



A Test Lab Techno Corp.

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MPE Report



Test Report No.	: 1006FS11
Applicant	: DIMTON CO., LTD.
Manufacturer	: DIMTON CO., LTD.
Product Type	: Bluetooth Transmitter
Trade Name	: BlueVirtu
Model Number	: BMD-01
FCC ID	: VON-BMD-01
Dates of Test	: Jun. 01, 2010
Test Specification	: 47 CFR § 2.1091 47 CFR §1.1310 ANSI / IEEE Std.C95.1-1999
Location of Test Lab.	: Chang-an Lab.

1. The test operations have to be performed with cautious behavior, the test results are as attached.
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Sam Chuang 20100601
Approve Signer


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Testing Engineer



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1. Description of Equipment under Test (EUT)

Applicant	DIMTON CO., LTD.
Applicant Address	15F., No. 866, Zhongzheng Rd., Zhonghe City, Taipei County 23586, Taiwan (R.O.C)
Manufacturer	DIMTON CO., LTD.
Manufacturer Address	15F., No. 866, Zhongzheng Rd., Zhonghe City, Taipei County 23586, Taiwan (R.O.C)
Product Type	Bluetooth Transmitter
Trade Name	BlueVirtu
Model Number	BMD-01
Frequency Range	2402 - 2480 MHz (GFSK, $\pi/4$ -DQPSK, 8DPSK)
Transmit Power (mean conducted power)	GFSK: 0.00117 W / 0.69 dBm $\pi/4$ -DQPSK: 0.00062 W / -2.05 dBm 8DPSK: 0.00062 W / -2.05 dBm
Modulation Technique	DSSS
Antenna Specification	1.3 dBi
Antenna Designation	Internal Type
Temperature Range	-30 ~ +70°C

The above equipment was tested by Compliance Certification Services Inc. 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



1.1 RF Output Power

Modulation Type	Channel	Frequency (MHz)	Packet Type	Peak Power (dBm)	Average Power (dBm)	Worst Case
GFSK	Low	2402	DH1	0.34	0.17	<input type="checkbox"/>
	Low	2402	DH3	0.19	0.10	<input type="checkbox"/>
	Low	2402	DH5	0.17	0.13	<input type="checkbox"/>
	Middle	2441	DH1	0.77	0.69	<input checked="" type="checkbox"/>
	Middle	2441	DH3	0.66	0.62	<input type="checkbox"/>
	Middle	2441	DH5	0.80	0.62	<input type="checkbox"/>
	High	2480	DH1	-0.03	-0.06	<input type="checkbox"/>
	High	2480	DH3	-0.05	-0.08	<input type="checkbox"/>
	High	2480	DH5	-0.08	-0.15	<input type="checkbox"/>
$\pi/4$ -DQPSK	Low	2402	2DH1	-1.75	-2.29	<input type="checkbox"/>
	Low	2402	2DH3	-1.71	-2.30	<input type="checkbox"/>
	Low	2402	2DH5	-1.74	-2.30	<input type="checkbox"/>
	Middle	2441	2DH1	-1.62	-2.05	<input checked="" type="checkbox"/>
	Middle	2441	2DH3	-1.51	-2.13	<input type="checkbox"/>
	Middle	2441	2DH5	-1.55	-2.17	<input type="checkbox"/>
	High	2480	2DH1	-2.56	-3.03	<input type="checkbox"/>
	High	2480	2DH3	-2.41	-3.03	<input type="checkbox"/>
	High	2480	2DH5	-2.45	-3.01	<input type="checkbox"/>
8DPSK	Low	2402	3DH1	-1.54	-2.24	<input type="checkbox"/>
	Low	2402	3DH3	-1.57	-2.22	<input type="checkbox"/>
	Low	2402	3DH5	-1.48	-2.30	<input type="checkbox"/>
	Middle	2441	3DH1	-1.35	-2.05	<input checked="" type="checkbox"/>
	Middle	2441	3DH3	-1.38	-2.14	<input type="checkbox"/>
	Middle	2441	3DH5	-1.10	-2.14	<input type="checkbox"/>
	High	2480	3DH1	-2.18	-3.01	<input type="checkbox"/>
	High	2480	3DH3	-2.37	-3.13	<input type="checkbox"/>
	High	2480	3DH5	-2.27	-3.08	<input type="checkbox"/>



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

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{PG}{4\pi R^2}$$

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.

2.1 Test Result

Band	Packet Type	Frequency (MHz)	Limit (mw)	Distance (cm) [R]	Power (dBm) [P]	ANT Gain (dBi) [G]	[P]+ [G] (W) [TP]	Power Density [S]	Min. distance (cm)
GFSK	DH1	2402.0	1.000	20	0.17	1.3	0.00140	0.00028	20cm
		2441.0	1.000	20	0.69	1.3	0.00158	0.00031	20cm
		2480.0	1.000	20	-0.06	1.3	0.00133	0.00026	20cm
$\pi/4$ -DQPSK	DH1	2402.0	1.000	20	-2.29	1.3	0.00080	0.00016	20cm
		2441.0	1.000	20	-2.05	1.3	0.00084	0.00017	20cm
		2480.0	1.000	20	-3.03	1.3	0.00067	0.00013	20cm
8DPSK	DH1	2402.0	1.000	20	-2.24	1.3	0.00081	0.00016	20cm
		2441.0	1.000	20	-2.05	1.3	0.00084	0.00017	20cm
		2480.0	1.000	20	-3.01	1.3	0.00067	0.00013	20cm