

MAIN FEATURES

- ❖ Frequency translation from S-band uplink to S-band downlink
- ❖ Excellent phase noise parameter
- ❖ High input / output isolation
- ❖ Low spurious level
- ❖ 1U 19" rack indoor construction



DESCRIPTION

The unit is intended to use as satellite communication test equipment. By the help of this TLT the operator can check the RF performance of uplink and downlink path without actual satellite connections. It includes a mixer, filters, amplifiers, programmable attenuators, power level detectors, local oscillator, microprocessor based control circuitry and AC power supply.

SPECIFICATIONS

| GENERAL | |
|-------------------------------|---|
| RF input frequency | 2025-2120MHz |
| RF output frequency | 2200-2300MHz |
| Type | Single conversion without inversion |
| No. of Channels | 1 |
| Local source | Internal programmable LO source |
| INPUT CHARACTERISTICS | |
| RF input frequency | 2025-2120MHz |
| Nominal input impedance | 50Ω |
| Input return loss | ≥20dB |
| Input power level range | -30...+0dBm nominal, +10dBm absolute maximum |
| OUTPUT CHARACTERISTICS | |
| RF output frequency | 2200-2300MHz |
| Nominal output impedance | 50Ω |
| Output return loss | ≥20dB |
| Output power level range | -80 to -40 dBm, programmable in 1dB step The output level is independent of the input level, until the input signal is in the specified level range. |
| TRANSFER CHARACTERISTICS | |
| Nominal conversion gain | -80 to -10dBm |
| Output level adjustment range | -80 to -40 dBm in 1dB step |
| Gain flatness (full band) | > ±1dB |
| Gain flatness (any 8MHz) | > ±0.5dB |

| TRANSFER CHARACTERISTICS | | |
|-------------------------------------|--|------------------------------|
| Image rejection | ≥65dB, 70dB typical | |
| Noise figure | <12dB at minimum input signal level | |
| Input/output isolation | ≥60dB | |
| Group delay variation and stability | <5ns | |
| Spurious (signal dependent) | <-60dBc | |
| Spurious (signal independent) | <-90dBm, -100dBm typ. | |
| Muted output power level | <-100dBm | |
| Harmonics | <-60dBc | |
| OIP3 (Gain: -40dB) | -20 dBm typ. | |
| LOCAL OSCILLATOR CHARACTERISTICS | | |
| Type | Internal programmable or external | |
| LO frequency | 174-184MHz | |
| Step size | 1kHz | |
| Frequency stability | ≤±0.5ppm within temperature range on internal reference | |
| Aging | ±1ppm in first year, ±5ppm for 10 years | |
| Phase Noise | @100Hz | ≤-99dBc/Hz, -102dBc/Hz typ. |
| | @1kHz | ≤-112dBc/Hz, -115dBc/Hz typ. |
| | @10kHz | ≤-115dBc/Hz, -118dBc/Hz typ. |
| | @100kHz | ≤-118dBc/Hz, -122dBc/Hz typ. |
| LO monitor output power level | -4dBm±2dB | |
| EXTERNAL REFERENCE INPUT | | |
| Frequency | The equipment shall lock on 5MHz and 10MHz automatically. | |
| Connector | BNC female | |
| Level | 0dBm±3dB | |
| Nominal input impedance | 50Ω | |
| CONTROL & MONITORING | | |
| Control and monitoring interface | Display and keyboard for local control TCP/IP based remote monitoring and control over 10/100BaseT Ethernet and RS-485 | |
| Controlled and monitored parameters | Reference source, input power level, temperature, internal LO frequency, target output power level, mute, memory functions | |
| MECHANICAL CHARACTERISTIC | | |
| Dimensions | 19" rack, 1U, 360mm deep | |
| Weight | 5.5kg typ. | |
| RF input, RF output connectors | N female, rear panel | |
| Reference input connector | BNC female, rear panel | |
| LO monitor connector | SMA female, rear panel | |
| Power connector | IEC C14 inlet, rear panel | |
| Control & monitor connector | RJ-45 for Ethernet and DSUB9 for RS-485, rear panel | |
| Finish | Painted (RAL7035) | |

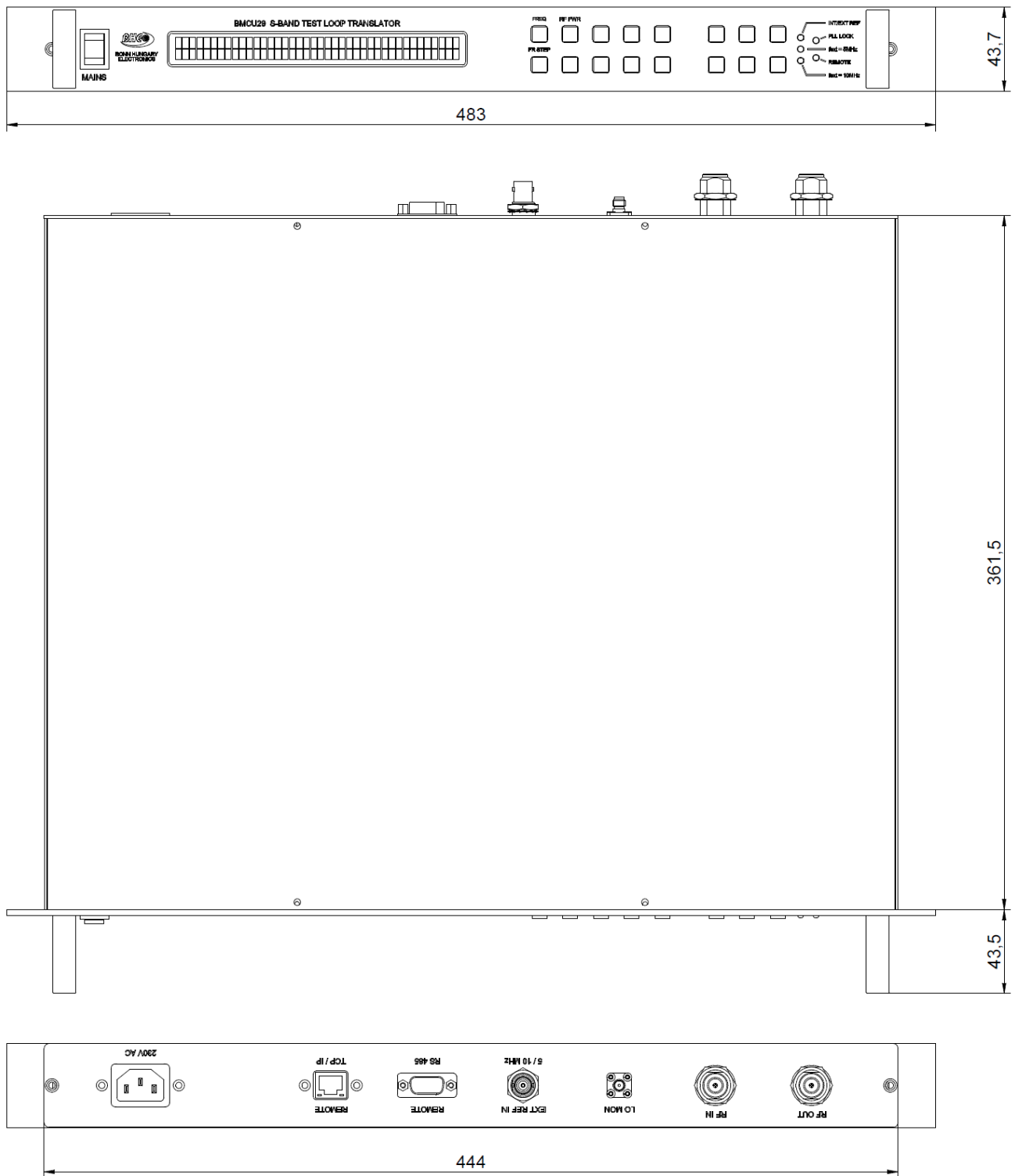


BMCU29 S-band to S-band Test Loop Translator

| POWER SUPPLY CHARACTERISTICS | |
|-------------------------------|----------------------------|
| Voltage | 90-264VAC |
| Frequency | 47-63 Hz |
| Power consumption | ≤20VA |
| Fuse value | T4A (4A, Slow blow) |
| ENVIRONMENTAL CHARACTERISTICS | |
| Operational temperature range | 0 to +50°C |
| Storage temperature range | -30 to +70°C |
| Relative humidity | Up to 95% (non-condensing) |

Specifications are subject to change without notice.

OUTLINE DRAWING (mm)





BMCU29 S-band to S-band Test Loop Translator

ORDERING OPTIONS

| MODEL NUMBER | DESCRIPTION |
|--------------|---|
| BMCU29K11309 | BMCU29 S to S-band TLT, 2025-2120 MHz to 2200-2300 MHz, 19 col rack; RF Mute function |

DOCUMENT REVISION

| DOCUMENT NAME | REVISION | DATE |
|------------------|----------|------------|
| BMCU29-LM-K11309 | V01 | 2023/06/13 |