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MPE Report



Test Report No.	: SZ1911FS11
Applicant	: LEXON
Product Type	: CITY ENERGY
Trade Name	: LEXON
Model Number	: LD141
Received Date	: Jul. 02, 2019
Test Period	: Jul. 24 ~ Jul. 30, 2019
Issue Date	: Nov. 06, 2019
Test Specification	: ANSI / IEEE Std.C95.1-1992 / IEEE Std. 1528-2013
	47 CFR § 2.1091
	47 CFR § 1.1310

1. The test operations have to be performed with cautious behavior, the test results are as attached.
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1. Description of Equipment under Test (EUT)

Applicant	LEXON 91 avenue Jean-Baptiste Clément - 92100 Boulogne - FRANCE			
Manufacturer	LEXON 91 avenue Jean-Baptiste Clément - 92100 Boulogne - FRANCE			
Product Type	CITY ENERGY			
Trade Name	LEXON			
Model Number	LD141			
FCC ID	2ARD3-LD141			
Frequency Range	Operate Band			Frequency Range (MHz)
	Bluetooth BR/EDR			2402 - 2480
Antenna Information	Model	Type	Max. Gain (dBi)	
	2.4G ANT	Inverted F Antenna	Bluetooth BR / EDR	-0.58
RF Evaluation	0.0002 mW/cm ²			
Operate Temp. Range	0 ~ +45°C			

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



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.

3. RF Output Power

Operate Band	Frequency (MHz)	Packet Type	Average Conducted power (dBm)
Bluetooth BR GFSK	2402	DH1	0.71
		DH3	0.74
		DH5	0.76
	2441	DH1	0.33
		DH3	0.35
		DH5	0.38
	2480	DH1	-1.24
		DH3	-1.21
		DH5	-0.19
Bluetooth EDR $\pi/4$ -DQPSK	2402	DH1	-0.56
		DH3	-0.53
		DH5	-0.50
	2441	DH1	-0.91
		DH3	-0.89
		DH5	-0.87
	2480	DH1	-0.85
		DH3	-0.83
		DH5	-0.80

4. Test Result

Antenna	Band	Test mode/ RB/Data rate	Frequency (MHz)	Limit (mw)/cm ²	Distance [R] (cm)	max tune-up Power [P] (dBm)	ANT Gain (dBi)	Numeric Gain [G]	Duty Cycle	Power with Duty cycle [TP] (mW)	Power Density [S] (mw)/cm ²
Bluetooth Antenna	Bluetooth BR	1M(DH5)	2402.0	1	20	1.50	-0.58	0.87	1	1.229	0.0002
			2441.0	1	20	1.50	-0.58	0.87	1	1.229	0.0002
			2480.0	1	20	1.50	-0.58	0.87	1	1.229	0.0002
	Bluetooth EDR	2M(2DH5)	2402.0	1	20	0.50	-0.58	0.87	1	0.976	0.0002
			2440.0	1	20	0.50	-0.58	0.87	1	0.976	0.0002
			2480.0	1	20	0.50	-0.58	0.87	1	0.976	0.0002

Note:

1. Mobile or fixed location transmitters, minimum separation distance is 20 cm, even if calculations indicate MPE distance is less.
2. The Numeric Gain calculated by $10^{(\text{ant. Gain(dBi)} / 10)}$.
3. Each band max power which perform MPE of any configurations.