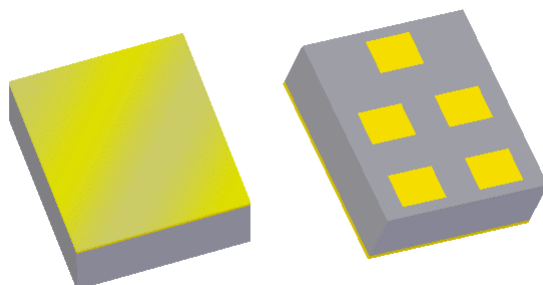


Preliminary Data Sheet

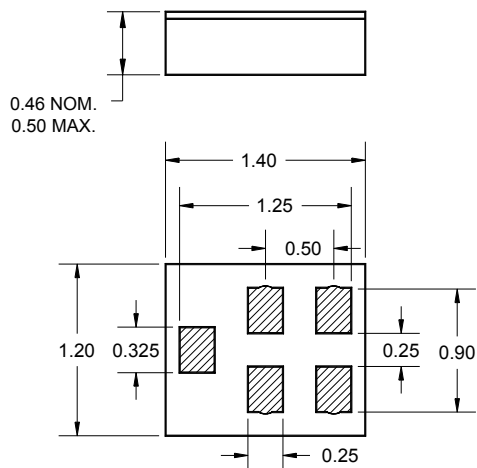
Features

- For Bluetooth applications
- Usable bandwidth of 83.5 MHz
- Typical 3 dB bandwidth of 130 MHz
- Low loss
- High attenuation
- Single-ended input, 50 Ω
- Balanced output, 200 Ω
- Excellent selectivity and stop band rejection
- Ceramic Chip Scale Package (CSP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free 



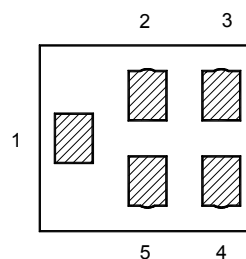
Package

Surface Mount 1.40 x 1.20 x 0.46 mm



Pin Configuration

Bottom View



Pin No.	Description
1	Input
3,4	Balanced Output
2,5	Case ground

Dimensions shown are nominal in millimeters
All tolerances are ± 0.10 mm

Body: Al_2O_3 ceramic
Lid: Kovar or Alloy 42, Au over Ni plated
Terminations: Au plating 0.5 - 1.0 μ m,
over a 2 - 6 μ m Ni plating

Preliminary Data Sheet

Electrical Specifications ⁽¹⁾

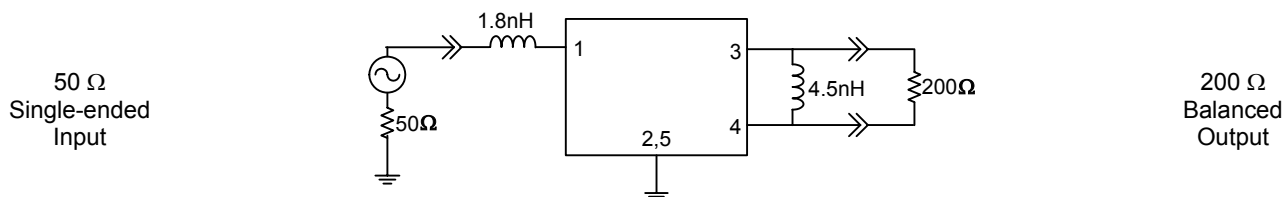
Operating Temperature Range: ⁽²⁾ -40 to +85 °C

Parameter ⁽³⁾	Minimum	Typical	Maximum	Unit
Center Frequency	-	2441	-	MHz
Maximum Insertion Loss ⁽⁴⁾ 2400 - 2483.5 MHz	-	2.7	3.5	dB
Amplitude Ripple ⁽⁴⁾ 2400 - 2483.5 MHz	-	1	2	dB
Absolute Attenuation				
500 - 960 MHz	60	65	-	dB
960 - 1200 MHz	55	62	-	dB
1200 - 1500 MHz	55	62	-	dB
1500 - 1980 MHz	45	49	-	dB
1980 - 2100 MHz	37	42	-	dB
2100 - 2170 MHz	40	50	-	dB
2170 - 2250 MHz	35	39	-	dB
2700 - 3000 MHz	30	35	-	dB
3000 - 3250 MHz	40	45	-	dB
3250 - 3500 MHz	32.5	37	-	dB
3500 - 6000 MHz	45	52	-	dB
Source Impedance ⁽⁵⁾	-	50	-	Ω
Load Impedance (Balanced) ⁽⁵⁾	-	200	-	Ω

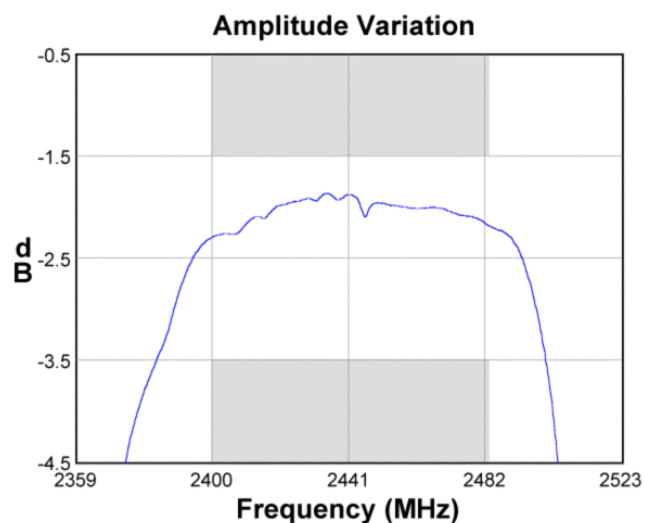
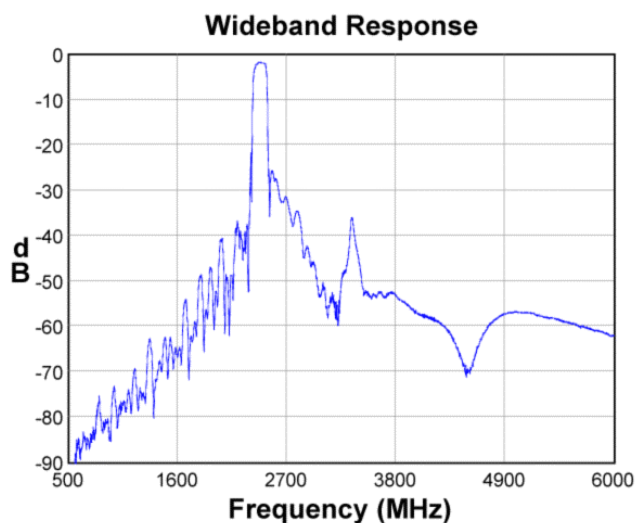
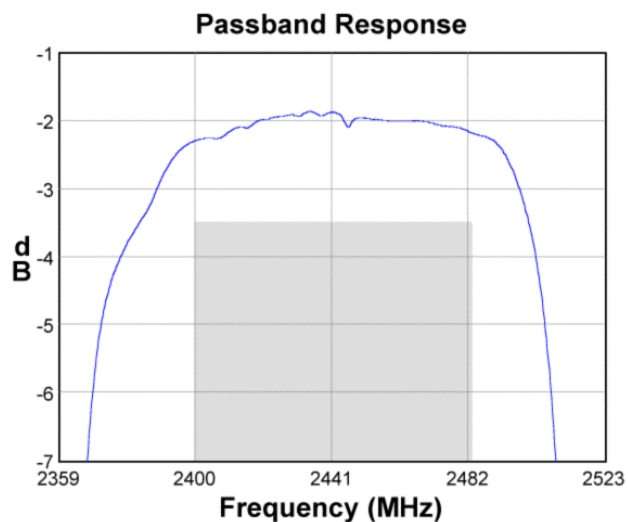
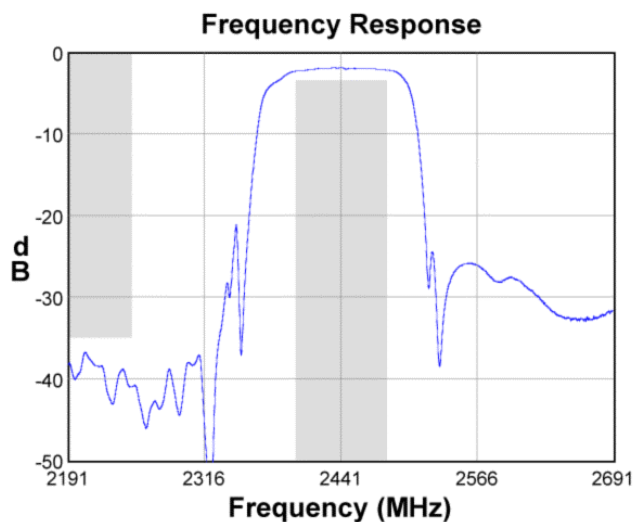
Notes:

1. All specifications are based on the test circuit shown below
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances
4. Range determined by requirements in the Bluetooth Specification version 1.1
5. This is the optimum impedance in order to achieve the performance shown

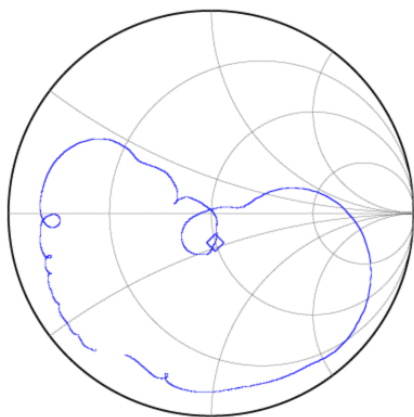
Test Circuit:



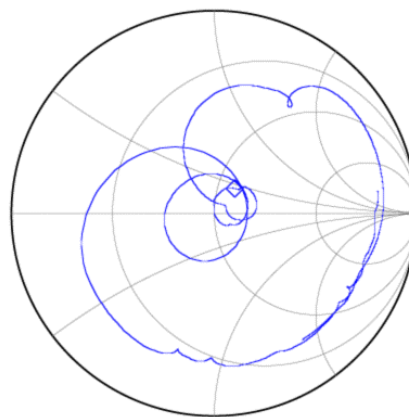
Preliminary Data Sheet



Input Smith Chart



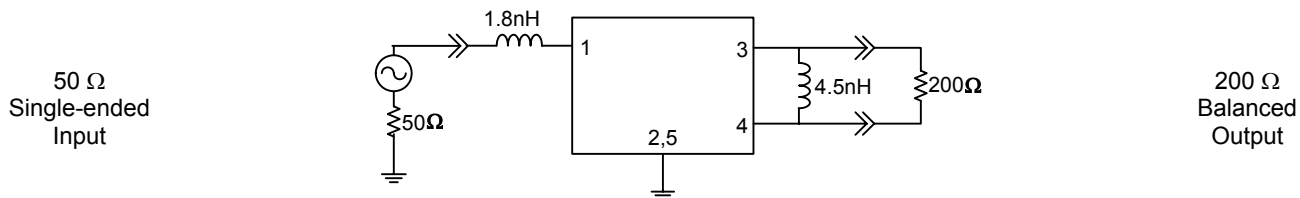
Output Smith Chart



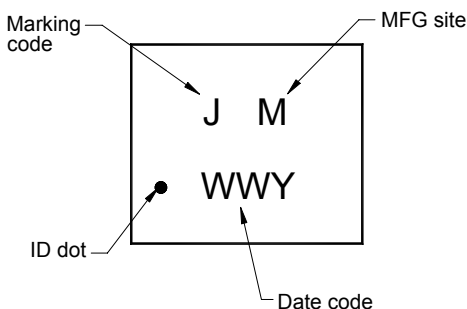
Preliminary Data Sheet

Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

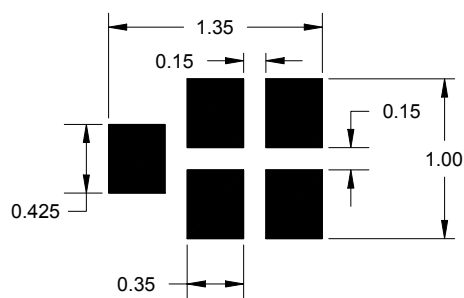


Marking



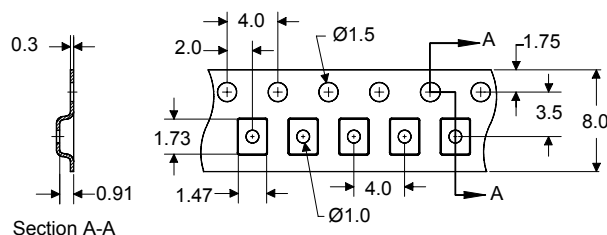
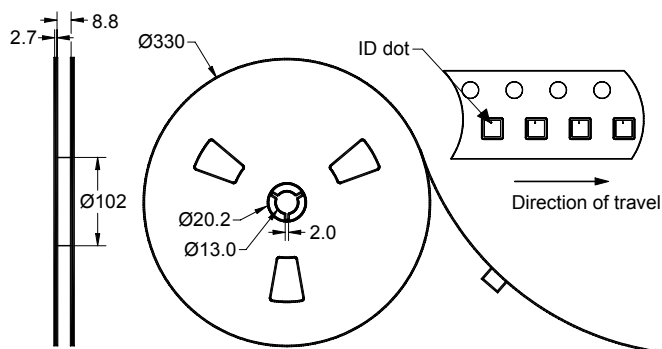
The date code consists of: WW = 2 digit week,
Y = last digit of year, M = manufacturing site code

PCB Footprint



This footprint represents a recommendation only
Dimensions shown are nominal in millimeters

Tape and Reel



Dimensions shown are nominal in millimeters
Packaging quantity: 10000 units/reel

Preliminary Data Sheet

Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-40	+85	°C
Storage Temperature Range	T _{stg}	-40	+85	°C

Important Notes

Warnings

- Electrostatic Sensitive Device (ESD)
- Avoid ultrasonic exposure



RoHS Compliance

- This product complies with EU directive 2002/95/EC (RoHS)



Solderability

- Compatible with JEDEC J-STD-020C Pb-free process, **260°C** peak reflow temperature ([see soldering profile](#))

Links to Additional Technical Information

[PCB Layout Tips](#)[Qualification Flowchart](#)[Soldering Profile](#)[S-Parameters](#)[RoHS information](#)[Other Technical Information](#)

Sawtek's liability is limited only to the Surface Acoustic Wave (SAW) component(s) described in this data sheet. Sawtek does not accept any liability for applications, processes, circuits or assemblies, which are implemented using any Sawtek component described in this data sheet.

Contact Information



PO Box 609501
Orlando, FL 32860-9501
USA

Phone: +1 (407) 886-8860
Fax: +1 (407) 886-7061
Email: custservice@sawtek.com
Web: www.sawtek.com

Or contact one of our worldwide
Network of [sales offices](#),
[representatives or distributors](#)