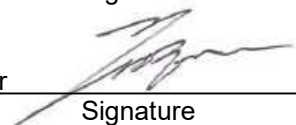


FCC & ISED MPE TEST REPORT

Project Number : EA2001C-025
Test Report Number : TR-W2101-006
Type of Equipment : WIFI module
Model Name : S904-SD-WF
FCC ID : OZ5-S904-SD-WF
ISED ID : 21703-S904SDWF
Multiple Model Name : N/A
Applicant : Ohsung Electronics Co., Ltd.
Address : #181 Gongdan-Dong, Gumi-Si, Gyeongsangbuk-Do, South Korea
Manufacturer : Ohsung Electronics Co., Ltd.
Address : #181 Gongdan-Dong, Gumi-Si, Gyeongsangbuk-Do, South Korea
Regulation : FCC Part 15 Subpart C Section 15.247, ISED RSS-247 Issue2
Total page of Report : 5 Pages
Date of Receipt : 2020-01-08
Date of Issue : 2021-01-11
Test Result : PASS

This test report only contains the result of a single test of the sample supplied for the examination.
 It is not a generally valid assessment of the features of the respective products of the mass-production.

Prepared by	Song, In-young / Senior Engineer		2021-01-11
		Signature	Date
Reviewed by	Choi, Yeong-min / Technical Manager		2021-01-11
		Signature	Date

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Release Control Record

Issue Report No.	Issued Date	Revisions	Effect Section
TR-W2101-006	2021-01-11	Initial Release	All

1. EUT (Equipment Under Test) INFORMATION

1.1 General Description

The Ohsung Electronics Co., Ltd., Model S904-SD-WF (referred to as the EUT in this report) is a WIFI module, has function for IEEE 802.11 b/g/n (20 MHz / 40 MHz with integrated PCB antenna. The product specification described herein was obtained from product data sheet or user's manual.

Equipment Class	DTS – Digital Transmission System
Operating Frequency	(802.11b/g/n HT20) 2 412 MHz ~ 2 462 MHz (802.11n HT40): 2 422 MHz ~ 2 452 MHz
Modulation Types	(802.11b): DSSS (DBPSK/DQPSK/CCK) (802.11g/n HT20/HT40): OFDM (BPSK/QPSK/16QAM/64QAM)
Number of Channels	(802.11b/g/n HT20) 11 channels (802.11n HT40): 7 channels
Channel Spacing	5 MHz
Generated or used Freq. in EUT	40 MHz
Type of Antenna	■ Dedicated Type (PCB Pattern Antenna)
Antenna Gain	Max. 2.39 dBi @ 2 445 MHz
Operating Temperature	-20 °C ~ +70 °C
Normal Test Voltage	DC 5 V
Electrical Rating	DC 5 V (USB)
Test SW Version	MPTool
Test SW Power Setting	(802.11b: 32/35/35), (802.11g: 30/47/35), (802.11n HT20: 30/45/35), (802.11n HT40: 26/45/32)
Software Version	Rev v2.5
Hardware Version	v4.3.23.1_16377.20151216

1.2 Additional Model

None

2. TEST RESULT

2.1 Measured RF Output Level

Operating Mode	Conducted Output Power (dBm)	Antenna Gain (dBi)	EIRP	
			(dBm)	(mW)
802.11b	12.48	2.39	14.87	30.69
802.11g	14.41		16.80	47.86
802.11n HT20	13.70		16.09	40.64
802.11n HT40	14.18		16.57	45.39

Note: EIRP = Conducted Output Power + Antenna Gain

2.2 Limits for MPE (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 – 1 500			f / 1500	30
1 500 – 100 000			1.0	30

2.3 MPE Evaluation

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the user.

The MPE sample calculation for this exposure is shown below.

$$S = \text{EIRP} / (4 \times R^2 \times \pi)$$

$$= 47.86 / (4 \times 20^2 \times \pi)$$

$$= 0.009\,521\, \text{mW/cm}^2$$

Note: S= Power density (mW/cm²)

EIRP= Equivalent Isotropic Radiated Power (mW)

R= Distance to the center of the radiation of the antenna

$$\pi \approx 3.1416$$

So, the EUT met the MPE Limits.