

RF Test Report

Applicant: Quectel Wireless Solutions Company Limited
Address: Building 5, Shanghai Business Park Phase III (Area B), No.1016
Tianlin Road, Minhang District, Shanghai, China 200233
Product: 5G Sub-6 GHz LGA Module
Model No.: RG525F-NA
Brand Name: QUECTEL
FCC ID: XMR2023RG525FNA
47 CFR Part 22
47 CFR Part 24
Standards: 47 CFR Part 27
47 CFR Part 90
47 CFR Part 96
Report No.: PD20240089-R3A
Issue Date: 2024/08/26
Test Result: PASS *

* Testing performed at Hefei Panwin Technology Co., Ltd. on the above equipment indicates the product meets the requirements of the relevant standards.



Reviewed By: Charlie Wang



Approved By: Alec Yang

Hefei Panwin Technology Co., Ltd.

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Revision History

Report No.	Version	Description	Issue Date	Note
PD20240089-R3A	01	Initial Report	2024/08/26	Valid

Remark:

The new version of RG525F-NA share the same HW design with the certificated version, The main differences are:
The new version RG525F-NA add supports more bandwidth for SA n25/n66/n41/n48 and add supports 8RX feature for n48/n77/n78. This report verifies the Transmitter Maximum Output Power of worst bands, and the data results did not deteriorate. Test data is referenced from the original report (Report No.: 2211RSU034-U1, 2211RSU034-U2, 2211RSU034-U3, 2211RSU034-U4, 2211RSU034-U5) issued on 2023/02/23.

CONTENTS

1 Test Laboratory	17
1.1 Notes of the Test Report	17
1.2 Test Facility	17
1.3 Testing Laboratory	17
2 General Description of Equipment under Test	17
2.1 Details of Application	17
2.2 Details of EUT	18
2.3 Application Standards	20
3 Test Condition	21
3.1 Test Environmental Conditions	21
3.2 Equipment List	22
3.3 Test Uncertainty	23
4 Test Items Description	24
ANNEX A: Test Results	25
ANNEX B: The EUT Appearance	26
ANNEX C: Test Setup Photographs	27

Test Summary

LTE Band 2 / 25 / LTE CA_2C

No.	Test Case	FCC Rules	Limit	Verdict
1	RF Output Power & Effective Radiated Power	§2.1046, §24.232(c)	EIRP ≤2 Watt	Reference report 2211RSU034-U1
2	Peak-to-Average Ratio	§24.232(d)	≤13 dB	
3	Occupied Bandwidth	§2.1049	No limit.	
4	Conducted Band Edge Measurement	§2.1051, §24.238(a)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	
5	Spurious Emissions at Antenna Terminals	§2.1051, §24.238(a)	≤ -13 dBm/1 MHz, from 9 kHz to 10 th harmonics but outside authorized operating frequency ranges.	
6	Radiated Spurious Emission	§2.1053, §24.238(a)	≤ -13 dBm/1 MHz.	
7	Frequency Stability	§2.1055 §24.235	Within authorized bands of operation/frequency block.	

LTE Band 4 / 66 / LTE CA_66B / LTE CA_66C

No.	Test Case	FCC Rules	Limit	Verdict
1	RF Output Power & Effective Radiated Power	§2.1046, §27.50(d)(4)	EIRP ≤ 1 Watt	Reference report 2211RSU034-U1
2	Peak-to-Average Ratio	§27.50(d)(5)	≤13 dB	
3	Occupied Bandwidth	§2.1049	No limit.	
4	Conducted Band Edge Measurement	§2.1051, §27.53(h)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	
5	Spurious Emissions at Antenna Terminals	§2.1051, §27.53(h)	≤ -13 dBm/1 MHz, from 9 kHz to 10 th harmonics but outside authorized operating frequency ranges.	
6	Radiated Spurious Emission	§2.1053, §27.53(h)	≤ -13 dBm/1 MHz.	
7	Frequency Stability	§2.1055 §27.54	Within authorized bands of operation/frequency block.	

LTE Band 5 / 26(824~849 MHz) / LTE CA_5B

No.	Test Case	FCC Rules	Limit	Verdict
1	RF Output Power & Effective Radiated Power	§2.1046 §22.913 (a)(5)	ERP ≤ 7 Watt	Reference report 2211RSU034-U1
2	Peak-to-Average Ratio	§22.913 (d)	≤13 dB	
3	Occupied Bandwidth	§2.1049	No limit.	
4	Conducted Band Edge Measurement	§2.1051 §22.917 (a)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	
5	Spurious Emissions at Antenna Terminals	§2.1051 §22.917(a)	FCC: ≤ -13 dBm/100 kHz, from 9 kHz to 10 th harmonics but outside authorized operating frequency ranges.	
6	Radiated Spurious Emission	§2.1053 §22.917(a)	FCC: ≤ -13 dBm/100 kHz.	
7	Frequency Stability	§2.1055 §22.355	< ±2.5 ppm	

LTE Band 7 / 38 / 41 / LTE CA_7C / LTE CA_38C / LTE CA_41C

No.	Test Case	FCC Rules	Limit	Verdict
1	RF Output Power & Effective Radiated Power	§2.1046, §27.50(h)(2)	EIRP ≤ 2 Watt	Reference report 2211RSU034-U1
2	Peak-to-Average Ratio	--	≤13 dB	
3	Occupied Bandwidth	§2.1049	No limit.	
4	Conducted Band Edge Measurement	§2.1051, §27.53(m4)	For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz.	
5	Spurious Emissions at Antenna Terminals	§2.1051, §27.53(m)		
6	Radiated Spurious Emission	§2.1053, §27.53(m)		
7	Frequency Stability	§2.1055 §27.54	Within authorized bands of operation/frequency block.	

LTE Band 12 / 17

No.	Test Case	FCC Rules	Limit	Verdict
1	RF Output Power & Effective Radiated Power	§2.1046, §27.50(c)(10)	ERP ≤ 3 Watt	Reference report 2211RSU034-U1
2	Peak-to-Average Ratio	--	≤13 dB	
3	Occupied Bandwidth	§2.1049	No limit.	
4	Conducted Band Edge Measurement	§2.1051, §27.53(g)	For operations in the 600 MHz band and the 698–746 MHz band, the power of any emission outside a 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, by at least $43 + 10 \log (P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.	
5	Spurious Emissions at Antenna Terminals	§2.1051, §27.53(g)	FCC: ≤ -13 dBm/100 kHz, from 9 kHz to 10 th harmonics but outside authorized operating frequency ranges.	
6	Radiated Spurious Emission	§2.1053, §27.53(g)	FCC: ≤ -13 dBm/100 kHz.	
7	Frequency Stability	§2.1055 §27.54	Within authorized bands of operation/frequency block.	

LTE Band 13

No.	Test Case	FCC Rules	Limit	Verdict
1	RF Output Power & Effective Radiated Power	§2.1046, §27.50(b)(10)	ERP ≤ 3 Watt	Reference report 2211RSU034-U1
2	Peak-to-Average Ratio	--	≤13 dB	
3	Occupied Bandwidth	§2.1049	No limit.	
4	Conducted Band Edge Measurement	§2.1051, §27.53(c)	<p>On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;</p> <p>Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;</p>	
5	Spurious Emissions at Antenna Terminals	§2.1051, §27.53(c) §27.53(f)	<p>FCC: ≤ -13 dBm/100 kHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges.</p> <p>On all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;</p> <p>For operations in the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands, emissions in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.</p>	
6	Radiated Spurious Emission	§2.1053, §27.53(c) §27.53(f)	<p>FCC: ≤ -13 dBm/100 kHz.</p> <p>For operations in the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands, emissions in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.</p>	
7	Frequency Stability	§2.1055 §27.54	Within authorized bands of operation/frequency block.	

LTE Band 14

No.	Test Case	FCC Rules	Limit	Verdict
1	RF Output Power & Effective Radiated Power	§2.1046, §90.542(d)	ERP ≤ 3 Watt	Reference report 2211RSU034 -U2
2	Peak-to-Average Ratio	--	≤13 dB	
3	Occupied Bandwidth	§2.1049	No limit.	
4	Emission Mask	§2.1051 §90.210(n)	<p>Transmitters designed for operation under this part on frequencies other than listed in this section must meet the emission mask requirements of Emission Mask B.</p> <p>Equipment operating under this part on frequencies allocated to but shared with the Federal Government, must meet the applicable Federal Government technical standards.</p> <p>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.</p> <p>(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.</p> <p>(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.</p>	
5	Conducted Band Edge Measurement	§2.1051, §90.543(e) (2)(3)	<p>(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.</p> <p>(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.</p> <p>(3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least 43 + 10log (P) dB.</p>	
6	Spurious Emissions at Antenna Terminals	§2.1051, §90.543(c) §90.543(f)	FCC: ≤ -13 dBm/100 kHz. For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to	
7	Radiated Spurious Emission	§2.1053, §90.543(c) §90.543(f)	-70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.	
8	Frequency Stability	§2.1055 §90.213	Within authorized bands of operation/frequency block.	

LTE Band 26(814~824 MHz)

No.	Test Case	FCC Rules	Limit	Verdict
1	RF Output Power & Effective Radiated Power	§2.1046, §90.635(b)	< 100 W	Reference report 2211RSU034-U3
2	Peak-to-Average Ratio	--	≤13 dB	
3	Occupied Bandwidth	§2.1049	No limit.	
4	Emission Mask	§2.1051 § 90.691(a)	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 Log ₁₀ (f/6.1) decibels or 50 + 10 Log ₁₀ (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.	
5	Spurious Emissions at Antenna Terminals	§2.1051, §90.691	< 43 + 10Log ₁₀ (P[Watts]) for all out-of- band emissions	
6	Radiated Spurious Emission	§2.1053, §90.691		
7	Frequency Stability	§2.1055 §90.213	Within authorized bands of operation/frequency block.	

LTE Band 30

No.	Test Case	FCC Rules	Limit	Verdict
1	RF Output Power & Effective Radiated Power	§2.1046, §27.50(a)(3)	EIRP ≤ 50mW/1MHz EIRP ≤ 250mW/5MHz	Reference report 2211RSU034-U4
2	Peak-to-Average Ratio	--	≤13 dB	
3	Occupied Bandwidth	§2.1049	No limit.	
4	Conducted Band Edge Measurement	§2.1051, §27.53(a)(4)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	
5	Spurious Emissions at Antenna Terminals	§2.1051, §27.53(a)(4)	(4) For mobile and portable stations operating in the 2305–2315 MHz and 2350–2360 MHz bands: (i) By a factor of not less than: 43 + 10 log (P) dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337 MHz; (ii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 55 + 10 log (P) dB on all frequencies between 2296 and 2300 MHz, 61 + 10 log (P) dB on all frequencies between 2292 and 2296 MHz, 67 + 10 log (P) dB on all frequencies between 2288 and 2292 MHz, and 70 + 10 log (P) dB below 2288 MHz; (iii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz.	
6	Radiated Spurious Emission	§2.1053, §27.53(a)(4)	≤ -13 dBm/1 MHz.	
7	Frequency Stability	§2.1055 §27.54	within the range of the operating frequency blocks	

LTE Band 42 / LTE CA_42C (3450 to 3550MHz)

No.	Test Case	FCC Rules	Limit	Verdict
1	RF Output Power & Effective Radiated Power	§2.1046, §27.50(k)(3)	EIRP ≤ 30dBm	Reference report 2211RSU034-U1
2	Peak-to-Average Ratio	§27.50(k)(4)	≤13 dB	
3	Occupied Bandwidth	§2.1049	No limit.	
4	Conducted Band Edge Measurement	§2.1051, §27.50(n)(2)	For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.	
5	Spurious Emissions at Antenna Terminals			
6	Radiated Spurious Emission	§2.1053, §27.50(n)(2)		
7	Frequency Stability	§2.1055 §27.54	Within authorized bands of operation/frequency block.	

LTE Band 48

No.	Test Case	FCC Rules	Limit	Verdict
1	RF Output Power & Effective Radiated Power	§2.1046, §96.41	EIRP ≤ 23dBm/10MHz	Reference report 2211RSU034-U5
2	Peak-to-Average Ratio	§96.41	≤13 dB	
3	Occupied Bandwidth	§96.41	No limit.	
4	Conducted Band Edge Measurement	§2.1051, §96.41	0-10 MHz: -13 dBm; 10-operating band edge MHz: -25 dBm; 11-other: -40 dBm	
5	Spurious Emissions at Antenna Terminals	§2.1051, §96.41	≤ -40dBm	
6	Radiated Spurious Emission	§2.1051, §96.41	≤ -40dBm	
7	Frequency Stability	§2.1055	Fundamental emission stays within authorized frequency block	
8	Adjacent Channel Leakage Ratio	§2.1051, §96.41	30dB	

LTE Band 43 / LTE CA_43C(3700 to 3800MHz)

No.	Test Case	FCC Rules	Limit	Verdict
1	RF Output Power & Effective Radiated Power	§2.1046, §27.50(j)(3)	EIRP ≤ 1W	Reference report 2211RSU034-U1
2	Peak-to-Average Ratio	--	≤13 dB	
3	Occupied Bandwidth	§2.1049	No limit.	
4	Conducted Band Edge Measurement	§2.1051, §27.53(l)(2)	<p>For mobile operations in the 3700–3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed –13 dBm/MHz. Compliance with this paragraph (l)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater.</p> <p>However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz.</p> <p>In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz.</p>	
5	Spurious Emissions at Antenna Terminals	§2.1051, §27.53(l)(2)	not exceed -13 dBm/MHz.	
6	Radiated Spurious Emission	§2.1053, §27.53(l)(2)	not exceed -13 dBm/MHz.	
7	Frequency Stability	§2.1055 §27.54	Within authorized bands of operation/frequency block.	

LTE Band 71

No.	Test Case	FCC Rules	Limit	Verdict
1	RF Output Power & Effective Radiated Power	§2.1046, §27.50(c)(10)	ERP ≤ 3 Watt	Reference report 2211RSU034-U1
2	Peak-to-Average Ratio	--	≤13 dB	
3	Occupied Bandwidth	§2.1049	No limit.	
4	Conducted Band Edge Measurement	§2.1051, §27.53(g)	For operations in the 600 MHz band and the 698–746 MHz band, the power of any emission outside a 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, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.	
5	Spurious Emissions at Antenna Terminals	§2.1051, §27.53(g)	FCC: ≤ -13 dBm/1 MHz, from 9 kHz to 10 th harmonics but outside authorized operating frequency ranges.	
6	Radiated Spurious Emission	§2.1053, §27.53(g)	≤ -13 dBm/1 MHz.	
7	Frequency Stability	§2.1055 §27.54	within the authorized bands of operation.	

Date of Sample Received: 2024/06/21

- The samples tested have been evaluated in accordance with the procedures given in the application standards in **Section 2.3** of this report and have been shown to comply with the applicable technical standards.
- All indications of PASS/FAIL in this report are based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.

1 Test Laboratory

1.1 Notes of the Test Report

This report is invalid without signature of auditor and approver or with any alterations. The report shall not be partially reproduced without written approval of the testing company. Entrusted test results are only responsible for incoming samples. If there is any objection to the testing report, it shall be raised to the testing company within 15 days from the date of receiving the report. In the test results, "NA" means "not applicable", and the test items marked with "Δ" are subcontracted projects.

1.2 Test Facility

A2LA (Certificate Number: 6849.01)

Hefei Panwin Technology Co., Ltd. has been accredited by American Association for Laboratory Accreditation to perform measurement.

FCC (Designation Number: CN1361, Test Firm Registration Number: 473156)

Hefei Panwin Technology Co., Ltd. has been accredited on the US Federal Communications Commission list of test facilities recognized to perform measurements.

1.3 Testing Laboratory

Company Name	Hefei Panwin Technology Co., Ltd.
Address	Floor 1, Zone E, Plant 2#, Mingzhu Industrial Park, No.106 Chuangxin Avenue, High-tech Zone, Hefei City, Anhui Province,China
Telephone	+86-0551-63811775
Post Code	230031

2 General Description of Equipment under Test

2.1 Details of Application

Applicant	Quectel Wireless Solutions Company Limited
Applicant Address	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233
Manufacturer	Quectel Wireless Solutions Company Limited
Manufacturer Address	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233

2.2 Details of EUT

Product		5G Sub-6 GHz LGA Module							
Model		RG525F-NA							
Hardware Version		R1.0							
Software Version		RG525FNAEAR05A01M4G							
SN		Conducted: PIY24EC2W000057 Radiated: P1Y24ED1C000168							
E-UTRA Specification									
Single Band		Band 2, 4, 5, 7, 12, 13, 14, 17, 25, 26, 30, 38, 41, 42, 43, 48, 66, 71							
Intra CA		LTE CA_2C, LTE CA_5B, LTE CA_7C, LTE CA_38C, LTE CA_41C, LTE CA_42C, LTE CA_43C, LTE CA_66B, LTE CA_66C							
HUPE Band		Band 38, 41, 42, 43							
Type of Modulation		UL & DL up to 256QAM							
Antenna Type		<input checked="" type="checkbox"/> External <input type="checkbox"/> Integrated							
Antenna Gain		LTE Band 2: 1.37dBi LTE Band 4: 1.37dBi LTE Band 5: 1.20dBi LTE Band 7: 1.75dBi LTE Band 12: -2.60dBi LTE Band 13: -0.50dBi LTE Band 14: 0.00dBi LTE Band 17: -1.50dBi LTE Band 25: 1.37dBi				LTE Band 26: 1.20dBi LTE Band 30: 1.10dBi LTE Band 38: 1.60dBi LTE Band 41: 1.80dBi LTE Band 42: 0.95dBi LTE Band 43: 0.60dBi LTE Band 48: 0.60dBi LTE Band 66: 1.37dBi LTE Band 71: -2.60dBi			
Frequency Band(s)	SISO Band	Supported Channel Bandwidth (MHz)						Tx (MHz)	Rx (MHz)
		1.4	3	5	10	15	20		
	LTE Band 2	v	v	v	v	v	v	1850 to 1910	1930 to 1990
	LTE Band 4	v	v	v	v	v	v	1710 to 1755	2110 to 2155
	LTE Band 5	v	v	v	v	-	-	824 to 849	869 to 894
	LTE Band 7	-	-	v	v	v	v	2500 to 2570	2620 to 2690
	LTE Band 12	v	v	v	v	-	-	699 to 716	729 to 746
	LTE Band 13	-	-	v	v	-	-	777 to 787	746 to 756
	LTE Band 14	-	-	v	v	-	-	788 to 798	758 to 768
	LTE Band 17	-	-	v	v	-	-	704 to 716	734 to 746
	LTE Band 25	v	v	v	v	v	v	1850 to 1915	1930 to 1995
LTE Band 26	v	v	v	v	v	-	814 to 849	859 to 894	
LTE Band 30	-	-	v	v	-	-	2305 to 2315	2350 to 2360	

LTE Band 38	-	-	v	v	v	v	2570 to 2620	2570 to 2620
LTE Band 41	-	-	v	v	v	v	2496 to 2690	2496 to 2690
LTE Band 42	-	-	v	v	v	v	3450 to 3550	3450 to 3550
LTE Band 43	-	-	v	v	v	v	3700 to 3800	3700 to 3800
LTE Band 48	-	-	v	v	v	v	3550 to 3700	3550 to 3700
LTE Band 66	v	v	v	v	v	v	1710 to 1780	2110 to 2180
LTE Band 71	-	-	v	v	v	v	663 to 698	617 to 652

Note: The declared of product specification for EUT and/or Antenna presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Support Equipment

Equipment	Manufacturer	Description	Model	Serial Number
EVB	QUECTEL	/	/	/
Adapter	Shenzhen Keyu Power Supply TechnologycCo Ltd	AC to DC power supply to EVB	KA1801A-0503000DE	/

2.3 Application Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

47 CFR Part 2

47 CFR Part 22

47 CFR Part 24

47 CFR Part 27

47 CFR Part 90

47 CFR Part 96

ANSI C63.26-2015

FCC KDB 971168 D01 Power Meas License Digital Systems v03r01

FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

3 Test Condition

3.1 Test Environmental Conditions

During testing, environmental conditions are described below.

Normal Configuration		Extreme Configuration		
Voltage	3.8V	Voltage	High: / V	Low: / V

3.2 Equipment List

Instrument	Manufacturer	Model	Asset No.	Cal. Interval	Cal. Due Date
Conducted					
Base Station Simulator	R&S	CMW500	PWC0052	1 Year	2024/10/11
Spectrum Analyzer	KEYSIGHT	N9020B	PWC0047	1 Year	2024/10/10
DC Power	KEYSIGHT	E3640A	PWC0046	1 Year	2024/10/11
Climate Chamber	Boyi	B-T-48C	PWC0051	1 Year	2024/11/12
Shielded Chamber	Mao Rui	MR534	PWC0041	3 Years	2026/08/26
Coupling unit	COM-MW	ZDC6-10M1	/	/	/
Test Software	Tonscend	JS1120 V3.1.46	/	/	/
Radiated					
Receiver	R&S	ESR7	PWB0023	1 Year	2024/10/11
Spectrum Analyzer	R&S	FSV3044	PWB0024	1 Year	2024/10/11
TRILOG Broadband Antenna	Schwarzbeck	VULB9162	PWB0029	1 Year	2024/10/14
Double-Ridged Guide Antenna	ETS-Lindgren	3117	PWB0031	1 Year	2024/10/12
Loop Antenna	R&S	HFH2-Z2E	PWB0026	1 Year	2024/10/21
k Type Horn Antenna	Steatite Antennas	QMS-00880	PWB0035	1 Year	2024/10/17
Horn Antenna	Steatite Antennas	QMS-00208	PWB0033	1 Year	2024/10/21
Pre-Amplifier	R&S	SCU08F1	PWB0030	1 Year	2024/10/11
Pre-Amplifier	R&S	SCU40F1	PWB0036	1 Year	2024/10/11
Pre-Amplifier	R&S	OSP220 (OSP-B155G)	PWB0042	1 Year	2024/10/13
Pre-Amplifier	R&S	SCU18F	PWB0034	1 Year	2024/10/11
Pre-Amplifier	COM-MW	DLNA8	PWB0094	1 Year	2024/11/08
Anechoic Chamber	ETS.LINDGREN	Fact 3-2m	PWB0003	3 Years	2026/06/05
Test Software	R&S	ELEKTRA 4.20.2	/	/	/

3.3 Test Uncertainty

No.	Parameter	Uncertainty
1	Maximum transmit power	0.677dB
2	Frequency error	37.064Hz
3	Bandwidth occupied	5.9kHz
4	Emission spurious, Band edge and PAPR	10Hz-3.5GHz: 0.982dB 3.5GHz-18GHz: 1dB 18GHz-26.5GHz: 0.777dB 26.5GHz-40GHz: 1.066dB
5	Radiated Spurious Emission	Below 1GHz: 4.88 dB Above 1GH: 5.06 dB
6	Temperature	3°C
7	Humidity	1.3 %
8	Supply voltages	0.006 V

4 Test Items Description

Test Results

See Appendix A.

----- THE END -----

ANNEX A: Test Results

For detailed test data, please refer to the original report number which is issued separately.

Test Report No.	Original Report No.
PD20240089-R3A	2211RSU034-U1
	2211RSU034-U2
	2211RSU034-U3
	2211RSU034-U4
	2211RSU034-U5

ANNEX B: The EUT Appearance

The EUT Appearance (internal and external photographs) are submitted separately.

ANNEX C: Test Setup Photographs

The Test Setup Photographs are submitted separately.