

1. MAXIMUM PERMISSIBLE EXPOSURE (MPE)

1.1 General Information

Client Information

Applicant: Ansell Healthcare Products LLC
Address of applicant: 511 Westinghouse Rd, Pendleton, SC 29670, United States

Manufacturer: WEEL Technologies, LTD.
Address of manufacturer: Suite 305, No.47 QianKeng Road, XinHe Community, FuCheng Street, LongHua District, ShenZhen City, Guangdong, China

General Description of EUT:

Product Name: Inteliforz Pod
Trade Name: Ansell
Model No.: 22-100
Adding Model(s): /
Rated Voltage: Battery:DC3.7V;USB port:DC5V
Battery Capacity: 150mAh
FCC ID: 2AVVF-22-100

Technical Characteristics of EUT:

Bluetooth

Bluetooth Version: V5.0 (BLE mode)
Frequency Range: 2402-2480MHz
RF Output Power: -0.990dBm (Conducted)
Data Rate: 1Mbps
Modulation: GFSK
Quantity of Channels: 40
Channel Separation: 2MHz
Type of Antenna: Ceramic Antenna
Antenna Gain: 1dBi

1.2 RF Exposure Exemption

Option A: FCC Rule Part 1.1307 (b)(3)(i)(A): The available maximum time-averaged power is no more than 1mW, regardless of separation distance.

Option B: FCC Rule Part 1.1307 (b)(3)(i)(B): The available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. P_{th} is given by:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz};$$

and

$$ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

d = the separation distance (cm);

Option C: FCC Rule Part 1.1307 (b)(3)(i)(C): The minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. R must be at least $\lambda/2\pi$, where λ is the free-space operating wavelength in meters.

Single RF Sources Subject to Routine Environmental Evaluation	
RF Source frequency (MHz)	Threshold ERP (watts)
0.3-1.34	$1,920 R^2$
1.34-30	$3,450 R^2/f^2$
30-300	$3.83 R^2$
300-1,500	$0.0128 R^2 f$
1,500-100,000	$19.2R^2$

For Multiple RF sources: FCC Rule Part 1.1307(b)(3)(ii):

(A) The available maximum time-averaged power of each source is no more than 1 mW and there is a separation distance of two centimeters between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required).

(B) In the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation.

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$$

1.3 Calculated Result

Radio Access Technology	Min. Frequency	Max. Output Power	Max. Tune-Up Output Power	Antenna Gain	Duty Cycle	Tune-Up EIRP
	(MHz)	(dBm)	(dBm)	(dBi)	(%)	(dBm)
Bluetooth	2402	-0.990	0	1	100	1.00
Wi-Fi (2.4GHz)	2412	22.23	23.5	2	100	25.50

Frequency (MHz)	Option	Min. Distance	Tune-Up ERP		Exposure Limit	Ratio	Result
		(cm)	(dBm)	(mW)	(mW)		Pass/Fail
2402	B	0.50	-1.15	0.77	2.786195349	0.28	Pass
2412	C	20.00	23.35	216.27	768.00	0.28	Pass

Note: 1. $ERP = EIRP - 2.15dB$; $EIRP = Output Power + Antenna gain$

2. Option A, B and C refers as clause 1.2.

3. For option B, $P_{th}(mW)$ convert to Exposure Limit(mW); For option C, $ERP(W)$ convert to Exposure Limit(mW).

4. $Ratio = Tune-Up ERP(mW) / Exposure Limit (mW)$

5. Wi-Fi Data refer to the original report RXA1503-0042RF01R1 (FCC ID: 2AC7Z-ESPWROOM02)

Mode for Simultaneous Multi-band Transmission:

Radio Access Technology	Min. Distance	Wi-Fi Ratio	Bluetooth Ratio	Simultaneous Ratio	Limit	Result
	(cm)					Pass/Fail
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Note: 1. The device can only be connected to Wi-Fi when plugged in for charging and not while it is being worn. Only Bluetooth radio can be active while the device is being worn.

2. Simultaneous operation of Bluetooth and Wi-Fi is not possible by design. When the device is plugged in for charging, it will not be broadcasting Bluetooth identifiers as it can only connect to Wi-Fi in the plugged-in state

Result: Pass