RF EXPOSURE EVALUATION REPORT

FCC ID	:	XIA-CFW2832
Equipment	:	CBRS 5G Cat B Outdoor CPE
Brand Name	:	Casa Systems
Model Name	:	CFW-2832
Marketing Name	:	CBRS 5G Cat B Outdoor CPE
Applicant	:	Netcomm Wireless Pty Ltd Level 5, 18-20 Orion Road, Lane Cove, NSW, Australia, 2066
Manufacturer	:	Casa Systems 100 Old River Road, Andover MA 01810 USA
Standard	:	47 CFR Part 1.1307

We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with 47 CFR Part 1.1307 and it complies with applicable limit.

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC evaluation.

The results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Laboratory, the test report shall not be reproduced except in full

Cona Huang

Approved by: Cona Huang / Deputy Manager

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History of this test report

Report No.	Version	Description	Issued Date
FA220302001B	Rev. 01	Initial issue of report	Sep. 26, 2022

1. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	CBRS 5G Cat B Outdoor CPE
Brand Name	Casa Systems
Model Name	CFW-2832
Marketing Name	CBRS 5G Cat B Outdoor CPE
FCC ID	XIA-CFW2832
Wireless Technology and Frequency Range	5G NR n48 : 3550 MHz ~ 3700 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz
Mode	5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM Bluetooth LE
EUT Stage	Identical Prototype

Reviewed by: Jason Wang

Report Producer: Daisy Peng

2. Maximum RF average output power among production units

Bluetooth	
Mode	Maximum Average power(dBm)
LE	14

5G NR n48	
Mode	Maximum Average power(dBm)
PI/2 BPSK	21.5
QPSK	21.5
16QAM	21
64QAM	20
256QAM	19

3. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f2)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

The MPE was calculated at 24 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

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

Where:
S = Power Density
P = Output Power at Antenna Terminals
G = Gain of Transmit Antenna (linear gain)
R = Distance from Transmitting Antenna

4. Radio Frequency Radiation Exposure Evaluation

4.1. Standalone Power Density Calculation

Band	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (W)	Average EIRP (mW)	Power Density at 24cm (mW/cm^2)	Limit (mW/cm^2)
5G NR n48	17.00	21.50	38.5	7.08	7079.46	0.979	1.000
Bluetooth	7.43	14.00	21.4	0.14	139.00	0.019	1.000

Conclusion:

According to 47 CFR §1.1307, the RF exposure analysis concludes that the RF Exposure is FCC compliant.