

MPE REPORT

FCC ID: 2AD55-CM5262

Date of issue: Jan. 04, 2019

Report Number:	MTi190102E008
Sample Description:	TWIST CUBE
Model(s):	CM5262
Applicant:	P.S.L. LIMITED
Address:	4B&F, Cheung Lung Ind. Bldg, 10 Cheung Yee Street, Cheung Sha Wan, Kowloon, Hong Kong
Date of Test:	Dec. 20, 2018 to Jan. 04, 2019

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>

TEST RESULT CERTIFICATION	
Applicant's name:	P.S.L. LIMITED
Address:	4B&F, Cheung Lung Ind. Bldg, 10 Cheung Yee Street, Cheung Sha Wan, Kowloon, Hong Kong
Manufacture's Name:	P.S.L. LIMITED
Address:	4B&F, Cheung Lung Ind. Bldg, 10 Cheung Yee Street, Cheung Sha Wan, Kowloon, Hong Kong
Product name:	TWIST CUBE
Trademark:	N/A
Model and/or type reference:	CM5262
Serial Model:	N/A
Deference in serial model:	N/A
RF Exposure Procedures:	KDB 447498 D01 v06

This device described above has been tested by Shenzhen Microtest Co., Ltd and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

Tested by:

Jack Le

Jack Le

Jan. 04, 2019

Reviewed by:

Blue Zheng

Blue Zheng

Jan. 04, 2019

Approved by:

Smith Chen

Smith Chen

Jan. 04, 2019

RF EXPOSURE EVALUATION

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)

Limits for Maximum Permissible Exposure (MPE)

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 Exposure				
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
300-1,500			f/300	6
1,500-100,000			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
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

MPE Calculation Method

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

Where

P_d = Power density in mW/cm²

P_{out} = output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

π = 3.1415926

R = distance between observation point and center of the radiator in cm(20cm)

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

BT:

Operation Frequency: BLE GFSK: 2402-2480MHz,

Power density limited: 1mW/ cm²

Antenna Type: BLE Antenna: PCB Antenna;

BT antenna gain: -0.68dBi

R=20cm

$mW=10^{(dBm/10)}$

antenna gain Numeric= $10^{(dBi/10)}= 10^{(-0.68/10)}=0.86$

BLE

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result	Power density Limits
		(dBm)		tune-up power		Gain			
				(dBm)	(mW)	(dBi)	Numeric	(mW/cm2)	(mW/cm2)
2402	GFSK	0.170	0±1	1	1.259	-0.68	0.86	0.0002	1
2440		0.171	0±1	1	1.259	-0.68	0.86	0.0002	1
2480		1.022	0±1	1	1.259	-0.68	0.86	0.0002	1

Conclusion:

For the max result: $0.0002 \leq 1.0$ for 1g SAR, No SAR is required.

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