



REPORT No.: SZ25080057S01

RF EXPOSURE EVALUATION REPORT

APPLICANT : Copeland Comfort Control LP

PRODUCT NAME : WIFI Smart Thermostat

MODEL NAME : 1F96U-52WFTR,
1F96U-52WFAS

BRAND NAME : WIFI Smart Thermostat

FCC ID : 2A4JN-1F96U52

STANDARD(S) : FCC 47 CFR Part 2(2.1091)

RECEIPT DATE : 2025-08-05

TEST DATE : 2025-08-14 to 2026-01-09

ISSUE DATE : 2026-01-23



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Change History		
Version	Date	Reason for change
1.0	2026-01-23	First edition



1. Technical Information

Note: Provide by applicant.

1.1 Applicant and Manufacturer Information

Applicant:	Copeland Comfort Control LP
Applicant Address:	8100 West Florissant Ave, St. Louis, United States of America
Manufacturer:	Copeland Comfort Control LP
Manufacturer Address:	8100 West Florissant Ave, St. Louis, United States of America

1.2 Equipment under Test (EUT) Description

Product Name:	WIFI Smart Thermostat		
Sample No.:	1#		
Hardware Version:	0059 5601003		
Software Version:	7017590402-ef4e670		
Modulation Technology:	WLAN 2.4GHz	DSSS, OFDM, OFDMA	
	WLAN 5GHz	OFDM, OFDM, OFDMA	
	Bluetooth	GFSK	
	SUBG	FSK2	
	Radar	FMCW	
Operating Frequency Range:	WLAN 2.4GHz	2412MHz-2462MHz	
	WLAN 5GHz	5180MHz-5240MHz; 5745MHz-5825MHz	
	Bluetooth	2402MHz-2480MHz	
	SUBG	902.46 MHz-927.54MHz	
	Radar	57GHz-64GHz	
Antenna Type:	WLAN 2.4GHz	PCB Antenna	
	WLAN 5GHz	PCB Antenna	
	Bluetooth	PCB Antenna	
	SUBG	PCB Antenna	
	Radar	AOP Antenna	
Antenna Gain:	WLAN 2.4GHz	3.62 dBi	
	WLAN 5GHz	5180MHz-5240MHz	3.07dBi
		5745MHz-5825MHz	2.80dBi
	Bluetooth	3.62 dBi	
	SUBG	0.41 dBi	



	Radar	8.7dBi
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Note 1: According to the certificate holder, they declared that the product name: WIFI Smart Thermostat, with model name: 1F96U-52WFTR, 1F96U-52WFAS have the same hardware and software. The PCB design of the above models is exactly the same, only the logo are different, and these changes will not affect the RF performance. The main test model name is 1F96U-52WFTR, only the result for 1F96U-52WFTR was recorded in this report.

Note 2: All has tested the Bluetooth and WLAN test result please refer to the module FCC test report (Report No. : FR512010A/FR512010B/FR512010D), which issued on May. 23, 2025 by Sporton international Inc. (Kunshan).

Note 3: All SUBG test results that have been tested are provided by Eurofins Electrical Testing Service (Shenzhen) Co., Ltd.

Note 4: The EUT description presented in the report are provided by applicant and/or manufacturer, and the test laboratory is not responsible for the accuracy of the information. For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.



1.3 Applied Reference Documents

Leading reference documents for testing:

Identity	Document Title	Method determination /Remark
47 CFR Part 2(2.1091)	Radio Frequency Radiation Exposure Assessment: mobile devices	No deviation
KDB 447498 D01v06	General RF Exposure Guidance	No deviation
Note 1: Any additions, deviation, or exclusions from the method shall be noted in the "Remark".		



2. Device Category and RF Exposure Limit

Per user manual, based on 47 CFR 2.1091, this device belongs to mobile device category with General Population/Uncontrolled exposure.

Mobile Devices:

47 CFR 2.1091(b)

For purposes of this section, a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons. In this context, the term "fixed location" means that the device is physically secured at one location and is not able to be easily moved to another location. Transmitting devices designed to be used by consumers or workers that can be easily re-located, such as wireless devices associated with a personal computer, are considered to be mobile devices if they meet the 20 centimeter separation requirement.

General Population/Uncontrolled Exposure:

The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity. Warning labels placed on low-power consumer devices such as cellular telephones are not considered sufficient to allow the device to be considered under the occupational/controlled category, and the general population/uncontrolled exposure limits apply to these devices.

Table 1—Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(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

f = frequency in MHz* = Plane-wave equivalent power density

3. Maximum Average Power (E.I.R.P.) Summary

Wireless Mode	Channel	Frequency (MHz)	Max. Average Power (dBm)	Tune-up Limit (dBm)
WLAN 2.4GHz	CH 11	2462	17.98	19.00
WLAN 5.2GHz	CH 48	5240	18.39	19.00
WLAN 5.8GHz	CH 165	5825	18.55	19.00
Bluetooth	CH 39	2480	20.37	21.00
SUBG	CH 33	915	18.94	19.00

Wireless Mode	Frequency (GHz)	Max. E.I.R.P. (dBm)	Tune-up Limit (dBm)
Radar	60.3	-7.4	-7.00

Note 1: According to KDB 447498, MPE assessment is based on source-based time-averaged maximum conducted output power of the RF channel requiring assessment, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.

Note 2: The output power of Radar refers to report (Report No.: SZ25080057W01).

Note 3: The output power of Bluetooth and WLAN is subject to the report (Report No.: FR512010A/FR512010B/ FR512010D), which is from Sporton international Inc. (Kunshan).

Note 4: The output power of SUBG is provided by Eurofins Electrical Testing Service (Shenzhen) Co., Ltd.

4. RF Exposure Assessment

➤ Standalone Transmission Assessment:

Bands	Frequency (MHz)	Tune-up Power(dBm)	Antenna Gain(dBi)	E.I.R.P. (mW)	Power Density (mW/cm ²)	Limit for MPE (mW/cm ²)
WLAN 2.4GHz	2462	19.00	3.62	182.81	0.036	1.0
WLAN 5.2GHz	5240	19.00	3.07	161.06	0.032	1.0
WLAN 5.8GHz	5825	19.00	2.80	151.36	0.030	1.0
Bluetooth	2480	21.00	3.62	289.73	0.058	1.0
SUBG	915	19.00	0.41	87.30	0.017	1.0
Radar	60300	-7.00		0.22	0.000	1.0

Note:

1. According to KDB 447498, MPE assessment is based on source-based time-averaged maximum conducted output power of the RF channel requiring assessment, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.
2. MPE calculate method

$$S = PG/4\pi R^2$$

Where: S= Power density (in appropriate units, e.g. mW/cm²)

P = Time-average maximum tune-up power (in appropriate units, e.g. dBm)

G = numeric gain of the antenna (in appropriate units, e.g. dBi)

R = Separation distance to the centre of radiation of the antenna (20cm)

➤ Simultaneous Transmission Assessment:

According to the user manual, both the WLAN, Bluetooth, SUBG, and Radar transmitters in the device cannot operate simultaneously, therefore simultaneous transmission analysis is not required.

➤ Conclusion:

According to 47 CFR §2.1091, this device complies with human exposure basic restrictions.



Annex A Testing Laboratory Information

1. Identification of the Responsible Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Laboratory Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Telephone:	+86 755 36698555
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2. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

3. Facilities and Accreditations

All measurement facilities used to collect the measurement data are located at FL.3, Building A, FeiYang Science Park, Block 67, BaoAn District, Shenzhen, 518101 P. R. China. The test site is constructed in conformance with the requirements of ANSI C63.10-2013 and CISPR Publication 22; the FCC designation number is CN1192, the test firm registration number is 226174.

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