
MPE REPORT

Report No.: SRTC2021-9004(F)-21030305(I)

Product Name: BEATS IP AND MS/TP VAV CONTROLLER

Product Model: WEB-VA75IB24NM,WEB-VA75MB24NM

Applicant: Honeywell (Beijing) Technology Solutions Lab Co., Ltd.

Manufacturer: Honeywell (Beijing) Technology Solutions Lab Co., Ltd.

Specification: FCC Part §2.1091, §2.1093, §1.1307(b), §1.1310 (2020)

FCC ID: 2ARTN-00005

The State Radio_monitoring_center Testing Center (SRTC)

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1 GENERAL INFORMATION

1.1 Notes of the test report

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1.2 Information about the testing laboratory

Company:	The State Radio_monitoring_center Testing Center (SRTC)
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1.3 Applicant's details

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1.4 Manufacturer's details

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2 DESCRIPTION OF THE DEVICE UNDER TEST

2.1 Final Equipment Build Status

Frequency Range	2.402GHz~2.480GHz
Number of Channel	40
Modulation Type	GFSK
Duplex Mode	TDD
Channel Spacing	2MHz
Data Rate	1Mbps,2Mbps
Power Supply	Charger or DC Power Supply
Hardware Version	V1.0.0
Software Version	V1.0.0
IMEI or Sample	#1
Antenna type	Refer to Note2
Antenna connector	Refer to Note2

Note1: There are twelve product models provided by manufacturers as below table, but their RF parameters have not changed, and we choose WEB-VA75IB24NM ,WEB-VA75MB24NM as the test model.

Model	UIOs	Solid State	Sum IO	DIP switches
WEB-VA00IB24NM CPO-VA00IB24NM CLMEVA00IB24NM	0	0	0	No
WEB-VA75IB24NM CPO-VA75IB24NM CLMEVA75IB24NM	7	5	12	No
WEB-VA75MB24NM CPO-VA75MB24NM CLMEVA75MB24NM	7	7	12	Yes
WEB-VA00MB24NM CPO-VA00MB24NM CLMEVA00MB24NM	0	0	0	Yes

WEB/CPO/CLME stand for different decorative file of the enclosure.

Note2: The antenna provide to the EUT, please refer to the following table:

SN	Model	Antenna gain(dBi)	Frequency band (GHz)	Antenna type	Connector Type
Ant1	ANT-DB1-LCD-SMA	2.80	2.4GHz~2.4835GHz	Fixed External Antenna	N/A
Ant2	MPN ARY113-0012-006-00	-0.31	2.4GHz~2.4835GHz	Fixed External Antenna	N/A
Ant3	N/A	2.30	2.4GHz~2.4835GHz	Fixed Internal Antenna	N/A


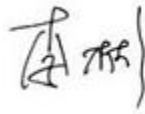

All antennas considered during test, only worst-case results reported.

3 REFERENCE SPECIFICATION

Specification	Version	Title
2.1091	2020	Radio frequency radiation exposure evaluation: mobile devices.
2.1093	2020	Radio frequency radiation exposure evaluation: portable devices.
1.1307(b)	2020	Actions that may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.
1.1310	2020	Radio frequency radiation exposure limits.
KDB447498	October 23, 2015	RF exposure procedures and equipment authorization policies for mobile and portable devices

4 RESULT SUMMARY

No.	Test case	FCC reference
1	MPE Calculation	FCC Part §2.1091, FCC Part §2.1093, FCC Part §1.1307(b) FCC Part §1.1310 KDB 447498

This Test Report Is Issued by: Mr. Peng Zhen 	Checked by: Mr. Li Bin 
Tested by: Mr. Tong Daocheng 	Issued date: 20210508

5 TEST RESULTS

5.1 Average Power Output Test Result

Modulation type	Conducted Average Power(dBm)		
	2402MHz	2440MHz	2480MHz
GFSK (LE 1Mbps)	6.85	6.48	6.32
GFSK (LE 2Mbps)	6.55	6.22	6.05
GFSK (LE Coded S=2)	6.87	6.96	6.93
GFSK (LE Coded S=8)	6.57	6.68	6.53

5.2 Calculation result

FCC LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

(A) Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
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

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
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

Calculation procedure:

According to §2.1091, §2.1093, §1.1307(b) and §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

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 in mW/cm²

P = transmit power in mW

G = numeric gain of transmit antenna

R = distance (cm)

The calculations in the table below use the highest gain of antenna for client EUT. These calculations represent worst case in terms of the exposure levels.

Band	Freq. (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Average EIRP (mW)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)
BLE	2440	2.80	6.97	9.77	9.48	0.002	1.000

Note:

For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band.

According to the KDB447498 D01 section 7.1 determine the device is exclusion from SAR test.

---End of Test Report---