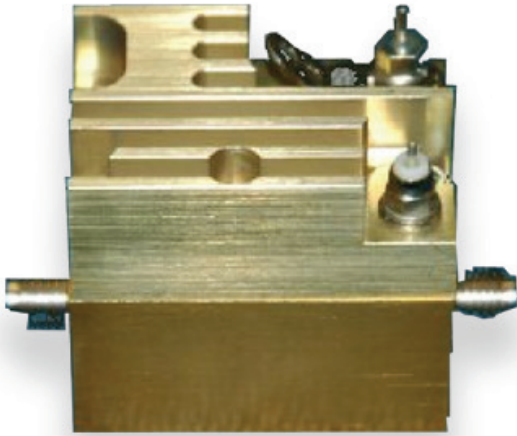


AMC Series

Active Multiplier Chain



Smiths Interconnect's line of active multipliers offers the best performance available in the industry. These multipliers are capable of extending the range of sources from 7.5 to 20 GHz coaxial to the complete millimeter-wave spectrum from 26 to 140 GHz in waveguide outputs of WR-28, 22, 19, 15, 10, and 08 as well as K/2.92mm coaxial connectors. Recent upgrades have improved the performance of the WR-19, WR-15 and WR-10 models with higher output power, lower power dissipation, built-in bias protection, and a more rugged package.

The frequency stability at the output frequency is the same as that of the input source. The output phase noise will degrade by the $(20 \log N)$, where N is the multiplication factor of the active multiplier chain.

The AMC Series can be used as the Local Oscillator (LO) input when mated with Smiths Interconnect Mixers Series MXP, MXB, and MSH. Added versatility can be achieved by using the AMC with Smiths Interconnect MUD Frequency Doublers and MUT Frequency Triplers for frequency ranges extending up to 300 GHz. Higher power levels can be obtained by adding Smiths Interconnect AMP Power Amplifiers as an intermediate stage. Contact Smiths Interconnect to discuss specific requirements and applications.

Plots of harmonic performance on selected models are included in this data sheet.

AMC Series, best multiplier performance in the industry from 26 to 140 GHz.

Features and Benefits

- Full Waveguide Bandwidths
- Optional Removable Heatsink
- Compact Package

Applications

- LO Source for Up/Down Converters
- Frequency Extenders

Technical Characteristics

Specifications

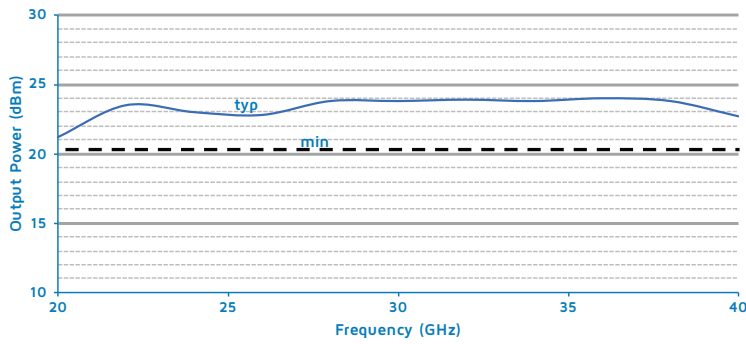
Model Number	Output Freq. (GHz)	Input Freq. (GHz)	Multiplication Factor	Output Power	DC Input (typ.)	Outline Drawing
AMC-KK-CFH00	20 to 40	10 to 20	2	>20 dBm, See plot	8 – 12 V @ 0.7A	Figure 5
AMC-28-SFH00	26.5 to 40	13.25 to 20	2	See plot	8 – 12 V @ 0.7A	Figure 1
AMC-22-RFH00	33 to 50	8.25 to 12.50	4	See plot	8 – 12 V @ 0.6A	Figure 2
AMC-19-RFH00	40 to 60	10 to 15	4	See plot	8 – 12 V @ 0.6A	Figure 2
AMC-15-RFH00	50 to 75	12.50 to 18.75	4	See plot	8 – 12 V @ 0.7A	Figure 3
AMC-15-RFH00	55 to 70	13.75 to 17.5	4	See plot	8 – 12 V @ 1.4A	TBA
AMC-12-RFH0A	60 to 90	7.5 to 11.25	8	See plot	8 – 12 V @ 0.8A	Figure 4
AMC-12-RFH00	70 to 90	8.75 to 11.25	8	See plot	8 – 12 V @ 1.2A	TBA
AMC-12-RNH00	60 to 70	7.5 to 8.75	8	See plot	8 – 12 V @ 1.5A	TBA
AMC-12-RNH01	65 to 76	8.125 to 9.5	8	See plot	8 – 12 V @ 1.6A	TBA
AMC-12-RNH02	77 to 86	9.625 to 10.75	8	See plot	8 – 12 V @ 1.6A	TBA
AMC-10-RFH00	75 to 110	12.50 to 18.33	6	See plot	8 – 12 V @ 0.7A	Figure 3
AMC-10-RFH00	75 to 110	12.50 to 18.33	6	>11 dBm, See plot	8 – 12 V @ 0.7A	Figure 3
AMC-10-RFH01	75 to 110	12.50 to 18.33	6	See plot	8 – 12 V @ 0.9A	TBA
AMC-10-RFHMP	75 to 110	12.50 to 18.33	6	See plot	8 – 12 V @ 0.7A	Figure 6
AMC-10-RNH00	78 to 96	13 to 16	6	>14 dBm, See plot	8 – 12 V @ 0.7A	Figure 3
AMC-10-RNH01	85 to 105	14.17 to 17.5	6	>14 dBm, See plot	8 – 12 V @ 0.8A	TBA
AMC-10-RNH02	90 to 96	15 to 16	6	>20 dBm	8 – 12 V @ 1.0A	TBA
AMC-10-RNH03	82 to 103	13.67 to 17.17	6	>17 dBm, See Plot	8 – 12 V @ 1.0A	Figure 7
AMC-08-RFH00	90 to 140	11.25 to 17.5	8	>1 dBm, See plot	8 – 12 V @ 0.7A	Figure 3

- Notes:**
1. The units must be heat sunk to keep the case temperature at or below +45°C.
 2. If required, heatsinks can be omitted. See "How To Order" section.
 3. All testing will be at room temperature.
 4. The output power is saturated.
 5. The maximum DC input current is 200 mA above the typical values.
 6. Signal purity is -20dBc typ.
 7. Input power is +3dBm nom.

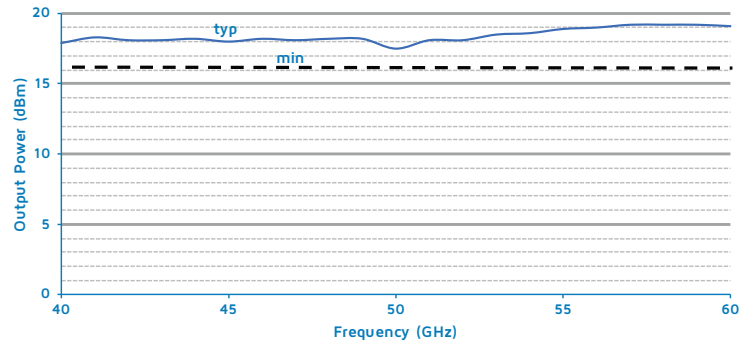
Technical Characteristics

Typical Output Power

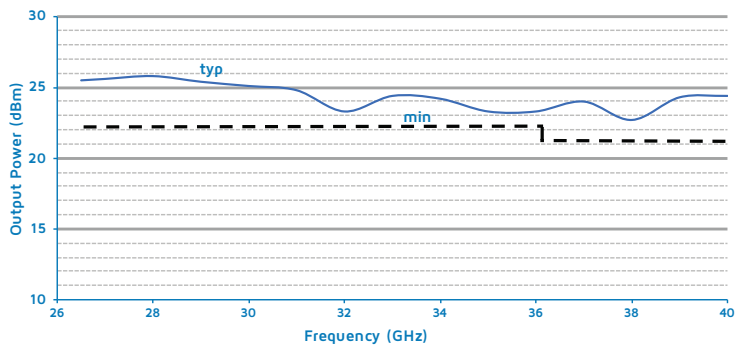
AMC-KK-CFH00



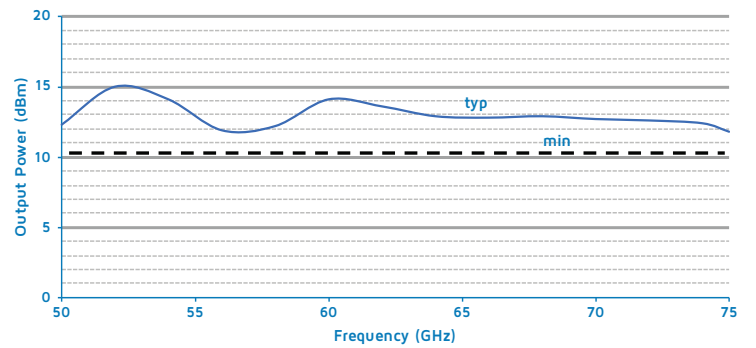
AMC-19-RFH00



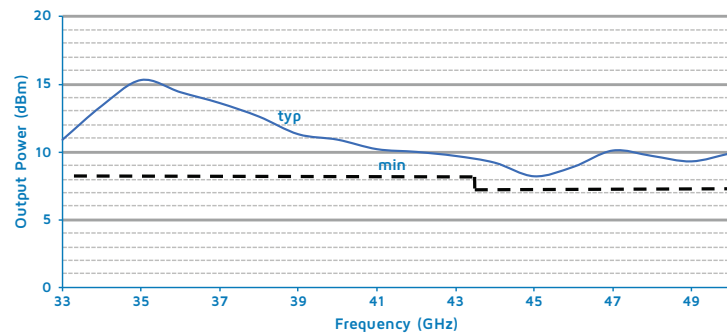
AMC-28-SFH00



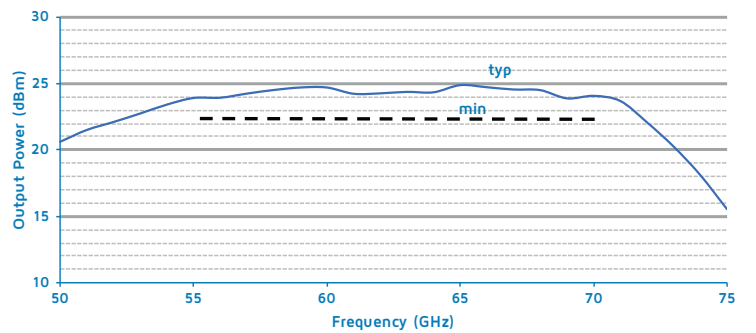
AMC-15-RFH00



AMC-22-RFH00



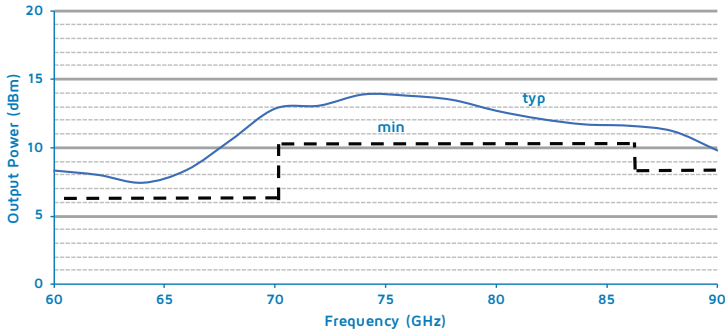
AMC-15-RFH0



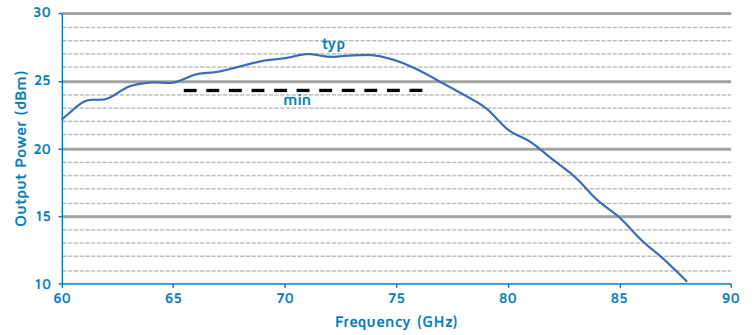
Technical Characteristics

Typical Output Power

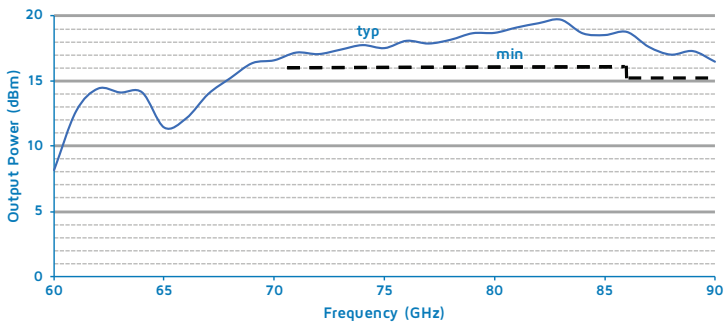
AMC-12-RFH0A



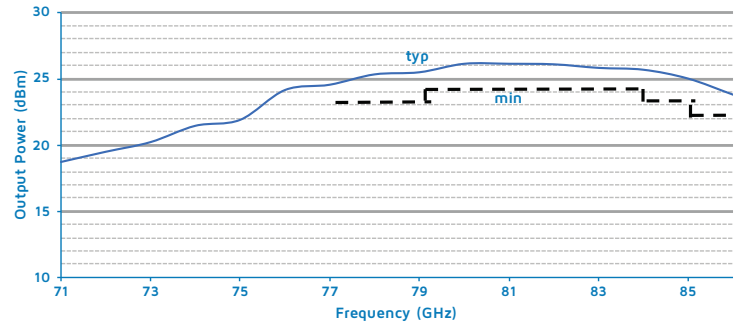
AMC-12-RNHB1



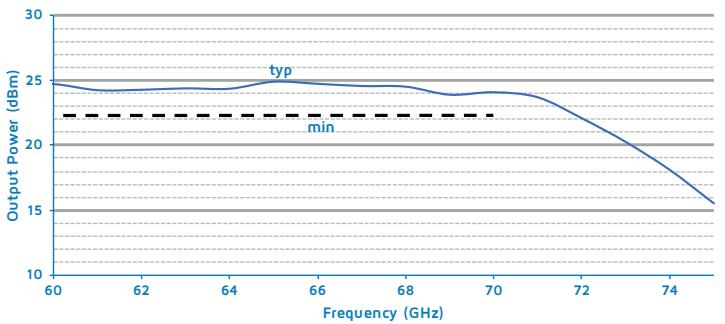
AMC-12-RFH0B



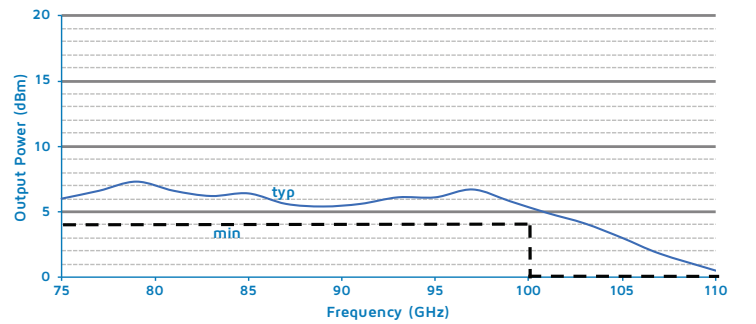
AMC-12-RNHB2



AMC-12-RNHB0



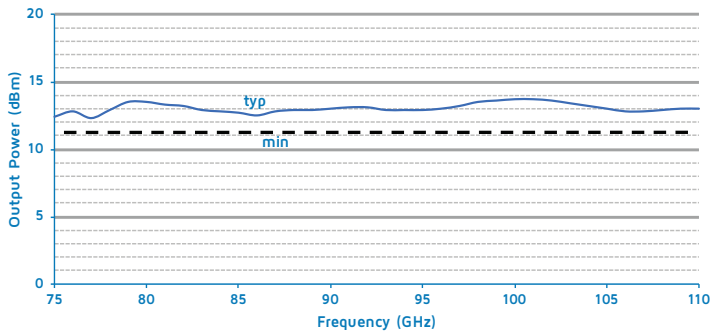
AMC-10-RFH00



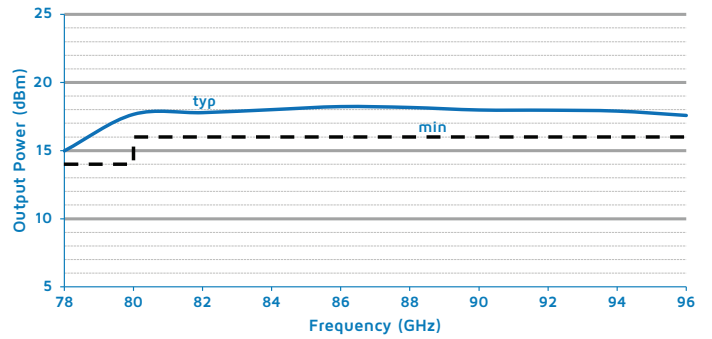
Technical Characteristics

Typical Output Power

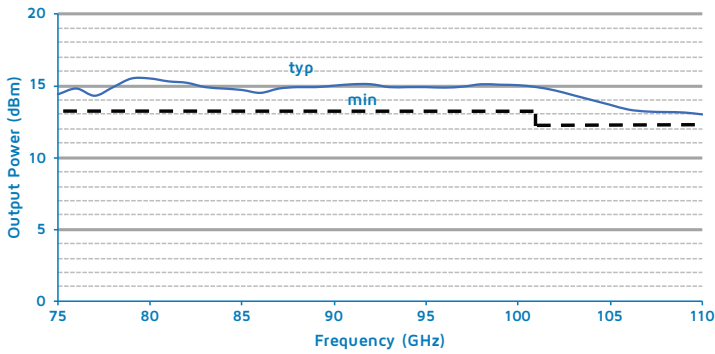
AMC-10-RFHBO



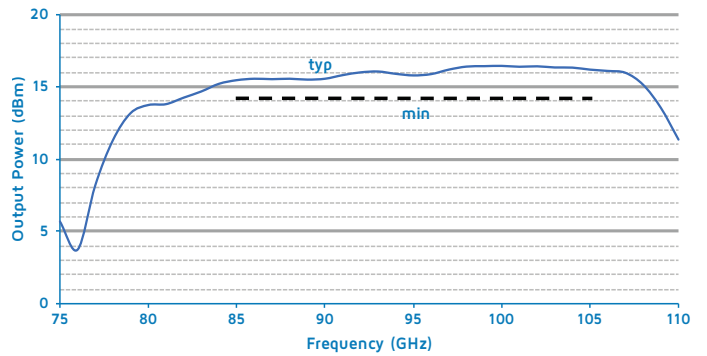
AMC-10-RNHB0



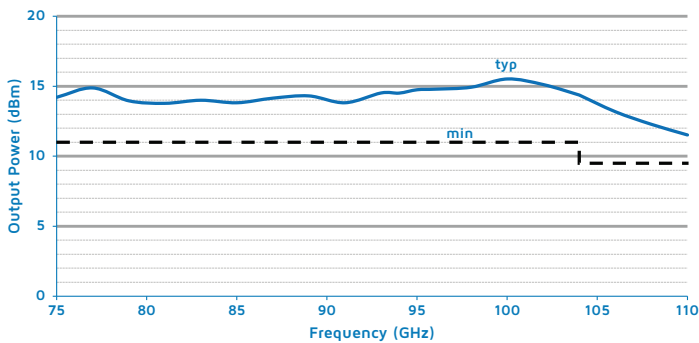
AMC-10-RFHB1



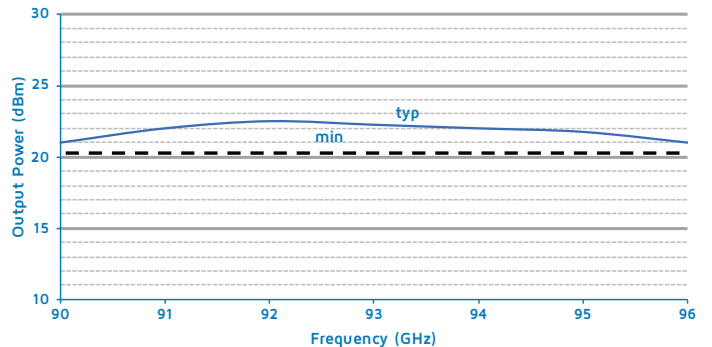
AMC-10-RNHB1



AMC-10-RFHMP



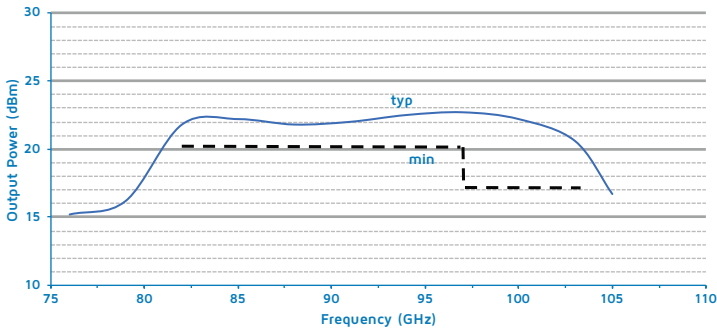
AMC-10-RNHB2



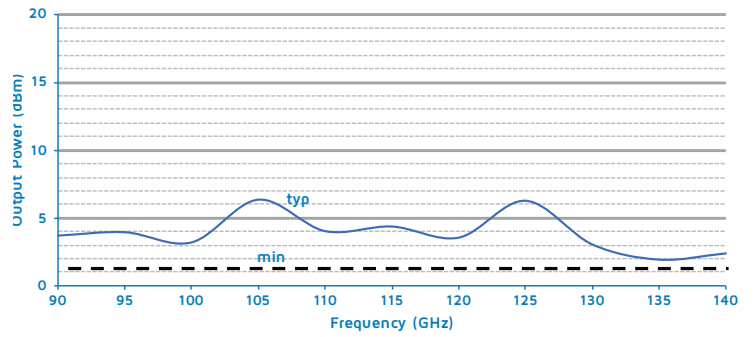
Technical Characteristics

Typical Output Power

AMC-10-RNHB3

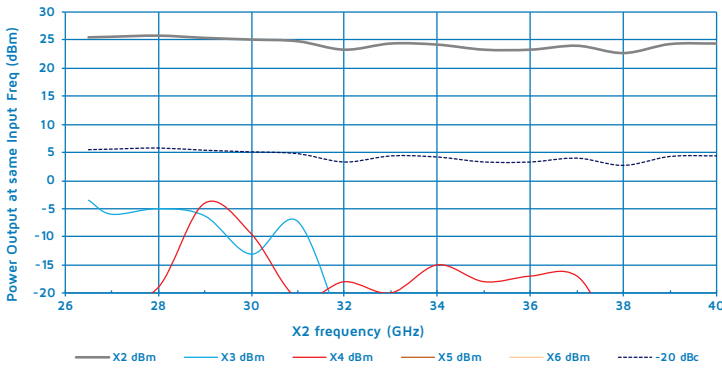


AMC-08-RFH00

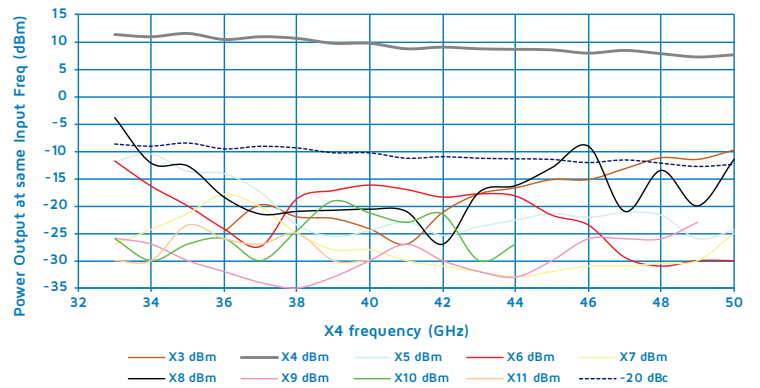


Typical Harmonics

AMC-28-SFH00

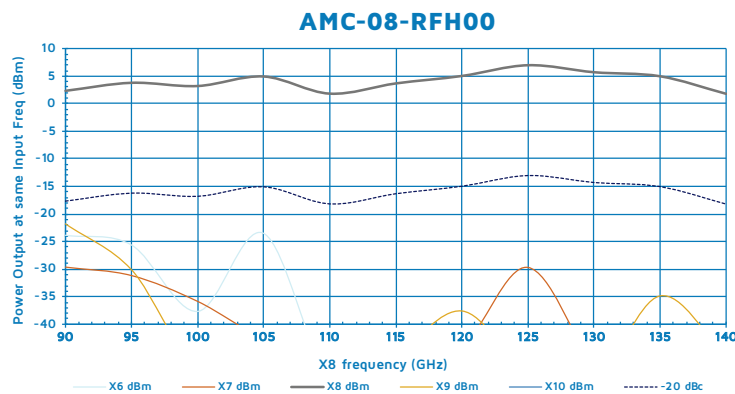
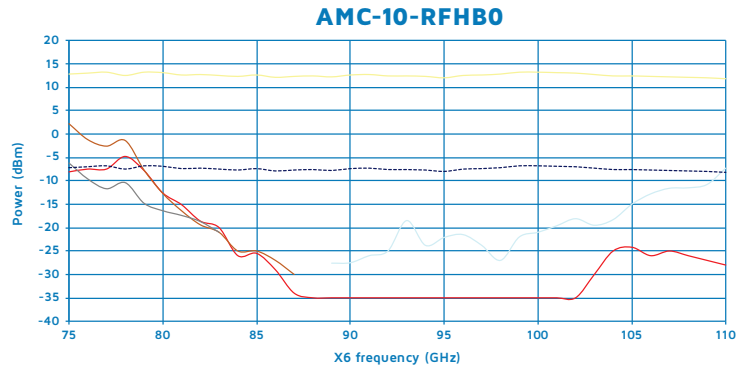
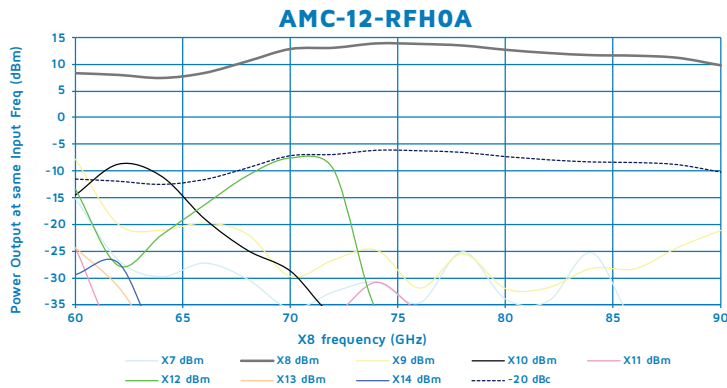
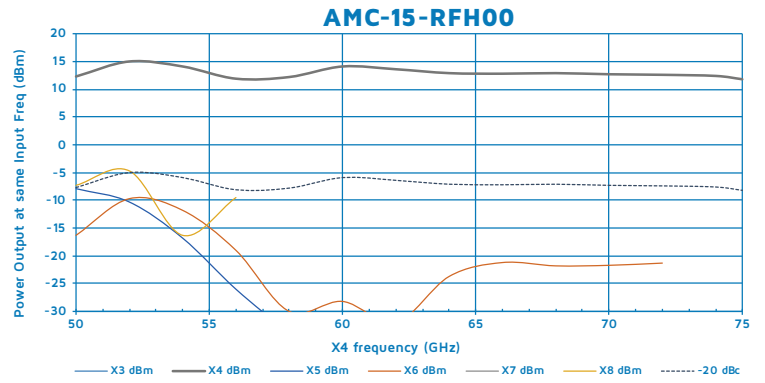
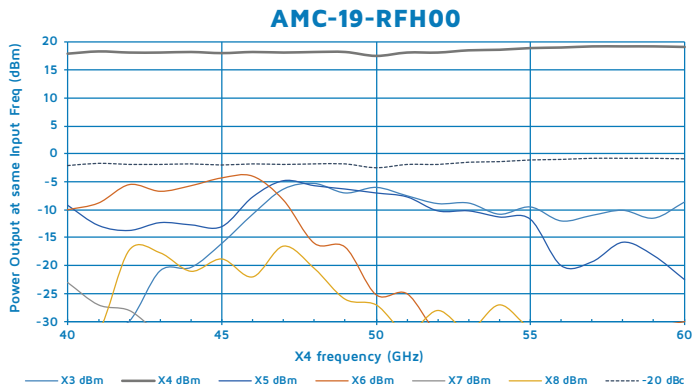


AMC-22-RFH00



Technical Characteristics

Typical Harmonics



Outline Drawings

Figure 1

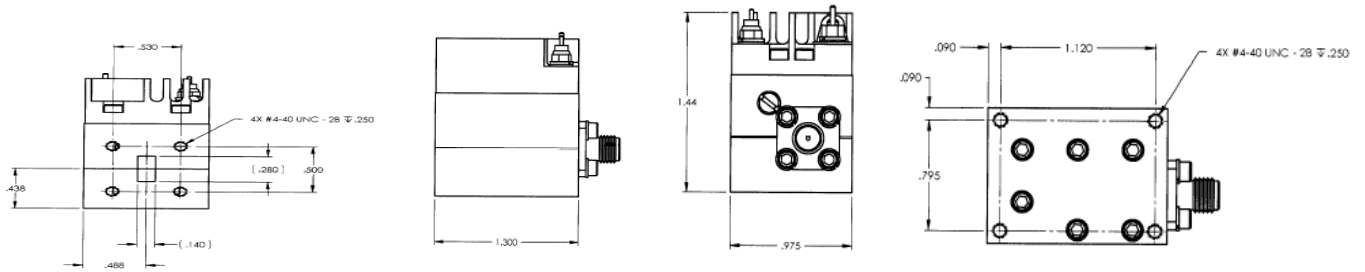


Figure 2

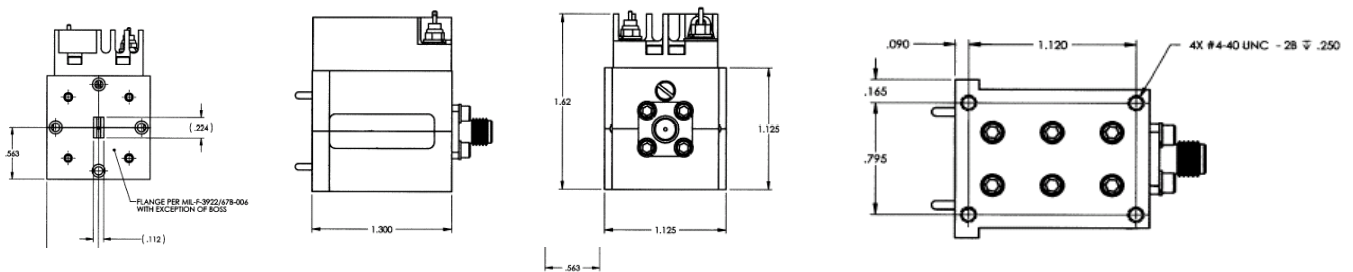


Figure 3

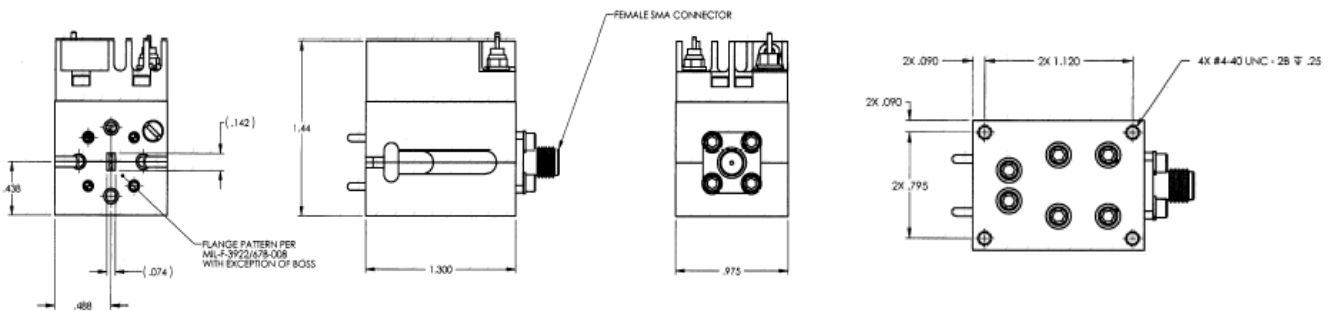
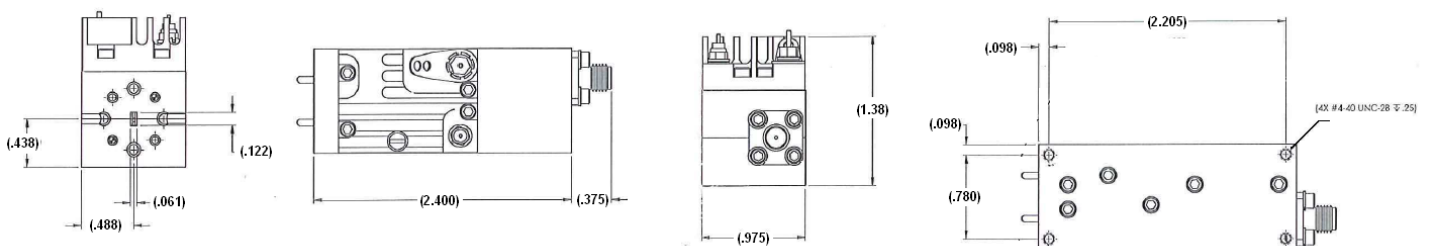


Figure 4



Outline Drawings

Figure 5

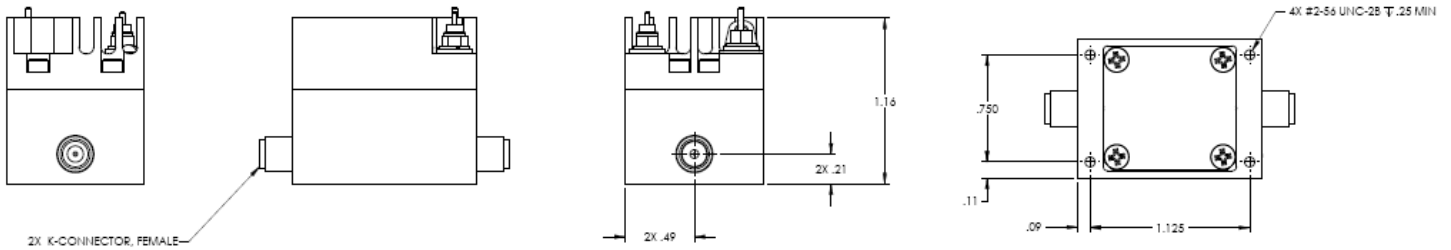


Figure 6

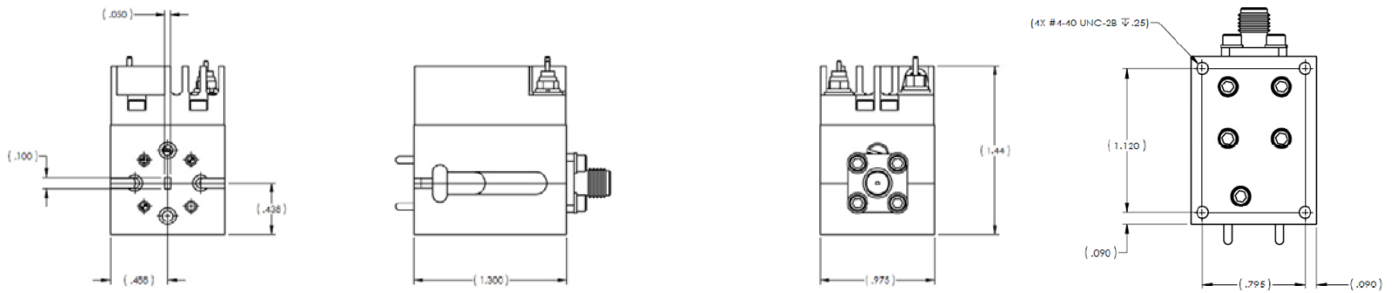
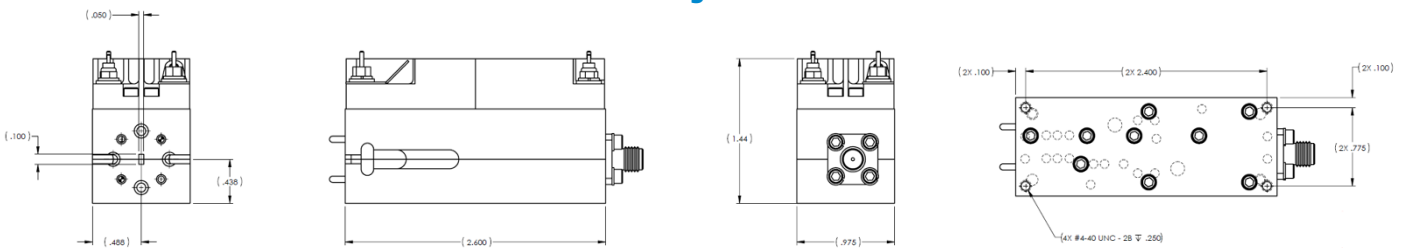


Figure 7



All dimensions are in inches and [mm]

Technical Characteristics

Specifications

Part Number	Input Connector	Output Connector		Figure Number
		Waveguide	Flange	
AMC-KK-CFH00	K-female	K-female	N/A	5
AMC-28-SFH00	SMA	WR-28	MIL.F-3922/54-002*	1
AMC-22-RFH00	SMA	WR-22	MIL.F-3922/67B-006	2
AMC-19-RFH00	SMA	WR-19	MIL.F-3922/67B-007	2
AMC-15-RFH00	SMA	WR-15	MIL.F-3922/67B-008	3
AMC-12-RFH0A	SMA	WR-12	MIL.F-3922/67B-009	4
AMC-10-RFH00	SMA	WR-10	MIL.F-3922/67B-010	3
AMC-10-RFH0B	SMA	WR-10	MIL.F-3922/67B-010	3
AMC-10-RNH0B	SMA	WR-10	MIL.F-3922/67B-010	3
AMC-10-RFHMP	SMA	WR-10	MIL.F-3922/67B-010	6
AMC-10-RNH03	SMA	WR-10	MIL.F-3922/67B-010	7
AMC-08-RFH00	SMA	WR-08	MIL.F-3922/67B-M08	3

* With #4-40 threaded

How To Order



Specify Model Number: **AMC-XX-ABCD0**

A M C	W R -					
AMC	-	XX	-	A	B	C D
AMC Series Name	A M C Series					
XX Output Waveguide	W R - Number KK 28 22 19 15 12 10 08					
A Flange Type	C Coaxial (K/2.92mm) R Round S Square (WR-28)					
B Bandwidth	F Fullband N Narrowband (≤ 5 GHz)*					
C Heatsink	\emptyset Not Provided H Provided					
D Other	XX See specifications table on page 10					

Please specify frequency range for all narrowband units.

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