

The Contactless Test Station

NFC integrators Micropross with years of experience in testing the most complete All-In-One without additional hardware provide test solution to test ISO 16373-6, 16373-7, NFC-1P1, ICAO, NFC Forum and EMVCo and other norms. NFC antenna is mainly used in mobile phones, bus cards, bank cards, access cards and POS machines and other test debugging, production, research and development to provide evidence.



❖ Instrument Characteristic

- All parts conformance testing highly integrated: signal generators, oscilloscope, A/D converter, RF power amplifiers, and power.
- A rich database system standards, including ISO 10373-6, ISO 10373-7, ICAO, NFC Forum and EMVCo system.
- Supports analog testing, digital testing and application testing.
- Full coverage of test cases-test cases of each test system are independent.
- Fully automated operation, building-in calibration program.
Generate test reports.

Device Name	CTS
Amplifier Power	50 W
Frequency Range	13 MHz to 16 MHz
Oscilloscope	350 MHz band wide, 4 ports
Signal Generators	13.56 MHz
A/D Converter	14 bits

❖ Measurement Method

Signal which emitting by signal generator transmitted to the test antenna board

through the power amplifier are electromagnetically coupled with the sample (DUT, such as cell phones). We can determine whether the DUT meets specification (such as signal reception, transmission characteristics etc.) compared feedback signal with built-in standard.

❖ **Test Requirements**

Customers need to provide relevant information of NFC cpu module and embed an antenna in the phone when testing NFC antenna while they only need to provide test items or test standard when testing card (EMVCo).

❖ **Test Items**

Device comes with three kinds of test systems, namely EMVCo test systems, NFC Forum test system and ISO test system. We can change test system by matching different lines and antenna board. We can determine whether DUT compliance with the system standards by contrast with the built-in database (e.g. antenna transceiver power).

❖ **Reports Generate**

After test the device can automatically generate test reports listing performance indicators in which we can see whether product meets the system specification or no. From the following figure EMVCo test system, we can see the test results was pass, in addition , we can see each test item in details.



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8. 7.7.1.1 Verifying the PICC Power Off State for Type A Communications

1. General Information

Test Case Name	7.7.1.1 Verifying the PICC Power Off State for Type A Communications
Test Code	CA112
Description	This test verifies that the PICC falls into a Power Off state after a given period of time tRESET once the operating field is switched off when using Type A Communications.
Reference	This test refers to requirement 3.2.7.1.
Acceptance Criteria	A PICC shall be in a Power Off state within a time tRESET when the operating field is switched off as defined in the previous procedure.
Result	PASS

2. Details

zrf	Configuration	Attempt	Acceptance Criteria	Result	Verdict	Comment
200	ts,l nominal: 2,850 ns Vs,ov nominal: 5.53 V fs,c nominal: 13,560,000 Hz Vs,ov,RESET maximal: 5.3 Vrms ts,p maximal: 10 ms ts,RESET minimal: 5 ms	1	-	The PICC was in a Power Off state within a time tRESET when the operating field is switched off.	PASS	
			The PICC has to answer to all transaction without APDU.	Transaction OK	PASS	
			The PICC has to answer to Wake Up after the Reset.	Reset + WUPA OK	PASS	

3. Traces

zrf	Traces
200	Test Suite Traces\Default Session\Digital Traces\Test cases\CA112.200 - 2013-11-08T151754 - Attempt 1.mplog Test Suite Traces\Default Session\Pictures\Test cases\CA112.200 - 2013-11-08T151754 - Attempt 1.png