

### Digital Phase Shifter, 360 Degree range 24-29.5GHz, 6bit, 5.625 degree step, TTL

2024-10-10



#### Description:

AT-6DPS-2429-360NCP is 6bit digital phase shifter covering 24-29.5GHz frequency range, with 5.625degree step and 360degree range.

The phase shifter is suitable for broadband test, and 5G millimeter wave application. There are dc blocks in RF1 and RF2 port inside. NO dc block required during operation.

More information, visit [www.atmicrowave.com](http://www.atmicrowave.com)

#### Feature

- ✓ Frequency: 24-29.5GHz
- ✓ 6bit, 5.625degree LSB
- ✓ Range: 360degree
- ✓ Very fast speed

#### Application

- ✓ Test Equipment
- ✓ ROF (RF Over Fiber)
- ✓ Radar System
- ✓ Telecom Communication

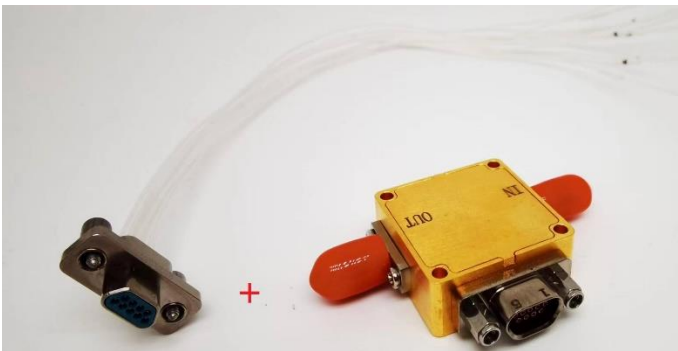
#### Electronical Specifications:

Parameter	Min	Typical	Max
Frequency		24-29.5GHz	
Control Bits		6bits	
Control Step		5.625 degree	
Phase shifter Range		0-354.375degree	
Insertion Loss		-10dB	-15dB
Return Loss	-7dB	-10dB	
VEE		-5V/10mA	
TTL Control Voltage		Low=0V, 0 to 0.4V High=+3.3V, +3 to +5V	
Spec Temp		25C	



### Mechanical Information

Item	Description
Input Port	2.92mm Female
Output Port	2.92mmFemale
Control Port	J30J-9ZKSP
Case Material	Copper
Finish	Gold Plated
Weight	50g
Size:	See outline



### Absolute Maximum Ratings Table

Parameter	Value
VEE	-6V
Control Low	0 to 0.4V
Control High	+3 to +6V
RF Power	+20dBm
Operating Temperature	-40 to +85C
Storage Temperature	-65 to +150C

### Notes:

1. Datasheet may be changed according to update of MMIC, Raw materials , process, and so on.
2. This data is only for reference, not for guaranteed specifications.
3. Please contact AT Microwave team to make sure you have the most current data.



### True Table

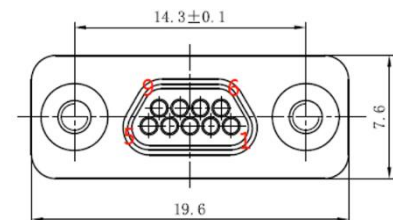
State	P1	P2	P3	P4	P5	P6
Reference	0	0	0	0	0	0
5.625	1	0	0	0	0	0
11.25	0	1	0	0	0	0
22.5	0	0	1	0	0	0
45	0	0	0	1	0	0
90	0	0	0	0	1	0
180	0	0	0	0	0	1
270	0	0	0	0	1	1
354.375	1	1	1	1	1	1

TTL Low=0 to 0.4V

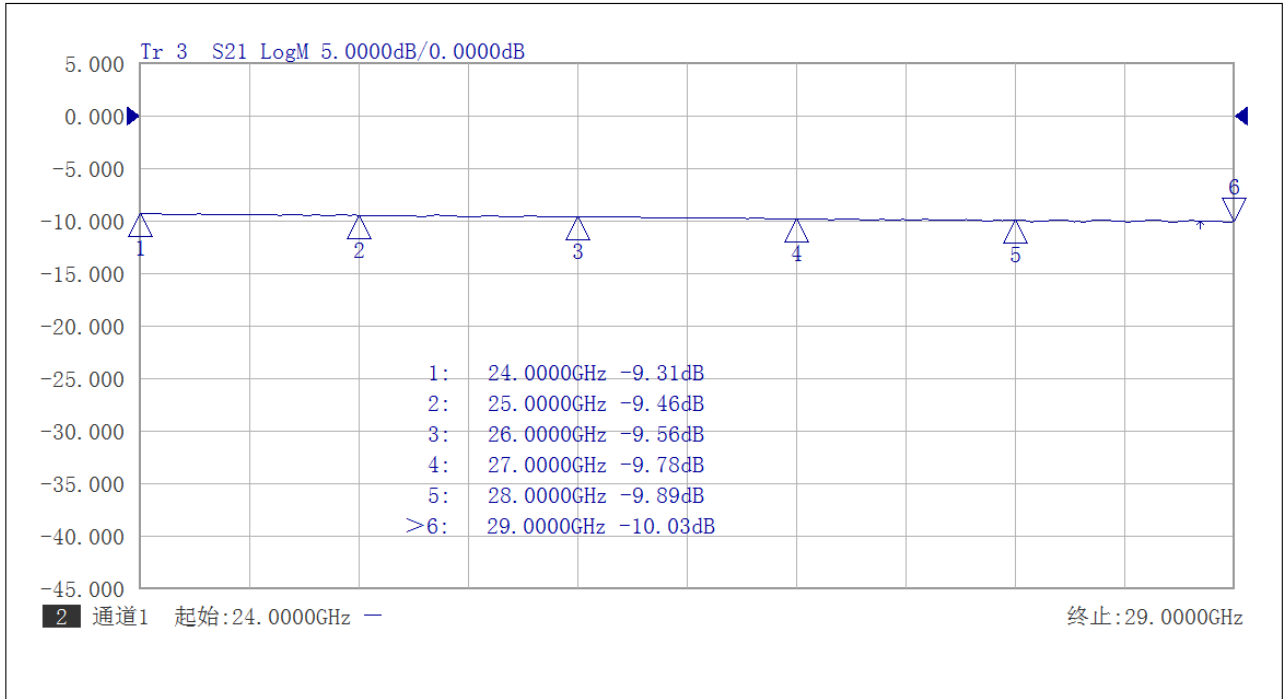
TTL High=+3.3V, +3 to +5V

### Pin Description:

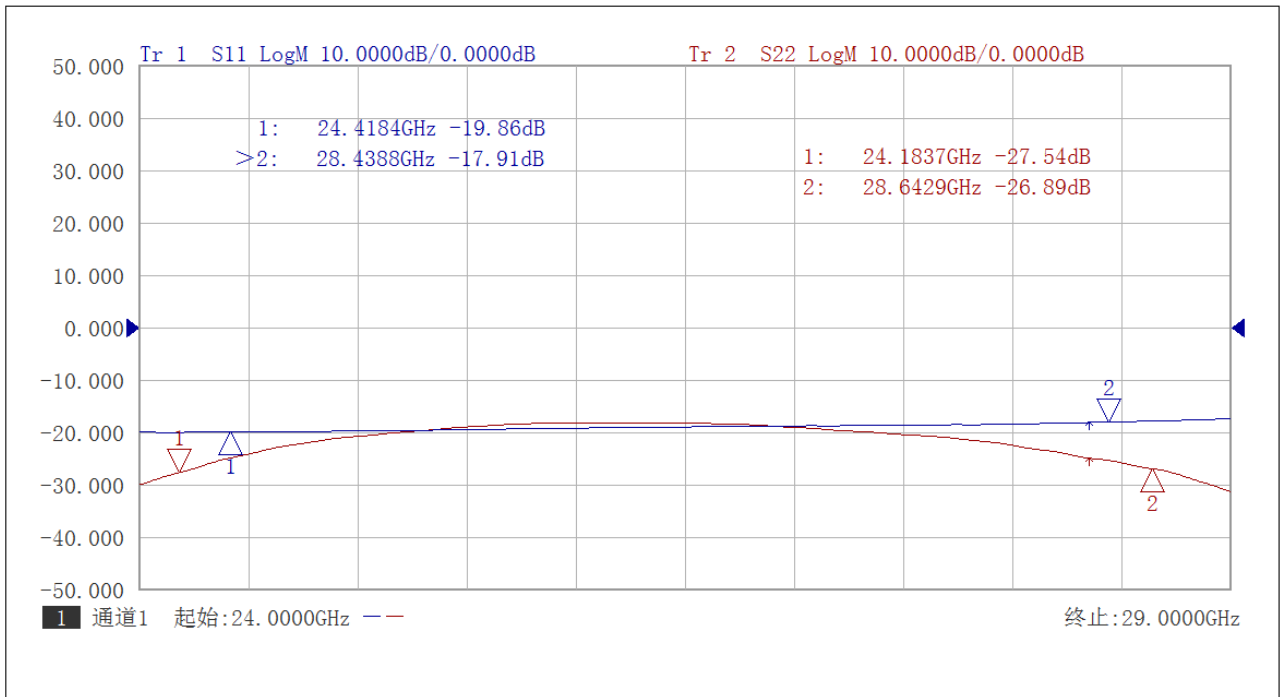
Pin Number	Function	Description
1	P1	TTL
2	P2	TTL
3	P3	TTL
4	P4	TTL
5	P5	TTL
6	P6	TTL
7	VEE	Power supply, -5V
8	GND	
9	NC	



### TEST DATA

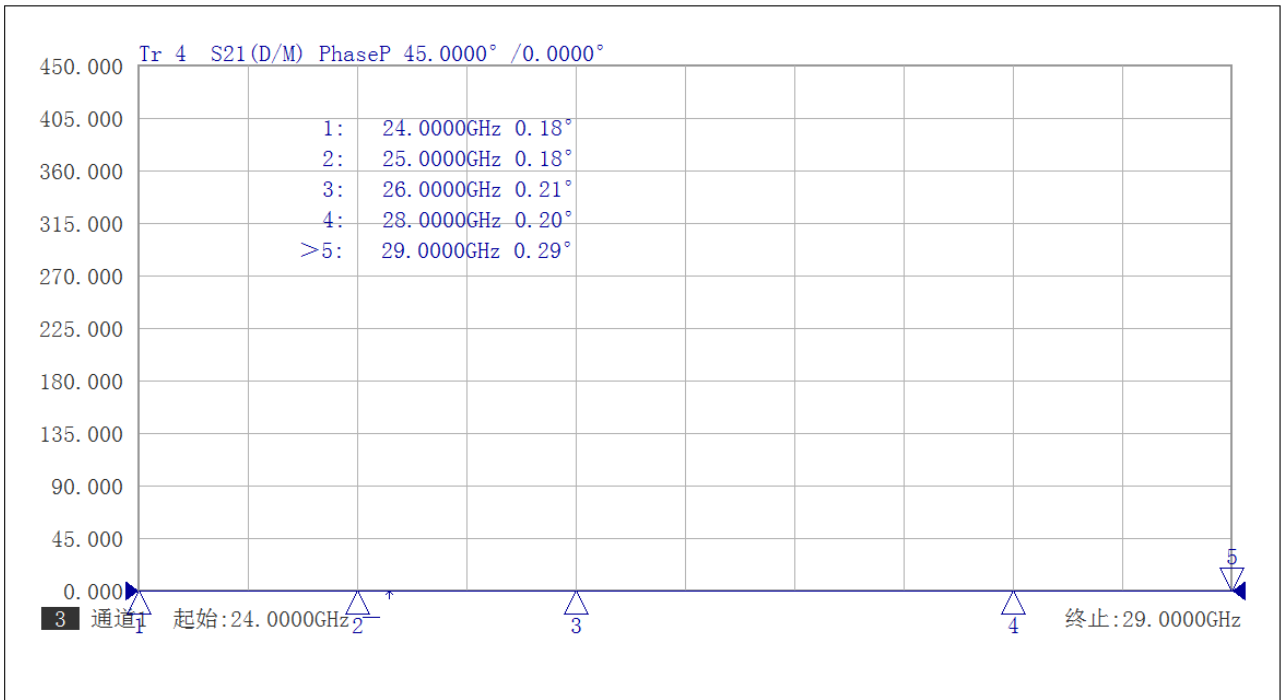


Insertion Loss vs Frequency at 0 degree

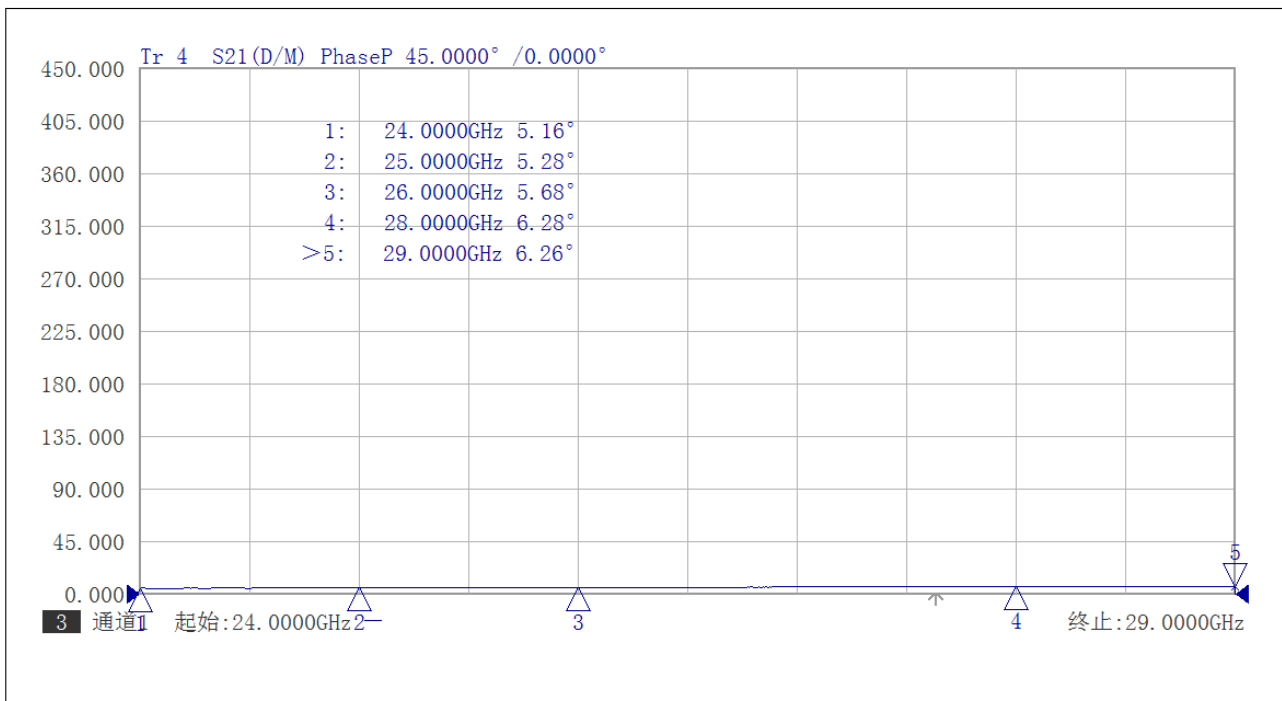


Return Loss vs Frequency at 0 degree



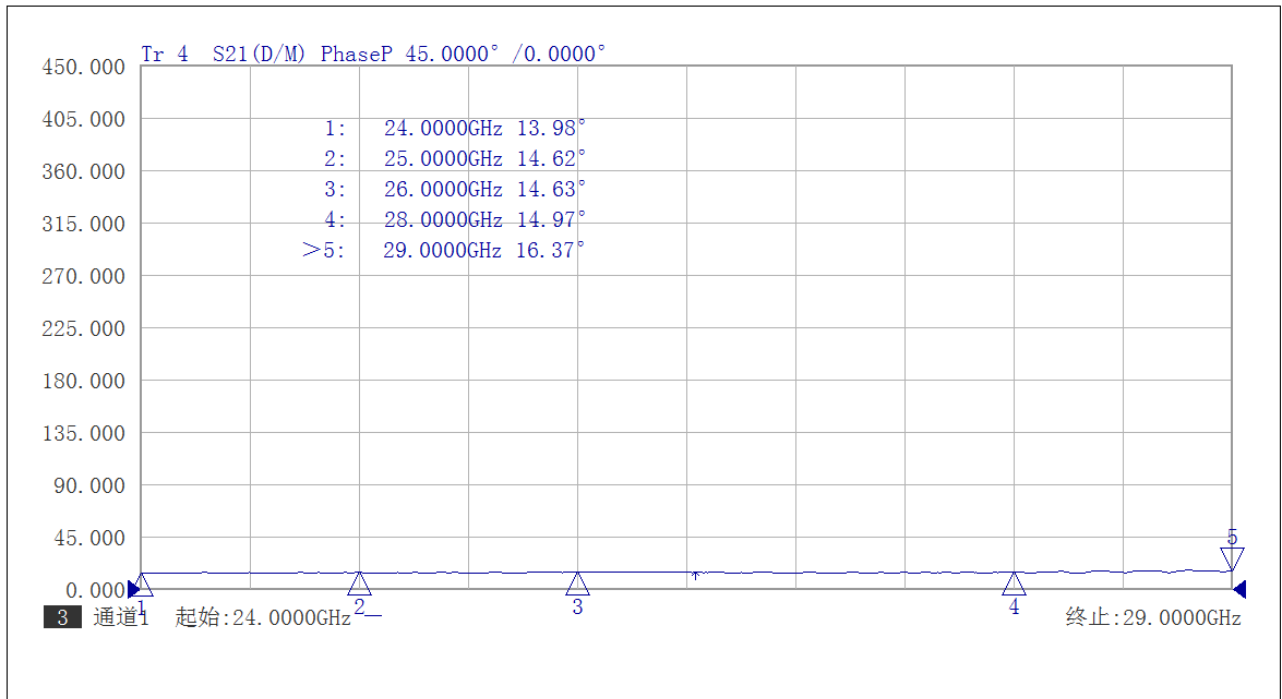


Phase shift vs Frequency at 0 Degree

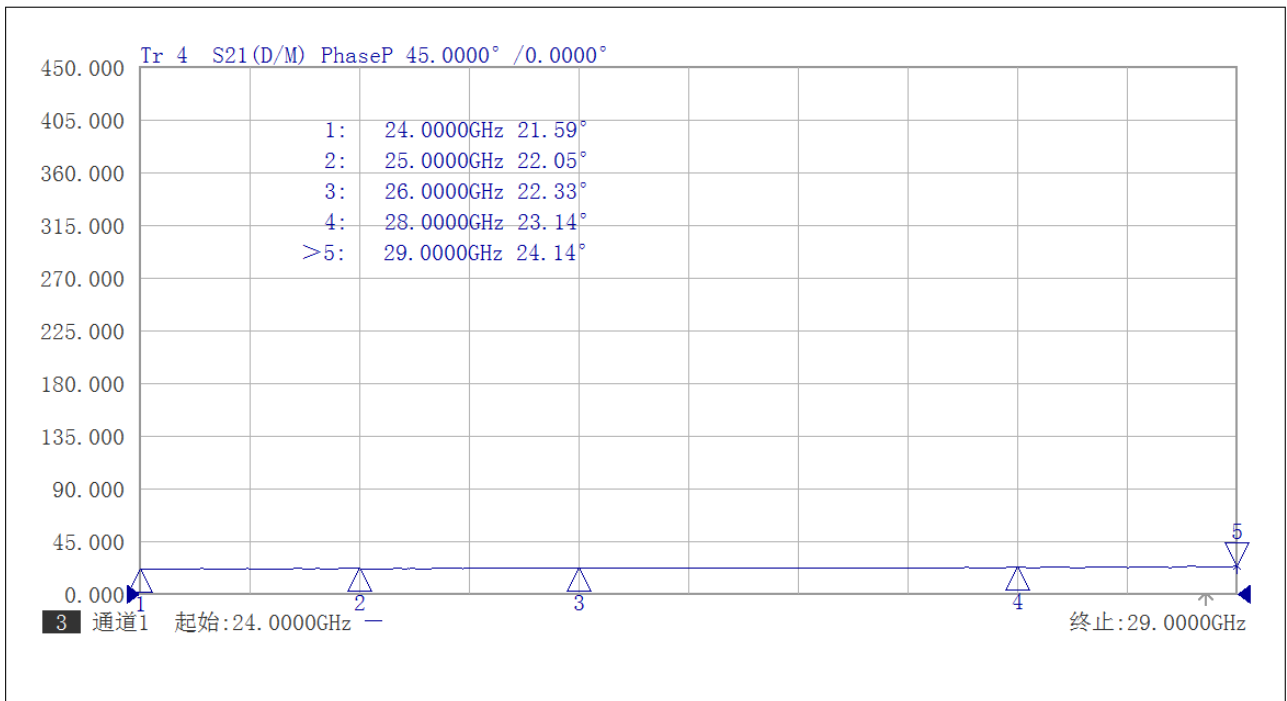


Phase shift vs Frequency at 5.625 Degree



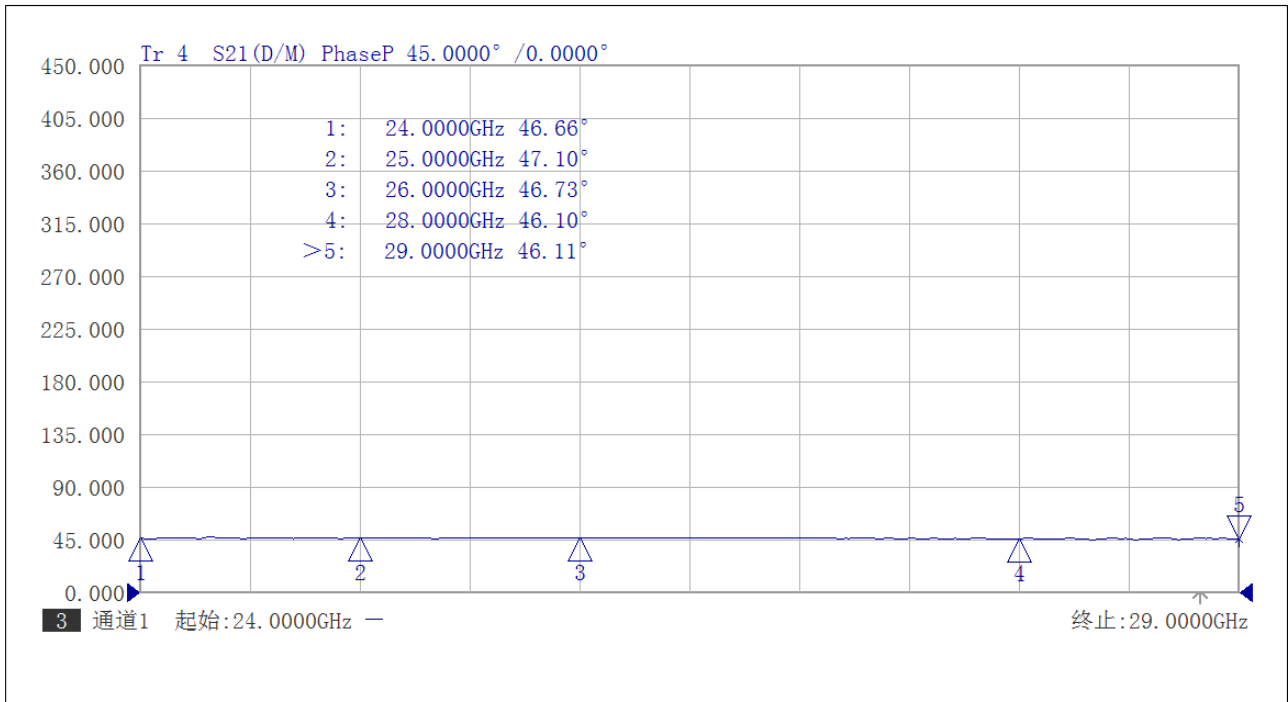


Phase shift vs Frequency at 11.25 Degree

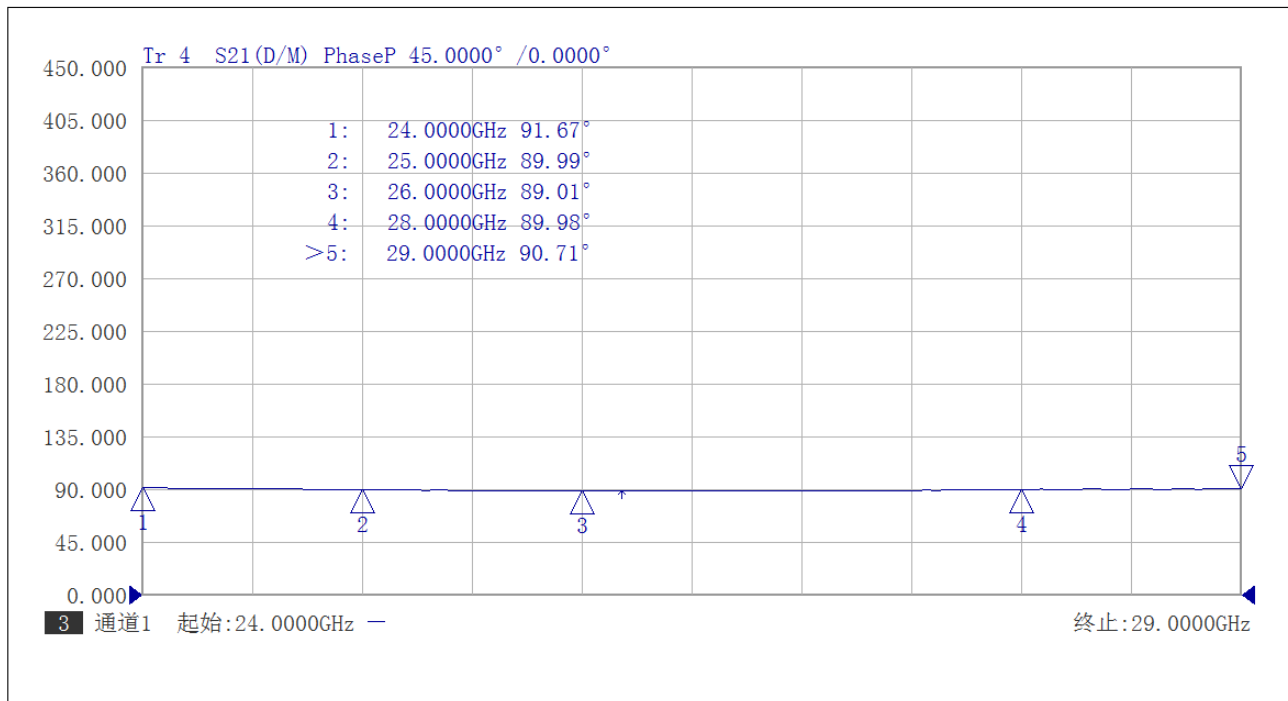


Phase shift vs Frequency at 22.5 Degree



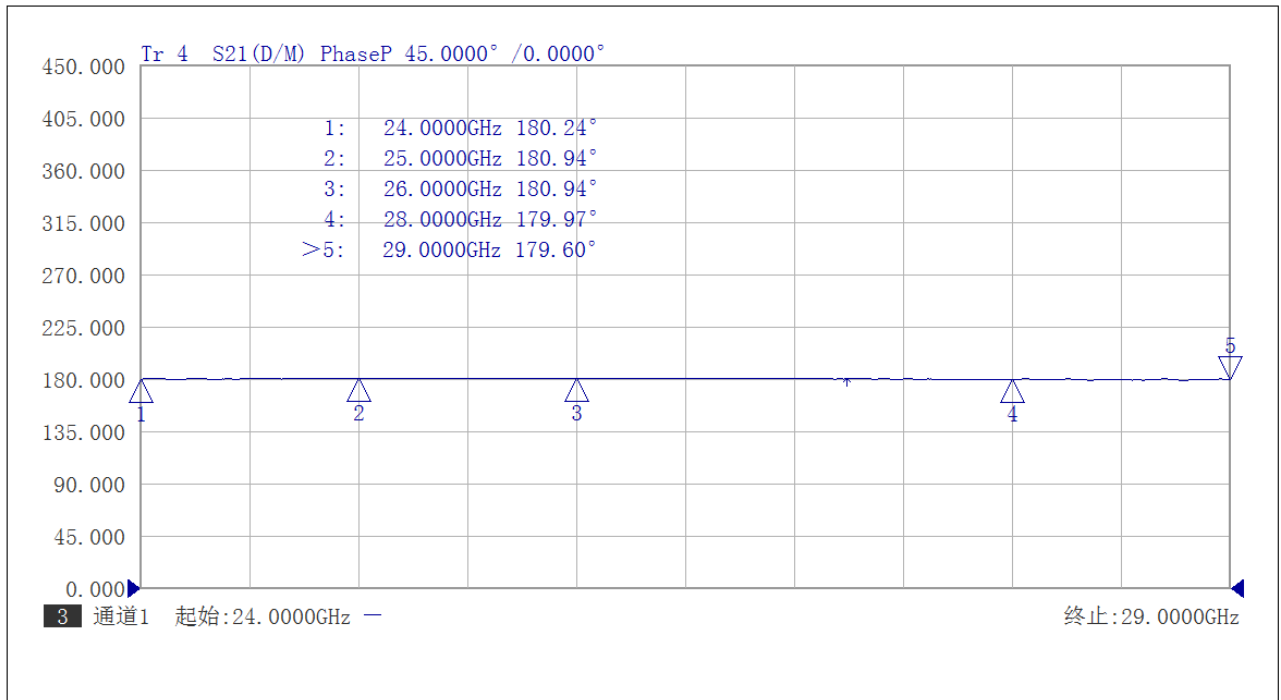


Phase shift vs Frequency at 45 Degree



Phase shift vs Frequency at 90 Degree





Phase shift vs Frequency at 180 Degree

### Dimension (mm)

