

Bluetooth Output Power Tune-up Info

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April 4, 2017, Version 1*

Product ID (FCC: THO1116426 / IC ID: 3234B-1116426), Model: DreamStation Go Bluetooth

Tune-up procedure

The Bluetooth Transmitter is not adjusted or tuned during any part of the manufacturing of this product. The Bluetooth Transmitter is checked for operation, but is not checked for signal strength. The transmitter is located with the enclosure cannot be tuned by the end user, once it is delivered.

Tune-up values

The antenna is a PIFA (Planar Inverted F-Antenna) that is made of copper on the PCB. It is tuned for the 2.4 GHz ISM band.

The Bluetooth chip has the capability to output 8 dBm of power. The design of the Bluetooth stack limits the maximum conducted output power (tune-up tolerance upper limit) to 4 dBm for both operation in BT BDR/EDR and BT LE mode. This limit is not user configurable.

The maximum power (EIRP is Effective Isotropic Radiated Power) $EIRP = 4.1 \text{ dBm}$. EIRP is defined as "Power output from transmitter (Max.) – filter losses (Min.; Reference section 5b for additional information on this parameter) + antenna gain (Peak)". The Nirvana BT solution is $4.0 \text{ dBm} - 1.4 \text{ dBm} + 1.5 \text{ dBm} = 4.1 \text{ dBm}$.

The average output power for BDR is 0.004mW/MHz and EDR is 0.001mW/MHz.

Special Note: For the EMC testing of the Bluetooth radio (FCC-ID THO1116426) at CETECOM Inc. the radio was adjusted to 8 dBm maximum conducted output power. For normal operation in the DreamStation device, the maximum conducted output power is only 4dBm. The maximum conducted output power setting cannot be changed or adjusted.