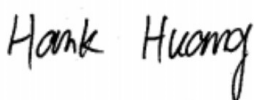


RF Exposure Evaluation Report

APPLICANT : Copeland Cold Chain LP.
EQUIPMENT : GO Nano Gateway
BRAND NAME : Copeland
MODEL NAME : NS-BCWE-00
FCC ID : AMHBCWE
STANDARD : 47 CFR Part 2.1091
FCC KDB 447498 D01 v06

The product evaluation date was started from Apr. 03, 2025 and completed on Apr. 03, 2025. We, Sporton International Inc. (Shenzhen), would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091 and FCC KDB 447498 D01 v06, and pass the limit. Without written approval of Sporton International Inc. (Shenzhen), the test report shall not be reproduced except in full.



Approved by: Hank Huang



Sporton International Inc. (Shenzhen)

1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055
People's Republic of China



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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA512102	Rev. 01	Initial issue of report.	Sep. 16, 2025



1. Administration Data

1.1. Testing Laboratory

Sporton International Inc. (Shenzhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

49sting Laboratory			
Test Firm	Sporton International Inc. (Shenzhen)		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	SAR01-SZ	CN1256	421272

Applicant	
Company Name	Copeland Cold Chain LP.
Address	6223 N Discovery Way, Park Pointe Center 1 , Suite 120 Boise ID 83713 United States

Manufacturer	
Company Name	ATR Manufacturing Ltd.
Address	3/F, 28 Hung To Road Kwun Tong, Kowloon Hong Kong



2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	GO Nano Gateway
Brand Name	Copeland
Model Name	NS-BCWE-00
FCC ID	AMHBCWE
Wireless Technology and Frequency Range	LTE Category M1: LTE Band 2 : 1850 MHz ~ 1910 MHz LTE Band 4 : 1710 MHz ~ 1755 MHz LTE Band 5 : 824 MHz ~ 849 MHz LTE Band 12 : 699 MHz ~ 716 MHz LTE Band 13 : 777 MHz ~ 787 MHz LTE Band 25 : 1850 MHz ~ 1915 MHz LTE Band 26 : 814 MHz ~ 849 MHz LTE Band 66 : 1710 MHz ~ 1780 MHz LTE Band 85: 698 MHz ~ 716 MHz NB-IOT Category NB2: LTE Band 2 : 1850 MHz ~ 1910 MHz LTE Band 4 : 1710 MHz ~ 1755 MHz LTE Band 5 : 824 MHz ~ 849 MHz LTE Band 12 : 699 MHz ~ 716 MHz LTE Band 13 : 777 MHz ~ 787 MHz LTE Band 25 : 1850 MHz ~ 1915 MHz LTE Band 66 : 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz LTE Band 85: 698 MHz ~ 716 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Mode	LTE Category M1: QPSK / 16QAM NB-IOT Category NB2 :BPSK / QPSK Bluetooth LE
Antenna Gain	LTE Band 2 : 2.0 dBi LTE Band 4 : 1.6 dBi LTE Band 5 : 0.9 dBi LTE Band 12 : 0.9 dBi LTE Band 13 : 0.8 dBi LTE Band 25 : 2.0 dBi LTE Band 26 : 0.9 dBi LTE Band 66: 2.5 dBi LTE Band 71: 0.9 dBi LTE Band 85: 0.9 dBi Bluetooth: 2.4 dBi
Antenna Type	WWAN: PIFA Antenna Bluetooth: Dipole Antenna
HW Version	0059 5563 Rev. 001
SW Version	32.0.0.0

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

Comments and Explanations:

1. The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.
2. The maximum RF output tune up power, antenna gain also the safe distance used for evaluate RF exposure were declared by manufacturer.

3. Maximum RF average output tune up power among production units

<LTE>

Mode		Maximum Average power(dBm)
LTE Cat M1	Band 2	25.00
	Band 4	25.00
	Band 5	25.00
	Band 12	25.00
	Band 13	25.00
	Band 25	25.00
	Band 26	25.00
	Band 66	25.00
	Band 85	25.00
NB-IOT	Band 2	25.00
	Band 4	25.00
	Band 5	25.00
	Band 12	25.00
	Band 13	25.00
	Band 25	25.00
	Band 66	25.00
	Band 71	25.00
	Band 85	25.00

<Bluetooth>

Mode		Maximum Average power(dBm)
Bluetooth	LE	11.00



4. 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/f ²)	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/f ²)	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 20 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

5. Radio Frequency Radiation Exposure Evaluation

5.1. Standalone Power Density Calculation

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Average EIRP (mW)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)	Power Density / Limit
LTE Band 2	1850.0	2.00	25.00	27.000	501.187	0.100	1.000	0.100
LTE Band 4	1710.0	1.60	25.00	26.600	457.088	0.091	1.000	0.091
LTE Band 5	824.0	0.90	25.00	25.900	389.045	0.077	0.549	0.141
LTE Band 12	699.0	0.90	25.00	25.900	389.045	0.077	0.466	0.166
LTE Band 13	777.0	0.80	25.00	25.800	380.189	0.076	0.518	0.146
LTE Band 25	1850.0	2.00	25.00	27.000	501.187	0.100	1.000	0.100
LTE Band 26	814.0	0.90	25.00	25.900	389.045	0.077	0.543	0.143
LTE Band 66	1710.0	2.50	25.00	27.500	562.341	0.112	1.000	0.112
LTE Band 71	663.0	0.90	25.00	25.900	389.045	0.077	0.442	0.175
LTE Band 85	698.0	0.90	25.00	25.900	389.045	0.077	0.465	0.166
Bluetooth	2402.0	2.40	11.00	13.400	21.878	0.004	1.000	0.004

Note:

1. For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band.
2. Chose the maximum power to do MPE analysis.

**5.2. Collocated Power Density Calculation**

WWAN Power Density / Limit	Bluetooth Power Density / Limit	Σ (Power Density / Limit) of WWAN + Bluetooth
0.175	0.004	0.179

Note:

1. According to the EUT characteristic, WWAN and Bluetooth can transmit simultaneously.
2. Σ (Power Density / Limit): This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)], for WWAN + Bluetooth.
3. Considering all the transmitter of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1, and MPE collocated transmitters is compliant.

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.

-----THE END-----