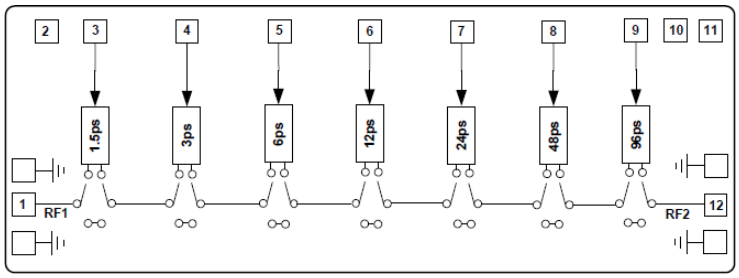
Features

- **Delay Range: 1.5ps-190.5ps**
- **Minimum Delay: 1.5ps**
- **Delay Accuracy RMS: 1.5ps**
- **Insertion Loss: 18 dB**
- **Phase Shift Amplitude Modulation: ±0.8 dB**
- **Input/Output: 50 Ohm**
- **Die Size: 4.7 x 2.4 x 0.1 mm**

Functional Block Diagram



Typical Applications

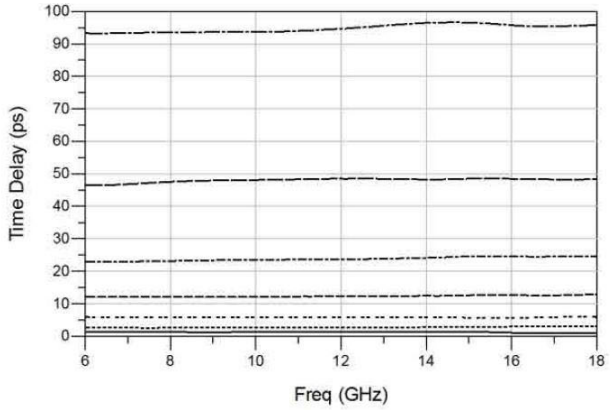
- **Test Instrumentation**
- **Microwave Radio & VSAT**
- **Military & Space**
- **Telecom Infrastructure**
- **Fiber Optics**

Electrical Specifications

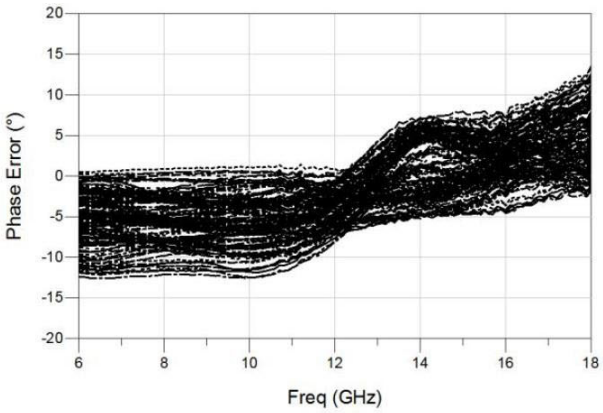
TA = +25°C, Vctl = 0/+5V

Parameters	Min.	Typ.	Max.	Units
Frequency		6-18		GHz
Insertion Loss		18		dB
Time Delay Accuracy RMS		1.5		ps
Phase Shift Amplitude Modulation		±0.8		dB
Input and Output SWR		1.5		-
Input 1dB Compression		24		dBm
Switching Time		30		ns

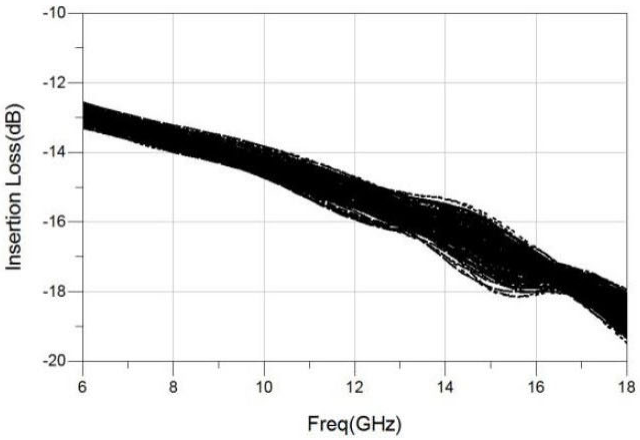
Basic State Time Delay



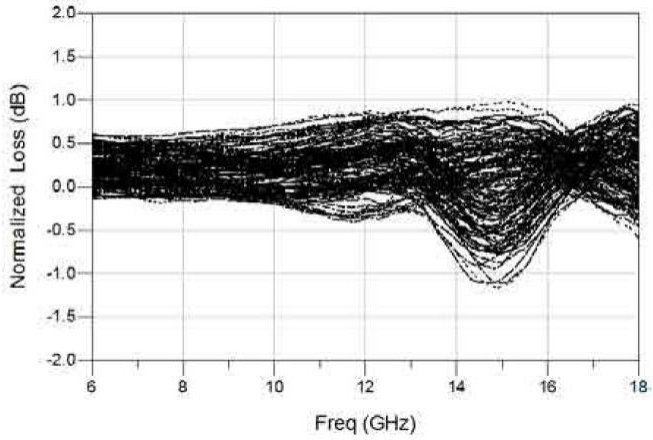
Full State Time Delay Accuracy



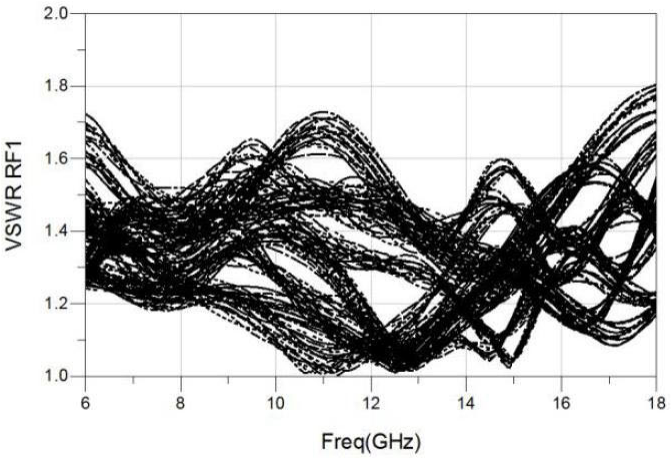
Full State Insertion Loss



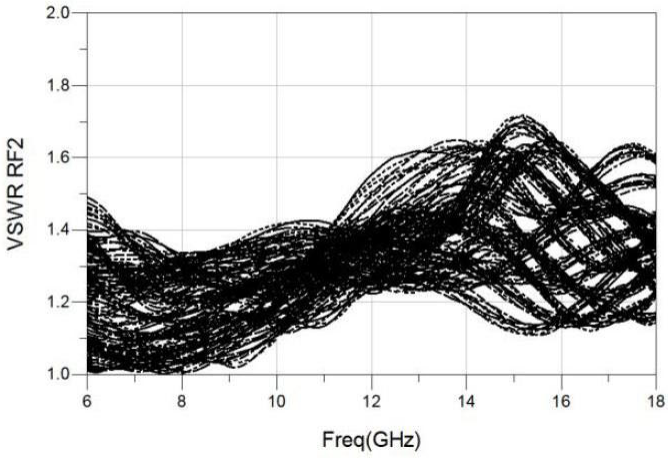
Full State Amplitude Modulation



VSWR RF1

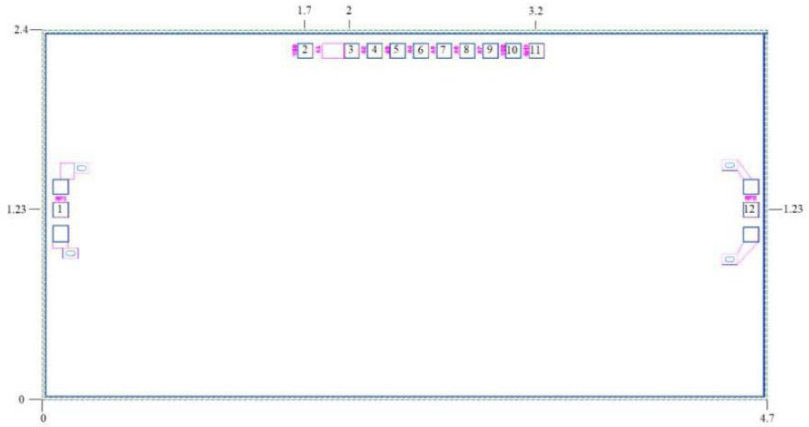


VSWR RF2



Outline Drawing:

All Dimensions in mm



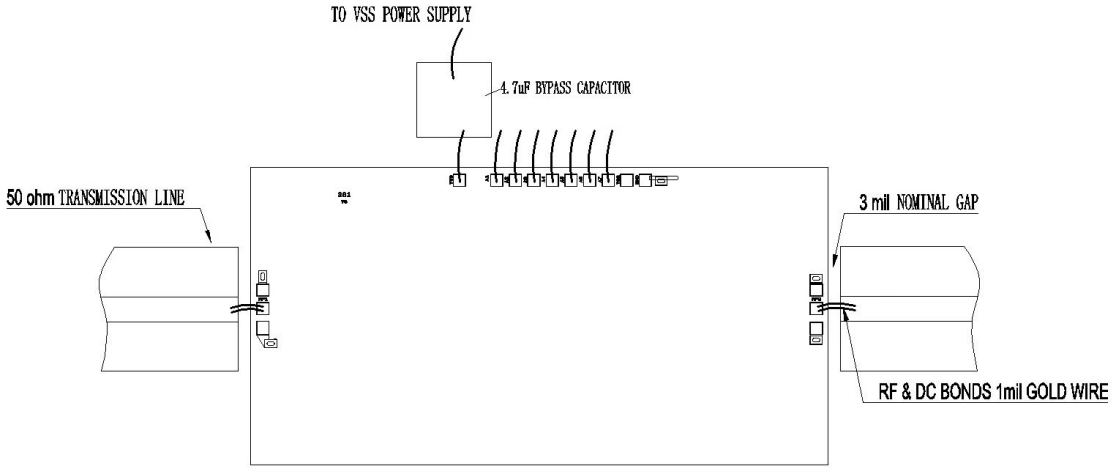
Pad Description

Pad Number	Function	Description
1, 12	RF1, RF2	The pad is RF port and matched with 50 Ohm.
2, 10	VSS	The pad is 7-bit TTL power supply port. Use anyone of them to connect to -5V.
3	A1	When A1=5V, 1.5ps OFF; When A1=0V, 1.5ps ON.
4	A2	When A2=5V, 3ps OFF; When A2=0V, 3ps ON.
5	A3	When A3=5V, 6ps OFF; When A3=0V, 6ps ON.
6	A4	When A4=5V, 12ps OFF; When A4=0V, 12ps ON.
7	A5	When A5=5V, 24ps OFF; When A5=0V, 24ps ON.
8	A6	When A6=5V, 48ps OFF; When A6=0V, 48ps ON.
9	A7	When A7=5V, 96ps OFF; When A7=0V, 96ps ON.
11	GND	The pad is 7-bit TTL grounding port.
Die bottom	GND	Die bottom must be connected to RF/DC ground.

True Value Table

State	1.5ps	3ps	6ps	12ps	24ps	48ps	96ps
	A1	A2	A3	A4	A5	A6	A7
Reference State	5	5	5	5	5	5	5
1.5ps	0	5	5	5	5	5	5
3ps	5	0	5	5	5	5	5
6ps	5	5	0	5	5	5	5
12ps	5	5	5	0	5	5	5
24ps	5	5	5	5	0	5	5
48ps	5	5	5	5	5	0	5
96ps	5	5	5	5	5	5	0

Assembly Drawing



Notes:
1. Die thickness: 100um
2. Typical bond pad is 100*100 μm^2
3. Bond pad metalization: Gold
4. Backside metalization: Gold
5. Backside of the die is grounded
6. No connection required for unlabeled bond pads

Maximum Ratings:
1. RF input power: +24dBm
2. Storage temperature: -65˚C to +175˚C
3. Operating temperature: -55˚C to +85˚C