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Maximum Permissible Exposure Evaluation

FCC ID: 2BB6E-GLMX23A01

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) Radiation as specified in §1.1307(b)

EUT Specification

Product Name:	4G Wireless Data Terminal
Trade Mark:	GlocalMe
Model/Type reference:	GLMX23A01
Listed Model(s):	/
Frequency band (Operating)	WIFI: 2412MHz~2462MHz LTE FDD Band 2: UL: 1850.7MHz~1909.3MHz, DL: 1930.7MHz~1989.3MHz LTE FDD Band 5: UL: 824.7MHz~848.3MHz, DL: 869.7MHz~893.3MHz LTE FDD Band 12: UL: 699.7MHz~715.3MHz, DL: 729.7MHz~745.3MHz LTE FDD Band 13: UL: 779.5MHz~784.5MHz, DL: 748.5MHz~751.0MHz LTE FDD Band 17: UL: 706.5MHz~713.5MHz, DL: 736.5MHz~743.5MHz LTE FDD Band 25: UL: 1850.7MHz~1914.3MHz, DL: 1930.7MHz~1994.3MHz LTE FDD Band 26 (814~824MHz): UL: 814MHz~824MHz, DL: 859MHz~869MHz LTE FDD Band 26 (824~849MHz): UL: 824MHz~849MHz, DL: 869MHz~894MHz
Device category	☐ Portable (<5mm separation) ☐ Mobile (>20cm separation) ☒ Fixed (>20cm separation) ☐ Others ____
Exposure classification	☐ Occupational/Controlled exposure (S=5mW/cm ²) ☒ General Population/Uncontrolled exposure (S=1mW/cm ²)
Antenna diversity	☒ Single antenna ☐ Multiple antennas ☐ Tx diversity ☐ Rx diversity ☐ Tx/Rx diversity
Antenna gain	WIFI: -0.55dBi Max FDD Band 2: 1.16dBi Max FDD Band 5: -4.34dBi Max FDD Band 12: -5.61dBi Max FDD Band 13: -4.10dBi Max FDD Band 17: -5.61dBi Max FDD Band 25: 1.16dBi Max FDD Band 26 (814~824MHz): -4.10dBi Max FDD Band 26 (824~849MHz): -4.34dBi Max
Evaluation applied	☒ MPE Evaluation ☐ SAR Evaluation

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Limits for Maximum Permissible Exposure (MPE)

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density(mW/cm ²)	Average Time
(A) Limits for Occupational/Control Exposures				
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
300-1500	--	--	F/1500	30
1500-100000	--	--	1	30

F = frequency in MHz

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

Measurement Result

Only show the test data for worse case antenna on the test report.

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)	Verdict
802.11b	2437	-0.55	16.79	17±1	18	0.01425	1.000	PASS
802.11g	2437	-0.55	21.63	21±1	22	0.03579	1.000	PASS
802.11n(HT20)	2437	-0.55	21.19	21±1	22	0.03579	1.000	PASS
802.11n(HT40)	2437	-0.55	21.53	21±1	22	0.03579	1.000	PASS
LTE Band 2	1880	1.16	23.46	23±1	24	0.06527	1.000	PASS
LTE Band 5	829	-4.34	23.20	23±1	24	0.01840	0.553	PASS
LTE Band 12	704	-5.61	24.30	24±1	25	0.01729	0.469	PASS
LTE Band 13	784.5	-4.10	24.22	24±1	25	0.02448	0.523	PASS
LTE Band 17	709	-5.61	24.23	24±1	25	0.01729	0.473	PASS
LTE Band 25	1882.5	-1.16	23.76	24±1	25	0.04817	1.000	PASS
LTE Band 26 (814~824MHz)	819	-4.10	23.43	23±1	24	0.01944	0.546	PASS
LTE Band 26 (824~849MHz)	841.5	-4.34	23.45	23±1	24	0.01840	0.561	PASS



The LTE and WLAN can transmit simultaneously

LTE Band 2 Power density at 20cm (mW)	WLAN Power density at 20cm (mW)	Total Power density at 20cm(mW)	Limit	Verdict
0.06527	0.03579	0.10106	1	PASS

Total E-field strength = ((E-field strength)/ (Limit) + (E-field strength)/ (Limit)...) ≤ 1

Note:

For a more detailed features description, Please refer to the RF Test Report.

*****THE END*****