

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 One LTE CAT1/3G/2G	
Brand Name	Particle	
Model	ONE523M	
Additional Models & Model Difference	ONE524M, ONE523M-NB, ONE524M-NB, see section 1.1 note	
Date of tests	Aug. 18, 2020 ~ Sep. 10, 2020	

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

- EN 62479:2010
- EN 50663:2017

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: Dec. 21, 2020

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Test Report No.: SE2008WDG0083-2

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**BUREAU
VERITAS**

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SE2008WDG0083-2	Original release	Dec. 21, 2020



1. GENERAL INFORMATION

1.1. GENERAL DESCRIPTION OF EUT

PRODUCT	Tracker One LTE CAT1/3G/2G
MODEL NO.	ONE523M
ADDITIONAL MODELS	ONE524M, ONE523M-NB, ONE524M-NB
NOMINAL VOLTAGE	LI+ pin: DC+3.6v--4.2V or Vusb PIN: DC+4.5V--5.5V or Vin PIN: DC 6V--30V
MODULATION TECHNOLOGY	DTS
MODULATION TYPE	BT-LE, ASK
OPERATING FREQUENCY	2402MHz -2480MHz for BT-LE(GFSK), 13.56MHz for NFC receiving
EIRP POWER (MAX.)	9.00dBm for BT-LE
ANTENNA TYPE	FPCB Antenna, 1.71dBi Gain For BT-LE, or Ceramic Antenna, 0dBi Gain For BT-LE, Loop Antenna for NFC receiving

NOTE:

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.: 2008WDG0083) for detailed product photo
4. Additional models ONE524M, ONE523M-NB, ONE524M-NB are identical with the test model ONE523M except the model number for marketing purpose.
5. BT-LE has two antenna were tested, but there are can't transmitting at the same time, FPCB antenna may be connect to EUT with ANT connector.
6. The EUT has two version: V1.0 and V1.1, the V1.1 version sample based on V1.0 version sample added GPIO isolation and LDO, the difference test in CE2008WDG0083 report.



2. RF EXPOSURE MEASUREMENT

2.1 INTRODUCTION

This International Standard provides simple conformity assessment methods for low-power electronic and electrical equipment to an exposure limit relevant to electromagnetic fields (EMF). If such equipment cannot be shown to comply with the applicable EMF exposure requirements using the methods included in this standard for EMF assessment, then other standards, including IEC 62311 or other (EMF) product standards, may be used for conformity assessment. This European Standard supersedes EN 50371:2002.

2.2 COMPLIANCE CRITERIA

Compliance of electromagnetic emissions from electronic and electrical equipment with the basic restrictions usually is determined by measurements and, in some cases, calculation of the exposure level. If the electrical power used by or radiated by the equipment is sufficiently low, the electromagnetic fields emitted will be incapable of producing exposures that exceed the basic restrictions. This standard provides simple EMF assessment procedures for this low power equipment.

Any relevant compliance assessment procedure which is consistent with the state of the art, reproducible and gives valid results can be used.

For transmitters intended for use with more than one antenna configuration option, the combination of transmitter and antenna(s) which generates the highest available antenna power and/or average total radiated power shall be assessed.

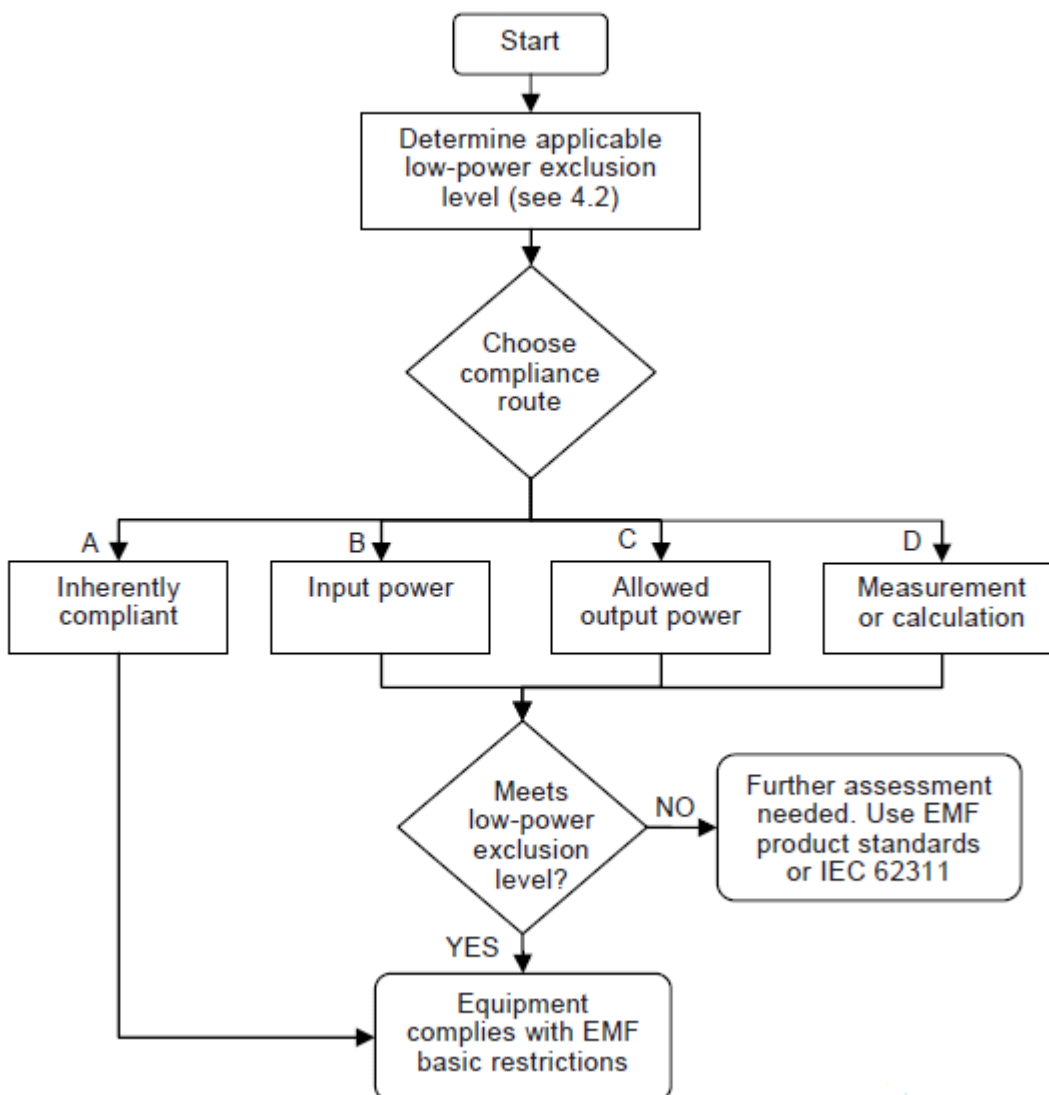
2.3 NORMATIVE REFERENCE

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Publication	Year	Title	EN/HD	Year
IEC 62311 (mod)	-	Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz -300 GHz)	EN 62311: 2008	-

NOTE: When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

2.4 ROUTES TO SHOW COMPLIANCE WITH LOW-POWER EXCLUSION LEVEL



2.5 TEST RESULTS

CALCULATION FOR MAXIMUM EIRP:

AV Power (EIRP)(dBm)	Power (EIRP)(mW)	Low-power exclusion level (mW)
9.00	7.943	20