

IEEE C95.1**KDB 447498 D01 v06****47 C.F.R. Part 1, Subpart I, Section 1.1310****47 C.F.R. Part 2, Subpart J, Section 2.1091****RF EXPOSURE REPORT****For****Wireless Docsis Probe****Model: CGN-DP2(xxxx) (x= 0~9,A~Z or blank)****Trade Name: Hitron****Issued for****Hitron Technologies Inc.****No. 1-8, Lihsin 1st Rd., Hsinchu Science Park, Hsinchu 300, Taiwan****Issued by****Compliance Certification Services Inc.****Hsinchu Lab.****NO. 989-1, Wenshan Rd., Shangshan Village,****Qionglin Township, Hsinchu County 30741, Taiwan (R.O.C.)****<http://www.ccsrf.com>****service@ccsrf.com****Issued Date: November 30, 2016**

Note: This report shall not be reproduced except in full, without the written approval of Compliance Certification Services Inc. This document may be altered or revised by Compliance Certification Services Inc. personnel only, and shall be noted in the revision section of the document. The client should not use it to claim product endorsement by TAF or any government agencies. The test results of this report relate only to the tested sample identified in this report.



Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	11/30/2016	Initial Issue	All Page	Michelle Chiu

TABLE OF CONTENTS

1. TEST REPORT CERTIFICATION.....	4
2. LIMIT	5
3. EUT SPECIFICATION.....	5
4. TEST RESULTS	6
5. MAXIMUM PERMISSIBLE EXPOSURE.....	7

1. TEST REPORT CERTIFICATION

We hereby certify that:

The equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirement of the applicable standards. The test record, data evaluation and Equipment under Test (EUT) configurations represented herein are true and accurate accounts of the measurement of the sample's RF characteristics under the conditions specified in this report.

APPLICABLE STANDARD	
Standard	Test Result
IEEE C95.1 KDB 447498 D01 v06 47 C.F.R. Part 1, Subpart I, Section 1.1310 47 C.F.R. Part 2, Subpart J, Section 2.1091	No non-compliance noted

Approved by:



Sb. Lu
Sr. Engineer

Prepared by:



Michelle Chiu
Report coordinator

2. Limit

According to §15.247(i), 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 levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.

3. EUT Specification

Product Name	Wireless Docsis Probe
Model Number	CGN-DP2(xxxx) (x= 0~9,A~Z or blank)
Identify Number	T161107S03
Received Date	November 07, 2016
Frequency band (Operating)	802.11b/g/gn HT20 Mode: 2412MHz ~ 2462MHz
Device category	Mobile (>20cm separation)
Exposure classification	☐ Occupational/Controlled exposure (S = 5mW/cm ²) ☒ General Population/Uncontrolled exposure (S=1mW/cm ²)
Antenna Specification	Airgain Embedded Antenna × 2 , Ant. 0 (Chain 0), Antenna Gain: 3 dBi Ant. 1 (Chain 1), Antenna Gain: 3 dBi
Maximum average output power	IEEE 802.11b Mode: 23.14 dBm IEEE 802.11g Mode: 29.18 dBm IEEE 802.11gn HT20 MCS0 Mode: 29.71 dBm
Evaluation applied	MPE Evaluation*

Remark:

1. For more details, please refer to the User's manual of the EUT.
2. This submittal(s) (test report) is intended for FCC ID: 2AHKM-CGNDP2 filing.
3. The model CGN-DP2 (CCC) was considered the main model for testing.

4. Test Results

No non-compliance noted.

Calculation

$$\text{Given } E = \frac{\sqrt{30 \times P \times G}}{d} \quad \& \quad S = \frac{E^2}{3770}$$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{3770 d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \textbf{Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

5. Maximum Permissible Exposure

Substituting the MPE safe distance using $d = 20$ cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

Mode	Frequency (MHz)	Power (dBm)	Ant. Gain (dBi)	Distance (cm)	Power density (mW/cm ²)	Limit (mW/cm ²)
IEEE 802.11b	2462	23.14	3	20	0.0818	1
IEEE 802.11g	2437	29.18	3	20	0.3286	1
IEEE 802.11gn HT20 MCS0	2437	29.71	3	20	0.3713	1