

RF Exposure Report

Project Number: 5214055**Proposal: SUW-202405006470****Report Number: 5214055EMC02****Revision Level: 0****Client: Sanmina Corporation****Equipment Under Test: Encircle Remote Termite Detection System (RTDS)****Model: 1005400-MDC-001****FCC ID: 2AMS3ENCIRCLE****Applicable Standards: 47 CFR §§ 2.1091****FCC KDB 447498 D01 General RF Exposure Guidance v06****FCC OET Bulletin 65****Report issued on: 30 August 2024****Result: Compliant**

FOR THE SCOPE OF ACCREDITATION UNDER CERTIFICATE NUMBER: 3212.01

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1 General Information

1.1 Client Information

Company Name: Sanmina Corporation
Address: 13000 South Memorial Parkway
City, State, Zip, Country: Huntsville, Alabama, 35803 USA

1.2 Test Laboratory

Name: SGS North America, Inc.
Address: 620 Old Peachtree Road NW, Suite 100
City, State, Zip, Country: Suwanee, GA 30024, USA

Accrediting Body: A2LA
Type of lab: Testing Laboratory
Certificate Number: 3212.01

1.3 General Information of EUT

Manufacturer: Sanmina Corporation
Product Marketing Name (PMN): Encircle Remote Termite Detection System (RTDS)
Model Number: 1005400-MDC-001
Serial Number: NIM2428F000021 (Conducted Sample)
NIM2428F000017 (Radiated Sample)

Type / Frequency Range: LoRa / 902 – 928 MHz
Modulation / Data Rate(s): CSS / 125kHz (293-9380 bps), 500 kHz (1172 to 37800 bps)
Antenna*: PCB Antenna: +0.9 dBi
Max Conducted Output Power: 16.59 dBm

**Data was not measured by SGS laboratory and therefore SGS is not responsible for accuracy. Data obtained via customer, specification sheet, previous regulatory filing or other.*

1.4 Operating Modes and Conditions

Maximum power levels were utilized for calculations.

2 RF Exposure

2.1 Test Results

Test Description	Product Specific Standard	Test Result
RF Exposure	FCC Part 1.1310	Compliant

2.2 Test Method

The formula below calculates power density.

$$S = \frac{PG}{4\pi R^2} \quad \text{Or} \quad S = \frac{EIRP}{4\pi R^2}$$

where;

S = Power density (mW/cm²)

P = Maximum sourced based average power delivered to antenna port (mW)

G = Maximum numeric power gain of antenna relative to an isotropic radiator (dBi -> linear)

R = Distance between by-stander and antenna (cm)

EIRP = Equivalent (or effective) isotropically radiated power

The limits for general population / uncontrolled exposure were used at a distance of 20cm.

2.3 Single transmission RF Exposure Levels (mW/cm²)

Band of Operation		Conducted Power w/tolerance dBm	Antenna Gain	Cable Loss	FCC		Distance (R) cm	Power Density EIRP _{avg} /(4πR ²) mW/cm ²	FCC mW/cm ²	% of Limit	Verdict
Type	MHz				Average EIRP dBm	mW					
LoRa	902-928	16.59	0.9	0	17.49	56.1048	20	0.011	0.60	2%	Pass

3 Revision History

Revision Level	Description of changes	Revision Date
Draft	Draft Release	16 August 2024
0	Initial Release	30 August 2024