

E-band

Bandpass Waveguide Filter (81-86 GHz)

Gapwaves have teamed up with Metasum and offers the BPF-E0081-MLW, an E-band ultra-thin waveguide bandpass filter with a passband of 81-86 GHz.

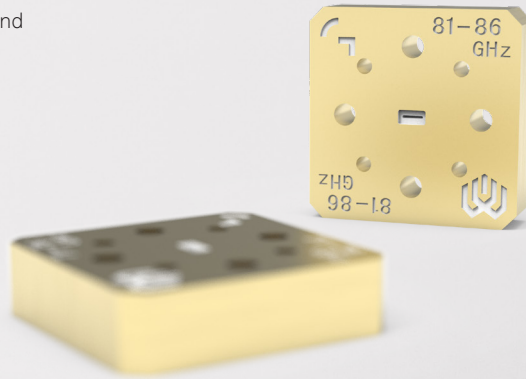
The filter has a typical insertion loss of 0.65 dB and typical rejection of 60 dB at 76 GHz. Custom designs with different passband and rejection are available.

Summary

- Ultra-thin
- Low Cost
- Low Insertion Loss
- High Rejection

Application

- E-band communication radios
- Small cell backhaul
- Radar systems
- Instrumentation



Technology

Gapwaves waveguides is a novel packaging technology for millimeter wave and Terahertz circuits and components. The technology is based on an Artificial Magnetic Conductor that enables multilayer waveguide structures to be built without the need for electrical contact between layers and thus paving the way for lowest manufacturing cost and highest waveguide performance. Gapwaves versatile waveguide technology provides unique possibilities for deep integration of antennas and millimeter wave to Terahertz electronics.

Metasum is a start-up company from 2017, mainly focused on the multi-layer waveguide technology (MLW) and solutions based on that. Gapwaves has an exclusive distribution agreement with Metasum.

About Gapwaves

Gapwaves originates from research conducted at Chalmers University of Technology and was founded in 2011. Gapwaves vision is to be the most innovative provider of mmWave antenna systems and the preferred partner to those pioneering next generation wireless technology. By leveraging the disruptive Gapwaves technology we help pioneers in telecom and automotive to create highly efficient mmWave antenna systems that contributes to re-defining everyday life. Gapwaves markets are e.g. mmWave in 5G telecom and automotive.

Electrical specifications	Minimum	Typical	Maximum
Passband	81 GHz		86 GHz
Return loss		> 17 dB	
Insertion loss		0.8 dB	< 1 dB
Passband ripple		0.1 dB	
Rejection		> 60 dB @ 76 GHz	
Operating temperature	-45°C	+ 85°C	

Mechanical specifications	Minimum
In/Out	WR-12 with UG-387/U flange
Material	Brass
Weight	< 15 g
Finishing	Silver (tarnish resist)
Size	22 mm (L) x 22mm (W) x 6 mm (H)