Theory of Operation

The NanoBridgeM5 is an outdoor point to point CPE wireless device using 802.11n MIMO IC solution from Atheros Communications. The device is built around the AR7240 400MHz MIPS 24K processor featuring built in Ethernet 10/100 Phy. The design features 32MB of RAM, 8MB flash and a 40MHz crystal used for the entire system. The AR9280 11n 2x2 radio IC is connected to the AR7240 through its PCI-E bus. The AR9280 is capable of speeds up to 300Mbps using new 802.11n modulation coding schemes and leveraging spatial multiplexing of dual antenna streams. It is a completely integrated 5GHz transceiver.

Devices must be professionally installed. The NanoBridgeM5 operates in the 5.47-5.8GHz bands, and non-operational in 5600-5650MHz band to comply with the DFS requirements for US and CAN regulations. Any products shipping to the US are locked to US approved frequencies at the factories during production, and end users will not have the ability to change the country codes based on values defined in EEPROM, which are not modifiable.

In accordance with FCC 15.407(c) and Industry Canada RSS-210 A9.5(5) requirements the NanoBridgeM5 automatically discontinues operation in the absence of information to transmit.

The NanoBridgeM5 has the capability to operate with a mean EIRP value lower than 250mW per 15.407(h)(1) – Transmit power control. The maximum allowed TPC is implemented by the factory during production in the User-Interface software. The end-user will only have the capability to reduce the transmit power within the user-interface software.   The software does not allow the end-user/professional installer from increasing the power more than the allowed maximum power preconfigured.   Frequency stability is better than 10ppm.