

1. VST/PST System ETU description

1.1 General description:

The VST/PST system comprises three elements:

- VST/PST Controller
- VST tag
- PST tag

The VST portion of the system support communication between the VST tag and the controller over distances of up to few tens of meters, utilizing 915MHz communication frequency.

The PST portion of the system support communication of the PST tag and the controller over distances of up to 10cm, utilizing 13.56MHz frequency.

The Controller support one VST communication channel and two PST communication channels.

It also support RS232 communication to host channel and one signaling channel comprising two indication signals.

The system is used to perform “transaction” of data between the VST or PST tags and the controller for various applications.

1.2 Additional details:

1.2.1 Power supply:

Controller – 110/2220VAC.

VSR tag – 3.6V battery at few tens of mA.

PST tag – no independent power source. It draws its power from the controller’s antenna transmitted power. Current consumption is in the range of few mA.

1.2.2 Communication:

VST tag:

- 915MHz.
- Normal bi-directional, transmit/receive, half-duplex.
- Digital data, Binary FSK.

PST tag:

- 13.56 MHz.
- Special bi-directional, half duplex:
 - Controller to tag communication – AM.
 - Tag to controller communication – Load modulation.
- Digital data, pulse width coding.

1.2.3 Antennas and transmitted power levels:

1.2.3.1 VST channel:

Controller:

- Detachable directional antenna.
- Power – up to -15 dBm.

VST tag:

- Integral “L” antenna.
- Power – Up to -13 dBm.

1.2.3.2 PST channel:

Controller:

- Detachable loop antennas.
- Power – about 250 mw over 50 ohm.

PST tag:

- Integral loop antenna.
- Power – not relevant (load modulation).