

Product Data Sheet
1920-1980 / 2110-2170 MHz Dual Duplex UMTS TMA

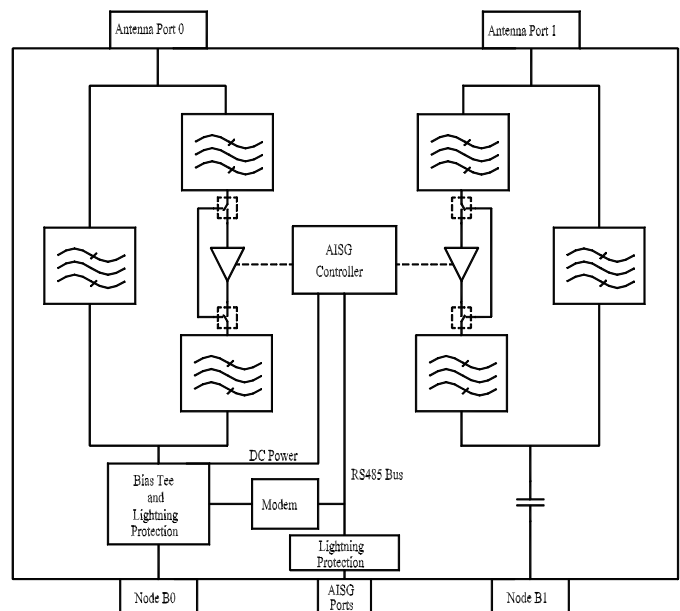
The MAX12-S2 is a high performance dual-duplex UMTS TMA, intended to be mounted near the antenna. It provides low insertion loss for the UMTS Tx band and a low-noise gain path for the UMTS Rx (uplink) band. The use of a low-noise amplifier in the uplink path improves uplink signal quality and allows greater system coverage. Twin duplex modules are integrated in the one package providing the capability to use the MAX12-S2 with dual-polarised antennas.

Design features include high-Q resonators and very low noise amplifiers for improved insertion loss and noise performance. Full status and alarm signalling capability and DC handling is included with an integrated bias tee and AISG-compatible processing. DC power and AISG signalling is routed to the MAX12-S2 from the BTS via either the Node B0 RF connector, or via the AISG IN connector. A separate AISG OUT connector is provided to allow connection of the AISG signalling to an associated antenna. The amplifiers in the UMTS uplink paths feature bypass mode, failure state monitoring, alarm and supervision circuits. All integrated electronics components are fully lightning protected to ETSI standards.

The MAX12-S2 is a compact, easy-to-install, maintenance-free solution to providing enhanced network capacity. With the added flexibility and smart signalling capability of AISG, it is suitable for the networks of the future.


System Features

- Compact and light weight design
- Suitable for dual-polarised system
- Excellent noise figure
- Low insertion loss in downlink path
- Full UMTS-band capability
- AISG-compatible
- AISG connection via RF feeder (Node B0) or control cable (AISG IN port)
- Integrated DC handling and lightning protection
- Bypass mode for LNAs
- LNA supervision and alarm via AISG



Product Data Sheet**1920-1980 / 2110-2170 MHz****Dual Duplex UMTS TMA****Electrical Specifications**

Impedance	50 Ω
RF Connector Type	4 x 7-16 DIN female
AISG IN Connector Type	Single 8-pole male, IEC 60130-9, AISG compliant
AISG OUT Connector Type	Single 8-pole female, IEC 60130-9, AISG compliant

UMTS Rx

Frequency Range	1920 - 1980 MHz
Gain	12dB nominal
Gain Ripple	< \pm 0.3dB
Noise Figure	1.4dB (typ)
Insertion Loss, Bypass Mode	2.1dB (typ)
Return Loss, Bypass OFF	> 18dB
Return Loss, Bypass ON	> 16dB
Output 1dB Compression Point	> 18dBm
3 rd Order Output Intercept Point	> 28dBm
Rejection 2110-2170MHz	> 70dB

UMTS Tx

Frequency Range	2110 - 2170 MHz
Insertion Loss	< 0.5dB, 0.35dB typ.
Ripple	< \pm 0.2dB
Return Loss	> 18dB
Rejection 1920-1980MHz	> 65dB
Intermodulation in Rx Band, ANT Port	< -120dBm (2 x 43dBm carriers @ BTS port)
Power Rating, CW	300W
Power Rating, PEP	1000W

DC / Alarm / AISG Characteristics

DC Voltage Supply	+10 to +30V
DC Current	100mA typ. @ 24V
Control Interface	AISG2.0 @ 9600 baud
Alarm Management	AISG2.0
Connection Port	Node B0 OR AISG IN/OUT

Environmental Specifications

Operating Temperature Range	-40°C to +65°C
Relative Humidity	95% @ +30°C
Lightning Protection	10kA, 8/20 μ s pulse to IEC 61000-4-5
EMC Qualification	EN 301 489
IP Rating	IP67
Environmental Qualification	ETS 300-019 Class 4.1E
MTBF	> 500,000 hours

Mechanical Specifications

Dimensions (L x W x D)	276 x 133 x 76mm without mounting brackets
Weight	3.8kg without mounting brackets
Material	Aluminium

Mounting Options

Pole	Strap, pole size 46mm min
Wall	4 x M8 Screws

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