

INTERTEK TESTING SERVICES

Radiofrequency radiation exposure evaluation

The equipment under test (EUT) is a EcoFlow TRAIL Plus 300 DC Portable Power Station (288Wh), EF-TX-288P with Bluetooth 5.3 BLE function operating in 2402-2480MHz 40 channels with 2MHz channel spacing and Wi-Fi function operating at 2412-2462MHz for 802.11b/g/n-HT20/ax-VHT20, 11 channels with 5MHz channel spacing and 2422-2452MHz for 802.11n-HT40, 7 channels with 5MHz channel spacing. The EUT is powered by DC 14.4 V from battery, or 10V-30V from solar energy or USB-C1 DC 28V powered by adapter from AC mains 120V60Hz. For more detail information pls. refer to the user manual.

For Bluetooth function:

Bluetooth function Modulation Type: GFSK

Bluetooth Version: 5.3 BLE (Single Mode BLE only, support 1M and 2M)

Antenna Type: PCB antenna

Antenna Gain: 4.3dBi Max.

The nominal radiated output power (e.i.r.p) specified: 2.5dBm (tolerance: ± 2 dB).

The nominal conducted output power specified: -1.8dBm (tolerance: ± 2 dB).

According to the KDB 447498 V06:

The Maximum peak conducted output power for the EUT is the frequency 2480MHz	-0.02 dBm in for BLE 1M
which is within the production variation.	

The Minimum peak conducted output power for the EUT is the frequency 2402MHz	-1.7 dBm in for BLE 1M
which is within the production variation.	

The Maximum peak conducted output power for the EUT is the frequency 2480MHz	0.19 dBm in for BLE 2M
which is within the production variation.	

The Minimum peak conducted output power for the EUT is the frequency 2402MHz	-1.38 dBm in for BLE 2M
which is within the production variation.	

The maximum conducted output power specified is 0.2dBm= 1.047mW
The source- based time-averaging conducted output power
=1.047mW

The SAR Exclusion Threshold Level:
= $3.0 * (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}}$
= $3.0 * 5 / \sqrt{2.480}$ mW
= 9.53 mW

Since the source-based time-averaging conducted output power is well below the SAR low threshold level, so the EUT is considered to comply with SAR requirement without testing.

For Wi-Fi function:

Wi-Fi function Modulation Type: BPSK, QPSK, 16QAM, 64QAM for OFDM; BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM for OFDMA; CCK, DQPSK, DBPSK for DSSS.

Antenna Type: PCB antenna

Antenna Gain: 4.3dBi Max.

The nominal radiated output power (e.i.r.p) specified: 2.7dBm (tolerance: ± 2 dB).

The nominal conducted output power specified: -1.6dBm (tolerance: ± 2 dB).

According to the KDB 447498 V06:

The Maximum peak conducted output power for the EUT is 0.39 dBm in
the frequency 2437MHz for 802.11g
which is within the production variation.

The Minimum peak conducted output power for the EUT is 0.15 dBm in
the frequency 2462MHz for 802.11n-HT20
which is within the production variation.

The maximum conducted output power specified is 0.4dBm= 1.096mW
The source- based time-averaging conducted output power
=1.096mW

The SAR Exclusion Threshold Level:

= $3.0 * (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}}$

= $3.0 * 5 / \sqrt{2.462}$ mW

= 9.56 mW

Since the source-based time-averaging conducted output power is well below the SAR low threshold level, so the EUT is considered to comply with SAR requirement without testing.

Simultaneous Transmission:

EUT can't transmit simultaneously. (Bluetooth and Wi-Fi use a single antenna and do not support simultaneous transmission.)
