

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	Boron 2G/3G	
Brand Name	Particle	
Model	BRN310	
Additional Model & Model Difference	BRN314; see items 1.1	
Date of tests	Sep. 03, 2018 ~ Nov. 08, 2018	

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. 28, 2020

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**BUREAU
VERITAS**

Test Report No.: SE2012WDG0026-2

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SE180831N010-2	Original release	Dec. 10, 2018
SE2012WDG0026-2	Based on the original report SE180831N010-2 added standard EN50663 and additional model, changed the brand name, but it doesn't need to be retested.	Dec. 28, 2020



1. GENERAL INFORMATION

1.1. GENERAL DESCRIPTION OF EUT

PRODUCT	Boron 2G/3G
MODEL NO.	BRN310
ADDITIONAL MODEL	BRN314
NOMINAL VOLTAGE	Li+ PIN /Battery connector: DC 3.7V from Li-ion Battery or VUSB PIN /USB connector :DC 5V from USB Host Unit
MODULATION TECHNOLOGY	NFC
MODULATION TYPE	ASK
OPERATING FREQUENCY	13.56MHz
ANTENNA TYPE	Loop Antenna
H-FIELD STRENGTH	22.46dBuA/m (Measured Max.)
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	N/A

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.: 2012WDG0026) for detailed product photo.
4. Additional model BRN314 is identical with the test model BRN310 except the model name for trading purpose



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

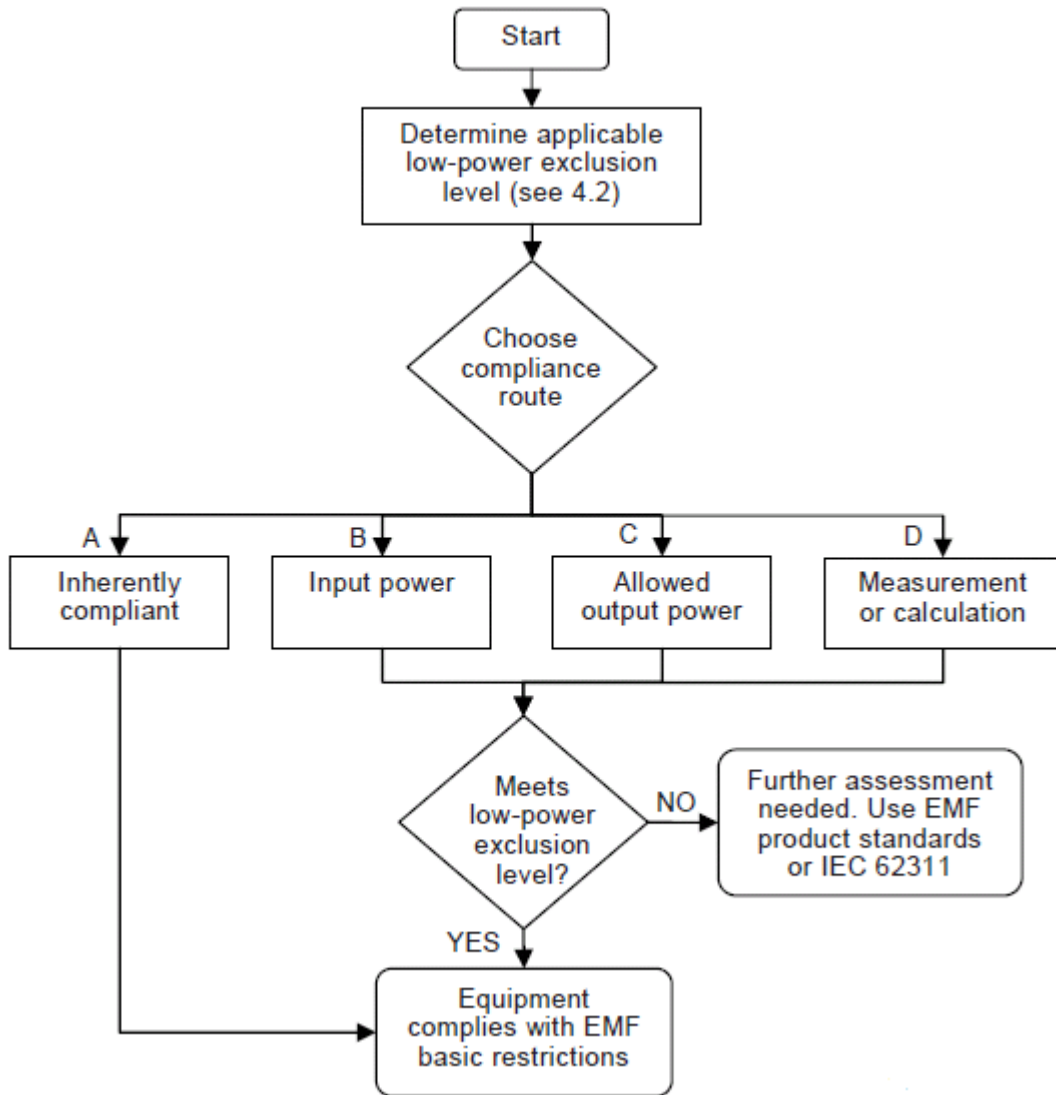
The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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 ERP:

Maximum Field strength Level (dBuV/m)	Power (ERP)(mW)	Low-power exclusion level (mW)
72.64	0.003	20