

## Air Interface Adapter AIAD-16x1/3-LAN-4G-R

MTS-No.: 25472

### 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 UMTS base stations or signal generators etc. over the MTS AIAD to mobile devices.

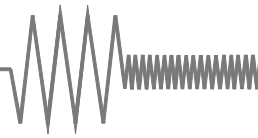
### Description

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 is divided to 16 groups. Every group allows program controlled attenuation of 1 input to 3 output signals at the same time. The function is carried out by dividers and attenuators.



### Characteristics

- ▶ 16 groups each with 1 input leading through 95 dB attenuators to 3 outputs (16 inputs, 48 outputs)
- ▶ Frequency range from 400 MHz to 4000 MHz
- ▶ Attenuation range from 0 dB to 95 dB in 1 dB steps at each attenuator
- ▶ Switching time up to 10 ms
- ▶ Integrated power supply 100 V - 240 V AC
- ▶ Remote control by RS-232 and LAN (other interfaces on demand)
- ▶ 19" rack mount case with 6 HU
- ▶ Windows control programs can be offered
- ▶ High quality materials and components for extended durability
- ▶ Air Interface Adapters can be designed according to customers individual requirements



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### Configuration:

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### Technical data:

#### 1 RF-specifications:

1.1 Impedance	50 Ω		
1.2 Input power	+40 dBm max. @ the inputs +33 dBm max. @ the outputs		
1.3 Frequency range	400 MHz - 4000 MHz		
1.4 RF-connections	N female		
1.5 Attenuation @ in-out	0 dB - 95 dB in 1 dB steps 0.5 / 0.25 dB on request		
	<b>min.</b>	<b>typ.</b>	<b>max.</b>
1.6 VSWR in			
@ 700 - 3600 MHz		1.3	1.6
@ 400 - 4000 MHz		1.4	1.8
VSWR out			
@ 700 - 3600 MHz		1.2	1.5
@ 400 - 4000 MHz		1.4	1.6
1.7 Insertion loss (IL)			
@ 400 MHz		10 dB	
@ 4000 MHz		15 dB	16 dB
1.8 IL derating / 20 MHz		0.03 dB	0.05 dB
1.9 Relative phase @ 0 - 95 dB		90°	
1.10 Isolation (see plot)	(without attenuation)		
@ 700 - 3600 MHz	28 dB	35 dB	
@ 400 - 4000 MHz	18 dB	25 dB	
1.11 Switching time			10 ms
1.12 Attenuation accuracy @400 – 3000MHz			
@ 1 - 30 dB		±0.1 dB	±0.8 dB
@ 31 - 60 dB		±0.4 dB	±1.5 dB
@ 61 - 95 dB		±0.8 dB	±2.0 dB
@ 3000 - 4000 MHz			
@ 1 - 30 dB		-0.3 dB	+0.2/-1.5 dB
@ 31 - 60 dB		-1.1 dB	-3.0 dB
@ 61 - 95 dB		-1.9 dB	-4.5 dB

#### 2 Connections:

2.1 Front side	RF-connections Power switch with integrated control lamp
2.2 Rear side	RF-connections Power supply Control card and 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
3.4 Control interfaces	RS-232 LAN
3.5 Power consumption primarily	0.15 A max. @ 230 V
3.6 Voltage supply	Standard rubber connector
3.7 Operating temperature	0 °C - +50 °C
3.8 Reference temperature for specifications	+25 °C
3.9 Dimensions	19"-unit x 6 HU x 430 mm (dimensions without handles and connections)
3.10 Colour	Front side colourless anodized Rear side colourless anodized
3.11 Weight	20.6 kg

#### 4 Delivered parts:

AIAD-16x1/3-LAN-4G  
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:

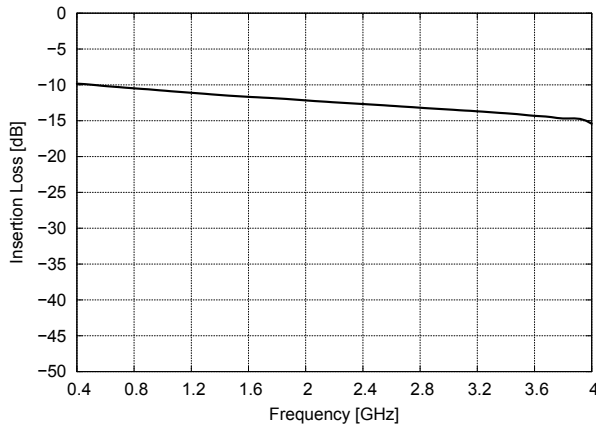


Fig. 1: Input port to output port insertion loss

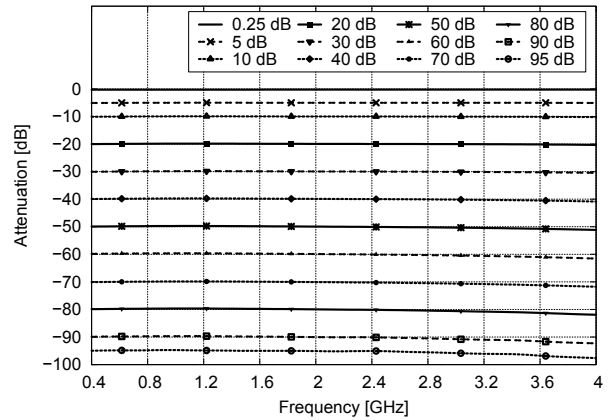


Fig. 2: Attenuation relative to insertion loss

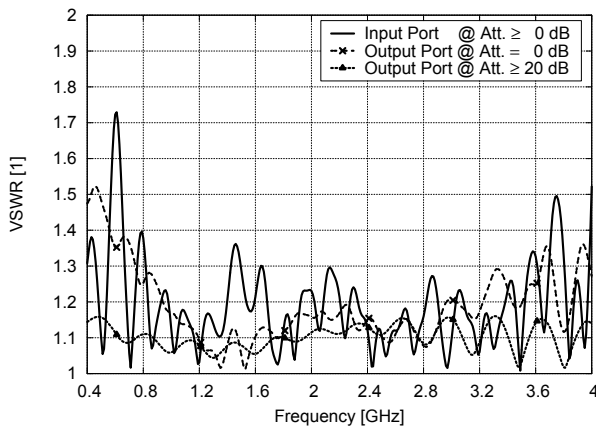


Fig. 3: VSWR for input and output ports

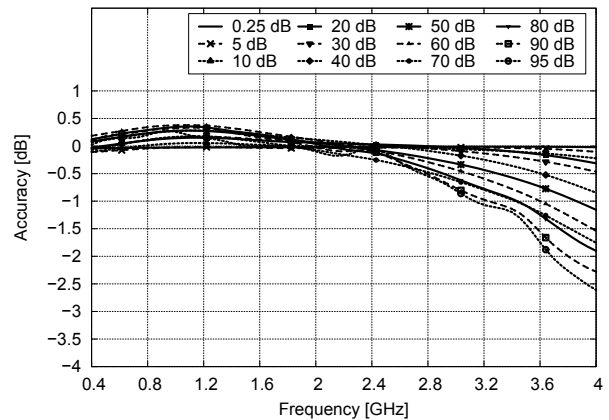


Fig. 4: Attenuation accuracy

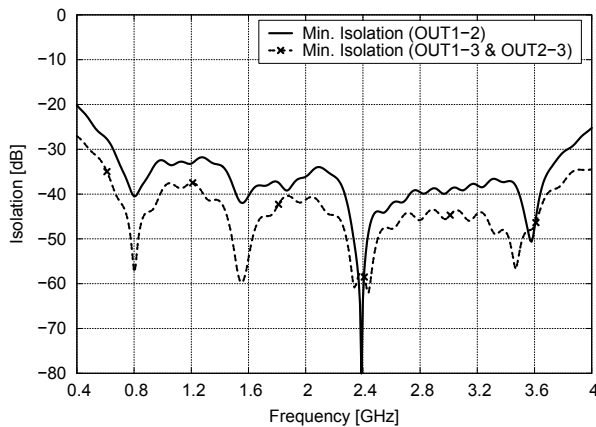


Fig. 5: Isolation between output ports

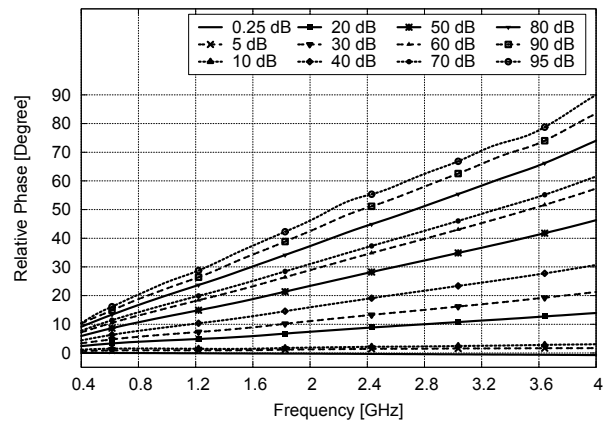


Fig. 6: Phase relative to insertion loss

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Views:

