



TRACK TRANSMIT RECEIVE RECORD

STREAM X-BAND CONVERTERS

19" 1U, 1 to 3 channels, UP/DOWN X-band converters



RADIO FREQUENCY EQUIPMENT

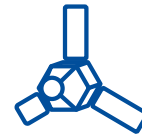
STREAM

Stream X-band UP and DOWN converters are designed to address new needs for **wideband high data rate transmission** with up to 750MHz instant bandwidth.

Stream X-band converters offer reliable and stable performance.



EGSE/SCOE & testbeds



Earth Observation Satellites



Scientific Missions

MODULAR ARCHITECTURE

Up to three channels in 1U 19"

WIDE BANDWIDTH

Up to 750MHz instant bandwidth

WIDE TEMPERATURE RANGE

-20°C / +50°C
-4°F / +122°F

REDUCED PHASE NOISE

New oscillator module guarantees excellent signal quality

EASILY CONFIGURABLE

Ethernet (TCP/IP), RS485 remote control and front panel control

FLEXIBLE ARCHITECTURE

Allows independent channels

STREAM X-BAND CONVERTERS

UP CONVERTER CHARACTERISTICS

Output specification

RF -Output Frequency Any 750MHz bandwidth between
7000-9000MHz
Connector SMA female
Impedance 50Ω
Return Loss ≥14dB

Input specification

IF-Input Frequency 1200MHz ±375MHz
Connector SMA (indoor)
Impedance 50Ω
Return Loss ≥15dB

Transfer characteristics

Conversion Gain >30dB
Attenuation range.....gain control from 0 to -31.75 dB, with 0.25dB steps
Gain ripple over ±200MHz --> 1,5dB p.t.p
..... over ±375MHz --> ≤2,5dB p.t.p
Gain stability over temperature range ±3 dB
Gain slope ≤ 0.03 dB/MHz
1dB compression point >+10dBm
Third order intercept >+20dBm
Noise figure (at max conversion gain) <15dB
External reference 5 or 10MHz- 0dBm -auto/externe/interne
Synthesiser step size 1KHz
Group Delay ≤ 1.5ns typ. over 750MHz bandwidth
Image rejection >50dB
Mute >50dB

SPURII

Spurious Outputs (@ max gain and 0dBm output)
Signal dependant: <-50dBc (-65dBc typ.)
Harmonics: <-40dBc
Signal independant: <-60dBm (-75dBm typ.)

DOWN CONVERTER CHARACTERISTICS

Input specification

RF -Input Frequency. Any 750MHz bandwidth between 7000-9000MHz
Connector SMA female
Impedance 50Ω
Return Loss ≥14dB
LO leakage -50dBm

Output specification

IF -Output Frequency 1200MHz ±375MHz
Connector SMA (indoor)
Impedance 50Ω
Return Loss ≥15dB

Transfer characteristics

Conversion Gain >35dB
Attenuation range.....gain control from 0 to -31.75 dB, with 0.25dB steps
Gain ripple over ±200MHz --> 1,5dB p.t.p
..... over ±400MHz --> ≤2,5dB p.t.p
Gain stability over temperature range ±3.5 dB
Gain slope ≤ 0.03 dB/MHz
1dB compression point >+10dBm
Third order intercept >+20dBm
Noise figure (at max conversion gain) <12dB
External reference 5 or 10MHz- 0dBm -auto/externe/interne
Synthesiser step size 1KHz
Group Delay ≤1.5ns typ. over 750MHz bandwidth
Image rejection >50dB
Mute >50dB

SPURII

Spurious Outputs (@ max gain and 0dBm output)
Signal dependant: <-50dBc (-65dBc typ.)
Harmonics: <-40dBc
Signal independant: <-60dBm (-75dBm typ.)

Phase noise

100Hz <-70dBc/Hz
1KHz <-80dBc/Hz
10kHz <-85dBc/Hz
100kHz <-90dBc/Hz
1MHz <-115dBc/Hz
10MHz <-115dBc/Hz
..... or the integrated phase noise over [100Hz, 10MHz] bandwidth
..... is less than 2° RMS.

Miscellaneous

Power supply 115V/230V+/-10%, 50/60Hz+/-10%,
Power Consumption Max:38W
Mechanical 2U 19" frame, 560mm deep, <15Kg
Temperature Operating: -20° to 50°C
..... Storage: -40° to 70°C
Relative humidity Operating:
..... Relative humidity: <85% non condensing
..... Atmospheric pressure: <3000m
..... Storage:
..... Relative humidity: <95% non condensing
..... Atmospheric pressure: <10000m
Remote control The converter can be operated remotely using
..... a RS485 serial link (SUD-D 9 type connector)
..... or an Ethernet interface (RJ45 type connector)
Connectors for outdoor units SMA female
Conversion Scheme Single conversion, no frequency inversion

GLOBAL SALES

5, Avenue des Andes - CS 90101 - 91978 Courtaboeuf Cedex - FRANCE - Tel.: +33 1 69 82 78 00 - Email: sales.sdsy@safrangroup.com

USA

3005 Business Park Dr - Norcross, GA 30071 - USA - Tel.: +1 770 753 4017 - Email: sales@SafranDataSystemsUS.com