

FCC Test Report (Part 27 – LTE B4/B7/B12/B17/B66)

Report No.: RFBHKI-WTW-P21120244-2

FCC ID: NKRUMC-MT2731CBN

Test Model: UMC-MT2731CBN

Received Date: Nov. 01, 2021

Test Date: Jan. 17 ~ Feb. 24, 2022

Issued Date: Jun. 09, 2022

Applicant: Wistron NeWeb Corporation

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FCC Registration / 788550 / TW0003
Designation Number:



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Table of Contents

Release Control Record	4
1 Certificate of Conformity	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty	7
2.2 Test Site and Instruments	8
3 General Information	9
3.1 General Description of EUT	9
3.2 Configuration of System under Test	13
3.2.1 Description of Support Units	13
3.3 Test Mode Applicability and Tested Channel Detail	14
3.4 EUT Operating Conditions	26
3.5 General Description of Applied Standards and References	26
4 Test Types and Results	27
4.1 Output Power Measurement	27
4.1.1 Limits of Output Power Measurement	27
4.1.2 Test Procedures	27
4.1.3 Test Setup	27
4.1.4 Test Results	28
4.2 Modulation Characteristics Measurement	72
4.2.1 Limits of Modulation Characteristics	72
4.2.2 Test Procedure	72
4.2.3 Test Setup	72
4.2.4 Test Results	73
4.3 Frequency Stability Measurement	78
4.3.1 Limits of Frequency Stability Measurement	78
4.3.2 Test Procedure	78
4.3.3 Test Setup	78
4.3.4 Test Results	79
4.4 Emission Bandwidth Measurement	101
4.4.1 Limits of Emission Bandwidth Measurement	101
4.4.2 Test Procedure	101
4.4.3 Test Setup	101
4.4.4 Test Result	102
4.5 Channel Edge / Out-of-Band Emissions Measurement	124
4.5.1 Limits of Band Edge / Out-of-Band Emissions Measurement	124
4.5.2 Test Setup	124
4.5.3 Test Procedures	124
4.5.4 Test Results	125
4.6 Peak to Average Ratio	147
4.6.1 Limits of Peak to Average Ratio Measurement	147
4.6.2 Test Setup	147
4.6.3 Test Procedures	147
4.6.4 Test Results	148
4.7 Conducted Spurious Emissions	170
4.7.1 Limits of Conducted Spurious Emissions Measurement	170
4.7.2 Test Setup	170
4.7.3 Test Procedure	170
4.7.4 Test Results	171
4.8 Radiated Emission Measurement	193
4.8.1 Limits of Radiated Emission Measurement	193
4.8.2 Test Procedure	193
4.8.3 Deviation from Test Standard	193
4.8.4 Test Setup	194

4.8.5 Test Results	195
5 Pictures of Test Arrangements	239
Appendix – Information of the Testing Laboratories	240

Release Control Record

Issue No.	Description	Date Issued
RFBHKI-WTW-P21120244-2	Original release	Jun. 09, 2022

1 Certificate of Conformity

Product: Cellular module

Brand: WNC

Test Model: UMC-MT2731CBN

Sample Status: Engineering sample

Applicant: Wistron NeWeb Corporation

Test Date: Jan. 17 ~ Feb. 24, 2022

Standards: FCC Part 27, Subpart C, H, L, M

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : Celine Chou , **Date:** Jun. 09, 2022
Celine Chou / Senior Specialist

Approved by : Jeremy Lin , **Date:** Jun. 09, 2022
Jeremy Lin / Project Engineer

2 Summary of Test Results

For LTE Band 4, B66

Applied Standard: FCC Part 27 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 27.50 (d)	Equivalent Isotropically radiated power	Pass	Meet the requirement of limit.
2.1047	Modulation characteristics	Pass	Meet the requirement
2.1055 27.54	Frequency Stability	Pass	Meet the requirement of limit.
2.1049	Emission Bandwidth	Pass	Meet the requirement of limit.
2.1051 27.53 (h)	Out of Band Emission Measurements	Pass	Meet the requirement of limit.
27.50 (d)(5)	Peak To Average Ratio	Pass	Meet the requirement of limit.
2.1051 27.53 (h)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
2.1053 27.53 (h)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -28.62dB at 77.53MHz.

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

For LTE Band 7

Applied Standard: FCC Part 27 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 27.50 (h)(2)	Equivalent Isotropically radiated power	Pass	Meet the requirement of limit.
2.1047	Modulation characteristics	Pass	Meet the requirement
2.1055 27.54	Frequency Stability	Pass	Meet the requirement of limit.
2.1049	Emission Bandwidth	Pass	Meet the requirement of limit.
2.1051 27.53 (m)(4)(6)	Channel Edge / Out of Band Emission Measurements	Pass	Meet the requirement of limit.
--	Peak To Average Ratio	Pass	Meet the requirement of limit.
2.1051 27.53 (m)(4)(6)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
2.1053 27.53 (m)(4)(6)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -19.80dB at 83.35MHz.

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

For LTE Band 12, LTE Band 17

Applied Standard: FCC Part 27 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 27.50 (c)	Effective radiated power	Pass	Meet the requirement of limit.
2.1047	Modulation characteristics	Pass	Meet the requirement
2.1055 27.54	Frequency Stability	Pass	Meet the requirement of limit.
2.1049	Emission Bandwidth	Pass	Meet the requirement of limit.
2.1051 27.53 (g)	Out of Band Emission Measurements	Pass	Meet the requirement of limit.
--	Peak To Average Ratio	Pass	Meet the requirement of limit.
2.1051 27.53 (g)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
2.1053 27.53 (g)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -26.33dB at 3537.50MHz.

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) ($\pm$)
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	2.93 dB
	200MHz ~ 1000MHz	2.95 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

2.2 Test Site and Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer Agilent	N9010A	MY52220314	Dec. 03, 2021	Dec. 02, 2022
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Apr. 12, 2021	Apr. 11, 2022
Broadband Horn Antenna SCHWARZBECK	BBHA 9170	148	Nov. 14, 2021	Nov. 13, 2022
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-969	Nov. 14, 2021	Nov. 13, 2022
BILOG Antenna SCHWARZBECK	VULB 9168	9168-472	Oct. 28, 2021	Oct. 27, 2022
Fixed Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	Apr. 13, 2021	Apr. 12, 2022
Loop Antenna TESEQ	HLA 6121	45745	Jul. 21, 2021	Jul. 20, 2022
Preamplifier EMCI	EMC001340	980201	Sep. 15, 2021	Sep. 14, 2022
Preamplifier EMCI	EMC 012645	980115	Oct. 05, 2021	Oct. 04, 2022
Preamplifier EMCI	EMC 184045	980116	Oct. 05, 2021	Oct. 04, 2022
Preamplifier EMCI	EMC 330H	980112	Oct. 05, 2021	Oct. 04, 2022
RF Coaxial Cable EMCI	EMC104-SM-SM-800 0	171005	Oct. 05, 2021	Oct. 04, 2022
RF Coaxial Cable HUBER+SUHNNER	SUCOFLEX 104	EMC104-SM-SM-1000 (140807)	Oct. 05, 2021	Oct. 04, 2022
RF Coaxial Cable WOKEN	8D-FB	Cable-Ch10-01	Oct. 05, 2021	Oct. 04, 2022
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower & Turn Table Controller MF	MF-7802	NA	NA	NA
Temperature & Humidity Chamber TERCHY	HRM-120RF	931022	Jan. 03, 2022	Jan. 02, 2023
True RMS Clamp Meter Fluke	325	31130711WS	Jun. 02, 2021	Jun. 01, 2022
DC power supply Keysight	U8002A	MY56330015	NA	NA
Radio Communication Analyzer Anritsu	MT8821C	6272278310	Jun. 23, 2021	Jun. 22, 2022

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 10.

3 General Information

3.1 General Description of EUT

Product	Cellular module	
Brand	WNC	
Test Model	UMC-MT2731CBN	
Sample Status	Engineering sample	
Power Supply Rating	4.0Vdc	
Modulation Type	QPSK, 16QAM, 64QAM	
Operating Frequency	LTE Band 4 (Channel Bandwidth 1.4MHz)	1710.7MHz ~ 1754.3MHz
	LTE Band 4 (Channel Bandwidth 3MHz)	1711.5MHz ~ 1753.5MHz
	LTE Band 4 (Channel Bandwidth 5MHz)	1712.5MHz ~ 1752.5MHz
	LTE Band 4 (Channel Bandwidth 10MHz)	1715.0MHz ~ 1750.0MHz
	LTE Band 4 (Channel Bandwidth 15MHz)	1717.5MHz ~ 1747.5MHz
	LTE Band 4 (Channel Bandwidth 20MHz)	1720.0MHz ~ 1745.0MHz
	LTE Band 7 (Channel Bandwidth 5MHz)	2502.5MHz ~ 2567.5MHz
	LTE Band 7 (Channel Bandwidth 10MHz)	2505.0MHz ~ 2565.0MHz
	LTE Band 7 (Channel Bandwidth 15MHz)	2507.5MHz ~ 2562.5MHz
	LTE Band 7 (Channel Bandwidth 20MHz)	2510.0MHz ~ 2560.0MHz
	LTE Band 12 (Channel Bandwidth 1.4MHz)	699.7MHz ~ 715.3MHz
	LTE Band 12 (Channel Bandwidth 3MHz)	700.5MHz ~ 714.5MHz
	LTE Band 12 (Channel Bandwidth 5MHz)	701.5MHz ~ 713.5MHz
	LTE Band 12 (Channel Bandwidth 10MHz)	704.0MHz ~ 711.0MHz
	LTE Band 17 (Channel Bandwidth 5MHz)	706.5MHz ~ 713.5MHz
	LTE Band 17 (Channel Bandwidth 10MHz)	709.0MHz ~ 711.0MHz
	LTE Band 66 (Channel Bandwidth 1.4MHz)	1710.7MHz ~ 1779.3MHz
	LTE Band 66 (Channel Bandwidth 3MHz)	1711.5MHz ~ 1778.5MHz
	LTE Band 66 (Channel Bandwidth 5MHz)	1712.5MHz ~ 1777.5MHz
	LTE Band 66 (Channel Bandwidth 10MHz)	1715.0MHz ~ 1775.0MHz
	LTE Band 66 (Channel Bandwidth 15MHz)	1717.5MHz ~ 1772.5MHz
	LTE Band 66 (Channel Bandwidth 20MHz)	1720.0MHz ~ 1770.0MHz

Max. EIRP Power		QPSK	16QAM	64QAM
	LTE Band 4 (Channel Bandwidth 1.4MHz)	261.818mW (24.18dBm)	212.814mW (23.28dBm)	167.880mW (22.25dBm)
	LTE Band 4 (Channel Bandwidth 3MHz)	271.019mW (24.33dBm)	219.786mW (23.42dBm)	174.181mW (22.41dBm)
	LTE Band 4 (Channel Bandwidth 5MHz)	257.040mW (24.10dBm)	219.280mW (23.41dBm)	167.494mW (22.24dBm)
	LTE Band 4 (Channel Bandwidth 10MHz)	262.422mW (24.19dBm)	220.293mW (23.43dBm)	171.396mW (22.34dBm)
	LTE Band 4 (Channel Bandwidth 15MHz)	277.971mW (24.44dBm)	225.424mW (23.53dBm)	173.780mW (22.40dBm)
	LTE Band 4 (Channel Bandwidth 20MHz)	278.612mW (24.45dBm)	225.944mW (23.54dBm)	174.181mW (22.41dBm)
	LTE Band 7 (Channel Bandwidth 5MHz)	303.389mW (24.82dBm)	245.471mW (23.90dBm)	190.546mW (22.80dBm)
	LTE Band 7 (Channel Bandwidth 10MHz)	306.196mW (24.86dBm)	246.604mW (23.92dBm)	193.197mW (22.86dBm)
	LTE Band 7 (Channel Bandwidth 15MHz)	311.172mW (24.93dBm)	266.073mW (24.25dBm)	194.536mW (22.89dBm)
	LTE Band 7 (Channel Bandwidth 20MHz)	311.889mW (24.94dBm)	251.189mW (24.00dBm)	199.526mW (23.00dBm)
	LTE Band 66 (Channel Bandwidth 1.4MHz)	269.774mW (24.31dBm)	232.809mW (23.67dBm)	171.791mW (22.35dBm)
	LTE Band 66 (Channel Bandwidth 3MHz)	282.488mW (24.51dBm)	240.436mW (23.81dBm)	170.608mW (22.32dBm)
	LTE Band 66 (Channel Bandwidth 5MHz)	274.789mW (24.39dBm)	233.884mW (23.69dBm)	171.791mW (22.35dBm)
	LTE Band 66 (Channel Bandwidth 10MHz)	267.917mW (24.28dBm)	234.423mW (23.70dBm)	181.970mW (22.60dBm)
	LTE Band 66 (Channel Bandwidth 15MHz)	282.488mW (24.51dBm)	237.684mW (23.76dBm)	177.011mW (22.48dBm)
	LTE Band 66 (Channel Bandwidth 20MHz)	283.139mW (24.52dBm)	237.684mW (23.76dBm)	180.717mW (22.57dBm)

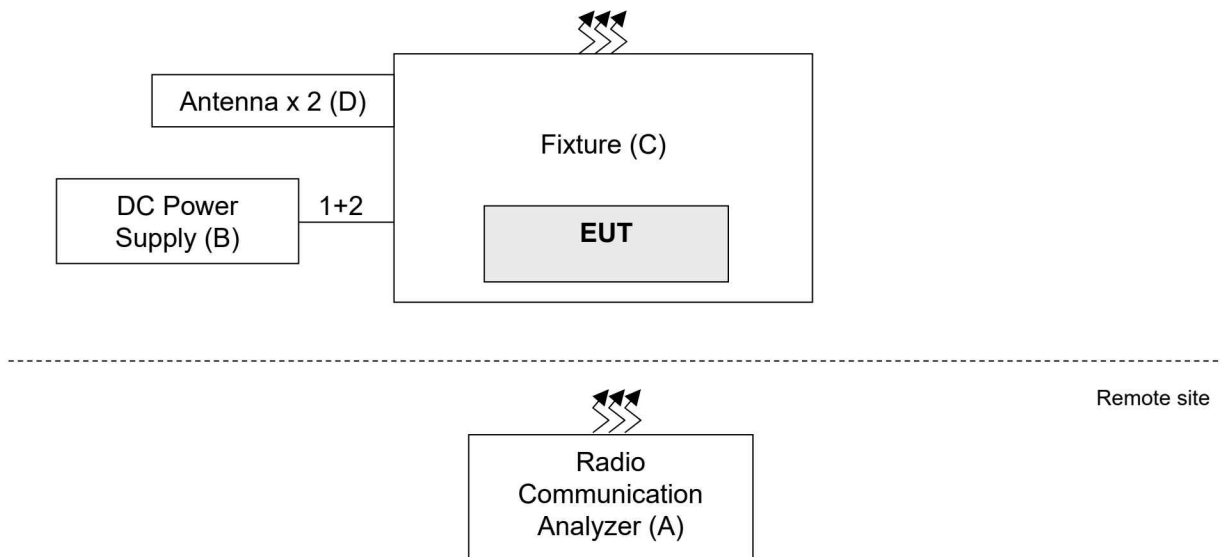
Max. ERP Power		QPSK	16QAM	64QAM
	LTE Band 12 (Channel Bandwidth 1.4MHz)	199.067mW (22.99dBm)	174.985mW (22.43dBm)	128.825mW (21.10dBm)
	LTE Band 12 (Channel Bandwidth 3MHz)	200.447mW (23.02dBm)	177.828mW (22.50dBm)	139.637mW (21.45dBm)
	LTE Band 12 (Channel Bandwidth 5MHz)	198.609mW (22.98dBm)	163.682mW (22.14dBm)	138.038mW (21.40dBm)
	LTE Band 12 (Channel Bandwidth 10MHz)	207.970mW (23.18dBm)	161.808mW (22.09dBm)	137.088mW (21.37dBm)
	LTE Band 17 (Channel Bandwidth 5MHz)	195.434mW (22.91dBm)	172.584mW (22.37dBm)	134.276mW (21.28dBm)
	LTE Band 17 (Channel Bandwidth 10MHz)	208.449mW (23.19dBm)	176.198mW (22.46dBm)	141.254mW (21.50dBm)
Emission Designator		QPSK	16QAM	64QAM
	LTE Band 4 (Channel Bandwidth 1.4MHz)	1M09G7D	1M09D7W	1M09D7W
	LTE Band 4 (Channel Bandwidth 3MHz)	2M69G7D	2M69D7W	2M69D7W
	LTE Band 4 (Channel Bandwidth 5MHz)	4M50G7D	4M49D7W	4M50D7W
	LTE Band 4 (Channel Bandwidth 10MHz)	8M98G7D	8M99D7W	8M99D7W
	LTE Band 4 (Channel Bandwidth 15MHz)	13M5G7D	13M5D7W	13M5D7W
	LTE Band 4 (Channel Bandwidth 20MHz)	18M0G7D	18M0D7W	18M0D7W
	LTE Band 7 (Channel Bandwidth 5MHz)	4M49G7D	4M49D7W	4M50D7W
	LTE Band 7 (Channel Bandwidth 10MHz)	8M98G7D	8M98D7W	8M99D7W
	LTE Band 7 (Channel Bandwidth 15MHz)	13M5G7D	13M5D7W	13M5D7W
	LTE Band 7 (Channel Bandwidth 20MHz)	18M0G7D	18M0D7W	18M0D7W
	LTE Band 12 (Channel Bandwidth 1.4MHz)	1M09G7D	1M09D7W	1M09D7W
	LTE Band 12 (Channel Bandwidth 3MHz)	2M69G7D	2M70D7W	2M69D7W
	LTE Band 12 (Channel Bandwidth 5MHz)	4M50G7D	4M50D7W	4M50D7W
	LTE Band 12 (Channel Bandwidth 10MHz)	8M99G7D	8M99D7W	8M99D7W
	LTE Band 17 (Channel Bandwidth 5MHz)	4M50G7D	4M50D7W	4M51D7W
	LTE Band 17 (Channel Bandwidth 10MHz)	8M98G7D	8M97D7W	8M98D7W
	LTE Band 66 (Channel Bandwidth 1.4MHz)	1M09G7D	1M09D7W	1M09D7W
	LTE Band 66 (Channel Bandwidth 3MHz)	2M69G7D	2M69D7W	2M69D7W
	LTE Band 66 (Channel Bandwidth 5MHz)	4M50G7D	4M50D7W	4M50D7W
	LTE Band 66 (Channel Bandwidth 10MHz)	8M99G7D	8M99D7W	8M98D7W
	LTE Band 66 (Channel Bandwidth 15MHz)	13M5G7D	13M5D7W	13M5D7W
	LTE Band 66 (Channel Bandwidth 20MHz)	18M0G7D	18M0D7W	18M0D7W
Antenna Type	Refer to note			
Antenna Connector	Refer to note			
Accessory Device	NA			
Cable Supplied	NA			

Note: The antenna information is listed as below. (For support unit only)

Type	Connector	Gain (dBi)											
		GSM 850	GSM 1900	LTE B2	LTE B4	LTE B5	LTE B7	LTE B12	LTE B14	LTE B17	LTE B25	LTE B26	LTE B66
Dipole	SMA	1.82	1.80	1.80	1.57	1.82	2.15	2.02	2.02	2.02	1.80	1.82	1.57

* The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

3.2 Configuration of System under Test



3.2.1 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.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Radio Communication Analyzer	Anritsu	MT8821C	6261806803	NA	-
B.	DC Power Supply	JIN YIH Technology	SP3051	SP30512050388	NA	-
C.	Fixture	NA	NA	NA	NA	Provided by manufacturer
D.	Antenna x 2	WNC	RF21S00802A	NA	NA	Provided by manufacturer

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC Power Cable	1	1.8	N	0	-
2.	DC Cable	1	0.12	N	0	-

3.3 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 worst case was found when positioned as the table below. Following channel(s) was (were) selected for the final test as listed below:

Band	Radiated Emission
LTE Band 4	Z-plane
LTE Band 7	Z-plane
LTE Band 12	Z-plane
LTE Band 17	Z-plane
LTE Band 66	Z-plane

LTE Band 4

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	RB #
-	EIRP	19957 to 20393	19957 (1710.7MHz), 20175 (1732.5MHz), 20393 (1754.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	1 Half Full
		19965 to 20385	19965 (1711.5MHz), 20175 (1732.5MHz), 20385 (1753.5MHz)	3MHz	QPSK / 16QAM / 64QAM	1 Half Full
		19975 to 20375	19975 (1712.5MHz), 20175 (1732.5MHz), 20375 (1752.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1 Half Full
		20000 to 20350	20000 (1715.0MHz), 20175 (1732.5MHz), 20350 (1750.0MHz)	10MHz	QPSK / 16QAM / 64QAM	1 Half Full
		20025 to 20325	20025 (1717.5MHz), 20175 (1732.5MHz), 20325 (1747.5MHz)	15MHz	QPSK / 16QAM / 64QAM	1 Half Full
		20050 to 20300	20050 (1720.0MHz), 20175 (1732.5MHz), 20300 (1745.0MHz)	20MHz	QPSK / 16QAM / 64QAM	1 Half Full
-	Modulation Characteristics	20050 to 20300	20175 (1732.5MHz)	20MHz	QPSK / 16QAM / 64QAM	Full
-	Frequency Stability	19957 to 20393	19957 (1710.7MHz), 20393 (1754.3MHz)	1.4MHz	QPSK	Full
		19965 to 20385	19965 (1711.5MHz), 20385 (1753.5MHz)	3MHz	QPSK	Full
		19975 to 20375	19975 (1712.5MHz), 20375 (1752.5MHz)	5MHz	QPSK	Full
		20000 to 20350	20000 (1715.0MHz), 20350 (1750.0MHz)	10MHz	QPSK	Full
		20025 to 20325	20025 (1717.5MHz), 20325 (1747.5MHz)	15MHz	QPSK	Full
		20050 to 20300	20050 (1720.0MHz), 20300 (1745.0MHz)	20MHz	QPSK	Full
-	Emission Bandwidth	19957 to 20393	19957 (1710.7MHz), 20175 (1732.5MHz), 20393 (1754.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	Full
		19965 to 20385	19965 (1711.5MHz), 20175 (1732.5MHz), 20385 (1753.5MHz)	3MHz	QPSK / 16QAM / 64QAM	Full
		19975 to 20375	19975 (1712.5MHz), 20175 (1732.5MHz), 20375 (1752.5MHz)	5MHz	QPSK / 16QAM / 64QAM	Full
		20000 to 20350	20000 (1715.0MHz), 20175 (1732.5MHz), 20350 (1750.0MHz)	10MHz	QPSK / 16QAM / 64QAM	Full
		20025 to 20325	20025 (1717.5MHz), 20175 (1732.5MHz), 20325 (1747.5MHz)	15MHz	QPSK / 16QAM / 64QAM	Full
		20050 to 20300	20050 (1720.0MHz), 20175 (1732.5MHz), 20300 (1745.0MHz)	20MHz	QPSK / 16QAM / 64QAM	Full

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	RB #
-	Band Edge	19957 to 20393	19957 (1710.7MHz), 20393 (1754.3MHz)	1.4MHz	QPSK	1 Half Full
		19965 to 20385	19965 (1711.5MHz), 20385 (1753.5MHz)	3MHz	QPSK	1 Half Full
		19975 to 20375	19975 (1712.5MHz), 20375 (1752.5MHz)	5MHz	QPSK	1 Half Full
		20000 to 20350	20000 (1715.0MHz), 20350 (1750.0MHz)	10MHz	QPSK	1 Half Full
		20025 to 20325	20025 (1717.5MHz), 20325 (1747.5MHz)	15MHz	QPSK	1 Half Full
		20050 to 20300	20050 (1720.0MHz), 20300 (1745.0MHz)	20MHz	QPSK	1 Half Full
-	Peak To Average Ratio	19957 to 20393	19957 (1710.7MHz), 20175 (1732.5MHz), 20393 (1754.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	1
		19965 to 20385	19965 (1711.5MHz), 20175 (1732.5MHz), 20385 (1753.5MHz)	3MHz	QPSK / 16QAM / 64QAM	1
		19975 to 20375	19975 (1712.5MHz), 20175 (1732.5MHz), 20375 (1752.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1
		20000 to 20350	20000 (1715.0MHz), 20175 (1732.5MHz), 20350 (1750.0MHz)	10MHz	QPSK / 16QAM / 64QAM	1
		20025 to 20325	20025 (1717.5MHz), 20175 (1732.5MHz), 20325 (1747.5MHz)	15MHz	QPSK / 16QAM / 64QAM	1
		20050 to 20300	20050 (1720.0MHz), 20175 (1732.5MHz), 20300 (1745.0MHz)	20MHz	QPSK / 16QAM / 64QAM	1

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	RB #
-	Conducted Emission	19957 to 20393	19957 (1710.7MHz), 20175 (1732.5MHz), 20393 (1754.3MHz)	1.4MHz	QPSK	1
		19965 to 20385	19965 (1711.5MHz), 20175 (1732.5MHz), 20385 (1753.5MHz)	3MHz	QPSK	1
		19975 to 20375	19975 (1712.5MHz), 20175 (1732.5MHz), 20375 (1752.5MHz)	5MHz	QPSK	1
		20000 to 20350	20000 (1715.0MHz), 20175 (1732.5MHz), 20350 (1750.0MHz)	10MHz	QPSK	1
		20025 to 20325	20025 (1717.5MHz), 20175 (1732.5MHz), 20325 (1747.5MHz)	15MHz	QPSK	1
		20050 to 20300	20050 (1720.0MHz), 20175 (1732.5MHz), 20300 (1745.0MHz)	20MHz	QPSK	1
-	Radiated Emission	19957 to 20393	19957 (1710.7MHz), 20175 (1732.5MHz), 20393 (1754.3MHz)	1.4MHz	QPSK	1
		19975 to 20375	19975 (1712.5MHz), 20175 (1732.5MHz), 20375 (1752.5MHz)	5MHz	QPSK	1
		20050 to 20300	20050 (1720.0MHz), 20175 (1732.5MHz), 20300 (1745.0MHz)	20MHz	QPSK	1

Note:

1. For radiated emission below 1GHz, select the worst radiated emission channel (above 1GHz) for final testing.
2. For radiated emission above 1GHz, according to 3GPP 36.521-1 Section 6.6.3.1.4.1, choose the lowest, 5MHz & highest channel bandwidth for final test.
3. The output power for QPSK, 16QAM and 64QAM, measured value of QPSK is higher than 16QAM, and 64QAM mode. Therefore, only Modulation characteristics, occupied bandwidth and Peak to average ratio items had been tested under QPSK, 16QAM and 64QAM modes, the other test items were performed under worse mode according to the maximum output power.

LTE Band 7

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	RB #
-	EIRP	20775 to 21425	20775 (2502.5MHz), 21100 (2535.0MHz), 21425 (2567.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1 Half Full
		20800 to 21400	20800 (2505.0MHz), 21100 (2535.0MHz), 21400 (2565.0MHz)	10MHz	QPSK / 16QAM / 64QAM	1 Half Full
		20825 to 21375	20825 (2507.5MHz), 21100 (2535.0MHz), 21375 (2562.5MHz)	15MHz	QPSK / 16QAM / 64QAM	1 Half Full
		20850 to 21350	20850 (2510.0MHz), 21100 (2535.0MHz), 21350 (2560.0MHz)	20MHz	QPSK / 16QAM / 64QAM	1 Half Full
-	Modulation Characteristics	20850 to 21350	21100 (2535.0MHz)	20MHz	QPSK / 16QAM / 64QAM	Full
-	Frequency Stability	20775 to 21425	20775 (2502.5MHz), 21425 (2567.5MHz)	5MHz	QPSK	Full
		20800 to 21400	20800 (2505.0MHz), 21400 (2565.0MHz)	10MHz	QPSK	Full
		20825 to 21375	20825 (2507.5MHz), 21375 (2562.5MHz)	15MHz	QPSK	Full
		20850 to 21350	20850 (2510.0MHz), 21350 (2560.0MHz)	20MHz	QPSK	Full
-	Emission Bandwidth	20775 to 21425	20775 (2502.5MHz), 21100 (2535.0MHz), 21425 (2567.5MHz)	5MHz	QPSK / 16QAM / 64QAM	Full
		20800 to 21400	20800 (2505.0MHz), 21100 (2535.0MHz), 21400 (2565.0MHz)	10MHz	QPSK / 16QAM / 64QAM	Full
		20825 to 21375	20825 (2507.5MHz), 21100 (2535.0MHz), 21375 (2562.5MHz)	15MHz	QPSK / 16QAM / 64QAM	Full
		20850 to 21350	20850 (2510.0MHz), 21100 (2535.0MHz), 21350 (2560.0MHz)	20MHz	QPSK / 16QAM / 64QAM	Full
-	Out-of-Band Emissions	20775 to 21425	20775 (2502.5MHz), 21425 (2567.5MHz)	5MHz	QPSK	1 Half Full
		20800 to 21400	20800 (2505.0MHz), 21400 (2565.0MHz)	10MHz	QPSK	1 Half Full
		20825 to 21375	20825 (2507.5MHz), 21375 (2562.5MHz)	15MHz	QPSK	1 Half Full
		20850 to 21350	20850 (2510.0MHz), 21350 (2560.0MHz)	20MHz	QPSK	1 Half Full