Air Interface Adapter AIAD-16+-S2

MTS-No.: 31537

Application

With the MTS AIAD you can emulate air interfaces for all imaginable scenarios. To avoid the influence from the live-net, the signals can be connected with cables directly from the different signal sources, as for example GSM or LTE base stations or signal generators etc. over the MTS AIAD to mobile devices.

Description

The Air Interface Adapter series AIAD is our most flexible solution for air interface emulation. With the AIAD it is possible to emulate the in- and outputs according to the demands of the customer. The design of the shown unit allows program-controlled attenuation of 16 IN/OUT signals at the same time. The function is carried out by dividers, attenuators and combiners. Additionally, connections for test signal are attached to each IN/OUT port.

Characteristics

- Ring system with 16 coupled IN/OUT ports through 85 dB attenuators
- Test connections for each IN/OUT port
- Frequency range from 30 MHz to 1000 MHz
- Attenuation range from 0 dB to 85 dB in 1 dB steps at each attenuator
- On request attenuation in 0.5 dB steps or up to 112 dB (by other hardware)
- On request additional information text (2 lines, up to 20 signs per line)
- Switching time up to 0.2 ms per transmitted binary sign (S A 1 5 *ETX* are five signs.)
- Integrated power supply 100 V - 240 V AC
- Manual control (colour display with touch panel)
- Remote control by USB and LAN (other interfaces or web control on request)
- 19″ rack mount case with 12U
- Windows control programs can be offered
- High quality materials and components for extended durability
- On request increment and decrement function of separate components with defined values
- On request Group+Block of separate components (with name / name and keyword available)
- Air Interface Adapters can be designed according to customers individual requirements

MTS Systemtechnik GmbH
DIN EN ISO 9001:2015 certified
Gewerbepark Ost 8
86690 Mertingen
Phone: + 49 (0) 907891294-0
Fax: + 49 (0) 9078 91294-70
info@mts-systemtechnik.de
www.mts-systemtechnik.de

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Configuration:

Ring system with 16 coupled IN/OUT ports through 85 dB attenuators (Atts.), Test connections for each IN/OUT port

Technical data:

1 RF-specifications:

1.1	Impedance	50 Ω		
1.2	Input power	+30 dBm max. @ the inputs		
1.3	Frequency range	30 MHz - 1000 MHz		
1.4	RF-connections @ IN/OUTs @ Tests	 N female SMA female		
1.5	Attenuation	0 dB - 85 dB in 1 dB steps 0.5 dB on request		
		min.	**typ.**	**max.**
1.6	VSWR @ IN/OUTs @ Tests		1.25 1.10	1.60 1.35
1.7	Insertion loss (IL) @ IN/OUT to IN/OUT @ IN/OUT to Tests		46 dB 16 dB	52 dB 20 dB
1.8	IL derating / 20 MHz @ IN/OUT to IN/OUT		0.20 dB	
1.9	Isolation (see plot) @ Att. xy ≥50 dB, all other Atts. 0 dB @ all Atts. 85 dB	60 dB 114 dB	75 dB 130 dB	
1.10	Attenuation accuracy @ 30 - 1000 MHz @ 0 - 15 dB @ 16 - 20 dB @ 21 - 35 dB @ 36 - 50 dB @ 51 - 75 dB @ 76 - 85 dB	(negative means more attenuation)	 +0/-0.4 +0/-0.5 +0/-0.7 +0/-0.8 +0/-1.1 +0/-1.5	 +0.4/-0.7 dB +0.4/-0.8 dB +0.4/-1.0 dB +0.4/-1.2 dB +0.4/-1.7 dB +0.4/-2.2 dB
1.11	Switching time per transmitted binary sign (S A 1 5 *ETX* are five signs.)			0.2 ms

2 Connections:

2.1	Front side	RF-connections Power switch with integrated control lamp Colour display with touch panel
2.2	Rear side	Control card with control interfaces Appliance plug with the integrated fuses F1 and F2 Ground connector

3 General specifications:

3.1	Power supply	100 V - 240 V 50 Hz / 60 Hz
3.2	Internal voltage	+5 V DC, +28 V DC
3.3	Control displays	Control lamp in the power switch Colour display with touch panel
3.4	Control interfaces	USB LAN
3.5	Power consumption primarily	150 mA max. @ 230 V
3.6	Mains connection	Power cable CEE7/7 / IEC C13
3.7	Operating environment	Temperature: 0 °C - +50 °C Altitude: 2000 m max. Relative humidity: 85% max. up to 40 °C, non-condensing
3.8	Reference temperature for specifications	+25 °C
3.9	References	Designed for indoor in industrial and laboratory environments
3.10	Dimensions	19''-unit x 12U x 540 mm (dimensions without handles and connections)
3.11	Colour	Front side colourless anodized Rear side colourless anodized
3.12	Weight	44.6 kg

4 Delivered parts:

AIAD-16+-S2
Power cable
CD with operating manual

5 Comments:

Warranty	12 months
RoHS-compliant	Yes

6 Recommended accessories:

Shielding box of the series MSB-02xx or MSB-01xx
RF-cables
Control software

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Typical measurements:

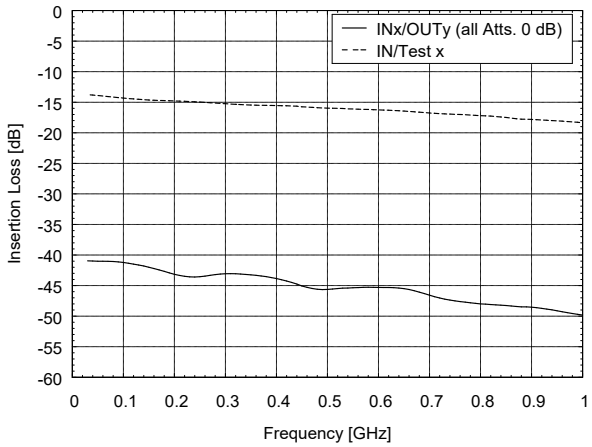

Fig. 1: IN/OUT to Test port or IN/OUT port insertion loss

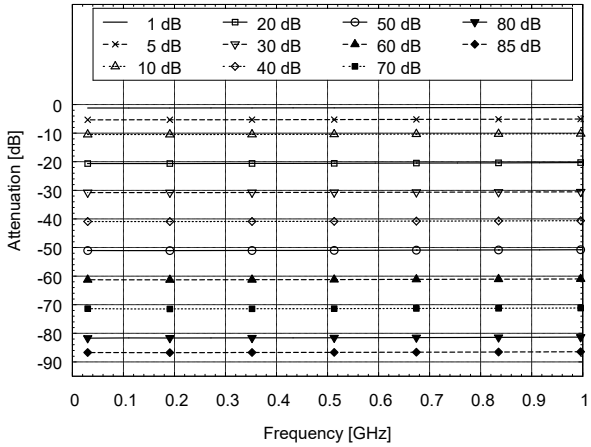

Fig. 2: Attenuation relative to insertion loss

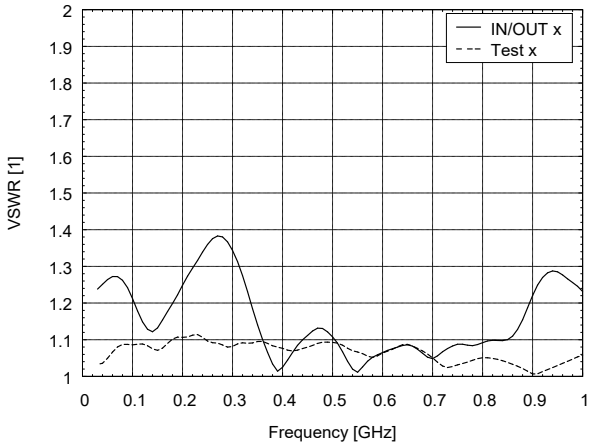

Fig. 3: VSWR for IN/OUT and Test ports

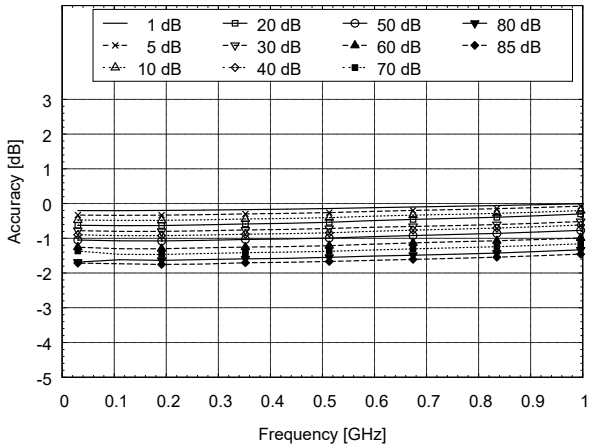

Fig. 4: Attenuation accuracy

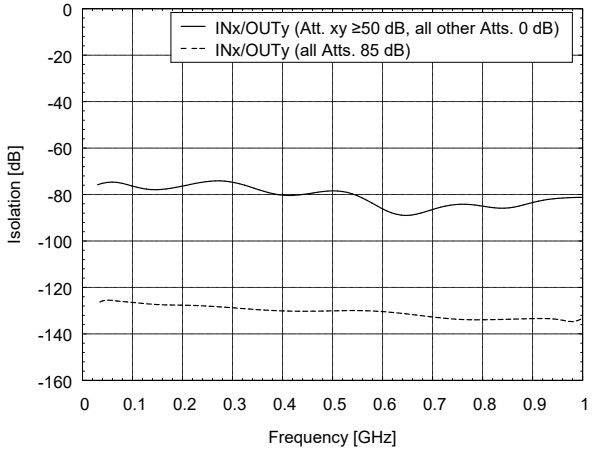

Fig. 5: Isolation between IN/OUT ports

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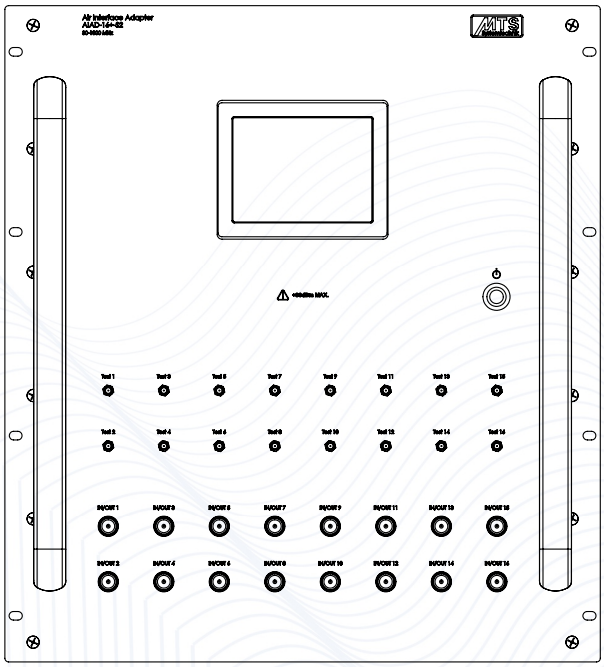

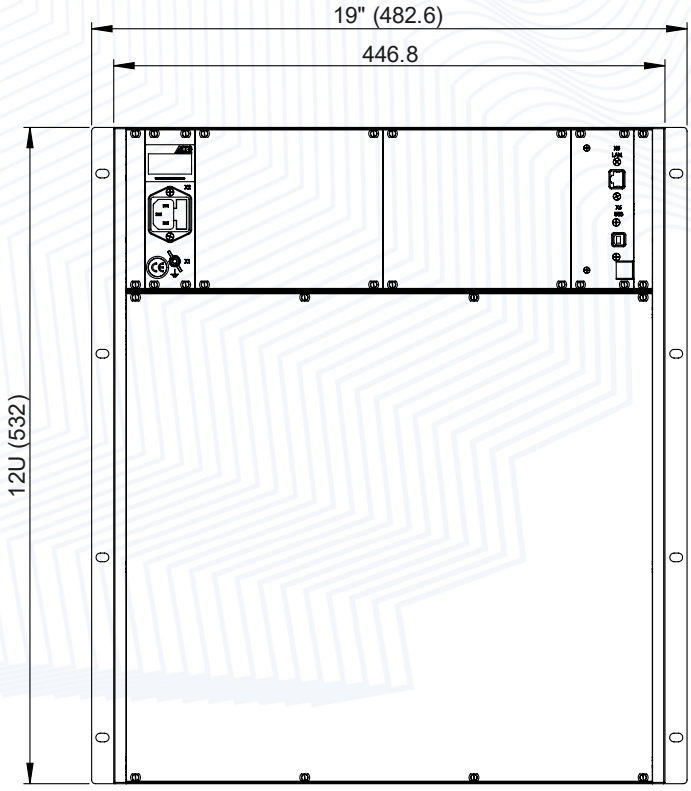

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