

## 2115-202 Block Upconverter, 18.3 to 20.2 GHz

The 2115-202 Block Upconverter converts 250 - 750 MHz to 18.3 - 18.8 GHz and 1650 - 2150 MHz to 19.7 - 20.2 GHz with low phase noise and flat frequency response. Frequency translation is via a 18.05 GHz local oscillator. Front panel LEDs provide indication of DC power, external 10 MHz, and PLL alarm. Gain is 0 ±3 dB. Connectors are SMA female for the RF and BNC female for the IF and external reference input and reference output. The 2115 is powered by a 100-240 ±10% VAC power supply, and housed in a 1RU chassis.



**Front Panel**

### EQUIPMENT SPECIFICATIONS\*

#### Input Characteristics

Impedance/Return Loss	50Ω / 14 dB
Frequency, Input 1	250 to 750 MHz
Frequency, Input 2	1650 to 2150 MHz
Noise Figure, Max.	20 dB max gain
Input Lvl Range - comp	-11 to -31 dBm
Input Lvl Range/carrier	-22 to -42 dBm
Input 1 dB compression	+4 dBm

#### Output Characteristics

Impedance/Return Loss	50Ω / 10 dB
Frequency	18.3 to 20.2 GHz
Output Lvl Range - comp	-11 to -31 dBm
Output Lvl Range/carrier	-22 to -42 dBm
Output 1 dB compression	+4 dBm

#### Channel Characteristics

Gain	0 dB ±3 dB
Image Rejection	> 50 dB, min
Spurious, Inband	< -70 dBm
Spurious, Out of band, LO	< -60 dBm
Intermodulation	< -50 dBc for two carriers each at -14 dBm out
Frequency Response	± 2 dB, 18.3-18.8 GHz and 19.7-20.2 GHz out; ± 1 dB, 40 MHz BW
Frequency Sense	Non-inverting

#### LO Characteristics

LO Frequency	18.05 GHz
Frequency Accuracy	± 0.01 ppm max over temp internal reference; external reference input
10 MHz In/Out Level	3 dBm ± 3 dB

Phase Noise @ Freq	100 Hz	1kHz	10kHz	100kHz	1 MHz
dBC/Hz	-55	-65	-80	-100	-115

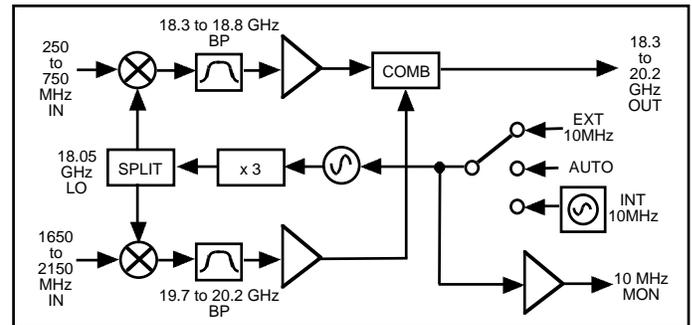
#### Controls, Indicators

Power	Green LED
PLL Alarm	Red LED, External contact closure
Ext 10 MHz	Yellow LED, indicates external 10 MHz reference selected (rear panel DPDT switch)

#### Other

RF Connector	SMA (female), 50Ω
L-Band Connector	BNC (female), 50Ω (BNC, 75Ω; Type-F, 75Ω; Type-N, 50Ω optional)
10 MHz Connectors	BNC (female), 50Ω/75Ω
Alarm Connector	DB9 - NO or NC contact closure on Alarm
Size	19 inch standard chassis 1.75" high X 14.0" deep
Power	100 - 240 ±10% VAC, 47 - 63 Hz, 45 watts max.

\*+10°C to +40°C; Specifications subject to change without notice



**Block Diagram**