FOCUS ENHANCEMENTS

TT-6001 DS-OFDM Waveform Generator

User's Guide

TT-6001 DS-OFDM WAVEFORM GENERATOR

User's Guide

FCC ID: UA9TT6001

This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:

(1) this device may not cause harmful interference
(2) this device must accept any interference received including interference that may cause undesired operation
(3) this device may only be operated indoors. Operation outdoors is in violation of 47 U.S.C. 301 and could subject the operator to serious legal penalties

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Chapter

1

Overview

Focus Enhancements' TT-6001 is a waveform generator of DS-OFDM™ Ultra Wide-band signals. Direct Sequence Orthogonal Frequency Division Multiplexing (DS-OFDM) is a modulation technique for transmitting digital data over a radio wave by Focus Enhancements.

For detailed information about the DS-OFDM modulation technique the reader should refer to the document "***Error! Reference source not found.***".

The TT-6001 provides an easy-to-use tool to generate sample waveforms that can be analyzed and characterized with proper lab equipment.

Figure 1 - Front view of the TT-6001

Main Panel

Operations of the TT-6001 are controlled via the main panel on the front of the enclosure.

The rotary switch is used to select one of the operational modes. The four (4) LED's will display the mode currently selected. By rotating the switch with the provided tool, the LED's will change configuration and the operating mode will change accordingly. For a summary of all the modes and relative LED encoding the reader should refer to Appendix A.

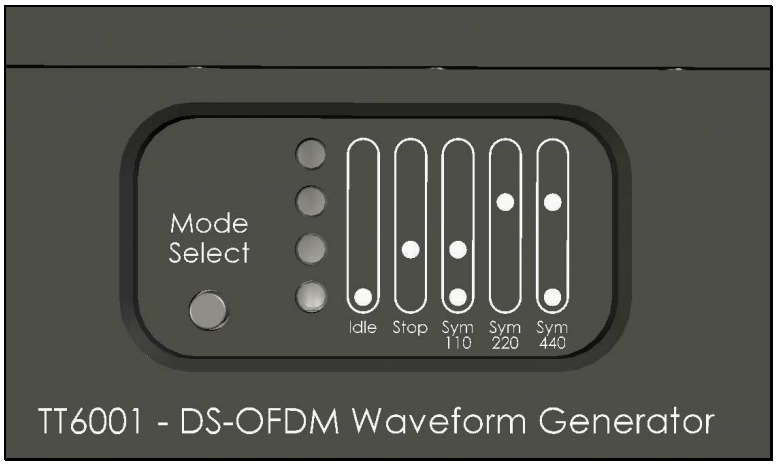

Figure 2 - Main Panel

Antenna Connector

The left side of the TT-6001 hosts a SMA connector to be used to connect the UWB antenna module provided (with or without the antenna extender).

Figure 3 - Antenna Connector

Power Connector

The back of the TT-6001 hosts a power connector, to which the power adapter provided in the package should be connected.

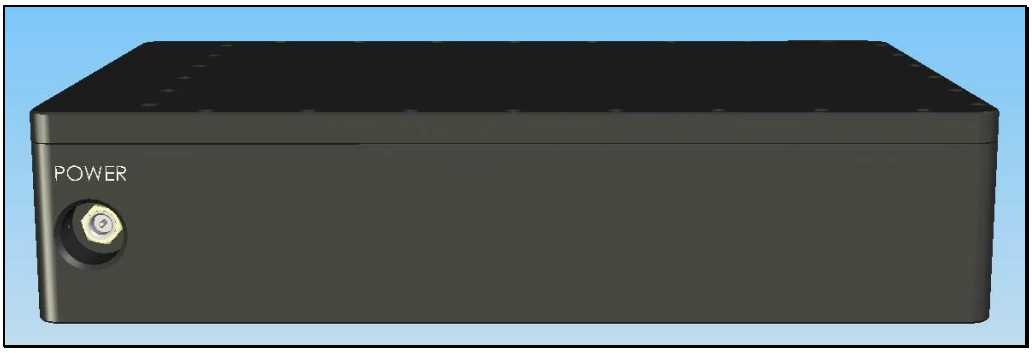

Figure 4 - Back view of the TT-6001

Chapter

2

Getting Started

Package Content

The TT-6001 is shipped in a package containing the following:

- TT-6001 DS-OFDM Waveform Generator (1)
- Power Adapter (1)
- UWB Antenna Module (1)
- Antenna Extender (1)
- Tool (1)
- User's Guide (1)
- Theory of DS-OFDM Operation – booklet (1)

Setup

Before start operating the TT-6001 DS-OFDM Waveform Generator the following steps should be carefully followed.

1. Place the TT-6001 on a flat surface
2. Connect the UWB Antenna Module to the connector labeled "ANTENNA" on the left side of the TT-6001
3. Connect the provided power adapter to the connector labeled "POWER" on the back of the TT-6001

4. Plug the other end of the power adapter into a wall plug (110V @ 50Hz)

   If the previous instructions were followed correctly, the LED will display one of the active configurations (1 through 15) where at least one LED is lid.

   It is recommended that the idle mode is selected at power-up, by rotating, using the provided tool, the rotary switch found on the main panel in a clockwise direction (LEDs' configuration 1), as illustrated in the figure below.

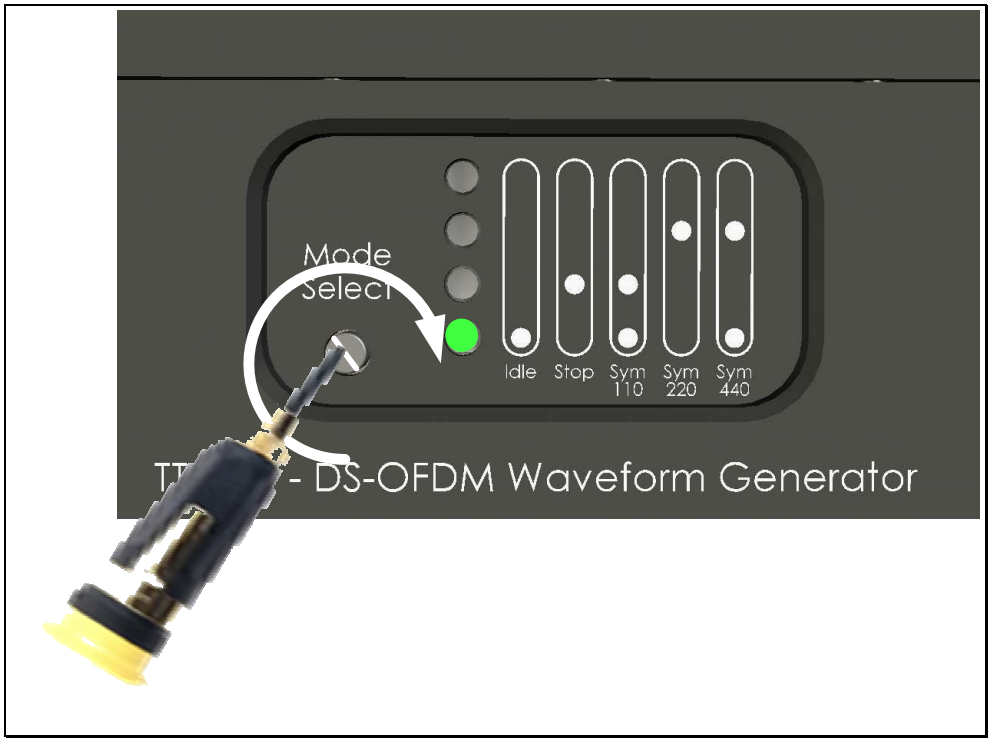

Figure 5 - Selecting the Idle mode

Chapter

3

Operating the TT-6001

Modes

Idle

In this mode, the TT-6001 will be active but not transmitting.

Stop

When this mode is selected, the TT-6001 will generate DS-OFDM signals at a rate of 110 Msym/sec for a duration of approximately nine (9) seconds. After that the TT-6001 will cease any transmission.

To repeat the transmission, the rotary switch should be temporarily rotated to select a different configuration (any) and then returned to the original position.

Sym 110

In this mode, the TT-6001 will repeatedly generate DS-OFDM signals at a rate of 110 Msym/sec rate. Transmission of the signal will not cease until a different mode is selected.

Sym 220

In this mode, the TT-6001 will repeatedly generate DS-OFDM signals at a rate of 220 Msym/sec. Transmission of the signal will not cease until a different mode is selected.

Sym 440

In this mode, the TT-6001 will repeatedly generate DS-OFDM signals at a rate of 440 Msym/sec. Transmission of the signal will not cease until a different mode is selected.

Chapter

4

Specifications

Power Supply Requirements	AC mains, 100-240 Vac, 110 VA, 50/60 Hz
RF Output Rating	-42 dBm EIRP @ 3 meters
Operating Frequency Range	3200 MHz to 7200 MHz
RF Output Impedance	50 Ω
10 dB Bandwidth	>500 MHz
Modulation/Constellation	DS-OFDM
Antenna Description	Omni directional linear polarized planar

Appendix

A

Appendix A

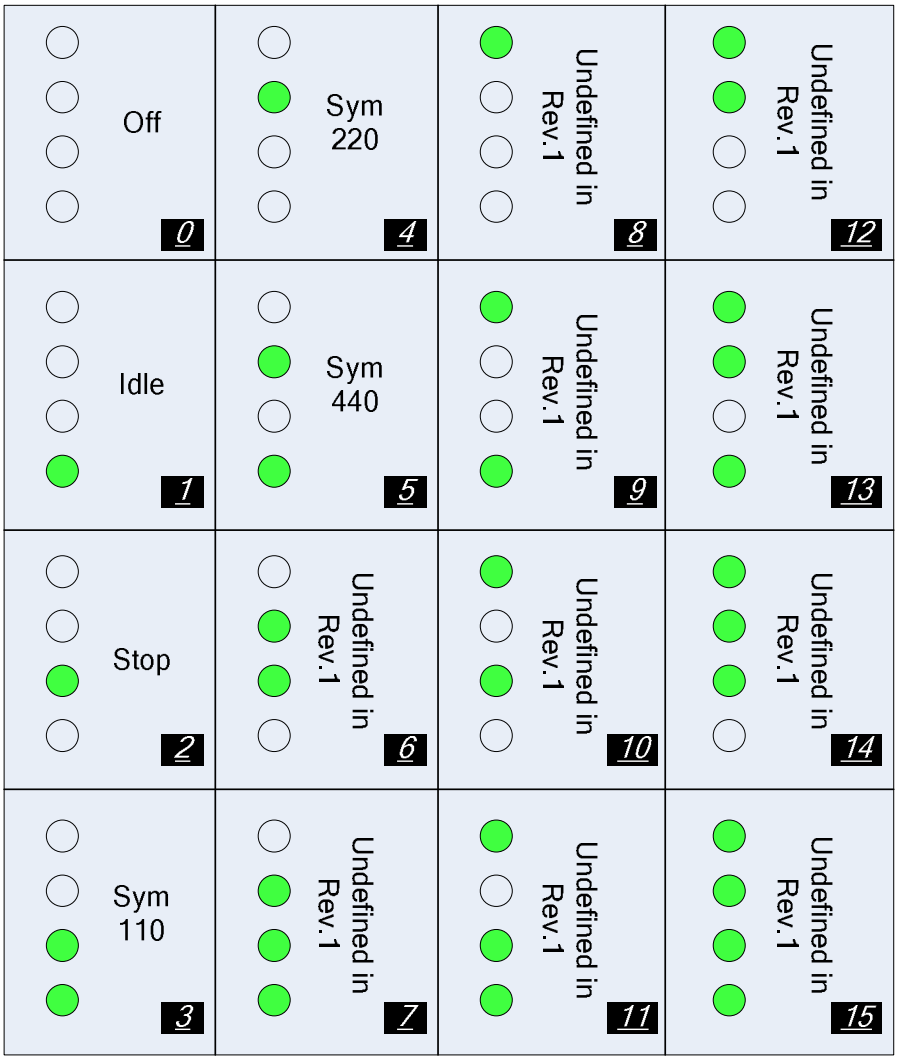

Figure 6 - LED configurations

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