

# TEST REPORT FROM RFI GLOBAL SERVICES LTD

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module

To: FCC Part 15.247: 2005 (Subpart C)

**Test Report Serial No:**  
RFI/RPGE1/RP48718JD01A

This Test Report Is Issued Under The Authority  
Of Andrew Brown, Operations Manager:



Tested By: Steven Wong



Checked By: Nigel Davison



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Test Dates: 17 August 2006 to 18 October 2006

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**Wireless Intelligent Serial Module**  
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## **1. Client Information**

<b>Company Name:</b>	Ezurio Ltd
<b>Address:</b>	Saturn House Mercury Park Wooburn Green Bucks HP10 0HH
<b>Contact Name:</b>	Mr S Yitayew

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## **2. Equipment Under Test (EUT)**

The following information (with the exception of the Date of Receipt) has been supplied by the client:

### **2.1. Identification of Equipment Under Test (EUT)**

<b>Brand Name:</b>	Ezurio
<b>Model Name or Number:</b>	PWISM-001A1-03
<b>Serial Number:</b>	09
<b>FCC ID Number:</b>	PI405W
<b>Country of Manufacture:</b>	Thailand
<b>Date of Receipt:</b>	17 August 2006

### **2.2. Description of EUT**

The equipment under test is a Wireless intelligent serial Module (WISM). The WISM has a high speed UART input, interfacing to an embedded TCP/IP stack and wireless drivers. With its integrated antenna it provides a complete 802.11b/g solution. That requires minimal host processing overhead.

### **2.3. Modifications Incorporated in EUT**

During the course of testing the EUT was not modified.

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#### **2.4. Additional Information Related to Testing**

<b>Power Supply Requirement:</b>	DC Supply of 3.6V		
<b>Intended Operating Environment:</b>	Residential Commercial Light Industry		
<b>Equipment Category:</b>	Wireless LAN		
<b>Type of Unit:</b>	Portable (Standalone battery powered device) Transceiver		
<b>Transmit Frequency Range:</b>	2412 MHz to 2462 MHz		
<b>Transmit Channels Tested:</b>	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	1	2412
	Middle	6	2432
	Top	11	2462
<b>Receive Frequency Range:</b>	2412 MHz to 2462 MHz		
<b>Receive Channels Tested:</b>	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	1	2412
	Middle	6	2432
	Top	11	2462
<b>Maximum Peak Power Output (EIRP)</b>	17dBm		

#### **2.5. Port Identification**

Port	Description	Type/Length	Applicable
1	The module uses serial port to communicate to the host.	Board to board connector 0.5mil max.	

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## **2.6. Support Equipment**

The following support equipment was used to exercise the EUT during testing:

<b>Description:</b>	Interface test board
<b>Brand Name:</b>	Ezurio
<b>Model Name or Number:</b>	B47DR05
<b>Serial Number:</b>	REV 02
<b>Cable Length and Type:</b>	Multicore, 20cm
<b>Connected to Port:</b>	Interface port, 20cm

<b>Description:</b>	Serial Cable
<b>Brand Name:</b>	None Stated
<b>Model Name or Number:</b>	None Stated
<b>Serial Number:</b>	None Stated
<b>Cable Length and Type:</b>	Multicore, 2m
<b>Connected to Port:</b>	Serial port

<b>Description:</b>	RS232, to USB cable
<b>Brand Name:</b>	None Stated
<b>Model Name or Number:</b>	None Stated
<b>Serial Number:</b>	None Stated
<b>Cable Length and Type:</b>	Multicore, 2m
<b>Connected to Port:</b>	USB Port

<b>Description:</b>	Laptop PC
<b>Brand Name:</b>	IBM
<b>Model Name or Number:</b>	R50E
<b>Serial Number:</b>	L3-PVGms 05/05
<b>Cable Length and Type:</b>	Not Applicable
<b>Connected to Port:</b>	USB Port

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### **3. Test Results**

<b>Reference:</b>	FCC Part 15.247: 2006 Subpart C
<b>Title:</b>	Code of Federal Regulations, Part 15.247 (47CFR22) (Intentional Radiators operating within the bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz)

#### **3.1. Methods and Procedures**

The methods and procedures used were as detailed in:

ANSI/TIA-603-B-2003

Land Mobile Communications Equipment, Measurements and performance Standards

ANSI C63.2 (1987)

Title: American National Standard for Instrumentation - Electromagnetic noise and field strength.

ANSI C63.4 (2003)

Title: American National Standard Methods of Measurement of Electromagnetic Emissions from Low Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.

ANSI C63.5 (1988)

Title: American National Standard for the Calibration of antennas used for Radiated Emission measurements in Electromagnetic Interference (EMI) control.

ANSI C63.7 (1988)

Title: American National Standard Guide for Construction of Open Area Test Sites for performing Radiated Emission Measurements.

CISPR 16-1: (1999)

Title: Specification For Radio Disturbance and Immunity Measuring Apparatus and Methods. Part 1: Radio Disturbance and Immunity Measuring Apparatus.

#### **3.2. Definition of Measurement Equipment**

The measurement equipment used complied with the requirements of the standards referenced in the methods & procedures section above. Appendix 1 contains a list of the test equipment used.

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#### **4. Deviations from the Test Specification**

There were no deviations from the test specification.

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## **5. Operation of the EUT during Testing**

### **5.1. Operating Modes**

The EUT was tested in the following operating modes, unless otherwise stated.

For all transmit mode measurements the EUT was set to transmit on top, middle and bottom channels as necessary with the highest output power.

For all transmit (except for spurious emissions) tests, the EUT was set with OFDM (BPSK, QPSK, 16 QAM, 64 QAM) and DSSS (BPSK, QPSK, and CCK) modulation.

For the conducted and radiated spurious emissions tests, the EUT was set with OFDM (BPSK) and DSSS (CCK) modulation only, as these were identified to be worst case mode.

Idle mode measurements were performed with the EUT set to receive mode only.

### **5.2. Configuration and Peripherals**

The EUT was tested in the following configuration:

The EUT was configured with the interface board connected and to a laptop PC via the serial port. The EUT was power by an external 3.6 V DC supply.

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## **6. Summary of Test Results**

Range of Measurements	Specification Reference	Port Type	Compliance Status
Idle Mode AC Conducted Emissions (150 kHz to 30 MHz)	C.F.R. 47 FCC Part 15: 2005 Section 15.107	AC Mains	Complied
Idle Mode Radiated Spurious Emissions	C.F.R. 47 FCC Part 15: 2005 Section 15.109	Antenna	Complied
Transmitter AC Conducted Emissions (150 kHz to 30 MHz)	C.F.R. 47 FCC Part 15: 2005 Section 15.207	AC Mains	Complied
Transmitter Minimum 6 dB Bandwidth	C.F.R. 47 FCC Part 15: 2005 Section 15.247(a)(2)	Antenna Terminals	Complied
Transmitter 20 dB Bandwidth	C.F.R. 47 FCC Part 15: 2005 Section 2.1049	Antenna Terminals	Complied
Transmitter Peak Power Spectral Density	C.F.R. 47 FCC Part 15: 2005 Section 15.247(e)	Antenna Terminals	Complied
Transmitter Maximum Peak Output Power	C.F.R. 47 FCC Part 15: 2005 Section 15.247(b)(3)	Antenna Terminals	Complied
Transmitter Conducted Emissions	C.F.R. 47 FCC Part 15: 2005 Section 15.247 (d)	Antenna Terminals	Complied
Transmitter Radiated Emissions	C.F.R. 47 FCC Part 15: 2005 Sections 15.247(d) & 15.209(a)	Antenna	Complied
Transmitter Band Edge Conducted Emissions	C.F.R. 47 FCC Part 15: 2005 Section 15.247(d)	Antenna Terminals	Complied
Transmitter Band Edge Radiated Emissions 3dB, Antenna Gain	C.F.R. 47 FCC Part 15: 2005 Sections 15.247(d) & 15.209(a)	Antenna	Complied

### **6.1. Location of Tests**

All the measurements described in this report were performed at the premises of RFI Global Services Ltd, Ewhurst Park, Ramsdell, Basingstoke, Hampshire, RG26 5RQ

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## **7. Measurements, Examinations and Derived Results**

### **7.1. General Comments**

This section contains test results only.

Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties, which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%. Please refer to section 8 for details of measurement uncertainties.

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## **7.2. Test Results**

### **7.2.1. Receiver AC Conducted Spurious Emissions: Section 15.107**

The EUT was configured as for ac conducted emission measurements as described in section 9 of this report.

Tests were performed to identify the maximum emission levels present on the ac mains line of the EUT.

#### **Results:**

##### **Quasi-Peak Detector Measurements on Live and Neutral Lines**

Frequency (MHz)	Line	Level (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	Result
0.151486	Neutral	50.3	65.9	15.6	Complied
0.162491	Neutral	49.9	65.3	15.4	Complied
0.169902	Neutral	49.5	65.0	15.5	Complied
0.179727	Neutral	48.7	64.5	15.8	Complied
0.223226	Neutral	44.2	62.7	18.5	Complied
0.241623	Neutral	39.5	62.0	22.5	Complied
0.243067	Neutral	39.2	62.0	22.8	Complied
0.295371	Neutral	33.5	60.4	26.9	Complied
0.315752	Neutral	32.6	59.8	27.2	Complied
0.528758	Live	25.4	56.0	30.6	Complied
0.530020	Live	25.2	56.0	30.8	Complied
0.548236	Live	25.9	56.0	30.1	Complied
0.584308	Live	24.7	56.0	31.3	Complied
0.661864	Live	22.1	56.0	33.9	Complied
0.814449	Live	19.2	56.0	36.8	Complied
0.990206	Live	18.0	56.0	38.0	Complied
1.001902	Neutral	17.5	56.0	38.5	Complied
9.367556	Neutral	26.7	60.0	33.3	Complied
9.895211	Live	31.1	60.0	28.9	Complied
27.968397	Live	30.3	60.0	29.7	Complied

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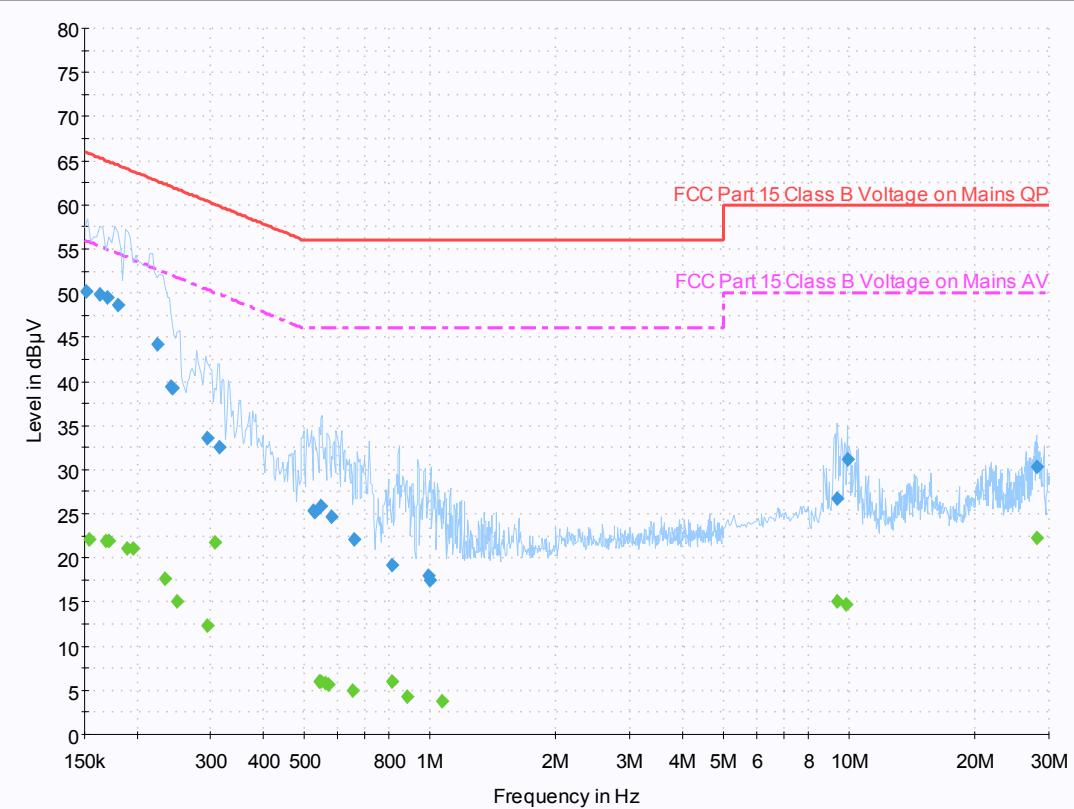
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**Average Detector Measurements on Live and Neutral Lines (Continued)**

Frequency (MHz)	Line	Level (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	Result
0.153475	Neutral	22.2	55.8	33.6	Complied
0.168207	Neutral	21.9	55.0	33.1	Complied
0.170757	Neutral	21.8	54.9	33.1	Complied
0.190040	Neutral	21.0	54.0	33.0	Complied
0.196250	Neutral	21.0	53.8	32.8	Complied
0.232605	Neutral	17.6	52.4	34.8	Complied
0.248477	Neutral	15.0	51.8	36.8	Complied
0.293748	Neutral	12.3	50.4	38.1	Complied
0.306914	Neutral	21.8	50.1	28.3	Complied
0.543186	Live	6.0	46.0	40.0	Complied
0.548236	Live	5.9	46.0	40.1	Complied
0.562665	Live	5.9	46.0	40.1	Complied
0.573668	Live	5.7	46.0	40.3	Complied
0.655371	Live	5.0	46.0	41.0	Complied
0.808678	Live	6.0	46.0	40.0	Complied
0.884921	Live	4.3	46.0	41.7	Complied
1.071706	Neutral	3.8	46.0	42.2	Complied
9.332566	Live	15.1	50.0	34.9	Complied
9.825952	Neutral	14.7	50.0	35.3	Complied
27.972004	Live	22.2	50.0	27.8	Complied

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**Receiver AC Conducted Spurious Emissions: Section 15.107 (Continued)**



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

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### **7.2.2. Receiver Radiated Spurious Emissions: Section 15.109**

The EUT was configured as for radiated emission testing as described in section 9 of this report.

Tests were performed to identify the maximum receiver or standby radiated emission levels.

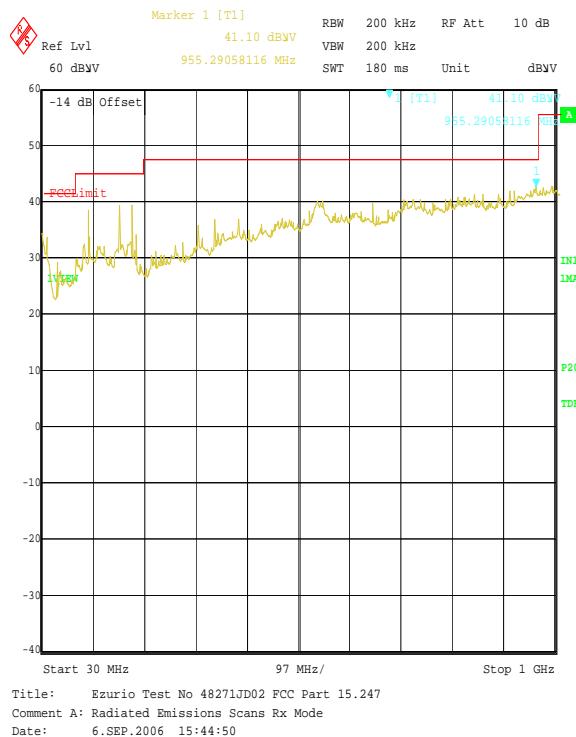
#### **Results:**

#### **Electric Field Strength Measurements (Frequency Range: 30 to 1000 MHz)**

Frequency (MHz)	Antenna Polarity	Q-P Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
117.961	Vertical	26.1	43.5	17.4	Complied
176.936	Vertical	28.7	43.5	14.8	Complied
200.001	Vertical	24.5	43.5	19.0	Complied
353.883	Vertical	28.0	46.0	18.0	Complied
545.205	Vertical	22.9	46.0	23.1	Complied
953.532	Vertical	23.2	46.0	22.8	Complied

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**Idle Mode Radiated Spurious Emissions: Section 15.109 (Continued)**



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

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**7.2.3. Idle Mode Radiated Spurious Emissions: Section 15.109**

**Results:**

**Electric Field Strength Measurements (Frequency Range: 1 to 12.5 GHz)**

**Highest Peak Level:**

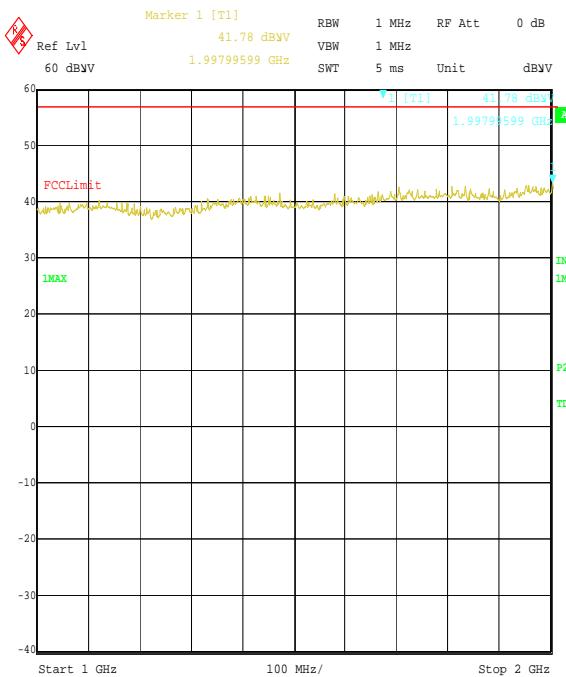
Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
3.967936	Vertical	53.8	-9.5	44.3	54.0	9.7	Complied

**Note(s):**

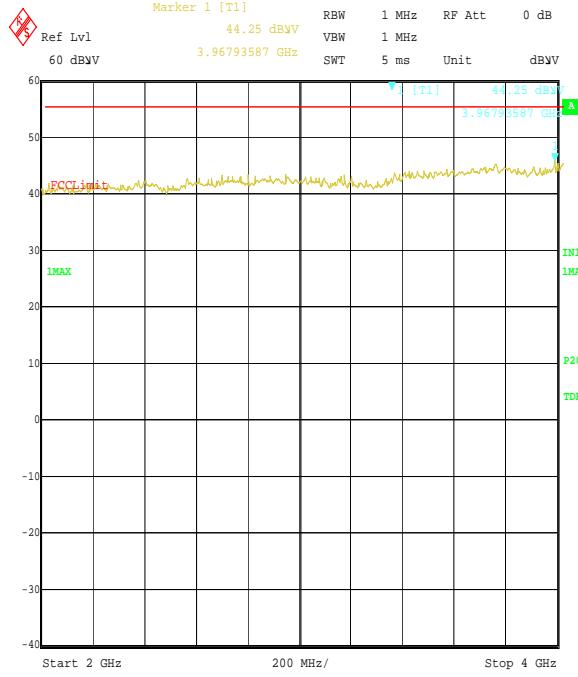
1. *No spurious emissions were detected above the noise floor of the measuring receiver, therefore, the highest peak noise floor reading of the measuring receiver was recorded as shown in the table above. The peak level was compared to the average limit as opposed to being compared to the peak limit because this is the more onerous limit.*

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### Receiver Radiated Spurious Emissions: Section 15.109 (Continued)



Title: Ezurio Test No 48271JD02 FCC Part 15.247  
 Comment A: Radiated Emissions Scans Rx Mode  
 Date: 6.SEP.2006 16:15:16

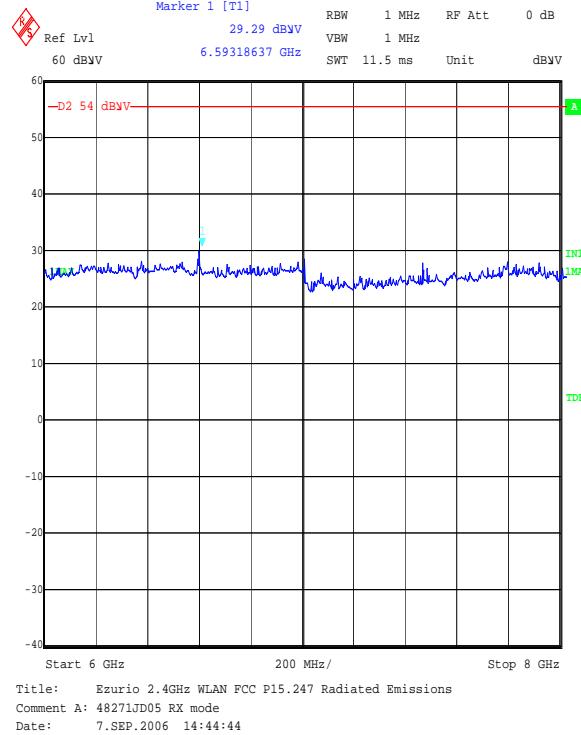
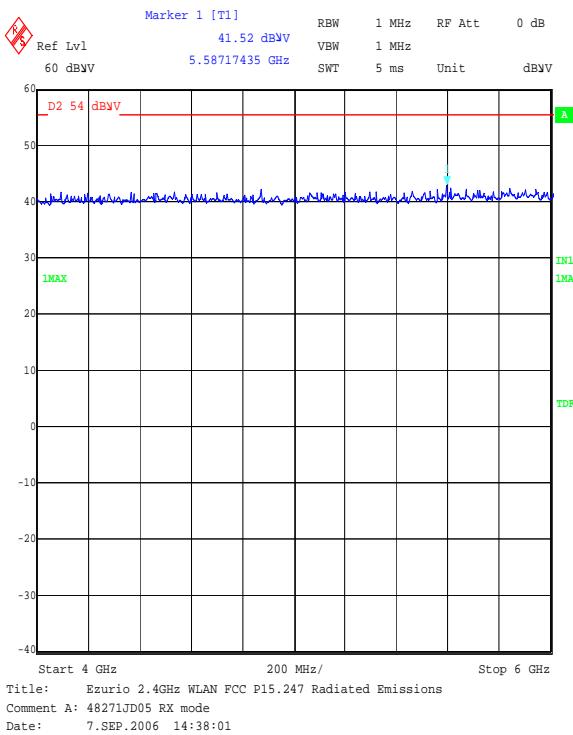


Title: Ezurio Test No 48271JD02 FCC Part 15.247  
 Comment A: Radiated Emissions Scans Rx Mode  
 Date: 6.SEP.2006 16:09:22

*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

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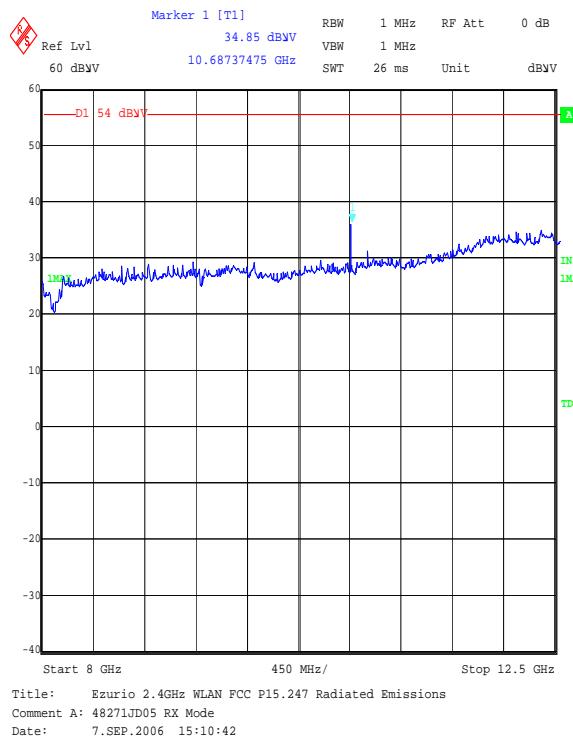
### Receiver Radiated Spurious Emissions: Section 15.109 (Continued)



*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

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### **Receiver Radiated Spurious Emissions: Section 15.109 (Continued)**



*Note: This plot is a pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

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#### **7.2.4. Transmitter AC Conducted Spurious Emissions: Section 15.207**

The EUT was configured for ac conducted emission measurements as described in section 9 of this report.

Tests were performed to identify the maximum emission levels present on the ac mains line of the EUT.

#### **Results:**

##### **Quasi-Peak Detector Measurements on Live and Neutral Lines**

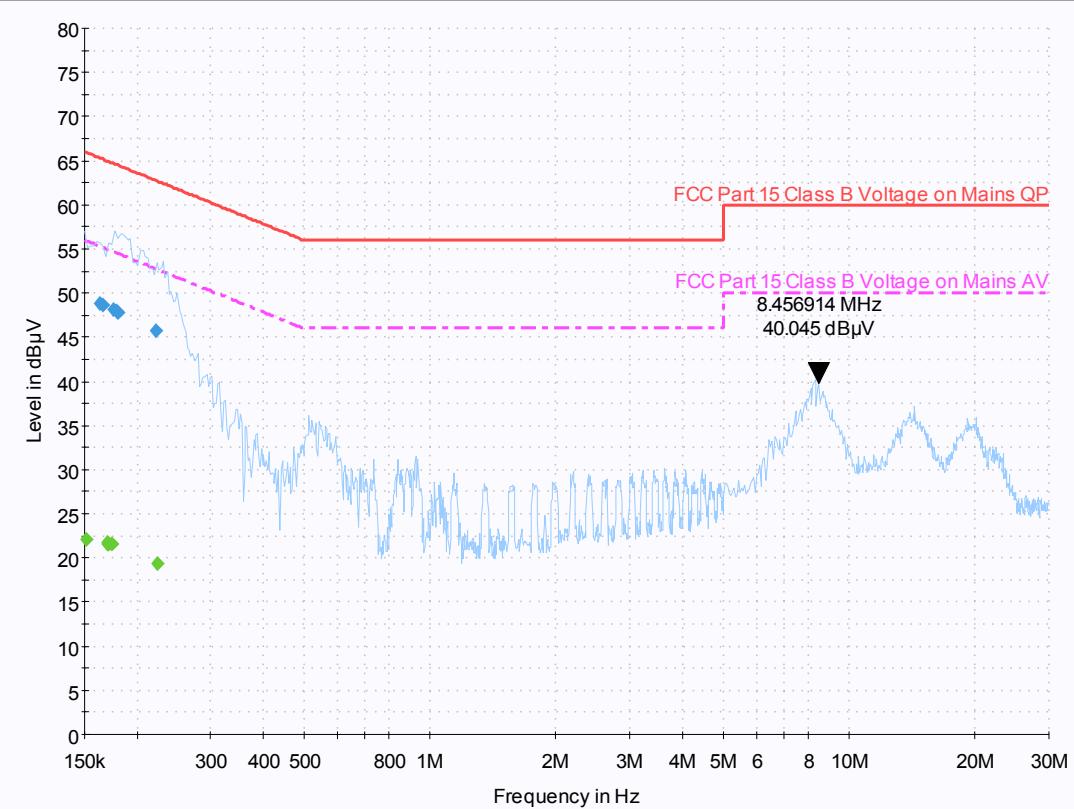
Frequency (MHz)	Line	Level (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	Result
0.162357	Neutral	48.8	65.3	16.5	Complied
0.165552	Neutral	48.7	65.2	16.6	Complied
0.176333	Neutral	48.2	64.7	16.5	Complied
0.179038	Neutral	47.9	64.5	16.6	Complied
0.180528	Neutral	47.9	64.5	16.6	Complied
0.220882	Neutral	45.7	62.8	17.1	Complied

##### **Average Detector Measurements on Live and Neutral Lines**

Frequency (MHz)	Line	Level (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	Result
0.150753	Neutral	22.2	56.0	33.8	Complied
0.170020	Neutral	21.7	55.0	33.3	Complied
0.170595	Neutral	21.7	54.9	33.2	Complied
0.171267	Neutral	21.7	54.9	33.2	Complied
0.174529	Neutral	21.6	54.7	33.1	Complied
0.223768	Neutral	19.4	52.7	33.3	Complied

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**Transmitter AC Conducted Spurious Emissions: Section 15.207 (Continued)**



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

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**7.2.5. Transmitter Minimum 6 dB Bandwidth: Section 15.247(a)(2)**

The EUT was configured for 6 dB bandwidth measurements as described in section 9 of this report.

Tests were performed to identify the 6 dB bandwidth.

**Results: DSSS, BPSK**

Channel	Transmitter 6 dB Bandwidth (MHz)	Limit (MHz)	Margin (MHz)	Result
Bottom	10.100	≥0.5	9.600	Complied
Middle	10.100	≥0.5	9.600	Complied
Top	10.160	≥0.5	9.660	Complied

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**Transmitter Minimum 6 dB Bandwidth: Section 15.247(a)(2) (Continued)**



Title: Ezurio 2.4 GHz WLAN module. FCC P15.247 6 dB Bandwidth  
 Comment A: 48271JD05 Bottom Channel, BPSK DSSS.  
 Date: 5.SEP.2006 16:40:59

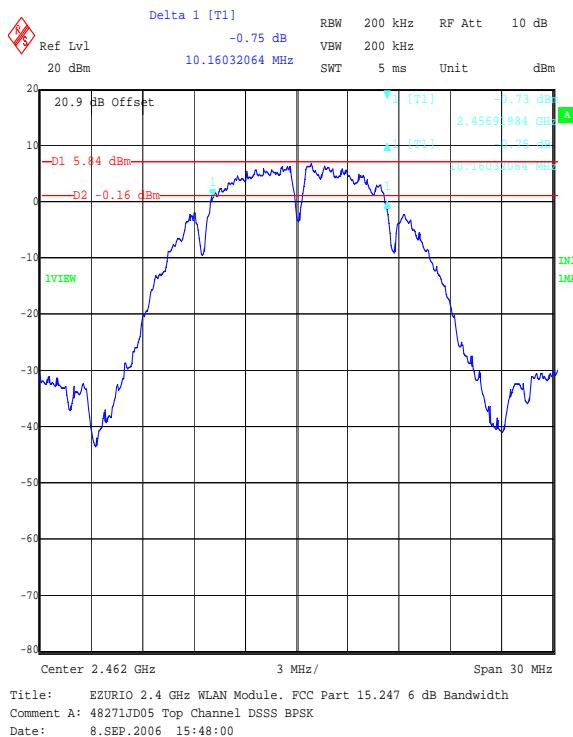


Title: Ezurio 2.4 GHz WLAN module. FCC P15.247 6 dB Bandwidth  
 Comment A: 48271JD05 Middle Channel, BPSK DSSS.  
 Date: 5.SEP.2006 16:20:11

*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

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**Transmitter Minimum 6 dB Bandwidth: Section 15.247(a)(2) (Continued)**



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**7.2.6. Transmitter Minimum 6 dB Bandwidth: Section 15.247(a)(2) (Continued)**

The EUT was configured for 6 dB bandwidth measurements as described in section 9 of this report.

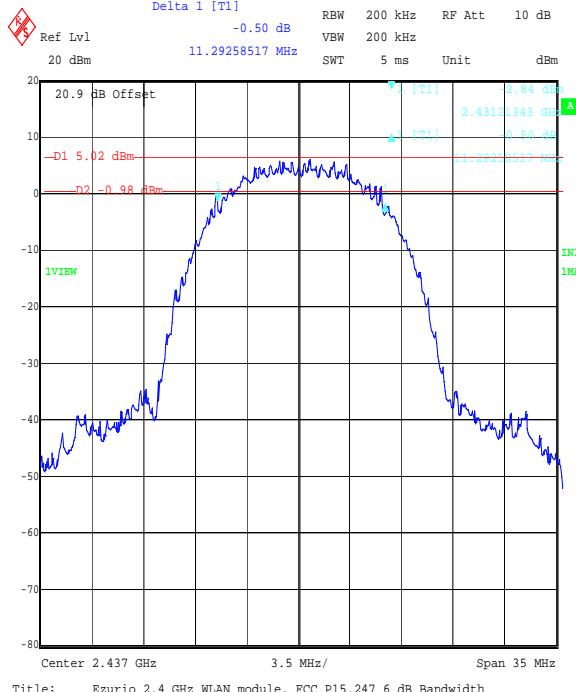
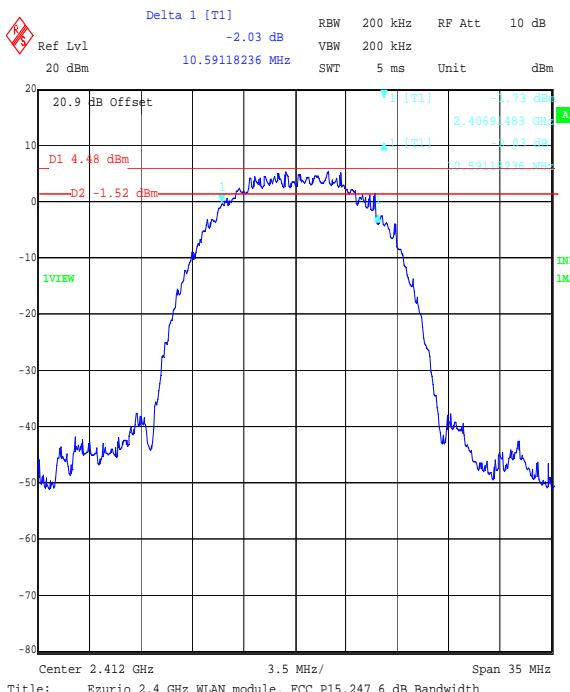
Tests were performed to identify the 6 dB bandwidth.

**Results: DSSS, QPSK**

Channel	Transmitter 6 dB Bandwidth (MHz)	Limit (MHz)	Margin (MHz)	Result
Bottom	10.591	≥0.5	10.091	Complied
Middle	11.293	≥0.5	10.793	Complied
Top	10.701	≥0.5	10.201	Complied

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**Transmitter Minimum 6 dB Bandwidth: Section 15.247(a)(2) (Continued)**

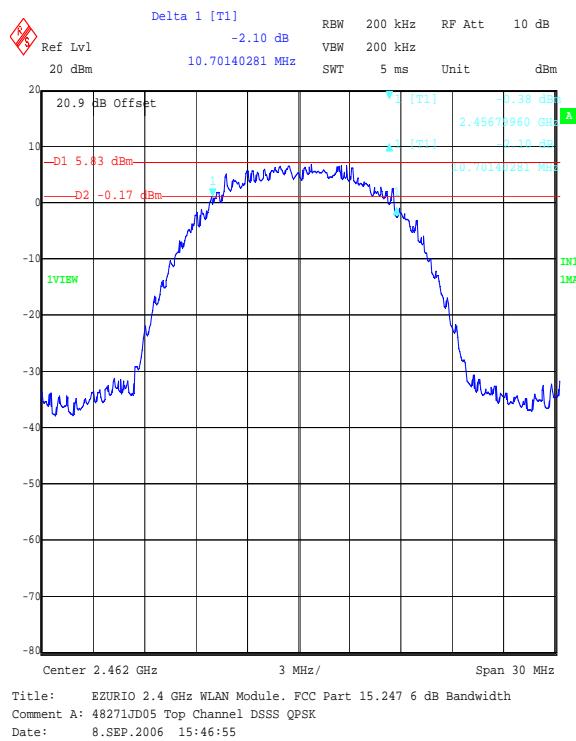


*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

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**Transmitter Minimum 6 dB Bandwidth: Section 15.247(a)(2) (Continued)**



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

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**7.2.7. Transmitter Minimum 6 dB Bandwidth: Section 15.247(a)(2) (Continued)**

The EUT was configured for 6 dB bandwidth measurements as described in section 9 of this report.

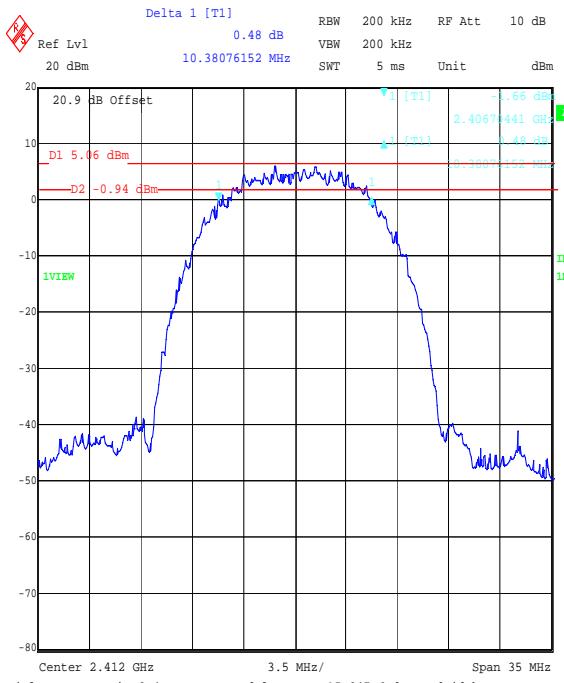
Tests were performed to identify the 6 dB bandwidth.

**Results: DSSS, CCK**

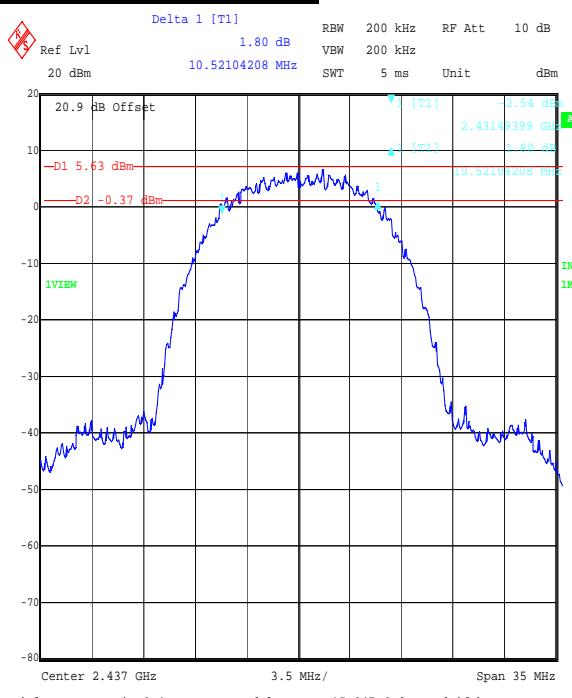
Channel	Transmitter 6 dB Bandwidth (MHz)	Limit (MHz)	Margin (MHz)	Result
Bottom	10.381	≥0.5	9.881	Complied
Middle	10.521	≥0.5	10.021	Complied
Top	10.461	≥0.5	9.961	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Minimum 6 dB Bandwidth: Section 15.247(a)(2) (Continued)**



Title: Ezurio 2.4 GHz WLAN module. FCC P15.247 6 dB Bandwidth  
 Comment A: 48271JD05 Bottom Channel, CCK DSSS.  
 Date: 5.SEP.2006 16:39:00



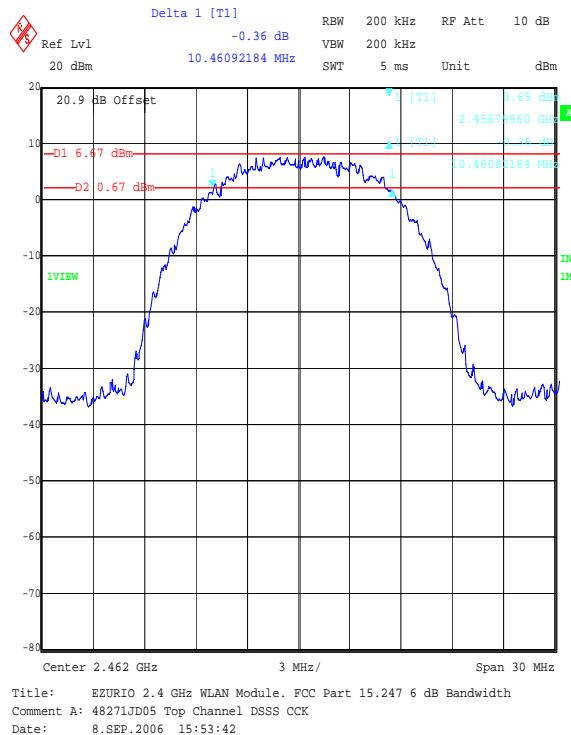
Title: Ezurio 2.4 GHz WLAN module. FCC P15.247 6 dB Bandwidth  
 Comment A: 48271JD05 Middle Channel, CCK DSSS.  
 Date: 5.SEP.2006 16:15:30

*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**Transmitter Minimum 6 dB Bandwidth: Section 15.247(a)(2) (Continued)**



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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**7.2.8. Transmitter Minimum 6 dB Bandwidth: Section 15.247(a)(2) (Continued)**

The EUT was configured for 6 dB bandwidth measurements as described in section 9 of this report.

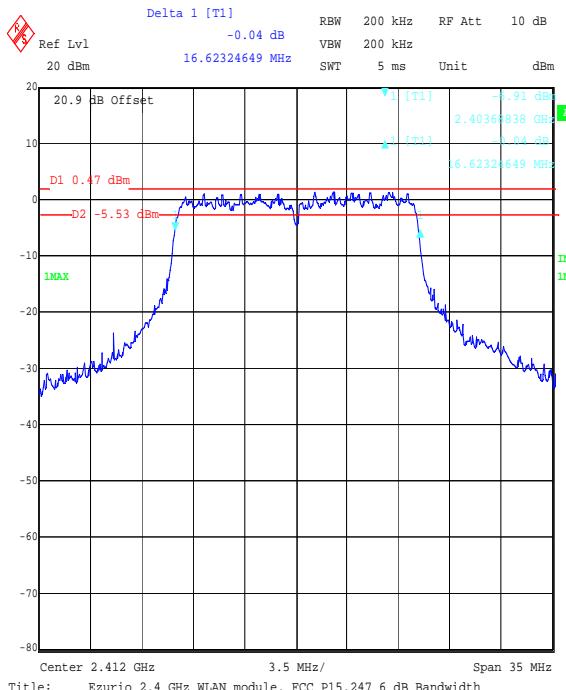
Tests were performed to identify the 6 dB bandwidth.

**Results: OFDM, BPSK**

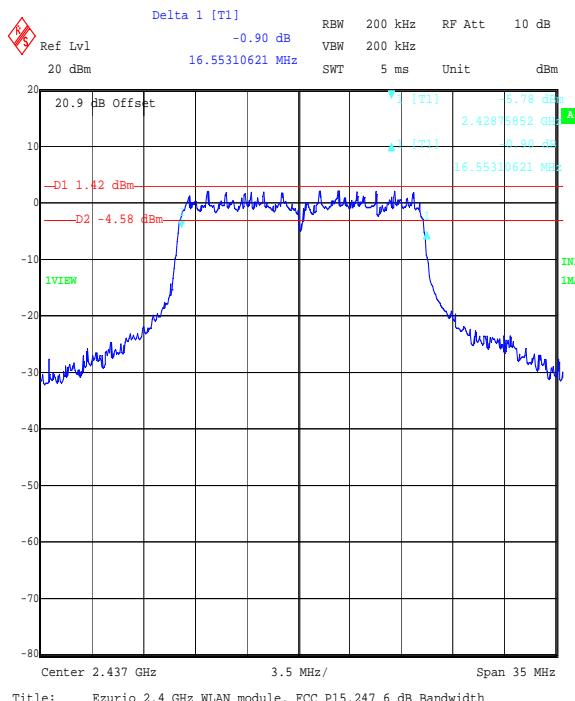
Channel	Transmitter 6 dB Bandwidth (MHz)	Limit (MHz)	Margin (MHz)	Result
Bottom	16.623	≥0.5	16.123	Complied
Middle	16.553	≥0.5	16.053	Complied
Top	16.593	≥0.5	16.093	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Minimum 6 dB Bandwidth: Section 15.247(a)(2) (Continued)**



Title: Ezurio 2.4 GHz WLAN module. FCC P15.247 6 dB Bandwidth  
Comment A: 48271JD05 Bottom Channel, BPSK OFDM.  
Date: 5.SEP.2006 16:37:10



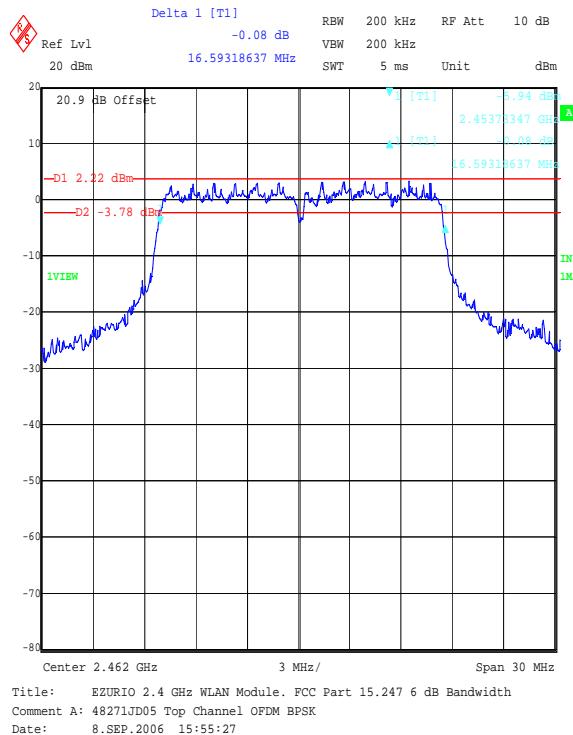
Title: Ezurio 2.4 GHz WLAN module. FCC P15.247 6 dB Bandwidth  
Comment A: 48271JD05 Middle Channel, BPSK OFDM.  
Date: 5.SEP.2006 16:23:31

*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**Transmitter Minimum 6 dB Bandwidth: Section 15.247(a)(2) (Continued)**



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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**7.2.9. Transmitter Minimum 6 dB Bandwidth: Section 15.247(a)(2) (Continued)**

The EUT was configured for 6 dB bandwidth measurements as described in section 9 of this report.

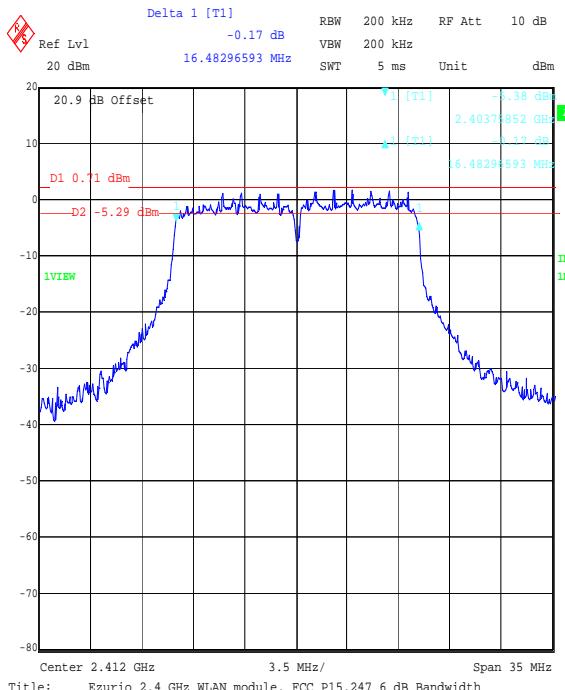
Tests were performed to identify the 6 dB bandwidth.

**Results: OFDM, QPSK**

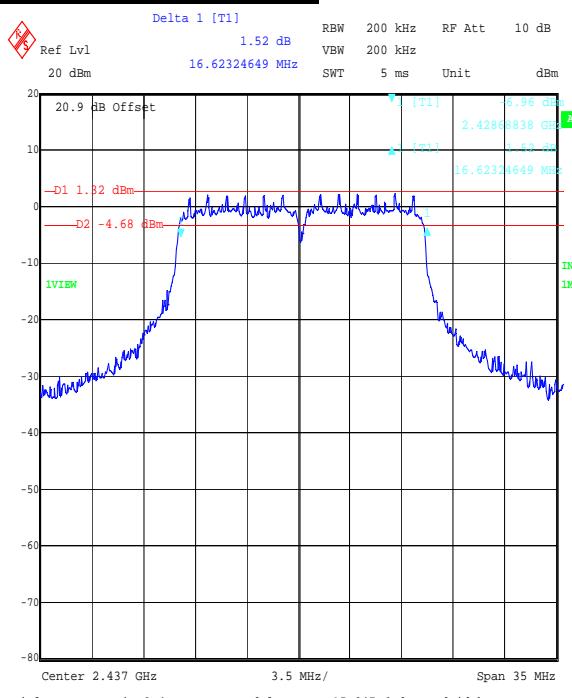
Channel	Transmitter 6 dB Bandwidth (MHz)	Limit (MHz)	Margin (MHz)	Result
Bottom	16.483	≥0.5	15.983	Complied
Middle	16.623	≥0.5	16.123	Complied
Top	16.533	≥0.5	16.033	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Minimum 6 dB Bandwidth: Section 15.247(a)(2) (Continued)**



Title: Ezurio 2.4 GHz WLAN module. FCC P15.247 6 dB Bandwidth  
 Comment A: 48271JD05 Bottom Channel, QPSK OFDM.  
 Date: 5.SEP.2006 16:33:51



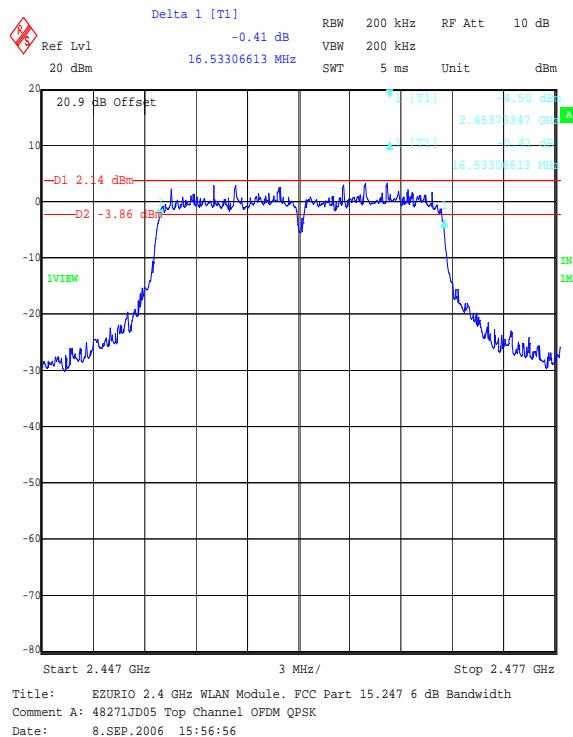
Title: Ezurio 2.4 GHz WLAN module. FCC P15.247 6 dB Bandwidth  
 Comment A: 48271JD05 Middle Channel, QPSK OFDM.  
 Date: 5.SEP.2006 16:24:59

*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**Transmitter Minimum 6 dB Bandwidth: Section 15.247(a)(2) (Continued)**



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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**7.2.10. Transmitter Minimum 6 dB Bandwidth: Section 15.247(a)(2) (Continued)**

The EUT was configured for 6 dB bandwidth measurements as described in section 9 of this report.

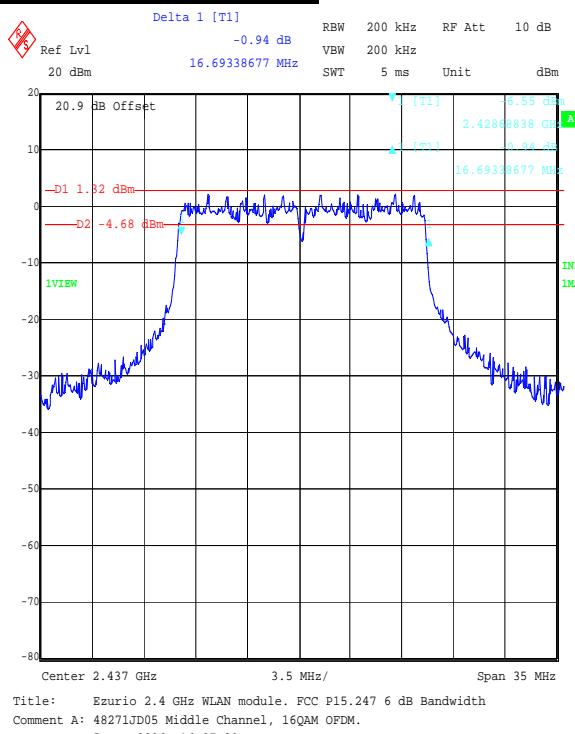
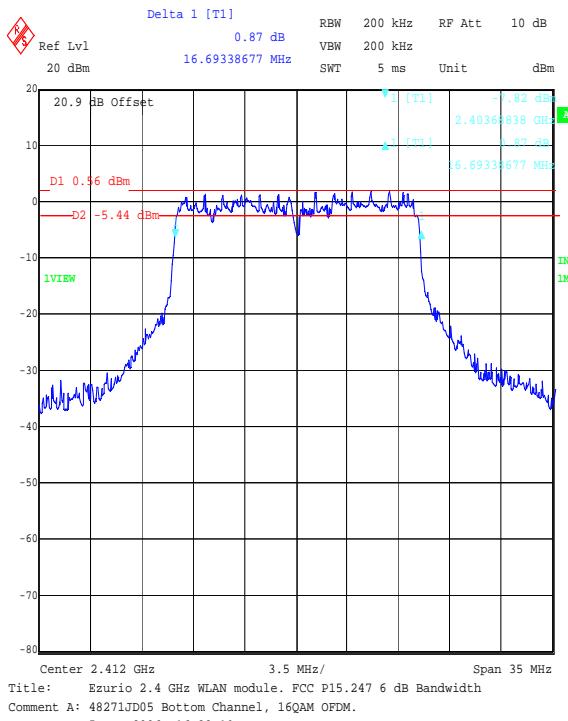
Tests were performed to identify the 6 dB bandwidth.

**Results: OFDM, 16 QAM**

Channel	Transmitter 6 dB Bandwidth (MHz)	Limit (MHz)	Margin (MHz)	Result
Bottom	16.693	≥0.5	16.193	Complied
Middle	16.693	≥0.5	16.193	Complied
Top	16.553	≥0.5	16.053	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Minimum 6 dB Bandwidth: Section 15.247(a)(2) (Continued)**

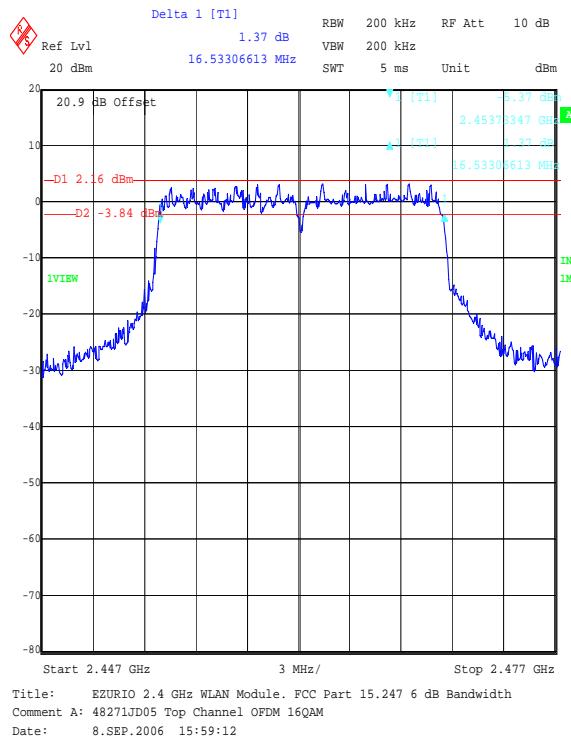


*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**Transmitter Minimum 6 dB Bandwidth: Section 15.247(a)(2) (Continued)**



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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**7.2.11. Transmitter Minimum 6 dB Bandwidth: Section 15.247(a)(2) (Continued)**

The EUT was configured for 6 dB bandwidth measurements as described in section 9 of this report.

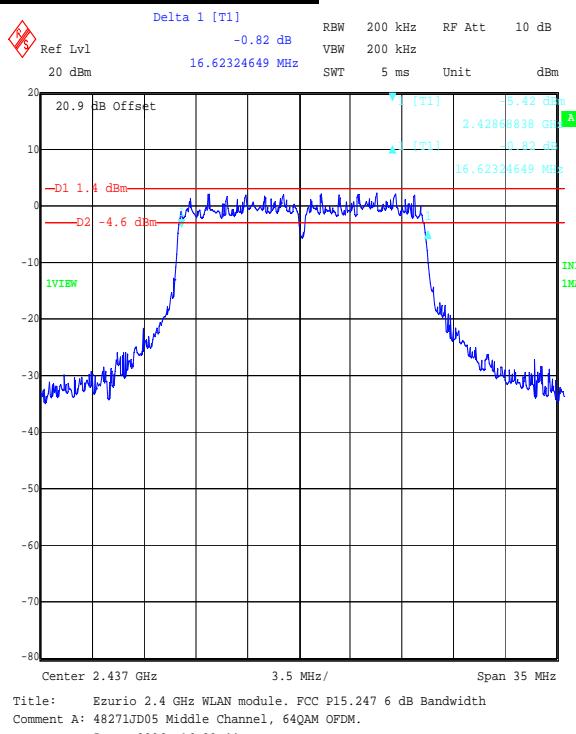
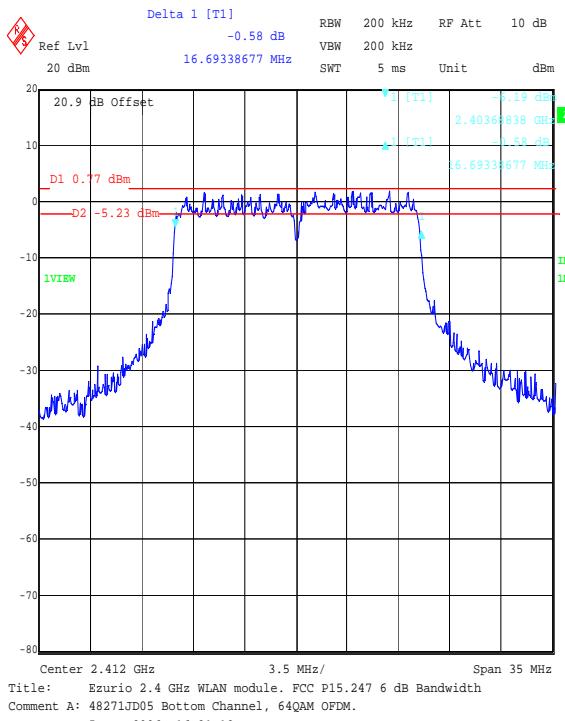
Tests were performed to identify the 6 dB bandwidth.

**Results: OFDM, 64 QAM**

Channel	Transmitter 6 dB Bandwidth (MHz)	Limit (MHz)	Margin (MHz)	Result
Bottom	16.693	≥0.5	16.193	Complied
Middle	16.623	≥0.5	16.123	Complied
Top	16.593	≥0.5	16.093	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Minimum 6 dB Bandwidth: Section 15.247(a)(2) (Continued)**

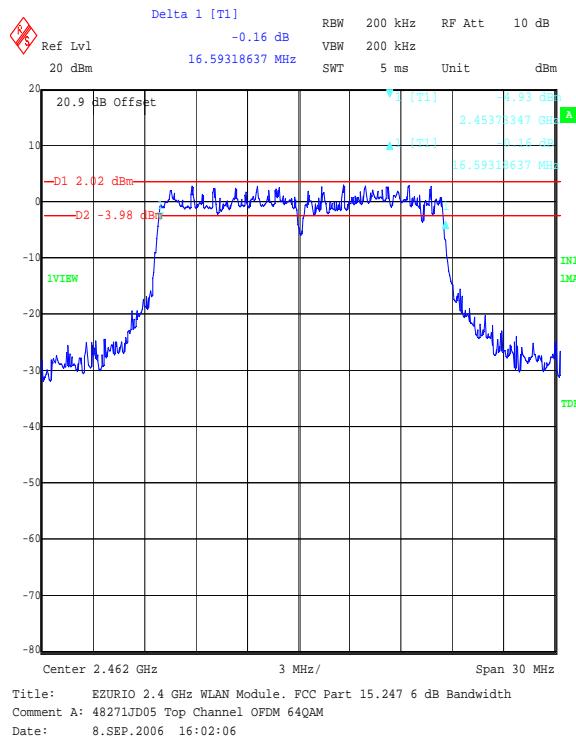


*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**Transmitter Minimum 6 dB Bandwidth: Section 15.247(a)(2) (Continued)**



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

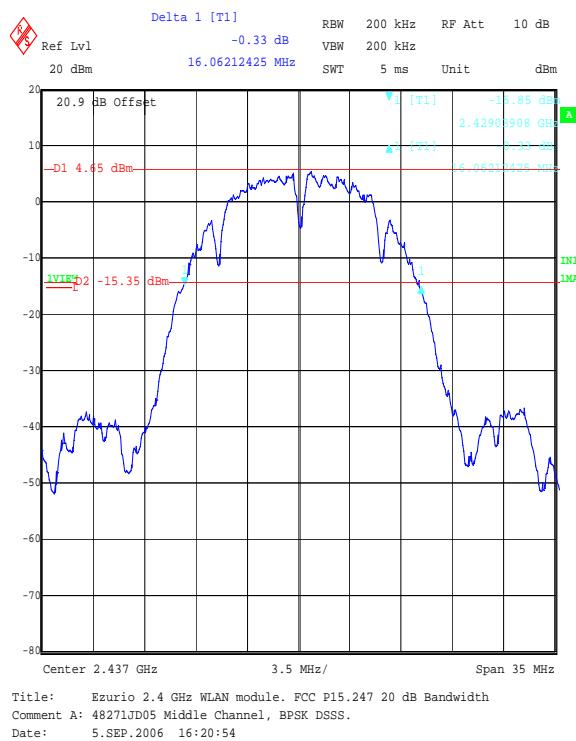
### **7.2.12. Transmitter 20 dB Bandwidth: Section 2.1049**

The EUT was configured for 20 dB bandwidth measurements as described in section 9 of this report.

Tests were performed to identify the 20 dB bandwidth.

#### **Results: DSSS, BPSK**

Transmitter 20 dB Bandwidth (kHz)	
16062.124	



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

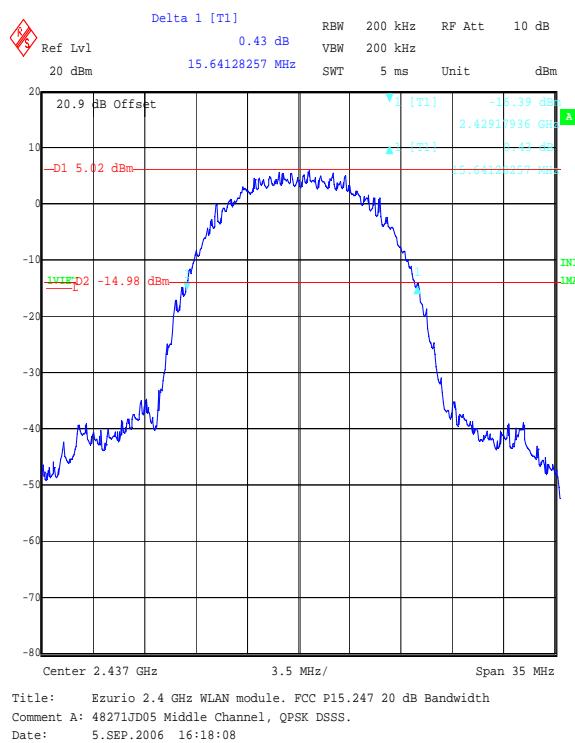
### **7.2.13. Transmitter 20 dB Bandwidth: Section 2.1049 (Continued)**

The EUT was configured for 20 dB bandwidth measurements as described in section 9 of this report.

Tests were performed to identify the 20 dB bandwidth.

#### **Results: DSSS, QPSK**

Transmitter 20 dB Bandwidth (kHz)	
15641.283	



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

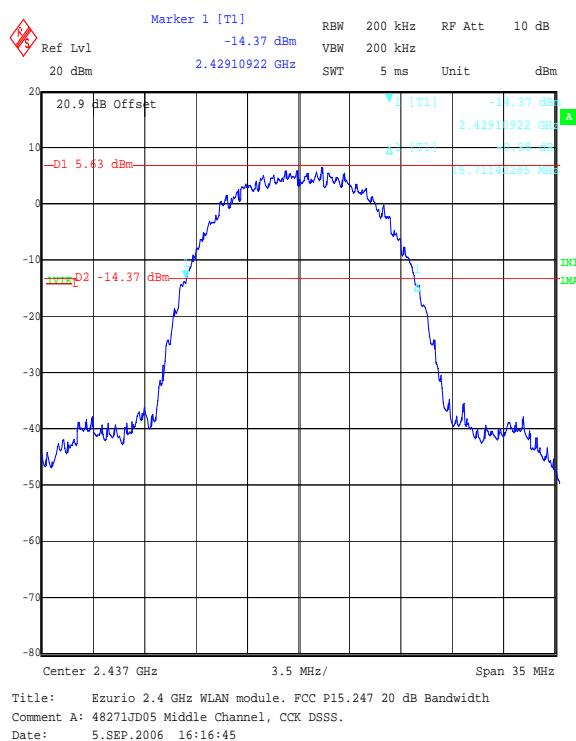
#### 7.2.14. Transmitter 20 dB Bandwidth: Section 2.1049 (Continued)

The EUT was configured for 20 dB bandwidth measurements as described in section 9 of this report.

Tests were performed to identify the 20 dB bandwidth.

## Results: DSSS, CCK

Transmitter 20 dB Bandwidth (kHz)
15711.423



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

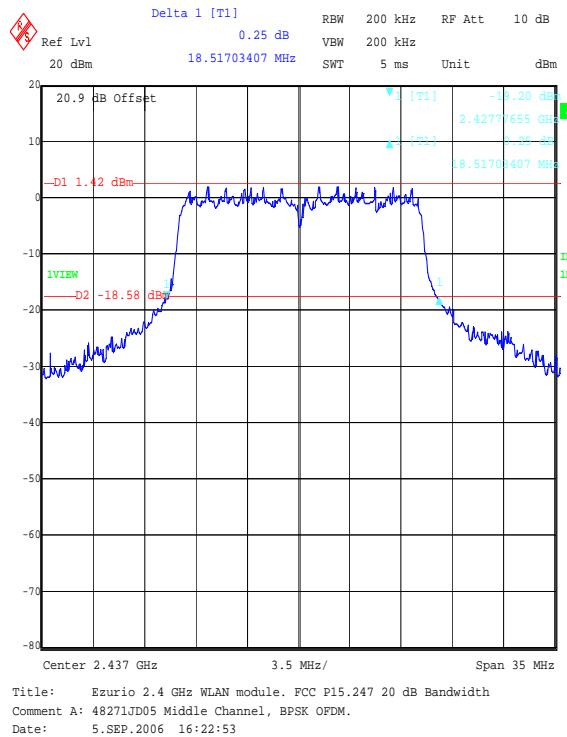
### **7.2.15. Transmitter 20 dB Bandwidth: Section 2.1049 (Continued)**

The EUT was configured for 20 dB bandwidth measurements as described in section 9 of this report.

Tests were performed to identify the 20 dB bandwidth.

#### **Results: BPSK, CCK**

Transmitter 20 dB Bandwidth (kHz)	
18517.034	



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

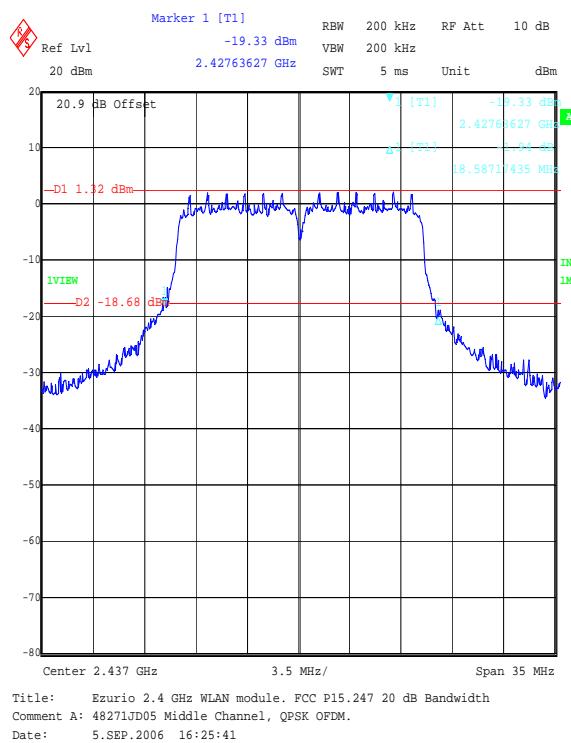
### **7.2.16. Transmitter 20 dB Bandwidth: Section 2.1049 (Continued)**

The EUT was configured for 20 dB bandwidth measurements as described in section 9 of this report.

Tests were performed to identify the 20 dB bandwidth.

#### **Results: OFDM, QPSK**

Transmitter 20 dB Bandwidth (kHz)	
18587.174	



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

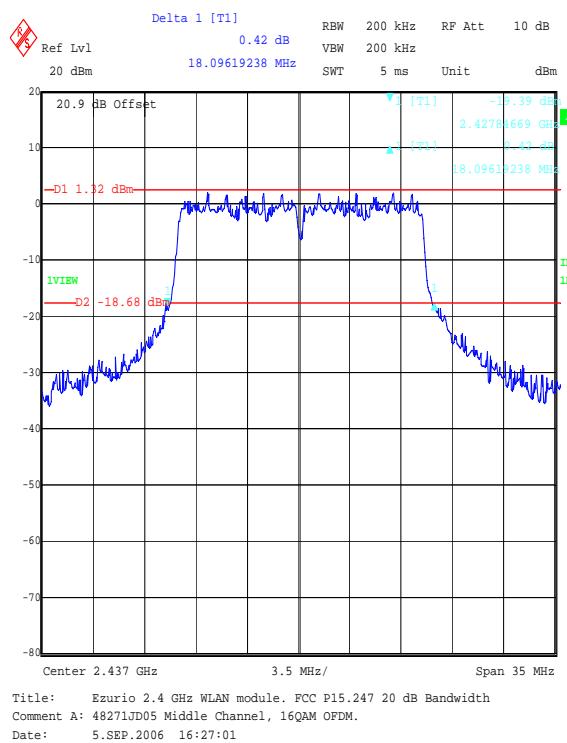
### **7.2.17. Transmitter 20 dB Bandwidth: Section 2.1049 (Continued)**

The EUT was configured for 20 dB bandwidth measurements as described in section 9 of this report.

Tests were performed to identify the 20 dB bandwidth.

#### **Results: OFDM, 16 QAM**

Transmitter 20 dB Bandwidth (kHz)	
18096.192	



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

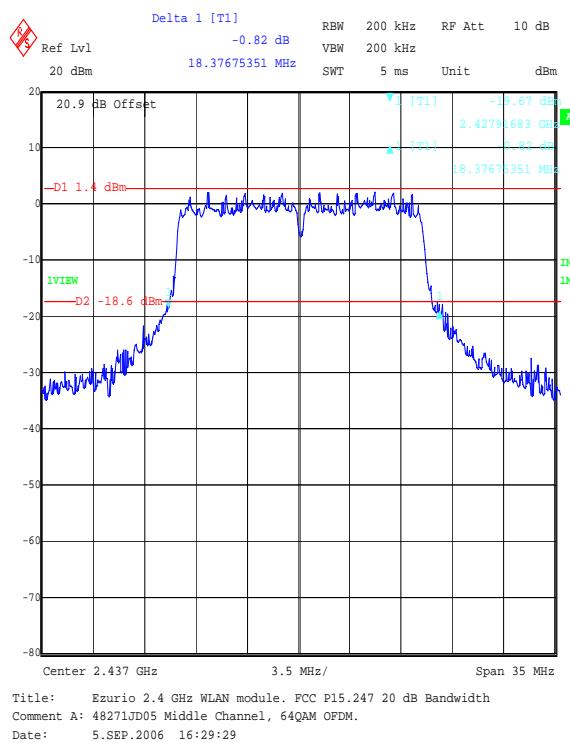
### **7.2.18. Transmitter 20 dB Bandwidth: Section 2.1049 (Continued)**

The EUT was configured for 20 dB bandwidth measurements as described in section 9 of this report.

Tests were performed to identify the 20 dB bandwidth.

#### **Results: OFDM, 64 QAM**

<b>Transmitter 20 dB Bandwidth (kHz)</b>	
18376.754	



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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**7.2.19. Transmitter Peak Power Spectral Density: Section 15.247(e)**

The EUT was configured for transmitter peak power spectral density measurements as described in section 9 of this report.

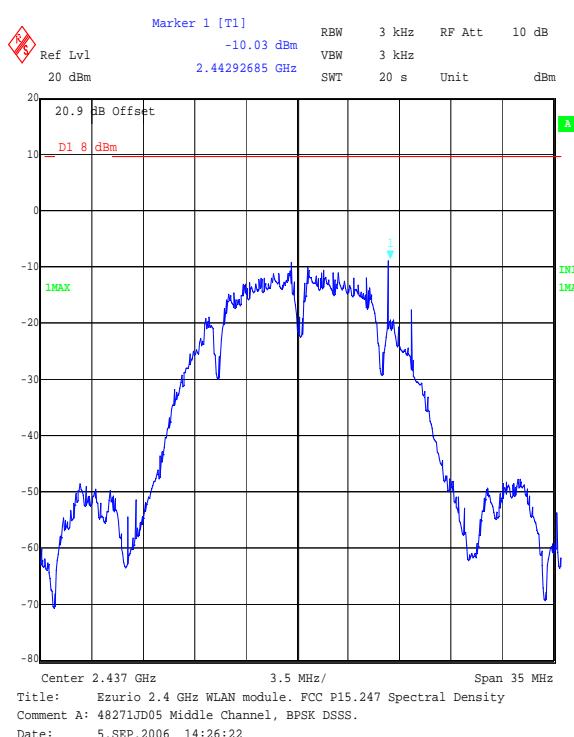
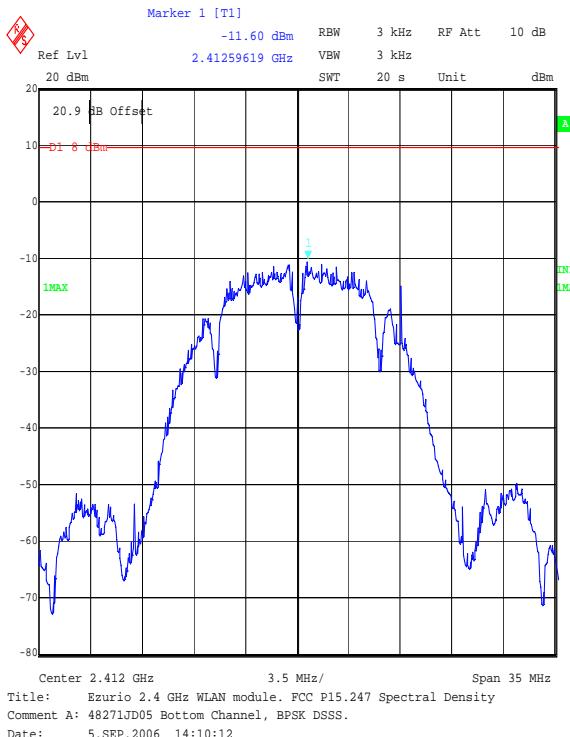
Tests were performed to identify the transmitter peak power spectral density.

**Results: DSSS, BPSK**

Channel	Output Power (dBm/3 kHz)	Limit (dBm/3 kHz)	Margin (dB)	Result
Bottom	-11.6	8.0	19.6	Complied
Middle	-10.0	8.0	18.0	Complied
Top	-9.3	8.0	17.3	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Peak Power Spectral Density: Section 15.247(e) (Continued)**

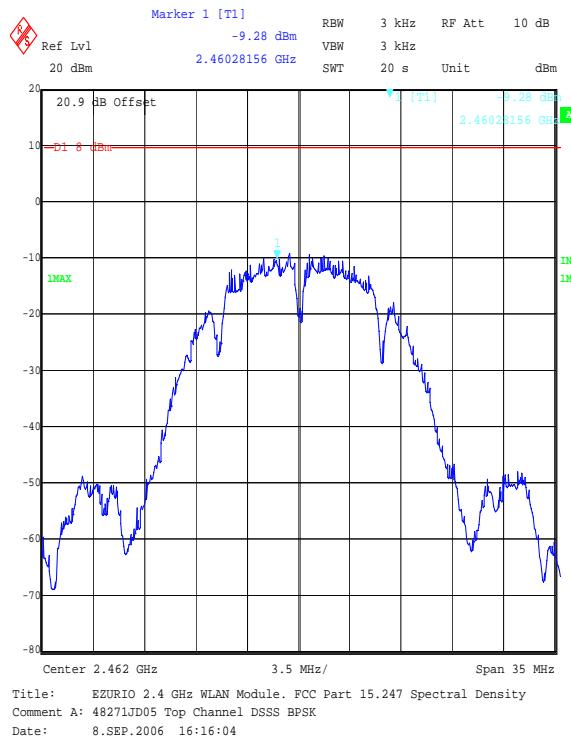


*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**Transmitter Peak Power Spectral Density: Section 15.247(e) (Continued)**



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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**7.2.20. Transmitter Peak Power Spectral Density: Section 15.247(e) (Continued)**

The EUT was configured for transmitter peak power spectral density measurements as described in section 9 of this report.

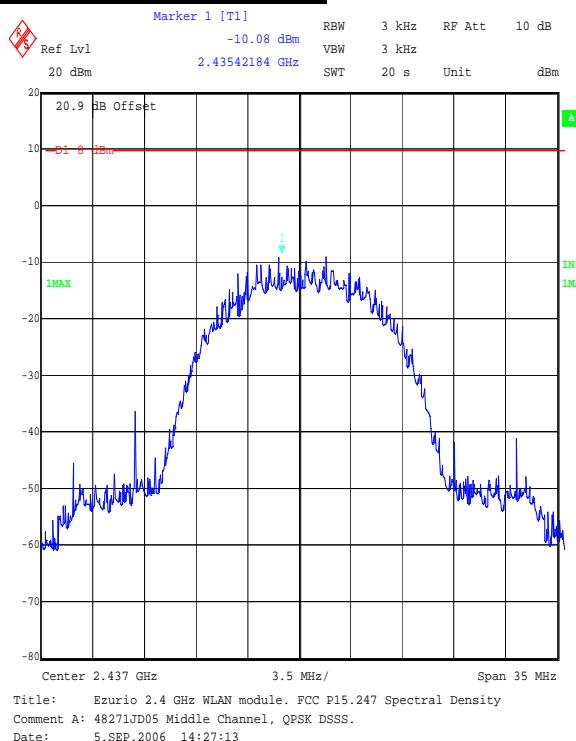
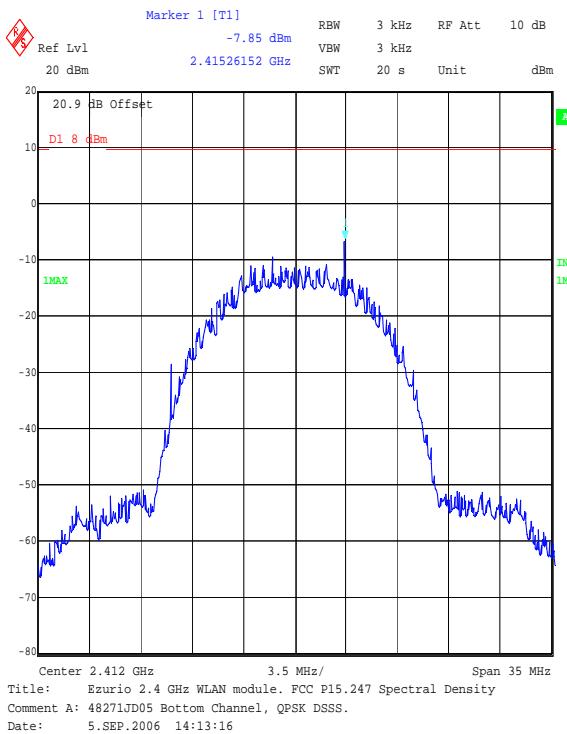
Tests were performed to identify the transmitter peak power spectral density.

**Results: DSSS, QPSK**

Channel	Output Power (dBm/3 kHz)	Limit (dBm/3 kHz)	Margin (dB)	Result
Bottom	-7.9	8.0	15.9	Complied
Middle	-10.1	8.0	18.1	Complied
Top	-9.0	8.0	17.0	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

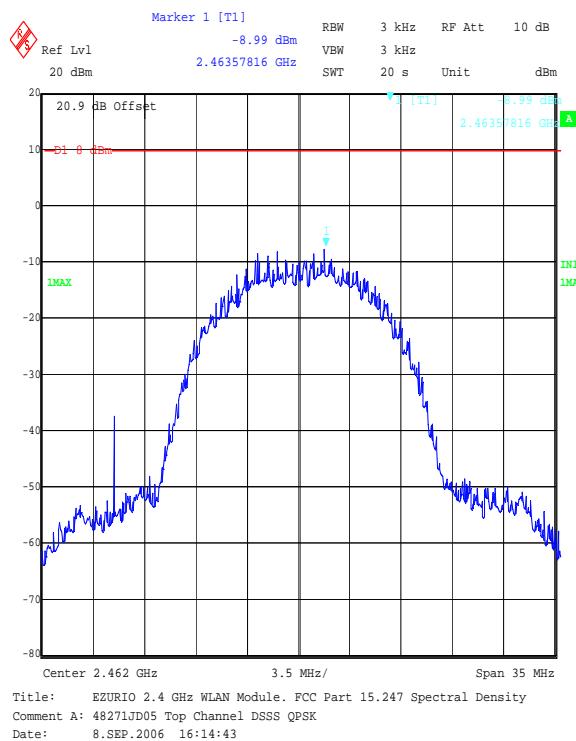
**Transmitter Peak Power Spectral Density: Section 15.247(e) (Continued)**



*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Peak Power Spectral Density: Section 15.247(e) (Continued)**



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables*

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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**7.2.21. Transmitter Peak Power Spectral Density: Section 15.247(e) ) (Continued)**

The EUT was configured for transmitter peak power spectral density measurements as described in section 9 of this report.

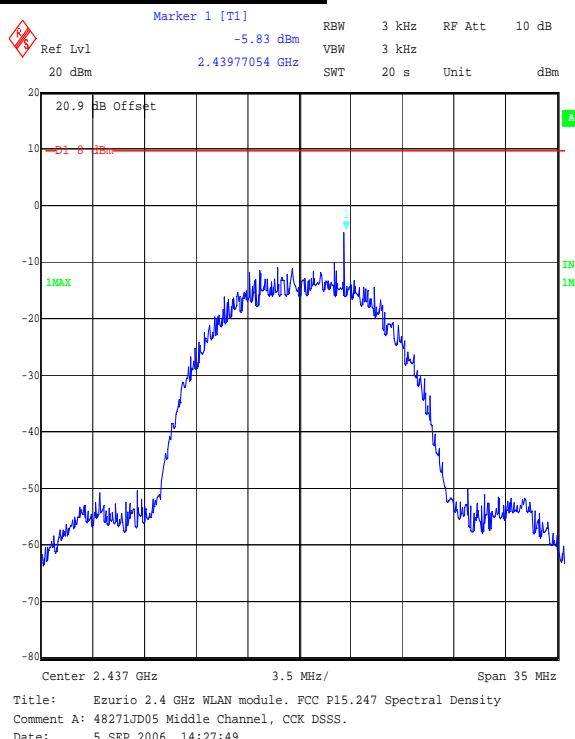
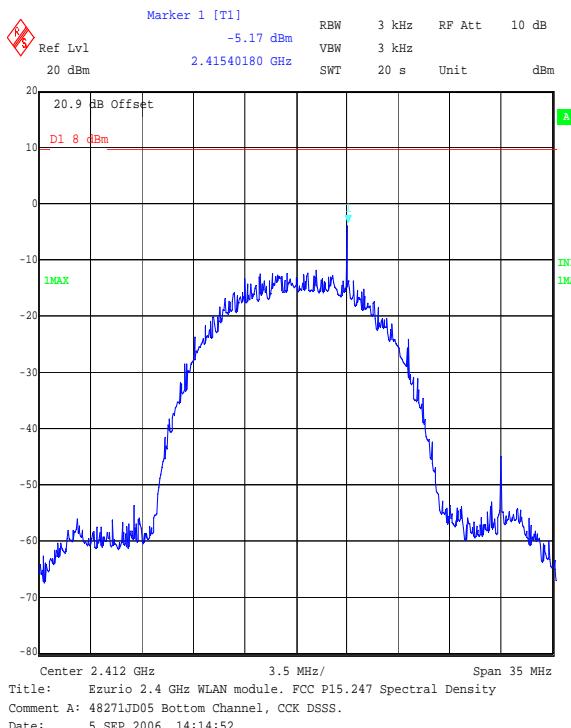
Tests were performed to identify the transmitter peak power spectral density.

**Results: DSSS, CCK**

Channel	Output Power (dBm/3 kHz)	Limit (dBm/3 kHz)	Margin (dB)	Result
Bottom	-5.2	8.0	13.2	Complied
Middle	-5.8	8.0	13.8	Complied
Top	-6.1	8.0	14.1	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

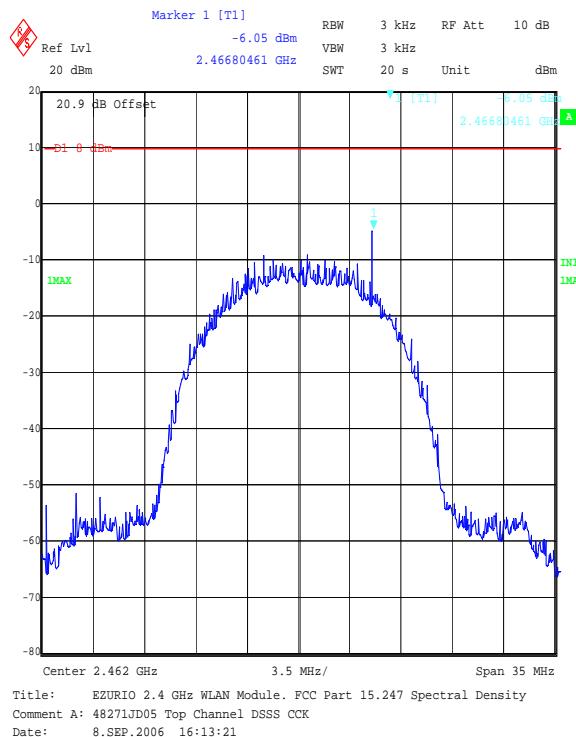
**Transmitter Peak Power Spectral Density: Section 15.247(e) (Continued)**



*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables*

Test of: Ezurio Ltd  
To: Wireless Intelligent Serial Module  
FCC Part 15.247: 2005 (Subpart C)

**Transmitter Peak Power Spectral Density: Section 15.247(e) (Continued)**



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables*

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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#### **7.2.22. Transmitter Peak Power Spectral Density: Section 15.247(e) ) (Continued)**

The EUT was configured for transmitter peak power spectral density measurements as described in section 9 of this report.

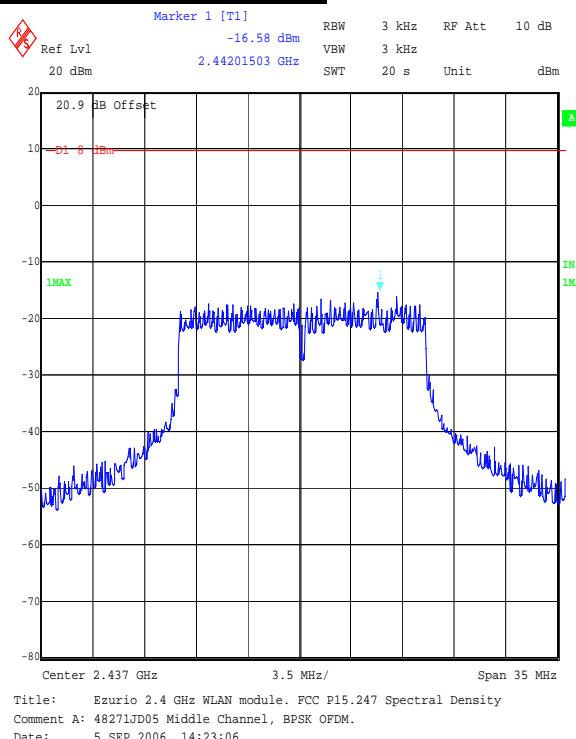
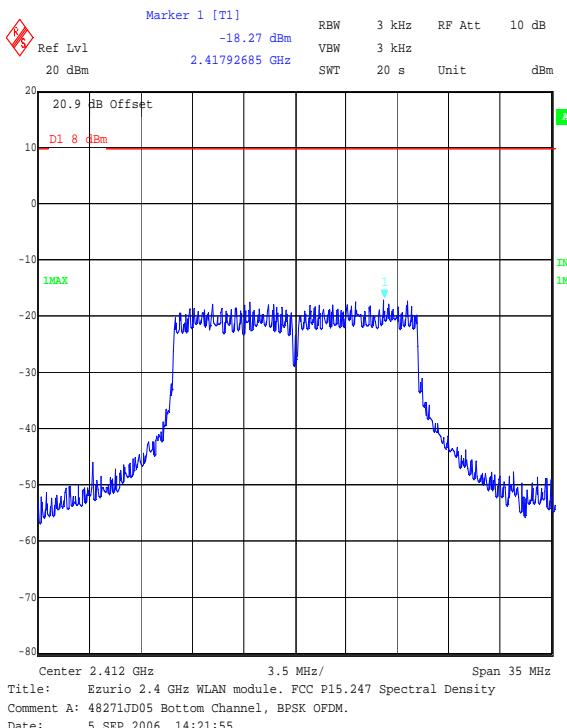
Tests were performed to identify the transmitter peak power spectral density.

#### **Results: OFDM, BPSK**

Channel	Output Power (dBm/3 kHz)	Limit (dBm/3 kHz)	Margin (dB)	Result
Bottom	-18.3	8.0	26.3	Complied
Middle	-16.6	8.0	24.6	Complied
Top	-15.9	8.0	23.9	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

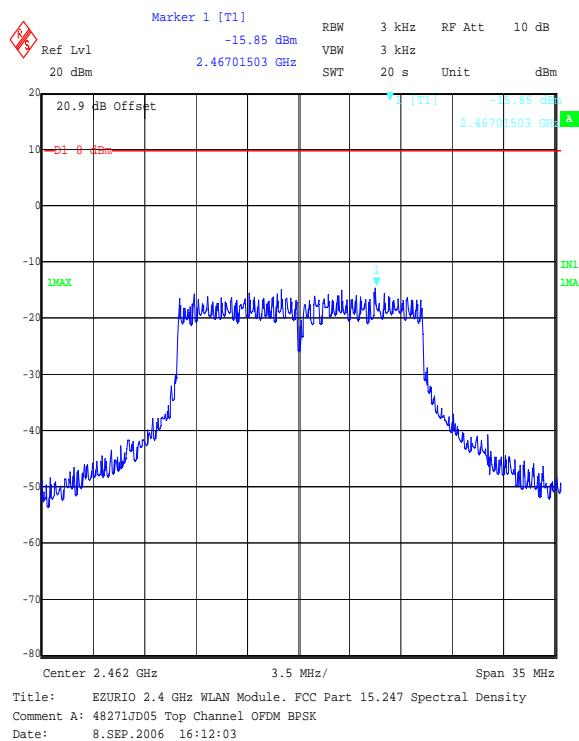
**Transmitter Peak Power Spectral Density: Section 15.247(e) (Continued)**



*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables*

Test of: Ezurio Ltd  
To: Wireless Intelligent Serial Module  
FCC Part 15.247: 2005 (Subpart C)

**Transmitter Peak Power Spectral Density: Section 15.247(e) (Continued)**



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables*

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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**7.2.23. Transmitter Peak Power Spectral Density: Section 15.247(e) ) (Continued)**

The EUT was configured for transmitter peak power spectral density measurements as described in section 9 of this report.

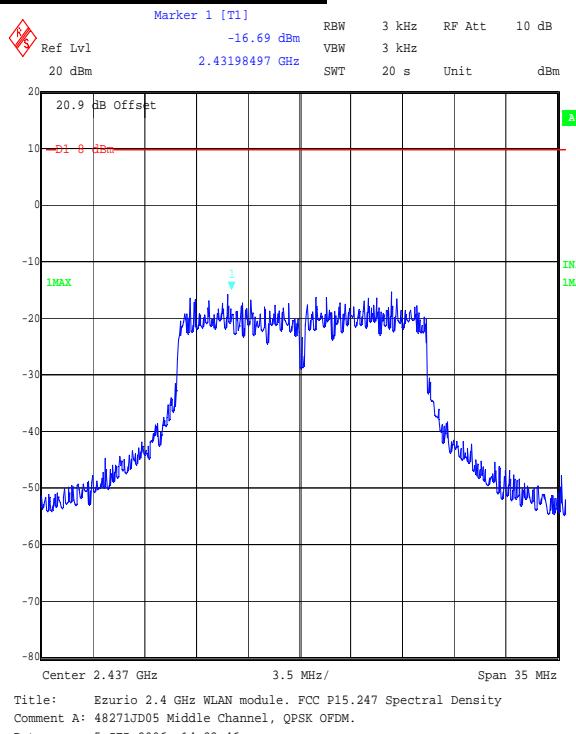
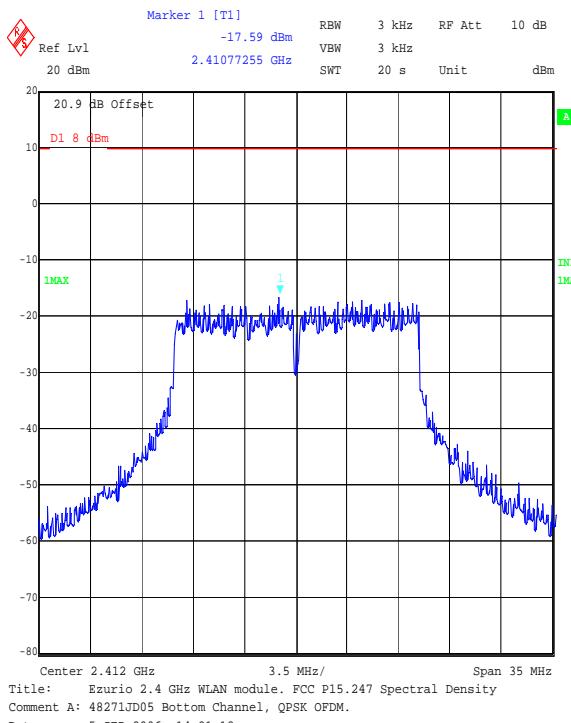
Tests were performed to identify the transmitter peak power spectral density.

**Results: OFDM, QPSK**

Channel	Output Power (dBm/3 kHz)	Limit (dBm/3 kHz)	Margin (dB)	Result
Bottom	-17.6	8.0	25.6	Complied
Middle	-16.7	8.0	24.7	Complied
Top	-15.9	8.0	23.9	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

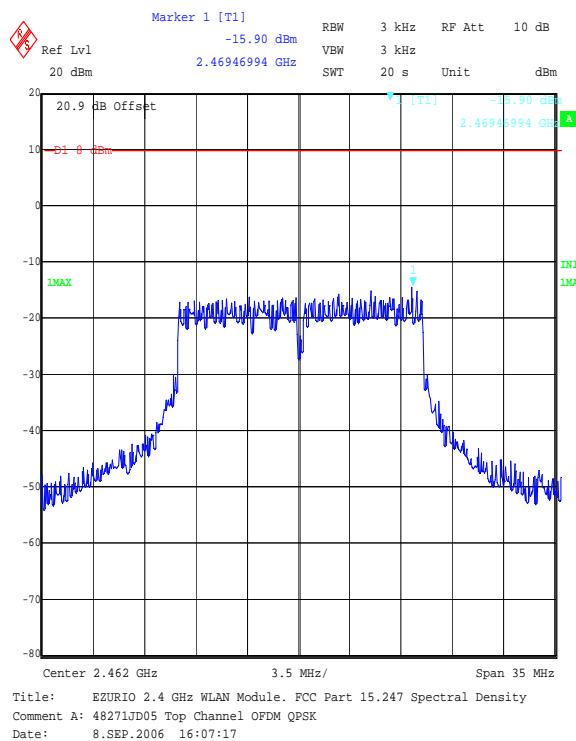
**Transmitter Peak Power Spectral Density: Section 15.247(e) (Continued)**



*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables*

Test of: Ezurio Ltd  
To: Wireless Intelligent Serial Module  
FCC Part 15.247: 2005 (Subpart C)

**Transmitter Peak Power Spectral Density: Section 15.247(e) (Continued)**



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables*

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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**7.2.24. Transmitter Peak Power Spectral Density: Section 15.247(e) ) (Continued)**

The EUT was configured for transmitter peak power spectral density measurements as described in section 9 of this report.

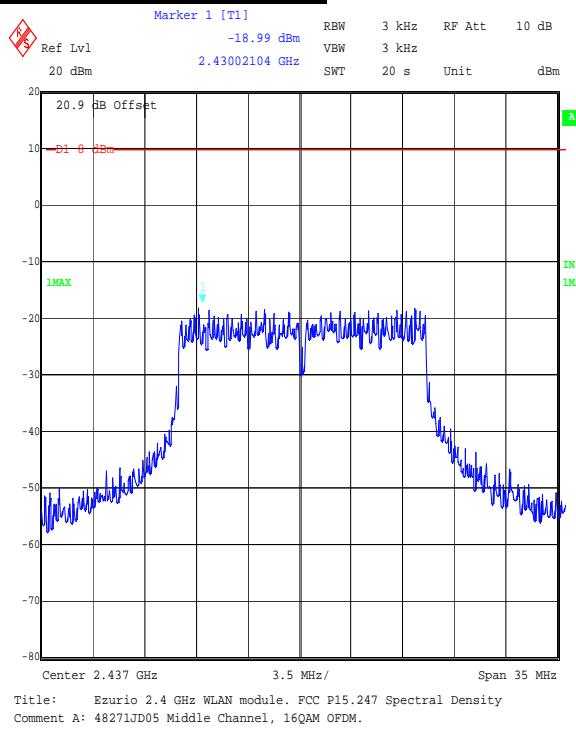
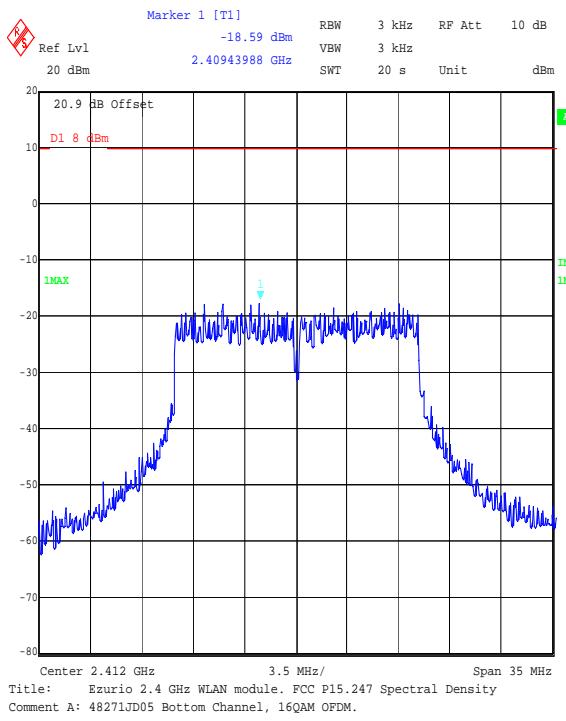
Tests were performed to identify the transmitter peak power spectral density.

**Results: OFDM, 16 QAM**

Channel	Output Power (dBm/3 kHz)	Limit (dBm/3 kHz)	Margin (dB)	Result
Bottom	-18.6	8.0	26.6	Complied
Middle	-19.0	8.0	27.0	Complied
Top	-17.1	8.0	25.1	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

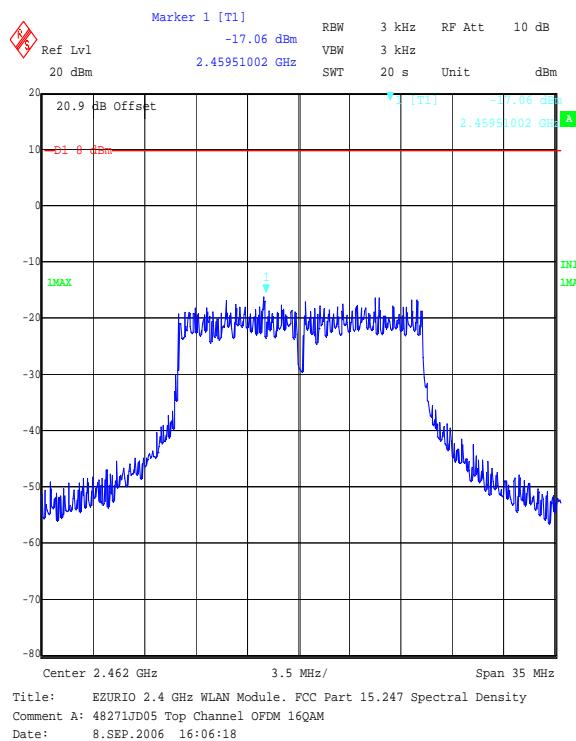
**Transmitter Peak Power Spectral Density: Section 15.247(e) (Continued)**



*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables*

Test of: Ezurio Ltd  
To: Wireless Intelligent Serial Module  
FCC Part 15.247: 2005 (Subpart C)

**Transmitter Peak Power Spectral Density: Section 15.247(e) (Continued)**



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables*

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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**7.2.25. Transmitter Peak Power Spectral Density: Section 15.247(e) ) (Continued)**

The EUT was configured for transmitter peak power spectral density measurements as described in section 9 of this report.

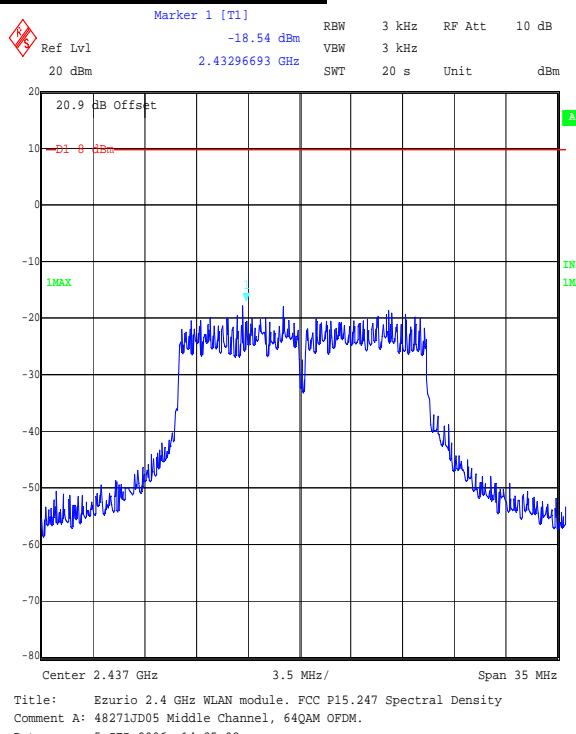
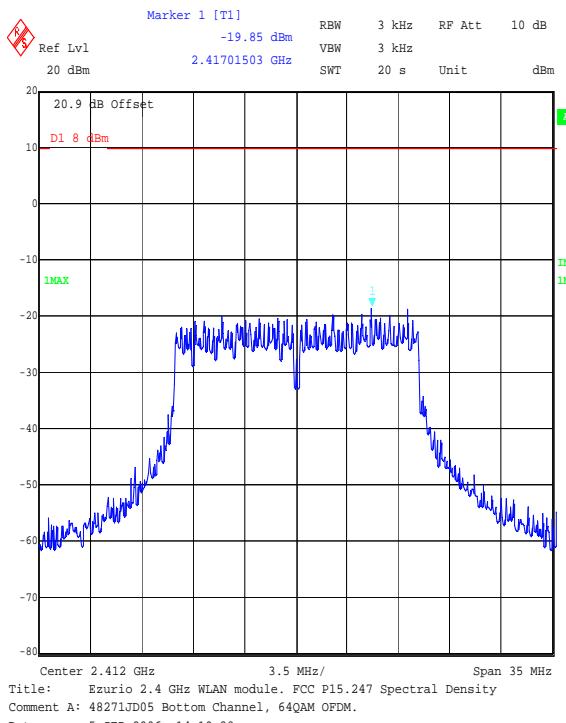
Tests were performed to identify the transmitter peak power spectral density.

**Results: OFDM, 64 QAM**

Channel	Output Power (dBm/3 kHz)	Limit (dBm/3 kHz)	Margin (dB)	Result
Bottom	-19.9	8.0	27.9	Complied
Middle	-18.5	8.0	26.5	Complied
Top	-18.2	8.0	26.2	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

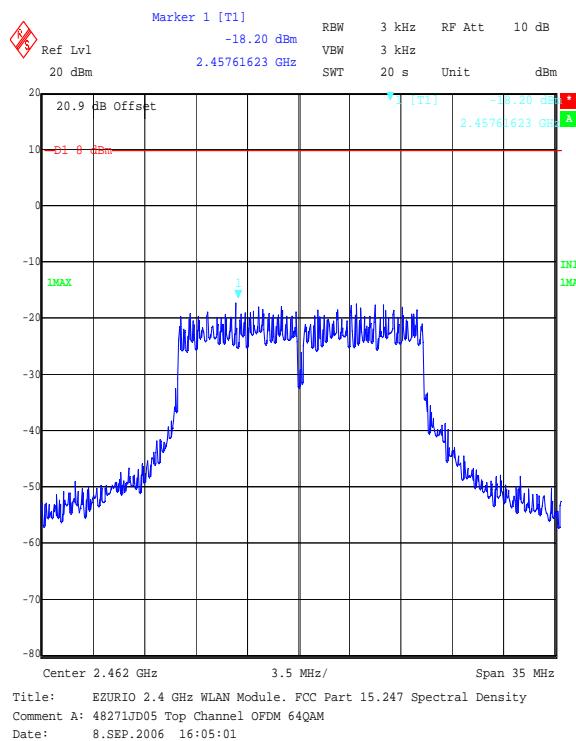
**Transmitter Peak Power Spectral Density: Section 15.247(e) (Continued)**



*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables*

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

**Transmitter Peak Power Spectral Density: Section 15.247(e) (Continued)**



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**7.2.26. Transmitter Maximum Peak Output Power: Section 15.247(b)(3)**

The EUT was configured for transmitter peak output power measurements as described in section 9 of this report.

Tests were performed to identify the transmitter maximum peak output power (ERP) of the EUT.

**Results: 1 Mbps, DSSS, BPSK**

**AC Powered Devices**

Channel	Input Voltage (AC)	Conducted RF O/P Power (dBm)	Stated Antenna Gain (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	3.3	16.4	2	18.4	30.0	11.6	Complied
Bottom	3.6	16.4	2	18.4	30.0	11.6	Complied
Bottom	4.14	16.4	2	18.4	30.0	11.6	Complied
Middle	3.3	16.5	2	18.5	30.0	11.5	Complied
Middle	3.6	16.5	2	18.5	30.0	11.5	Complied
Middle	4.14	16.5	2	18.5	30.0	11.5	Complied
Top	3.3	16.7	2	18.7	30.0	11.3	Complied
Top	3.6	16.7	2	18.7	30.0	11.3	Complied
Top	4.14	16.7	2	18.7	30.0	11.3	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**7.2.27. Transmitter Maximum Peak Output Power: Section 15.247(b)(3) (Continued)**

The EUT was configured for transmitter peak output power measurements as described in section 9 of this report.

Tests were performed to identify the transmitter maximum peak output power (ERP) of the EUT.

**Results: 2 Mbps, DSSS, QPSK**

**AC Powered Devices**

Channel	Input Voltage (AC)	Conducted RF O/P Power (dBm)	Stated Antenna Gain (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	3.3	16.1	2	18.1	30.0	11.9	Complied
Bottom	3.6	16.1	2	18.1	30.0	11.9	Complied
Bottom	4.14	16.1	2	18.1	30.0	11.9	Complied
Middle	3.3	16.6	2	18.6	30.0	11.4	Complied
Middle	3.6	16.6	2	18.6	30.0	11.4	Complied
Middle	4.14	16.6	2	18.6	30.0	11.4	Complied
Top	3.3	16.7	2	18.7	30.0	11.3	Complied
Top	3.6	16.7	2	18.7	30.0	11.3	Complied
Top	4.14	16.7	2	18.7	30.0	11.3	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**7.2.28. Transmitter Maximum Peak Output Power: Section 15.247(b)(3) (Continued)**

The EUT was configured for transmitter peak output power measurements as described in section 9 of this report.

Tests were performed to identify the transmitter maximum peak output power (ERP) of the EUT.

**Results: 505 Mbps, DSSS, CCK**

**AC Powered Devices**

Channel	Input Voltage (AC)	Conducted RF O/P Power (dBm)	Stated Antenna Gain (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	3.3	16.3	2	18.3	30.0	11.7	Complied
Bottom	3.6	16.3	2	18.3	30.0	11.7	Complied
Bottom	4.14	16.3	2	18.3	30.0	11.7	Complied
Middle	3.3	16.4	2	18.4	30.0	11.6	Complied
Middle	3.6	16.4	2	18.4	30.0	11.6	Complied
Middle	4.14	16.4	2	18.4	30.0	11.6	Complied
Top	3.3	16.4	2	18.4	30.0	11.6	Complied
Top	3.6	16.4	2	18.4	30.0	11.6	Complied
Top	4.14	16.4	2	18.4	30.0	11.6	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**7.2.29. Transmitter Maximum Peak Output Power: Section 15.247(b)(3) (Continued)**

The EUT was configured for transmitter peak output power measurements as described in section 9 of this report.

Tests were performed to identify the transmitter maximum peak output power (ERP) of the EUT.

**Results: 6 Mpbs, OFDM, BPSK**

**AC Powered Devices**

Channel	Input Voltage (AC)	Conducted RF O/P Power (dBm)	Stated Antenna Gain (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	3.3	18.7	2	20.7	30.0	9.3	Complied
Bottom	3.6	18.7	2	20.7	30.0	9.3	Complied
Bottom	4.14	18.7	2	20.7	30.0	9.3	Complied
Middle	3.3	18.7	2	20.7	30.0	9.3	Complied
Middle	3.6	18.7	2	20.7	30.0	9.3	Complied
Middle	4.14	18.7	2	20.7	30.0	9.3	Complied
Top	3.3	18.3	2	20.3	30.0	9.7	Complied
Top	3.6	18.3	2	20.3	30.0	9.7	Complied
Top	4.14	18.3	2	20.3	30.0	9.7	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**7.2.30. Transmitter Maximum Peak Output Power: Section 15.247(b)(3) (Continued)**

The EUT was configured for transmitter peak output power measurements as described in section 9 of this report.

Tests were performed to identify the transmitter maximum peak output power (ERP) of the EUT.

**Results: 12 Mpbs, OFDM, QPSK**

**AC Powered Devices**

Channel	Input Voltage (AC)	Conducted RF O/P Power (dBm)	Stated Antenna Gain (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	3.3	19.2	2	21.2	30.0	8.8	Complied
Bottom	3.6	19.2	2	21.2	30.0	8.8	Complied
Bottom	4.14	19.2	2	21.2	30.0	8.8	Complied
Middle	3.3	18.9	2	20.9	30.0	9.1	Complied
Middle	3.6	18.9	2	20.9	30.0	9.1	Complied
Middle	4.14	18.9	2	20.9	30.0	9.1	Complied
Top	3.3	18.3	2	20.3	30.0	9.7	Complied
Top	3.6	18.3	2	20.3	30.0	9.7	Complied
Top	4.14	18.3	2	20.3	30.0	9.7	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**7.2.31. Transmitter Maximum Peak Output Power: Section 15.247(b)(3) (Continued)**

The EUT was configured for transmitter peak output power measurements as described in section 9 of this report.

Tests were performed to identify the transmitter maximum peak output power (ERP) of the EUT.

**Results: 12 Mpbs, OFDM, 16QAM**

**AC Powered Devices**

Channel	Input Voltage (AC)	Conducted RF O/P Power (dBm)	Stated Antenna Gain (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	3.3	19.3	2	21.3	30.0	8.7	Complied
Bottom	3.6	19.3	2	21.3	30.0	8.7	Complied
Bottom	4.14	19.3	2	21.3	30.0	8.7	Complied
Middle	3.3	18.9	2	20.9	30.0	9.1	Complied
Middle	3.6	18.9	2	20.9	30.0	9.1	Complied
Middle	4.14	18.9	2	20.9	30.0	9.1	Complied
Top	3.3	18.3	2	20.3	30.0	9.7	Complied
Top	3.6	18.3	2	20.3	30.0	9.7	Complied
Top	4.14	18.3	2	20.3	30.0	9.7	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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### **7.2.32. Transmitter Conducted Emissions: Section 15.247(d)**

The EUT was configured for transmitter conducted emissions measurements as described in section 9 of this report.

Tests were performed to identify the maximum transmitter conducted emission levels.

The limit lines shown in the plots below are set to a level 20 dB below the measured highest fundamental peak power.

#### **Results: DSSS, BPSK**

##### **Bottom Channel**

Frequency (MHz)	Peak Emission Level (dBm)	Peak Emission Level (dBc)	Limit (dBc)	Margin (dB)	Result
953.347	-39.3	-44.8	-20.0	24.9	Complied

##### **Middle Channel**

Frequency (MHz)	Peak Emission Level (dBm)	Peak Emission Level (dBc)	Limit (dBc)	Margin (dB)	Result
953.347	-39.3	-44.9	-20.0	24.9	Complied

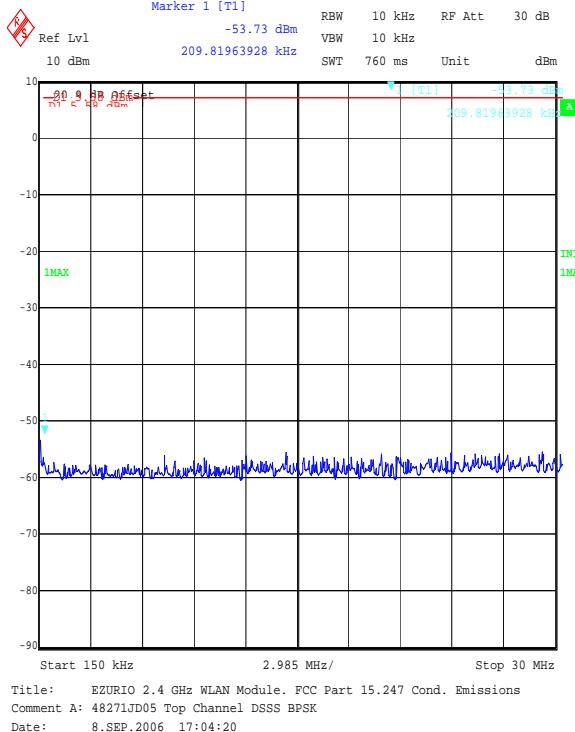
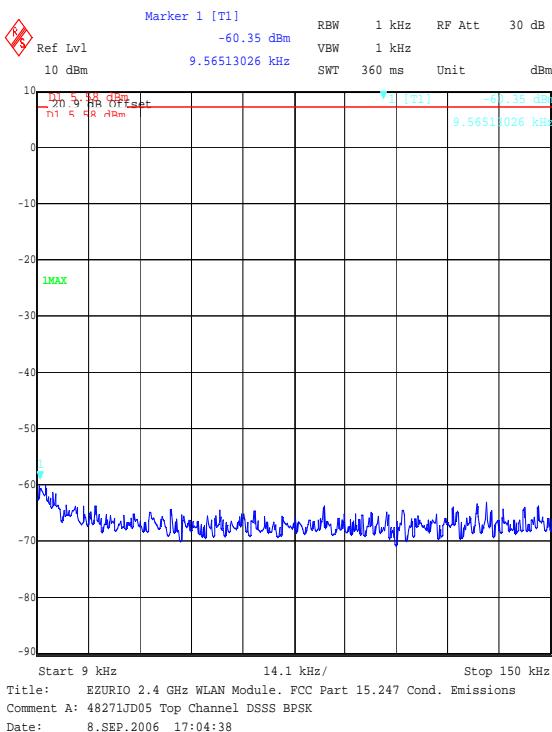
### **Transmitter Conducted Emissions: Section 15.247(d) (Continued)**

##### **Top Channel**

Frequency (MHz)	Peak Emission Level (dBm)	Peak Emission Level (dBc)	Limit (dBc)	Margin (dB)	Result
953.347	-39.3	-44.9	-20.0	24.9	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

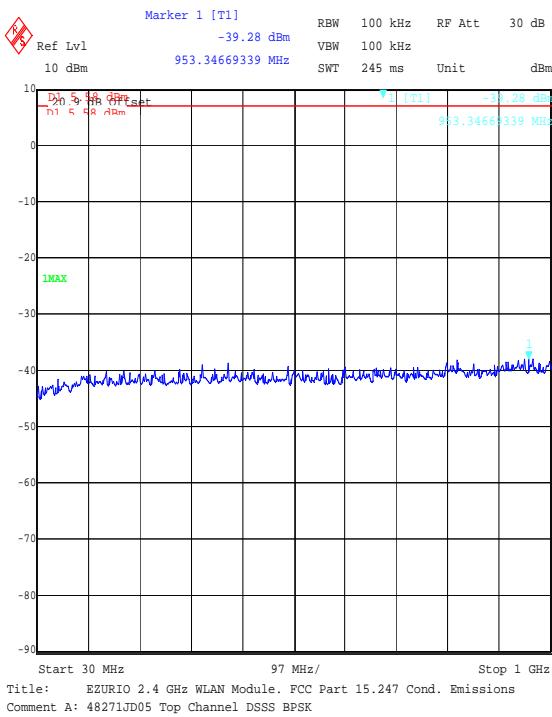
**Transmitter Conducted Emissions: Section 15.247(d) (Continued)**



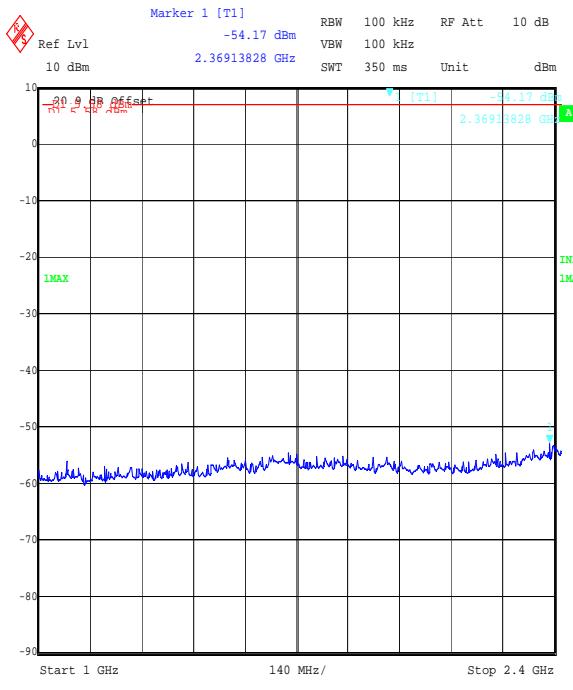
*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Conducted Emissions: Section 15.247(d) (Continued)**



Title: EZURIO 2.4 GHz WLAN Module. FCC Part 15.247 Cond. Emissions  
Comment A: 48271JD05 Top Channel DSSS BPSK  
Date: 8.SEP.2006 17:04:00

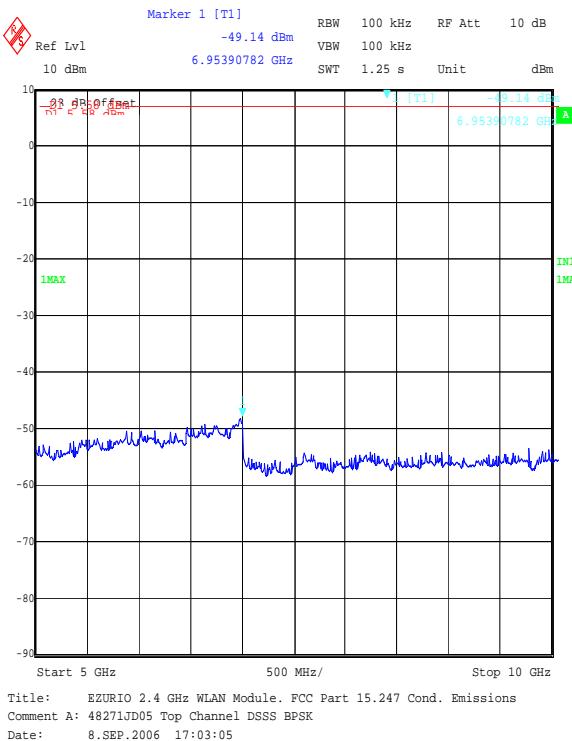
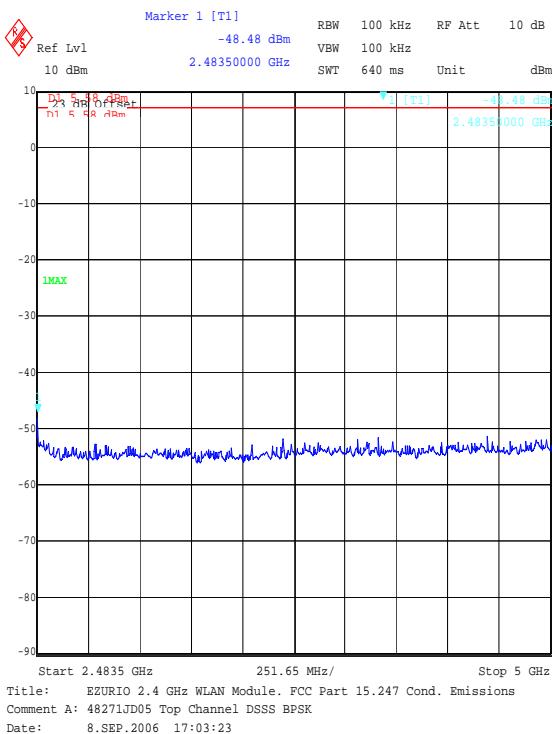


Title: EZURIO 2.4 GHz WLAN Module. FCC Part 15.247 Cond. Emissions  
Comment A: 48271JD05 Top Channel DSSS BPSK  
Date: 8.SEP.2006 17:03:43

*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

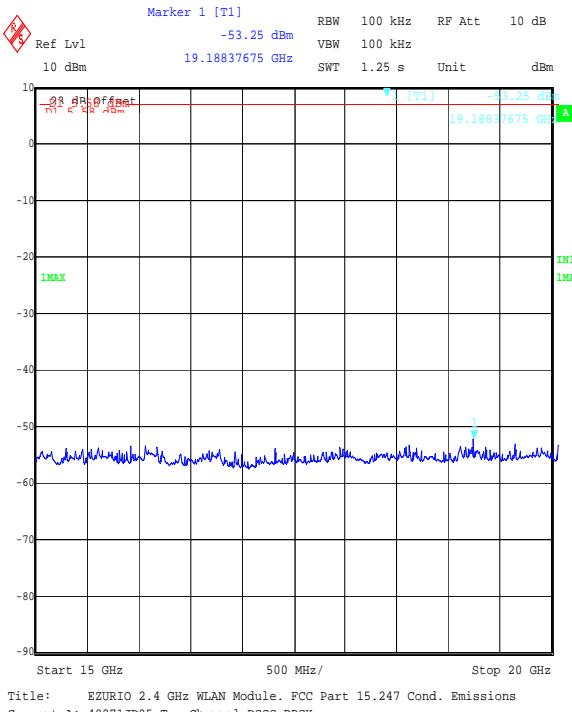
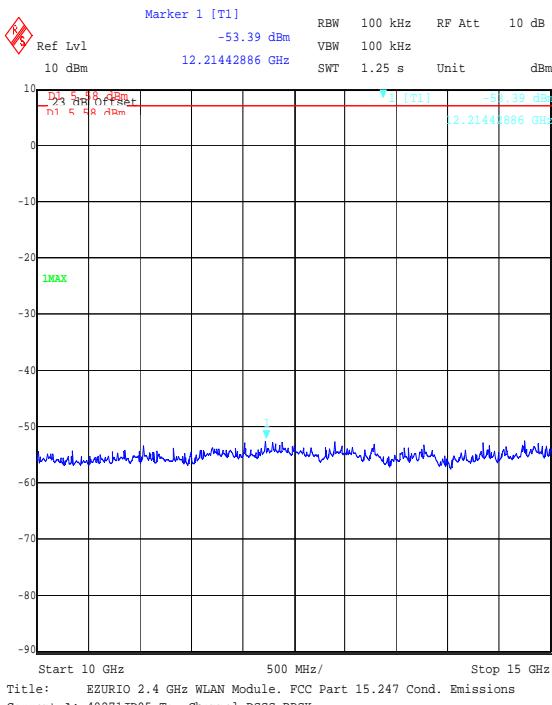
**Transmitter Conducted Emissions: Section 15.247(d) (Continued)**



*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

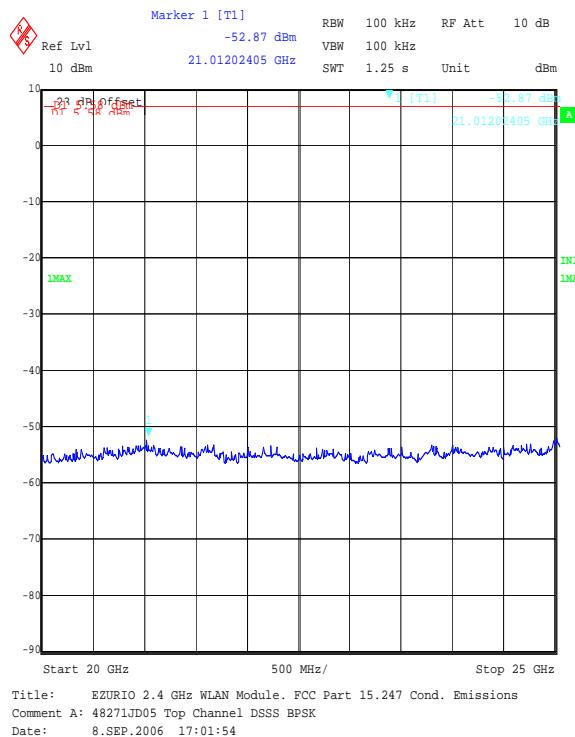
**Transmitter Conducted Emissions: Section 15.247(d) (Continued)**



*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

Test of: Ezurio Ltd  
To: Wireless Intelligent Serial Module  
FCC Part 15.247: 2005 (Subpart C)

**Transmitter Conducted Emissions: Section 15.247(d) (Continued)**



*Note: This plot is a pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**7.2.33. Transmitter Conducted Emissions: Section 15.247(d) (Continued)**

The EUT was configured for transmitter conducted emissions measurements as described in section 9 of this report.

Tests were performed to identify the maximum transmitter conducted emission levels.

The limit lines shown in the plots below are set to a level 20 dB below the measured highest fundamental peak power.

**Results: OFDM, BPSK**

**Bottom Channel**

Frequency (MHz)	Peak Emission Level (dBm)	Peak Emission Level (dBc)	Limit (dBc)	Margin (dB)	Result
931.964	-38.1	-38.9	-20.0	18.9	Complied

**Middle Channel**

Frequency (MHz)	Peak Emission Level (dBm)	Peak Emission Level (dBc)	Limit (dBc)	Margin (dB)	Result
931.964	-38.1	-38.9	-20.0	18.9	Complied

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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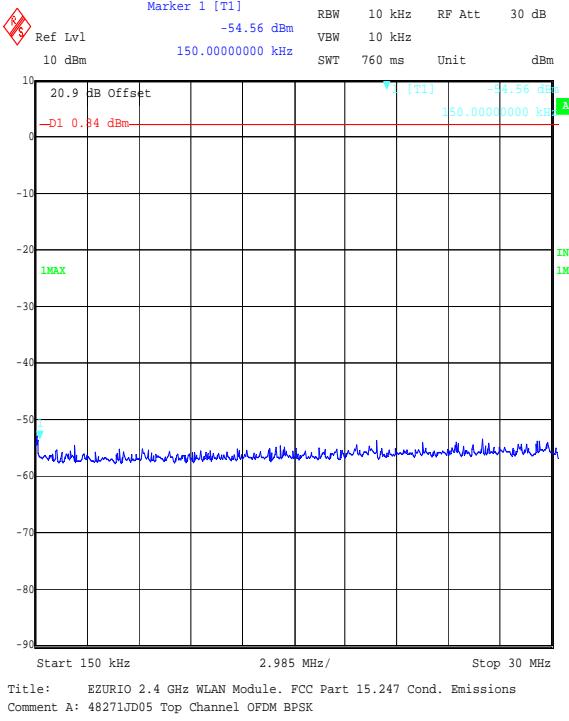
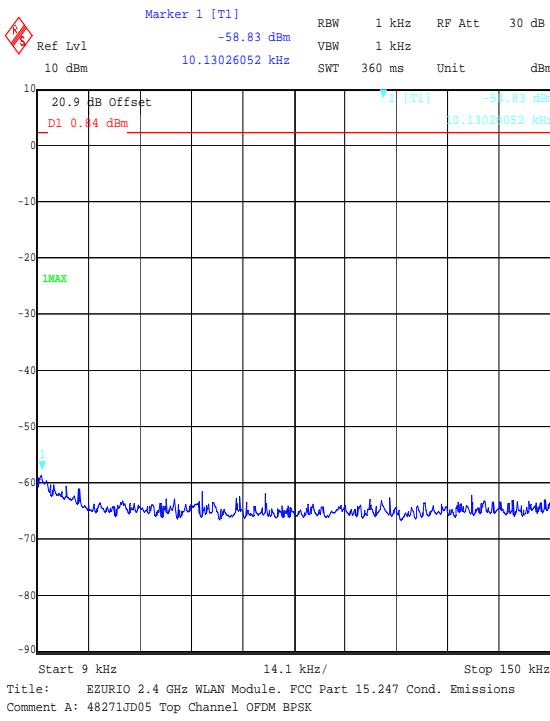
**Transmitter Conducted Emissions: Section 15.247(d) (Continued)**

**Top Channel**

Frequency (MHz)	Peak Emission Level (dBm)	Peak Emission Level (dBc)	Limit (dBc)	Margin (dB)	Result
931.964	-38.1	-38.9	-20.0	18.9	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

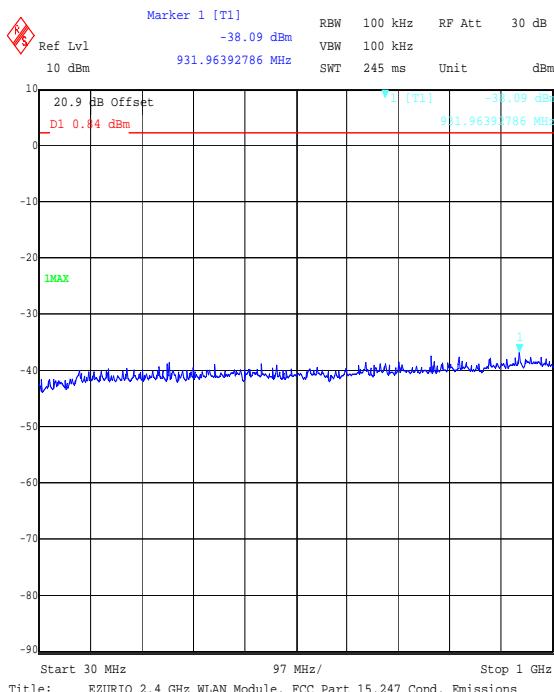
**Transmitter Conducted Emissions: Section 15.247(d) (Continued)**



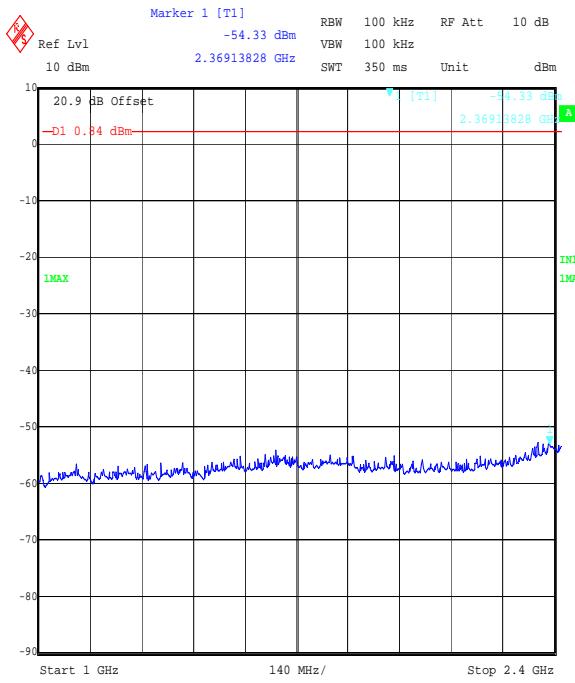
*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Conducted Emissions: Section 15.247(d) (Continued)**



Title: EZURIO 2.4 GHz WLAN Module. FCC Part 15.247 Cond. Emissions  
Comment A: 48271JD05 Top Channel OFDM BPSK  
Date: 8.SEP.2006 16:50:41

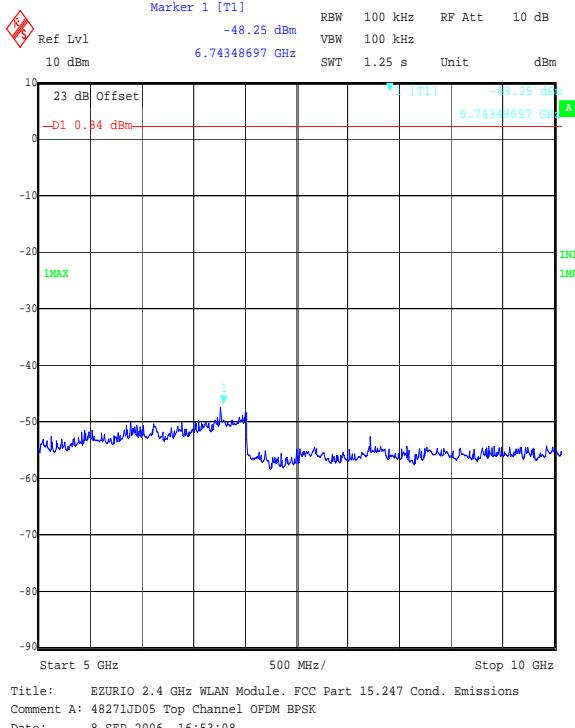
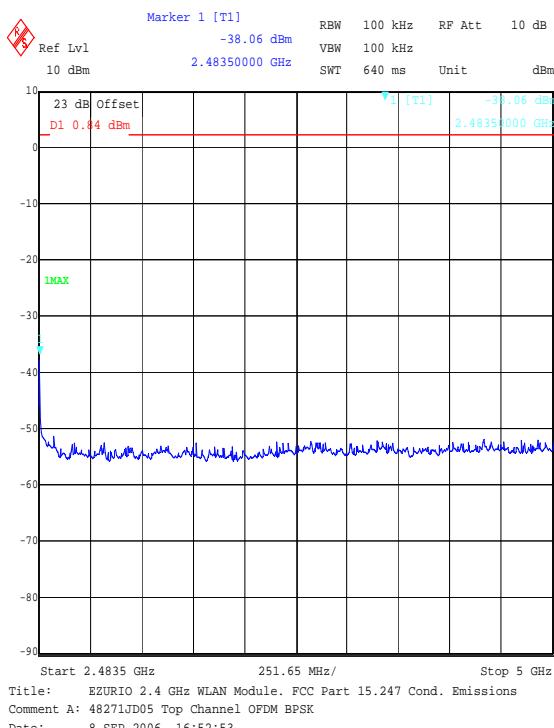


Title: EZURIO 2.4 GHz WLAN Module. FCC Part 15.247 Cond. Emissions  
Comment A: 48271JD05 Top Channel OFDM BPSK  
Date: 8.SEP.2006 16:51:05

*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

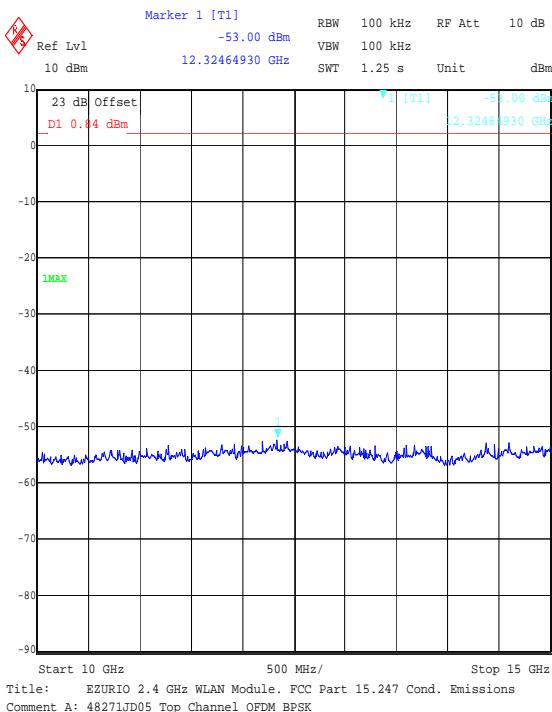
**Transmitter Conducted Emissions: Section 15.247(d) (Continued)**



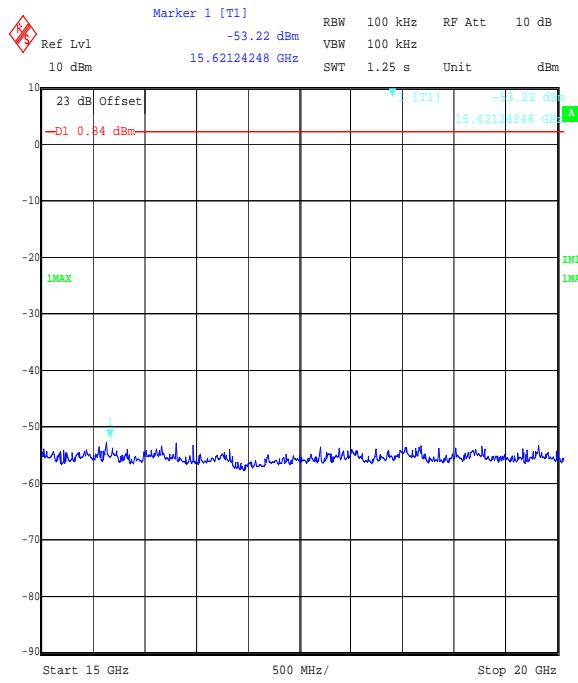
*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Conducted Emissions: Section 15.247(d) (Continued)**



Title: EZURIO 2.4 GHz WLAN Module. FCC Part 15.247 Cond. Emissions  
 Comment A: 48271JD05 Top Channel OFDM BPSK  
 Date: 8.SEP.2006 16:53:26

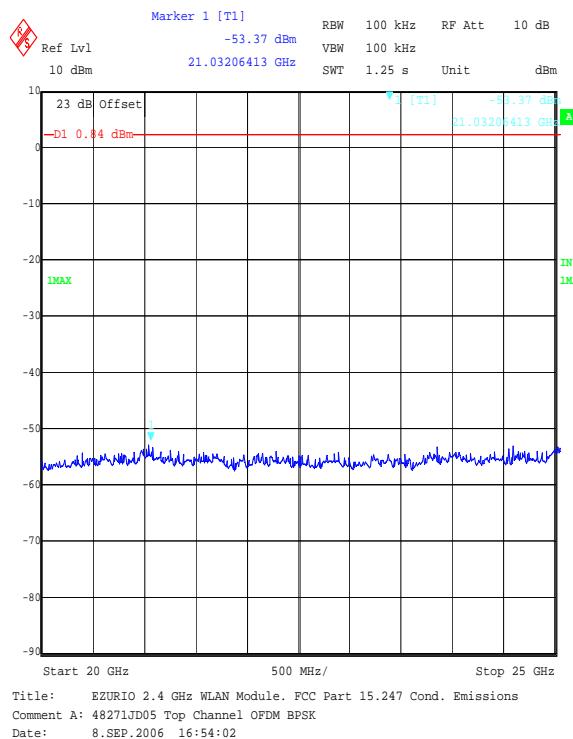


Title: EZURIO 2.4 GHz WLAN Module. FCC Part 15.247 Cond. Emissions  
 Comment A: 48271JD05 Top Channel OFDM BPSK  
 Date: 8.SEP.2006 16:53:43

*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

Test of: Ezurio Ltd  
To: Wireless Intelligent Serial Module  
FCC Part 15.247: 2005 (Subpart C)

**Transmitter Conducted Emissions: Section 15.247(d) (Continued)**



*Note: This plot is a pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**7.2.34. Transmitter Radiated Emissions: Section 15.247(d) and 15.209(a)**

The EUT was configured for radiated emission testing as described in section 9 of this report.

Tests were performed to identify the maximum transmitter radiated emission levels.

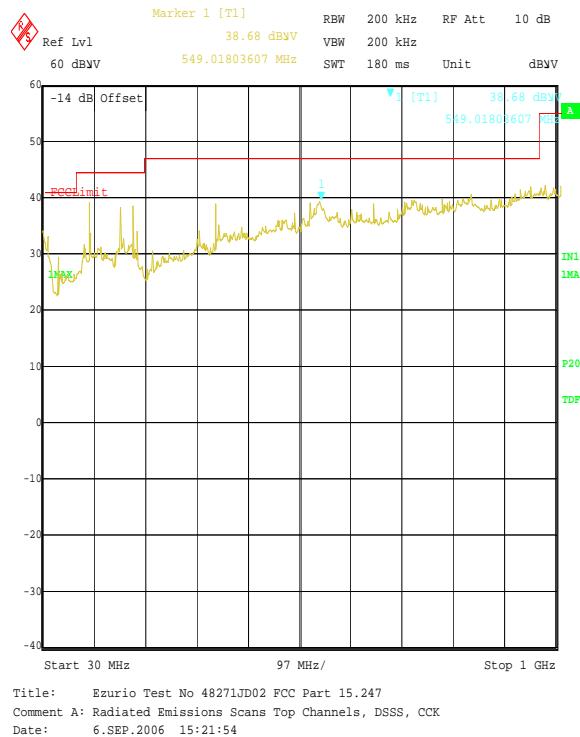
**Results: – DSSS, CCK**

**Electric Field Strength Measurements: 30 to 1000 MHz  
(emissions occurring in the restricted bands)**

**Top Channel**

Frequency (MHz)	Antenna Polarity	Q-P Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
117.961	Vertical	26.8	43.5	16.7	Complied
324.384	Vertical	31.2	46.0	14.8	Complied

**Transmitter Radiated Emissions: Section 15.247(d) and 15.209(a) (Continued)**



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables*

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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**7.2.35. Transmitter Radiated Emissions: Section 15.247(d) and 15.209(a) (Continued)**

The EUT was configured for radiated emission testing as described in section 9 of this report.

Tests were performed to identify the maximum transmitter radiated emission levels.

**Results: – OFDM, BPSK**

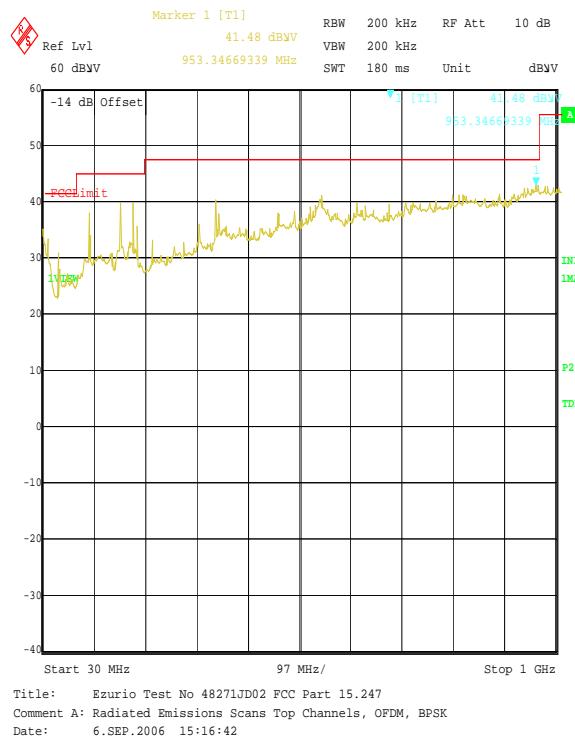
**Electric Field Strength Measurements: 30 to 1000 MHz  
(emissions occurring in the restricted bands)**

**Top Channel**

Frequency (MHz)	Antenna Polarity	Q-P Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
117.961	Vertical	26.8	43.5	16.7	Complied
324.384	Vertical	31.2	46.0	14.8	Complied

Test of: Ezurio Ltd  
To: Wireless Intelligent Serial Module  
FCC Part 15.247: 2005 (Subpart C)

**Transmitter Radiated Emissions: Section 15.247(d) and 15.209(a) (Continued)**



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**7.2.36. Transmitter Radiated Emissions: Section 15.247(d) and 15.209(a) (Continued)**

The EUT was configured for radiated emission testing as described in section 9 of this report.

Tests were performed to identify the maximum transmitter radiated emission levels.

**Results: DSSS, CCK**

**Electric Field Strength Measurements (Frequency Range: 1 to 25.0 GHz)**  
**(emissions occurring in the restricted bands)**

**Highest Peak Level: Top Channel**

Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
7.38677	Horizontal	39.07	-4.2	43.27	74.0	30.73	Complied

**Highest Average Level: Top Channel**

Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
7.38677	Horizontal	28.77	-4.2	32.97	54.0	21.03	Complied

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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**7.2.37. Transmitter Radiated Emissions: Section 15.247(d) and 15.209(a) (Continued)**

The EUT was configured for radiated emission testing as described in section 9 of this report.

Tests were performed to identify the maximum transmitter radiated emission levels.

**Results: DSSS, CCK**

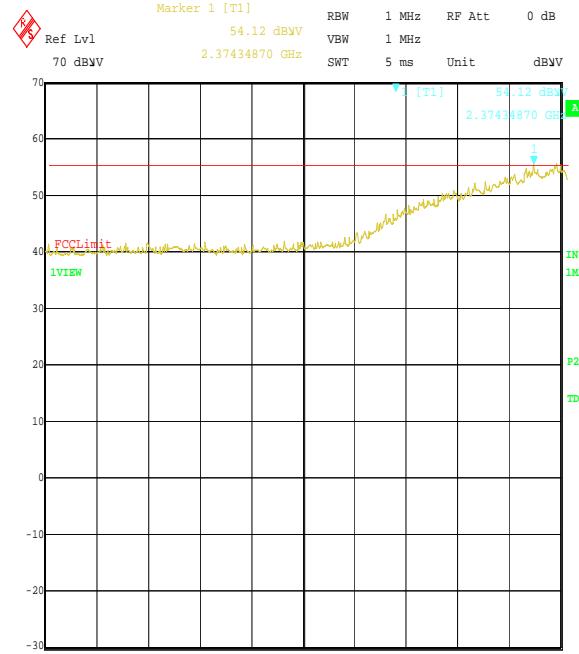
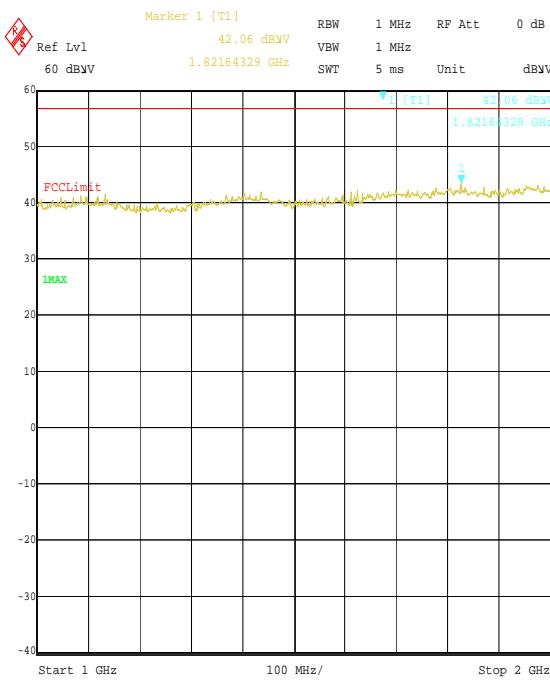
**Electric Field Strength Measurements (Frequency Range: 1 to 25.0 GHz)  
(emissions outside the restricted bands)**

**Highest Peak Level: Top Channel**

Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	-20 dBc Limit (dB $\mu$ V/m)	Margin (dB)	Result
4.92585	Horizontal	49.17	-6.2	55.37	75.67	20.3	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

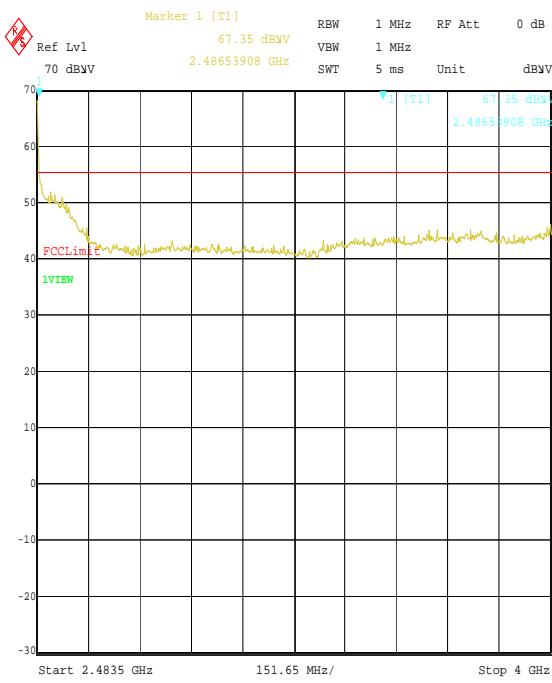
**Transmitter Radiated Emissions: Section 15.247(d) and 15.209(a) (Continued)**



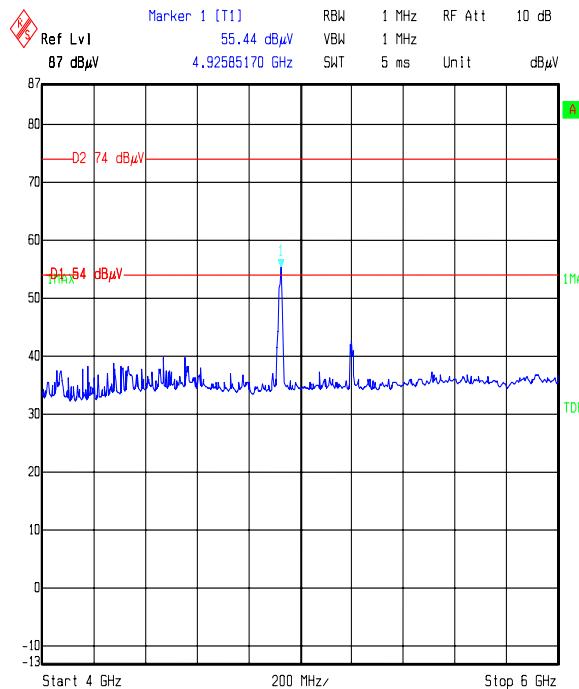
*Note: These plots are a pre-scan and for indication purposes only. For final measurements, see accompanying tables*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Radiated Emissions: Section 15.247(d) and 15.209(a) (Continued)**



Title: Ezurio Test No 48271JD02 FCC Part 15.247  
 Comment A: Radiated Emissions Scans Top channel. CCK DSSS  
 Date: 6.SEP.2006 17:27:49

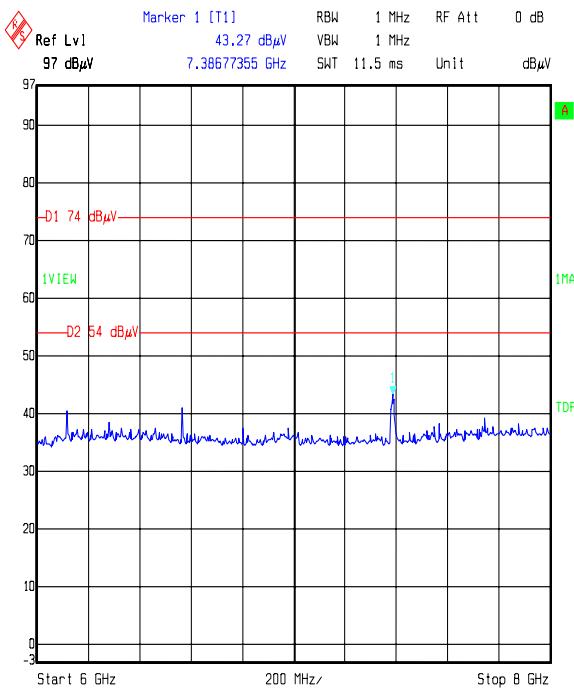


Comment A: Radiated emissions DSSS, CCK 4-6GHz  
 Date: 12.OCT.2006 16:40:40

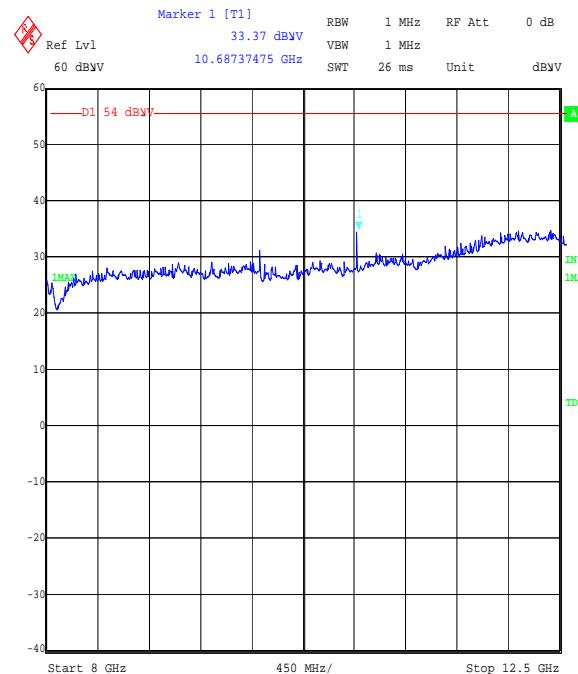
*Note: These plots are a pre-scan and for indication purposes only. For final measurements, see accompanying tables*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Radiated Emissions: Section 15.247(d) and 15.209(a) (Continued)**



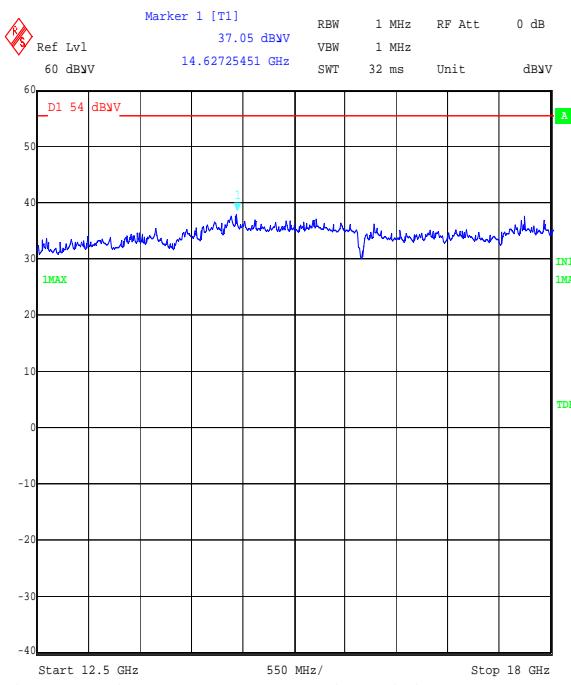
Comment A: 48271JD05  
 Date: 13.OCT.2006 10:42:41



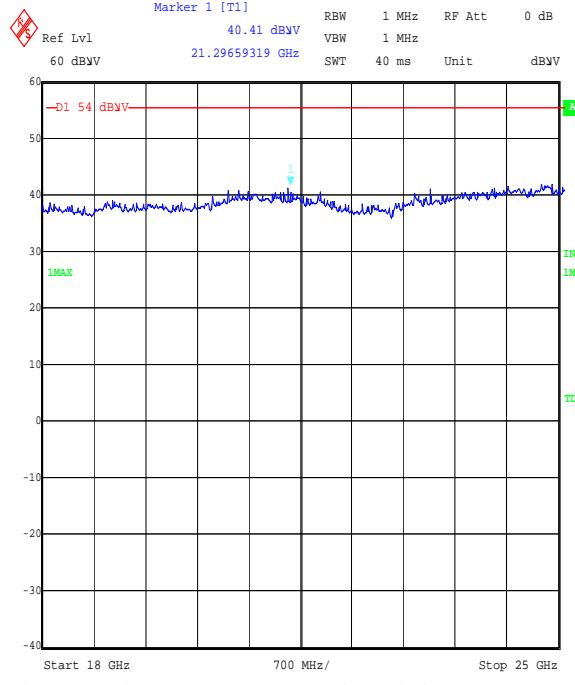
*Note: These plots are a pre-scan and for indication purposes only. For final measurements, see accompanying tables*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Radiated Emissions: Section 15.247(d) and 15.209(a) (Continued)**



Title: Ezurio 2.4GHz WLAN FCC P15.247 Radiated Emissions  
 Comment A: 48271JD05 Top Channel DSSS CCK  
 Date: 7.SEP.2006 15:26:30



Title: Ezurio 2.4GHz WLAN FCC P15.247 Radiated Emissions  
 Comment A: 48271JD05 Top Channel DSSS CCK  
 Date: 7.SEP.2006 15:31:36

*Note: These plots are a pre-scan and for indication purposes only. For final measurements, see accompanying tables*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**7.2.38. Transmitter Radiated Emissions: Section 15.247(d) and 15.209(a) (Continued)**

The EUT was configured for radiated emission testing as described in section 9 of this report.

Tests were performed to identify the maximum transmitter radiated emission levels.

**Results: OFDM, BPSK**

**Electric Field Strength Measurements (Frequency Range: 1 to 25.0 GHz)**  
**(emissions occurring in the restricted bands)**

**Highest Peak Level: Top Channel**

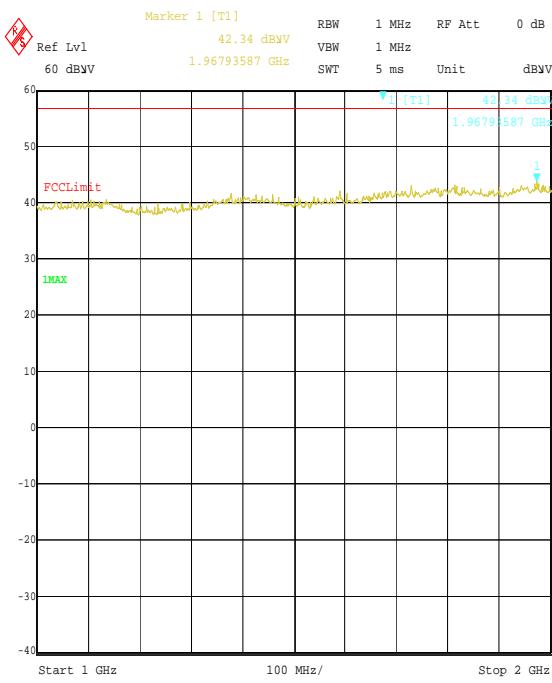
Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
7.38677	Horizontal	39.9	4.3	44.19	74.0	29.8	Complied

**Highest Average Level: Top Channel**

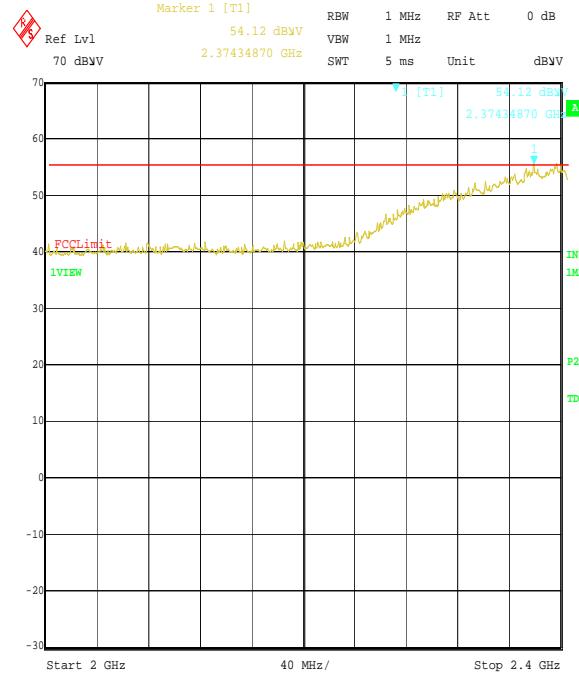
Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
7.38677	Horizontal	24.7	4.3	28.99	54.0	25.0	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Radiated Emissions: Section 15.247(d) and 15.209(a) (Continued)**



Title: Ezurio Test No 48271JD02 FCC Part 15.247  
 Comment A: Radiated Emissions Scans Top channel. BPSK OFDM  
 Date: 6.SEP.2006 16:29:36

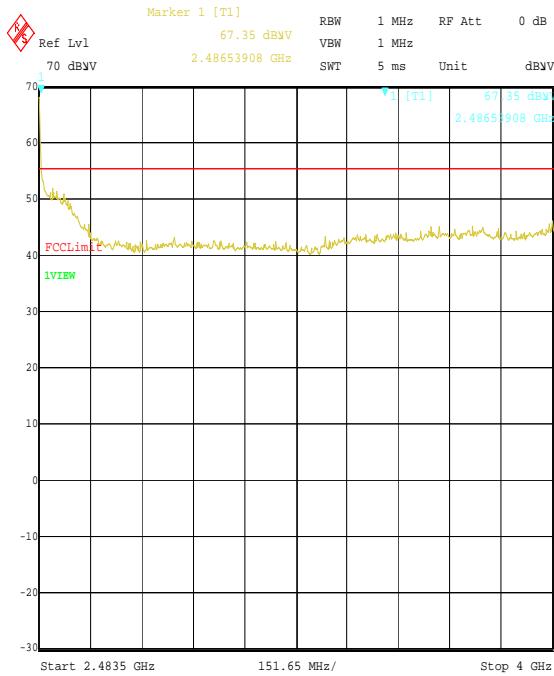


Title: Ezurio Test No 48271JD02 FCC Part 15.247  
 Comment A: Radiated Emissions Scans Top channel. CCK DSSS  
 Date: 6.SEP.2006 17:31:15

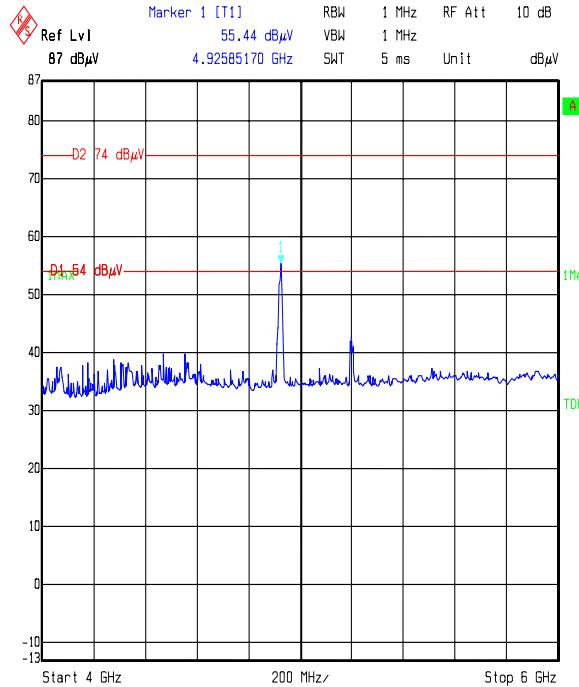
*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Radiated Emissions: Section 15.247(d) and 15.209(a) (Continued)**



Title: Ezurio Test No 48271JD02 FCC Part 15.247  
Comment A: Radiated Emissions Scans Top channel. CCK DSSS  
Date: 6.SEP.2006 17:27:49

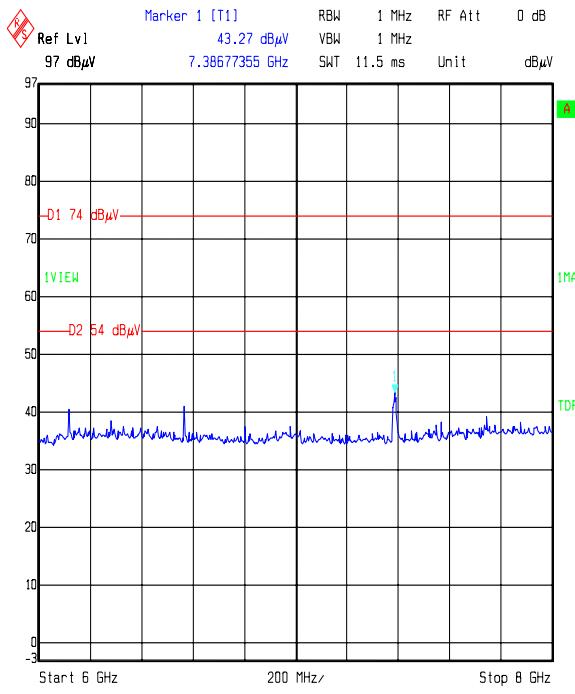


Comment A: Radiated emissions DSSS, CCK 4-6GHz  
Date: 12.OCT.2006 16:40:40

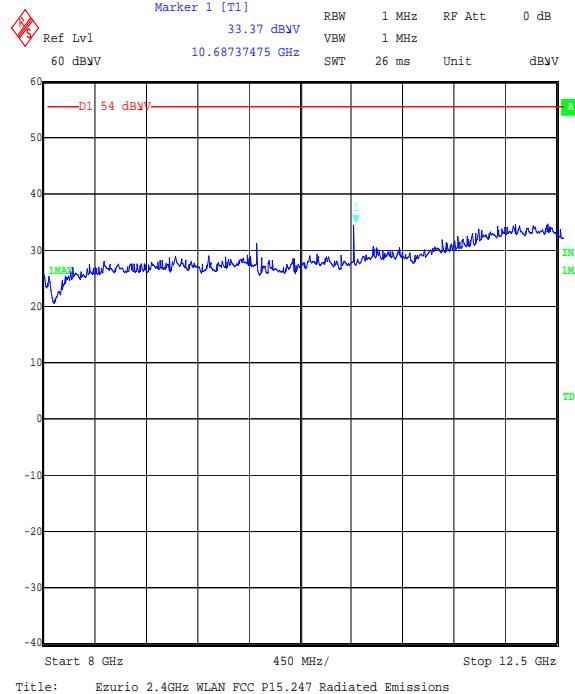
*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Radiated Emissions: Section 15.247(d) and 15.209(a) (Continued)**



Comment A: 48271JD05  
 Date: 13.OCT.2006 10:42:41

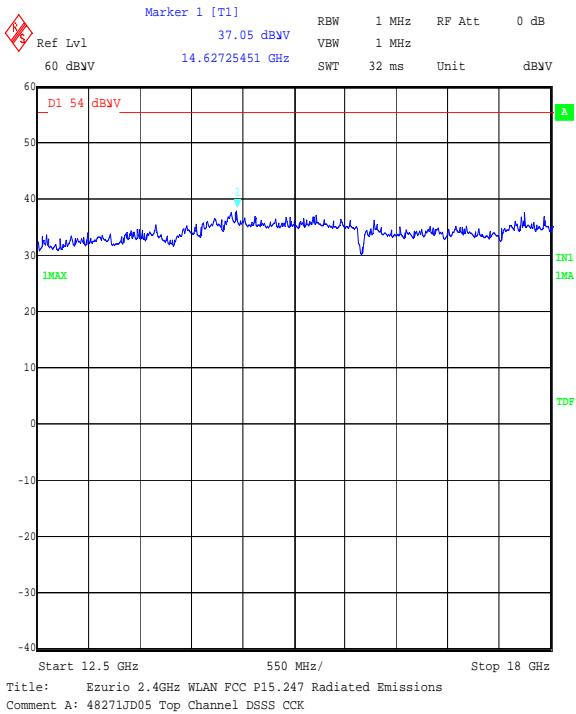


Title: Ezurio 2.4GHz WLAN FCC P15.247 Radiated Emissions  
 Comment A: 48271JD05 Top Channel DSSS CCK  
 Date: 7.SEP.2006 15:08:27

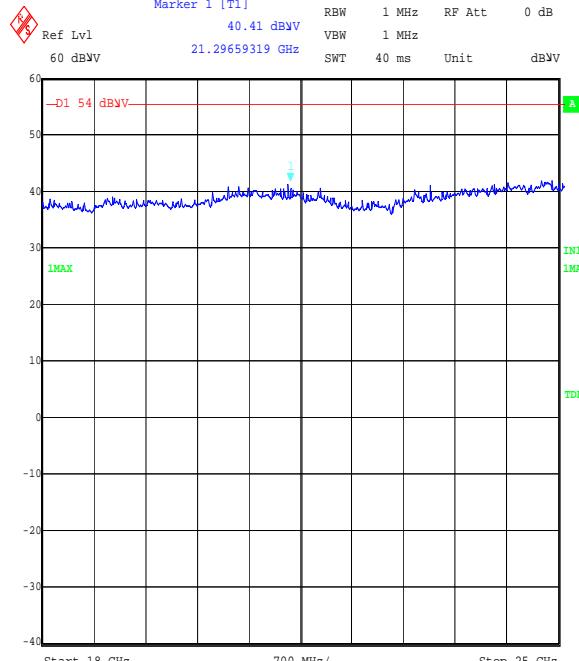
*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Radiated Emissions: Section 15.247(d) and 15.209(a) (Continued)**



Title: Ezurio 2.4GHz WLAN FCC P15.247 Radiated Emissions  
 Comment A: 48271JD05 Top Channel DSSS CCK  
 Date: 7.SEP.2006 15:26:30



Title: Ezurio 2.4GHz WLAN FCC P15.247 Radiated Emissions  
 Comment A: 48271JD05 Top Channel DSSS CCK  
 Date: 7.SEP.2006 15:31:36

*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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#### **7.2.39. Transmitter Band Edge Conducted Emissions: Section 15.247(d)**

The EUT was configured for transmitter conducted emissions measurements as described in section 9 of this report.

Tests were performed to identify the maximum conducted band edge emission levels.

The limit lines shown in the plots below are set to a level 20 dB below the measured fundamental peak power of the channels closest to the lower and upper band edge.

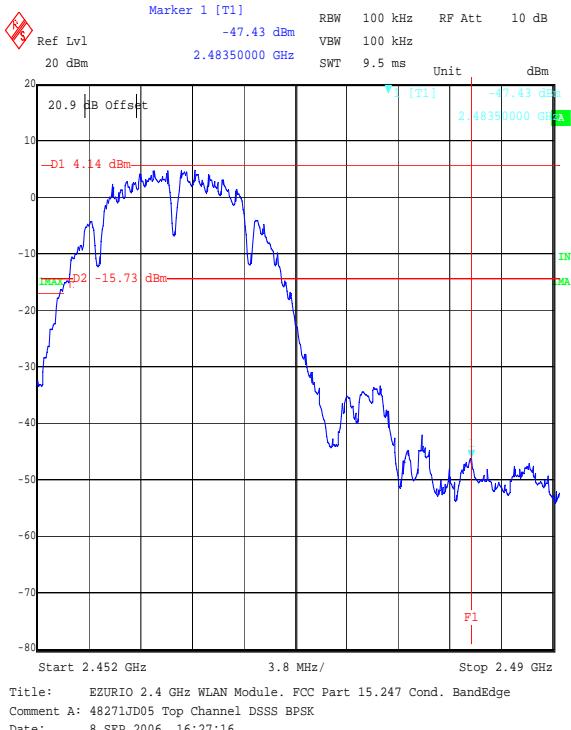
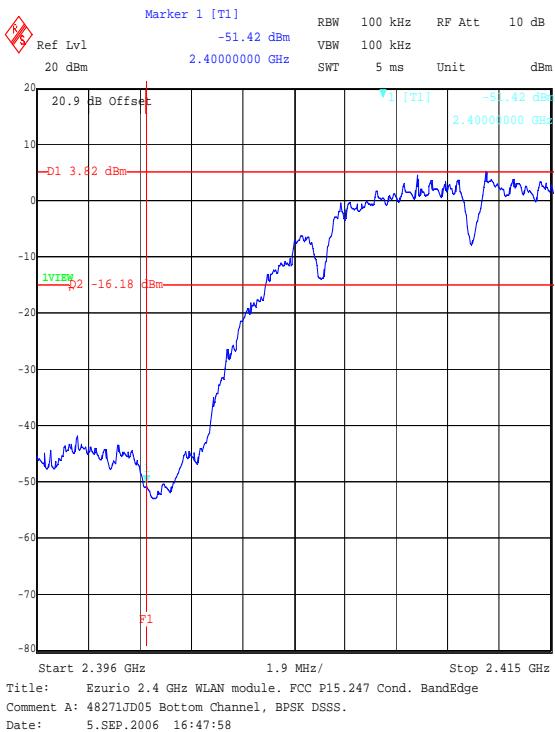
#### **Results: DSSS, BPSK**

#### **Peak or RMS Averaging Power Level:**

Frequency (MHz)	Peak Emission Level (dBm)	Peak Emission Level (dBc)	Limit (dBc)	Margin (dB)	Result
2400.0	-51.4	-55.2	-20.0	35.2	Complied
2483.5	-47.4	-51.5	-20.0	31.5	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Band Edge Conducted Emissions: Section 15.247(d) (Continued)**



*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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#### **7.2.40. Transmitter Band Edge Conducted Emissions: Section 15.247(d) (Continued)**

The EUT was configured for transmitter conducted emissions measurements as described in section 9 of this report.

Tests were performed to identify the maximum conducted band edge emission levels.

The limit lines shown in the plots below are set to a level 20 dB below the measured fundamental peak power of the channels closest to the lower and upper band edge.

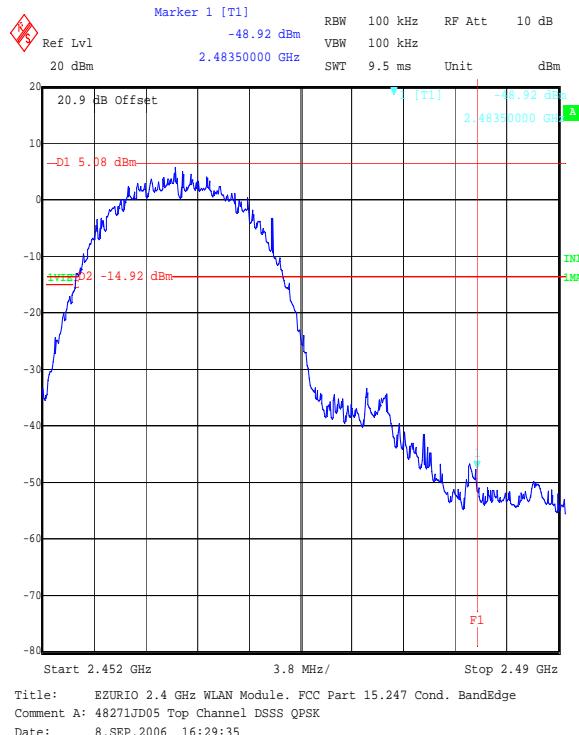
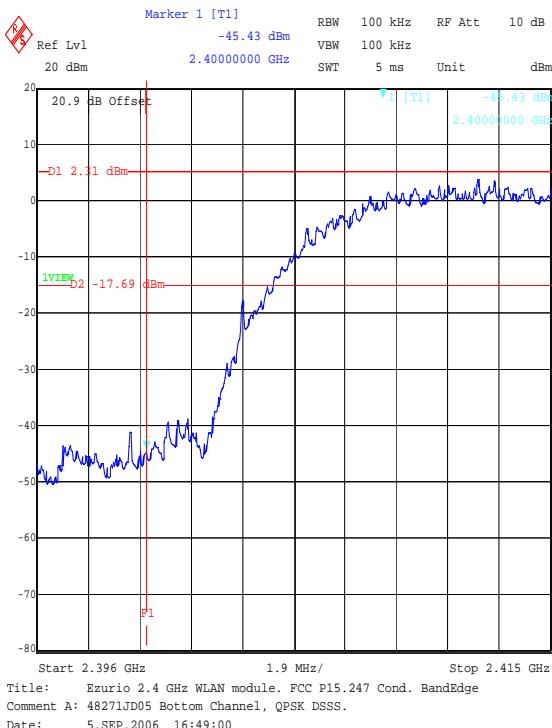
#### **Results: DSSS, QPSK**

##### **Peak or RMS Averaging Power Level:**

Frequency (MHz)	Peak Emission Level (dBm)	Peak Emission Level (dBc)	Limit (dBc)	Margin (dB)	Result
2400.0	-45.4	-47.7	-20.0	27.7	Complied
2483.5	-48.9	-54.0	-20.0	34.0	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Band Edge Conducted Emissions: Section 15.247(d) (Continued)**



*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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#### **7.2.41. Transmitter Band Edge Conducted Emissions: Section 15.247(d) (Continued)**

The EUT was configured for transmitter conducted emissions measurements as described in section 9 of this report.

Tests were performed to identify the maximum conducted band edge emission levels.

The limit lines shown in the plots below are set to a level 20 dB below the measured fundamental peak power of the channels closest to the lower and upper band edge.

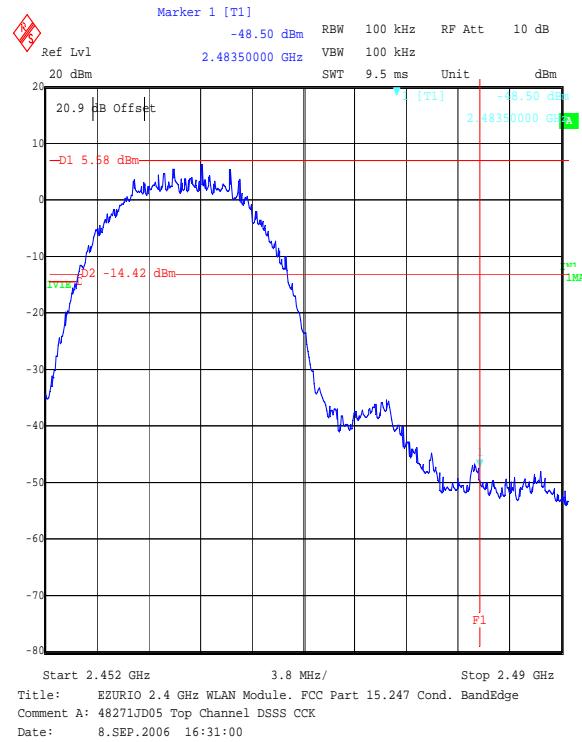
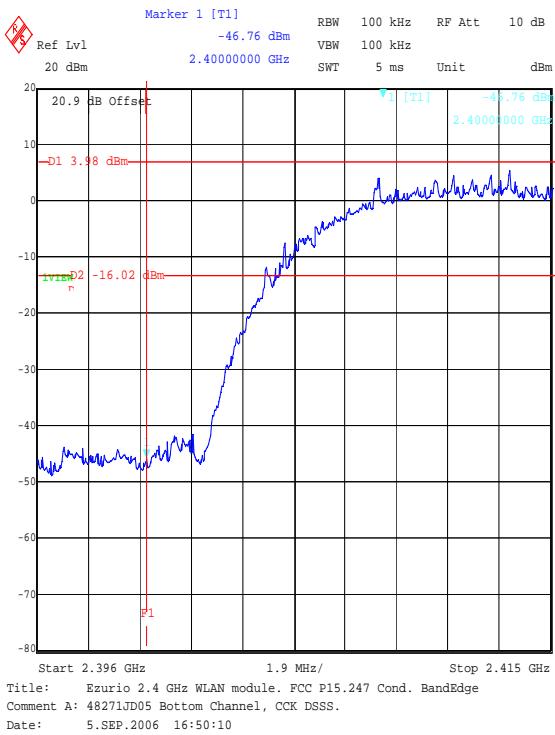
#### **Results: DSSS, CCK**

##### **Peak or RMS Averaging Power Level:**

Frequency (MHz)	Peak Emission Level (dBm)	Peak Emission Level (dBc)	Limit (dBc)	Margin (dB)	Result
2400.0	-46.8	-50.8	-20.0	30.8	Complied
2483.5	-48.5	-54.1	-20.0	34.1	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Band Edge Conducted Emissions: Section 15.247(d) (Continued)**



Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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#### **7.2.42. Transmitter Band Edge Conducted Emissions: Section 15.247(d) (Continued)**

The EUT was configured for transmitter conducted emissions measurements as described in section 9 of this report.

Tests were performed to identify the maximum conducted band edge emission levels.

The limit lines shown in the plots below are set to a level 20 dB below the measured fundamental peak power of the channels closest to the lower and upper band edge.

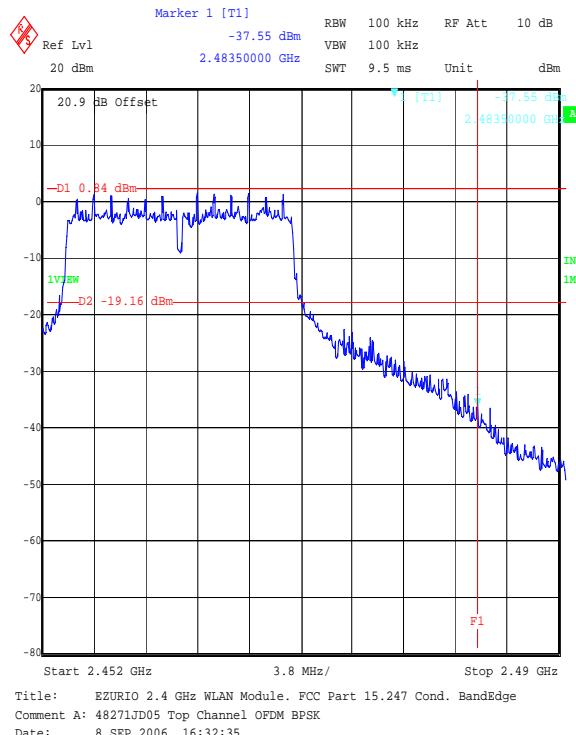
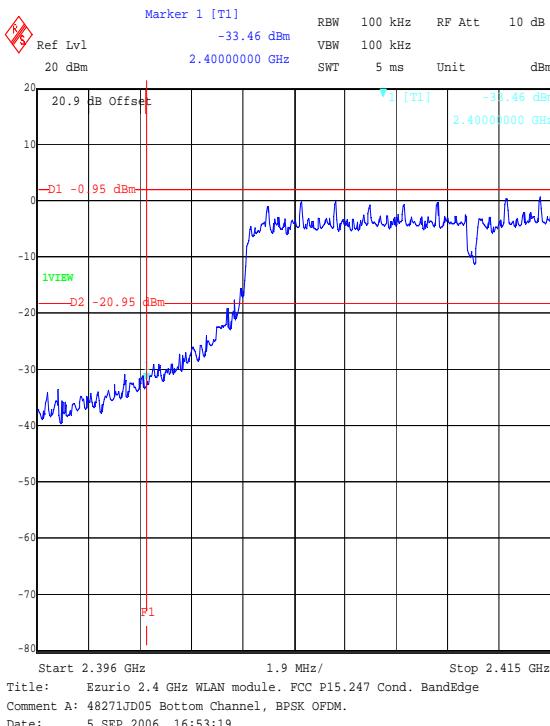
#### **Results: OFDM, BPSK**

##### **Peak or RMS Averaging Power Level:**

Frequency (MHz)	Peak Emission Level (dBm)	Peak Emission Level (dBc)	Limit (dBc)	Margin (dB)	Result
2400.0	-33.5	-32.5	-20.0	12.5	Complied
2483.5	-37.6	-38.4	-20.0	18.4	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Band Edge Conducted Emissions: Section 15.247(d) (Continued)**



*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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#### **7.2.43. Transmitter Band Edge Conducted Emissions: Section 15.247(d) (Continued)**

The EUT was configured for transmitter conducted emissions measurements as described in section 9 of this report.

Tests were performed to identify the maximum conducted band edge emission levels.

The limit lines shown in the plots below are set to a level 20 dB below the measured fundamental peak power of the channels closest to the lower and upper band edge.

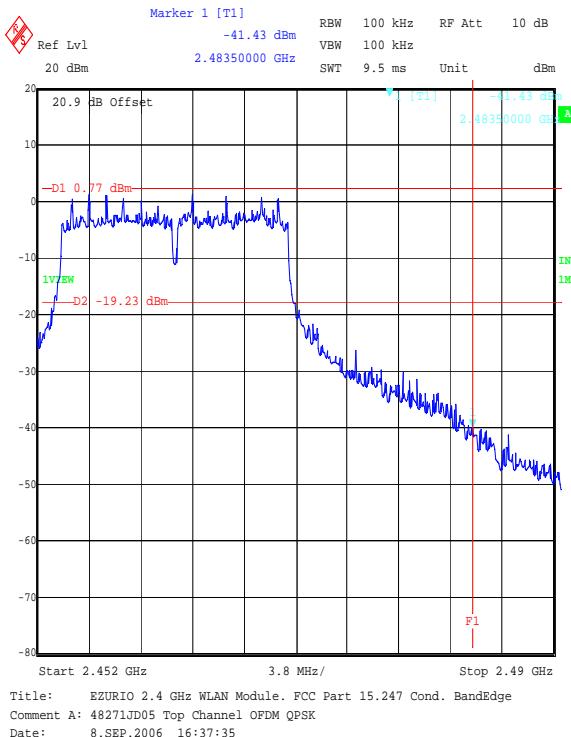
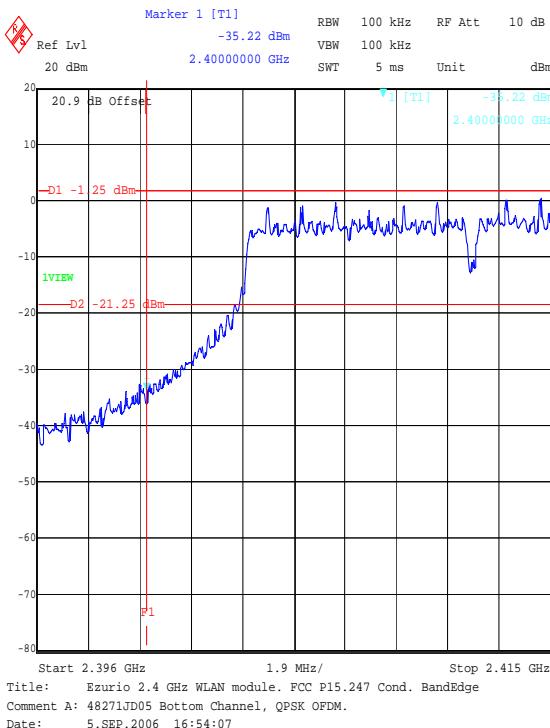
#### **Results: OFDM, QPSK**

##### **Peak or RMS Averaging Power Level:**

Frequency (MHz)	Peak Emission Level (dBm)	Peak Emission Level (dBc)	Limit (dBc)	Margin (dB)	Result
2400.0	-35.2	-33.9	-20.0	13.9	Complied
2483.5	-41.4	-42.2	-20.0	22.2	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Band Edge Conducted Emissions: Section 15.247(d) (Continued)**



*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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#### **7.2.44. Transmitter Band Edge Conducted Emissions: Section 15.247(d) (Continued)**

The EUT was configured for transmitter conducted emissions measurements as described in section 9 of this report.

Tests were performed to identify the maximum conducted band edge emission levels.

The limit lines shown in the plots below are set to a level 20 dB below the measured fundamental peak power of the channels closest to the lower and upper band edge.

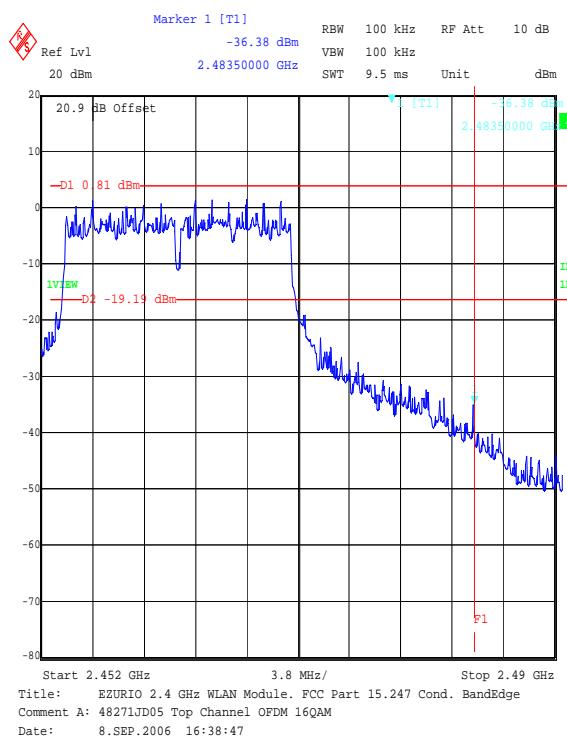
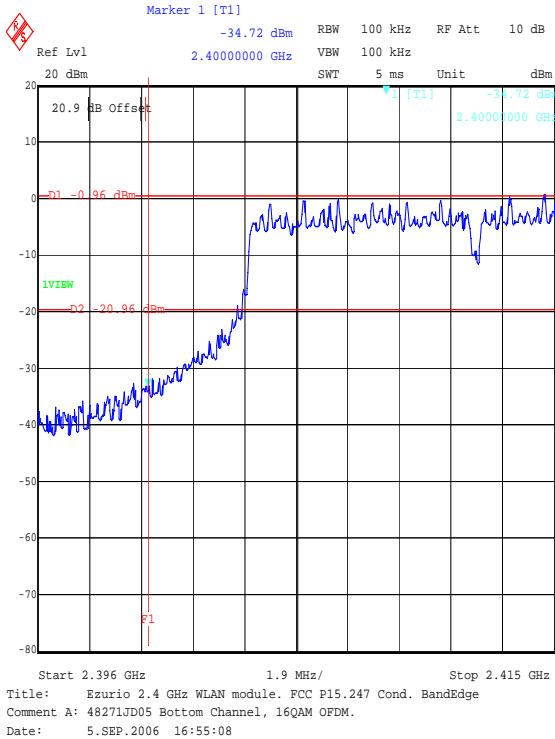
#### **Results: OFDM, 16 QAM**

##### **Peak or RMS Averaging Power Level:**

Frequency (MHz)	Peak Emission Level (dBm)	Peak Emission Level (dBc)	Limit (dBc)	Margin (dB)	Result
2400.0	-34.7	-33.7	-20.0	13.7	Complied
2483.5	-36.4	-37.2	-20.0	17.2	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Band Edge Conducted Emissions: Section 15.247(d) (Continued)**



*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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#### **7.2.45. Transmitter Band Edge Conducted Emissions: Section 15.247(d) (Continued)**

The EUT was configured for transmitter conducted emissions measurements as described in section 9 of this report.

Tests were performed to identify the maximum conducted band edge emission levels.

The limit lines shown in the plots below are set to a level 20 dB below the measured fundamental peak power of the channels closest to the lower and upper band edge.

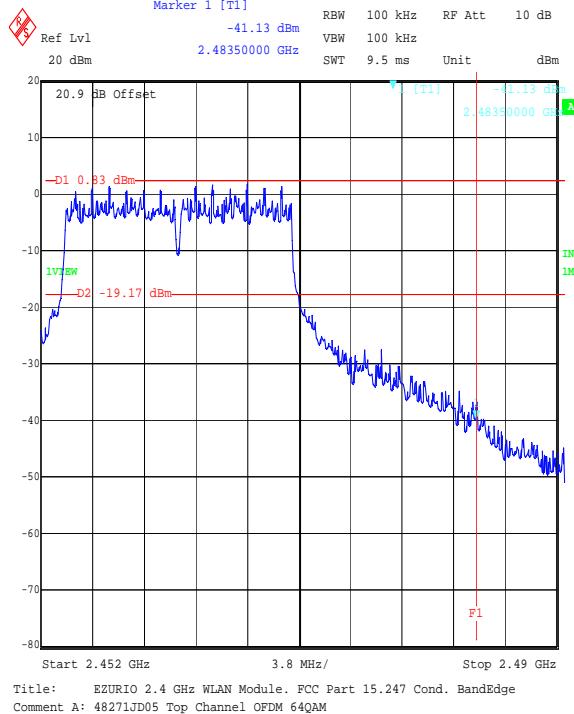
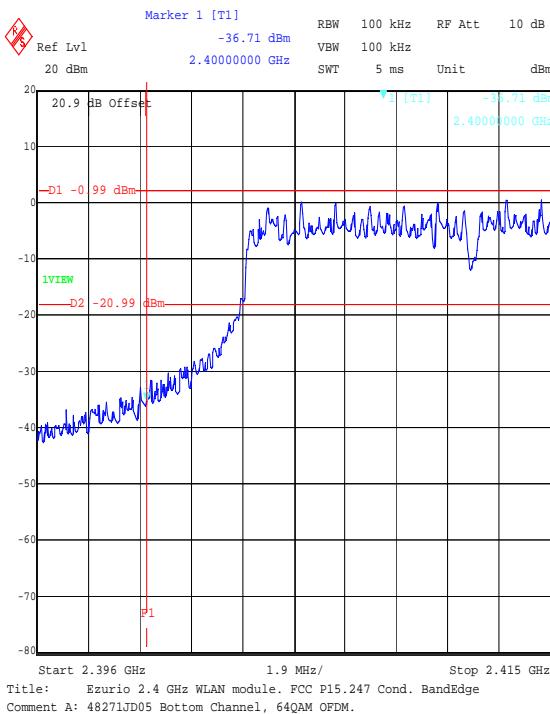
#### **Results: OFDM, 64 QAM**

##### **Peak or RMS Averaging Power Level:**

Frequency (MHz)	Peak Emission Level (dBm)	Peak Emission Level (dBc)	Limit (dBc)	Margin (dB)	Result
2400.0	-36.7	-35.7	-20.0	15.7	Complied
2483.5	-41.1	-41.9	-20.0	21.9	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Band Edge Conducted Emissions: Section 15.247(d) (Continued)**



*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**7.2.46. Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a)**

The EUT was configured for band edge compliance of radiated emission measurements as described in section 9 of this report.

Tests were performed to identify the maximum radiated band edge emissions.

**Results: DSSS, BPSK**

**Electric Field Strength Measurements**

**Peak Power Level:**

Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2.4000	Vertical	43.9	-11.4	55.25	75.63	20.38	Complied
2.4835	Vertical	41.2	-11.4	52.58	74.0	21.40	Complied

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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**7.2.47. Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) (Continued)**

The EUT was configured for band edge compliance of radiated emission measurements as described in section 9 of this report.

Tests were performed to identify the average radiated band edge emissions.

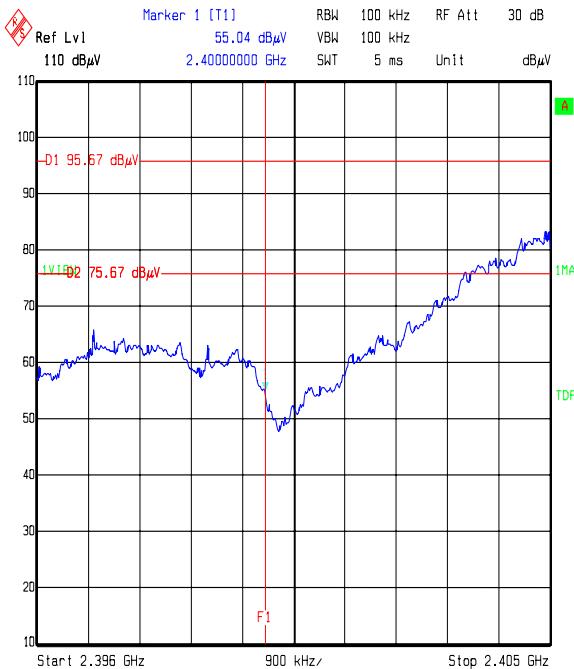
**Results: DSSS, BPSK**

**Average Power Level Static Mode:**

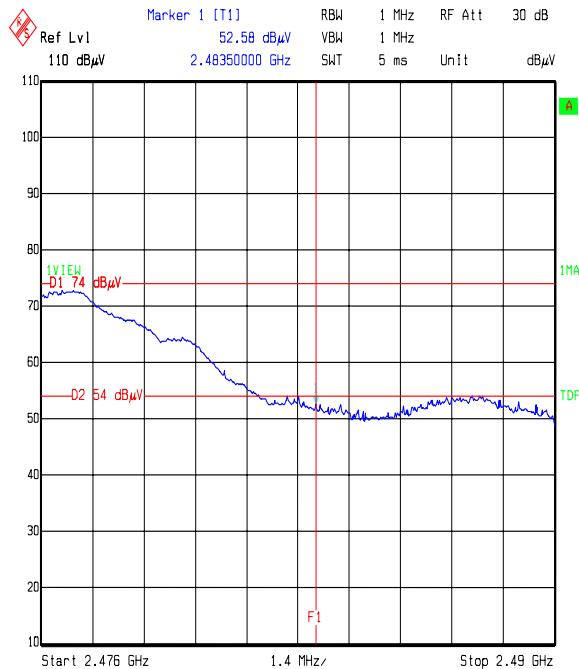
Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2.4835	Vertical	27.5	-11.9	38.96	54.0	15.0	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) (Continued)**



Title: 48717JD01 FCC15.247  
Comment A: DSSS, BPSK Bottom channel  
Date: 12.OCT.2006 15:02:42



Title: FCC15.247  
Comment A: DSSS, BPSK TOP channel  
Date: 12.OCT.2006 15:21:17

*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
Wireless Intelligent Serial Module  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**7.2.48. Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) (Continued)**

The EUT was configured for band edge compliance of radiated emission measurements as described in section 9 of this report.

Tests were performed to identify the maximum radiated band edge emissions.

**Results:**

**Electric Field Strength Measurements**

**Peak Power Level:**

Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2.4000	Vertical	51.0	-11.4	62.39	79.4	17.0	Complied
2.4835	Vertical	39.2	-11.4	56.59	74.0	23.4	Complied

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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**7.2.49. Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) (Continued)**

The EUT was configured for band edge compliance of radiated emission measurements as described in section 9 of this report.

Tests were performed to identify the average radiated band edge emissions.

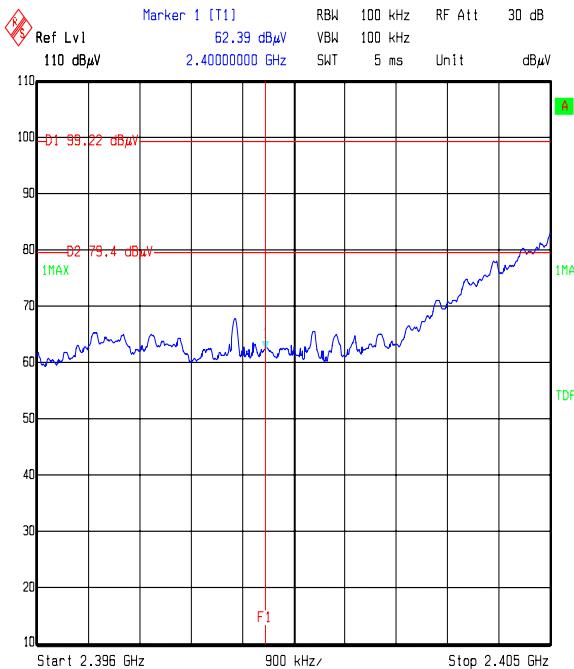
**Results: DSSS, QPSK**

**Average Power Level Static Mode:**

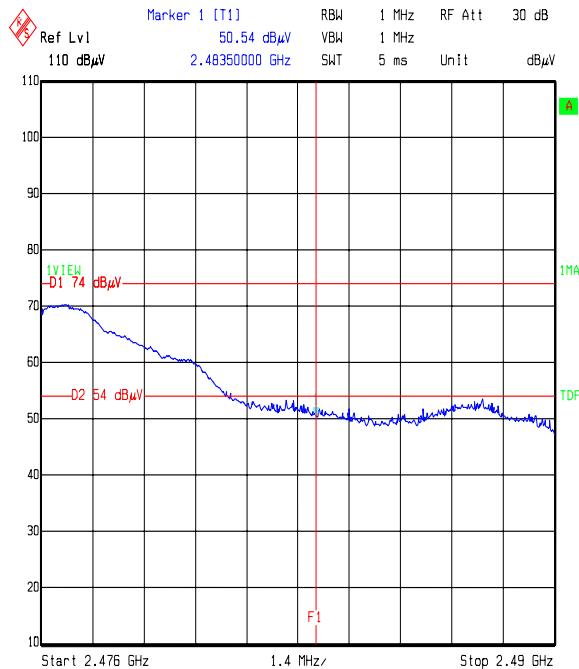
Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2.4835	Vertical	27.1	-11.4	38.51	54.0	15.5	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) (Continued)**



Title: 48717JD01 FCC15.247  
 Comment A: DSSS, QPSK Bottom channel  
 Date: 12.OCT.2006 14:59:28



Title: 48717JD01 FCC15.247  
 Comment A: DSSS, QPSK Top channel  
 Date: 12.OCT.2006 14:48:17

*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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**7.2.50. Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) (Continued)**

The EUT was configured for band edge compliance of radiated emission measurements as described in section 9 of this report.

Tests were performed to identify the maximum radiated band edge emissions.

**Results: DSSS, CCK**

**Electric Field Strength Measurements**

**Peak Power Level:**

Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2.4000	Vertical	42.7	-11.4	54.23	75.67	21.5	Complied
2.4835	Vertical	38.3	-11.4	49.36	74.0	24.64	Complied

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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**7.2.51. Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) (Continued)**

The EUT was configured for band edge compliance of radiated emission measurements as described in section 9 of this report.

Tests were performed to identify the average radiated band edge emissions.

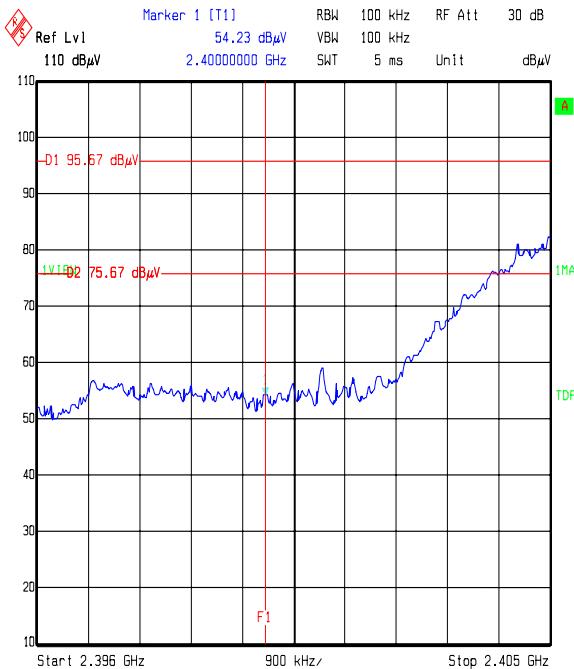
**Results: DSSS, CCK**

**Average Power Level Static Mode:**

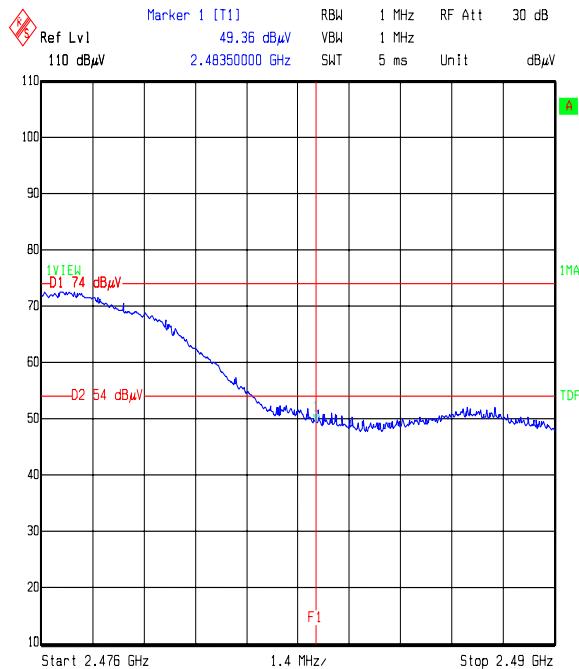
Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2.4835	Vertical	27.7	-11.4	39.10	54.0	14.9	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) (Continued)**



Title: 48717JD01 FCC15.247  
 Comment A: DSSS, CCK Bottom channel  
 Date: 12.OCT.2006 15:05:22



Title: FCC15.247  
 Comment A: DSSS, CCK TOP channel  
 Date: 12.OCT.2006 15:30:48

*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**7.2.52. Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) (Continued)**

The EUT was configured for band edge compliance of radiated emission measurements as described in section 9 of this report.

Tests were performed to identify the maximum radiated band edge emissions.

**Results: OFDM, BPSK**

**Electric Field Strength Measurements**

**Peak Power Level:**

Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2.4000	Vertical	51.03	-11.4	62.43	72.48	10.1	Complied
2.4835	Vertical	61.90	-11.4	73.30	74.0	0.7	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**7.2.53. Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a)**

The EUT was configured for band edge compliance of radiated emission measurements as described in section 9 of this report.

Tests were performed to identify the average radiated band edge emissions.

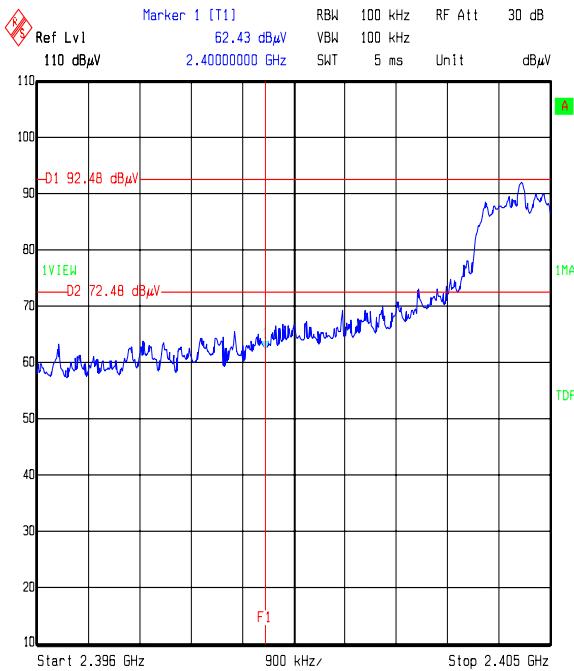
**Results: OFDM, BPSK**

**Average Power Level Static Mode:**

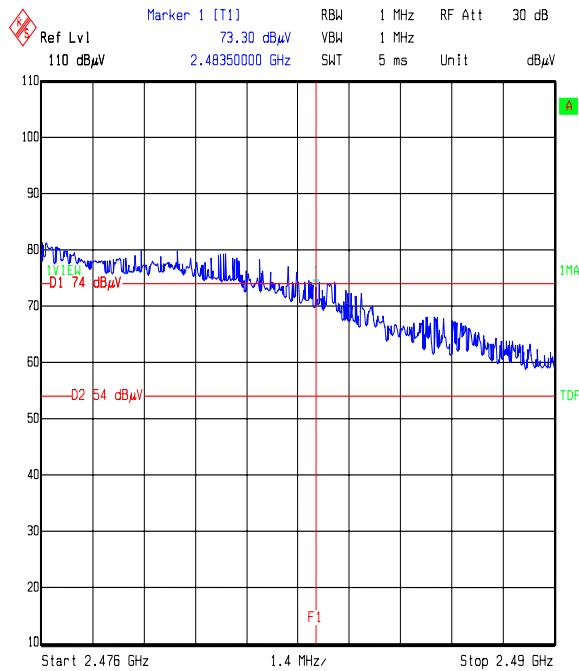
Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2.4835	Vertical	39.7	-11.4	51.10	54.0	2.9	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) (Continued)**



Title: FCC15.247  
 Comment A: OFDM, BPSK Bottom channel  
 Date: 12.OCT.2006 15:09:08



Title: FCC15.247  
 Comment A: OFDM, BPSK TOP channel  
 Date: 12.OCT.2006 15:34:33

*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**7.2.54. Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) (Continued)**

The EUT was configured for band edge compliance of radiated emission measurements as described in section 9 of this report.

Tests were performed to identify the maximum radiated band edge emissions.

**Results: OFDM, QPSK**

**Electric Field Strength Measurements**

**Peak Power Level:**

Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2.4000	Vertical	50.70	-11.4	62.12	72.48	10.4	Complied
2.4835	Vertical	60.66	-11.4	72.06	74.0	1.94	Complied

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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**7.2.55. Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) (Continued)**

The EUT was configured for band edge compliance of radiated emission measurements as described in section 9 of this report.

Tests were performed to identify the average radiated band edge emissions.

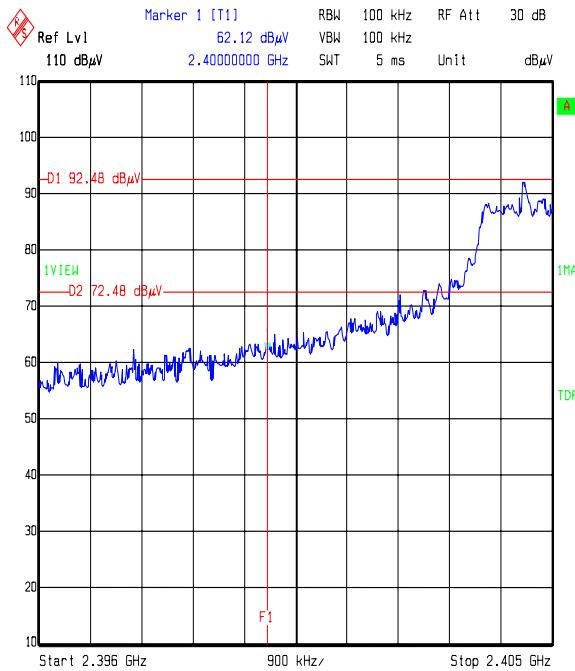
**Results: OFDM, QPSK**

**Average Power Level Static Mode:**

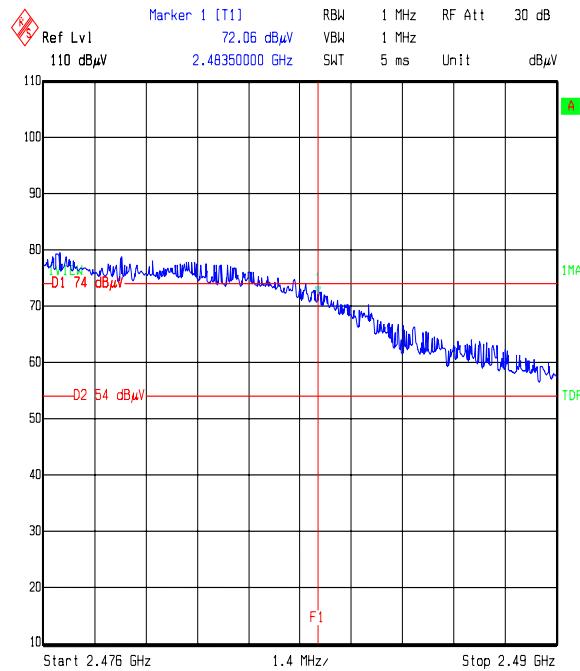
Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2.4835	Vertical	35.2	-11.4	46.56	54.0	7.4	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) (Continued)**



Title: FCC15.247  
 Comment A: OFDM, QPSK Bottom channel  
 Date: 12.OCT.2006 15:12:07



Title: FCC15.247  
 Comment A: OFDM, QPSK TOP channel  
 Date: 12.OCT.2006 15:36:24

*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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**7.2.56. Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) (Continued)**

The EUT was configured for band edge compliance of radiated emission measurements as described in section 9 of this report.

Tests were performed to identify the maximum radiated band edge emissions.

**Results: OFDM, 16 QAM**

**Electric Field Strength Measurements**

**Peak Power Level:**

Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2.4000	Vertical	49.2	-11.4	60.62	72.48	11.9	Complied
2.4835	Vertical	61.2	-11.4	72.67	74.0	1.4	Complied

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
To: FCC Part 15.247: 2005 (Subpart C)

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**7.2.57. Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a)**

The EUT was configured for band edge compliance of radiated emission measurements as described in section 9 of this report.

Tests were performed to identify the average radiated band edge emissions.

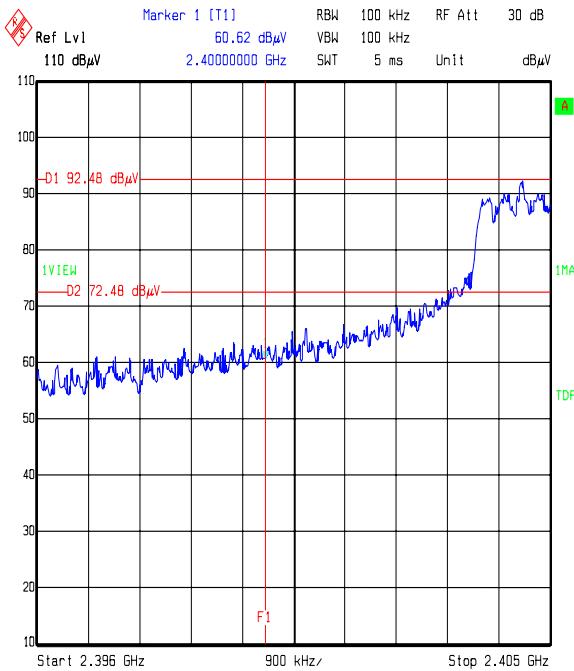
**Results: OFDM, 16 QAM**

**Average Power Level Static Mode:**

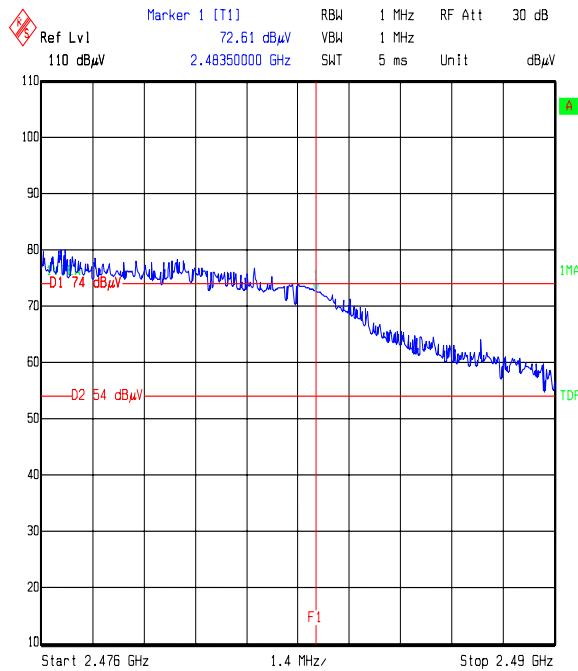
Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2.4835	Vertical	30.6	-11.4	42.08	54.0	12.0	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) (Continued)**



Title: FCC15.247  
 Comment A: OFDM, 16QAM Bottom channel  
 Date: 12.OCT.2006 15:14:57



Title: FCC15.247  
 Comment A: OFDM, 16QAM TOP channel  
 Date: 12.OCT.2006 15:48:59

*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**7.2.58. Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) (Continued)**

The EUT was configured for band edge compliance of radiated emission measurements as described in section 9 of this report.

Tests were performed to identify the maximum radiated band edge emissions.

**Results: OFDM, 64 QAM**

**Electric Field Strength Measurements**

**Peak Power Level:**

Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2.4000	Vertical	49.1	-11.4	60.53	72.48	12.0	Complied
2.4835	Vertical	58.4	-11.4	69.82	74.0	4.2	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**7.2.59. Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) (Continued)**

The EUT was configured for band edge compliance of radiated emission measurements as described in section 9 of this report.

Tests were performed to identify the average radiated band edge emissions.

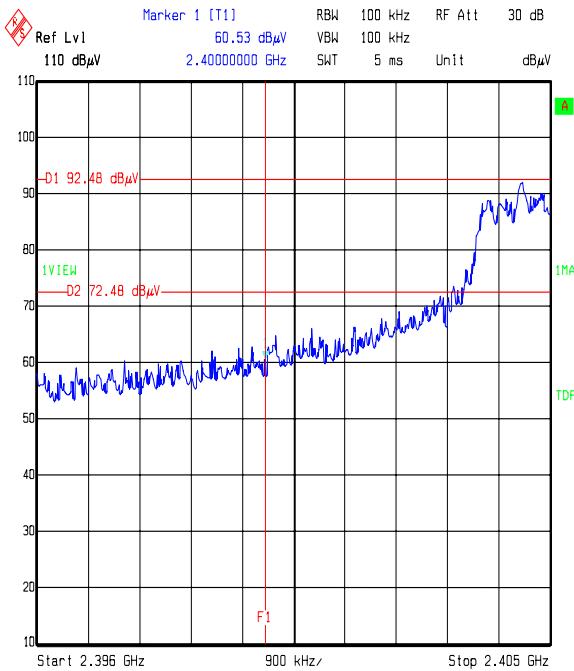
**Results: OFDM, 64 QAM**

**Average Power Level Static Mode:**

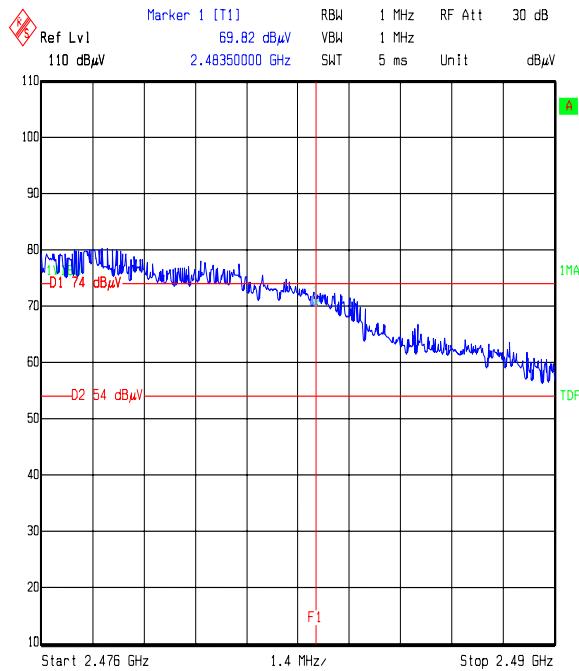
Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2.4835	Vertical	28.5	-11.4	39.91	54.0	14.1	Complied

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

**Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) (Continued)**



Title: FCC15.247  
Comment A: OFDM, 64QAM Bottom channel  
Date: 12.OCT.2006 15:17:19



Title: FCC15.247  
Comment A: OFDM, 16QAM TOP channel  
Date: 12.OCT.2006 15:41:05

*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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## **8. Measurement Uncertainty**

No measurement or test can ever be perfect and the imperfections give rise to error of measurement in the results. Consequently, the result of a measurement is only an approximation to the value of the measurand (the specific quantity subject to measurement) and is only complete when accompanied by a statement of the uncertainty of the approximation.

The expression of uncertainty of a measurement result allows realistic comparison of results with reference values and limits given in specifications and standards.

The uncertainty of the result may need to be taken into account when interpreting the measurement results.

The reported expanded uncertainties below are based on a standard uncertainty multiplied by an appropriate coverage factor, such that a confidence level of approximately 95% is maintained. For the purposes of this document “approximately” is interpreted as meaning “effectively” or “for most practical purposes”.

Measurement Type	Range	Confidence Level (%)	Calculated Uncertainty
AC Conducted Spurious Emissions	0.15 MHz to 30 MHz	95%	±3.72 dB
Transmitter Maximum Peak Output Power	Not applicable	95%	±2.94 dB
Conducted Emissions Antenna Port	30 MHz to 40 GHz	95%	±0.28 dB
Spectral Power Density	Not applicable	95%	±0.27 dB
6 dB/20 dB Bandwidth	Not applicable	95%	±11.4 ppm
Radiated Spurious Emissions	30 MHz to 1000 MHz	95%	±4.64 dB
Radiated Spurious Emissions	1 GHz to 40 GHz	95%	±2.94 dB

The methods used to calculate the above uncertainties are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty, the published guidance of the appropriate accreditation body is followed.

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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## **9. Measurement Methods**

### **9.1. AC Mains Conducted Emissions**

AC mains conducted emissions measurements were performed in accordance with the standard, against appropriate limits for each detector function.

The test was performed in a shielded enclosure with the equipment arranged as detailed in the standard on a wooden bench using the floor of the screened enclosure as the ground reference plane. The EUT was powered with 110V 60 Hz ac mains supplied via a line impedance stabilisation network (LISN).

Initial measurements in the form of swept scans covering the entire measurement band were performed in order to identify frequencies on which the EUT was generating interference. In order to minimise the time taken for these swept measurements, a peak detector was used in conjunction with the appropriate detector IF measuring bandwidths (see table below). Repetitive scans were performed to allow for emissions with low repetition rates, and the duty cycle of the EUT. The test configuration was the same for the initial scans as for the final measurements.

Following the initial scans, a graph was produced giving an overview of the emissions from the EUT plotted against the appropriate specification limit. A tolerance line was set 6 dB below the specification limit and levels above the tolerance line were re-tested (at individual frequencies) using the appropriate detector function.

The test equipment settings for conducted emissions measurements were as follows:

<b>Receiver Function</b>	<b>Initial Scan</b>	<b>Final Measurements</b>
Detector Type:	Peak	Quasi-Peak (CISPR)/Average
Mode:	Max Hold	Not applicable
Bandwidth:	10 kHz	9 kHz
Amplitude Range:	60 dB	20 dB
Measurement Time:	Not applicable	>1 s
Observation Time:	Not applicable	>15 s
Step Size:	Continuous sweep	Not applicable
Sweep Time:	Coupled	Not applicable

**Test of:** Ezurio Ltd  
Wireless Intelligent Serial Module  
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## **9.2. Radiated Emissions**

Radiated emissions measurements were performed in accordance with the standard, against appropriate limits for each detector function through 2 orthogonal planes.

Initial measurements covering the entire measurement band in the form of swept scans in a shielded enclosure were performed in order to identify frequencies on which the EUT was generating interference. This determined the frequencies on which the EUT should be re-measured in full on the open area test site. In order to minimise the time taken for the swept measurements, a peak detector was used in conjunction with the appropriate detector IF measuring bandwidth (see table below). Repetitive scans were performed to allow for emissions with low repetition rates.

The initial scans were performed using an antenna height of 1.5 m and a measurement distance of 3 m. Following the initial scans, graphs were produced giving an overview of the emissions from the EUT plotted against the appropriate specification limit. Any emission within 20 dB of the limit were then measured on the open area test site, except in cases where the noise floor was within 20 dB of the limit, in these cases the highest point of the noise floor was measured.

Where an emission fell inside a restricted band, measurements were made at the appropriate test distance using a measuring receiver with a quasi peak detector for measurements below 1000 MHz and an average and peak detector for measurements above 1000 MHz. A peak detector was used for all other measurements.

For the final measurements the EUT was arranged on a non-conducting turn table on a standard test site compliant with ANSI C63.4 – 2003 Clause 5.4.

All measurements on the open area test site were performed using broadband antennas in both vertical and horizontal polarisations.

On the open area test site, at each frequency where a signal was to be measured, the trace was maximised by rotating a turntable through 360°. The angle at which the maximum signal was observed was locked out. For frequencies below 1000 MHz the test antenna was varied in height between 1 m and 4 m in order to further maximise the target emission.

For frequencies above 1000 MHz where a horn antenna was used, height searching was performed to locate the optimal height of the horn with respect to the EUT. At this point the horn was locked off and the turntable was again rotated through 360° to maximise the target signal. It should be noted that the received signal from the EUT would diminish very quickly after it exits the beam width of the horn antenna, for this reason it may not be necessary to fully height search with the horns.

**Test of:** Ezurio Ltd  
**Wireless Intelligent Serial Module**  
**To:** FCC Part 15.247: 2005 (Subpart C)

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**Radiated Emissions (Continued)**

At this point, any signals found to be between the limit and a level 6 dB below it were further maximised by changing the configuration of the EUT, e.g. re-routing cables to peripherals and moving peripherals with respect to the EUT.

Scans were performed to the upper frequency limits as stated in section 15.33

The final field strength was determined as the indicated level in dB $\mu$ V plus cable loss and antenna factor.

The test equipment settings for radiated emissions measurements were as follows:

Receiver Function	Initial Scan	Final Measurements <1 GHz	Final Measurements $\geq$ 1 GHz
Detector Type:	Peak	Quasi-Peak (CISPR)	Peak / Average
Mode:	Max Hold	Not applicable	Max Hold
Bandwidth:	(120 kHz <1 GHz) (1 MHz $\geq$ 1 GHz)	120 kHz	1 MHz
Amplitude Range:	100 dB	100 dB	100 dB
Step Size:	Continuous sweep	Not applicable	Not applicable
Sweep Time:	Coupled	Not applicable	Not applicable

**Test of:** Ezurio Ltd  
Wireless Intelligent Serial Module  
**To:** FCC Part 15.247: 2005 (Subpart C)

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### **9.3. Conducted Antenna Port Emissions**

Conducted antenna port emissions measurements were performed using appropriate bandwidths in accordance with the standard against the appropriate limits.

Prior to testing being performed a suitable RF attenuator and cable, were calibrated for the required frequency range. For each measurement range the calibrated level of the attenuator and cable were entered as an offset into the spectrum analyser to compensate for the losses in the measurement set up.

Initial measurements covering the entire measurement band in the form of swept scans were performed in order to identify frequencies on which the EUT was generating interference. This determined the frequencies on which final measurements were necessary. To make the final measurements a peak detector was used in conjunction with the appropriate detector IF measuring bandwidth.

Repetitive scans were performed to allow for emissions with low repetition rates.

Scans were performed to the upper frequency limits as stated in 15.33(a)(1)

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Wireless Intelligent Serial Module  
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**Minimum 6 dB Bandwidth**

The EUT and spectrum analyser were configured as for radiated measurements.

Prior to testing being performed a suitable RF attenuator and cables were calibrated for the required frequencies. For each frequency the calibrated level of the attenuator and cable were entered as an offset into the spectrum analyser to compensate for the losses in the measurement set up.

To determine the 6 dB bandwidth, a resolution bandwidth of 200 kHz was used, which is approximates to 1% of the 6 dB bandwidth. A video bandwidth of 200 kHz was used. The analyser was set to a span of greater than twice the 6 dB bandwidth and for a maximum hold scan to capture the profile of the signal. The peak level was then determined, and a reference established 6 dB below the peak level. The bandwidth was determined at the points where the 6 dB reference crossed the profile of the emission.

**Test of:** Ezurio Ltd  
Wireless Intelligent Serial Module  
**To:** FCC Part 15.247: 2005 (Subpart C)

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#### **9.4. Transmitter 20 dB Bandwidth**

The EUT and spectrum analyser was configured as for transmitter radiated measurements.

To determine the occupied bandwidth, a resolution bandwidth of 200 kHz was used, which is greater than 1% of the 20 dB bandwidth. A video bandwidth of a least the same value was used. The analyser was set for a maximum hold scan to capture the profile of the signal. The peak level was then determined, and a reference line was drawn 20 dB below the peak level. The bandwidth was determined at the points where the 20 dB reference crossed the profile of the emission.

**Test of:** **Ezurio Ltd**  
**Wireless Intelligent Serial Module**  
**To:** **FCC Part 15.247: 2005 (Subpart C)**

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### **9.5. Spectral Power Density**

The EUT and spectrum analyser were configured as for conducted antenna port emissions measurements.

Prior to testing being performed a suitable RF attenuator and cables were calibrated for the required frequencies. For each frequency the calibrated level of the attenuator and cable were entered as an offset into the spectrum analyser to compensate for the losses in the measurement set up.

Prior to the measurement being taken the spectrum analyser was tuned to the fundamental frequency of the EUT.

A resolution bandwidth of 3 kHz was selected and the analyser was set to a span greater than twice the 6 dB bandwidth. The trace was max held and a reading was taken at the peak point of the trace.

Test of: Ezurio Ltd  
Wireless Intelligent Serial Module  
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### **9.6. Peak Output Power**

Prior to testing being performed a suitable RF attenuator and cables were calibrated for the required frequencies. For each frequency to be measured, the calibrated level of the attenuator and cable were entered as an offset into a power meter to compensate for the measurement set up.

To determine the transmitter output power, the EUT was operated at maximum power and a result was obtained using a wideband peak power meter for each modulation and data rate

**Test of:** Ezurio Ltd  
Wireless Intelligent Serial Module  
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### **9.7. Band Edge Compliance of RF Radiated Emissions**

The EUT and spectrum analyser were configured as for radiated measurements.

To determine band edge compliance, the analyser resolution bandwidth was set to  $\geq 1\%$  of the analyser span. The video bandwidth was set to be  $\geq$  to the resolution bandwidth. The sweep was set to auto and the detector to peak. The trace was set to max hold and a trace was produced.

A plot of the lower band edge of the allocated frequency band was produced. A marker was set to the level of the highest in band emission with a limit line set to 20 dB below this. The marker was then placed on the highest out of band emission (the specification states that either the band edge level must be measured or the highest out of band emission, whichever is the greater). The plots show that the highest out of band emission complies with the -20dBc Limit.

The above procedure was then repeated for the upper band edge except that, as the upper band edge fell on a restricted band edge (as defined in section 15.205(a)), the limit for the restricted band was applied instead of the -20dBc limit i.e. the general limits defined in section 15.209(a).

Final measurements were performed on the worst-case configuration as described in part 15.31(i).

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## **Appendix 1. Test Equipment Used**

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Last Calibrated	Cal. Interval
A027	Horn Antenna	Eaton	9188-2	301	08 Jun 06	36
A028	Horn Antenna	Eaton	91888-2	304	08 Jun 06	36
A031	2 to 4 GHz Eaton Horn Antenna	Eaton	91889-2	557	08 Jun 06	36
A1037	Chase Bi-log Antenna	Chase EMC Ltd	CBL6112 B	2413	26 Jan 06	12
A1069	ESH3-Z5	Rohde & Schwarz	ESH3-Z5	837469/012	31 Jan 06	12
A1266	Pin Diode Switch	MiniCircuits	ZMSW-1211	005	No Details	12
A1360	ESH3-Z2 Pulse Limiter	Rohde & Schwarz	ESH3-Z2	A1360-20112003	29 Apr 05	12
A1534	Preamplifier 1-26.5 GHz	Hewlett Packard	8449B OPT H02	3008A00405	No Details	12
A253	WG 12 Microwave Horn	Flann Microwave	12240-20	128	02 July 06	36
A254	WG 14 Microwave Horn	Flann Microwave	14240-20	139	06 Oct 06	36
A255	WG 16 Microwave Horn	Flann Microwave	16240-20	519	06 Oct 06	36
A256	WG 18 Microwave Horn	Flann Microwave	18240-20	400	06 Oct 06	36
A276	OATS Positioning Controller	Rohde & Schwarz	HCC		No Details	12
A392	3 dB attenuator (9)	Suhner	6803.17. B	None	No Details	12
A430	WG 18 horn	Flann	18240-20	425	06 Oct 06	36
A553	Bi-log Antenna	Chase	CBL6111 A	1593	18 Oct 05	12
C1164	1.5m N-type Cable	Rosenberger Micro-Coax	FA210A1 0150070 70	43188-1	Cal before use	12
C1166	2m N-Type Cable	Rosenberger Micro-Coax	FA210A1 0200070 70	43189-02	Cal before use	12

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**Test Equipment Used (Continued)**

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Last Calibrated	Cal. Interval
C1191	SMA Cable	Rosenburg	FA210A1 015M303 0	27141-06	28 Apr 06	12
C160	Cables	Rosenberger	UFA210 A-1- 1181- 70x70	None	29 Jan 06	12
C341	Cable	Andrews	None	None	30 Jan 06	12
C363	BNC Cable	Rosenberger	RG142	None	29 Jan 06	12
C364	BNC Cable	Rosenberger	RG142	None	29 Jan 06	12
C393	Cable	RFI	None	None	30 Jan 06	12
C460	Cable	Rosenberger	UFA210 A-1- 1182- 704704	98H0304	22 Sept 06	12
C461	Cable	Rosenberger	UFA210 A-1- 1182- 704704	98H0305	30 Jan 06	12
G088	PSU	Thurlby Thandar	CPX200	100700	No Details	0
M003	Spectrum Monitor	Rohde & Schwarz	EZM	883 580/008	No Details	12
M023	ESVP Receiver	Rohde & Schwarz	ESVP	872 991/027	10 Apr 06	12
M1122	Boonton Electronics	Boonton Electronics	57340	3297	17 May 06	12
M1123	RF Power Meter	Boonton	4531	138201	17 May 06	12

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**Test Equipment Used (Continued)**

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Last Calibrated	Cal. Interval
M1124	Spectrum Analyser	Rohde & Schwarz	ESIB26	100046K	08 Sept 06	12
M1229	Digital Multimeter	Fluke	179	87640015	06 Mar 06	12
M1263	ESIB7	Rohde & Schwarz	ESIB7	100265	12 Jan 06	12
M1265	Thermo Hygro	RS	212-124	0	18 Feb 06	12
M1266	Thermo Hygro	RS	212-124	0	18 Feb 06	12
M1269	True RMS Multimeter	Fluke	179	90250210	16 Feb 06	12
M173	Turntable Controller	R.H.Electrical Services	RH351	3510020	No Details	0
S009	D.C. PSU	Farnell	PDD350 2A	174	No Details	12
S011	D.C. PSU	INSTEK	PR-3010H	9401270	No Details	12
S0520	DC Power Supply	GW instek	GPC-3030	E835141	Cal before use	12
S201	Site 1	RFI	1		18 July 06	12
S202	Site 2	RFI	2	S202-15011990	No Details	12
S207	Site 7	RFI	7		No Details	12
S209	Site 9	RFI	9		29 May 06	12
S212	Site 12	RFI	12		No Details	12

**NB** In accordance with UKAS requirements, all the measurement equipment is on a calibration schedule.

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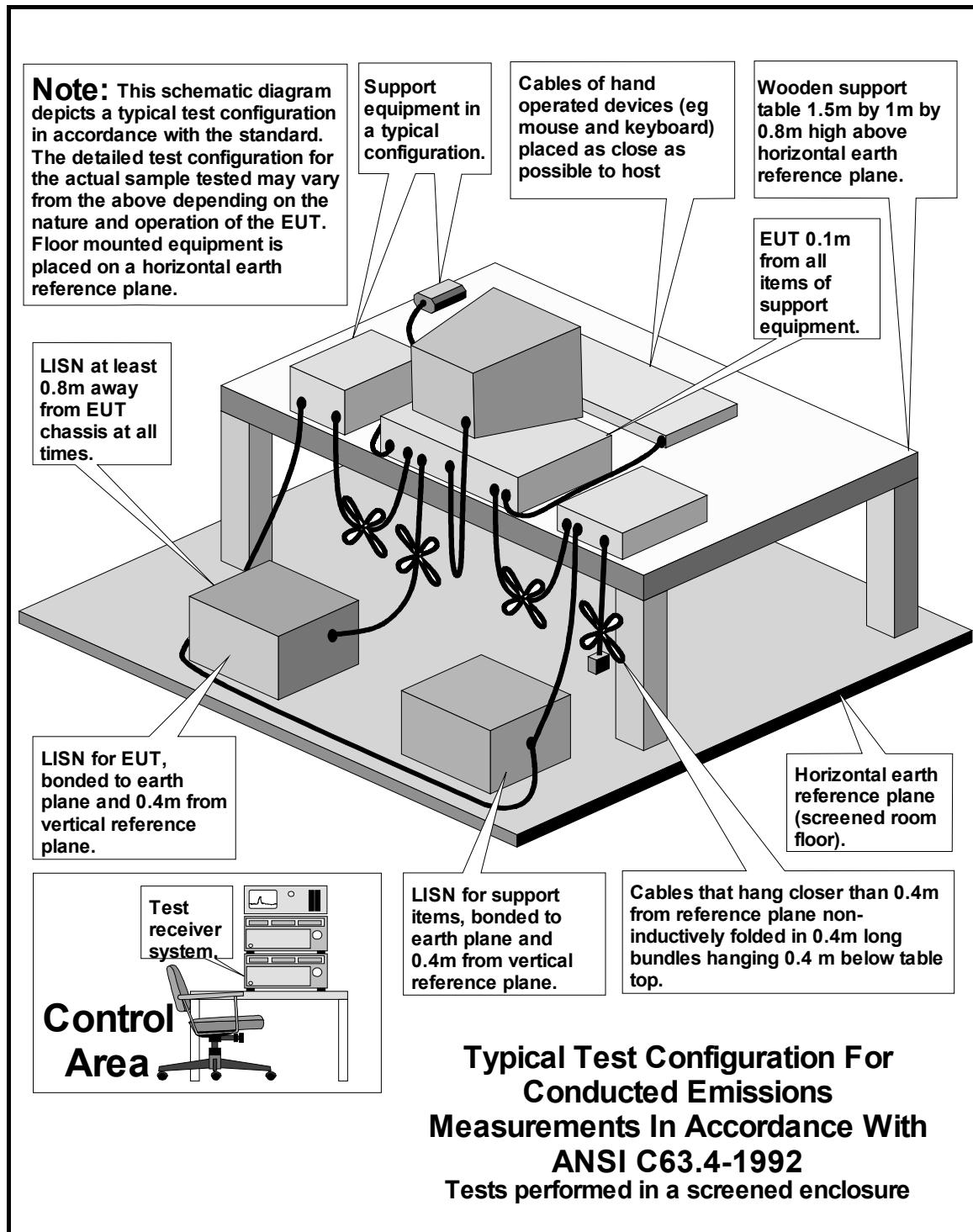
## **Appendix 2. Test Configuration Drawings**

This appendix contains the following drawings:

Drawing Reference Number	Title
DRG\48271JD05A\EMICON	Test configuration for measurement of conducted emissions.
DRG\48271JD05A\EMIRAD	Test configuration for measurement of radiated emissions.

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DRG\48271JD05A\EMICON



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DRG\48271JD05A\EMIRAD

