

RF Exposure Evaluation Report

Application No.: SUCR2511001108MO
Applicant: Quectel Wireless Solutions Co., Ltd.
Address of Applicant: No.8 Waipojing Road, Sijing Town, Songjiang District, Shanghai 201601, China
Manufacturer: Quectel Wireless Solutions Co., Ltd.
Address of Manufacturer: No.8 Waipojing Road, Sijing Town, Songjiang District, Shanghai 201601, China
EUT Description: LTE Cat 1bis Module
Model No.: EG800AK-GL
Trade Mark: QUECTEL
FCC ID: XMR2025EG800AKGL
Standards: FCC Rules 47 CFR §2.1091
KDB 447498 D04 interim General RF Exposure Guidance v01
Date of Receipt: 2025-11-10
Date of Issue: 2026-07-17

Test Result:	PASS*
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* In the configuration tested, the EUT complied with the standards specified above.

This report supersedes our previous report SUCR251100110803 issued on 2025-12-18, which is hereby deemed null void.

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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Revision Record			
Version	Description	Date	Remark
00	Original	2025-12-18	/
01	Updated the TCB comments	2026-07-17	Amendment

Authorized for issue by:			
Tested By		Nature Shen	
		Nature Shen/Project Engineer	
Approved By		Cedar cheng	
		Cedar Cheng /Reviewer	

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1 General Information

1.1 Client Information

Applicant:	Quectel Wireless Solutions Co., Ltd.
Address of Applicant:	No.8 Waipojing Road, Sijing Town, Songjiang District, Shanghai 201601, China
Manufacturer:	Quectel Wireless Solutions Co., Ltd.
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1.2 General Description of EUT

Hardware Version:	R1.0 R1.1			
Software Version:	EG800AKGL11LCR07A05M04 EG800AKGL00LCR07A05M02			
Antenna Type:	Dipole Antenna			
Antenna Gain:	LTE Cat1 Bis Band 2:	1.59 dBi	LTE Cat1 Bis Band 4:	2 dBi
	LTE Cat1 Bis Band 5:	2.13 dBi	LTE Cat1 Bis Band 7:	3 dBi
	LTE Cat1 Bis Band 12:	3.26 dBi	LTE Cat1 Bis Band 13:	4.45 dBi
	LTE Cat1 Bis Band 14:	3.63 dBi	LTE Cat1 Bis Band 17:	3.26 dBi
	LTE Cat1 Bis Band 25:	1.59 dBi	LTE Cat1 Bis Band 26:	2.53 dBi
	LTE Cat1 Bis Band 38:	2.06 dBi	LTE Cat1 Bis Band 41:	3 dBi
	LTE Cat1 Bis Band 66:	2 dBi	LTE Cat1 Bis Band 71:	1.32 dBi
	Note: The antenna gain are derived from the gain information report provided by the manufacturer.			
Remark: 1.As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information. 2.The EG800AK-GL has two variants that differ only in the FLASH size of the BB chip, with no impact on RF performance.				

2 RF Exposure Evaluation

2.1 RF Exposure Compliance Requirement

2.1.1 Limits

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	f/300	6
1500-100,000	/	/	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

F=frequency in MHz
 *=Plane-wave equivalent power density
 RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).

Friis Formula

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 1 mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2.1.2 Test Procedure

Software provided by client enabled the EUT to transmit data at lowest, middle and highest channel individually

2.1.3 EUT RF Exposure Evaluation

Output Power Into Antenna & RF Exposure Evaluation Distance:

This confirmed that the device comply with MPE limit.

Operating Band	Frequency (MHz)	Antenna Gain (dBi)	Max Conducted Power (dBm)	EIRP(E RP) (dBm)	EIRP(E RP) Limit (dBm)	Power Density at R = 20 cm (mW/c m2)	Limit (mW/c m2)	Gain according to EIRP(ERP) (dBi)	Gain according to Pd (dBi)	Max Gain Allowed (dBi)	conclusion
LTE Cat1 Bis Band 2	1850.70	1.59	25.00	26.59	33.00	0.0907	1.0000	8.00	12.01	8.00	Pass
LTE Cat1 Bis Band 4	1710.70	2.00	25.00	27.00	30.00	0.0997	1.0000	5.00	12.01	5.00	Pass
LTE Cat1 Bis Band 5	824.70	2.13	25.00	24.98	38.45	0.1027	0.5498	15.60	9.41	9.41	Pass
LTE Cat1 Bis Band 7	2502.50	3.00	25.00	28.00	33.00	0.1255	1.0000	8.00	12.01	8.00	Pass
LTE Cat1 Bis Band 12	699.70	3.26	25.00	26.11	34.77	0.1333	0.4665	11.92	8.70	8.70	Pass
LTE Cat1 Bis Band 13	779.50	4.45	25.00	27.30	34.77	0.1753	0.5197	11.92	9.16	9.16	Pass
LTE Cat1 Bis Band 14	790.50	3.63	25.00	26.48	34.77	0.1451	0.5270	11.92	9.23	9.23	Pass
LTE Cat1 Bis Band 17	706.50	3.26	25.00	26.11	34.77	0.1333	0.4710	11.92	8.74	8.74	Pass
LTE Cat1 Bis Band 25	1850.70	1.59	25.00	26.59	33.00	0.0907	1.0000	8.00	12.01	8.00	Pass
LTE Cat1 Bis Band 26 (814-824)	814.70	2.53	25.00	25.38	NA	0.1126	0.5431	NA	9.36	9.36	Pass
LTE Cat1 Bis Band 26 (824-849)	824.70	2.53	25.00	25.38	38.45	0.1126	0.5498	15.60	9.41	9.41	Pass
LTE Cat1 Bis Band 38	2572.50	2.06	25.00	27.06	33.00	0.1011	1.0000	8.00	12.01	8.00	Pass
LTE Cat1 Bis Band 41	2498.50	3.00	25.00	28.00	33.00	0.1255	1.0000	8.00	12.01	8.00	Pass
LTE Cat1 Bis Band 66	1710.70	2.00	25.00	27.00	30.00	0.0997	1.0000	5.00	12.01	5.00	Pass
LTE Cat1 Bis Band 71	665.50	1.32	25.00	24.17	34.77	0.0853	0.4437	11.92	8.48	8.48	Pass

---End of Report---