FCC RF EXPOSURE REPORT

Applicant	:	ALTENERGY POWER SYSTEM INC.
Address	:	No.1, Yatai Road, Jiaxing 314050 Zhejiang Province, P.R.China
Equipment	:	Microinverter
Model No.	:	QT2, QT2-208, QT2-480
Trade Name	:	N/A
FCC ID.	:	2AFGR-QT2

I HEREBY CERTIFY THAT :

The sample was received on Mar. 03, 2022 and the testing was completed on Jun. 01, 2022 at Cerpass Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of Cerpass Technology Corp., the test report shall not be reproduced except in full.

Approved by:

Leevin Li

Leevin Li / Supervisor

Contents

History of this test report

■ Original

☐ Additional attachment as following record:

Attachment No.	Issue Date	Description
DEFJ2203003	Jun. 02, 2022	Initial Issue

1. Test Configuration of Equipment under Test

1.1 Feature of Equipment

Equipment	Microinverter
Model Name	QT2, QT2-208, QT2-480
Model Discrepancy	Model QT2-208 and QT2 with 208Vac output share the same construction, hardware and software, and only difference between those two models are the model name, which is only commercial purpose. Model QT2-480 and QT2 with 480Vac output share the same construction, hardware and software, and only difference between those two models are the model name, which is only commercial purpose.
Technology Type	ZigBee
Frequency Range	2405~2480MHz
Modulation	O-QPSK
Channel Number	16
Power Supply	60VDC Max
Antenna Spec.	External Antenna with 2dBi
Temperature Range	-40℃~65℃

Note: For more details, please refer to the User's manual of the EUT.

1.2 General Information of Test

Test Site	**Cerpass Technology Corporation(Cerpass Laboratory)** Address: Room 102, No. 5, Xing'an Road, Chang'an Town, Dongguan City, Guangdong Province Tel: +86-769-8547-1212 Fax: +86-769-8547-1912
FCC Designation No.:	CN1288
Frequency Range Investigated:	Conducted: from 150kHz to 30 MHz Radiation: from 30 MHz to 40,000MHz
Test Distance:	The test distance of radiated emission from antenna to EUT is 3 M.

2. Radio Frequency Exposure

Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation)
Exposure classification	☐ Occupational/Controlled exposure (S = 5mW/cm^2) ☒ General Population/Uncontrolled exposure (S=1mW/cm^2)
Antenna diversity	☒ Single antenna ☐ Multiple antennas ☐ Tx diversity ☐ Rx diversity ☐ Tx/Rx diversity
Evaluation applied	☒ MPE Evaluation* ☐ SAR Evaluation ☐ N/A

TEST RESULTS

No non-compliance noted.

Calculation

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{3770}$

Where *E = Field strength in Volts / meter*
P = Power in Watts
G = Numeric antenna gain
d = Distance in meters
S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{3770 d^2}$$

Changing to units of mW and cm, using:

P (mW) = P (W) / 1000 and
d (cm) = d(m) /100

Yields

$$S = \frac{30 \times (P/1000) \times G}{3770 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2}$$ ***Equation 1***

Where *d = Distance in cm*
P = Power in mW
G = Numeric antenna gain
S = Power density in mW / cm^2

Maximum Permissible Exposure

Test Mode	Frequency band (MHz)	Measured power(dBm)	Max.TuneupPower(dBm)	Peak output power(mW)	Antenna gain (*Numeric*)	Distance (cm)	Power density (mW/cm2)	Limit (mW/cm2)
ZigBee	2405-2480	9.62	10.62	11.535	1.58	20	0.003637919	1

Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

---------- End of the report ----------