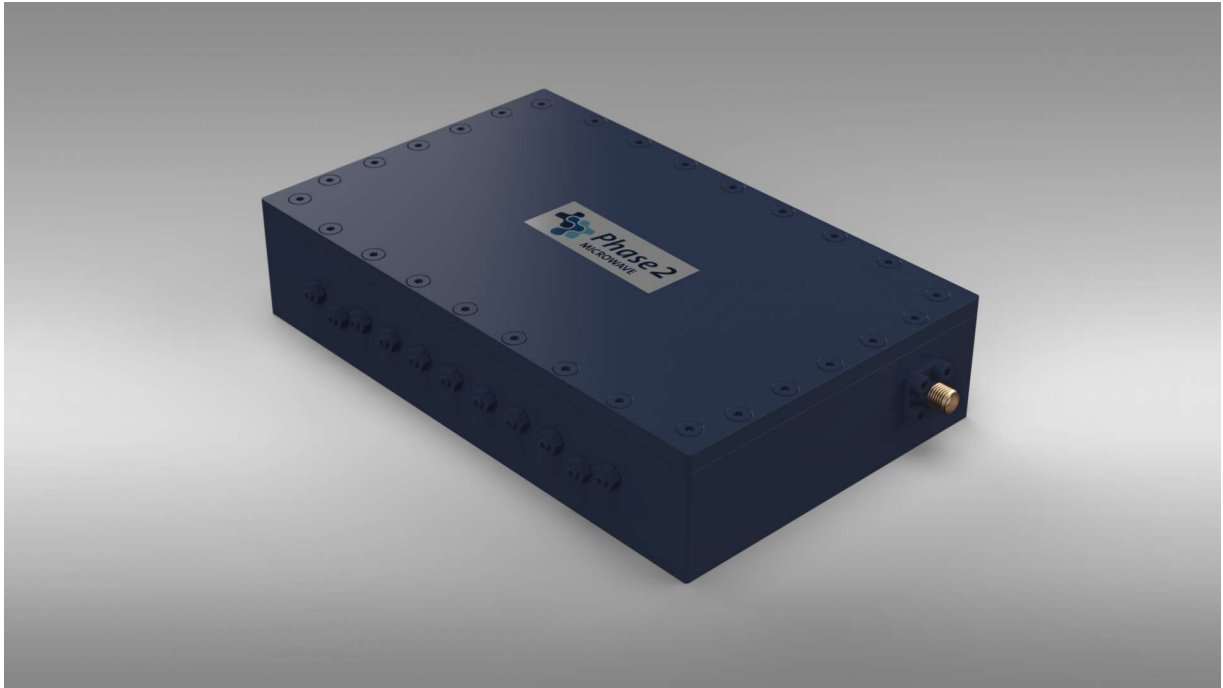


## Case Study-Q1173 Coaxial Bandpass Filter



### Overview

Customer DOT Technology required filters to be used as part of an in-studio system to reduce wireless microphone interference from other devices including cellular telephones.

### Challenge

The main challenge was to produce a simple, compact, low cost coaxial bandpass filter which would operate around 566 MHz, with good rejection performance down to DC and up to 1800 MHz. Customer required 16off units, with price and delivery key drivers.

### Solution

It was decided that a coaxial chebychev combline design would be the best approach to adopt for this application. That was considered the simplest, most cost effective solution and would offer the best design flexibility in order to achieve the key rejection performance up to 1800 MHz. That was realised with judicious choice of cavity and resonator size. Also the combline design approach would lend itself to simple manufacturing, with minimal piece part, simple assembly and tuning so overall keeping productions costs to a minimum (both material cost and labour).