RF EXPOSURE EVALUATION REPORT

Applicant / Manufacturer	:	Shanghai MobileTek Communication Ltd.
Address	:	Free Trade Zone No. 33, No. 17 building 6H Xiya Road, China (Shanghai)
Factory	:	Shanghai MobileTek Communication Ltd.
Address	:	Free Trade Zone No. 33, No. 17 building 6H Xiya Road, China (Shanghai)
E.U.T.	:	GSM/GPRS+GNSS Module
Brand Name	:	LYNQ
Model No.	:	L218
FCC ID	:	2AK9DL218
Standard	:	47 CFR Part 2.1091
Date of Receiver	:	January 10, 2017
Date of Test	:	January 10, 2017 to February 20, 2017
Date of Report	:	February 20, 2017

This Test Report is Issued Under the Authority of :

Prepared by	Approved & Authorized Signer
Rose Hu / Engineer	Iori Fan / Authorized Signatory

Note: This test report is for the customer shown above and their specific product only. It may not be duplicated or used in part without prior written consent from Dongguan Nore Testing Center Co., Ltd. The test results referenced from this report are relevant only to the sample tested.

Revision History of This Test Report

Report Number	Description	Issued Date
NTC1702043FV00	Initial Issue	2017-02-20

1. Product Description of Equipment under Test

EUT	:	GSM/GPRS+GNSS Module
Model name	:	L218
Hardware Version	:	V1.0
Software Version	:	V1.0
Antenna Type	:	External antenna
Antenna Gain	:	3.0dBi for GSM850 3.0dBi for PCS1900
Operating Frequency Range	:	Cellular Band: 824.2-848.8MHz (TX) 869.2-893.8MHz(RX) PCS Band: 1850.2-1909.8MHz (TX) 1930.2-1989.8MHz(RX)
Exposure Category	:	Uncontrolled environment/general population
Device Category	:	Mobile (>20cm separation)
Evaluation applied	:	MPE Evaluation
Note	:	N/A

2. Test Facility and Location

Site Description

Lab	:	L Listed by FCC, July 03, 2014 The Certificate Registration Number is 665078. Listed by Industry Canada, June 18, 2014 The Certificate Registration Number is 9743A.
Name of Firm	:	Dongguan Nore Testing Center Co., Ltd. (Dongguan NTC Co., Ltd.)
Site Location	:	Building D, Gaosheng Science & Technology Park, Zhouxi Longxi Road, Nancheng District, Dongguan City, Guangdong Province, China

3. Maximum Permissible RF Exposure

According to FCC §1.1310: The criteria listed in Table 1 shall be used to evaluate the environmental Impact of human exposure to radio-frequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of §2.1093 of this chapter.

Table 1 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 (minutes)
(A) Limits for Occupational/Control 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
1500-100000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
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
1500-100000			1.0	30
f = frequency in MHz * = Plane-wave equivalent power density				

The MPE was calculated at **20cm** to show compliance with the power density limit.
The following formula was used to calculated the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:
S = Power Density in mW/cm2
P = Output Power to antenna in mw
G = Gain of antenna in linear scale.
R = Distance to centre of the antenna in cm.

4. Measurement Result

Band	Mode	Tune-up Tolerance Limit (dBm)	Antenna Gain (dBi)	Maximum EIRP (dBm)	Source-based time-Average EIRP (mW)	Power Density at 20cm (mW/cm^2)	Limit (mW/cm^2)
GSM 850	GMSK	33.5	3	36.5	558.47	0.2217	0.549
GPRS 850	slot 1	33.5	3	36.5	558.47	0.2217	0.549
GPRS 850	slot 2	33.0	3	36.0	995.4	0.3951	0.549
GPRS 850	slot 4	30.5	3	33.5	1119.44	**0.4444**	0.549
PCS 1900	GMSK	30.5	3	33.5	279.90	0.1111	1.000
GPRS 1900	slot 1	30.0	3	33.0	249.46	0.0990	1.000
GPRS 1900	slot 2	29.5	3	32.5	444.63	0.1765	1.000
GPRS 1900	slot 4	27.0	3	30.0	500.03	0.1985	1.000
Remark 1: Source-based time-Average EIRP = Maximum EIRP + Time Average factor Time Average factor: - 9.03dB (1 slot) / Time Average factor: - 6.02dB (2 slot) Time Average factor: - 3.01dB (4 slot) Remark 2: For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band.							

Conclusion:

According to the table, the max power density level at 20 cm is 0.4444mW/cm^2, which is below the uncontrolled exposure limit of 0.549mW/cm^2, therefore we can conclude it is into compliance.

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