

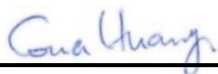
RF EXPOSURE EVALUATION REPORT

FCC ID : 2BF7TTX520GL
Equipment : CAT-M Module
Brand Name : THINGSX
Model Name : TX520-GL
Applicant : ThingsX Inc.
9442 Capital of Texas Hwy North, Plaza one,
Suite 500, Austin TX 78759
Standard : 47 CFR Part 2.1091

We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with 47 CFR Part2.1091 and it complies with applicable limit.

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 3786) and the FCC designation No. TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC evaluation.

The results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Laboratory, the test report shall not be reproduced except in full.



Approved by: Cona Huang / Deputy Manager



SPORTON INTERNATIONAL INC. Wensan Laboratory

No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan



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History of this test report

Report No.	Version	Description	Issued Date
FA3N3015-16	Rev. 01	Initial issue of report	Mar. 19, 2025

**1. Description of Equipment Under Test (EUT)**

Product Feature & Specification	
EUT Type	CAT-M Module
Brand Name	THINGSX
Model Name	TX520-GL
FCC ID	2BF7TTX520GL
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 85: 698 MHz ~ 716 MHz
Mode	GSM/GPRS/EGPRS LTE: QPSK, 16QAM

Host Information	
Equipment Name	Notebook PC
Brand Name	HP
Model Name	HSN-Q40C
EUT Stage	Production Unit

Reviewed by: Jason Wang**Report Producer: Carlie Tsai**

<Vendor 1 for TX520-GL_Thin>

Communication System	Band	Frequency(MHz) from low to high spectrum		1A Part Number for Antenna Assembly	1B Antenna Manufacturer Name	1C Description of Antenna Type	1D Tx Antenna Gain(dBi) Ant5
LTE Cat.M1	2	1850	1910	Ant5 : DQ602350601 (350-23506)	Vendor 1	PIFA	-0.67
LTE Cat.M1	4	1710	1755				0.06
GSM850 / LTE Cat.M1	5	824	849				-3.08
LTE Cat.M1	12	699	716				-1.19
LTE Cat.M1	13	777	787				-1.09
LTE Cat.M1	14	788	798				-1.98
GSM1900 / LTE Cat.M1	25	1850	1915				-0.67
LTE Cat.M1	26	814	849				-2.28
LTE Cat.M1	66	1710	1780				-0.51
LTE Cat.M1	85	698	716				-1.19

<Vendor 1 for TX520-GL_Thick>

Communication System	Band	Frequency(MHz) from low to high spectrum		1A Part Number for Antenna Assembly	1B Antenna Manufacturer Name	1C Description of Antenna Type	1D Tx Antenna Gain(dBi) Ant5
LTE Cat.M1	2	1850	1910	Ant5 : DQ602350501 (350-23505)	Vendor 1	PIFA	-0.09
LTE Cat.M1	4	1710	1755				0.9
GSM850 / LTE Cat.M1	5	824	849				-2.83
LTE Cat.M1	12	699	716				-0.66
LTE Cat.M1	13	777	787				-0.23
LTE Cat.M1	14	788	798				-1.41
GSM1900 / LTE Cat.M1	25	1850	1915				-0.09
LTE Cat.M1	26	814	849				-2.55
LTE Cat.M1	66	1710	1780				-1.08
LTE Cat.M1	85	698	716				-0.66

2. Maximum RF average output power among production units

Mode		Maximum Average power(dBm)
GSM	GSM850	34.50
	GSM1900	30.00
LTE	Band 2	22.00
	Band 4	22.00
	Band 5	22.00
	Band 12	22.00
	Band 13	22.00
	Band 14	22.00
	Band 25	22.00
	Band 26	22.00
	Band 66	22.00
	Band 85	22.00

3. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, 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 §1.1310.

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

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

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

Where:

S = Power Density

P = Output Power at Antenna Terminals

G = Gain of Transmit Antenna (linear gain)

R = Distance from Transmitting Antenna



4. Radio Frequency Radiation Exposure Evaluation

Band	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (W)	Maximum PG (mW)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)
GSM 850 (1 Tx slot)	-2.83	34.50	31.670	1.469	184.927	0.037	0.549
GSM 1900 (1 Tx slot)	-0.09	30.00	29.910	0.979	123.310	0.025	1.000
LTE Band 2	-0.09	22.00	21.910	0.155	155.239	0.031	1.000
LTE Band 4	0.90	22.00	22.900	0.195	194.984	0.039	1.000
LTE Band 5	-2.83	22.00	19.170	0.083	82.604	0.016	0.549
LTE Band 12	-0.66	22.00	21.340	0.136	136.144	0.027	0.466
LTE Band 13	-0.23	22.00	21.770	0.150	150.314	0.030	0.518
LTE Band 14	-1.41	22.00	20.590	0.115	114.551	0.023	0.525
LTE Band 25	-0.09	22.00	21.910	0.155	155.239	0.031	1.000
LTE Band 26	-2.28	22.00	19.720	0.094	93.756	0.019	0.543
LTE Band 66	-0.51	22.00	21.490	0.141	140.929	0.028	1.000
LTE Band 85	-0.66	22.00	21.340	0.136	136.144	0.027	0.465

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.