

Air Interface Adapter AIAD-8/8-4G+DL

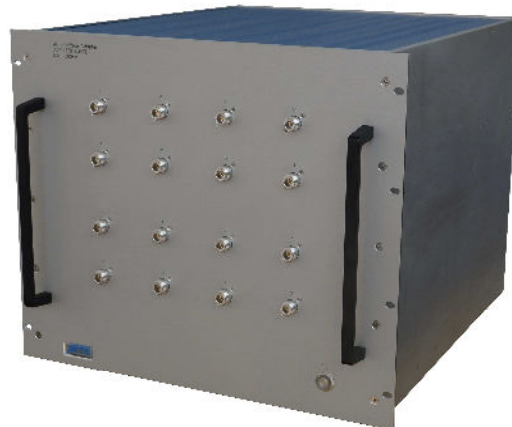
MTS-No.: 28162

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

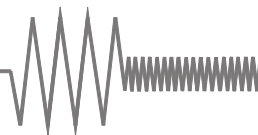
Description

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 and delay of 8 input to 8 output signals at the same time. The function is carried out by dividers, attenuators and delay lines.



Characteristics

- ▶ 8 input leading through 95 dB attenuators and 1600 ps delay lines to 8 outputs (8 inputs, 8 outputs)
- ▶ Frequency range from 500 MHz to 4000 MHz
- ▶ Attenuation range from 0 dB to 95 dB in 1 dB steps at each attenuator
- ▶ Delay range from 0 ps to 640 ps in 5 ps steps and from 640 ps to 1600 ps in 10 ps steps
- ▶ Switching time up to 0.1 ms per transmitted binary sign (S A F 1 5 ETX are six signs).
- ▶ Integrated power supply 100 V - 240 V AC
- ▶ Remote control by RS-232 and LAN (other interfaces or web control on request)
- ▶ 19" rack mount case with 9 HU
- ▶ Windows control programs can be offered
- ▶ High quality materials and components for extended durability
- ▶ On request Group+Block of separate components (with name / name and keyword available)
- ▶ Air Interface Adapters can be designed according to customers individual requirements



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Configuration:

8 inputs leading through 95 dB attenuators and 1600 ps delay lines to 8 outputs (8 inputs, 8 outputs)

Technical data:

1 RF-specifications:

1.1 Impedance	50 Ω		
1.2 Input power	+37 dBm max. @ each port		
1.3 Frequency range	500 MHz - 4000 MHz		
1.4 RF-connections	N female		
1.5 Attenuation	0 dB - 95 dB in 1 dB steps 0.5 / 0.25 dB on request		
	min.	typ.	max.
1.6 VSWR in (1-8)		1.5	2.2
VSWR out (A-H)		1.5	2.0
1.7 Insertion loss (IL) @ 500 MHz @ 4000 MHz		29 dB 42 dB	44 dB
1.8 IL derating / 20 MHz in-out		0.07 dB	0.5 dB
1.9 Isolation (see plot) @ 500 - 700 MHz @ 700 - 4000 MHz	(without attenuation)	34 dB 44 dB	40 dB 50 dB
1.10 Attenuation accuracy @ 50 - 3000 MHz @ 0 - 30 dB @ 31 - 60 dB @ 61 - 95 dB @ 3000 - 4000 MHz @ 0 - 30 dB @ 31 - 60 dB @ 61 - 95 dB	(negative means more attenuation)	typ. ±0.1 ±0.4 ±0.8 0/-0.3 0/-1.1 0/-1.9	max. ±0.8 dB +1.5/-0.8 dB +2.5/-1.5 dB ±0.8 dB +0.8/-1.5 dB +1.5/-2.5 dB
1.11 Delay accuracy @ 500 - 4000 MHz @ 5 - 635 ps @ 640 - 1270 ps @ 1280 - 1600 ps		± 5 ps ±10 ps ±20 ps	±10 ps ±25 ps ±50 ps
1.12 Switching time per transmitted binary sign (S A F 1 5 <i>ETX</i> are six signs).			0.1 ms

2 Connections:

2.1 Front side	RF-connections Power switch with integrated control lamp
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 interfaces	RS-232 LAN
3.4 Power consumption primarily	150 mA max. @ 230 V
3.5 Voltage supply	Standard rubber connector
3.6 Operating temperature	0 °C - +50 °C
3.7 Reference temperature for specifications	+25 °C
3.8 Dimensions	19"-unit x 9 HU x 540 mm (dimensions without handles and connections)
3.9 Colour	Front side colourless anodized Rear side colourless anodized
3.10 Weight	43.0 kg

4 Delivered parts:

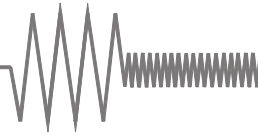
AIAD-8/8-4G+DL
Power cable
CD with operating manual

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:

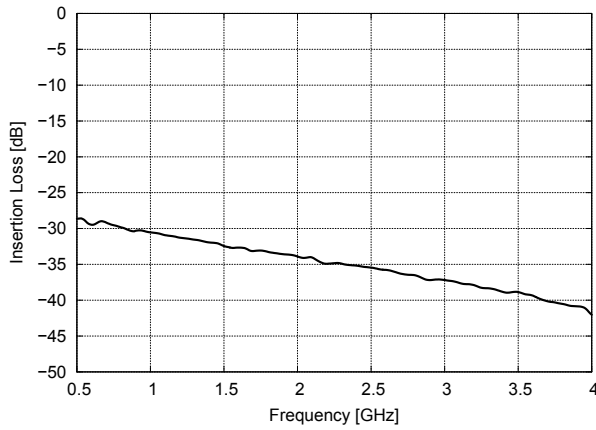


Fig. 1: Input port to output port insertion loss

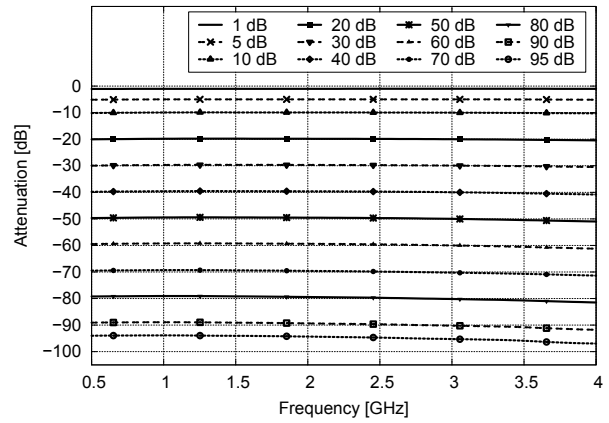


Fig. 2: Attenuation relative to insertion loss

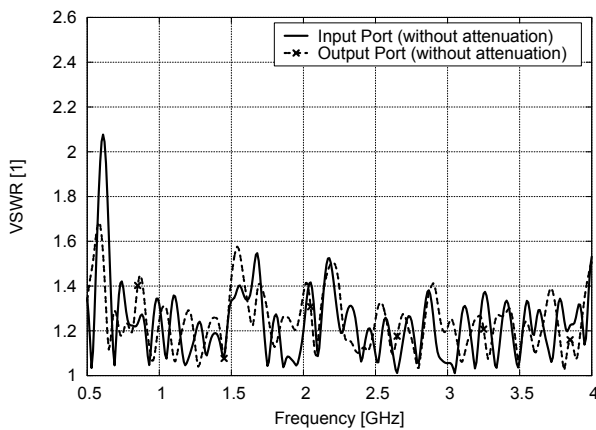


Fig. 3: VSWR for input and output ports

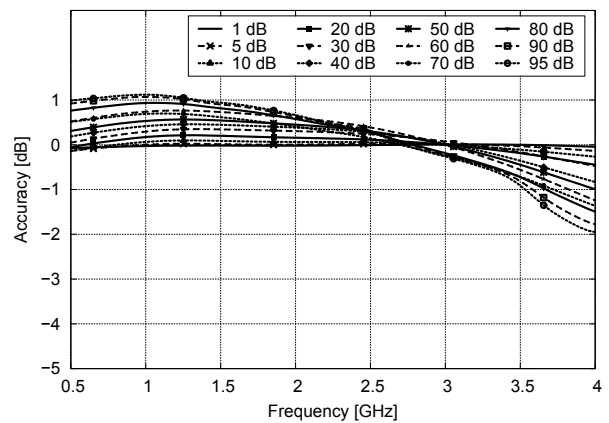


Fig. 4: Attenuation accuracy

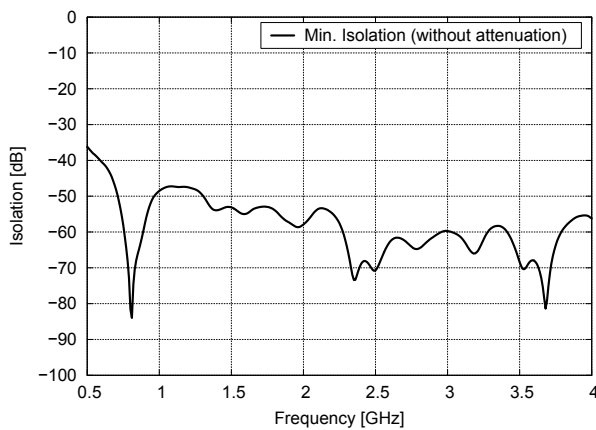


Fig. 5: Isolation between in- and output ports

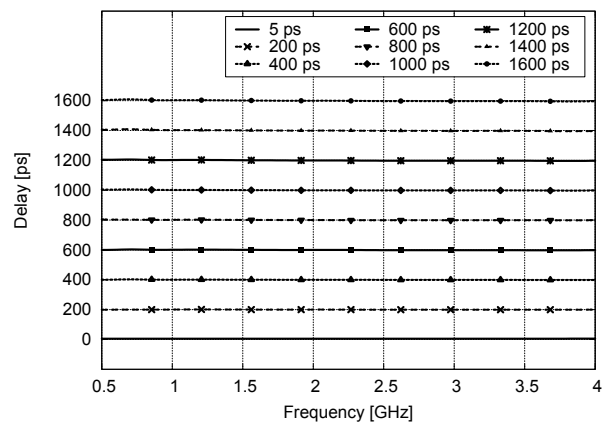
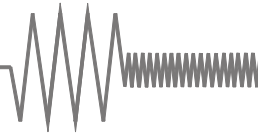


Fig. 6: Delay relative to insertion loss



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Views:

