

**TRELLSWARE TECHNOLOGIES, INC.**  
**FORM 442 NARRATIVE STATEMENT**

TrellisWare Technologies (“TrellisWare”) is currently licensed to conduct experimental transmissions at several frequencies in the L and S bands for the purpose of conducting testing and experiments for product development of its TSM-enabled software defined radios (“SDRs”). This license (WJ2XJL) covers handheld radio platforms with a typical 2W output level.

TrellisWare is respectfully requesting authorization to also conduct testing, over a more limited number of frequencies, with higher power amplifiers (up to 25 W). The proposed frequencies are:

- 1395-1432 MHz
- 1780-1850 MHz
- 1990-2110 MHz
- 2180-2305 MHz
- 2495-2600 MHz

**Product Description, Purpose of Operation and Need for Experimental License**

TSM is a waveform designed to run on SDRs. It provides high throughput, range, scalability, and mobility. TSM is not based on technologies such as Wi-Fi (802.11), DECT, WiMax (802.16) or LTE chips, and it is not dependent on internet-driven routing protocols. Instead, this technology will be used for advanced digital signal processing. The TSM waveform SDRs will be engineered to be the most suitable mobile ad-hoc network (MANET) to support uninterrupted real-time communications, resulting in reliable operations for tactical environments.

TrellisWare proposes to test and develop its TSM-enabled SDRs for sale (once approved by the FCC) to its government & defense, first responder, and commercial customers. Because mission-critical communications take place in highly mobile, dynamic environments, TrellisWare must test and develop the TSM-enabled SDRs to ensure that they will provide mobility and scalability across one network, and robust communication in harsh RF environments. TrellisWare will also troubleshoot technical issues, and train its applicable employees on all aspects of the TSM-enabled SDRs to ensure the highest quality customer support.

**Public Interest Statement**

TrellisWare submits that issuance of the requested experimental license will serve the public interest, convenience and necessity. The TSM-enabled SDRs will contribute to the expansion of services to: (a) government & defense, by providing robust communications solutions when other MANETs cannot accommodate large-scale, highly mobile, or harsh RF environment missions; (b) first responders, by providing essential communications to authorities such as police, firefighters, and paramedics – in crisis situations, large number of end devices can easily congest or cause systems to fail, but these devices, because they will require no infrastructure, no

cell towers, no access point or gateways, and no command center, will be able to handle unforeseen changes, such as network topologies and remain operational; and (c) commercial customers, because the TSM waveform's superior networking capability and advanced signal processing will enable subject SDRs to collaboratively combine simultaneous relay transmissions into a stronger and more robust signal, without causing data loss due to collisions or consuming additional bandwidth in all types of environments.

Grant of the requested experimental license will enable TrellisWare to conduct necessary testing and product development that will ensure that the subject SDRs are properly designed so that they will be operational at the highest level of efficiency when used by its government & defense, first responder, and commercial customers.

### **Restrictions on Operation**

TrellisWare also understands that the proposed experimental operation must not cause harmful interference to authorized facilities or operations. TrellisWare does not anticipate any interference issues. In the unlikely event that any interference occurs, TrellisWare will immediately take steps to resolve the interference, including discontinuing operation, if necessary. TrellisWare proposes to label the subject SDRs with the following information:

#### ***FCC Statement***

*Permission to operate this device has been granted under experimental authority issued by the Federal Communications Commission, is strictly temporary and may be cancelled at any time.*

### **Special Conditions:**

(1) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth in the instant application.

(2) Licensee should be aware that other stations may be licensed on these frequencies and if any interference occurs, the licensee of this authorization will be subject to immediate shut down.

### **Stop Buzzer Contact**

"Stop Buzzer" contact is Michael Smith. Mr. Smith can be reached at (858) 888-5298, and shall be available during testing to cease operations in the event of any interference.

### **Additional Information**

Required information concerning: (a) testing location and antenna specifications; (b) contacts; and (c) technical information are included in the accompanying application. If any further

information is required to process the application, please contact the individual listed in the application as the person who can best handle inquiries pertaining to same.