



# A Test Lab Techno Corp.

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## MPE Report

Test Report No.	: 1806FS11-01
Applicant	: ADDON Technology
Product Type	: Hybrid wireless multiple connected conference
Trade Name	: Tutti Studio
Model Number	: iCube A2 Tutti Matti
Date of Received	: May 02, 2018
Test Period	: May 15 ~ Jun. 01, 2018
Date of Issued	: Jul. 02, 2018
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.
Test Firm MRA designation number	: TW0010

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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Approved By : Yung-Tan Tsai

(Yung Tan Tsai)

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(Yanzen Liao)



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## 1. Description of Equipment under Test (EUT)

Applicant	ADDON Technology 1F., No.11, Lane 206, Sec. 1, Da An Road Taipei City Taiwan		
Manufacturer	Shenzhen Opures Technology Co., Ltd Room 206, No.535 Buiding, Bagua 2nd road , Futian District,Shenzhen City, China		
Product Type	Hybrid wireless multiple connected conference		
Trade Name	Tutti Studio		
Model Number	iCube A2 Tutti Matti		
FCC ID	Z2HMATTI-8		
Frequency Range	Operate Band		Frequency Range (MHz)
	5GHz DSSS		5736 - 5814
	Bluetooth BR/EDR		2402 - 2480
Antenna Information	ANT	Type	Max. Gain (dBi)
	5GHz DSSS ANT-0 / ANT-1	PCB Antenna	3.20
	Bluetooth ANT	PCB Antenna	-0.35
Antenna Delivery	1TX (Diversity)		
RF Evaluation	0.00318 mw/cm <sup>2</sup>		
Operate Temp. Range	0 ~ +40°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	2402.0	DH1	-0.12
		DH3	-0.09
		DH5	-0.07
	2441.0	DH1	-0.29
		DH3	-0.26
		DH5	-0.25
	2480.0	DH1	-0.55
		DH3	-0.53
		DH5	-0.49
Bluetooth EDR $\pi/4$ -DQPSK	2402.0	DH1	-0.75
		DH3	-0.74
		DH5	-0.68
	2441.0	DH1	-0.55
		DH3	-0.53
		DH5	-0.50
	2480.0	DH1	-0.85
		DH3	-0.84
		DH5	-0.83
Bluetooth EDR 8DPSK	2402.0	DH1	-0.62
		DH3	-0.61
		DH5	-0.59
	2441.0	DH1	-0.24
		DH3	-0.20
		DH5	-0.16
	2480.0	DH1	-0.38
		DH3	-0.37
		DH5	-0.36

Band	Data Rate (Mbps)	Frequency (MHz)	Average Conducted power (dBm)	
			ANT-0	ANT-1
5GHz DSSS	---	5736.0	4.31	3.58
		5762.0	4.54	3.43
		5814.0	7.62	7.07



#### 4. Test Result

Band	Test mode/RB/Data rate	Frequency (MHz)	Limit (mw)/cm <sup>2</sup>	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 <sup>2</sup>
Bluetooth BR/EDR	---	2402.0	1	20	0.00	-0.35	0.92	1	0.92	0.00018
		2441.0	1	20	0.00	-0.35	0.92	1	0.92	0.00018
		2480.0	1	20	0.00	-0.35	0.92	1	0.92	0.00018
5GHz DSSS ANT-0	QPSK	5736.0	1	20	8.00	3.20	2.09	1	13.19	0.003
		5762.0	1	20	8.00	3.20	2.09	1	13.19	0.003
		5814.0	1	20	8.00	3.20	2.09	1	13.19	0.003
5GHz DSSS ANT-1	QPSK	5736.0	1	20	7.50	3.20	2.09	1	11.75	0.002
		5762.0	1	20	7.50	3.20	2.09	1	11.75	0.002
		5814.0	1	20	7.50	3.20	2.09	1	11.75	0.002

Note:

1. Mobile or fixed location transmitters, minimum separation distance is 20cm, 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.
4. The device operating 5G QPSK mode is 1TX (Diversity).
5. The device support simultaneous transmission.

Simultaneous Transmitting :

$$\text{Total MPE} = \text{BT MPE} + \text{5G QPSK MPE} = 0.00018 + 0.003 = 0.00318 \text{ (mw)/cm}^2 < 1 \text{ (mw)/cm}^2$$