


## Thermal Shock Test for Coax Fixed Attenuators

DC-27 GHz, 10dB , 2 Watts, SMA M/F

### 1. Test Purpose

To evaluate the Coax Fixed Attenuators are able to operate properly within specifications after thermal shock 10 cycles (-55°C to +100 °C) in accordance with method 107 of MIL-STD-202.

### 2. DUT Product Information

<b>Product Name</b>	Coaxial Fixed Attenuator DC-27 GHz, 10dB , 2 Watts, SMA M/F	
<b>Specs</b>	DC-27 GHz VSWR 1.3 max, Accuracy $10 \pm 0.65$ dB	
<b>P/N</b>	RFHB2710SC2	
<b>Qty</b>	5PCS	

### 3. Test Instrument

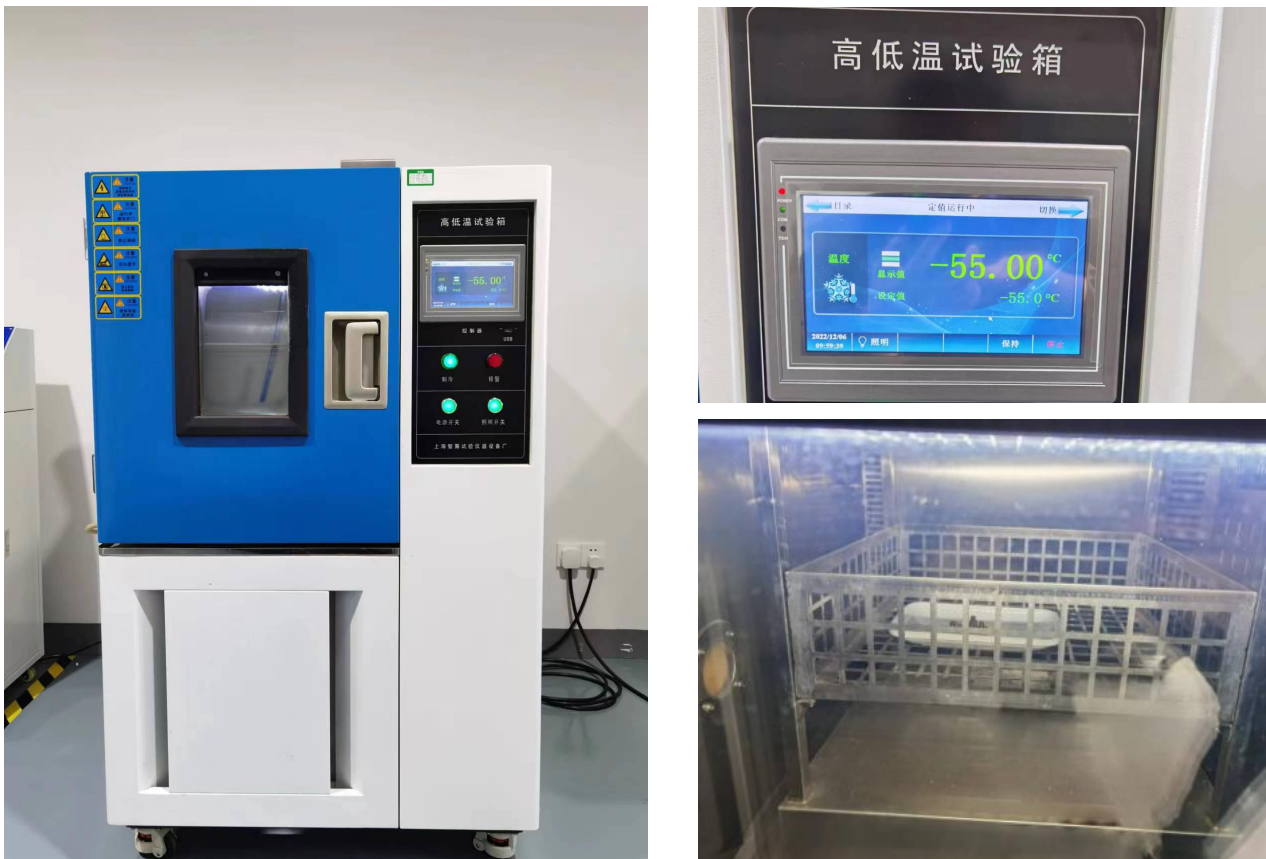
No.	Instrument	Model
1	Hot And Cold Test Chamber	Shanghai Zhichou ZH/GDJS-50L
2	VNA	Ceyear VNA 3672E

### 4. Test Description

4.1 Before the thermal shock test, the DUT shall be measured by VNA in VSWR to 27GHz and shall be measured in Attenuation to 27GHz.

4.2 The DUT Attenuators RFHB2710SC2 shall be tested in accordance with method 107 of MIL-STD-202 in below procedures.

Two thermal conditioning chambers were used, one set to  $-55^{\circ}\text{C}$  and the other set to  $100^{\circ}\text{C}$ . The DUT were placed into the  $100^{\circ}\text{C}$  chamber first and conditioned for a minimum of 30 minutes. DUT were then transferred to the  $-55^{\circ}\text{C}$  chamber within 120 seconds. The DUT were transferred between two (2) thermal conditioning chambers for 10 cycles.



4.3 After thermal shock test, repeat the step of 4.1.

4.4 After thermal shock test, perform visual and mechanical inspection to verify the dimensions and workmanship are in accordance with specification requirements.

## 5. Test Results

Before and after thermal shock, VSWR and attenuation measurement of the 5pcs RFHB2710SC2 coax fixed attenuators showed minimum change.

RFHB2710SC2 S/N	Max VSWR measurement from 10MHz-27GHz		Attenuation(dB) measurement from 10MHz-27GHz	
	Before Thermal Shock Test	After Thermal Shock Test	Before Thermal Shock Test	After Thermal Shock Test
1	1.15	1.14	9.74~10.21	9.61~10.05
2	1.15	1.16	9.79~10.20	9.75~10.20
3	1.13	1.15	9.61~10.07	9.64~10.11
4	1.17	1.16	9.80~10.18	9.80~10.20
5	1.14	1.18	9.64~10.11	9.80~10.21