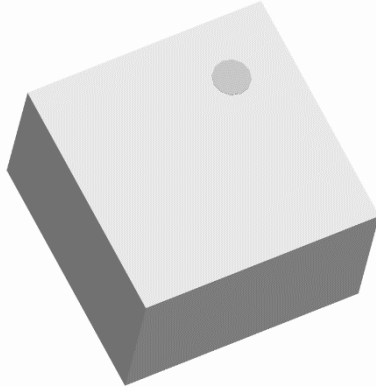




**Nano Profile 0404 Balun
50Ω to 100Ω Balanced**

Description:

The BD2425P50100AHF is a low cost, nano profile sub-miniature unbalanced to balanced transformer designed for differential inputs and output locations on modern chipsets in an easy to use surface mount package. The BD2425P50100AHF has been developed for placement inside highly integrated, over moldable packaging solutions where overall module height is of greatest concern. Ideal for high volume manufacturing and delivers higher performance than traditional ceramic baluns in a sub 0.5mm height profile. The BD2425P50100AHF has an unbalanced port impedance of 50Ω and a 100Ω balanced port impedance. This transformation enables single ended signals to be applied to differential ports on modern integrated chipsets. The output ports have equal amplitude (-3dB) with 180 degree phase differential. The BD2425P50100AHF is available on tape and reel for pick and place high volume manufacturing.



Detailed Electrical Specifications:

Specifications subject to change without notice.

Features:	Parameter	ROOM (25°C)			Unit
		Min.	Typ.	Max	
<ul style="list-style-type: none"> • 2400 – 2500 MHz • 0.45mm Height Profile • 50 Ohm to 2 x 50 Ohm • Low Insertion Loss • 802.11 b+g • MIMO b+g • Bluetooth • Zigbee • Proprietary Ultra Low Power Radio • Surface Mountable • Tape & Reel • RoHS Compliant 	Frequency	2400		2500	MHz
	Unbalanced Port Impedance		50		Ω
	Balanced Port Impedance		100		Ω
	Return Loss	17	25.6		dB
	Insertion Loss*		0.8	0.9	dB
	Amplitude Balance		0.9	1.5	dB
	Phase Balance		6	9	Degrees
	CMRR		24		dB
	Power Handling			1	Watts
	Operating Temperature	-55		+85	°C

* Insertion Loss stated at room temperature (Insertion Loss is approximately 0.1 dB higher at +85 °C)

Outline Drawing

Top View (Near-side)

Side View

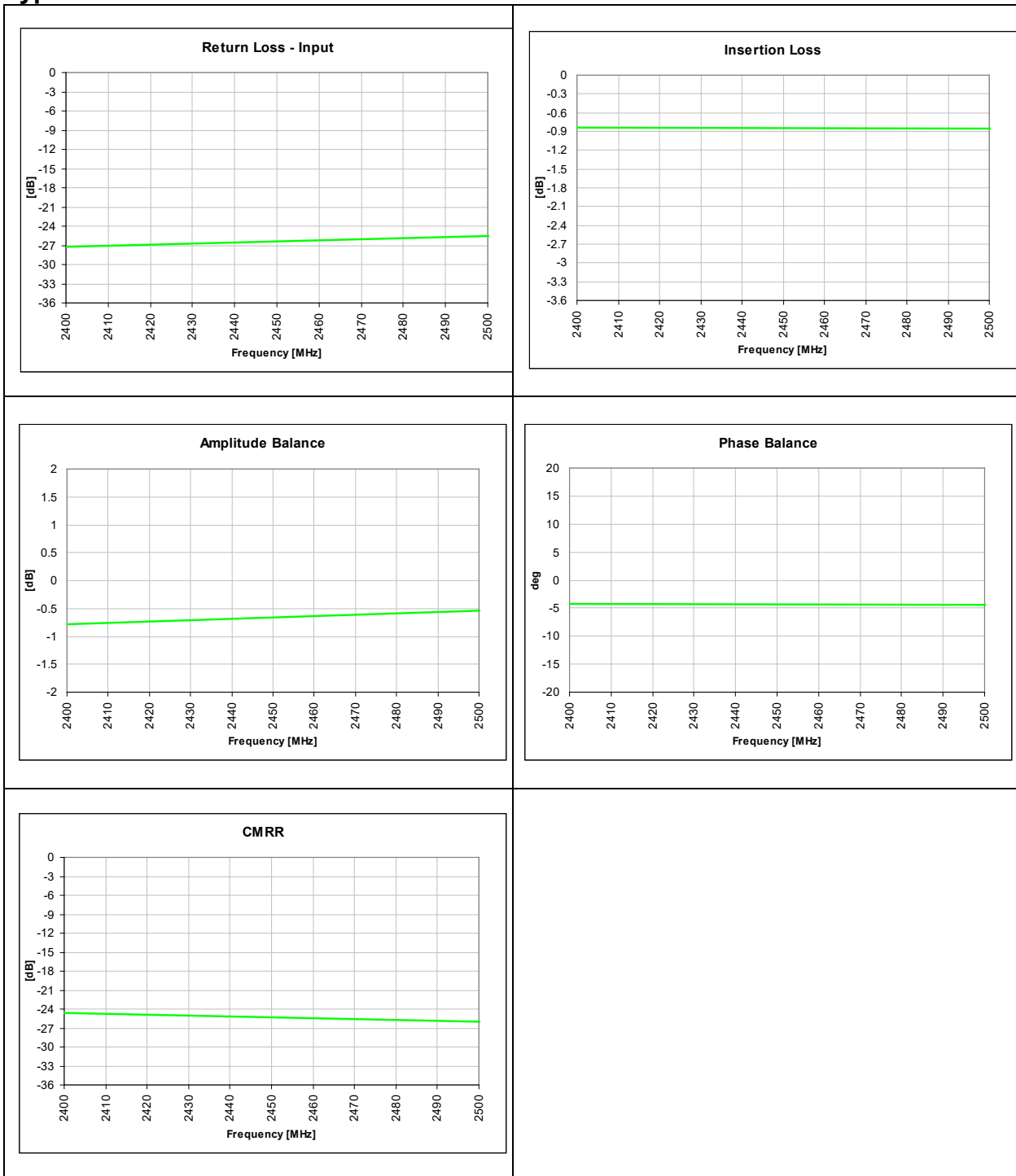
Bottom View (Far-side)

Pin	Designation
1	GND / DC Feed + RF GND
2	Unbalanced Port
3	Balanced Port
4	Balanced Port

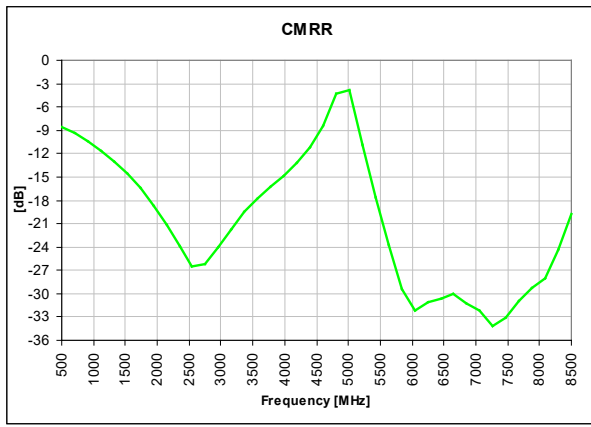
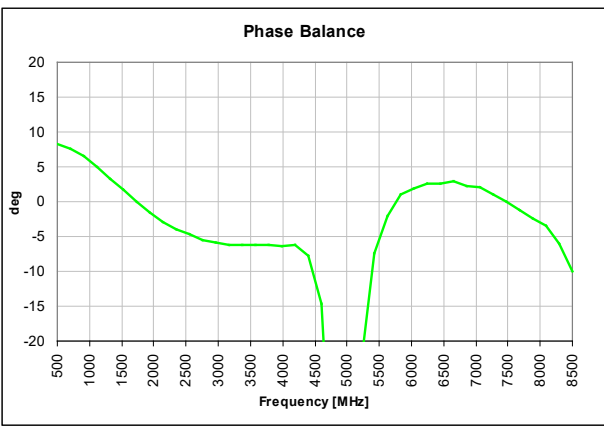
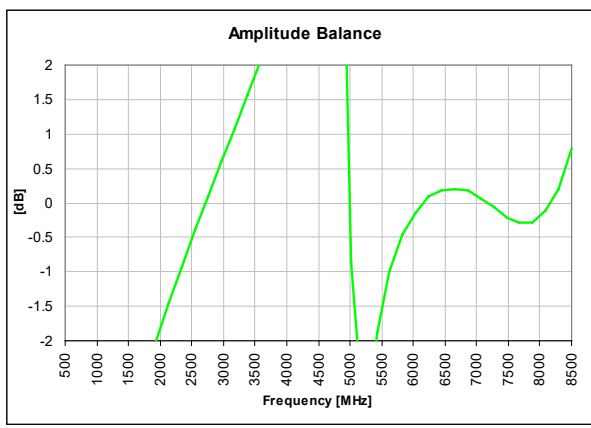
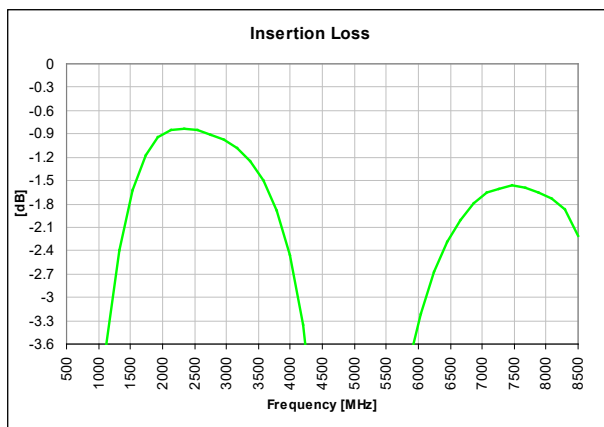
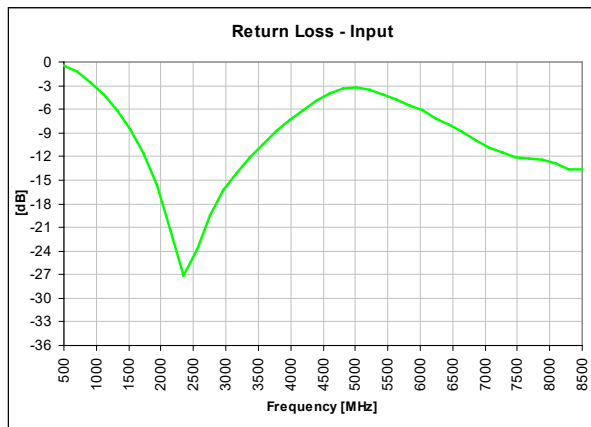
Dimensions are in Inches [Millimeters]
Mechanical Outline

Tolerances are Non-Cumulative

Typical Performance: 2400 MHz. to 2500 MHz.



Wide Band Performance: 500 MHz. to 8500 MHz.



Mounting Configuration:

In order for Xinger surface mount components to work optimally, the proper impedance transmission lines must be used to connect to the RF ports. If this condition is not satisfied, insertion loss, Isolation and VSWR may not meet published specifications.

All of the Xinger components are constructed from ceramic filled PTFE composites which possess excellent electrical and mechanical stability.

An example of the PCB footprint used in the testing of these parts is shown below. An example of a DC-biased footprint is also shown below. In specific designs, the transmission line widths need to be adjusted to the unique dielectric coefficients and thicknesses as well as varying pick and place equipment tolerances.

