

ReGrow Helmet Inc

TEST REPORT

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RF Exposure Evaluation Report

Applicant:	ReGrow Helmet Inc Unit 105, 264 Queens Quay West Toronto, Ontario Canada M5J 1B5
Product:	Regrow Helmet with BT4.0 & WiFi
Model No.:	RGH1
Brand Name:	Regrow Helmet
FCC ID:	2AUSE-RGH1
Test Method/ Standard:	FCC 1.1310 KDB 447498
Test By:	Intertek Testing Services Taiwan Ltd., Hsinchu Laboratory No. 11, Lane 275, Ko-Nan 1 Street, Chia-Tung Li, Shiang-Shan District, Hsinchu City, Taiwan

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Revision History

Report No.	Issue Date	Revision Summary
190700235TWN-001	May 11, 2020	Original report

Table of Contents

1. General Information	4
1.1 Identification of the EUT	4
1.2 Antenna description	4
1.3 Peripherals equipment	4
1.4 Peripherals equipment	4
2. Test specifications.....	5
2.1 RF Exposure calculations	5
2.2 Operation mode	5
2.3 Test equipment.....	6
2.4 Test Set-up	6
3. Test results	7

1. General Information

1.1 Identification of the EUT

Product:	Regrow Helmet with BT4.0 & WiFi
Model No.:	RGH1
Operating Frequency:	1. 2402 MHz ~ 2480 MHz 2. 2412 MHz ~ 2462 MHz
Channel Number:	1. 79 channels for 2402 MHz ~ 2480 MHz (BT 2.0) 2. 40 channels for 2402 MHz ~ 2480 MHz (BT 4.0) 3. 11 channels for 2412 MHz ~ 2462 MHz (WiFi 2.4GHz)
Access scheme:	DSSS, OFDM
Rated Power:	DC 12V from adapter
Power Cord:	N/A
Sample receiving date:	May 27, 2019
Sample condition:	Workable
Test Date(s):	Apr. 17, 2020

1.2 Antenna description

Antenna Gain : -0.9 dBi

Antenna Type : Chip Antenna

Connector Type : Fixed

1.3 Peripherals equipment

No.	Model no.	Specification
Adapter	EM1024QU	I/P: 100-240V~, 1.0~0.5A, 50-60Hz O/P: 12V, 2A

1.4 Peripherals equipment

Peripherals	Brand	Model No.	Serial No.	Data cable
Notebook PC	DELL	Latitude E5420	HXYJBT1	USB shielded cable 0.8 meter

2. Test specifications

2.1 RF Exposure calculations

According to KDB 447498 D01 , Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v06.

Clause 4.3: General SAR test reduction and exclusion guidance Sub , clause 4.3.1: Standalone SAR test exclusion considerations

a) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6GHz at test separation distances ≤ 5 mm are determined by:

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation, mm})] * [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR}$$

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation, mm})] * [\sqrt{f(\text{GHz})}] \leq 7.5.0 \text{ for 10-g SAR}$$

2.2 Operation mode

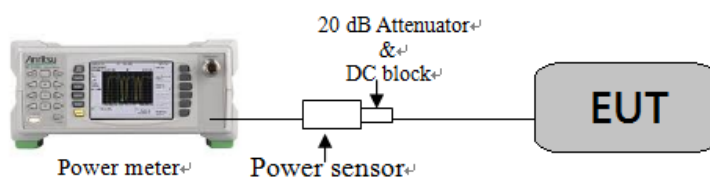
For WiFi 2.4GHz

- (1) TX mode: EUT use 「Tera Term」 entering test mode to change different channel and modulation.
- (2) With individual verifying, the maximum output power were found out 1 Mbps data rate for 802.11b mode, 6 Mbps data rate for 802.11g mode, MCS0 Mbps data rate for 802.11n(HT20) mode , MCS0 Mbps data rate for 802.11n(HT40) mode , the final tests were executed under these conditions recorded in this report individually.

2.3 Test equipment

Equipment	Brand	Model No.	Serial No.	Calibration Date	Next Calibration Date
Power Meter	Anritsu	ML2495A	0844001	2019/10/23	2020/10/21
Power Sensor	Anritsu	MA2411B	0738452	2019/10/23	2020/10/21
RF Cable 9kHz~26.5GHz	SUHNER	SUCOFLEX 102	CB0006	2019/05/02	2020/04/30

2.4 Test Set-up



3. Test results

Mode	Channel	Frequency (MHz)	Antenna Gain0 (numeric)	Output power to antenna 0 (dBm)	Output power to antenna 0 (mW)	Tune-up Power Tolerance (dB)	Max Tune-up Power (dBm)	Max Tune-up Power (mW)	Calculation Value (cm2)	Limit of SAR Exclusion (mW)
802.11b	1	2412	0.81	7.04	5.06	2.00	9.04	8.02	2.49011	3.0
	6	2437	0.81	6.95	4.95	2.00	8.95	7.85	2.45165	3.0
	11	2462	0.81	6.87	4.86	2.00	8.87	7.71	2.41921	3.0
802.11g	1	2412	0.81	7.25	5.31	2.00	9.25	8.41	2.61348	3.0
	6	2437	0.81	7.18	5.22	2.00	9.18	8.28	2.58498	3.0
	11	2462	0.81	7.05	5.07	2.00	9.05	8.04	2.52159	3.0
802.11n (HT20)	1	2412	0.81	7.32	5.40	2.00	9.32	8.55	2.65594	3.0
	6	2437	0.81	7.26	5.32	2.00	9.26	8.43	2.63304	3.0
	11	2462	0.81	7.18	5.22	2.00	9.18	8.28	2.59821	3.0
802.11n (HT40)	3	2422	0.81	7.24	5.30	2.00	9.24	8.39	2.61287	3.0
	6	2437	0.81	7.16	5.20	2.00	9.16	8.24	2.57311	3.0
	9	2452	0.81	7.07	5.09	2.00	9.07	8.07	2.52808	3.0

Note: 1. Output power including tune up tolerance

2. Test separation: 5mm.

3. The worst RF Exposure Evaluation is 2.65594 / cm2 < limit 3.0, So standalone SAR measurements are not required