E.





8 PEAK TO AVERAGE RATIO MEASUREMENT

8.1 LIMIT

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

8.2 TEST PROCEDURE

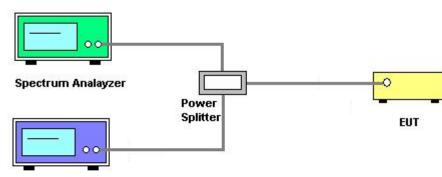
The testing follows FCC KDB 971168 v03r01 Section 5.7.

- a. Set resolution/measurement bandwidth \geq signal's occupied bandwidth.
- b. Set the number of counts to a value that stabilizes the measured CCDF curve.
- c. Record the maximum PAPR level associated with a probability of 0.1%.

8.3 DEVIATION FROM TEST STANDARD

No deviation.

8.4 TEST SETUP



Communication simulator

8.5 TEST RESULT

Please refer to the APPENDIX F.



9 FREQUENCY STABILITY MEASUREMENT

9.1 LIMIT

 ± 1.5 ppm is for base and fixed station. ± 2.5 ppm is for mobile station.

9.2 TEST PROCEDURE

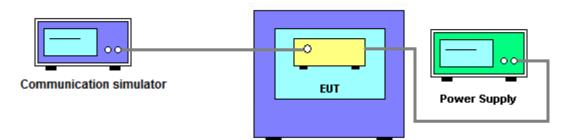
The testing follows FCC KDB 971168 v03r01 Section 9.

- a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- b. EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
- c. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ±0.5°C during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.
- d. The frequency error was recorded frequency error from the communication simulator.

9.3 DEVIATION FROM TEST STANDARD

No deviation.

9.4 TEST SETUP



9.5 TEST RESULT

Please refer to the APPENDIX G



10 LIST OF MEASURING EQUIPMENTS Conducted Output Power Kind of Calibrated Calibrated Item Manufacturer Serial No. Type No. Equipment Date Until Spectrum N9010A 2022/10/19 2023/10/18 1 Keysight MY56480489 Analyzer WIRELESS 2 COMMUNICATIO Agilent E5515C GB47390193 2023/7/4 2024/7/3 N TEST SET Radio 3 Communication ANRITSU MT8821C 6262044728 2022/11/25 2023/11/24 Test Station Effective Isotropic Radiated Power and Radiated Emissions Kind of Calibrated Calibrated Manufacturer Serial No. Item Type No. Equipment Until Date 1 Preamplifier EMCI EMC330N 980850 2022/9/19 2023/9/18 EMCI EMC118A45SE 980819 2023/3/7 2024/3/6 2 Preamplifier 3 **Pre-Amplifier** EMCI EMC184045SE 980907 2022/9/28 2023/9/27 EMC104-SM-SM-4 Test Cable EMCI 220319 2023/3/14 2024/3/13 1000 EMC104-SM-SM-5 Test Cable EMCI 220322 2023/3/14 2024/3/13 3000 EMC104-SM-SM-6 Test Cable 220324 2023/3/14 2024/3/13 EMCI 7000 EXA Signal 7 N9020B MY57120120 2023/2/24 2024/2/23 keysight Analyzer 8 211202A18EN 2022/5/18 2023/5/17 Horn Antenna RFSPIN DRH18-E 9 Horn Ant Schwarzbeck **BBHA 9170D** 1136 2022/5/18 2023/5/17 Log-bicon 10 2022/5/20 2023/5/19 Schwarzbeck **VULB9168** 1369 Antenna 11 6dB Attenuator EMCI EMCI-N-6-06 AT-06001 2022/5/20 2023/5/19 EMC101G-KM-K 12 Test Cable EMCI 220329 2023/3/14 2024/3/13 M-3000 EMC102-KM-KM-13 Test Cable EMCI 220327 2023/3/14 2024/3/13 1000 WIRELESS 14 COMMUNICATIO Agilent E5515C GB47390193 2022/7/7 2023/7/6 N TEST SET Radio ANRITSU 15 Communication 6201381608 2022/12/22 2023/12/21 MT8820C Analyzer Radio Communication ANRITSU MT8821C 6262044728 2022/11/25 2023/11/24 16 Test Station Radio 17 ANRITSU MT8000A 6262036844 2022/11/24 2023/11/23 Communication Analyzer Wideband Radio Communication R&S CMW500 2023/1/12 2024/1/11 18 154121 Tester Radio 19 Communication Keysight E7515B MY59020217 2022/7/8 2023/7/7 Analyzer EZ EMC Measurement 20 ΕZ (Version N/A N/A N/A Software NB-03A1-01)



	Others Conducted Measurement										
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until					
1	Spectrum Analyzer	R&S	FSV7	103032	2023/8/10	2024/8/9					
2	Spectrum Analyzer	Keysight	N9010A	MY54200240	2023/6/26	2024/6/25					
3	Spectrum Analyzer	Keysight	N9010A	MY56480489	2022/10/19	2023/10/18					
4	Thermal Chamber	HOLINK	H-TH-2SP-B	EK04101902	2023/7/3	2024/7/2					
5	WIRELESS COMMUNICATIO N TEST SET	Agilent	E5515C	GB47390193	2023/7/4	2024/7/3					
6	Radio Communication Analyzer	ANRITSU	MT8820C	6201381608	2022/12/22	2023/12/21					
7	Radio Communication Test Station	ANRITSU	MT8821C	6262044728	2022/11/25	2023/11/24					

Remark: "N/A" denotes no model name, no serial no. or no calibration specified. All calibration period of equipment list is one year.



11 EUT TEST PHOTO

Please refer to document Appendix No.: TP-2212T004-FCCP-1 (APPENDIX-TEST PHOTOS).

12 EUT PHOTOS

Please refer to document Appendix No.: EP-2212T004-1 (APPENDIX-EUT PHOTOS).





APPENDIX A CONDUCTED OUTPUT POWER AND EFFECTIVE RADIATED POWER



Conducted Output Power and Calculated ERP:

LTE Band 26 Power:

Band	BW	Channel	Frequency	Mode	UL RB	UL RB	MPR	Average	ERP power	ERP power
Danu	(MHz)	Charmer	(MHz)	Widde	Allocation	Start		power	(dBm)	(W)
					1	0	0	22.37	22.87	0.194
					1	2	0	22.44	22.94	0.197
					1	5	0	22.43	22.93	0.196
				QPSK	3	0	0	22.37	22.87	0.194
					3	1	0	22.44	22.94	0.197
					3	2	0	22.43	22.93	0.196
		26607	0147		6	0	1	21.48	21.98	0.158
		26697	814.7		1	0	1	21.46	21.96	0.157
					1	2	1	21.54	22.04	0.160
					1	5	1	21.54	22.04	0.160
				16QAM	3	0	1	21.46	21.96	0.157
					3	1	1	21.54	22.04	0.160
					3	2	1	21.54	22.04	0.160
					6	0	2	20.47	20.97	0.125
					1	0	0	22.38	22.88	0.194
					1	2	0	22.45	22.95	0.197
					1	5	0	22.44	22.94	0.197
				QPSK	3	0	0	22.38	22.88	0.194
					3	1	0	22.45	22.95	0.197
					3	2	0	22.44	22.94	0.197
		00740	010.0		6	0	1	21.49	21.99	0.158
26	1.4M	26740	819.0		1	0	1	21.47	21.97	0.157
				16QAM	1	2	1	21.55	22.05	0.160
					1	5	1	21.55	22.05	0.160
					3	0	1	21.47	21.97	0.157
					3	1	1	21.55	22.05	0.160
					3	2	1	21.55	22.05	0.160
					6	0	2	20.49	20.99	0.126
					1	0	0	22.36	22.86	0.193
					1	2	0	22.43	22.93	0.196
					1	5	0	22.42	22.92	0.196
				QPSK	3	0	0	22.36	22.86	0.193
					3	1	0	22.43	22.93	0.196
					3	2	0	22.42	22.92	0.196
		26783	000.0		6	0	1	21.47	21.97	0.157
			823.3		1	0	1	21.45	21.95	0.157
					1	2	1	21.53	22.03	0.160
					1	5	1	21.53	22.03	0.160
				16QAM	3	0	1	21.45	21.95	0.157
				16QAM	3	1	1	21.53	22.03	0.160
					3	2	1	21.53	22.03	0.160
					6	0	2	20.47	20.97	0.125

NOTE:

(1) EIRP = Average power + Antenna gain.

(2) ERP = EIRP - 2.15.

(3) $P(W) = 1 W \cdot 10^{(P(dBm) / 10)} / 1000$

Band	BW	Channel	Frequency	Mode	UL RB	UL RB	MPR	Average	ERP power	ERP power
Danu	(MHz)	Channel	(MHz)	wode	Allocation	Start	WPR	power	(dBm)	(W)
					1	0	0	22.42	22.92	0.196
					1	7	0	22.49	22.99	0.199
					1	14	0	22.48	22.98	0.199
				QPSK	8	0	1	21.53	22.03	0.160
					8	4	1	21.65	22.15	0.164
					8	7	1	21.62	22.12	0.163
		00705	815.5		15	0	1	21.53	22.03	0.160
		26705	015.5		1	0	1	21.51	22.01	0.159
					1	7	1	21.59	22.09	0.162
					1	14	1	21.59	22.09	0.162
				16QAM	8	0	2	20.53	21.03	0.127
					8	4	2	20.60	21.10	0.129
					8	7	2	20.55	21.05	0.127
					15	0	2	20.52	21.02	0.126
					1	0	0	22.43	22.93	0.196
					1	7	0	22.50	23.00	0.200
					1	14	0	22.49	22.99	0.199
				QPSK	8	0	1	21.54	22.04	0.160
					8	4	1	21.66	22.16	0.164
					8	7	1	21.63	22.13	0.163
26	3M	26740	819.0		15	0	1	21.54	22.04	0.160
20	3171	20740	019.0	16QAM	1	0	1	21.52	22.02	0.159
					1	7	1	21.60	22.10	0.162
					1	14	1	21.60	22.10	0.162
					8	0	2	20.54	21.04	0.127
					8	4	2	20.61	21.11	0.129
					8	7	2	20.56	21.06	0.128
					15	0	2	20.53	21.03	0.127
					1	0	0	22.41	22.91	0.195
					1	7	0	22.48	22.98	0.199
					1	14	0	22.47	22.97	0.198
				QPSK	8	0	1	21.52	22.02	0.159
					8	4	1	21.64	22.14	0.164
					8	7	1	21.61	22.11	0.163
		26775	822.5		15	0	1	21.52	22.02	0.159
			022.0		1	0	1	21.50	22.00	0.158
					1	7	1	21.58	22.08	0.161
					1	14	1	21.58	22.08	0.161
				16QAM	8	0	2	20.52	21.02	0.126
					8	4	2	20.59	21.09	0.129
					8	7	2	20.54	21.04	0.127
					15	0	2	20.51	21.01	0.126

NOTE:

(1) EIRP = Average power + Antenna gain.
(2) ERP = EIRP - 2.15.

(3) $P(W) = 1 W + 10^{(P(dBm)/10)} / 1000$



Band	BW	Channel	Frequency	Mode	UL RB	UL RB	MPR	Average	ERP power	ERP power
Banu	(MHz)	Charmer	(MHz)	INIQUE	Allocation	Start	INF K	power	(dBm)	(W)
					1	0	0	22.47	17.67	0.058
					1	12	0	22.54	17.74	0.059
					1	24	0	22.53	17.73	0.059
				QPSK	12	0	1	21.58	16.78	0.048
					12	6	1	21.70	16.90	0.049
					12	11	1	21.67	16.87	0.049
		26715	816.5		25	0	1	21.58	16.78	0.048
			010.5		1	0	1	21.56	16.76	0.047
					1	12	1	21.64	16.84	0.048
					1	24	1	21.64	16.84	0.048
				16QAM	12	0	2	20.58	15.78	0.038
					12	6	2	20.65	15.85	0.038
					12	11	2	20.60	15.80	0.038
					25	0	2	20.57	15.77	0.038
					1	0	0	22.48	17.68	0.059
					1	12	0	22.55	17.75	0.060
				QPSK	1	24	0	22.54	17.74	0.059
					12	0	1	21.59	16.79	0.048
					12	6	1	21.71	16.91	0.049
					12	11	1	21.68	16.88	0.049
26	5M	26740	819.0		25	0	1	21.59	16.79	0.048
20	IVIC	20740	619.0		1	0	1	21.57	16.77	0.048
				16QAM	1	12	1	21.65	16.85	0.048
					1	24	1	21.65	16.85	0.048
					12	0	2	20.59	15.79	0.038
					12	6	2	20.66	15.86	0.039
					12	11	2	20.61	15.81	0.038
					25	0	2	20.58	15.78	0.038
					1	0	0	22.46	17.66	0.058
					1	12	0	22.53	17.73	0.059
					1	24	0	22.52	17.72	0.059
				QPSK	12	0	1	21.57	16.77	0.048
					12	6	1	21.69	16.89	0.049
					12	11	1	21.66	16.86	0.049
		26765	821.5		25	0	1	21.57	16.77	0.048
			621.D		1	0	1	21.55	16.75	0.047
					1	12	1	21.63	16.83	0.048
					1	24	1	21.63	16.83	0.048
				16QAM	12	0	2	20.57	15.77	0.038
					12	6	2	20.64	15.84	0.038
					12	11	2	20.59	15.79	0.038
					25	0	2	20.56	15.76	0.038

NOTE:

(1) EIRP = Average power + Antenna gain.
(2) ERP = EIRP - 2.15.

(3) $P(W) = 1 W + 10^{(P(dBm)/10)} / 1000$



Band	BW	Channel	Frequency	Mode	UL RB	UL RB	MPR	Average	ERP power	ERP power
Banu	(MHz)	Channel	(MHz)	Mode	Allocation	Start		power	(dBm)	(W)
					1	0	0	22.53	23.03	0.201
					1	24	0	22.60	23.10	0.204
					1	49	0	22.59	23.09	0.204
				QPSK	25	0	1	21.64	22.14	0.164
					25	12	1	21.76	22.26	0.168
					25	24	1	21.73	22.23	0.167
00	4014	26740	010.0		50	0	1	21.64	22.14	0.164
26	10M	26740	819.0		1	0	1	21.62	22.12	0.163
					1	24	1	21.70	22.20	0.166
					1	49	1	21.70	22.20	0.166
				16QAM	25	0	2	20.64	21.14	0.130
					25	12	2	20.71	21.21	0.132
					25	24	2	20.66	21.16	0.131
					50	0	2	20.63	21.13	0.130

NOTE:

(1) EIRP = Average power + Antenna gain.

(2) ERP = EIRP - 2.15. (3) P(W) = 1 W \cdot 10^{(P(dBm) / 10)} / 1000



Radiated ERP Power: LTE Band 26 Test Date 2023/3/27 Test Mode Test Channel CH26765 Polarization Vertical 22°C 66% Temp Hum. 40.0 dBm 30 1 X 20 10 0 -10 -20 -30 -40 -50 -60.0 791.500 799.40 807.30 815.20 823.10 831.00 838.90 846.80 854.70 870.50 MHz No. Mk. Freq. Reading Correct Measure-Limit Over Level Factor ment MHz dBm dB dBm dBm dB Comment Detector 1 * 814.8656 9.70 9.74 19.44 38.45 -19.01 peak

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.



	est Mo			Band 26		Test Date			6/3/27	
Te	st Char			26765	F	Polarizatio	on		zontal	
	Temp		2	2°C		Hum.		66	6%	
40.0 dB	m									7
30										
			1 X							
20										
10										
0										
-10										
20										
30										
-40										
-50										
-60.0										
791.500	799.40	807.30	815.20	823.10	831.00 83	8.90 84	46.80 854	.70	870.50	MH
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comme	ent
1	*	814.8050	13.85	10.20	24.05	38.45	-14.40	peak		

REMARKS:

Measurement Value = Reading Level + Correct Factor.
 Margin Level = Measurement Value - Limit Value.

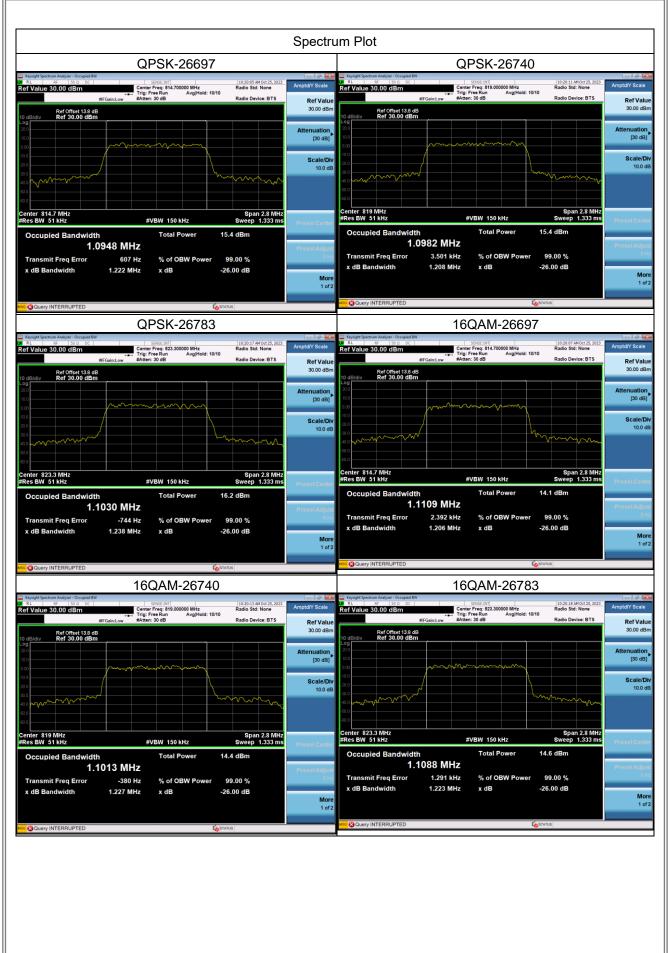


APPENDIX B	OCCUPIED BANDWIDTH	



		LTE Band 2	26 1.4M		
		QPS	_		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26697	814.7	1.0948	26697	814.7	1.222
26740	819	1.0982	26740	819	1.208
26783	823.3	1.1030	26783	823.3	1.238
		16QA	M		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26697	814.7	1.1109	26697	814.7	1.206
26740	819	1.1013	26740	819	1.227
26783	823.3	1.1088	26783	823.3	1.223
		64QA	M		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26697	814.7	1.1005	26697	814.7	1.217
26740	819	1.1069	26740	819	1.225
26783	823.3	1.1157	26783	823.3	1.223





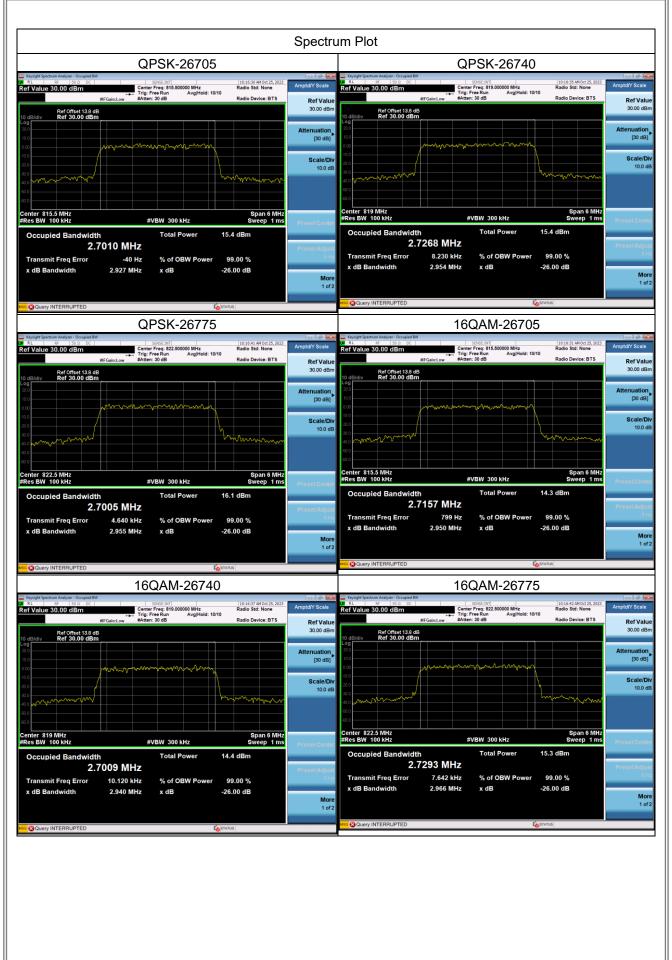


	Spectrum Plot			
64QAM-26697	64QAM-26740			
Kengdif Steattown Andrew - Occupated WV SENSE: HVT 18:20:09 AMOR 22, 2223 ef Value: 30.00 cl Bm Center Free; 14:14:20000 MHz Radio Std: None aff Value: 30.00 cl Bm #IFGelint.cow Avg Hold: 10/10 Radio Std: None Ref Offset 13:8 dB Ref Offset 13:8 dB Radio Device: BTS	<th cols="" do<="" th=""><th>nptd/Y Scale Ref Val 30.00 dB</th></th>	<th>nptd/Y Scale Ref Val 30.00 dB</th>	nptd/Y Scale Ref Val 30.00 dB	
	[30 dB] 0.0 Scale/Div 00	ttenuatio [30 dE Scale/[
		10.0		
enter 814.7 MHz Span 2.8 MHz Res BW 51 kHz #VBW 150 kHz Sweep 1.333 ms	IZ Center 819 MHz Span 2.8 MHz IS Presel Center #Res BW 51 kHz #VBW 150 kHz Sweep 1.333 ms pr			
Occupied Bandwidth Total Power 13.3 dBm 1.1005 MHz Transmit Freq Error -759 Hz % of OBW Power 99.00 % x dB Bandwidth 1.217 MHz x dB -26.00 dB	Occupied Bandwidth Total Power 13.2 dBm Presed Adjust 1.1069 MHz Transmit Freq Error Transmit Freq Error 6.928 kHz % of OBW Power 99.00 % x dB Bandwidth 1.225 MHz x dB -26.00 dB	resel Adju o Ma 1 a		
Query INTERRUPTED	Man O Query INTERRUPTED			
64QAM-26783	-			
Keyigkt Spectrum Analyzer - Occupied BW SENSE INT (8/2/2/2 All Oct 25, 2/2/2) AL FF SOLO Enter Free, 8/2, 3/00000 MiHz FV-ILUE SOLO dBm Center Free, 8/2, 3/00000 MiHz Radio Stdt: None #FGalinLow #FGalinLow Radio Device: BTS	AmptdY Scale Ref Value			
Ref 0fiset 138 dB 9 9 0 0 0 0 0 0 0 0 0 0 0 0 0	30.00 dBm Attenuation [30 dB]			
	Scale/Div 10.0 dB			
	10.0 dB			
Occupied Bandwidth Total Power 14.1 dBm	10.0 dB			
Res BW 31 KHz #VBW 150 KHz Sweep 1.333 ms	10.0 dB			



		LTE Band	26 3M				
QPSK							
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
26705	815.5	2.7010	26705	815.5	2.927		
26740	819	2.7268	26740	819	2.954		
26775	822.5	2.7005	26775	822.5	2.955		
16QAM							
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
26705	815.5	2.7157	26705	815.5	2.950		
26740	819	2.7009	26740	819	2.940		
26775	822.5	2.7293	26775	822.5	2.966		
64QAM							
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
26705	815.5	2.6902	26705	815.5	2.920		
26740	819	2.7264	26740	819	2.921		
26775	822.5	2.7243	26775	822.5	3.019		





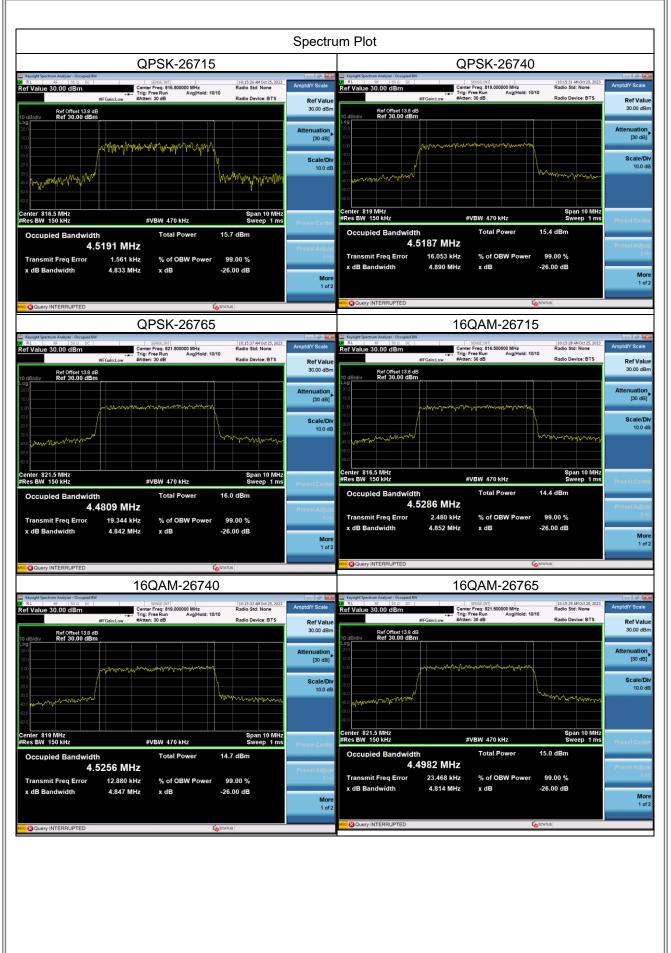


			Spectru	m Plot			
	64QAM-2670	5	•		64QAM-2674	.0	
Keynight Spectrum Analyzer - Occupied BW RL RF 50 0 DC ef Value 30.00 dBm #FFC Ref Offset 13.8 dB 0 dB/div Ref 30.00 dBm	SRNSEINT Center Freq: \$15,500000 MHz → Trig: Free Run Avg Hold: 10 SalntLow #Atten: 30 dB	10:16:33 AM Oct 25, 2023 Radio Std: None 10 Radio Device: BTS	Amptd/Y Scale Ref Value 30.00 dBm	Keysight Spectrum Analyzer - Occupied BW R.t. RF 50.0 DC Ref Value 30.00 dBm Ref Offset 138.00 Ref Offset 138.00 dBm	Center Free: 819.00000 MHz Center Free: 819.00000 MHz Trig: Free Run Avg Hold: 1 IFGaint.ow #Atten: 30 dB	10:16:39 AM Oct 25, 2023 Radio Std: None Radio Device: BTS	Amptd/Y Scale Ref Val 30.00 de
	mme many		Attenuation [30 dB] Scale/Div	Log	1		Attenuation [30 dB Scale/[
		www.	10.0 dB			hummun	10.0
enter 815.5 MHz Res BW 100 kHz	#VBW 300 kHz	Span 6 MHz Sweep 1 ms	Presel Center	Center 819 MHz #Res BW 100 kHz	#VBW 300 kHz	Span 6 MHz Sweep 1 ms	
Occupied Bandwidth 2.69 Transmit Freq Error x dB Bandwidth	Total Power 02 MHz 2.692 kHz % of OBW Power 2.920 MHz x dB	13.3 dBm 99.00 % -26.00 dB	Presel Adjust 0 Hz More 1 of 2	Occupied Bandwidth 2.7 Transmit Freq Error x dB Bandwidth	Total Power 264 MHz 8.164 kHz % of OBW Power 2.921 MHz x dB	13.7 dBm 99.00 % -26.00 dB	Presel Adju o Ma 1 a
		STATUS				STATUS	
	64QAM-2677				-		
Keyright Spectrum Analyzer - Occupied BW RL RF 50 Q DC of Value 30.00 dBm #FC	SENSE-INTI Center Freq: 822.500000 MHz →→ Trig: Free Run Avg Hold: 10 seint.ow #Atten: 30 dB	10:16:44 AM Oct 25, 2023 Radio Std: None 10 Radio Device: BTS	Amptd/Y Scale				
Ref Offset 13.8 dB Ref 30.00 dBm	man - man - man		30.00 dBm Attenuation [30 dB]				
		homen	Scale/Div 10.0 dB				
enter 822.5 MHz Res BW 100 kHz	#VBW 300 kHz	Span 6 MHz Sweep 1 ms	Presel Center				
Occupied Bandwidth 2.72	Total Power 43 MHz	14.0 dBm	Presel Adjust				
Transmit Freq Error x dB Bandwidth	-1.501 kHz % of OBW Power 3.019 MHz x dB	99.00 % -26.00 dB	More 1 of 2				
		STATUS					



		LTE Band	26.5M									
	QPSK											
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)							
26715	816.5	4.5191	26715	816.5	4.833							
26740	819	4.5187	26740	819	4.890							
26765	821.5	4.4809	26765	821.5	4.842							
	16QAM											
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)							
26715	816.5	4.5286	26715	816.5	4.852							
26740	819	4.5256	26740	819	4.847							
26765	821.5	4.4982	26765	821.5	4.814							
		64QA	M									
Channel	Channel Frequency 99% Occupied Bandwidth (MHz) (MHz)		Channel	Frequency (MHz)	26dB Bandwidth (MHz)							
26715	816.5	4.5120	26715	816.5	4.894							
26740	819	4.5017	26740	819	4.844							
26765	821.5	4.4790	26765	821.5	4.845							







			Spectru	m Plot				
	64QAM-26715				64C	AM-26740)	
Rey offset 13.8 d RL RF 50.0 DC ef Value 30.00 dBm Ref Offset 13.8 d Ref Offset 30.00 dBn	SENSE:INTI Center Freq: 816.500000 MHz Trig: Free Run Avg Hold: 10/10 #FGain:Low #Atten: 30 dB	10:15:29 AM Oct 25, 2023 Radio Std: None Radio Device: BTS	Amptd/Y Scale Ref Value 30.00 dBm	Keysight Spectrum Analyzer - Occupied BW RL RF 50.0 DC Ref Value 30,000 dBm BM BM BM Value 30,000 dBm BM BM BM BM Value 30,000 dBm BM	SE Center F Trig: Fre #FGain:Low #Atten: \$	NSE:INT req: 819.000000 MHz e Run Avg Hold: 10/ 0 dB	10:15:35 AM Oct 25, 2023 Radio Std: None 10 Radio Device: BTS	Amptd/Y Scale Ref Val 30.00 de
	monument		Attenuation [30 dB]	Log 200 100 100 100	www.www.www.www.	man		Attenuatio [30 dE Scale/I
20 20 20 20 20 20 20		Men Men Men	10.0 dB	-20.0 -20.0 -4			howwww.on	10.0
enter 816.5 MHz Res BW 150 kHz	#VBW 470 kHz	Span 10 MHz Sweep 1 ms	Presel Center	Center 819 MHz #Res BW 150 kHz	#VI	3W 470 kHz	Span 10 MHz Sweep 1 ms	Presel Cen
Occupied Bandwidt 4. Transmit Freq Error x dB Bandwidth	5 120 MHz 17.265 kHz % of OBW Power	99.00 % 26.00 dB	Presel Adjust 0 Hz More 1 of 2	Occupied Bandwidth 4.5 Transmit Freq Error x dB Bandwidth	6 017 MHz 32.007 kHz 4.844 MHz	Total Power % of OBW Power x dB	13.7 dBm 99.00 % -26.00 dB	Presel Adju o Mc 1 c
9	64QAM-26765	TATUS		MSO 🔇 Query INTERRUPTED		ر -	STATUS	
Keysight Spectrum Analyzer - Occupied BV RL RF 50 Ω DC of Value 30.00 dBm	Center Freq: 821.500000 MHz Center Freq: 821.500000 MHz Trig: Free Run Avg Hold: 10/10 #IFGain:Low #Atten: 30 dB	10:15:40 AM Oct 25, 2023 Radio Std: None Radio Device: BTS	Amptd/Y Scale Ref Value			-		
Ref Offset 13.8 d dB/div Ref 30.00 dBn 9 0.0 0.0 0.0 0.0 0.0	how how here have have here here here here here here here he		30.00 dBm Attenuation [30 dB]					
		mmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm	Scale/Div 10.0 dB			-		
enter 821.5 MHz Res BW 150 kHz	#VBW 470 kHz	Span 10 MHz Sweep 1 ms	Presel Center					
	4790 MHz	13.9 dBm	Presel Adjust					
Transmit Freq Error x dB Bandwidth	9.063 kHz % of OBW Power 4.845 MHz x dB -	99.00 % 26.00 dB	0 Hz More 1 of 2					



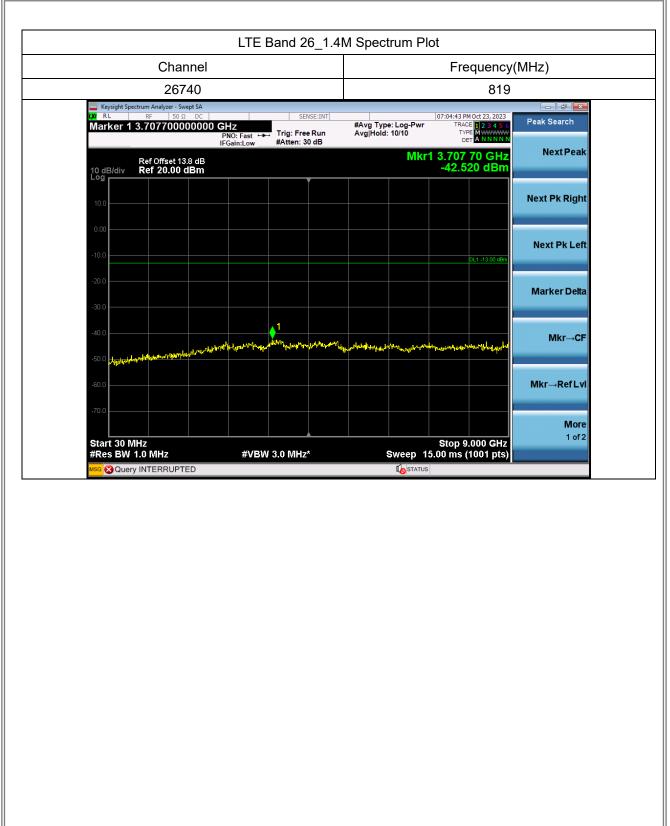
	LTE Band 26 10M											
	QPSK											
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)							
26740	819	8.9849	26740	819	9.494							
	16QAM											
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)							
26740	819	8.9288	26740	819	9.459							
		64QA	M									
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)							
26740	819	8.9849	26740	819	9.494							





APPENDIX C CONDUCTED SPURIOUS EMISSION

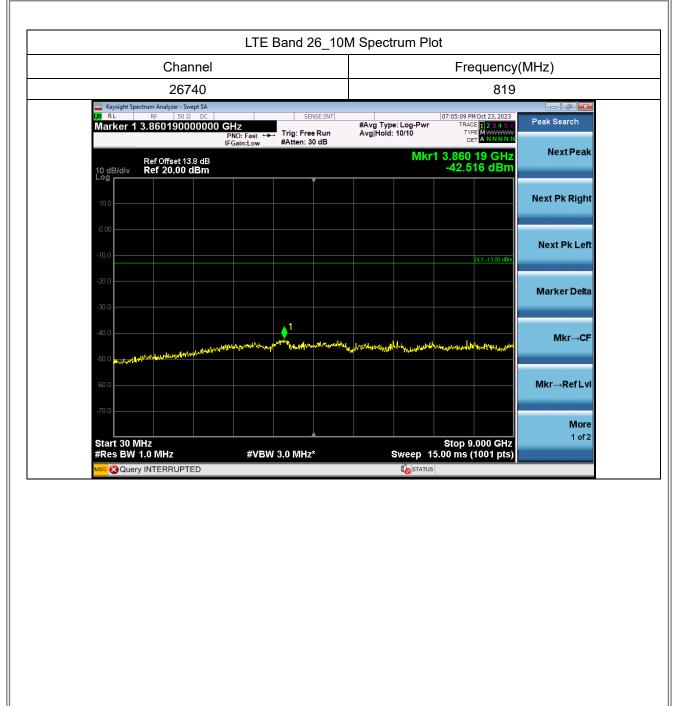














APPENDIX D RADIATED SPURIOUS EMISSIONS



-	Test Mo	de		LTE E	Band	26			Т	est Dat	e		2023	3/3/29	
Te	est Cha				2686	5			Po	olarizati	on			rtical	
	Temp)		24	4°C					Hum.			6	3%	
0.0 dB	m														_
-10															-
1															1
-20 ¥															1
-30 2															
30 X															
-40		_													4
		3 X													
-50			4 ×		5 X				6						-
			X		Ŷ				6 X						
-60															1
-70															
-80															-
-90															
-100.0															
30.000	127.00	224.00	321.	00	418.	DO	515.	00	612.	.00 7	709.0	0 806	.00	1000.00	MHz
No.	Mk.	Freq.		ding		rrect		easure	-	Limit		Over			
				vel		ctor		ment							
	*	MHz		3m		B		dBm		dBm		dB	Detector	Comme	ent
1	~	31.4227		0.43		.32		19.11		-13.00		-6.11	peak		
2		66.2780 168.5160		8.87 2.29		7.12 6.60		31.75 45.69		-13.00 -13.00		-18.75	peak		
<u> </u>		299.9510		29 3.58		.80		45.69 54.28		-13.00		-32.69 -41.28	peak peak		
5		399.9257		2.09		.50		53.52		-13.00		-41.20	peak peak		
6		600.0043						55.64		-13.00		-40.52	peak peak		
0		000.0040	-00	7.0Z	10	.00	-	55.04		10.00		72.07	pear		

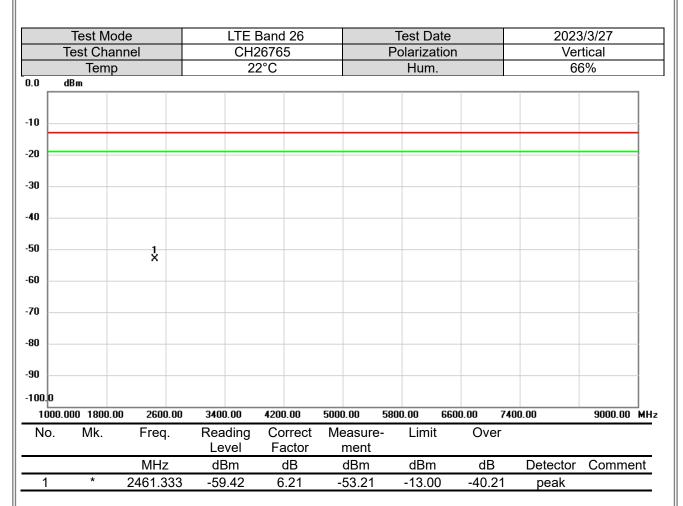
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.



-	Fest Mo	de	LT	EBa	nd 26			Te	est Dat	е		202	3/3/29	
	est Cha			H268					larizatio				zontal	
	Temp			24°(2				Hum.			6	3%	
0.0 dB	m													_
-10														
														7
-20														
-30 *	2													
	2 X													
-40														_
		3 X		;	į									
-50		X	*	2	`						6 X			
-60											•			
-60														1
-70														_
-80														
-90														1
-100.0														
30.000	127.00		321.00		18.00	515.0		612.0		709.00		6.00	1000.00	MH2
No.	Mk.	Freq.	Readir		Correct		asure-	•	Limit		Over			
		MHz	Leve dBm		Factor dB		nent dBm		dBm		dB	Detector	Comm	ont
1	*	31.4227	-52.88	2	23.86		29.02		-13.00		ив 16.02	peak	Comm	eni
2		90.3340	-48.29		15.16		33.13		-13.00		20.13	peak peak		
3		177.4077	-60.79		11.31		19.48		-13.00		36.48	peak		
4		299.9510	-57.50		6.36		51.20		-13.00		38.20	peak		
5		398.3090	-57.24		8.39		18.85		-13.00		35.85	peak		
6		730.3400	-63.00)	9.10	-{	53.90		-13.00		40.90	peak		

(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

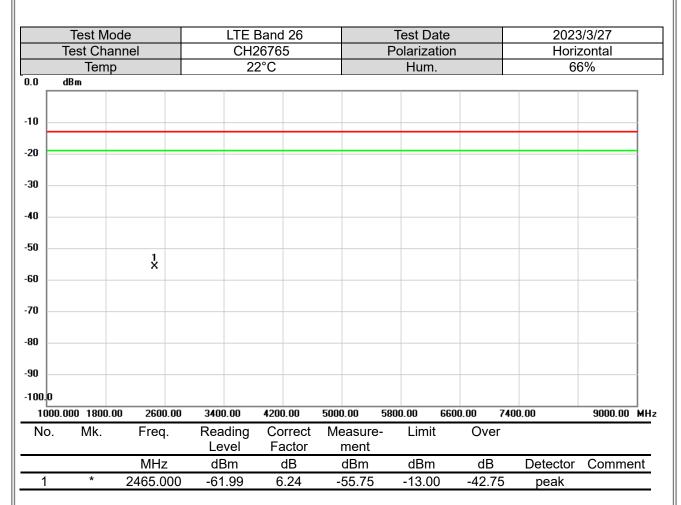




(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.





(1) Measurement Value = Reading Level + Correct Factor.

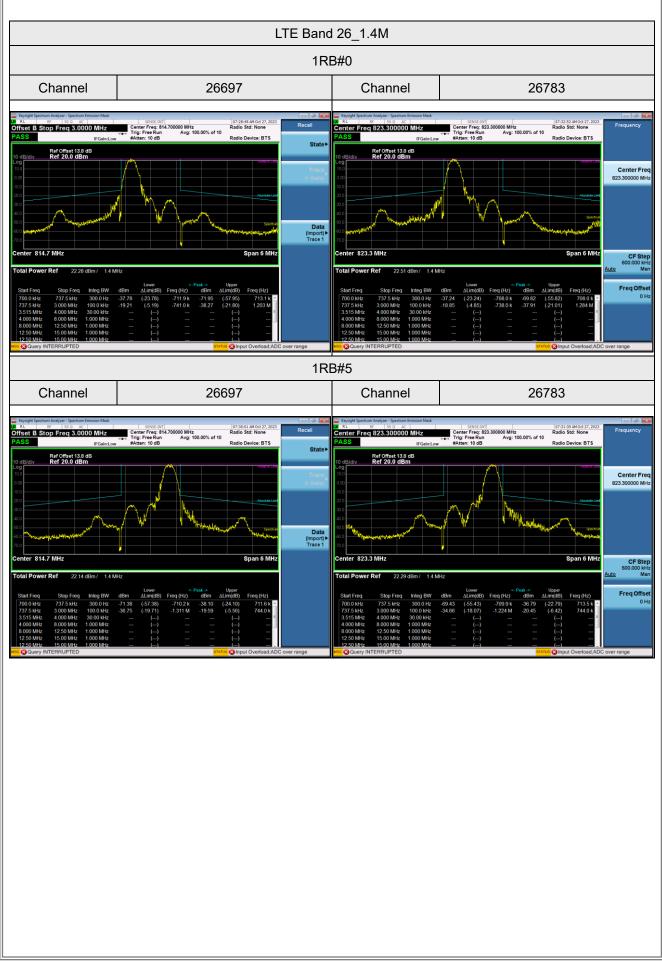
(2) Margin Level = Measurement Value - Limit Value.



Report No.: BTL-FCCP-8-2212T004

APPENDIX E MASK

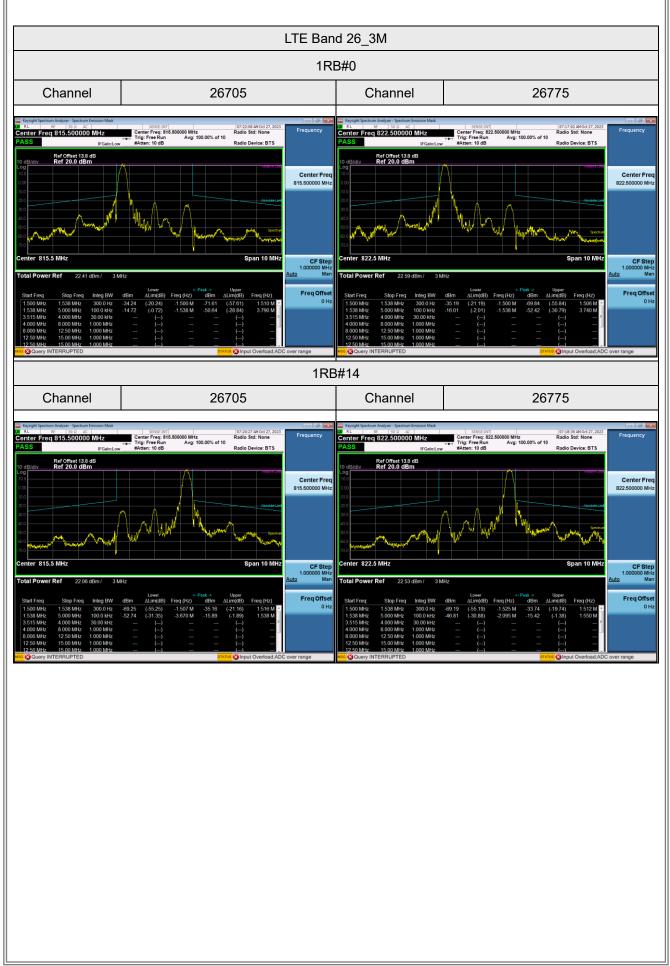






		6F	RB#0					
Channel	2669	97	Channel		26783			
Keynight Spectrum Analyzer - Spectrum Finnison Mark AL 82 30 0 AC Dffset B Stop Freq 3.0000 MHz Refailed and analyzer - Spectrum Final Stop Fina	Center Freq: 814.700000 MHz Trig: Free Run Avg: 100.00% of 10	(7227.09 AMOR 27,2022) Radio Stri: None Radio Device: BTS State State France Company	Repute Spectrum Analyzer Spectrum Emission Mail Ø AL BF 50 0 AC Center Freq 823.300000 MHz BF BE BE BE PASS IFGain: IFGain: IFGain: 10 dB/div Ref Offset 3.9 dB IEG 10 dB/div Ref 20.0 dBm IEG 00	SENSE BITT Center Free, 823,300000 MHz Trig: Free Run Avg: 100.0 SAtten: 10 dB	Radio Device: BTS	Center Freq 23.300000 MHz		
000 000 000 000 000 000 000 000		Not Market Not Market Span 6 MHz	100 300 400 400 700 Center 823.3 MHz		Andread Lad	CF Step		
Start Freq Stop Freq Integ BW Start Freq Stop Freq Integ BW 700 0 kHz 737 5 kHz 3000 NHz 3315 MHz 0.000 MHz 1000 MHz 3315 MHz 0.000 MHz 0.000 MHz 0.000 MHz 1.000 MHz 0.000 MHz 0.000 MHz 1.000 MHz 1000 MHz 12 50 MHz 15.00 MHz 1000 MHz 12 50 MHz 15.00 MHz 1000 MHz	Lower < Pask - 3 Up dBm ΔLIm/dB) Freq (Hz) dBm ALIm/ 42.08 (-28.08) Freq (Hz) dBm ALIm/ 42.08 (-28.08) Freq (Hz) dBm ALIm/ 42.08 (-28.08) Freq (Hz) dBm ALIm/ 19.48 (-5.34) -765.0 k -26.15 (A) -26.15 (A)		Total Power Ref 22.05 dBm/ 1. Start Freq Stop Freq Integ BW 700 0 Hitz 300 0 Hitz 300 0 Hitz 3151 Mitz 3000 MHz 100 0 Hitz 3000 Hitz 3000 MHz 100 0 Hitz 8000 MHz 4000 MHz 1000 MHz 8000 MHz 1000 MHz 1000 MHz 1250 MHz 1200 MHz 1000 MHz 1250 MHz 1500 MHz 1000 MHz	Lower <- Peak dBm ∆Lim(dB) Freq (Hz) d -43.60 (-29.60) -710.7 k -4	Sime Lupper Birm Alufa Birm Alufa 273 (§ 60) 762.0 k	600.000 kHz Mar Freq Offsel 0 Hz		







		15R	B#0		
Channel	26705		Channel	267	75
PASS IFGain:Low 10 dB/div Ref Offset 13.8 dB Log 10 dB/div	Struct Smill (P7:22-28 BM:0d 27, 2023) Center Free, 915,500000 MHz Radio Std: None Radio Device: BTS	Center Freq 815.50000 MHz	Koydel Spettern Andres - Spettern Freiden Mar 2 EL ES Soo ac Avg/Hold Number 10 PASS IFGain: Low IC dB/dfv Ref 20.0 dBm 10 dB/dfv Ref 20.0 dB/dfv Ref 20.0 dBm 10 dB/dfv Ref 20.0 dB/dfv	Trig: Free Run Avg: 100.00% of 10	And the second s
1.500 MHz 1.538 MHz 300.0 Hz	Span 10 MHz Hz dbm Allm(dB) Freq (Hz) dbm Allm(dB) Freq (Hz) 42:17 (28:17) -1.518 M 41.58 (27.58) 1.502 M 28:95 (6.80) -3.890 M 27.55 (5.62) 4.000 M	CF Step 1.00000 MHz Auto Man Freq Offset 0 Hz	Total Power Ref 21 80 dBm/ 3 k Start Freq Stop Freq Integ BW 3 k 1 500 MHz 1 538 MHz 300 0 Hz 3 k 1 538 MHz 5000 MHz 1000 0 Hz 3 k 1 538 MHz 5000 MHz 1000 0 Hz 3 c 1 538 MHz 8000 MHz 1000 MHz 3 0 00 Hz 2 500 MHz 1 500 MHz 1000 MHz 2 50 MHz 2 500 MHz 1 500 MHz 1000 MHz 2 50 MHz 2 500 MHz 1 500 MHz 1 000 MHz 2 00 MHz 0 000 MHZ 1 500 MHz 1 000 MHz 0 00 MHz	Lower ← Peak.⇒ μ dBm ΔLim(dB) Freq (H2) dBm ΔLim -41.75 (-27.75) -1.502 M -41.92 (-27.75) -22.49 (-8.45) -1.540 M -30.74 (-8.45) ()	



