

Certification Test Report

FCC ID: ONTJETIDS24US IC: 10491A-JETIDS24US

FCC Rule Part: 15.247 ISED Canada's Radio Standards Specification: RSS-247

Report Number: BO72131445.200

Applicant: Esprit Model, Inc.

Model(s): JETIDS24US

Test Begin Date: October 3, 2017 Test End Date: January 3, 2018

Report Issue Date: January 22, 2018



FOR THE SCOPE OF ACCREDITATION UNDER CERTIFICATE NUMBER AT-1533

This report must not be used by the client to claim product certification, approval, or endorsement by ANAB, ANSI, or any agency of the Federal Government.

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TABLE OF CONTENTS

| 1 | GENERAL | .3 |
|---|---|----------------------------|
| 1.1 | Purpose | . 3 |
| 1.2 | Applicant Information | . 3 |
| 1.3 | Product Description | . 3 |
| 1.4 | Test Methodology and Considerations | . 3 |
| 2 | TEST FACILITIES | .5 |
| 2.1 | Location | . 5 |
| 2.2 | Laboratory Accreditations/Recognitions/Certifications | . 5 |
| 2.3 2.3.1 2.3.2 | Radiated & Conducted Emissions Test Site Description Semi-Anechoic Chamber Test Site Conducted Emissions Test Site Description | . 6 . 6 . 7 |
| 3 | APPLICABLE STANDARD REFERENCES | .8 |
| 4 | LIST OF TEST EQUIPMENT | .9 |
| 5 | SUPPORT EQUIPMENT | 10 |
| 6 | EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM | 11 |
| 7 | SUMMARY OF TESTS | 12 |
| 7.1 | Antenna Requirement – FCC: Section 15.203 | 12 |
| 7.2 7.2.1 7.2.2 | 6 dB Bandwidth - FCC: Section 15.247(a)(2); ISED Canada: RSS-247 5.2(a); 99% Bandwidth ISE Canada: RSS-GEN 6.6 Measurement Procedure Measurement Results | ED 12 12 12 |
| 7.3 7.3.1 7.3.2 | Peak Output Power – FCC: Section 15.247(b)(3); ISED Canada: RSS-247 5.4(d) Measurement Procedure (Conducted Method) Measurement Results | 16 16 16 |
| 7.4 7.4.1 7.4.2 7.4.3 7.4.4 | Band-Edge and Spurious Emissions Band-Edge Compliance of RF Conducted Emissions – FCC: Section 15.247(d); ISED Canada RSS-247 5.5 RF Conducted Spurious Emissions – FCC: Section 15.247(d); ISED Canada: RSS-247 5.5 Radiated Spurious Emissions into Restricted Frequency Bands – FCC: Sections 15.205, 15.209; ISED Canada: RSS-Gen 8.9, 8.10 Sample Calculation: | 18 18 20 22 23 |
| 7.5 7.5.1 7.5.2 | Power Spectral Density – FCC: Section 15.247(e); ISED Canada: RSS-247 5.2(b) PSD Measurement Procedure (Conducted Method) Measurement Results | 24 24 24 |
| 7.6 7.6.1 7.6.2 | Power Line Conducted Emissions – FCC: Section 15.207; ISED Canada: RSS-Gen 8.8 Measurement Procedure Measurement Results | 26 26 26 |
| 8 | MEASUREMENT UNCERTAINTIES | 29 |
| 9 | CONCLUSION | 30 |

1 GENERAL

1.1 Purpose

The purpose of this report is to demonstrate compliance with Part 15 Subpart C of the FCC's Code of Federal Regulations Section 15.247 and Innovation Science and Economic Development Canada's Radio Standards Specification RSS-247 for the tests documented herein.

1.2 Applicant Information

Esprit Model, Inc. 1240 Clearmont st. NW Palm Bay, FL 32905

1.3 **Product Description**

The Esprit Model JETIDS24US is a remote control. The device includes a 900 MHz transceiver and two 2.4 GHz transceivers which are identified as primary and secondary, respectively. The radios are not capable of transmitting simultaneously. Each of the 2.4 GHz transceivers provides two antennas ports. Transmission occurs from one antenna at the time based on signal strength.. The test report documents the compliance of the 900 MHz transceiver.

Technical Details

| Mode of Operation: | IEEE 802.15.4 |
|---------------------|----------------------------|
| Frequency Range: | 905.663 MHz - 923.9654 MHz |
| Number of Channels: | 16 |
| Channel Separation: | 1.2 MHz |
| Modulations: | O-QPSK |
| Antenna Type/Gain: | whip antenna, 2 dBi |
| Input Power: | 12 VDC |
| | |
| | |

Model Number: JETIDS24US

Test Sample Serial Number(s): SAMPLE20, SAMPLE19

Test Sample Condition: The EUT was in good operating condition without any physical damage.

1.4 Test Methodology and Considerations

The EUT was evaluated for radiated and RF conducted emissions. The EUT is software configured to turn off within five seconds of being connected to the AC Mains. The power line conducted emissions evaluation was performed with the EUT charging while being off.

For the radiated emissions evaluation, preliminary evaluation were performed for the EUT in three orthogonal orientations. The highest emissions were obtained with the EUT set vertically on the tabletop.

For the RF conducted measurements, a temporary RF connector was used at the antenna port to facilitate direct coupling to a spectrum analyzer.

The EUT was evaluated for the 2.4 GHz radios and for unintentional emissions. Ferrites were used for compliance to the unintentional emissions evaluation. The results and modifications on the EUT are documented in separate test reports.

Test Software power Settings: Channels 11 to 26: Attenuation 7

2 TEST FACILITIES

2.1 Location

The radiated and conducted emissions test sites are located at the following address:

TÜV SÜD America, Inc. 3998 FAU Blvd, Suite 310 Boca Raton, Florida 33431 Phone: (561) 961-5585 Fax: (561) 961-5587 http://www.tuv-sud-america.com

2.2 Laboratory Accreditations/Recognitions/Certifications

TÜV SÜD America, Inc. is accredited to ISO/IEC 17025 by ANSI-ASQ National Accreditation Board under their ANAB program and has been issued certificate number AT-1533 in recognition of this accreditation. Unless otherwise specified, all test methods described within this report are covered under the ISO/IEC 17025 scope of accreditation.

FCC Test Firm Registration #: 475089 Innovation, Science and Economic Development Canada Lab Code: 4175C

2.3 Radiated & Conducted Emissions Test Site Description

2.3.1 Semi-Anechoic Chamber Test Site

The EMC radiated test facility consists of an RF-shielded enclosure. The interior dimensions of the indoor semi-anechoic chamber are approximately 48 feet (14.6 m) long by 36 feet (10.8 m) wide by 24 feet (7.3 m) high and consist of rigid, 1/8 inch (0.32 cm) steel-clad, wood core modular panels with steel framing. In the shielded enclosure, the faces of the panels are galvanized and the chamber is self-supporting. 8-foot RF absorbing cones are installed on 4 walls and the ceiling. The steel-clad ground plane is covered with vinyl flooring.

The turntable is driven by pneumatic motor, which can support a 2000 lb. load. The turntable is flush with the chamber floor which it is connected to, around its circumference, with a continuous metallic loaded spring. An EMCO Model 1060 Multi-device controller controls the turntable position.

A pneumatic motor is used to control antenna polarizations and height relative to the ground. The height information is displayed on the control unit EMCO Model 1050.

The control room is an RF shielded enclosure attached to the semi-anechoic chamber with two bulkhead panels for connecting RF, and control cables. The dimension of the room is 7.3 m x 4.9 m x 3 m high and the entrance doors of both control and conducted rooms are 3 feet (0.91 m) by 7 feet (2.13 m).

A diagram of the Semi-Anechoic Chamber Test Site is shown in Figure 2.3.1-1 below:



Figure 2.3.1-1: Semi-Anechoic Chamber Test Site

2.3.2 Conducted Emissions Test Site Description

The dimensions of the shielded conducted room are 7.3 x 4.9 x 3 m³. The power line conducted emission site includes two LISNs: a Solar Model 8028-50 50 Ω /50 μ H and a Rohde and Schwarz Model ESH3-Z5, which are installed as shown in the figure below. For evaluations requiring 230 V, 50 Hz AC input, a Polarad LISN (S/N 879341/048) is used in conjunction with a California Instruments signal generator Model 2001RP-OP1.

A diagram of the room is shown below in figure 2.3.2-1:



Figure 2.3.2-1: AC Mains Conducted EMI Site

3 APPLICABLE STANDARD REFERENCES

The following standards were used:

- ANSI C63.10-2013: American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
- US Code of Federal Regulations (CFR): Title 47, Part 2, Subpart J: Equipment Authorization Procedures, 2017.
- US Code of Federal Regulations (CFR): Title 47, Part 15, Subpart C: Radio Frequency Devices, Intentional Radiators, 2017
- FCC KDB 558074 D01 DTS Meas Guidance v04 Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under 15.247, April 5, 2017.
- Innovation, Science and Economic Development Canada Radio Standards Specification: RSS-247 — Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices, Issue 2, February 2017.
- Innovation, Science and Economic Development Canada Radio Standards Specification: RSS-GEN – General Requirements for Compliance of Radio Apparatus, Issue 4, November 2014.

4 LIST OF TEST EQUIPMENT

The calibration interval of test equipment is annually or the manufacturer's recommendations. Where the calibration interval deviates from the annual cycle based on the instrument manufacturer's recommendations, it shall be stated below.

| Table 4-1: Test Equipment List | | | | | | |
|--------------------------------|----------------------------|------------------------|--------------------|------------|------------------|-------------|
| | | | | | Last Calibration | Calibration |
| AssetID | Manufacturer | Model # | Equipment Type | Serial # | Date | Due Date |
| BEMC00078 | EMCO | 6502 | Antennas | 9104-2608 | 5/11/2016 | 5/11/2018 |
| BEMC00283 | Rohde & Schwarz | FSP40 | Spectrum Analyzers | 1000033 | 7/21/2016 | 7/21/2018 |
| BEMC00523 | Agilent | E7405 | Spectrum Analyzers | MY45103293 | 12/9/2016 | 12/9/2018 |
| BEMC02003 | EMCO | 3108 | Antennas | 2148 | 2/29/2016 | 2/28/2018 |
| BEMC02005 | FAU EMI R&D Lab | Lazarus | Antennas | EM001 | 2/16/2016 | 2/16/2018 |
| BEMC02006 | EMCO | 3115 | Antennas | 2573 | 4/7/2017 | 4/7/2019 |
| BEMC02011 | Hewlett-Packard | HP 8447D | Amplifiers | 2443A03952 | 10/27/2017 | 10/27/2018 |
| BEMC02045 | ACS Boca | Conducted Cable Set | Cable Set | 2045 | 10/26/2017 | 10/26/2018 |
| BEMC02069 | Trilithic, Inc. | 7NM867/122-X1-AA | Notch Filter | 200315126 | 3/28/2017 | 2/28/2018 |
| BEMC02071 | Trilithic, Inc. | 4HC1400-1-KK | Filter | 9643263 | 10/28/2017 | 10/28/2018 |
| BEMC02086 | Merrimac | FAN-6-10K | Attenuators | 23148-83-1 | 10/27/2027 | 10/27/2018 |
| BEMC02089 | Agilent Technologies, Inc. | 83017A | Amplifiers | 3123A00214 | 12/2/2016 | 12/2/2017 |
| BEMC02095 | ETS Lindgren | TILE4! - Version 4.2.A | Software | 85242 | NCR | NCR |
| BEMC02111 | Aeroflex Inmet | 40AH2W-20 | Attenuator | 2111 | 7/20/2017 | 7/20/2018 |
| BEMC02121 | ACS Boca | Radiated Cable Set | Cable Set | 2121 | 7/31/2017 | 7/31/2018 |
| BEMC02138 | Hewlett-Packard | 8449B | Pre-Amplifier | 3008A00320 | 12/1/2017 | 12/1/2018 |
| BEMC03004 | Teseq | CFL 9206A | Attenuators | 34720 | 8/29/2017 | 8/29/2018 |
| NBLE03366 | Agilent | E4440A | Spectrum Analyzer | MY42510427 | 10/24/2017 | 10/24/2018 |
| TEMC00153 | Rohde and Schwarz | ESH3-Z5 | LISN | 894785/012 | 9/27/2017 | 9/27/2018 |

Notes:

• NCR=No Calibration Required

• The assets were only used during the active period of the calibration cycle.

5 SUPPORT EQUIPMENT

| Table 5-1 | FUT and | Support | t Fauinment | (Radiated Emissions) | |
|-----------|---------|---------|--------------|------------------------|---|
| | | ouppoir | . Lyuipinein | (Indulated Enhissions) | / |

| Item # | Type Device | Manufacturer | Model/Part # | Serial # |
|--------|-------------|--------------|--------------|----------|
| 1 | EUT | Esprit Model | JETIDS24US | SAMPLE20 |

Table 5-2: EUT and Support Equipment (Power Line Conducted Emissions)

| Item # | Type Device | Manufacturer | Model/Part # | Serial # |
|--------|-----------------------------|--|-----------------|---------------|
| 1 | EUT | Esprit Model | JETIDS24US | SAMPLE19 |
| 2 | EUT Switching AC Adapter | SUNNY Computer Technology Europe s.r.o. | SYS1531-2412-W2 | G160404103657 |
| 3 | Ferrite | Laird | 28A0807-0A2 | N/A |

Table 5-3: Cable Description (Power Line Conducted Emissions)

| Cable # | Cable Type | Length | Shield | Termination |
|---------|----------------------|--------|--------|----------------------------|
| Α | Power | 1.40 m | No | EUT to AC Adapter |
| В | Extension Power Cord | 1.82 m | No | EUT AC Adapter to AC Mains |

6 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM



Figure 6-1: EUT and Support Equipment Block Diagram – Radiated Emissions





7 SUMMARY OF TESTS

Along with the tabular data shown below, plots were taken of all signals deemed important enough to document.

7.1 Antenna Requirement – FCC: Section 15.203

The EUT uses a 2.0 dBi whip antennas for the 900 MHz radio which is connected to PCB via a u. FL. connector. The connector is considered unique and therefore meets the requirements of FCC Section 15.203.

7.2 6 dB Bandwidth - FCC: Section 15.247(a)(2); ISED Canada: RSS-247 5.2(a); 99% Bandwidth ISED Canada: RSS-GEN 6.6

7.2.1 Measurement Procedure

The 6dB bandwidth was measured in accordance with the FCC KDB 558074 D01 DTS Meas Guidance v04 Section 8.1 Option 2. The RBW of the spectrum analyzer was set to 100 kHz and VBW 300 kHz. Span was set large enough to capture the emissions and >> RBW. A peak detector was used for the measurements.

The 99% occupied bandwidth was measured with the spectrum analyzer span set to fully display the emission. The RBW was set to 1% to 5% of the approximated bandwidth. The occupied 99% bandwidth was measured by using 99% bandwidth equipment function of the spectrum analyzer using a peak detector.

7.2.2 Measurement Results

Performed by: Thierry Jean-Charles

| Frequency (MHz) | 6dB Bandwidth (kHz) | 99% Bandwidth (kHz) | | | | | |
|--------------------|------------------------|------------------------|--|--|--|--|--|
| 905.9663 | 836 | 1220 | | | | | |
| 914.36574 | 832 | 1220 | | | | | |
| 923.9654 | 836 | 1220 | | | | | |

Table 7.2.2-1: 6dB / 99% Bandwidth



Date: 28.DEC.2017 13:31:11





Date: 28.DEC.2017 13:37:16

Figure 7.2.2-2: 6dB BW - Middle Channel



Date: 28.DEC.2017 13:46:19





Date: 28.DEC.2017 13:28:03

Figure 7.2.2-4: 99% OBW - Low Channel



Date: 28.DEC.2017 13:42:22





Date: 28.DEC.2017 13:44:30

Figure 7.2.2-6: 99% OBW - High Channel

7.3 Peak Output Power – FCC: Section 15.247(b)(3); ISED Canada: RSS-247 5.4(d)

7.3.1 Measurement Procedure (Conducted Method)

The fundamental emission output power was measured in accordance with the FCC KDB 558074 D01 DTS Meas Guidance v04 Section 9.1.1 RBW \geq DTS bandwidth. The RF output of the equipment under test was directly connected to the input of the spectrum analyzer through suitable attenuation.

7.3.2 Measurement Results

Performed by: Thierry Jean-Charles

| Table 7.3.2-1: RF Output Power | | | |
|--------------------------------|----------------|--|--|
| Frequency (MHz) | Level (dBm) | | |
| 905.9663 | 15.29 | | |
| 914.36574 | 15.10 | | |
| 923.9654 | 14.77 | | |



Date: 28.DEC.2017 14:01:01

Figure 7.3.2-1: RF Output Power - Low Channel



Date: 28.DEC.2017 14:57:15





Date: 28.DEC.2017 13:50:34

Figure 7.3.2-3: RF Output Power - High Channel

7.4 Band-Edge and Spurious Emissions

7.4.1 Band-Edge Compliance of RF Conducted Emissions – FCC: Section 15.247(d); ISED Canada: RSS-247 5.5

7.4.1.1 Measurement Procedure

The RF output port of the EUT was directly connected to the input of the spectrum analyzer via suitable attenuation. The EUT was investigated at the lowest and highest channel available to determine band-edge compliance. For each measurement, the spectrum analyzer's RBW was set to 100 kHz, and the VBW was set to 300 kHz.

7.4.1.2 Measurement Results

Performed by: Thierry Jean-Charles



Date: 28.DEC.2017 15:28:19

Figure 7.4.1.2-1: Lower Band-edge



Date: 28.DEC.2017 13:59:20

Figure 7.4.1.2-2: Upper Band-edge

7.4.2 RF Conducted Spurious Emissions – FCC: Section 15.247(d); ISED Canada: RSS-247 5.5

7.4.2.1 Measurement Procedure

The RF Conducted Spurious Emissions were measured in accordance with the FCC KDB 558074 D01 DTS Meas Guidance v04 Section 11.3 Emission level measurement. The RF output port of the equipment under test was directly connected to the input of the spectrum analyzer. The EUT was investigated for conducted spurious emissions from 30 MHz to 10 GHz, 10 times the highest fundamental frequency. Measurements were made at the low, center and high channels of the EUT. For each measurement, the spectrum analyzer's RBW was set to 100 kHz and the VBW was set to 300 kHz. The peak Max Hold function of the analyzer was utilized. The reference level was determined by measuring the Peak PSD level in any 100-kHz bandwidth within the DTS channel bandwidth.

7.4.2.2 Measurement Results



Performed by: Thierry Jean-Charles

Date: 28.DEC.2017 15:22:31

Figure 7.4.2.2-1: 30 MHz - 10 GHz - Low Channel



Date: 28.DEC.2017 15:02:19





Date: 28.DEC.2017 15:06:51

Figure 7.4.2.2-3: 30 MHz – 10 GHz – High Channel

7.4.3 Radiated Spurious Emissions into Restricted Frequency Bands – FCC: Sections 15.205, 15.209; ISED Canada: RSS-Gen 8.9, 8.10

7.4.3.1 Measurement Procedure

Radiated emissions tests were made over the frequency range of 9 kHz to 10 GHz, 10 times the highest fundamental frequency. Each emission found to be in a restricted band as defined by section 15.205, including any emission at the operational band-edge, was compared to the radiated emission limits as defined in Section 15.209.

For measurements below 30 MHz, the receive antenna height was set to 1m and the EUT was rotated through 360 degrees. The resolution bandwidth was set to 200 Hz below 150 kHz and to 9 kHz above 150 kHz.

The EUT was rotated through 360° and the receive antenna height was varied from 1m to 4m so that the maximum radiated emissions level would be detected. For frequencies below 1000 MHz, quasi-peak measurements were made using a resolution bandwidth RBW of 120 kHz and a video bandwidth VBW of 300 kHz. For frequencies above 1000 MHz, peak measurements are made with RBW of 1 MHz and VBW of 3 MHz. Average measurements are performed in the linear scale using VBW of 30 Hz.

7.4.3.2 Measurement Results

Performed by: Jean Rene

Radiated band-edge and spurious emissions found in the restricted frequency bands of 9 kHz to 10 GHz are reported in the tables below.

| Frequency (MHz) | L (d | .evel BuV) | Antenna Polarity | Correction Factors | Correc (dB | ted Level uV/m) | L (dB | imit uV/m) | M (| argin dB) |
|---------------------------|--------------------------|---------------|---------------------|-----------------------|---------------|--------------------|----------|---------------|--------|--------------|
| , , , | pk | Qpk/Avg | (H/V) | (dB) | pk | Qpk/Avg | pk | Qpk/Avg | pk | Qpk/Avg |
| | Low Channel = 905.98 MHz | | | | | | | | | |
| 2717.94 | 55.01 | 44.89 | Н | -3.06 | 51.95 | 41.83 | 74.0 | 54.0 | 22.0 | 12.2 |
| 2717.94 | 58.56 | 50.95 | V | -3.06 | 55.50 | 47.89 | 74.0 | 54.0 | 18.5 | 6.1 |
| 3623.92 | 52.21 | 46.03 | Н | 0.43 | 52.64 | 46.46 | 74.0 | 54.0 | 21.4 | 7.5 |
| 3623.92 | 52.77 | 47.18 | V | 0.43 | 53.20 | 47.61 | 74.0 | 54.0 | 20.8 | 6.4 |
| | | | Middle | Channel = 914 | .35 MHz | | | | | |
| 2743.05 | 54.78 | 46.83 | Н | -2.84 | 51.94 | 43.99 | 74.0 | 54.0 | 22.1 | 10.0 |
| 2743.05 | 60.11 | 53.55 | V | -2.84 | 57.27 | 50.71 | 74.0 | 54.0 | 16.7 | 3.3 |
| 3657.4 | 52.87 | 46.33 | Н | 0.65 | 53.52 | 46.98 | 74.0 | 54.0 | 20.5 | 7.0 |
| 3657.4 | 51.54 | 44.24 | V | 0.65 | 52.19 | 44.89 | 74.0 | 54.0 | 21.8 | 9.1 |
| 7314.8 | 45.96 | 33.30 | Н | 9.36 | 55.32 | 42.66 | 74.0 | 54.0 | 18.7 | 11.3 |
| 7314.8 | 47.28 | 37.03 | V | 9.36 | 56.64 | 46.39 | 74.0 | 54.0 | 17.4 | 7.6 |
| High Channel = 923.98 MHz | | | | | | | | | | |
| 2771.94 | 54.43 | 46.31 | Н | -2.70 | 51.73 | 43.61 | 74.0 | 54.0 | 22.3 | 10.4 |
| 2771.94 | 58.73 | 51.83 | V | -2.70 | 56.03 | 49.13 | 74.0 | 54.0 | 18.0 | 4.9 |
| 3695.92 | 53.94 | 47.57 | Н | 0.81 | 54.75 | 48.38 | 74.0 | 54.0 | 19.3 | 5.6 |
| 3695.92 | 53.38 | 46.80 | V | 0.81 | 54.19 | 47.61 | 74.0 | 54.0 | 19.8 | 6.4 |
| 7391.84 | 47.20 | 36.35 | Н | 9.52 | 56.72 | 45.87 | 74.0 | 54.0 | 17.3 | 8.1 |
| 7391.84 | 48.83 | 39.16 | V | 9.52 | 58.35 | 48.68 | 74.0 | 54.0 | 15.6 | 5.3 |

Table 7.4.3.2-1: Radiated Spurious Emissions Tabulated Data

Notes: All emissions above 7.392 GHz were attenuated below the limits and the noise floor of the measurement equipment.

Sample Calculation:

$R_C = R_U + CF_T$

Where:

- CF_T = Total Correction Factor (AF+CA+AG)-DC (Average Measurements Only)
- R_U = Uncorrected Reading
- Rc = Corrected Level
- AF = Antenna Factor
- CA = Cable Attenuation
- AG = Amplifier Gain
- DC = Duty Cycle Correction Factor

Example Calculation: Peak

Corrected Level: $55.01 + (-3.06) = 51.95 \text{ dB}\mu\text{V/m}$ Margin: 74 dB μ V/m - 51.95 dB μ V/m = 22.0 dB

Example Calculation: Average

Corrected Level: $44.89 + (-3.06) + = 41.89 \text{ dB}\mu\text{V/m}$ Margin: $54 \text{ dB}\mu\text{V/m} - 41.89 \text{ dB}\mu\text{V/m} = 12.2 \text{ dB}$

7.5 Power Spectral Density – FCC: Section 15.247(e); ISED Canada: RSS-247 5.2(b)

7.5.1 PSD Measurement Procedure (Conducted Method)

The power spectral density was measured in accordance with the FCC KDB 558074 D01 DTS Meas Guidance v04 Section 10.2 Method PKPSD (peak PSD). The RF output port of the EUT was directly connected to the input of the spectrum analyzer. Offset values were input for cable and external attenuation. The spectrum analyzer RBW was set to 3 kHz and VBW 10 kHz. Span was adjusted to 1.5 times the DTS bandwidth and the sweep time was set to auto.

7.5.2 Measurement Results

Performed by: Thierry Jean-Charles

Results are shown below.

| Frequency (MHz) | PSD (dBm) | Limit (dBm) | Margin (dB) |
|--------------------|--------------|----------------|----------------|
| 905.9663 | 2.11 | 8 | 5.89 |
| 914.36574 | 1.91 | 8 | 6.09 |
| 923.9654 | 1.57 | 8 | 6.43 |

 Table 7.5.2-1: Power Spectral Density





Figure 7.5.2-1: Power Spectral Density - Low Channel



Date: 28.DEC.2017 14:53:36





Date: 28.DEC.2017 13:52:30

Figure 7.5.2-3: Power Spectral Density – High Channel

7.6 Power Line Conducted Emissions – FCC: Section 15.207; ISED Canada: RSS-Gen 8.8

7.6.1 Measurement Procedure

ANSI C63.10 section 6.2 was the guiding document for this evaluation. Conducted emissions were performed from 150 kHz to 30 MHz with the spectrum analyzer's resolution bandwidth set to 9 kHz and the video bandwidth set to 30 kHz. The calculation for the conducted emissions is as follows:

Corrected Reading = Analyzer Reading + LISN Loss + Cable Loss Margin = Applicable Limit - Corrected Reading

7.6.2 Measurement Results

Performed by: Thierry Jean-Charles



Figure 7.6.2-1: Conducted Emissions Results – Line 1



Figure 7.6.2-2: Conducted Emissions Results – Line 2

Table 7.6.2-1: Conducted EMI Results

| \boxtimes | Line 1 | \boxtimes | Line 2 | Line 3 |
|-------------|--------|-------------|--------|--------|
| | | | | |

☐ Line 4
☐ To Ground ⊠ Floating
☐ Telecom Port _____
☑ dBµV ☐ dBµA

Plot Number: <u>72131445 ESP CE04</u> Power Supply Description: <u>12</u> <u>VDC Power Supply</u>

| Frequency (MHz) | Uncorrected Reading | | Total Correction Factor | Corrected Level | | Limit | | Margin (dB) | |
|--------------------|------------------------|---------|-------------------------------|-----------------|---------|------------|---------|-------------|---------|
| | Quasi- Peak | Average | (dB) | Quasi-Peak | Average | Quasi-Peak | Average | Quasi-Peak | Average |
| Line 1 | | | | | | | | | |
| 0.150126 | 34.461 | 20.545 | 10.01 | 44.47 | 30.56 | 65.99 | 55.99 | 21.5 | 25.4 |
| 0.186788 | 26.248 | 15.999 | 10.01 | 36.26 | 26.01 | 64.18 | 54.18 | 27.9 | 28.2 |
| 0.252612 | 18.301 | 10.908 | 10.01 | 28.31 | 20.92 | 61.67 | 51.67 | 33.4 | 30.8 |
| 0.266012 | 17.773 | 11.058 | 10.01 | 27.78 | 21.07 | 61.24 | 51.24 | 33.5 | 30.2 |
| 0.314524 | 17.107 | 11.468 | 10.03 | 27.14 | 21.50 | 59.85 | 49.85 | 32.7 | 28.4 |
| 0.41765 | 20.208 | 13.611 | 10.04 | 30.25 | 23.65 | 57.49 | 47.49 | 27.2 | 23.8 |
| 0.48615 | 13.232 | 8.966 | 10.04 | 23.28 | 19.01 | 56.23 | 46.23 | 33.0 | 27.2 |
| 2.46036 | 11.462 | 6.863 | 10.20 | 21.66 | 17.06 | 56.00 | 46.00 | 34.3 | 28.9 |
| 4.98765 | 10.06 | 5.626 | 10.41 | 20.47 | 16.03 | 56.00 | 46.00 | 35.5 | 30.0 |
| 5.00025 | 10.104 | 5.737 | 10.49 | 20.59 | 16.22 | 60.00 | 50.00 | 39.4 | 33.8 |
| Line 2 | | | | | | | | | |
| 0.150617 | 32.527 | 18.078 | 10.06 | 42.59 | 28.14 | 65.97 | 55.97 | 23.4 | 27.8 |
| 0.219613 | 19.998 | 11.44 | 10.06 | 30.06 | 21.50 | 62.83 | 52.83 | 32.8 | 31.3 |
| 0.268599 | 15.491 | 9.699 | 10.06 | 25.55 | 19.76 | 61.16 | 51.16 | 35.6 | 31.4 |
| 0.4303 | 18.848 | 11.848 | 10.08 | 28.93 | 21.93 | 57.25 | 47.25 | 28.3 | 25.3 |
| 0.5026 | 12.985 | 8.362 | 10.08 | 23.07 | 18.44 | 56.00 | 46.00 | 32.9 | 27.6 |
| 5.00085 | 10.715 | 6.041 | 10.50 | 21.21 | 16.54 | 60.00 | 50.00 | 38.8 | 33.5 |
| 5.00135 | 10.643 | 6.129 | 10.50 | 21.14 | 16.63 | 60.00 | 50.00 | 38.9 | 33.4 |
| 9.23707 | 13.026 | 6.501 | 10.83 | 23.85 | 17.33 | 60.00 | 50.00 | 36.1 | 32.7 |
| 9.44141 | 12.207 | 6.053 | 10.84 | 23.05 | 16.89 | 60.00 | 50.00 | 37.0 | 33.1 |
| 28.8415 | 7.133 | 2.783 | 11.94 | 19.07 | 14.72 | 60.00 | 50.00 | 40.9 | 35.3 |

8 MEASUREMENT UNCERTAINTIES

The expanded laboratory measurement uncertainty figures (U_{Lab}) provided below correspond to an expansion factor (coverage factor) k = 1.96 which provide confidence levels of 95%.

| Parameter | U _{lab} | | | | | |
|-----------------------------------|---------------------------|--|--|--|--|--|
| Occupied Channel Bandwidth | ± 0.009 % | | | | | |
| RF Conducted Output Power | ± 1.15 dB | | | | | |
| Power Spectral Density | ± 1.15 dB | | | | | |
| Antenna Port Conducted Emissions | ± 1.15 dB | | | | | |
| Radiated Emissions ≤ 1GHz | ± 5.86 dB | | | | | |
| Radiated Emissions > 1GHz | ± 4.65 dB | | | | | |
| Temperature | ± 0.860 °C | | | | | |
| Radio Frequency | ±2.832 x 10 ⁻⁸ | | | | | |
| AC Power Line Conducted Emissions | ±3.72 dB | | | | | |

Table 8-1: Measurement Uncertainties

9 CONCLUSION

In the opinion of TÜV SÜD America, Inc. the model JETIDS24US, manufactured by Esprit Model, Inc., meets the requirements of FCC Part 15.247 and Industry Canada's Radio Standards Specification RSS-247 for the tests documented herein.

END REPORT