

Maximum Permissible Exposure Evaluation

FCC ID: 2AZFZ-DVR-BTD2-8

1. Client Information

Applicant	:	BLUE VIDEO TECHNOLOGY COMPANY LIMITED
Address	:	FLAT/RM B, 13/F, GOLD SHINE TOWER, NO.346-348 QUEEN'S RD CENTRAL, SHEUNG WAN, HONG KONG
Manufacturer	:	JUFENG TECH COMPANY LIMITED
Address	:	Lot S9, Street No. 11, Hai Son Industrial Park (Stage 3 + 4), Duc Hoa Ha Commune, Duc Hoa District, Long An Province, Viet Nam.

2. General Description of EUT

EUT Name	:	DVR
Models No.	:	DVR-BTD2-8, BTD21L-84-B, BTD21LSA-86-B, WM-BTD281-4LSA, WM-BTD281-8LSA, BTD2-81-8LSA
Model Different	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is Appearance and Model name.
Brand Name	:	Nightowl
Product Description	:	Operation Frequency: Bluetooth 4.2(BLE): 2402MHz~2480MHz
	:	Number of Channel: Bluetooth 4.2(BLE): 40 channels <i>see note(3)</i>
	:	RF Output Power: 5.650 dBm (Max)
	:	Antenna Gain: 1.0 dBi PCB Antenna
Power Rating	:	DC 12V from adapter: Input: AC 100-240V 50/60Hz 1.5A Max Output: DC 12V2A
Software Version	:	N/A
Hardware Version	:	AHB8008RA-NB-N68C-OWL V1.01
Connecting I/O Port(S)	:	Please refer to the User's Manual
Remark	:	the MPE report used the EUT-2(20210309-21-02).

MPE Calculations for WIFI

1. Antenna Gain:

PCB Antenna: 1.0dBi.

2. EUT Operation Condition:

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

3. 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

4. Test Result:

Bluetooth 4.2(BLE)

Mode	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]	Limit of Power Density (mW/ cm ²) (S)
2402	4.040	4±1	5	1	20	0.0008	1
2442	5.650	5±1	6	1	20	0.0009	1
2480	3.845	3±1	4	1	20	0.0006	1

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 4.2(BLE):2402~2480 MHz
MPE limit S: 1mW/ cm²

The MPE is calculated as $0.0009mW / cm^2 < limit 1mW / cm^2$. 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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