

# Datasheet



## Resistor Detection Circuit SMA

**Part No:**  
**RDC.SMA.001**

### Description

External 10k Resistor Detection Circuit

### Features:

- Easy integration
- Small Form factor
- 10Kohm Resistor
- Dimensions: 37.4\*17.3\*12.7mm
- Connectors: SMA(M) & SMA(F)
- RoHS & Reach Compliant

1. Introduction	2
2. Specifications	3
3. Product Characteristics	4
4. Mechanical Drawing	6
5. Packaging	7

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## Changelog

8

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## 1. Introduction



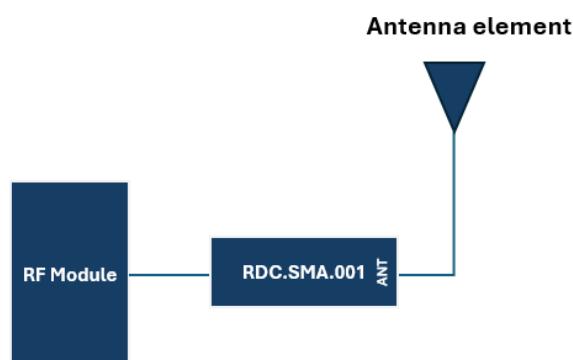
The **RDC.SMA.001** is an External Diagnostic 10kOhm Circuit to aid with detection in applications where the user may want to monitor the connection between antenna and radio module to ensure there is no downtime in connectivity.

The RDC.SMA.001 has been designed to be used as a plug and play option for a detection circuit where often a complicated internal circuit may need to be designed. The RDC is perfect for prototyping and in places where the detection circuit has been considered after the fact.

### Typical Applications Include:

- Telematics
- E-Call Systems
- Critical Communications
- Smart Metering

Being able to detect and diagnose the antenna is a valuable feature for many system integrators, especially for automotive applications. The ability to detect if the antenna is connected to the application is useful for diagnosing installation or production problems as well as any tampering with the system.



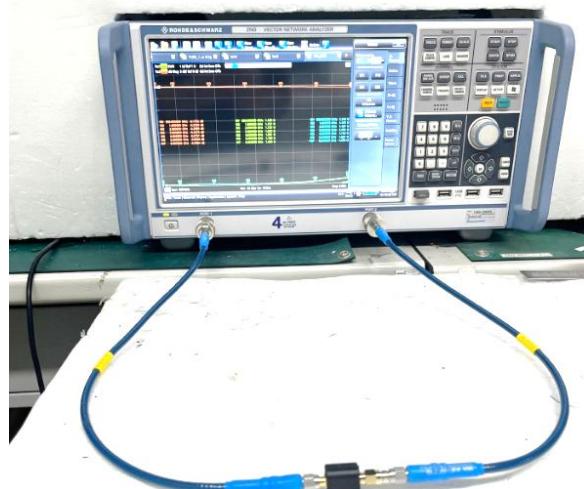
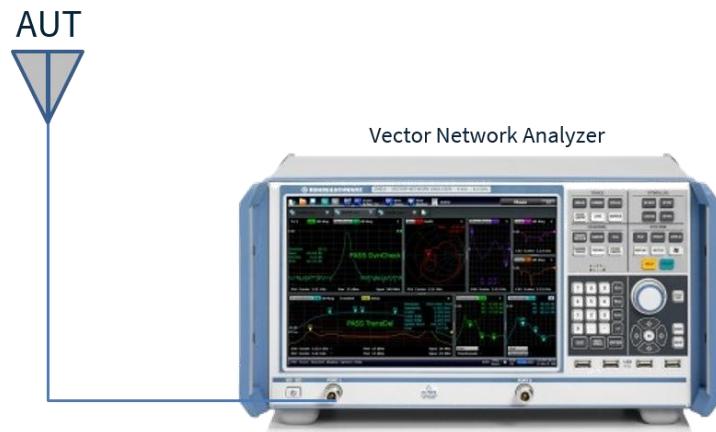
### External Detection circuit

## 2. Specifications

RDC.SMA.001						
Frequency (MHz)	500-999 MHz	1000-1999 MHz	2000-2999 MHz	3000-3999 MHz	4000-4999 MHz	5000-5999 MHz
<b>VSWR</b>						
<b>VSWR</b>				< 2.0		
<b>Insertion loss</b>	-0.20	-0.26	-0.43	-0.56	-0.71	-0.83
<b>Detection Resistance</b>				10K ohm		
<b>Max. input power</b>				10w		
Mechanical						
<b>Dimensions</b>				37.4 x 17.3 x 12.7mm		
<b>Weight</b>				8.6g		
<b>Material</b>				PC/ABS		
<b>Connector</b>				SMA		
Environmental						
<b>Temperature Range</b>				-40°C to 85°C		
<b>Humidity</b>				Non-condensing 65°C 95% RH		

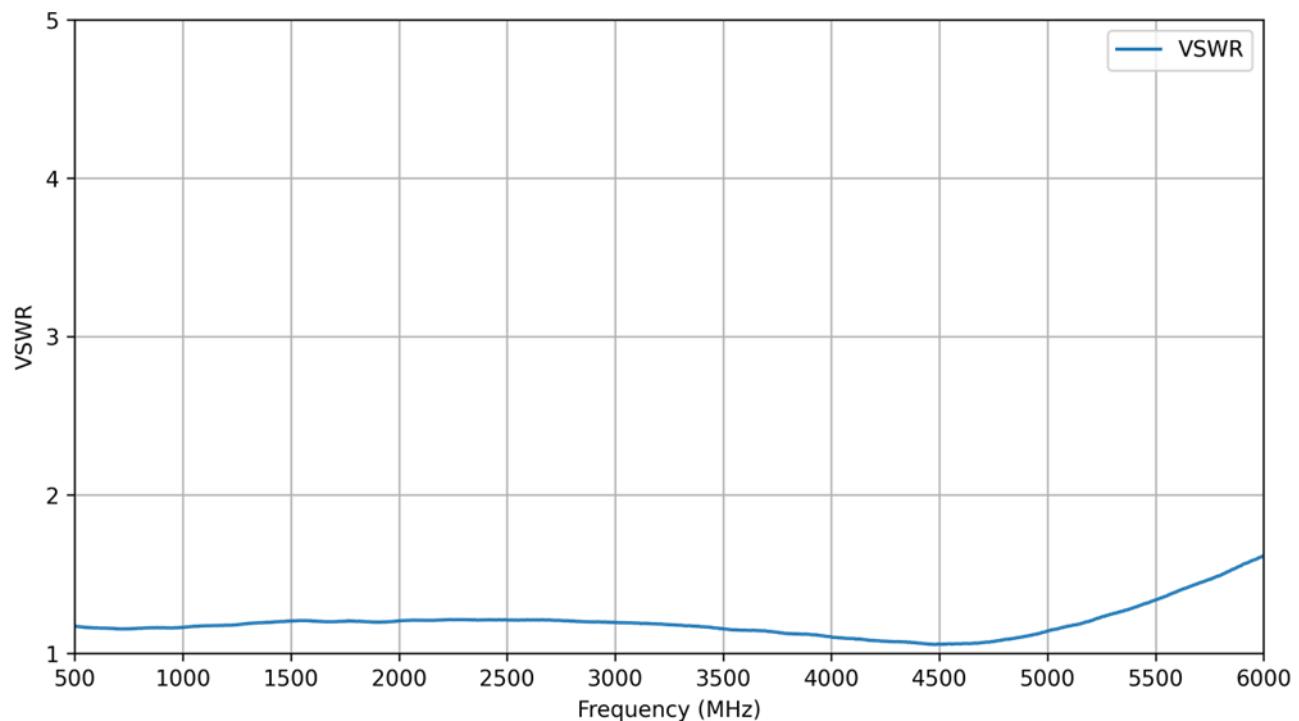
### 3. Product Characteristics

#### 3.1 Test Setup

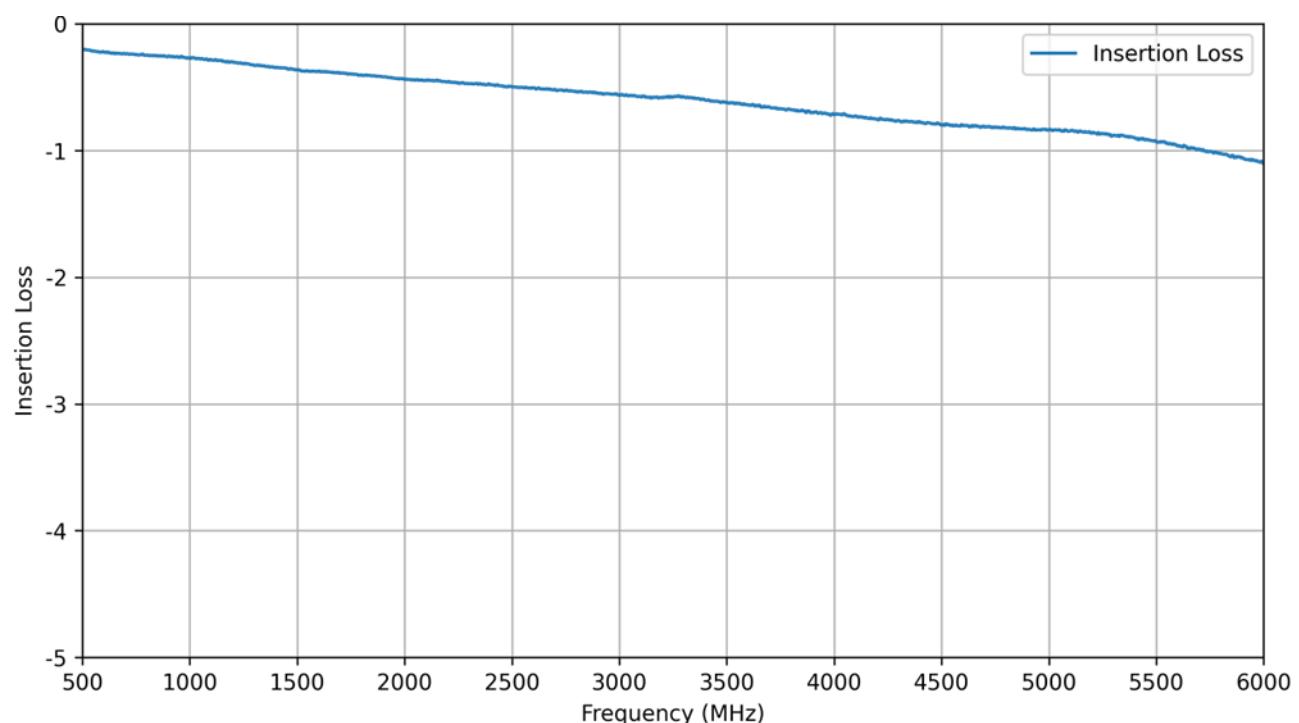


VNA Test Setup

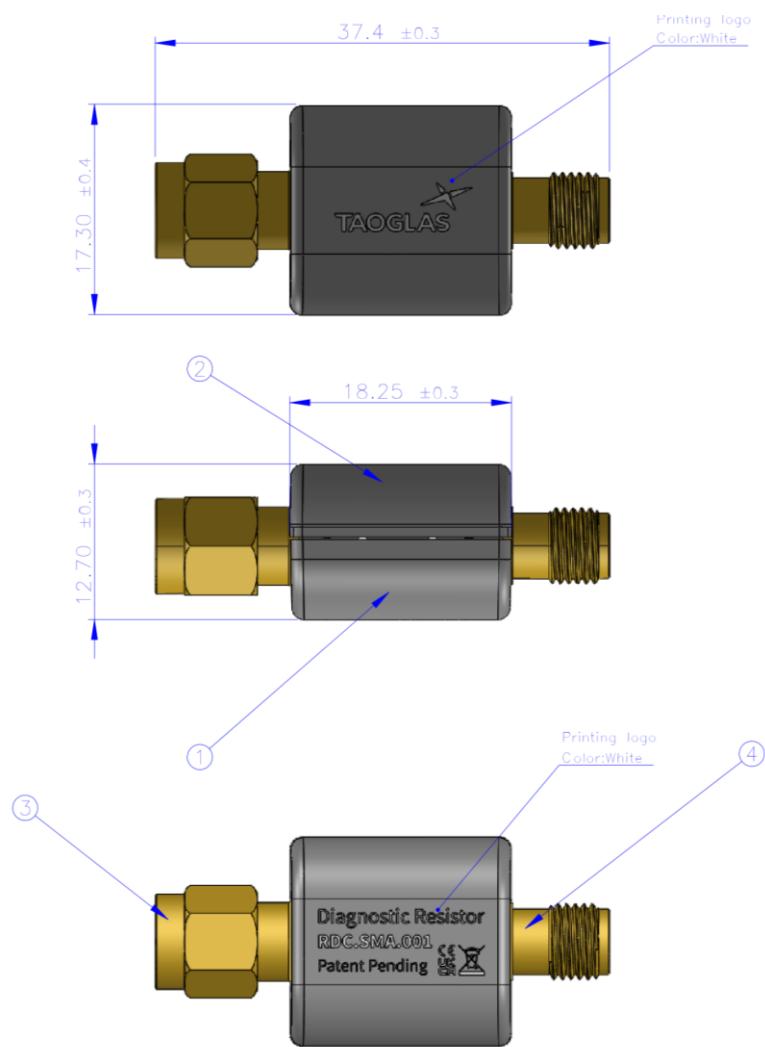
### 3.2 VSWR



### 3.3 Insertion Loss



## 4. Mechanical Drawing



	Name	Material	Finish	数量
1	Bottom Housing	PC/ABS	Black	1
2	Top Housing	PC/ABS	Black	1
3	SMA(M)	Brass	Au Plated	1
4	SMA(F)	Brass	Au Plated	1

## 5. Packaging

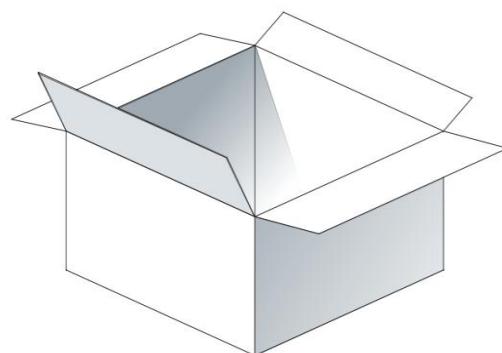
RDC.SMA.001  
1 PCS / Bubble Bag



18 PCS / PE Bag



180 PCS / Carton  
Carton(mm): 230 x 175 x 160mm  
Carton Label



## Changelog for the datasheet

**SPE-23-8-266 – RDC.SMA.001****Revision: C (Current Version)**

Date:	2025-11-14
Notes:	Updated data
Author:	Gary West

**Previous Revisions****Revision: B**

Date:	2024-08-28
Notes:	Updated detection circuit.
Author:	Gary West

**Revision: A (Original First Release)**

Date:	2023-09-19
Notes:	Initial Release
Author:	Gary West



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