Broadband 55 – 85 GHz AMC
Type 1216B-A

Product Description

Fig. 1: Optical view of the product

1216x series of Amplifier/Multiplier Chains (AMCs) are designed to extend operation frequency of a microwave signal synthesizer or a sweeper, providing high performance sources for applications at MM-waves.
The AMC applies ACST High-Power Multiplier Technology resulting in best available performance with respect to output power, bandwidth and spectral purity.

AMC output frequency is determined by the multiplication factor (n) of the input signal, while phase noise degradation (with respect to the input signal) adheres to 20 log (n).
Based on a modular design, each AMC from this series is integrated in an esthetic metallic housing featuring standard input and output interfaces. They are fixed tuned and do not require any adjustment for proper operation. All required voltage biases and current sources are provided by an integrated Power Supply Unit (PSU). The module only needs electrical powering of 15-18V DC, which is provided by a universal AC/DC adapter, usually included in delivery package.

Various options can optionally be offered and integrated on customer request:

- Horn antenna (for coupling the output signal to free space),
- Waveguide sections compatible with the output RF-port,
- input TTL-port for ON/OFF modulation up to ~kHz.
- user-controlled output power by integration of a mechanically-driven variable attenuator
- various passive frequency multipliers, which can easily be connected to the RF-output of the module to extend the output signal to higher frequency bands.

Please consult sales@acst.de for available options for this product type.

Type 1216D-A module requires input signal within frequency range of 13.75 to 21.25 GHz, generating output signal within frequency range of 55 to 85 GHz.

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Product Highlights

- High output power
- Broadband frequency range
- Flat frequency response
- Modular design
- Adjustable height control of housing.

Optional features (to be indicated in PO)

- Pyramidal horn antenna
- 25/50mm output waveguide sections.
- TTL-port for ON/OFF modulation
- User-controlled output power

Tab. 1: Technical Specifications

Technical Specifications	Minimum	Typ.	Maximum
Output Frequency (GHz)	55		85
Output Power (dBm)*	18	20	24
Multiplication factor (n)		4	
Output Port (UG 387/U-M)		WR-12	
Input Frequency (GHz)	13.75		21.25
Input Power (dBm)		8	10
Input Port (Coaxial)		SMA (female)	
TTL Port Voltage (V) (Optional)	0 (ON-Mode)		5 (OFF-Mode)
TTL Port Speed (kHz) (Optional)		1	10
Variable Attenuator (dB) (Optional)	0.6		25
Pyramidal feed horn gain (dBi) (optional)		24	25
Operating temperature range (°C)	5	22	35
Total power consumption (W)			30
Overall weight (Kg)			2

* Lower output power may be expected near the band edges.

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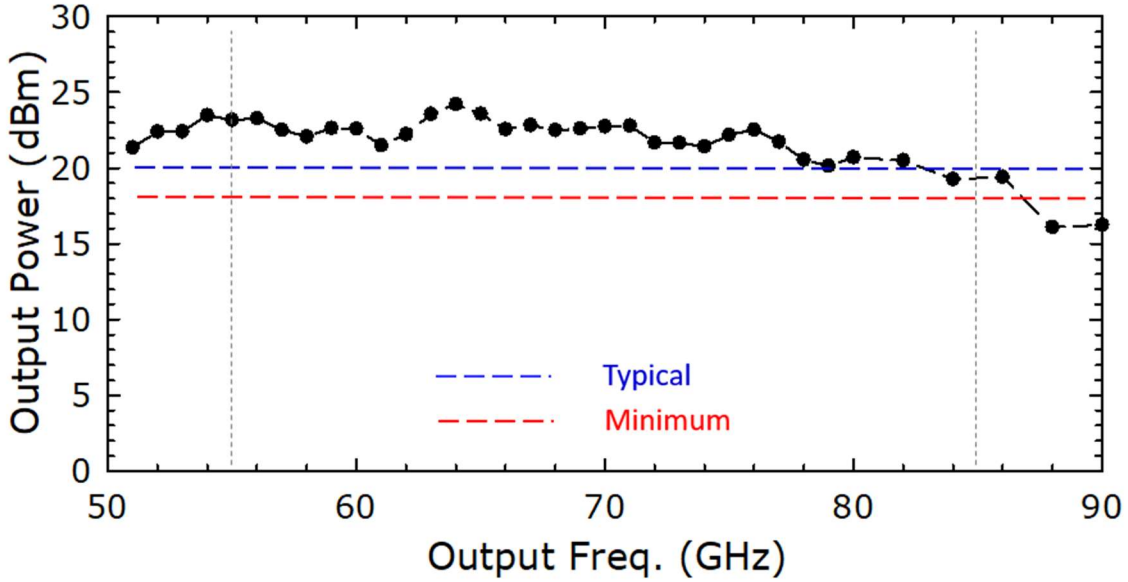
Typical Performance



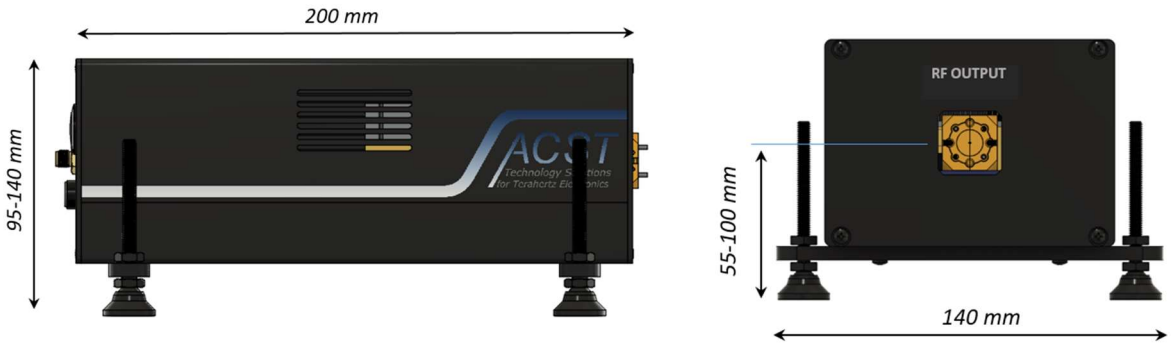


Fig. 2: Overall dimensions.

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Notes

- All plotted data represent typical values. The actual data may vary from unit to unit.
- All tests are carried out at a room temperature of 24 °C.

Caution

- Absolute maximum ratings should not be used under normal operating conditions. Exceeding maximum ratings may lead to permanent failure.
- Any foreign body inserted into the waveguide will cause a loss of performance and may damage the device.

Order information

- Please indicate product name and type.
- Please indicate desired optional features.

ACST GmbH reserves the right to make changes to the product or information contained herein without notice.
Visit www.acst.de or contact sales@acst.de for additional data sheets and/or further product information.

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