

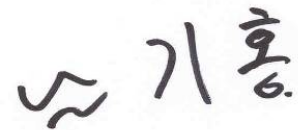
ELECTROMAGNETIC EMISSION COMPLIANCE REPORT FOR LOW-POWER, NON-LICENSED TRANSMITTER

Test Report No. : OT-213-RWD-010
Reception No. : 2101000406
Applicant : Caavo Inc
Address : 1525 McCarthy Blvd., #1182, Milpitas, California, 95035, United States
Manufacturer : Remote Solution Co.,Ltd
Address : 71, Gunpocheomdansaneop 2-ro, Gunpo-si, Gyeonggi-do, Korea 15880
Type of Equipment : Remote Controller
FCC ID. : 2AMB8-W4RC1
Model Name : W4.1.1-R1-100
Multiple Model Name : N/A
Serial number : N/A
Total page of Report : 7 pages (including this page)
Date of Incoming : February 19, 2021
Date of issue : March 04, 2021

SUMMARY

The equipment complies with the regulation; *FCC PART 15 SUBPART C Section 15.247*
 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.





Tested by
 Hyung-Kwon, Oh / Manager
 ONETECH Corp.

Reviewed by
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 ONETECH Corp.

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Revision History

Rev. No.	Issue Report No.	Issued Date	Revisions	Section Affected
0	OT-213-RWD-010	March 04, 2021	Initial Release	All

1. VERIFICATION OF COMPLIANCE

Applicant : Caavo Inc

Address : 1525 McCarthy Blvd., #1182, Milpitas, California, 95035, United States

Contact Person : Ashish Aggarwal / Director

Telephone No. : 8052521325

FCC ID : 2AMB8-W4RC1

Model Name : W4.1.1-R1-100

Brand Name : Caavo W4RC

Serial Number : N/A

Date : March 04, 2021

EQUIPMENT CLASS	DTS – DIGITAL TRNSMISSION SYSTEM
E.U.T. DESCRIPTION	Remote Controller
THIS REPORT CONCERNS	Original Grant
MEASUREMENT PROCEDURES	ANSI C63.10: 2020
TYPE OF EQUIPMENT TESTED	Pre-Production
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	Certification
EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)	FCC PART 15 SUBPART C Section 15.247 KDB 558074 D01 15.247 Meas Guidance v05r02
Modifications on the Equipment to Achieve Compliance	None
Final Test was Conducted On	3 m, Semi Anechoic Chamber

-. The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

2. GENERAL INFORMATION

2.1 Product Description

The Caavo Inc, Model W4.1.1-R1-100 (referred to as the EUT in this report) is a Remote Controller. The product specification described herein was obtained from product data sheet or user's manual.

Device Type	Remote Controller
Temperature Range	0 °C ~ 40 °C
Operating Frequency	2 402 MHz ~ 2 480 MHz
RF Output Power	0.01 dBm
Number of Channel	40 Channel
Modulation Type	DSSS Modulation(GFSK)
Antenna Type	Chip Antenna
Antenna Gain	0.97 dBi
Electrical Rating	DC 3.0 V
List of each Osc. or crystal Freq.(Freq. >= 1 MHz)	32.768 kHz, 40 MHz

2.2 Alternative type(s)/model(s); also covered by this test report.

-. None

3. EUT MODIFICATIONS

-. None

4. MAXIMUM PERMISSIBLE EXPOSURE

4.1 RF Exposure Calculation

According to the FCC rule 1.1310 table 1B, the limit for the maximum permissible RF exposure for an uncontrolled environment are $f/1500$ mW/cm² for the frequency range between 300 MHz and 1 500 MHz and 1.0 mW/cm² for the frequency range between 1 500 MHz and 100 000 MHz.

The electric field generated for a 1 mW/cm² exposure is calculated as follows:

$$E = \sqrt{(30 * P * G) / d}, \text{ and } S = E^2 / Z = E^2 / 377, \text{ because } 1 \text{ mW/cm}^2 = 10 \text{ W/m}^2$$

Where

S = Power density in mW/cm², Z = Impedance of free space, 377 Ω

E = Electric field strength in V/m, G = Numeric antenna gain, and d = distance in meter

Combining equations and rearranging the terms to express the distance as a function of the remaining variable

$$d = \sqrt{(30 * P * G) / (377 * 10 S)}$$

Changing to units of mW and cm, using P (mW) = P (W) / 1 000, d (cm) = 0.01 * d (m)

$$d = 0.282 * \sqrt{(P * G) / S}$$

Where

d = distance in cm, P = Power in mW, G = Numeric antenna gain, and S = Power density in mW/cm²

4.2 EUT Description

Kind of EUT	Remote Controller
Device Category	<input checked="" type="checkbox"/> Portable (< 20 cm separation) <input type="checkbox"/> Mobile (> 20 cm separation) <input type="checkbox"/> Others
Exposure Evaluation Applied	<input checked="" type="checkbox"/> MPE <input type="checkbox"/> SAR <input type="checkbox"/> N/A

4.3 Calculated MPE Safe Distance for Bluetooth LE

According to the procedure, KDB 447498 D01, the standalone SAR test exclusion threshold is

$$[(\text{Max. Power of channel, including tune-up tolerance, mW})/(\text{Min. test separation distance, mm})] \times [\sqrt{f(\text{GHz})}] < 3$$

$$= (1.12/5) \times \sqrt{2.402} = 0.35$$

Mode	Frequency (MHz)	Target Power W/tolerance (dBm)	Max tune up power (dBm)	Max tune up power (mW)	Separation distance (mm)	RF exposure
Bluetooth LE	2 402.00	0.0 ± 0.5	0.50	1.12	5.00	0.35

Conclusion:

SAR evaluation for general population exposure conditions by measurement or numerical simulation is not required.