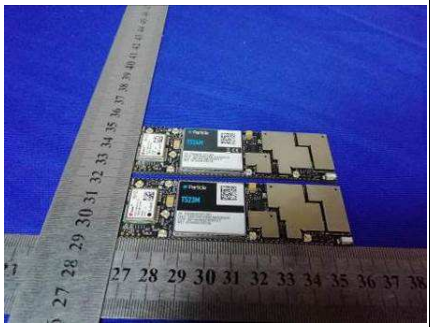
Certificate # 2951.01

TEST REPORT

Applicant	Particle Industries, Inc
Address	126 Post St,4th floor, San Francisco, CA 94108 USA

Manufacturer or Supplier	Particle Industries, Inc
Address	126 Post St,4th floor, San Francisco, CA 94108 USA
Product	Tracker SoM LTE CAT1/3G/2G
Brand Name	Particle
Model	T523M
Additional Model & Model Difference	T524M, See items 1.1 note



Date of tests	May 18. 2020 ~ Jul. 17, 2020

The submitted sample of the above equipment has been tested according to the requirements of the following standard:

☒ **EN 62311:2008**
☒ **EN 50665:2017**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Tested by Breeze Jiang Senior Project Engineer / EMC Department	Approved by Glyn He Assistant Manager / EMC Department
	Date: Aug. 14, 2020

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SE200518N021-1	Original release	Aug. 14, 2020

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1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Tracker SoM LTE CAT1/3G/2G
MODEL NO.	T523M
ADDITIONAL MODEL	T524M
NOMINAL VOLTAGE	Li+ PIN: DC +3.3V-4.3V or VBUS PIN: DC +4.35V-5.5V or VIN PIN: DC +3.9V-17V
OPERATING TEMPERATURE RANGE	-40 ~ +85℃
MODULATION TECHNOLOGY	DSSS, OFDM,
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
OPERATING FREQUENCY	2412MHz -2472MHz for 11b/g/n(HT20) 2422MHz -2462MHz for 11n(HT40)
EIRP POWER	18.46dBm
ANTENNA TYPE	FPCB Antenna, 2dBi Gain

NOTES:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. For the test results, the EUT had been tested with all conditions, but only the worst case was shown in test report.
3. Please refer to the EUT photo document (Reference No.:200518N021) for detailed product photo.
4. Additional model T524M is identical with the test model T523M except the model number for marketing purpose.
5. The EUT have SISO function, provides 1 completed transmitter and 1 receiver.

MODULATION MODE	TX FUNCTION
802.11b	1TX/1RX
802.11g	1TX/1RX
802.11n (HT20)	1TX/1RX
802.11n (HT40)	1TX/1RX

2. RF EXPOSURE MEASUREMENT

2.1 INTRODUCTION

This International Standard applies to electronic and electrical equipment for which no dedicated product- or product family standard regarding human exposure to electromagnetic fields applies.

The frequency range covered is 0 Hz to 300 GHz.

The object of this generic standard is to provide assessment methods and criteria to evaluate such equipment against basic restrictions or reference levels on exposure of the general public related to electric, magnetic and electromagnetic fields and induced and contact current.

2.2 LIMIT

According to EN 62311: 2008, the criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified 1999/519/EC.

FREQUENCY RANGE (GHz)	E-FIELD STRENGTH (V/m)
2 ~ 300	61

2.3 CLASSIFICATION OF THE ASSESSMENT METHODS

The antenna of the product, under normal use condition is at least 20 cm away from the body of the user. Warning statement to the user for keeping at least 20cm separation distance and the prohibition of operating to a person has been printed on the WLAN easy install sheet. So, this product under normal use is located on electromagnetic far field between the human body.

Far Field Calculation Formula

$$E = \eta_0 H = \frac{\sqrt{30PG(\theta,\phi)}}{r}$$

G = antenna gain relative to an isotropic antenna
θ,ϕ = elevation and azimuth angles to point of investigation
r = distance from observation point to the antenna
η_0 = Characteristic impedance of free space

2.4 TEST RESULTS

CALCULATION FOR MAXIMUM E.I.R.P.

Output Power E.I.R.P. (dBm)	Output Power E.I.R.P. (mW)	E-Field Strength (V/m)	E-Field Strength Limit (V/m)	PASS / FAIL
18.46	70.146	7.253	61.00	PASS