FORM 442

Exhibit 2:

Question 6: Description of Research Project

ANDRO Computational Solutions, LLC

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Agency: Federal Railroad Administration (FRA)

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Project Name: Secure Positive Train Control Wireless Communications in a Limited Bandwidth Environment

ANDRO Computational Solutions is developing a method of injecting an authentication tag at the point of transmission of a wireless signal. This tag is incorporated by manipulating a transmitted symbol in a way that enables a modified receiver to extract tagging meta-data in addition to the original transmitted payload, as shown in Figure 1. Currently, ANDRO has tagging incorporated into a QPSK modulated transmission over a USRP N210 Software Defined Radio (SDR). As shown in Figure 1, a transmitted symbol is perturbed by a defined angle in order to inject a tag. For QPSK, one symbol represents two bits.

The direction in which the transmitted symbol is perturbed differentiates whether a tag is a 0 or a 1. In this manner, additional meta-data in the form of a tag bit is transmitted without adding additional overhead. This method of injecting tagging information will be further developed on D-QPSK and GMSK modulations.

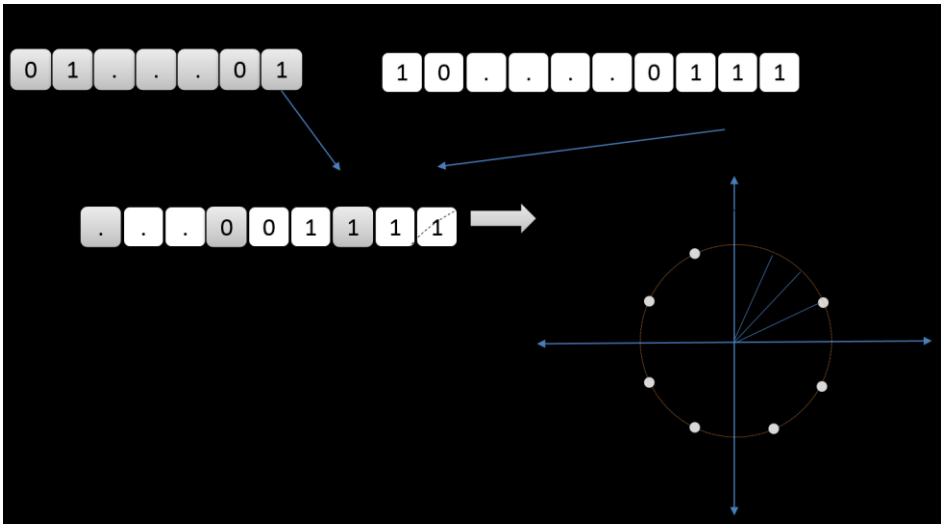


Figure 1 Approach for transmitting tagging information along with data payload

ANDRO will develop and test this tagging approach using a test bed consisting of USRP N210 software defined radios. The test bed system model will consist of a transmitter and at least one receiver software defined radios, accompanying control laptops, a laptop to emulate a network appliance and 'application' computers at the ends with a resident emulation of a PTC application, as shown in Figure 2. The PTC applications produce the data packets in a PTC-based custom packet which then flows into a computer running an open-source operating system.

The USRP N210 (specifications shown in Figure 3), will use a WBX daughter card capable of transmitting at 50MHz-2.2GHz frequencies. Our goal is to apply for an experimental license to test at the 220MHz frequency range of PTC.

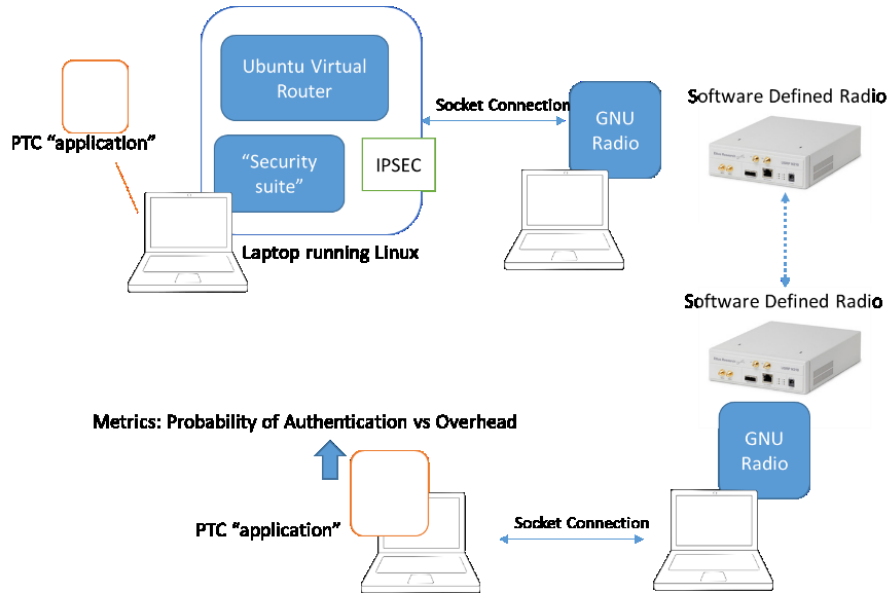


Figure 2 Test Bed Architecture

## SPECIFICATIONS

| Spec | Typ. | Unit |
|---|---|---|
| **POWER** | | |
| DC Input | 6 | V |
| Current Consumption | 1.3 | A |
| w/ WBX Daughterboard | 2.3 | A |
| **CONVERSION PERFORMANCE AND CLOCKS** | | |
| ADC Sample Rate | 100 | MS/s |
| ADC Resolution | 14 | bits |
| ADC Wideband SFDR | 88 | dBc |
| DAC Sample Rate | 400 | MS/s |
| DAC Resolution | 16 | bits |
| DAC Wideband SFDR | 80 | dBc |
| Host Sample Rate (8b/16b) | 50/25 | MS/s |
| Frequency Accuracy | 2.5 | ppm |
| w/ GPSDO Reference | 0.01 | ppm |

| Spec | Typ. | Unit |
|---|---|---|
| **RF PERFORMANCE (W/ WBX)** | | |
| SSB/LO Suppression | 35/50 | dBc |
| Phase Noise (1.8 Ghz) | | |
| 10 kHz | -80 | dBc/Hz |
| 100 kHz | -100 | dBc/Hz |
| 1 MHz | -137 | dBc/Hz |
| Power Output | 15 | dBm |
| IIP3 | 0 | dBm |
| Receive Noise Figure | 5 | dB |
| **PHYSICAL** | | |
| Operating Temperature | 0 to 55° | C |
| Dimensions (l x w x h) | 22 x 16 x 5 | cm |
| Weight | 1.2 | kg |

* All specifications are subject to change without notice.

Figure 3 USRP N210 Specifications [source: USRP N210 Datasheet available online at: http://www.ettus.com/product/details/UN210-KIT]

Test Plan

The envisioned development cycle starts in the laboratory with bench-top development platform at ANDRO's Rome location, then to limited static outdoor testing, and finally to static and limited-mobile testing in an actual railroad environment. A railroad environment that includes locomotives, cargo or passenger cars provides realistic representation of electromagnetic interference, multipath and line of sight environments. ANDRO has partnered with ADIX to perform testing on their locomotives on their track in the Thendara Station area. We will apply for a waiver from FRA rules and operations to perform wireless testing on ADIX facilities. This is required to allow outside wireless equipment in the locomotive. Additionally, ADNRO will send any personnel participating in testing a formal Rules Class in spring within one year of outdoor railroad testing.

Testing environments, as summarized in Table 1, include a combination of static and limited mobile testing and varying line-of-sight. Testing will take place at the Thendara Station (Figure 4) track which is not shared with other freight or passenger railways. The track will be taken out of service on days that do not conflict with regular operations and dedicated for testing purposes. Frequency selection will depend on ability to apply for experimental license to operate in the 220MHZ band. The remote location and absence of other operators will assist in the waiver process. As an alternative, we can test in the ISM band without requiring an experimental license and can address propagation and other characteristics related to frequency selection.

Following the test bed architecture, we will place one transceiver at the wayside and one inside a locomotive. Limited power is required to operate laptop computer and software defined radios which can be supplied by local power or generator. ADIX will provide locomotive engineering support as well as personnel with operations experience in railroad communications.

Table 1 Summary of Testing Environments

| # of days | Mobility | Locomotive | Notes |
|---|---|---|---|
| 2 | 0mph | Off | • Baseline testing no power to locomotive, no in-cab electronics<br>• Three static locations S1, S2, S3 |
| 3 | 0 mph | On | • Static testing with locomotive operating to generate base line EMI |
| 5 | 5mph | On | • Low-speed mobility |
| 10 | 15-30mph | On | • 'High'-speed mobility |

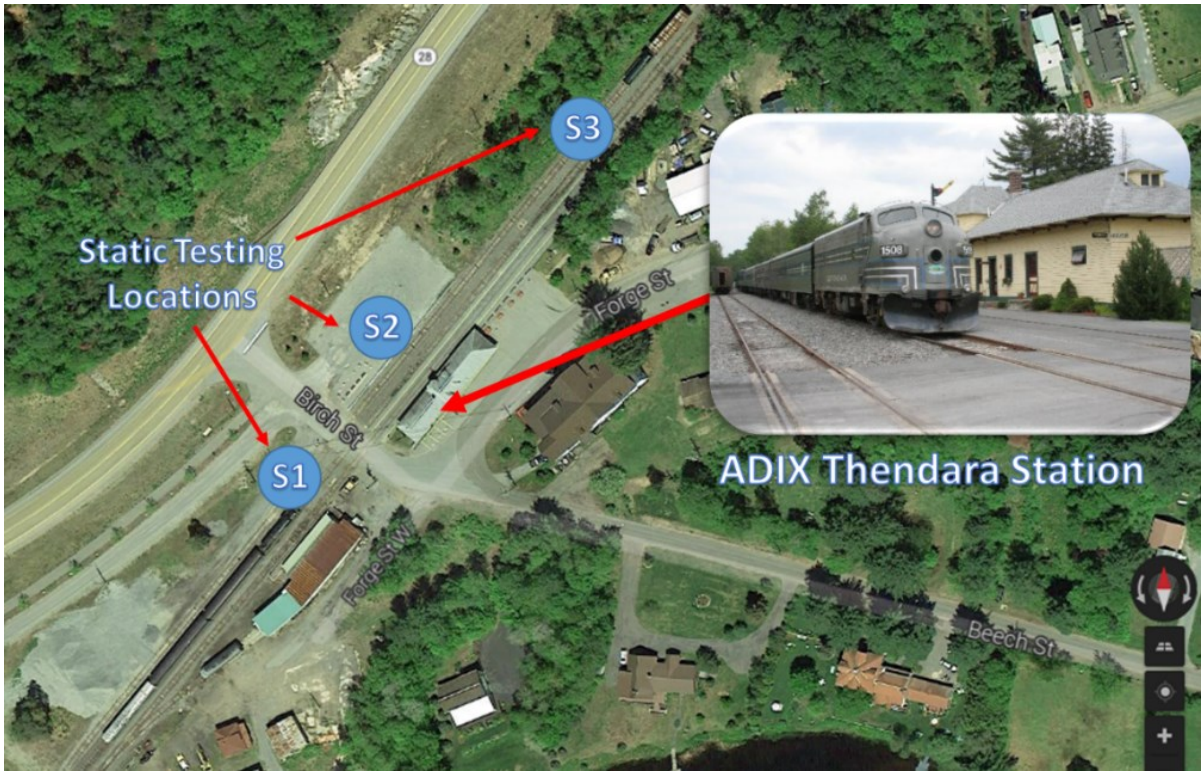


Figure 4 Static Testing locations ADIX Thendara Station