



Maximum Permissible Exposure Evaluation

FCC ID: 2AGKB-VT9201

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) Radiation as specified in §1.1307(b).

EUT Specification

| | |
|----------------------------|---|
| Product Name: | Android TV Box |
| Trade Mark: | / |
| Model/Type Reference: | IPx3 |
| Listed Model(s): | VT9201, VT9202, VT9203, VT9204, VT9205, VD9201, VD9202, VD9203, VD9204, VD9205, MEon1, MEon2, MEon3, MEon1 PRO, MEon2 PRO, MEon3 PRO, MEvo1, MEvo2, MEvo3, MEvo1 PRO, MEvo2 PRO, MEvo3 PRO, KM10, IPx4, IPx5, IPx6, IPx1 PRO, IPx2 PRO, IPx3 Lite, M3, M5, M6, M7, M2 PRO, M3 PRO, M5 PRO, V13, V14, N1, N2 |
| Model Differences: | All these models are identical in the same PCB, layout, electrical circuit and enclosure. The difference is the model name. |
| Frequency Band (Operating) | BT: 2402MHz ~ 2480MHz 2.4G WIFI: 2412MHz ~ 2462MHz U-NII-1: 5180MHz ~ 5240MHz U-NII-2A: 5260MHz ~ 5320MHz U-NII-2C: 5500MHz ~ 5720MHz U-NII-3: 5745MHz ~ 5825MHz |
| Device Category | <input type="checkbox"/> Portable (<5mm separation) <input type="checkbox"/> Mobile (>20cm separation) <input checked="" type="checkbox"/> Fixed (>20cm separation) <input type="checkbox"/> Others ____ |
| Exposure Classification | <input type="checkbox"/> Occupational/Controlled exposure (S=5mW/cm ²) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm ²) |
| Antenna Diversity | <input type="checkbox"/> Single antenna <input checked="" type="checkbox"/> Multiple antennas <input type="checkbox"/> TX diversity <input type="checkbox"/> RX diversity <input type="checkbox"/> TX/RX diversity |
| Antenna Gain (Max) | BT: 1.26dBi 2.4GHz WIFI Antenna 1&2: 4.49dBi, Directional Gain: 7.50dBi 5GHz WIFI Antenna 1&2: 4.95dBi, Directional Gain: 7.96dBi |
| Evaluation Applied | <input checked="" type="checkbox"/> MPE Evaluation <input type="checkbox"/> SAR Evaluation |

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**Limits for Maximum Permissible Exposure (MPE)**

| Frequency Range (MHz) | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density (mW/cm ²) | Averaging Time (minutes) |
|---|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| (A) Limits for Occupational/Controlled Exposure | | | | |
| 300-1500 | -- | -- | F/300 | <6 |
| 1500-100000 | -- | -- | 5 | <6 |
| (B) Limits for General Population/Uncontrolled Exposure | | | | |
| 300-1500 | -- | -- | F/1500 | <30 |
| 1500-100000 | -- | -- | 1 | <30 |

Calculation Method

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where:

P_d = Power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

P_d limit of MPE is 1mW/cm². If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

Measurement Result

| Mode | Frequency (MHz) | Antenna Gain (dBi) | Maximum Power (dBm) | Tune Up Tolerance (dB) | Max. Tune Up Power (dBm) | Power Density at 20cm (mW/cm ²) | Limit (mW/cm ²) |
|---------|-----------------|--------------------|---------------------|------------------------|--------------------------|---|-----------------------------|
| BLE | 2480 | 1.26 | 5.45 | ±1 | 6.50 | 0.0012 | 1 |
| EDR | 2402 | 1.26 | 7.91 | ±1 | 9.00 | 0.0021 | 1 |
| 802.11b | 2437 | 4.49 | 18.44 | ±1 | 19.50 | 0.0499 | 1 |
| 802.11a | 5200 | 4.95 | 18.23 | ±1 | 19.50 | 0.0554 | 1 |

The BT and WIFI can transmit simultaneously.

| BT Power density at 20cm (mW/cm ²) | WLAN Power density at 20cm (mW/cm ²) | Total Power density at 20cm (mW/cm ²) | Power density Limit (mW/cm ²) |
|--|--|---|---|
| 0.0021 | 0.0554 | 0.0575 | 1 |

Note:

1. Calculate in the worst-case mode.
2. Max. Tune Up Power is declared by manufacturer, and used to calculate.
3. For a more detailed features description, please refer to the RF Test Report.

*****THE END*****

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