A Test Lab Techno Corp.

Changan Lab：N o. 140-1, Changan Street, Bade District, Taoyuan City 33465, Taiwan (R.O.C)
Tel：886-3-271-0188 / Fax：886-3-271-0190

MPE Report

Test Report No.	：	1603FS12
Applicant	：	Quan International Co., Ltd.
Product Type	：	BLE Beacon
Trade Name	：	∞Quan
Model Number	：	STG-1020, STG-1021
Date of Received	：	Jan. 05, 2016
Test Period	：	Mar. 04, 2016
Date of Issued	：	Sep. 26, 2016
Test Specification	：	ANSI / IEEE Std.C95.1-1992 / IEEE Std. 1528-2013
		47 CFR § 2.1091
		47 CFR § 1.1310
Location of Test Lab.	：	Chang-an Lab.

1. The test operations have to be performed with cautious behavior, the test results are as attached.
2. The test results are under chamber environment of A Test Lab Techno Corp. A Test Lab Techno Corp. does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples.
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4. This document may be altered or revised by A Test Lab Techno. Corp. personnel only, and shall be noted in the revision section of the document.

Approved By ： Bill Hu (Bill Hu)　　Tested By ： Mark Duan (Mark Duan)

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1. Description of Equipment under Test (EUT)

Applicant	Quan International Co., Ltd. 4F, No.196, Hsinghu 3rd Rd., Neihu District Taipei,Taiwan, R.O.C.
Manufacturer	Quan International Co., Ltd. 4F, No.196, Hsinghu 3rd Rd., Neihu District Taipei,Taiwan, R.O.C.
Product Type	BLE Beacon
Trade Name	Quan
Model Number	STG-1020, STG-1021
Model Different Description	Those model numbers differ from each other in selling region and appearance
FCC ID	2AHSZ-STG10201
Frequency Range	Bluetooth LE 2402 - 2480 MHz
Transmit Power (conducted power)	Bluetooth LE: 0.00023 W / -6.46 dBm
Antenna Type	Chip Antenna
Antenna Gain	Bluetooth LE: 1 dBi
Temperature Range	-10 ~ +60°C
RF Evaluation	0.0001 mW/cm^2

The above equipment was tested by A Test Lab Techno Corp. For compliance with the requirements set forth in 47 CFR § 2.1091 / 47 CFR § 1.1310. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties

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2. Human Exposure Assessment

Due to the design and installation of this product, it is not possible to conduct SAR evaluation. This is because client either manufactures or supplies the antenna(s) that will be used in the installation of this product. Therefore, this product will be evaluated as a mobile device per 47 CFR § 1.1310 titled “Radiofrequency radiation exposure limits”, generally referred to as MPE limits.

In 47 CFR § 2.1091, paragraph (b) defines a mobile device as “a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 cm is normally maintained between the transmitter’s radiating structure(s) and the body of the user or nearby persons. ” This product is intended to be installed into a vehicle such that the unit is physically secured at one location. In the installation guide supplied with the product,

Client has made the following statement: “IMPORTANT: To meet the FCC’s RF Exposure Guidelines, the antenna should be installed so there is at least 20 cm of separation between the body of the user and nearby persons and the antenna”. Based on the installation of the transceiver and the antenna, the transmitters radiating structure is more than 20 cm from the user. Thus, this product is a “mobile device” as defined in section § 2.1091 paragraph (b).

Exposure evaluation
$$S = \frac{PG}{4\pi R^2}$$ Where S: power density P: power input to the antenna G: power gain of the antenna in the direction of interest relative to an isotropic radiator. R: distance to the center of radiation of the antenna.

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3. RF Output Power

Band	CH	Frequency (MHz)	Packet Type	Average Conducted power (dBm)
Bluetooth LE	0	2402	---	-6.46
	19	2440		-6.64
	39	2480		-7.71

4. Test Result

Band	Frequency (MHz)	Limit (mw)	Distance [R] (cm)	Max tune-up Power (upper limit) [P] (dBm)	ANT Gain (dBi)	Numeric Gain [G]	Duty Cycle	[P] x [G] with Duty cycle [TP] (mW)	Power Density [S] (mw)/cm^2
Bluetooth LE	2402.0	1	20	-6.40	1.00	1.26	1	0.290	0.0001
	2440.0	1	20	-6.40	1.00	1.26	1	0.290	0.0001
	2480.0	1	20	-6.40	1.00	1.26	1	0.290	0.0001

Note:

1 The Numeric Gain calculated by 10^(ant. Gain(dBi) /10).
2 Each band max power which perform MPE of any configurations.

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