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OPERATIONAL DESCRIPTION OF SB 3000 WLAN CARD

SB 3000 is a wireless LAN card operating with 802 .11 a specs in frequency band 5.725 ~ 5.85 GHz band with OFDM modulation at different data rates 54 MBPs to 6 MBPs selected automatically .

It consists of a MAC (Media Access Controller) , RF converter , filters , power amplifier , Transmit Receive switch and RF output connector (FL type)

Transmit Path :

The MAC controller takes the Data signals coming from the mini PCI port of a PC or other unit like NEXUS 3010 . It converts the Digital signals with headers and security wep keys to conform to 802.11a specs . The signal flows to the baseband processor which is part of the MAC controller and gets converted into differential OFDM signals . The OFDM data rates are controlled by the MAC controller depending upon the noise conditions in the wireless transmission path .

The differential OFDM signals are applied to the RF converter . RF converter is of Zero IF type and uses an external VCO running at 11 ~ 12 GHz . Output is at 5.725 ~ 5.85 GHz in Transmit mode.

RF output from the RF converter is passed through attenuator and filter to the power amplifier . Power amplifier provides the output power required .

Output of the power amplifier is taken through a Band Pass Filter , Transmit Receive Switch to the RF connector .

Receive Path :

Received RF signals are taken from the RF connector , through the Transmit Receive Switch to the receiver Band Pass Filter and Low Noise pre Amplifier .

The RF signal passes to the RF converter IC . The RF converter converts the RF to baseband signals in the Receive mode . Simultaneous Transmit and Receive actions are not allowed in the RF converter IC .

The MAC controller receives the baseband signals . The baseband signals are decoded and headers and security keys removed and retrieved digital signals are applied to the PCI connector from where it flows into the PC or NEXUS 3010 unit .