RF EXPOSURE REPORT

Report No.: 15070332-FCC-H1

Applicant	Dfine Technology Co.,Ltd.
Product Name	Wireless HDMI AV Transmission System
Model No.	DF-W5001
Serial No.	N/A
Test Standard	FCC 2.1091
Test Date	May 22 to June 29,2015
Issue Date	June 29,2015
Test Result	☑ Pass ☐ Fail
Equipment complied with the specification	☑
Equipment did not comply with the specification	☐

Lucifer.He	David Huang	
Lucifer.He Test Engineer	David Huang Checked By	

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Test result presented in this test report is applicable to the tested sample only

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

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Laboratories Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.

In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

Accreditations for Conformity Assessment

Country/Region	Scope
USA	EMC, RF/Wireless, SAR, Telecom
Canada	EMC, RF/Wireless, SAR, Telecom
Taiwan	EMC, RF, Telecom, SAR, Safety
Hong Kong	RF/Wireless, SAR, Telecom
Australia	EMC, RF, Telecom, SAR, Safety
Korea	EMI, EMS, RF, SAR, Telecom, Safety
Japan	EMI, RF/Wireless, SAR, Telecom
Singapore	EMC, RF, SAR, Telecom
Europe	EMC, RF, SAR, Telecom, Safety

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1. Report Revision History

Report No.	Report Version	Description	Issue Date
15070332-FCC-H1	NONE	Original	June 29, 2015

2. Customer information

Applicant Name	Dfine Technology Co.,Ltd.
Applicant Add	Building E6, Tianfu Software Park, No.1366, Tianfu Avenue, High-Tech District, Chengdu, Sichuan, China
Manufacturer	Dfine Technology Co.,Ltd.
Manufacturer Add	Building E6, Tianfu Software Park, No.1366, Tianfu Avenue, High-Tech District, Chengdu, Sichuan, China

3. Test site information

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES
Lab Address	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China 518108
FCC Test Site No.	718246
IC Test Site No.	4842E-1
Test Software	Radiated Emission Program-To Shenzhen v2.0

4. Equipment under Test (EUT) Information

Description of EUT:	Wireless HDMI AV Transmission System
Main Model:	DF-W5001
Serial Model:	N/A
Date EUT received:	May 21,2015
Antenna Gain:	WIFI: 5 dBi
Input Power:	Adapter: Model:ST-012AAC-050200U Input: AC 100-240V 50/60Hz 0.3A Output: DC5V 2.0A
Trade Name :	
GPRS/EGPRS Multi-slot class	8/10/12
FCC ID:	Y48DF-W5001R

Type of Modulation:	802.11b/g/n: DSSS, OFDM
RF Operating Frequency (ies):	WIFI(802.11a): 5190-5230 MHz; 5755-5795MHz
Number of Channels:	WIFI 5.19-5.23G(a):2CH WIFI 5.755-5.795G(a): 2CH
Port:	Power Port, Earphone Port, USB Port
GPRS/EGPRS Multi-slot class	8/10/12

5. FCC §2.1091 - Maximum Permissible exposure (MPE)

6.1 Applicable Standard

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission' s guidelines.

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for General Population/Uncontrolled Exposure

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minutes)
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*($180/f^2$)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

f = frequency in MHz

* = Plane-wave equivalent power density

6.2 Test Result

RX Mode:

Type	Test mode	CH	Freq (MHz)	Conducted Power (dBm)				Max. Power (b, g mode) and Total Power (n20, n40)
				Antenna 1	Antenna 2	Antenna 1 Tune Up Power (dBm)	Antenna 2 Tune Up Power (dBm)	
Output power	802.11n (40M)	Low	5190	11.87	12.00	12.0±1	12.0±1	16.0
		High	5230	10.92	10.92	11.0±1	11.0±1	15.0
	802.11n (40M)	Low	5755	8.76	8.84	8.0±1	8.0±1	12.0
		High	5795	9.10	9.40	10.0±1	10.0±1	14.0

Predication of MPE limit at a given distance

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

Where: S = power density (in appropriate units, e.g. mW/cm^2)

P = power input to the antenna (in appropriate units, e.g., mW).

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

For the antenna manufacturer provide only used limited to ERP/EIRP or radiated spurious emission test. The MPE evaluation as below:

Maximum output power at antenna input terminal: 16.00dBm)

Maximum output power at antenna input terminal: 39.81(mW)

Prediction distance: >20 (cm)

Predication frequency: 5190(MHz) High frequency

Antenna Gain (typical): 5.0 (dBi)

Antenna Gain (typical): 3.16(numeric)

The worst case is power density at predication frequency at 20 cm: 0.025(mW/cm^2)

MPE limit for general population exposure at prediction frequency: 1.0 (mW/cm^2)

0.025(mW/cm^2) < 1.0 (mW/cm^2)

Result: Pass