

TEST REPORT

Applicant: UCLOUDLINK (SINGAPORE) PTE. LTD
Address: 80 ROBINSON ROAD #02-00, SINGAPORE
Equipment Type: 5G Wireless Router
Model Name: GLMR23A02
Brand Name: GlocalMe
FCC ID: 2BB6E-GLMR23A02
Test Standard: 47 CFR Part 2.1091
KDB 447498 D04 v01
Sample Arrival Date: Mar. 18, 2024
Test Date: Mar. 29, 2024 - May 08, 2024
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ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

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(Testing Director)

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Revision History

<u>Version</u>	<u>Issue Date</u>	<u>Revisions Content</u>
<u>Rev. 01</u>	<u>May 17, 2024</u>	<u>Initial Issue</u>

TABLE OF CONTENTS

1	GENERAL INFORMATION	3
1.1	Test Laboratory	3
1.2	Test Location	3
2	PRODUCT INFORMATION	4
2.1	Applicant Information	4
2.2	Manufacturer Information	4
2.3	General Description for Equipment under Test (EUT)	4
2.4	Technical Information	5
3	SUMMARY OF TEST RESULT	8
3.1	Test Standards	8
4	DEVICE CATEGORY AND LEVELS LIMITS	9
5	ASSESSMENT RESULT	11
5.1	Output Power	11
5.2	Tune-up power	14
5.3	RF Exposure Evaluation Result	16
5.4	Collocated Power Calculation	18
5.5	Conclusion	18

1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	☒ Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	☐ 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	U-CLOUDLINK (SINGAPORE) PTE. LTD
Address	80 ROBINSON ROAD #02-00, SINGAPORE

2.2 Manufacturer Information

Manufacturer	U-CLOUDLINK (SINGAPORE) PTE. LTD
Address	80 ROBINSON ROAD #02-00, SINGAPORE

2.3 General Description for Equipment under Test (EUT)

EUT Name	5G Wireless Router
Model Name Under Test	GLMR23A02
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	N/A
Software Version	N/A
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Technical Information

Network and Wireless connectivity	EC25-AFXD 3G Network WCDMA/HSDPA/HSUPA/DC-HSUPA/HSPA+ Band 2/4/5 RM520N-GL 3G Network WCDMA/HSDPA/HSUPA/DC-HSUPA/HSPA+ Band 2/4/5 EC25-AFXD 4G Network LTE FDD Band 2/4/5/12/13/14/66/71 RM520N-GL 4G Network LTE FDD Band 2/4/5/7/12/13/14/17/25/26/30/66/71 LTE TDD Band 38/41/42/43/48 LTE CA Uplink (UL): CA_2C, CA_5B, CA_7C, CA_38C, CA_41C, CA_43C, CA_66C, CA_66B, CA_48C, CA_42C, CA_2A-4A, CA_2A-5A, CA_2A-7A, CA_2A-12A, CA_2A-13A, CA_2A-30A, CA_2A-66A, CA_4A-5A, CA_4A-7A, CA_4A-12A, CA_4A-13A, CA_4A-30A, CA_5A-7A, CA_5A-30A, CA_5A-66A, CA_12A-30A, CA_12A-66A, CA_13A-66A, CA_14A-30A RM520N-GL 5G Network NR: SA n2/n5/n7/n12/n13/n14/n25/n26/n30/n38/n41/n48/n66/n70/n71/n77/n78 SA UL MIMO: n41/n77/n78 NSA(EN-DC): DC_13A_n66A, DC_5A_n2A, DC_14A_n2A, DC_30A_n2A, DC_2A_n5A, DC_30A_n5A, DC_66A_n5A, DC_2A_n12A, DC_66A_n12A, DC_2A_n66A, DC_5A_n66A, DC_12A_n66A, DC_14A_n66A: DC_30A_n66A, DC_12A_n2A, DC_66A_n2A, DC_71A_n2A, DC_12A_n41A, DC_71A_n66A: DC_2A_n71A DC_66A_n71A, DC_66A_n25A, DC_25A_n41A, DC_12A_n78A, DC_13A_n78A DC_25A_n78A, DC_12A_n77A: DC_13A_n77A, DC_14A_n77A, DC_26A_n78A DC_2A_n78A, DC_26A_n41A, DC_2A_n41A, DC_7A_n5A, DC_38A_n78A DC_7A_n71A: DC_41A_n78A: DC_5A_n7A: DC_12A_n7A, DC_66A_n7A DC_13A_n2A, DC_48A_n5A, DC_48A_n66A, DC_7A_n66A, DC_2A_n48A DC_5A_n48A, DC_13A_n48A, DC_66A_n48A, DC_4A_n78A, DC_20A_n77A DC_5A_n78A, DC_4A_n41A, DC_66A_n38A, DC_2A_n38A, DC_12A_n38A DC_4A_n38A, DC_5A_n38A, DC_66A_n78A, DC_12A_n25A, DC_25A_n77A DC_2A_n77A, DC_71A_n78A, DC_71A_n38A, DC_13A_n7A, DC_5A_n41A DC_66A_n41A, DC_2A_n7A, DC_7A_n2A, DC_5A_n40A, DC_30A_n77A DC_41A_n77A, DC_7A_n78A: DC_48A_n25A, DC_66A_n28A: DC_71A_n41A DC_28A_n66A, DC_30A_n12A, DC_2A_n14A, DC_30A_n14A, DC_66A_n14A DC_2A_n30A, DC_5A_n30A, DC_12A_n30A, DC_14A_n30A, DC_66A_n30A DC_71A_n7A, DC_7A_n12A, DC_5A_n77A, DC_66A_n77A, DC_71A_n77A DC_4A_n2A, DC_7A_n25A, DC_71A_n25A, DC_5A_n25A, DC_26A_n25A,
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	DC_4A_n7A, DC_13A_n25A, DC_7A_n77A, DC_48A_n71A, DC_48A_n12A WIFI 802.11a, 802.11b, 802.11g, 802.11n, 802.11ac and 802.11ax U-NII-1/3
About the Product	The equipment is 5G Wireless Router, intended for used with information technology equipment. The equipment equipped with two WWAN modules namely EC25-EUX and RM520N-GL.

The requirement for the following technical information of the EUT was tested in this report:

Operating Mode	WCDMA, LTE, NR, 2.4G WLAN, 5G WLAN		
Frequency Range	WWAN EC25-AFXD		
	WCDMA Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	WCDMA Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	LTE Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	LTE Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 12	TX: 699 ~ 716 MHz	RX: 729 ~ 746 MHz
	LTE Band 13	TX: 777 ~ 787 MHz	RX: 746 ~ 756 MHz
	LTE Band 14	TX: 788 ~ 798 MHz	RX: 758 ~ 768 MHz
	LTE Band 66	TX: 1710 ~ 1780 MHz	RX: 2110 ~ 2200 MHz
	LTE Band 71	TX: 663 ~ 698 MHz	RX: 617 ~ 652 MHz
	WWAN RM520N-GL		
	WCDMA Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	WCDMA Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	LTE Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	LTE Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 7	TX: 2500 ~ 2570 MHz	RX: 2620 ~ 2690 MHz
	LTE Band 12	TX: 699 ~ 716 MHz	RX: 729 ~ 746 MHz
	LTE Band 13	TX: 777 ~ 787 MHz	RX: 746 ~ 756 MHz
	LTE Band 14	TX: 788 ~ 798 MHz	RX: 758 ~ 768 MHz
	LTE Band 17	TX: 704 ~ 716 MHz	RX: 734 ~ 746 MHz
	LTE Band 25	TX: 1850 ~ 1915 MHz	RX: 1930 ~ 1995 MHz
	LTE Band 26	TX: 814 ~ 824 MHz & 824 ~ 849 MHz	RX: 859 ~ 869 MHz & 869 ~ 894 MHz
	LTE Band 30	TX: 2305 ~ 2315 MHz	RX: 2350 ~ 2360 MHz
	LTE Band 66	TX: 1710 ~ 1780 MHz	RX: 2110 ~ 2200 MHz
	LTE Band 71	TX: 663 ~ 698 MHz	RX: 617 ~ 652 MHz
	LTE Band 38	TX: 2570 ~ 2620 MHz	RX: 2570 ~ 2620 MHz
	LTE Band 41	TX: 2496 ~ 2690 MHz	RX: 2496 ~ 2690 MHz
	LTE Band 42	TX: 3450 ~ 3550 MHz	RX: 3450 ~ 3550 MHz

	LTE Band 43	TX: 3700 ~ 3800 MHz	RX: 3700 ~ 3800 MHz
	LTE Band 48	TX: 3550 ~ 3700 MHz	RX: 3550 ~ 3700 MHz
	NR n2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	NR n5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	NR n7	TX: 2500 ~ 2570 MHz	RX: 2620 ~ 2690 MHz
	NR n12	TX: 699 ~ 716 MHz	RX: 729 ~ 746 MHz
	NR n13	TX: 777 ~ 787 MHz	RX: 746 ~ 756 MHz
	NR n14	TX: 788 ~ 798 MHz	RX: 758 ~ 768 MHz
	NR n25	TX: 1850 ~ 1915 MHz	RX: 1930 ~ 1995 MHz
	NR n26	TX: 814 ~ 824 MHz & 824 ~ 849 MHz	RX: 859 ~ 869 MHz & 869 ~ 894 MHz
	NR n30	TX: 2305 ~ 2315 MHz	RX: 2350 ~ 2360 MHz
	NR n38	TX: 2570 ~ 2620 MHz	RX: 2570 ~ 2620 MHz
	NR n41	TX: 2496 ~ 2690 MHz	RX: 2496 ~ 2690 MHz
	NR n 66	TX: 1710 ~ 1780 MHz	RX: 2110 ~ 2180 MHz
	NR n48	TX: 3550 ~ 3700 MHz	RX: 3550 ~ 3700 MHz
	NR n70	TX: 1695 ~ 1710 MHz	RX: 1995 ~ 2020 MHz
	NR n71	TX: 663 ~ 698 MHz	RX: 617 ~ 652 MHz
	NR n77	TX: 3450 ~ 3550 MHz & 3700 ~ 3980MHz	RX: 3450 ~ 3550 MHz & 3700 ~ 3980MHz
	NR n78	TX: 3450 ~ 3550 MHz & 3700 ~ 3800MHz	RX: 3450 ~ 3550 MHz & 3700 ~ 3800MHz
	WLAN		
	802.11b/g /n(HT20/HT40)	2412 ~ 2462 MHz	
	802.11ax (HE20/HE40)	2412 ~ 2462 MHz	
	802.11a	5150 ~ 5250 MHz	
		5725 ~ 5850 MHz	
	802.11 n(HT20/HT40)	5150 ~ 5250 MHz	
		5725 ~ 5850 MHz	
802.11ac(VHT20/ VHT40/VHT80)	5150 ~ 5250 MHz		
	5725 ~ 5850 MHz		
802.11ax (HE20/HE40/HE80)	5150 ~ 5250 MHz		
	5725 ~ 5850 MHz		
Antenna Type	WWAN EC25-AFXD	PIFA Antenna	
	WWAN RM520N-GL	Dipole Antenna	
	WLAN	PIFA Antenna	
Exposure Category	General Population/Uncontrolled Exposure		
Product Type	Mobile Device		

3 SUMMARY OF TEST RESULT

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 2.1091	Radiofrequency radiation exposure evaluation: mobile devices
2	KDB 447498 D04 v01	447498 D04 Interim General RF Exposure Guidance v01

4 DEVICE CATEGORY AND LEVELS LIMITS

Mobile Devices:

CFR Title 47 §2.1091(b)

For purposes of this section, a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons.

FCC KDB 447498 D04 General RF Exposure Guidance v01 Limit

Evaluation of compliance with the exposure limits in § 1.1310 is necessary if the ERP of the device is greater than ERP_{20cm} in Formula (B.1) [repeated from § 2.1091(c)(1) and § 1.1307(b)(1)(i)(B)].

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

If the ERP is not easily obtained, then the available maximum time-averaged power may be used (i. e., without consideration of ERP only if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole.

SAR-based exemptions are constant at separation distances between 20 cm and 40 cm to avoid discontinuities in the threshold when transitioning between SAR-based and MPE-based exemption criteria at 40 cm, considering the importance of reflections.

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold P_{th} (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula (B.2).

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B. 2})$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1).
The example values shown in Table B.2 are for illustration only.

Table B.2—Example Power Thresholds (mW)

Frequency (MHz)	Distance (mm)										
		5	10	15	20	25	30	35	40	45	50
300		39	65	88	110	129	148	166	184	201	217
450		22	44	67	89	112	135	158	180	203	226
835		9	25	44	66	90	116	145	175	207	240
1900		3	12	26	44	66	92	122	157	195	236
2450		3	10	22	38	59	83	111	143	179	219
3600		2	8	18	32	49	71	96	125	158	195
5800		1	6	14	25	40	58	80	106	136	169

5 ASSESSMENT RESULT

5.1 Output Power

WCDMA-EC25-AFXD			
Mode	Band 2	Band 4	Band 5
Conducted Power (dBm)	23.17	23.39	23.01
Antenna Gain (dBi)	1.68	2.34	3.45
EIRP/ERP (dBm)	24.85	25.73	24.31
Note: This report listed the worst case conducted power value, please refer to BL-SZ2430942-501 for more details.			

LTE-EC25-AFXD								
Mode	Band 2	Band 4	Band 5	Band 12	Band 13	Band 14	Band 66	Band 71
Conducted Power (dBm)	23.85	23.72	23.61	23.74	23.85	23.90	23.82	23.47
Antenna Gain (dBi)	1.68	2.34	3.45	0.43	3.79	3.79	2.34	0.20
EIRP/ERP (dBm)	25.53	26.06	24.91	22.02	25.49	25.54	26.16	23.67
Note: This report listed the worst case conducted power value, please refer to BL-SZ2430942-501 for more details.								

WCDMA-RM520N-GL			
Mode	Band 2	Band 4	Band 5
Conducted Power (dBm)	24.71	23.65	24.33
Antenna Gain (dBi)	2.00	2.80	-0.01
EIRP/ERP (dBm)	26.71	26.45	24.32
Note: This report listed the worst case conducted power value, please refer to BL-SZ2430942-502 for more details.			

LTE-RM520N-GL							
Mode	Band 2	Band 4	Band 5	Band 7	Band 12	Band 13	Band 14
Conducted Power (dBm)	24.09	24.18	24.80	24.09	24.00	23.94	24.13
Antenna Gain (dBi)	2.00	2.80	-0.01	2.97	-0.14	-0.29	-0.28
EIRP/ERP (dBm)	26.09	26.98	24.79	27.06	23.86	23.65	23.85
Mode	Band 17	Band 25	Band 26 (814 ~ 824 MHz)	Band 26 (824 ~ 849 MHz)	Band 30	Band 38	
Conducted Power (dBm)	24.14	23.99	23.96	22.83	22.24	24.47	
Antenna Gain (dBi)	-0.14	2.00	-0.01	-0.01	1.05	2.14	
EIRP/ERP (dBm)	24.00	25.99	23.95	22.82	23.29	26.61	
Mode	Band 41	Band 42	Band 43	Band 48	Band 66	Band 71	
Conducted Power (dBm)	25.48	21.29	21.14	21.24	24.23	21.24	
Antenna Gain (dBi)	2.98	2.20	0.21	0.29	2.80	-0.60	
EIRP/ERP (dBm)	28.46	23.49	21.35	21.53	27.03	20.64	
Note: This report listed the worst case conducted power value, please refer to BL-SZ2430942-502 for more details.							

NR-RM520N-GL				
Mode	n2	n5	n7	n12
Conducted Power (dBm)	24.63	24.59	24.51	24.59
Antenna Gain (dBi)	2.00	-0.01	2.97	-0.14
EIRP/ERP (dBm)	26.63	24.58	27.48	24.45
Mode	n13	n14	n25	n26 (814 ~ 824 MHz)
Conducted Power (dBm)	24.11	24.41	23.50	24.34
Antenna Gain (dBi)	-0.29	-0.28	2.00	-0.01
EIRP/ERP (dBm)	23.82	24.13	25.50	24.33
Mode	n26 (824 ~ 849 MHz)	n30	n38	n41
Conducted Power (dBm)	24.52	22.32	24.95	26.35
Antenna Gain (dBi)	-0.01	1.05	2.14	2.98
EIRP/ERP (dBm)	24.51	23.37	27.09	29.33
Mode	n66	n48	n70	n71
Conducted Power (dBm)	24.69	21.49	23.09	24.57
Antenna Gain (dBi)	2.80	0.29	2.42	-0.60
EIRP/ERP (dBm)	27.49	21.78	25.51	23.97
Mode	n77 (3450~3550 MHz)	n77 (3700 ~ 3980 MHz)	n78 (3450 ~ 3550 MHz)	n78 (3700 ~ 3800 MHz)
Conducted Power (dBm)	26.68	26.49	26.49	26.85
Antenna Gain (dBi)	2.20	0.21	2.20	0.21
EIRP/ERP (dBm)	28.88	26.70	28.69	27.06
Note: This report listed the worst case conducted power value, please refer to BL-SZ2430942-502 for more details.				

2.4G WIFI			
Mode	SISO-Antenna 1	SISO-Antenna 2	MIMO
Conducted Power (dBm)	15.90	15.57	16.67
Antenna Gain (dBi)	3.33	2.37	2.88
EIRP (dBm)	19.23	17.94	19.55
Note: This report listed the worst case conducted power value, please refer to BL-SZ2430942-601 for more details.			

5.2G WIFI			
Mode	SISO-Antenna 1	SISO-Antenna 2	MIMO
Conducted Power (dBm)	14.93	14.83	14.43
Antenna Gain (dBi)	0.82	0.25	0.54
EIRP (dBm)	15.75	15.08	14.97
5.8G WIFI			
Mode	SISO-Antenna 1	SISO-Antenna 2	MIMO
Conducted Power (dBm)	14.94	14.89	14.51
Antenna Gain (dBi)	1.87	2.94	2.44
EIRP (dBm)	16.81	17.83	16.95
Note: This report listed the worst case conducted power value, please refer to BL-SZ2430942-602 for more details.			

5.2 Tune-up power

Mode		Conducted Power Range (dBm)	EIRP Range (dBm)	ERP Range (dBm)
WCDMA (EC25-AFXD)	Band 2	[21.50, 23.50]	[23.18, 25.18]	[21.03, 23.03]
	Band 4	[21.50, 23.50]	[23.84, 25.84]	[21.69, 23.69]
	Band 5	[21.50, 23.50]	/	[22.80, 24.80]
LTE (EC25-AFXD)	Band 2	[22.00, 24.00]	[23.68, 25.68]	[21.53, 23.53]
	Band 4	[22.00, 24.00]	[24.34, 26.34]	[22.19, 24.19]
	Band 5	[22.00, 24.00]	/	[23.30, 25.30]
	Band 12	[22.00, 24.00]	/	[20.28, 22.28]
	Band 13	[22.00, 24.00]	/	[23.64, 25.64]
	Band 14	[22.00, 24.00]	/	[23.64, 25.64]
	Band 66	[22.00, 24.00]	[24.34, 26.34]	[22.19, 24.19]
	Band 71	[22.00, 24.00]	[22.20, 24.20]	[20.05, 22.05]
WCDMA (RM520N-GL)	Band 2	[23.00, 25.00]	[25.00, 27.00]	[22.85, 24.85]
	Band 4	[22.00, 24.00]	[24.80, 26.80]	[22.65, 24.65]
	Band 5	[22.50, 24.50]	/	[20.34, 22.34]
LTE (RM520N-GL)	Band 2	[22.50, 24.50]	[24.50, 26.50]	[22.35, 24.35]
	Band 4	[22.50, 24.50]	[25.30, 27.30]	[23.15, 25.15]
	Band 5	[23.00, 25.00]	/	[20.84, 22.84]
	Band 7	[22.50, 24.50]	[25.47, 27.47]	[23.32, 25.32]
	Band 12	[22.50, 24.50]	/	[19.71, 21.71]
	Band 13	[22.00, 24.00]	/	[19.56, 21.56]
	Band 14	[22.50, 24.50]	/	[20.07, 22.07]
	Band 17	[22.50, 24.50]	/	[20.21, 22.21]
	Band 25	[22.00, 24.00]	[24.00, 26.00]	[21.85, 23.85]
	Band 26 (814 ~ 824 MHz)	[22.00, 24.00]	/	[19.84, 21.84]
	Band 26 (824 ~ 849 MHz)	[21.00, 23.00]	/	[18.84, 20.84]
	Band 30	[20.50, 22.50]	[21.55, 23.55]	[19.40, 21.40]
	Band 38	[22.50, 24.50]	[24.64, 26.64]	[22.49, 24.49]
	Band 41	[23.50, 25.50]	[26.48, 28.48]	[24.33, 26.33]
	Band 42	[19.50, 21.50]	[21.70, 23.70]	[19.55, 21.55]
	Band 43	[19.50, 21.50]	[19.71, 21.71]	[17.56, 19.56]
	Band 48	[19.50, 21.50]	[19.79, 21.79]	[17.64, 19.64]
	Band 66	[22.50, 24.50]	[25.30, 27.30]	[23.15, 25.15]
	Band 71	[19.50, 21.50]	[18.90, 20.90]	[16.75, 18.75]
NR (RM520N-GL)	n2	[23.00, 25.00]	[25.00, 27.00]	[22.85, 24.85]
	n5	[23.00, 25.00]	/	[20.84, 22.84]
	n7	[23.00, 25.00]	[25.97, 27.97]	[23.82, 25.82]
	n12	[23.00, 25.00]	/	[20.71, 22.71]

	n13	[22.50, 24.50]	/	[20.06, 22.06]
	n14	[22.50, 24.50]	/	[20.07, 22.07]
	n25	[22.00, 24.00]	[24.00, 26.00]	[21.85, 23.85]
	n26 (814 ~ 824 MHz)	[22.50, 24.50]	/	[19.84, 21.84]
	n26 (824 ~ 849 MHz)	[23.00, 25.00]	/	[18.84, 20.84]
	n30	[20.50, 22.50]	[21.55, 23.55]	[19.40, 21.40]
	n38	[23.00, 25.00]	[25.14, 27.14]	[22.99, 24.99]
	n41	[24.50, 26.50]	[27.48, 29.48]	[25.33, 27.33]
	n66	[23.00, 25.00]	[25.80, 27.80]	[23.65, 25.65]
	n48	[19.50, 21.50]	[19.79, 21.79]	[17.64, 19.64]
	n70	[21.50, 23.50]	[23.92, 25.92]	[21.77, 23.77]
	n71	[23.00, 25.00]	/	[20.25, 22.25]
	n77 (3450~3550MHz)	[25.00, 27.00]	[27.20, 29.20]	[25.05, 27.05]
	n77 (3700 ~ 3980MHz)	[24.50, 26.50]	[24.71, 26.71]	[22.56, 24.56]
	n78 (3450 ~ 3550MHz)	[24.50, 26.50]	[26.70, 28.70]	[24.55, 26.55]
	n78 (3700 ~ 3800MHz)	[25.00, 27.00]	[25.21, 27.21]	[23.06, 25.06]
2.4G WIFI	SISO-Antenna 1	[14.00, 16.00]	[17.33, 19.33]	[15.18, 17.18]
	SISO-Antenna 2	[14.00, 16.00]	[16.37, 18.37]	[14.22, 16.22]
	MIMO	[23.00, 25.00]	[25.88, 27.88]	[23.73, 25.73]
5.2G WIFI	SISO-Antenna 1	[13.00, 15.00]	[13.82, 15.82]	[11.67, 13.67]
	SISO-Antenna 2	[13.00, 15.00]	[13.25, 15.25]	[11.10, 13.10]
	MIMO	[12.50, 14.50]	[12.04, 15.04]	[10.89, 12.89]
5.8G WIFI	SISO-Antenna 1	[13.00, 15.00]	[14.87, 16.87]	[12.72, 14.72]
	SISO-Antenna 2	[13.00, 15.00]	[15.94, 17.94]	[13.79, 15.79]
	MIMO	[13.00, 15.00]	[15.44, 17.44]	[13.29, 15.29]
Note1: ERP= EIRP -2.15dB.				
Note2: According KDB 447498 D04, used the greater of maximum conducted power and ERP to compare with the threshold value Pth.				

5.3 RF Exposure Evaluation Result

Evolution mode		Maximum power (dBm)	Maximum power (mw)	Distance (mm)	Threshold Power (mW)	Power / Limit	Verdict
WCDMA (EC25-AFXD)	Band 2	23.50	223.87	20.00	3060.00	0.073	Pass
	Band 4	23.69	233.88	20.00	3060.00	0.076	Pass
	Band 5	24.80	302.00	20.00	1680.96	0.180	Pass
LTE (EC25-AFXD)	Band 2	24.00	251.19	20.00	3060.00	0.082	Pass
	Band 4	24.19	262.42	20.00	3060.00	0.086	Pass
	Band 5	25.30	338.84	20.00	1680.96	0.202	Pass
	Band 12	24.00	251.19	20.00	1425.96	0.176	Pass
	Band 13	25.64	366.44	20.00	1585.08	0.231	Pass
	Band 14	25.64	366.44	20.00	1607.52	0.228	Pass
	Band 66	24.19	262.42	20.00	3060.00	0.086	Pass
	Band 71	24.00	251.19	20.00	1352.52	0.186	Pass
WCDMA (RM520N-GL)	Band 2	25.00	316.23	20.00	3060.00	0.103	Pass
	Band 4	24.65	291.74	20.00	3060.00	0.095	Pass
	Band 5	24.50	281.84	20.00	1680.96	0.168	Pass
LTE (RM520N-GL)	Band 2	24.50	281.84	20.00	3060.00	0.092	Pass
	Band 4	25.15	327.34	20.00	3060.00	0.107	Pass
	Band 5	25.00	316.23	20.00	1680.96	0.188	Pass
	Band 7	25.32	340.41	20.00	3060.00	0.111	Pass
	Band 12	24.50	281.84	20.00	1425.96	0.198	Pass
	Band 13	24.00	251.19	20.00	1585.08	0.158	Pass
	Band 14	24.50	281.84	20.00	1607.52	0.175	Pass
	Band 17	24.50	281.84	20.00	1436.16	0.196	Pass
	Band 25	24.00	251.19	20.00	3060.00	0.082	Pass
	Band 26 (814 ~ 824 MHz)	24.00	251.19	20.00	1660.56	0.151	Pass
	Band 26 (824 ~ 849 MHz)	23.00	199.53	20.00	1680.96	0.119	Pass
	Band 30	22.50	177.83	20.00	3060.00	0.058	Pass
	Band 38	24.50	281.84	20.00	3060.00	0.092	Pass
	Band 41	26.33	429.54	20.00	3060.00	0.140	Pass
	Band 42	21.55	142.89	20.00	3060.00	0.047	Pass
	Band 43	21.50	141.25	20.00	3060.00	0.046	Pass
	Band 48	21.50	141.25	20.00	3060.00	0.046	Pass
	Band 66	25.15	327.34	20.00	3060.00	0.107	Pass
	Band 71	21.50	141.25	20.00	1352.52	0.104	Pass
NR (RM520N-GL)	n2	25.00	316.23	20.00	3060.00	0.103	Pass
	n5	25.00	316.23	20.00	1680.96	0.188	Pass

	n7	25.82	381.94	20.00	3060.00	0.125	Pass
	n12	25.00	316.23	20.00	1425.96	0.222	Pass
	n13	24.50	281.84	20.00	1585.08	0.178	Pass
	n14	24.50	281.84	20.00	1607.52	0.175	Pass
	n25	24.00	251.19	20.00	3060.00	0.082	Pass
	n26 (814 ~ 824 MHz)	24.50	281.84	20.00	1660.56	0.170	Pass
	n26 (824 ~ 849 MHz)	25.00	316.23	20.00	1680.96	0.188	Pass
	n30	22.50	177.83	20.00	3060.00	0.058	Pass
	n38	25.00	316.23	20.00	3060.00	0.103	Pass
	n41	27.33	540.75	20.00	3060.00	0.177	Pass
	n66	25.65	367.28	20.00	3060.00	0.120	Pass
	n48	21.50	141.25	20.00	3060.00	0.046	Pass
	n70	23.77	238.23	20.00	3060.00	0.078	Pass
	n71	25.00	316.23	20.00	1352.52	0.234	Pass
	n77 (3450~3550MHz)	27.05	506.99	20.00	3060.00	0.166	Pass
	n77 (3700 ~ 3980MHz)	26.50	446.68	20.00	3060.00	0.146	Pass
	n78 (3450 ~ 3550MHz)	26.55	451.86	20.00	3060.00	0.148	Pass
	n78 (3700 ~ 3800MHz)	27.00	501.19	20.00	3060.00	0.164	Pass
2.4G WIFI	SISO-Antenna 1	17.18	52.24	20.00	3060.00	0.017	Pass
	SISO-Antenna 2	16.22	41.88	20.00	3060.00	0.014	Pass
	MIMO	25.73	374.11	20.00	3060.00	0.122	Pass
5.2G WIFI	SISO-Antenna 1	15.00	31.62	20.00	3060.00	0.010	Pass
	SISO-Antenna 2	15.00	31.62	20.00	3060.00	0.010	Pass
	MIMO	14.50	28.18	20.00	3060.00	0.009	Pass
5.8G WIFI	SISO-Antenna 1	15.00	31.62	20.00	3060.00	0.010	Pass
	SISO-Antenna 2	15.79	37.93	20.00	3060.00	0.012	Pass
	MIMO	15.29	33.81	20.00	3060.00	0.011	Pass

5.4 Collocated Power Calculation

Evolution mode	Frequency (MHz)	Power /Limit	$\Sigma(\text{Power} / \text{Limit})$ of LTE Band 13 (EC25-AFXD) + NR n71 (RM520N-GL) + 2.4G WIFI + 5.8G WIFI	Verdict
LTE Band 13 (EC25-AFXD)	777 ~ 787	0.231	0.599	Pass
NR n71 (RM520N-GL)	663 ~ 698	0.234		
2.4G WIFI	2412 ~ 2462	0.122		
5.8G WIFI	5725 ~ 5850	0.012		

Note:

1. $\Sigma(\text{Power} / \text{Limit})$: This is a summation of [(power for each transmitter/ antenna included in the simultaneous transmission)/ (corresponding Power limit)], for LTE Band 13 (EC25-AFXD) + NR n71 (RM520N-GL) + 2.4G WIFI + 5.8G WIFI.
2. Both of the WLAN (EC25-AFXD)/WLAN(RM520N-GL)/WWAN 2.4G/WWAN 5G can transmit simultaneously, the formula of calculated the Power is

$$\text{CP1} / \text{LP1} + \text{CP2} / \text{LP2} + \dots \text{etc.} < 1$$

CP = Calculation power
LP = Limit of power
3. The worst-case situation is 0.599, which is less than “1”. This confirmed that the device comply with FCC KDB 447498 D04 Power limit.
4. The DUT work frequency range used is 777 MHz ~ 787 MHz, 663 MHz ~ 698 MHz, 2412 MHz ~ 2462 MHz, 5725 MHz ~ 5850 MHz the result close to the limit by the above formula, so we select worst case power to calculate the exclusion power threshold.
5. More power list please refer to RF test report.

5.5 Conclusion

This EUT is deemed to comply with the reference level limits, therefore the basic restrictions are compliant with human exposure limits.

Statement

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--END OF REPORT--