

Part No.: TBG-0810-3S-90-SMD

## 90 Degree 3dB Bridge

### Electrical:

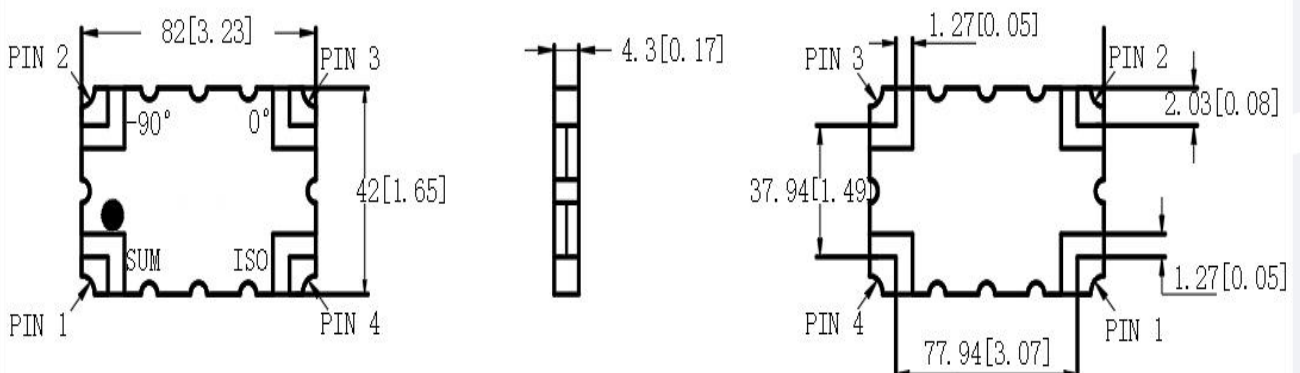
Frequency Range:	80-1000MHz
Coupling :	3dB
Insertion Loss:	1.0dB Max
Isolation:	20dB Min
VSWR:	1.38:1 Max
Amplitude Balance:	$\pm 1.0$ dB max
Phase Balance:	$90 \pm 2.5$ degree
Power Handling:	300 Watt
Impedance:	50 OHMS

### Mechanical:

Temperature Range:	$-55^{\circ}$ C - $+105^{\circ}$ C
Size:	82mm*42mm
Thickness:	4.3mm
Relative Humidity:	0 ~ 90%

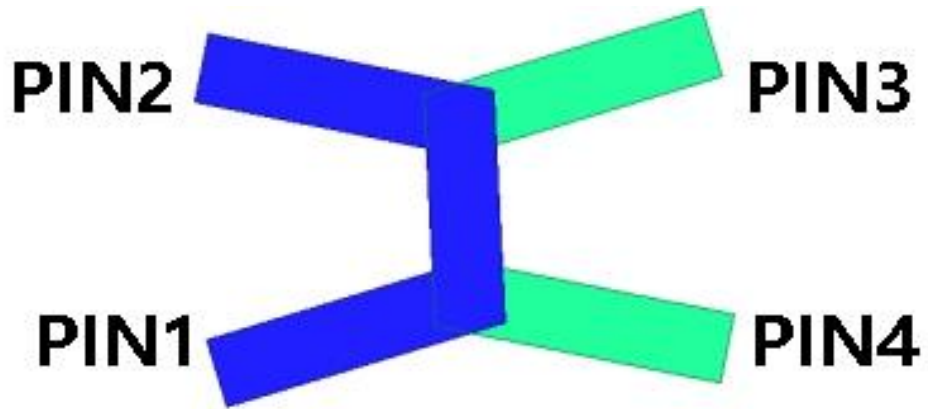
### Outline Drawing:

Unit: mm(Inches)



Port Configuration Table:

Hybrid Coupler Pin Configuration



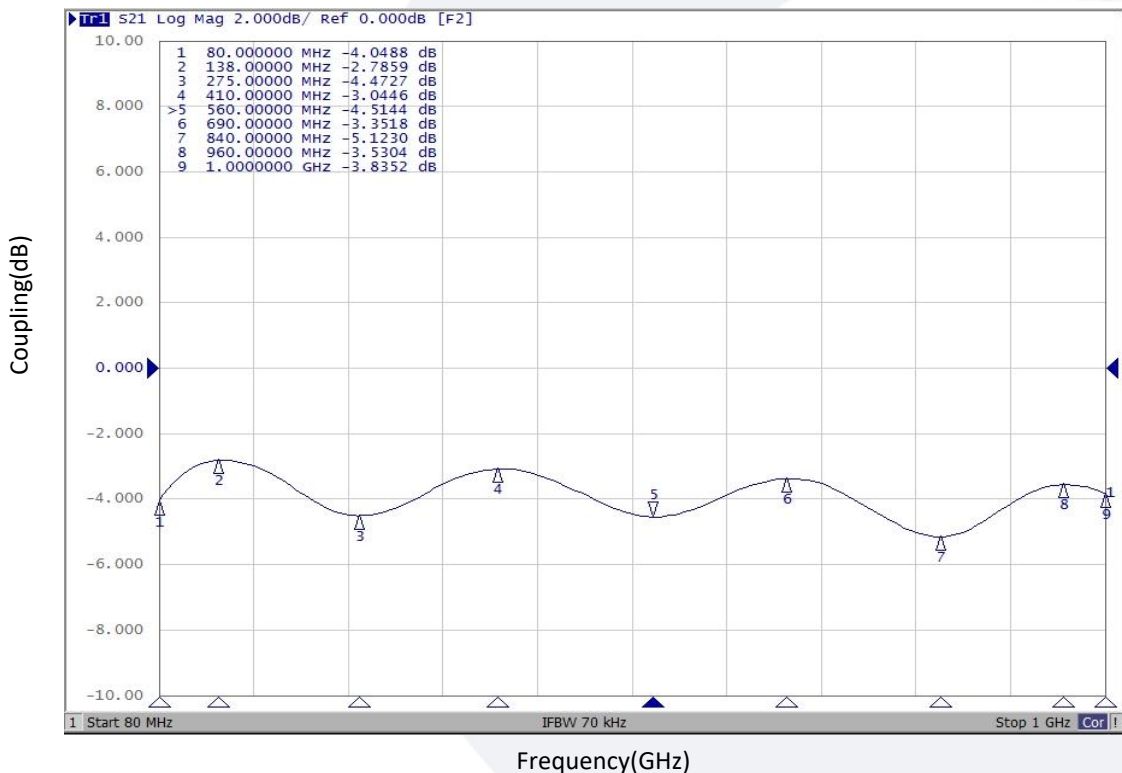
Configuration	Pin1	Pin2	Pin3	Pin4
Splitter	Input	$-3\text{dB} < \theta < 90^\circ$	$-3\text{dB} < \theta$	Isolated
Splitter	$-3\text{dB} < \theta < 90^\circ$	Input	Isolated	$-3\text{dB} < \theta$
Splitter	$-3\text{dB} < \theta$	Isolated	Input	$-3\text{dB} < \theta < 90^\circ$
Splitter	Isolated	$-3\text{dB} < \theta$	$-3\text{dB} < \theta < 90^\circ$	Input
Combiner	Isolated	$-3\text{dB} < \theta < 90^\circ$	$-3\text{dB} < \theta$	Output
Combiner	$-3\text{dB} < \theta < 90^\circ$	Isolated	Output	$-3\text{dB} < \theta$
Combiner	$-3\text{dB} < \theta$	Output	Isolated	$-3\text{dB} < \theta < 90^\circ$
Combiner	Output	$-3\text{dB} < \theta$	$-3\text{dB} < \theta < 90^\circ$	Isolated

### Typical Performance Data

Frequency	MHz	80	138	275	410	560	690	840	960	1000	
Coupling	dB	-4.05	-2.79	-4.47	-3.04	-4.51	-3.35	-5.12	-3.53	-3.84	
Transmission	dB	-2.46	-3.81	-2.60	-4.04	-2.99	-4.20	-3.12	-4.51	-4.09	
Insertion Loss	dB	-0.24	-0.28	-0.51	-0.51	-0.71	-0.73	-0.99	-0.98	-0.95	
Isolation	dB	-49.00	-35.73	-26.11	-37.33	-30.31	-26.33	-23.56	-21.35	-20.97	
Phase	degree	90.07	90.51	90.06	90.38	90.66	90.51	90.58	90.71	92.33	
Return Loss	Input(P1)	dB	1.02	1.03	1.12	1.05	1.25	1.11	1.35	1.15	1.17
	Coupler(P3)	dB	1.04	1.05	1.11	1.05	1.04	1.16	1.09	1.27	1.33
	Transmission (P2)	dB	1.05	1.05	1.12	1.04	1.03	1.15	1.09	1.27	1.25
	Isolated(P4)	dB	1.03	1.04	1.09	1.02	1.21	1.12	1.28	1.21	1.21

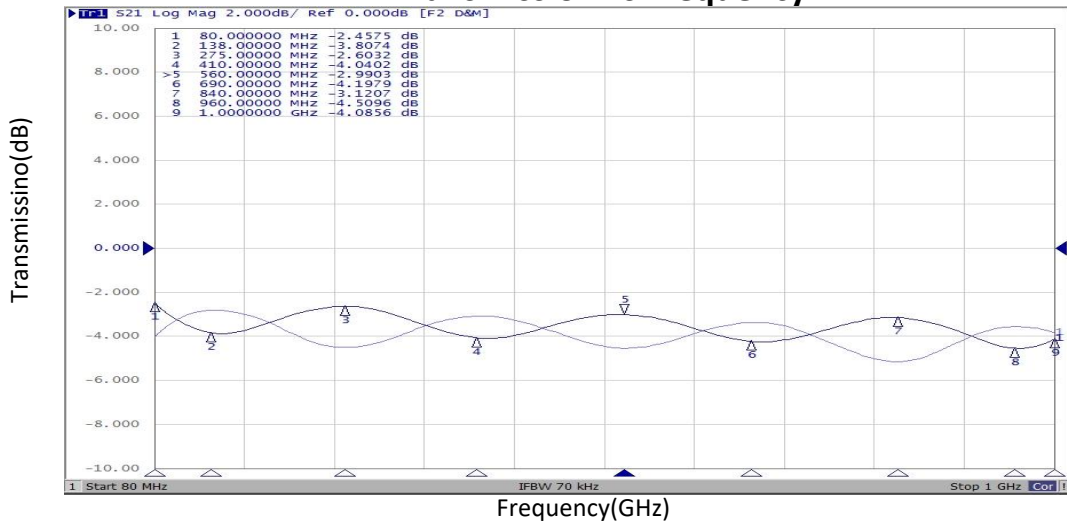
### Typical Performance Data:

### Coupling vs Frequency

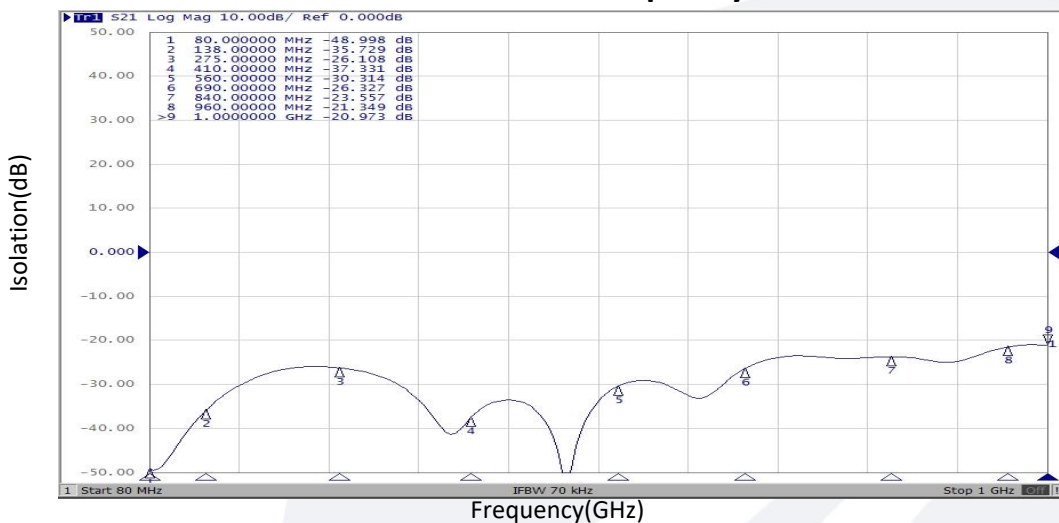


Typical Performance Data:

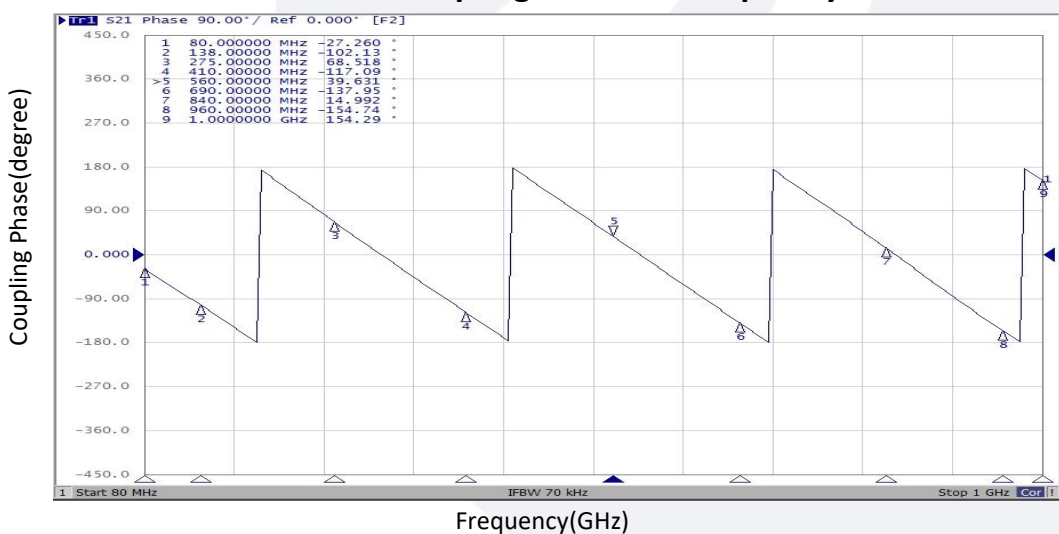
**Transmission vs Frequency**



**Isolation vs Frequency**

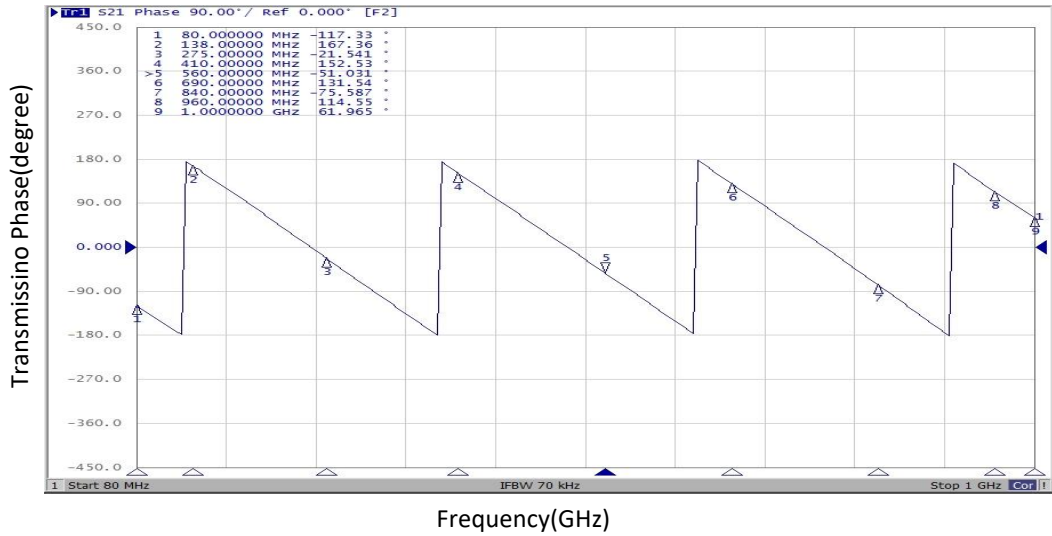


**Coupling Phase vs Frequency**

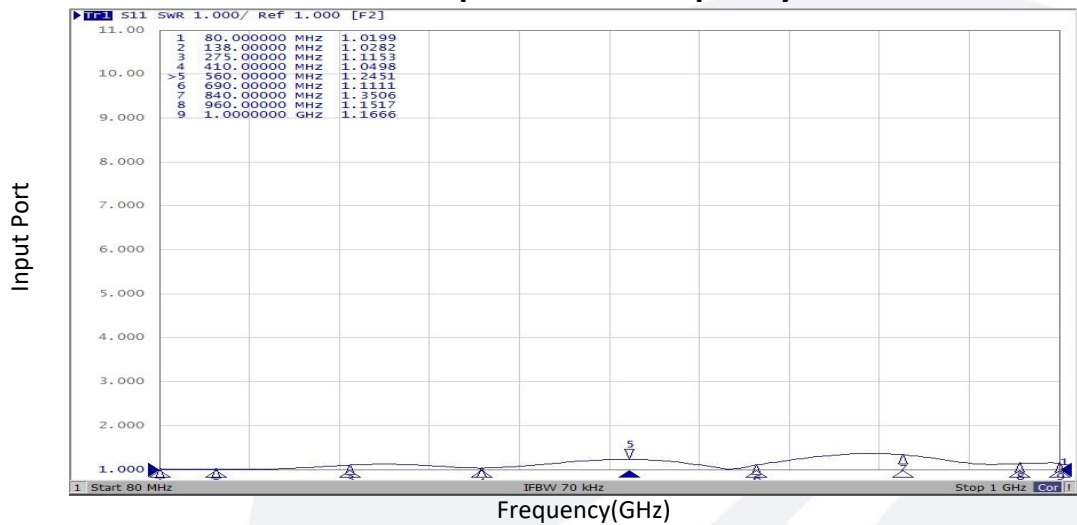


Typical Performance Data:

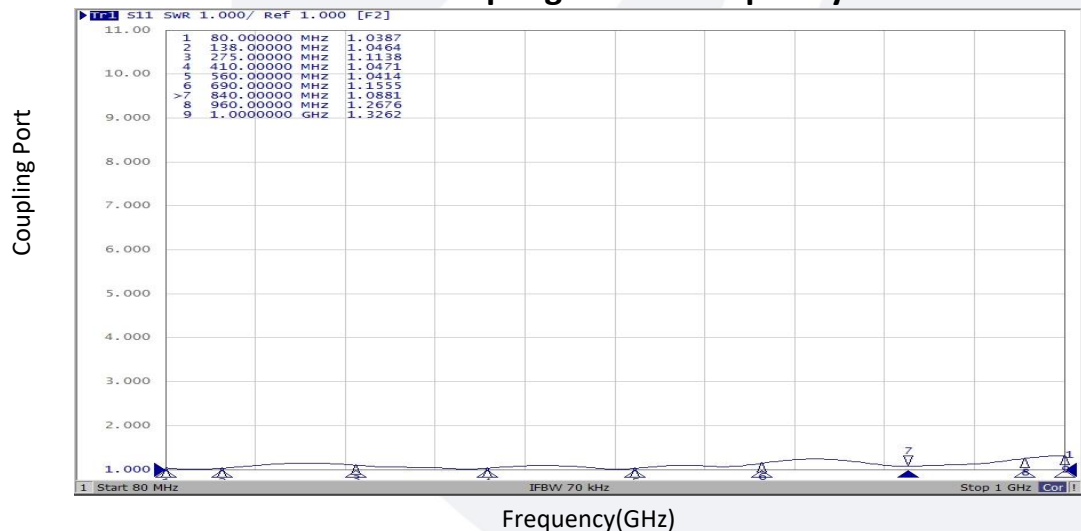
Transmission Phase vs Frequency



Input Port vs Frequency

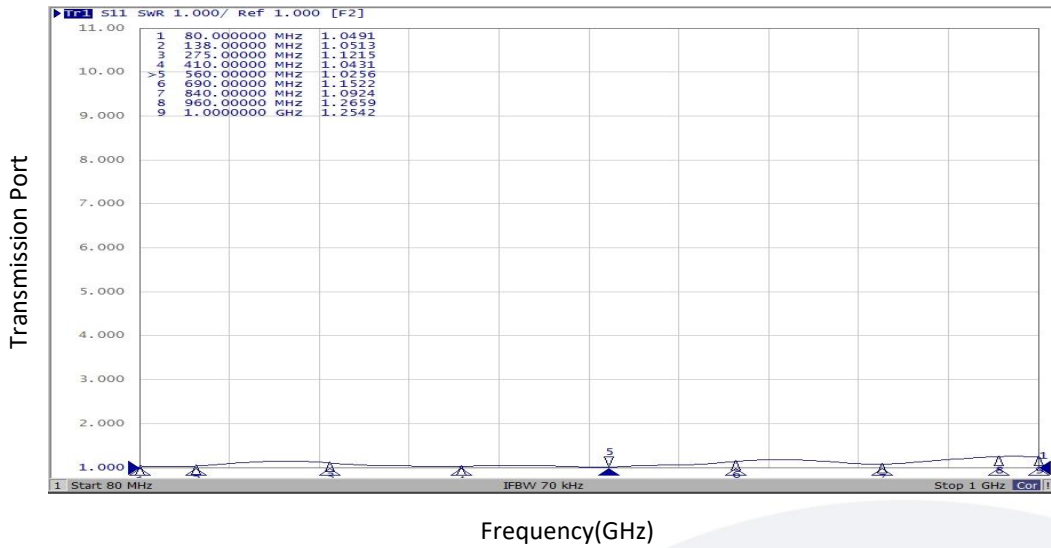


Coupling Port vs Frequency



Typical Performance Data:

Transmission Port vs Frequency



Isolation Port vs Frequency

