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Certificate #3464.02

MPE Report

Test Report No.	:	SZ1903FS11
Applicant	:	RONDISH CO. LTD
Product Type	:	CarePort
Trade Name	:	Rondish
Model Number	:	UNCG-31
Received Date	:	Jan. 23 , 2019
Test Period	:	Jan. 28 ~ Jan. 29, 2019
Issue Date	:	Mar. 28, 2019
Test Specification	:	ANSI / IEEE Std.C95.1-1992 / IEEE Std. 1528-2013
		47 CFR § 2.1091
		47 CFR § 1.1310

1. The test operations have to be performed with cautious behavior, the test results are as attached.
2. The test results are under chamber environment of A Test Lab Techno Corp. A Test Lab Techno Corp. does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples.
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4. This document may be altered or revised by A Test Lab Techno. Corp. personnel only, and shall be noted in the revision section of the document.

Approved By : Jet Lu (Jet Lu)

Tested By : Edison Hu (Edison Hu)

Contents

1. Description of Equipment under Test (EUT)

Applicant	RONDISH CO. LTD UNIT G&H, 4/F, BLOCK 1, KWAI TAK IND.CTR, 15-33 KWAI TAK ST., KWAI CHUNG,N.T., HONG KONG, China		
Manufacturer	RONDISH CO. LTD UNIT G&H, 4/F, BLOCK 1, KWAI TAK IND.CTR, 15-33 KWAI TAK ST., KWAI CHUNG,N.T., HONG KONG, China		
Product Type	CarePort		
Trade Name	Rondish		
Model Number	UNCG-31		
FCC ID	WNG-UNCG-31		
Frequency Range	Operate Band		Frequency Range (MHz)
	IEEE 802.11b / 802.11g / 802.11n 2.4 GHz 20 MHz		2412 - 2462
	IEEE 802.11n 2.4 GHz 40 MHz		2422 - 2452
Antenna Information	Model	Type	Max. Gain (dBi)
	G-RA0G58026013-R0064	Omni Directional	1.95
RF Evaluation	0.0031 mW/cm^2		
Temperature Range	0 ~ +45 °C		

The above equipment was tested by A Test Lab Techno Corp. 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

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

3. RF Output Power

The conducted power turn-up tolerance reference manufacturer specification.

Band	Date Rate (Mbps)	Frequency (MHz)	Average Conducted power(dBm)
IEEE 802.11b	1	2412.0	9.45
		2437.0	**9.47**
		2462.0	7.58
	2	2437.0	9.44
	5.5	2437.0	9.42
	11	2437.0	9.39
IEEE 802.11g	6	2412.0	9.00
		2437.0	9.03
		2462.0	7.45
	9	2437.0	9.00
	12	2437.0	9.02
	18	2437.0	9.04
	24	2437.0	9.07
	36	2437.0	9.10
	48	2437.0	9.13
	54	2437.0	**9.15**
IEEE 802.11n 2.4 GHz 20 MHz	6.5	2412.0	7.79
		2437.0	7.99
		2462.0	5.88
	14.4	2437.0	8.02
	21.7	2437.0	8.04
	28.9	2437.0	8.07
	43.3	2437.0	8.09
	57.8	2437.0	8.12
	65	2437.0	8.15
	72.2	2437.0	**8.18**
IEEE 802.11n 2.4 GHz 40 MHz	13.5	2422.0	6.08
		2437.0	5.99
		2452.0	4.21
	30	2437.0	6.02
	45	2437.0	6.04
	60	2437.0	6.07
	90	2437.0	6.10
	120	2437.0	7.12
	135	2437.0	7.14
	150	2437.0	**7.17**

Note: The relevant measured result has the offset with cable loss already.

4. Test Results

Band	Data Rate (Mbps)	Frequency (MHz)	Limit (mw)/cm^2	Distance [R] (cm)	Max tune-up Power (upper limit) [P] (dBm)	ANT Gain (dBi)	Numeric Gain [G]	Duty Cycle	Power with Duty cycle [TP] (mW)	Power Density [S] (mw/cm^2)
IEEE 802.11b	1	2412.0	1	20	10.00	1.95	1.57	1	15.700	0.0031
		2437.0	1	20	10.00	1.95	1.57	1	15.700	0.0031
		2462.0	1	20	10.00	1.95	1.57	1	15.700	0.0031
IEEE 802.11g	6	2412.0	1	20	9.50	1.95	1.57	1	13.993	0.0028
		2437.0	1	20	9.50	1.95	1.57	1	13.993	0.0028
		2462.0	1	20	9.50	1.95	1.57	1	13.993	0.0028
IEEE 802.11n 2.4 GHz 20 MHz	6.5	2412.0	1	20	8.50	1.95	1.57	1	11.115	0.0022
		2437.0	1	20	8.50	1.95	1.57	1	11.115	0.0022
		2462.0	1	20	8.50	1.95	1.57	1	11.115	0.0022
IEEE 802.11n 2.4 GHz 40 MHz	13.5	2422.0	1	20	7.50	1.95	1.57	1	8.829	0.0018
		2437.0	1	20	7.50	1.95	1.57	1	8.829	0.0018
		2452.0	1	20	7.50	1.95	1.57	1	8.829	0.0018
		5775.0	1	20	10.00	1.95	1.57	1	15.700	0.0031

Note:

1. Mobile or fixed location transmitters, minimum separation distance is 20 cm, even if calculations indicate MPE distance is less.
2. The Numeric Gain calculated by 10^(ant. Gain(dBi)/10).
3. Each band max power which perform MPE of any configurations.
4. The MPE results are evaluated by lowest data rate for WLAN.