3015-1520-1200 Upconverter, 1200 ±50 MHz to 15.0 - 20.0 GHz

The 3015-1520-1200 Upconverter converts 1200 ±50 MHz to 15.0 to 20.0 GHz in 125 kHz steps. The 1200 MHz is first converted to 7.0 GHz and then to 15 to 20 GHz with an agile, high side LO upconverter to obtain the wide tuning range. Synthesized local oscillators (LO) provide frequency selection. Multi-function switches select the RF frequency, gain, and other parameters. Front panel LEDs provide indication of DC power (green), PLL alarm (red), remote operation (yellow) or the TX carrier is muted (yellow). Variable attenuators for the IF input and output provide a gain range of -5 to +20 dB as adjusted by the front panel multi-function switches. Remote operation allows selection of frequency and gain. Parameter selection and frequency and gain settings appear on the LCD display. Connectors are BNC (female) for IF and external 10MHz reference input and output, and Super SMA (female) for the RF output. The unit is powered by a 100-240 ±10% VAC power supply, and housed in a 1 3/4" X 19" X 18” rack mount chassis.

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**EQUIPMENT SPECIFICATIONS**

**Input Characteristics**
- Impedance/Return Loss: 75Ω/14dB min.
- Frequency: 1200 ± 50 MHz
- Input Level: -30 to -10 dBm

**Output Characteristics**
- Impedance/Return Loss: 50Ω/14dB min.
- Frequency: 15.0 to 20.0 GHz
- Output level: -15 to 0 dBm
- Output 1 dB compr.: +10 dBm

**Channel Characteristics**
- Gain Max/range (adj.): 20 ± 2 dB Max/-5.0 to +20.0 dB, 0.5 dB ± 0.5 dB steps, at Fc
- Spurious, In Band: SIGNAL RELATED < -55/-50 dBc typical/max., in band, 0 dBm out, Gmax, 15-20 GHz
- Spurious, Out of band: < -50 dBm, at max. gain.
- Frequency Response: ±3.0 dB, Fc=15.0-20.0 GHz; ±1.5 dB, Fc over any 1 GHz band; Fc ± 50 MHz, ± 1.0 dB
- Group Delay, max: 2 ns parabolic; 2 ns linear; 1 ns ripple; Fc ± 50 MHz
- Frequency Sense: Non-inverting

**Synthesizer Characteristics**
- Frequency Accuracy: ± 0.01 ppm max over temp internal ref.; external ref. input
- Frequency Step: 125 kHz minimum
- External 10 MHz level: +3 dBm ± 3 dB, 50Ω
- Phase Noise @ Freq: dBc/Hz
  - 100 Hz: 60
  - 1kHz: 70
  - 10kHz: 80
  - 100kHz: 90
  - 1 MHz: 100

**Controls, Indicators**
- Freq/Gain Selection: Direct readout LCD; manual or remote selection
- Pwr; Aim; Remote; Mute: Green LED; Red LED; Yellow LED; Yellow LED
- Remote: RS232C, 9600 baud (RS422/485/opt-Q, Ethernet/opt-W8, 18,28)

**RF, IF Connectors**
- Super SMA (female), BNC,75Ω (female), (Others optional)
- 10MHz Connectors: BNC (female) 75Ω, works for 50 or 75 ohms
- Alarm/Remote Conn.: DB9 (female) - NO or NC contact closure on Alarm
- Size: 19 inch, 1RU standard chassis 1.75” high X 18.0” deep
- Power: 100-240 ±10% VAC, 47-63 Hz, 60 watts max.

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

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**Available Options**

**Remote M&C Interfaces:**
- Q - RS485/422
- W8 - Ethernet; w/Web Browser (WB)
- W18 - Ethernet; w/WB & SNMP
- W28 - Ethernet; w/TCP/IP, Telnet
- W828 - W8 +W18 +W28

**Connectors/Impedance:**
- S - 50Ω SMA (RF), 50Ω BNC (IF)
- SS - 50Ω SMA (RF), 50Ω SMA (IF)
- Super SMA for > 18 GHz

**Contact Cross for other options**

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