

Bandpass Cavity Filter Operating from 2.2GHz to 2.3GHz with SMA Male Connectors

Technical Data Sheet

16A4NE

FEATURES:

- Passband of 100MHz
- 2.2GHz - 2.3GHz
- Cavity Filter Design
- 35dB rejection below 1.85GHz and above 2.38GHz
- Maximum insertion loss of 1.0dB

APPLICATIONS:

- Portable devices
- Consumer electronics
- Bluetooth headsets

DESCRIPTION:

The 16A4NE is a cavity band pass filter designed for RF systems operating in the 2.2–2.3 GHz frequency range. The filter provides a pass band of 100 MHz centered across the 2200 to 2300 MHz spectrum. Utilizing a cavity-based design, the filter delivers strong out-of-band rejection of up to 35 dB while maintaining a low insertion loss of ≤ 1.0 dB across the pass band. This architecture ensures stable performance and high signal integrity in demanding RF environments. The 16A4NE supports up to 2 W of input power and operates over a temperature range of -30 °C to $+65$ °C. Designed for straightforward system integration, the filter features 50 Ω impedance and SMA Male connectors.

ELECTRICAL CHARACTERISTICS:

DESCRIPTION	MIN	TYP	MAX	UNITS
Frequency Range	2200		2300	MHz
BW		100		MHz
Insertion Loss			1.0	dB
Return Loss				dB
Rejection at 2120MHz	15			dB
Rejection at 1750-1850MHz	30			dB
Rejection at 2025-2120MHz	35			dB
Rejection at 2380MHz	35			dB
Impedance		50		Ω
Power Rating			2.0	W
Operating Temperature	-30		65	°C
Relative Humidity	5.0		95	%
Approximate Weight		200		g

MECHANICAL SPECIFICATIONS

SIZE

Length	3.54" [90mm]
Width	3.54" [90mm]
Height	1.3" [33mm]
Weight	200g \pm 150g
Connectors	SMA-M

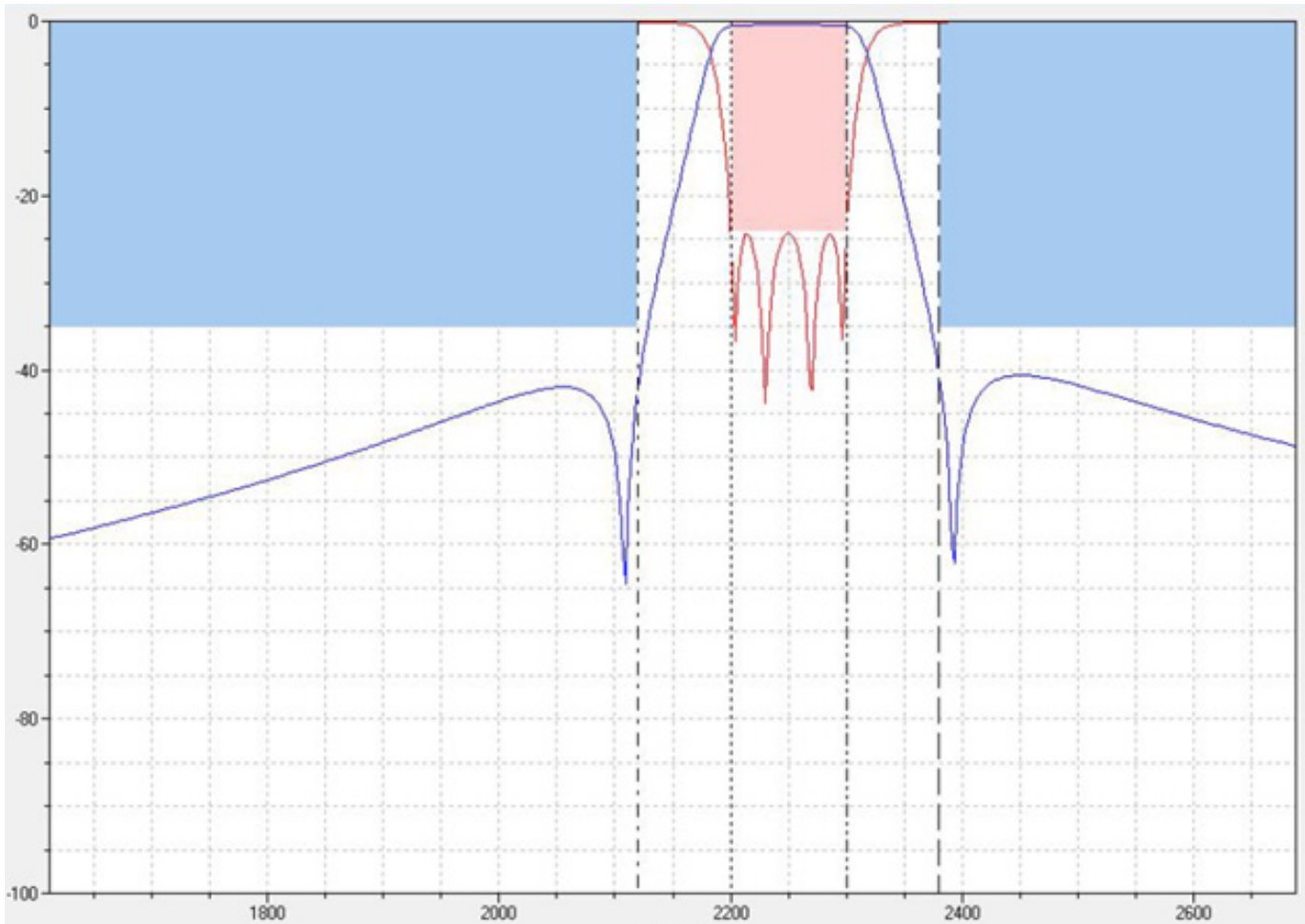
R0 (March 5th 2026)

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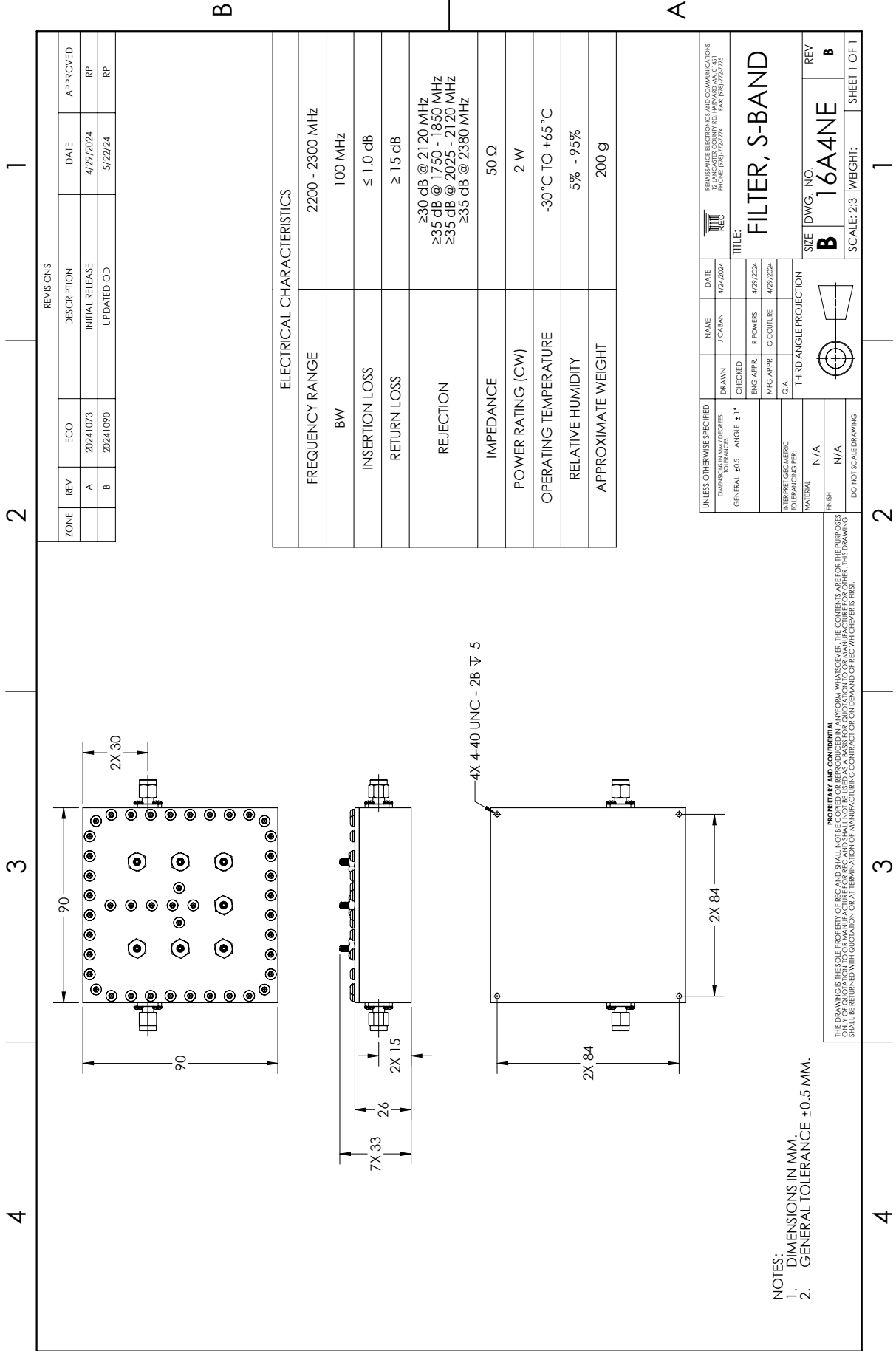
TYPICAL PERFORMANCE DATA:



Blue: S21

Red: S11

R0 (March 5th 2026)



REVISIONS					
ZONE	REV	ECO	DESCRIPTION	DATE	APPROVED
	A	20241073	INITIAL RELEASE	4/29/2024	RP
	B	20241090	UPDATED OD	5/22/24	RP

ELECTRICAL CHARACTERISTICS	
FREQUENCY RANGE	2200 - 2300 MHz
BW	100 MHz
INSERTION LOSS	≤ 1.0 dB
RETURN LOSS	≥ 15 dB
REJECTION	≥30 dB @ 2120 MHz ≥35 dB @ 1750 - 1850 MHz ≥35 dB @ 2025 - 2120 MHz ≥35 dB @ 2380 MHz
IMPEDANCE	50 Ω
POWER RATING (CW)	2 W
OPERATING TEMPERATURE	-30 °C TO +65 °C
RELATIVE HUMIDITY	5% - 95%
APPROXIMATE WEIGHT	200 g

UNLESS OTHERWISE SPECIFIED: DIMENSIONS IN MM / DECIMALS GENERAL ±0.5 ANGLE ±1°		NAME J. CABAN	DATE 4/24/2024	REVISIONS	
INTERPRET GEOMETRIC TOLERANCING PER: MATERIAL		DRAWN	CHECKED	ENG APPR	MFG APPR
FINISH N/A		Q.A.	8 POWERS	G-COUTURE	
DO NOT SCALE DRAWING		THIRD ANGLE PROJECTION		SCALE: 2:3 WEIGHT: 1 OF 1	

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TITLE:
FILTER, S-BAND

SIZE DWG. NO. **B 16A4NE** REV **B**

- NOTES:
1. DIMENSIONS IN MM.
2. GENERAL TOLERANCE ±0.5 MM.