

802.11 WLAN Up Converter

2.4 GHz to 4.4 GHz Frequency Converter/Amplifier

4 Watt (+36 dBm) typ.

Supports 802.11g 54 Mbps

The MobiComm Communications Up/Down Converter is ideal solution to convert low cost “Off the Shelf” 2.4 GHz Wireless LAN products to secured 4.4 GHz Military Band. The remote mounted, bi-directional frequency translator and amplifier enables any 802.11 Wireless LAN radio to operate in the Military 4.4 GHz Band IV. In normal operation, the converter “up-converts” the 2.4 GHz Wireless LAN to the 4.4 GHz band (during transmit), and “down converts” 4.4 GHz to 2.4 GHz on receive. No user adjustment, configuration or provisioning is required. Built-in digital AGC guarantees maximum linear signal power at wide input range. The outdoor unit delivers maximum power right in the antenna feed.

WLAN Converter Features

- Outdoor unit is an IP66 cast aluminum case.
- Integral lightning and surge protection
- No separate power cable is required
- Cable carries 2.4 GHz not 4.4 GHz
- Operates with input power as low as 2 mW
- Digital AGC guarantees wide input range.
- Multi-standard support.
- Low noise Figure
- Type N connections
- Simple to install

WLAN Converter Benefits

- No user adjustments required
- Full automatic operation
- Less costly coaxial cable may be used
- Use with existing RF bridges or routers
- Various customized options available

Each WLAN Converter Kit contains:

- Wall mounted converter
- Amplifier mounting hardware
- DC power injector
- 110 - 220 VAC power supply
- Installation and operation manual



Contact details:

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Preliminary

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Specifications:

Frequency Band out	:	4400 - 4484 MHz	[Band out = 6884 - Band in]
Frequency Band in	:	2400 - 2484 MHz	[Band in = 6884 - Band out]
Local Oscillator	:	6884 MHz	
Frequency Stability	:	+/- 2.5 ppm (over temperature range)	
Operation Mode	:	Half duplex, automatic switch-over to transmit	
Connectors	:	N-Female	
Lightning Protection	:	Direct Ground	
Surge Protection	:	TVS on DC input, 600V	

Receiver / Down Converter:

Input Filter	:	4400 - 4500 MHz
Output Filter	:	2400 - 2500 MHz
Gain	:	20 dB ~ 0 dB (controlled by digital AGC)
Frequency Responce	:	+/- 1dB across operating range
Noise Figure	:	2.5 dB typical @ 20 dB Gain.
Maximum Input level:	:	0dBm @ 0 dB Gain.

Transmitter / Up Converter:

Output Power	:	4 Watt (+36dBm) typ. @ 802.11.
Harmonics	:	< -50 dBc
Input power	:	2mW ~ 200mW (3dBm ~ 23 dBm)
Gain	:	36 dB ~ 13 dB (controlled by digital AGC)
Frequency Responce	:	+/- 1dB across operating range
Tx Switching Time	:	< 1 microsec.
AGC Attack Time	:	< 20 microsec. max

Wireless LAN Supported:

HomeRF	:	FHSS (1 Mbps)
802.11	:	FHSS (1 Mbps, 2 Mbps)
802.11b	:	DSSS (1 Mbps, 2 Mbps, 5.5 Mbps, 11 Mbps, 22 Mbps)
802.11g	:	OFDM (1 Mbps upto 54 Mbps)

Mechanical & Enviromental:

Operating Temp.	:	-40 ~ + 70 C
Humidity	:	Up to 100%.
Enclosure	:	IP66 (standard), IP67 (on-request).
Power	:	12V, 4 A max.
Dimensions	:	84 L 149 W 48 H (mm) (3.30" L 5.85" W 1.88"H)
Weight	:	< 1 Kg. (< 2.0 lbs)

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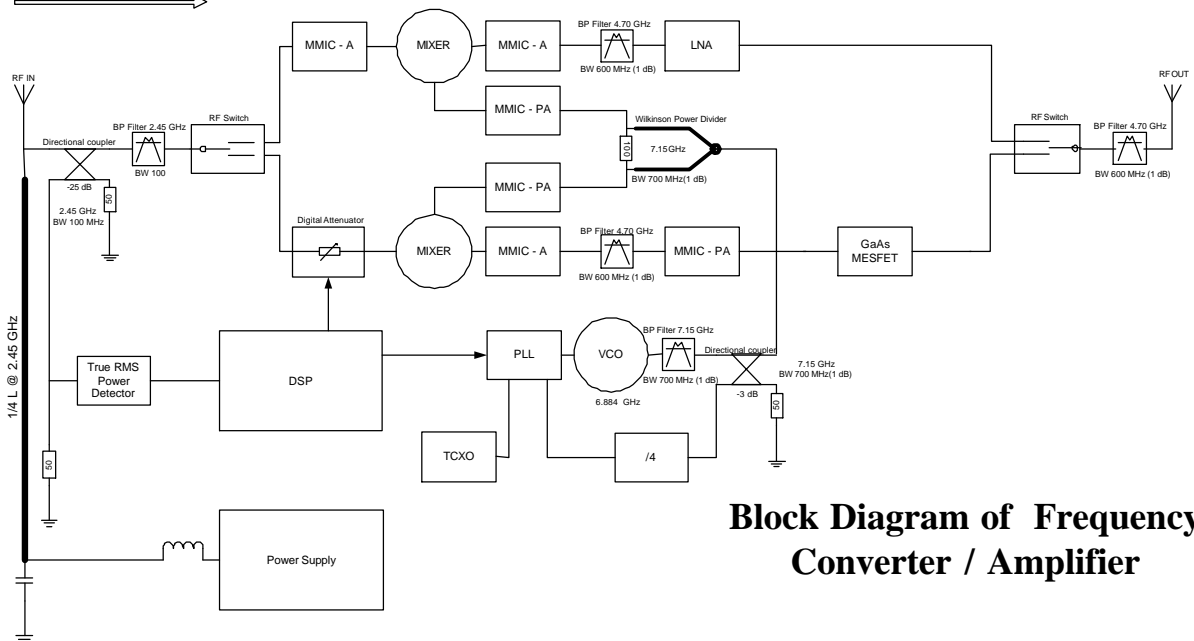
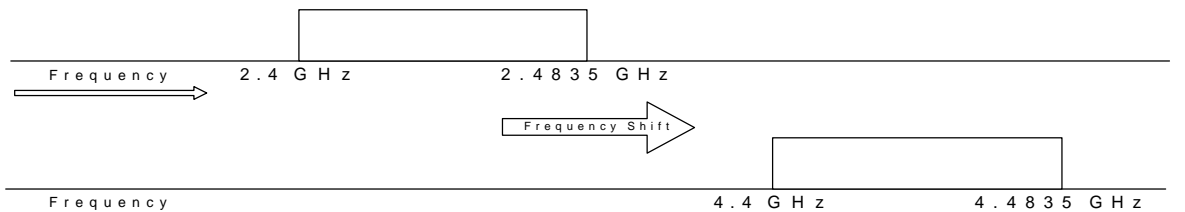
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Frequency Conversion Table

801.11 Channels.	2.4 GHz Freq. (MHz)	4.4 GHz Freq. (MHz)
1	2412	4472
2	2417	4467
3	2422	4462
4	2427	4457
5	2432	4452
6	2437	4447
7	2442	4442
8	2447	4437
9	2452	4432
10	2457	4427
11	2462	4422
12	2467	4417
13	2472	4412

Principle of Frequency Conversion / Shift



Block Diagram of Frequency Converter / Amplifier

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