

RF Exposure Report

Project Number: 5262251 **Proposal:** SUW-202412007540
(10172024NG-1.3)
Report Number: SUW5262251EMC06 **Revision:** 1

Client: Traffic and Parking Control Co., LLC

Equipment Under Test: RRFB Pedestrian Crosswalk System

Marketing Name: BLE Module

Model Number: TAPCO-B301

Contains FCC ID: 2ANWN-RM8003-03, 2ANWN-NINAB30
XPYUBX21BE02

Applicable Standards: 47 CFR §§ 2.1091 (Mobile)

FCC KDB 447498 D01 General RF Exposure Guidance v06

FCC OET Bulletin 65

Revision issued: 5 August 2025

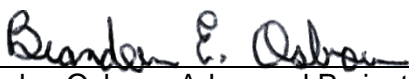
Result: Compliant



FOR THE SCOPE OF ACCREDITATION UNDER 17025 CERTIFICATE NUMBER: 3212.01

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1 General Information

1.1 Client Information

Company Name: Traffic and Parking Control Co., LLC
Address: 5100 W. Brown Deer Rd
City, State, Zip, Country: Brown Deer, WI 53223, 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

Type of Product: BLE Module
Marketing Name: BLE Module
Model Number: TAPCO-B301
Hardware Version:
Firmware Version: 1

Module Models: NINAB30, LARA6410

Frequency Ranges: 2402 – 2480 Mhz (Bluetooth LE)
902 – 928 MHz (Lora)
1850 – 1910 MHz (LTE Band 2)
1710 – 1780 MHz (LTE Band 66)
824 – 849 MHz (LTE Band 5)
699 – 716 MHz (LTE Band 12)
777 – 787 MHz (LTE Band 13)
788 – 798 MHz (LTE Band 14)
663 – 698 MHz (LTE Band 71)

Antenna Gain*: External Monopole, 2402-2480MHz, 3.0dBi
External Whip, 868-928MHz, 3.0dBi
External Dome Type-N / (0.0dBi, 699-960MHz / 1.7dBi 1710-1990MHz / 2.9dBi 2100-2700MHz respectively)

Max Conducted Output Power*: Bluetooth LE: 8.45dBi
900MHz LoRa: 20.45dBi
LTE bands: 24.0dBm

**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 all calculations. Simultaneous transmission is possible with one LTE band, a LoRa channel and BLE.

The separation distance from antenna and/or radiating structure is 20cm.

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 power gain of the antenna in the direction of interest relative to an isotropic radiator (dBi)

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

EIRP = Equivalent (or effective) isotropically radiated power

2.3 Single transmission RF Exposure Levels (mW/cm²)

Band of Operation		Conducted Power w/tolerance	Antenna Gain	Cable Loss	Average EIRP		Distance (R)	Power Density EIRP _{avg} /(4πR ²)	FCC	% of Limit	Verdict
Type	MHz	dBm			dBm	mW	cm	mW/cm ²	mW/cm ²		
LTE Band 2	1850-1910	24.0	1.7	0.0	25.7	372	20	0.074	1.00	7%	Pass
LTE Band 5	824-849	24.0	0.0	0.0	24.0	251	20	0.050	0.55	9%	Pass
LTE Band 12	699-716	24.0	0	0	24	251	20	0.050	0.47	11%	Pass
LTE Band 13	777-787	24.0	0	0	24.0	251	20	0.050	0.52	10%	Pass
LTE Band 14	788-798	24.0	0.0	0.0	24.0	251	20	0.050	0.53	10%	Pass
LTE Band 66	1710-1780	24.0	1.7	0	25.7	372	20	0.074	1.00	7%	Pass
LTE Band 71	663-698	24.0	0	0	24.0	251	20	0.050	0.44	11%	Pass
LoRa	902-928	20.45	3.0	0.0	23.5	221	20	0.044	0.60	7%	Pass
Bluetooth	2400-2483.5	8.45	3.0	0.0	11.5	14	20	0.003	1.00	0%	Pass

2.4 ***Simultaneous Conditions***

Simultaneous transmissions are evaluated using the equation and highest results from each technology.

$$\frac{S_1}{S_1 \text{ Limit}} + \frac{S_2}{S_2 \text{ Limit}} + \dots + \frac{S_n}{S_n \text{ Limit}} \leq 1.0$$

Example

LTE (11%) + LoRa (7%) + BLE (0%) equals 18% < 1.0 (100%)

3 Revision History

Revision Level	Description of changes	Revision Date
0	Initial Release	29 April 2025
1	Recalculated RF power to match initial certifications and updated EUT name and model numbers.	5 August 2025