

Probe for Contactless Smart Card

**A7242T1-RS**

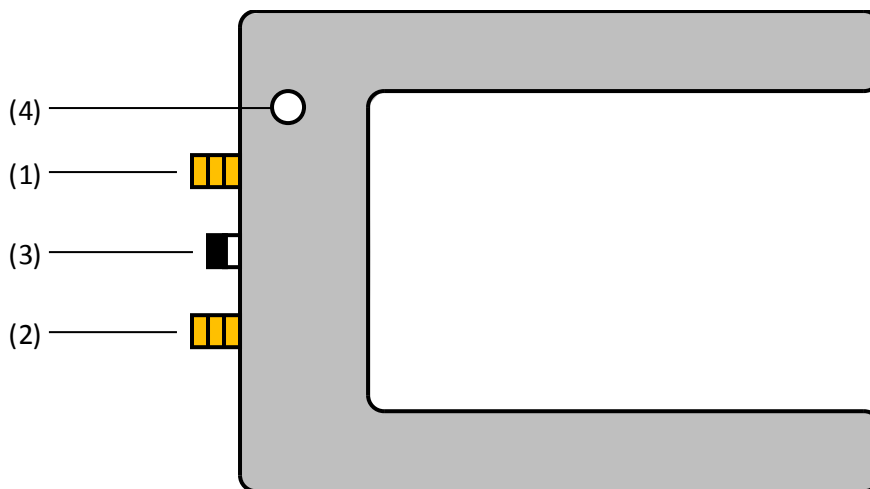


Figure 1 Top View

Table 1 Name and Function of Each Part

No	Name	Function
(1)	Tx port (SMA)	Connect to the output port (Tx) of a signal generator
(2)	Rx port (SMA)	Connect to the input port (Rx) of a receiver
(3)	Control port ( $\phi 3.5\text{mm}$ )	Connect to an open-collector output
(4)	DIP switch for impedance adjustment	This switch (S1 in Figure 2) is set to 1 when shipped

Figure 2 shows the equivalent circuit of the probe. The illustrated switch state in U1 corresponds to the case where no voltage is applied to P3. In this case, transmission characteristics, P1 to P2, can be measured. If you want to measure reflection characteristics, connect the supplied short plug at P2. When a voltage of 5VDC is applied to P3, the circuit turns into a one-port antenna circuit with the tuner (S1) connected in parallel with the PCB antenna.

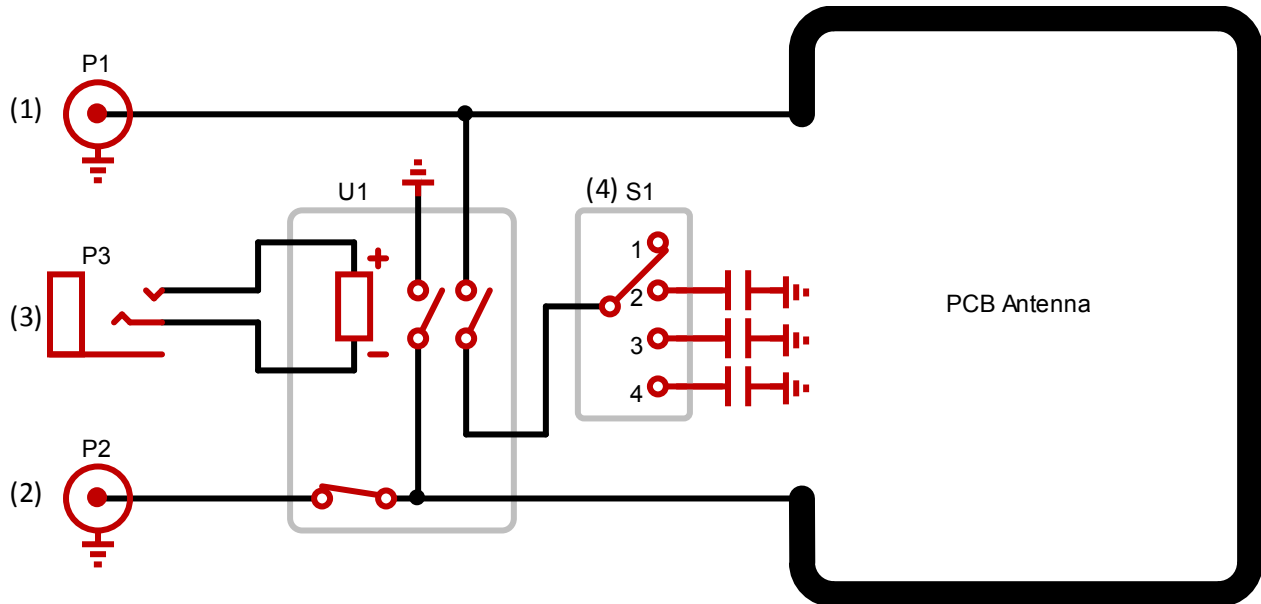


Figure 2 Equivalent Circuit (U1: relay, S1: rotary DIP switch)

Table 2 Specifications

Item	Specification
<b>Target device</b>	ID-1 size contactless smart card
<b>P1, P2 connector</b>	SMA
<b>P3, U1</b>	P3: $\phi 3.5\text{mm}$ 3-pole audio jack U1: Rated voltage 5VDC, rated current 21mA
<b>PCB antenna</b>	FR4, 72mm $\times$ 42mm, 1T, width 0.5mm, thickness 35 $\mu\text{m}$
<b>Enclosure</b>	Anti-static MC nylon
<b>Dimensions</b>	85mm (W) $\times$ 110mm (D) $\times$ 86mm (H), protrusion not included

Connecting with T8200PRO

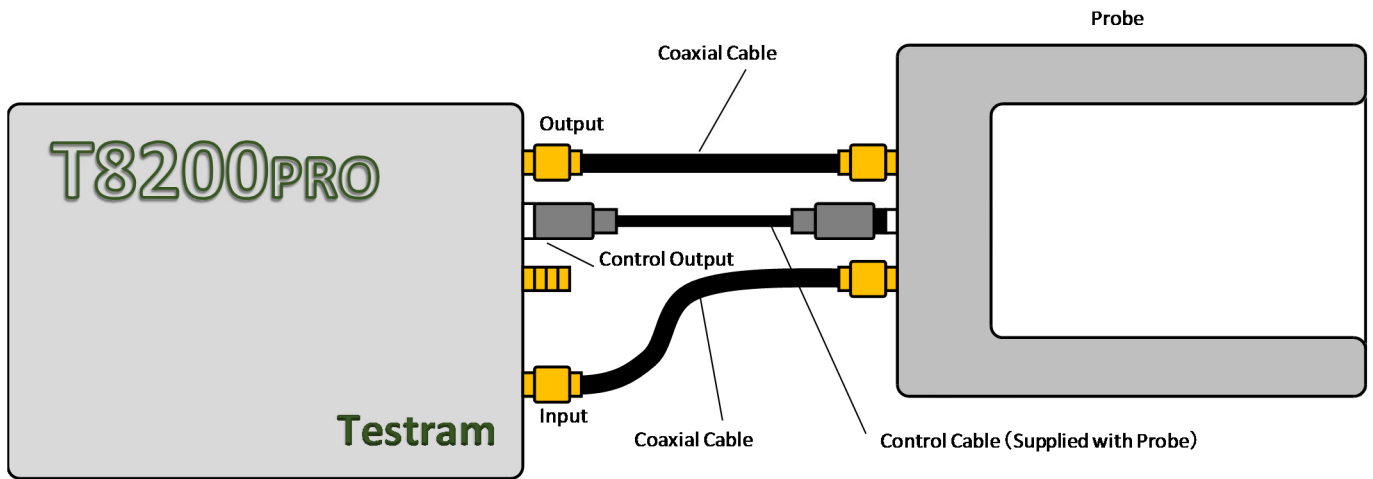


Figure 3 Test Setup for Transmission Characteristics. You don't need to connect the control cable if you don't run communication tests.

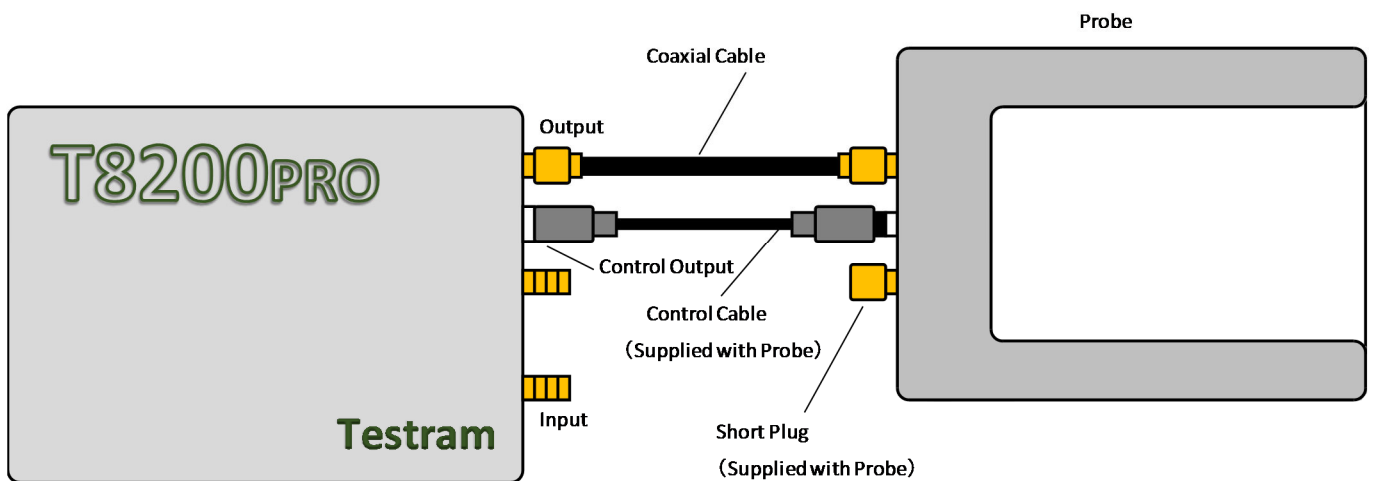


Figure 4 Test setup for Reflection Characteristics. You don't need to connect the control cable if you don't run communication tests.