NSA.30
Active-Mode NFC Device Performance Testing

TAOGLAS ®

Service name:

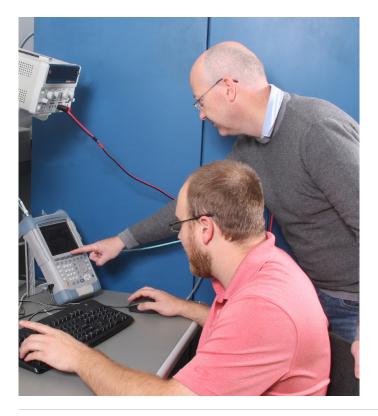| NSA.30	Active-Mode NFC Device Performance Testing

Deliverables

NFC Performance Report

Duration:

2 weeks

Items:

A. Active NFC performance testing in Taoglas lab

B. Test against multiple targets

C. Test report of device performance

What is the problem or concern we are addressing?

Post-integration verification of device NFC performance. After an NFC prototype has been created, active mode performance needs to be measured under controlled and repeatable conditions.

After designing in an NFC device, one important metric for NFC performance is interrogation, or read, distance: how far from the device under test can another NFC device be "read". This may seem straightforward, but complications arise due to the varied and uncontrolled nature of NFC targets: anything from payment terminals, mobile phones, or payment cards, to small RFID devices.

Taoglas has created a standardized test setup allowing for repeatable distance measurements and a variety of NFC target devices. We test against 10 different RFID tags. The tags vary in size, from full payment-card size to small item-management tags. The tags vary in RFID standard as well.

After successful testing against this test set, designers will have more confidence that their product will perform acceptably in the field.

The Process

A full review of the following is performed:

- Taoglas will setup your device in our NFC test setup and power the device as per your instructions.

- An RFID tag to be interrogated will be placed in the NFC test setup.

- Taoglas will measure the maximum interrogation distance of that RFID tag.

- Taoglas will repeat the testing with all 10 tags.

- Taoglas will complete the test report detailing the setup and results.

- Taoglas engineering in consultation with the customer on the final report will determine if the measured performance is sufficient for the product to meet its performance and certification requirements.

- If performance is not acceptable, Taoglas sales and engineering can make recommendations to improve NFC performance. If performance is acceptable the next step would be regulatory measurement.

What does Taoglas need?

In all cases, Taoglas will require the following:

- 2 copies of your device including all the bits and pieces. The units do not need to be fully functional, but the NFC does need to function.

- Things like any battery, LCD displays, peripherals, cables, especially metallic parts, etc. all mounted in the enclosure that is close to what the final enclosure will be. SLA or FDM proto enclosures are sufficient but the final plastic material can yield slight differences in performance.

- 3D PDF or eDrawing files for your mechanical assembly. We really do need all the information that could help us to do the best integration possible. If you send to us the eDrawings files, we need the ability to hide parts, do cross sections and make measurements so an eDrawing file with these features turned on is highly recommended.

- We need the schematic for all the boards in the device. PDF format at a minimum and native Altium files if you happen to use Altium.

- PDFs of your PCB layout for each board, all layers. Again if you use Altium, then native Altium files would also be helpful. Please include a document defining the PCB stackup, layer thicknesses, materials and finishes for the PCB.

- A spreadsheet of your bill of material for each PCB in the design.

Deliverables

Taoglas will compile a report on the antenna measurements including:

- Details of test setup.

- Test setup picture.

- NFC interrogation distance values for each RFID tag type.

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