

Maximum Permissible Exposure Evaluation

FCC ID: 2BDWZ-EDH-10I

1. Client Information

Applicant	:	Momentum Sales & Marketing, Inc. dba Eva-Dry
Address	:	12191 West Linebaugh Ave #152, Tampa, FL 33626 USA
Manufacturer	:	Shenzhen Forever Young Technology Co., Ltd
Address	:	2/F, No B2 Bldg, Fuyuan Industrial Park, Fu yong Town Bao'sn Distrcit, Shenzhen, China

2. General Description of EUT

EUT Name	:	Temperature & Humidity Sensor	
Models No.	:	EDH-10i	
Model Different	:	----	
Product Description	:	Operation Frequency:	Bluetooth 5.2(BLE): 2402MHz~2480MHz 802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz
	:	Antenna Gain:	1.37dBi PCB antenna
Li-ion Polymer Battery	:	DC 1.5V by AAA battery*2	
Software Version	:	V 5.6.1	
Hardware Version	:	V 2.1.0	
Connecting I/O Port(S)	:	Please refer to the User's Manual	
Remark	:	the evaluation report used the EUT(202310-0239-1-2#).	

MPE Calculations for WIFI

1. EUT Operation Condition:

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

2. Exposure Evaluation:

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

Where

S: power density

P: power input to the antenna

G: power gain of the antenna in the direction of interest relative to an isotropic radiator.

R: distance to the center of radiation of the antenna

3. Simultaneous transmission MPE Considerations

According to KDB447498: All transmitters and antennas in the host must be either evaluated for MPE compliance, by measurement or computational modeling, or qualify for the standalone MPE test exclusion in section 7.1. Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneous transmitting antennas incorporated in a host device, based on the calculated/estimated, numerically modeled or measured field strengths or power density, is ≤ 1.0 .

This means that:

$$\sum \text{ of MPE ratios } \leq 1.0$$

4. Test Result:

Bluetooth worst reported.

Mode	Frequency (MHz)	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/cm ²) [S]
BLE (1Mbps)	2402	4.041	4±1	5	1.37	20	0.0009
	2440	4.098	4±1	5	1.37	20	0.0009
	2480	3.053	3±1	4	1.37	20	0.0007

2.4G WIFI worst reported.

Mode	N _{TX}	Freq. (MHz)	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/cm ²) [S]
802.11b	1	2412	14.8	15±1	16	1.37	20	0.0109
		2437	14.5	15±1	16	1.37	20	0.0109
		2462	14.48	14±1	15	1.37	20	0.0086
802.11g	1	2412	17.3	17±1	18	1.37	20	0.0172
		2437	17.35	17±1	18	1.37	20	0.0172
		2462	17.4	17±1	18	1.37	20	0.0172

802.11n2 0	1	2412	17.77	18±1	19	1.37	20	0.0217
		2437	17.87	18±1	19	1.37	20	0.0217
		2462	17.39	17±1	18	1.37	20	0.0172
802.11n4 0	1	2422	17.78	18±1	19	1.37	20	0.0217
		2437	17.5	18±1	19	1.37	20	0.0217
		2452	17.37	17±1	18	1.37	20	0.0172
Note: N _{TX} = Number of Transmit Antennas RF Output power specifies that Maximum Conducted Peak Output Power.								

5. Conclusion:

As specified in Table 1B of 47 CFR 1.1310- Limits for Maximum Permissible Exposure (MPE),

Limits for General Population/ Uncontrolled Exposure

Frequency Range (MHz)	Power density (mW/ cm ²)
300-1,500	F/1500
1,500-100,000	1.0

For Bluetooth, 2.4G WiFi

MPE limit S: 1mW/ cm²

The MPE is calculated as **0.0217** < **limit 1mW / cm²**. So, RF exposure limit warning or SAR test are not required.

The EUT will only be used with a separation of 20cm or greater between the antenna and nearby persons and can therefore be considered a mobile transmitter per 47 CFR2.1091 (b).

The RF Exposure Information page from the manual is included here for reference.

Note

For a more detailed features description, please refer to the RF Test Report.

6. Conclusion:

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

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