Sentry View Systems
2700 Business Center Blvd.
Melbourne, FL USA 32940

SUBJ: Proposed Approval for Testing Persistent Systems Wave Relay Radio Equipment Use of RF system outside of the ISM band is necessary for evaluation of data transmission to support testing operations for testing in the Melbourne, Florida area.

Description:

SuperTel Network Inc. (dba Sentry View Systems) has developed a video security system for use with ground terminal users using the Persistent Systems LLC. WR2100 transceiver. Testing with customers is scheduled for second half of 2018, setup and training will begin as soon as a grant is approved.

Frequency Requested: 2277.00MHz

Duration of Program: 6 months (anticipate continued testing after initial testing)

Program Notes: 2277.00 MHz is the preferred frequency to provide a consistent benchmark for testing and evaluation. The Wave Relay Data Link center frequency is available from 2272-2277MHz in 5Mhz steps. Frequency change can be facilitated remotely should the need to do so arise. Planned testing can take place during daytime and/ or night time hours as needed. A seven (7) day week is planned for testing and evaluation.

Note: Map showing the area of operations on following page for program plans discussed below.

Wave Relay Data Link will operate primarily in the 20MIRAD area shown in the map below daily as needed for testing. A ground antenna will be located at 2700 Business Center Blvd, Melbourne, Florida (28.11.39°N, 080.39.52°W). The ground station antenna will be an omni directional antennas. It is intended to maintain a link with mobile ground stations in the local area. The MIRAD for this request is 20mi (33km) to ensure coverage of operations area and allow for limited range testing.

Testing will cover systems operation, real-time sensor/ telemetry data, and high definition full motion video to and from individual data links. Throughout the testing period, frequency changes and/ or complete shutdown of all radiating sources from the Wave Relay units can be accomplished from the ground within 30 minutes of notification. Operation is for ground test only at this time.

For stop buzzer please contact Don Smith @ (321) 223-7579 (primary POC), Rick Mason (321) 777-4222.

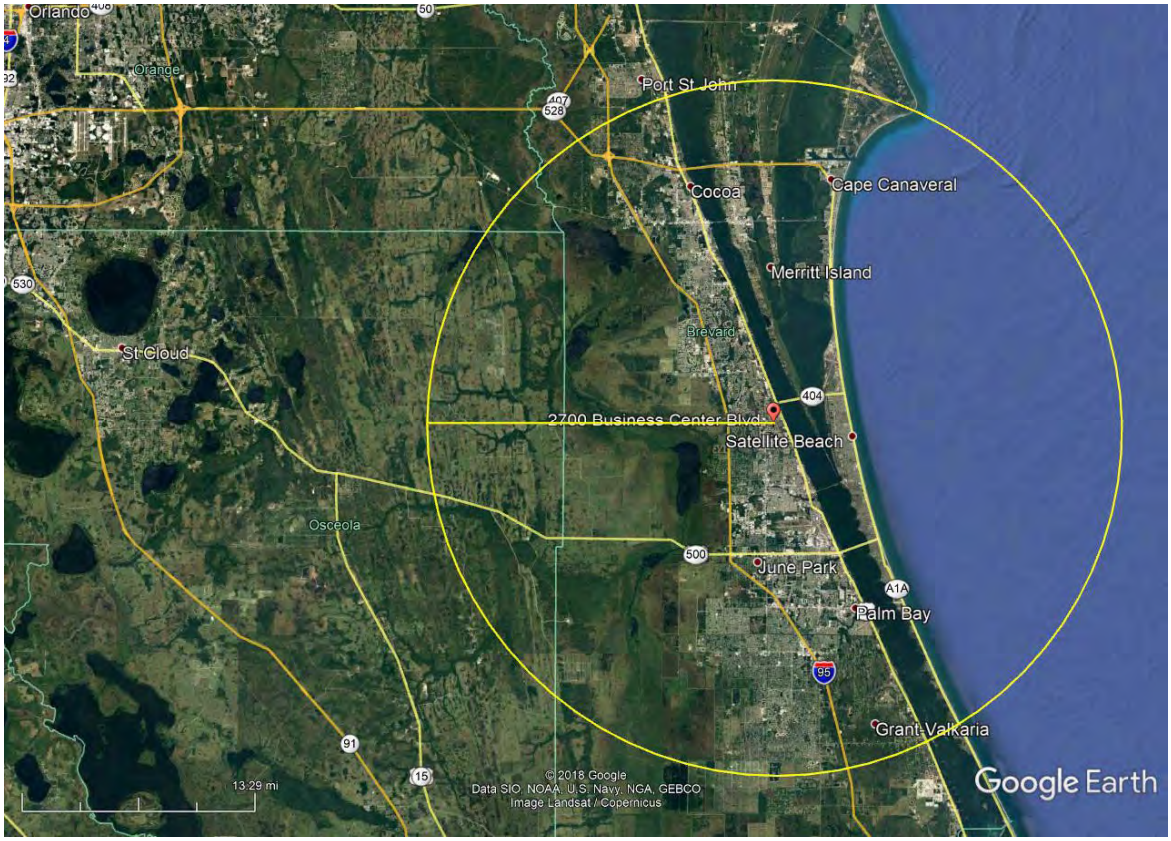


Figure 1 Area of Operations

Circle center is 2700 Business Cneter Blvd., Melbourne, FL, 32940, (28.11.39°N, 080.39.52°W).

MPU5

THE WORLD'S FIRST SMART RADIO

PHYSICAL SPECIFICATIONS

- 1.5 x 2.6 x 4.6 in / 3.8 x 6.7 x 11.7 cm
- 13 oz / 368.5 g

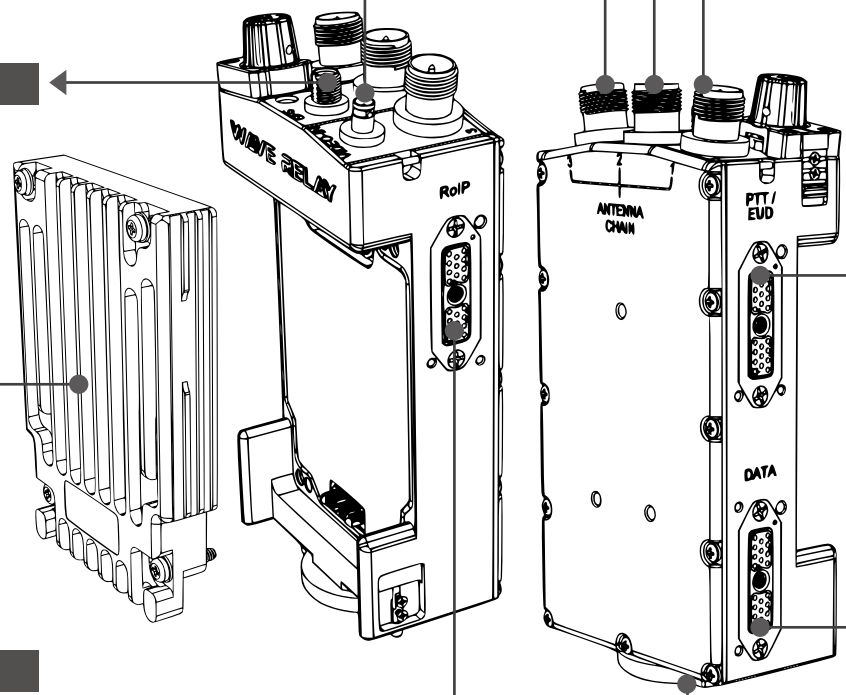
VIDEO

HD-BNC Connection
3G-SDI & Composite Input
Integrated HD H.264 Video Encoding/Decoding

GPS

3.3V Active
Situational Awareness
Cursor-on-Target Compliant
1 Second Updates

WR-5100
MPU5 Chassis



3x3 MIMO TECHNOLOGY

Extended Range - LOS and BLOS
100+ Mbps of throughput
Maximal Ratio Combining
Spatial Multiplexing

PTT / EUD

Dual Active PTT Channels
End User Device (EUD) Data / Charging
USB Host / RS-232 Serial
HD Video Output
Charging Downstream Port (CDP): Rated for 1,500mA

DATA

USB On-the-Go
RS-232 Serial
Ethernet
HD Video Input
Standard Charging Port (SDP): Rated for 500mA

POWER

Low Battery Alert
Standard Twist-Lock Connector
8 - 28 VDC

FREQUENCY MODULE

Interchangeable Frequency Module (Ordered Separately)

RF-1100 - L-Band Frequency Range: 1350 - 1390 MHz
RF-2100 - S-Band Frequency Range: 2200 - 2500 MHz
RF-4100 - Lower C-Band Freq. Range: 4435 - 4980 MHZ

RF Modulations: OFDM (64-QAM, 16-QAM, QPSK, BPSK)
6W Transmit Power*
Software configurable bandwidths: 5 MHz, 10 MHz, 20 MHz
TX/RX Operating Modes: All modes from SISO to 3x3 MIMO

INTELLIGENT RoIP

Legacy Radio Tethering
Legacy Radio Detection
USB Host / RS-232 Serial
Standard Charging Port (SDP): Rated for 500mA

NETWORKING

- Advanced Wave Relay® multicast algorithms
- Seamless Layer 2 network connectivity
- Integrated serial-to-Ethernet capability
- Cloud Relay™
- DLEP Certified
- IPv4 and IPv6 compatible
- Integrated DHCP server
- USB RNDIS Host and Device

SECURITY

- Integrated Hardware Cryptographic Acceleration
- CTR-AES-256 Encryption
- HMAC-SHA-256 Authentication & Integrity
- Utilizes Suite-B Algorithms
- Cryptographically authenticated Over-the-Air Rekey and Key Zero
- FIPS 140-2
- Rechargeable 30 Day Hold-Up for Keys and Configuration Settings

MANUFACTURING & ENVIRONMENTAL

- IP68 Rated
- MIL-STD Certified
- Anodized Black Coating
- Operating temperature: -40° to 85° C / -40° to 185° F
- Designed and manufactured in USA
- ISO 9001:2008 certified manufacturing facility

*6W for Military and International sales only

PERSISTENT SYSTEMS

RF-2100

S-Band Interchangeable Frequency Module

SPECIFICATIONS

Frequency Range
2200 - 2507 MHz
RF Modulation
OFDM (64QAM, 16QAM, QPSK, BPSK)
Antenna Chains
3 Independent RF Chains
TX/RX Operating Modes
All MIMO modes from SISO to 3x3
Channel Bandwidth
5, 10, and 20 MHz
Software Configurable
Peak TCP Throughput
150 Mbps at 20 MHz Channel
MIMO Techniques
Maximal Ratio Combining
Space-Time Block Coding
Spatial Multiplexing
Max. Aggregate Transmit Power
6W (2W per RF Chain)

Antenna Ports
(3) SMP (50 Ohms)
ISM Band Certifications
FCC Part 15 Subpart C, 15.247
RSS-247, Issue 1, May 2015
RSS-GEN, Issue 4, November 2014
ANSI C63.10: 2013
ANSI C63.4: 2014
TX Power Control
33 to 16.5 dBm, 0.5 dB per step
Power Control Accuracy
+/- 2 dB
Frequency Accuracy
+/- 4 ppm, max.
Spurious Output, Harmonic
-53 dBc
Spurious Output, Non-Harmonic
-65 dBc
Minimum Receiver Sensitivity
-98 dBm at 5 MHz bandwidth, BPSK

Max. RF Input
-20 dBm
Max. RF Input without Damage
+10 dBm
Max. Peak Power Consumption, TX
40W (3 Chains @ 6W)
Power Consumption, RX
1.9W (3 Chains)
Operating Temperature
-40°C to +85°C
ESD Protection
+/- 8KV Contact discharge, per IEC 6100-4-2
Dimensions
3.8 x 2.6 x 0.5 in.
9.7 x 6.6 x 1.3 cm
Weight
4.6 oz.
130 g

RELEASABLE

Persistent Systems, LLC | 303 Fifth Avenue, Suite 306 | New York, NY 10016 | O 212-561-5895 | F 212-202-3625 **persistentsystems.com**

ANT-2010

S-Band 2.4 GHz 8.5 dBi Omnidirectional Antenna

Features

- Compact, lightweight design
- Durable UV-stable fiberglass radome
- Vented end cap and drain holes in base
- All weather operation
- Can be installed in up or down positions

Specifications

Frequency	2.2 - 2.5 GHz
Gain	8.5 dBi
Impedance	50 Ohm
VSWR	<2.0:1 avg.
Maximum Input Power	100W
Polarization	Vertical
Vertical Beam Width	15°
Horizontal Beam Width	360°
Weight	0.5 lbs. 0.22 kg
Length	20 in. 50.8 cm
Base Diameter	1.27 in. 3.22 cm
Radome Diameter	0.75 in. 1.9 cm
Radome Material	Gray Fiberglass
Wind Survival	>150 mph
Operating Temperature	-40°C to +85°C -40°F to 185°F
RoHS Compliant	Yes
Antenna Connector	Integral N-Male

ONE SOLUTION. INFINITE POSSIBILITIES.

ISO 9001:2008

MADE IN USA

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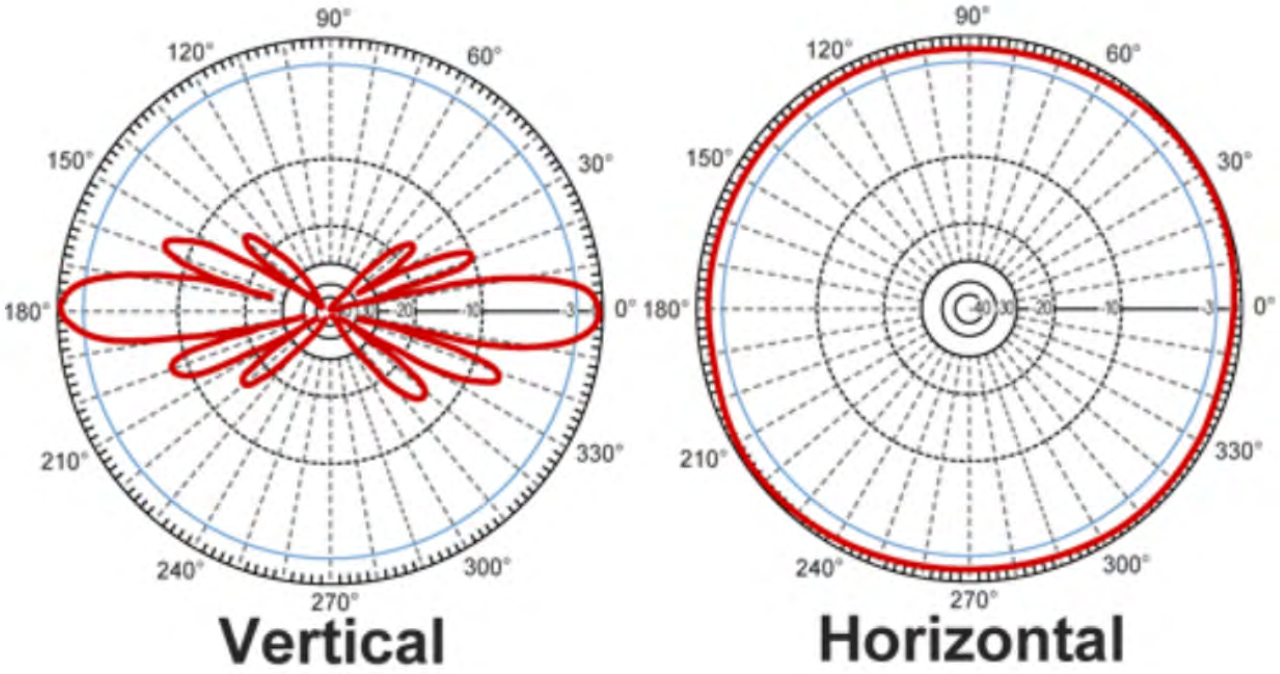
ANT-2010

S-Band 2.4 GHz 8.5 dBi Omnidirectional Antenna

Antenna Gain Pattern



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