

# TEST REPORT FROM RFI GLOBAL SERVICES LTD

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

**Test Report Serial No:**  
RFI/RPTE1/RP49288JD07A

<b>This Test Report Is Issued Under The Authority Of: Brian Watson, Operations Director:</b>  	<b>Issued To:</b> Nextlink. To A/S Stamholmen 157 Hvidovre DK-2650 Denmark
<b>Checked By: Brian Watson</b>  	<b>Test Dates: 19 September 2007 to 24 September 2007</b>
<b>Report Copy No: PDF01</b>	<b>Issue Date: 05 October 2007</b>

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Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

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## **Executive Summary**

RFI Global Services Ltd (RFI) was commissioned to perform an independent series of conformance tests to assess compliance with FCC Part 15.247: 2006 (Subpart C)

### **Summary of Results**

Range of Measurements	Clause Reference	Port Type	Compliance Status
Idle Mode AC Conducted Emissions (150 kHz to 30 MHz)	Section 15.107(a)	AC Mains	Complied
Idle Mode Radiated Emissions	Section 15.109(a)	Enclosure	Complied
Transmitter AC Conducted Emissions (150 kHz to 30 MHz)	Section 15.207(a)	AC Mains	Complied
20 dB Bandwidth	DA 00-705	Antenna	Complied
Carrier Frequency Separation	Section 15.247(a)(1)	Antenna	Complied
Average Time of Occupancy	Section 15.247(a)(1)(iii)	Antenna	Complied
Maximum Peak Output Power	Section 15.247(b)(3)	Antenna	Complied
Transmitter Radiated Emissions	Sections 15.247(d) & 15.209(a)	Enclosure	Complied
Transmitter Band Edge Radiated Emissions	Sections 15.247(d) & 15.209(a)	Enclosure	Complied

Key to Compliance Colours used in this report:

Colour	Definition
Green	Compliant
Red	Not compliant

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

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## Table of Contents

1. Equipment Under Test (EUT) .....	4
2. Test Specification, Methods and Procedures.....	6
3. Deviations from the Test Specification .....	6
4. Operation and Configuration of the EUT during Testing.....	7
5. Measurements, Examinations and Derived Results .....	8
6. Measurement Uncertainty .....	37
Appendix 1. Test Equipment Used .....	38

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

---

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

The following information (with the exception of the date of receipt) has been supplied by the customer:

### **1.1. Description of EUT**

The equipment under test is a *Bluetooth Headset*

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

<b>Description:</b>	<i>Bluetooth Headset</i>
<b>Brand Name:</b>	INVISIO
<b>Model Name or Number:</b>	Q7
<b>Serial Number:</b>	None stated
<b>Hardware Version Number:</b>	3.0
<b>Software Version Number:</b>	1.0
<b>FCC ID Number:</b>	QNY105
<b>Country of Manufacture:</b>	Denmark
<b>Date of Receipt:</b>	19 September 2007

<b>Description:</b>	<i>Mains AC Charger</i>
<b>Brand Name:</b>	INVISIO
<b>Model Name or Number:</b>	FW7600/05
<b>Serial Number:</b>	None stated
<b>FCC ID Number:</b>	QNY105
<b>Country of Manufacture:</b>	Germany
<b>Date of Receipt:</b>	19 September 2007

### **1.3. Modifications Incorporated in the EUT**

During the course of testing the EUT was not modified.

### **1.4. Support Equipment**

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

<b>Description:</b>	<i>Bluetooth Tester</i>
<b>Brand Name:</b>	Anritsu
<b>Model Name or Number:</b>	NT8852A
<b>Serial Number:</b>	RFI Asset No. M1149
<b>Cable Length &amp; Type:</b>	N/A
<b>Connected to Port:</b>	N/A

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

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

Intended Operating Environment:	Commercial		
Equipment Category:	Bluetooth		
Type of Unit:	Portable (Standalone battery powered device)		
Power Supply Requirement:	Internal battery supply of 3.7V		
Maximum Output Power (EIRP):	+2.7 dBm EIRP		
Transmit Frequency Range:	2402 MHz to 2480 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	0	2402
	Middle	39	2441
	Top	78	2480
Receive Frequency Range:	2402 MHz to 2480 MHz		
Receive Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	0	2402
	Middle	39	2441
	Top	78	2480

### **1.6. Port Identification**

Port	Description
1	Charger

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

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## **2. Test Specification, Methods and Procedures**

### **2.1. Test Specification**

Reference:	FCC Part 15.247: 2006 Subpart C
Title:	Code of Federal Regulations, Part 15.247 (47CFR15) (Intentional Radiators operating within the band 2400 MHz to 2483.5 MHz)

### **2.2. Methods and Procedures**

Unless specifically detailed otherwise within each test result section, all test measurements were made using the methods and procedures detailed in:

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 TIA-603-C (2004)

Land Mobile FM or PM – Communication Equipment – Measurement and Performance Standards.

Public Notice DA 00-705 (2000)

Title: Filing and Frequency Measurement Guidelines for Frequency Hopping Spread Spectrum Systems.

CISPR 16-1: (1999)

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

Part 1: Radio Disturbance and Immunity Measuring Apparatus.

### **2.3. Definition of Measurement Equipment**

The measurement equipment used complied with the requirements of the standards referenced in the methods & procedures section above.

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

There were no deviations from the test specification.

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

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## **4. Operation and Configuration of the EUT during Testing**

### **4.1. Operating Modes**

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

- *Bluetooth* test mode connected to a *Bluetooth* tester. For transmitter tests the EUT was set to transmit on the bottom, middle or top channels and hopping over all channels.
- For receiver tests the EUT was set to receive only mode.

### **4.2. Configuration and Peripherals**

The EUT was tested in the following configuration, unless otherwise stated:

- With the charger connected and the charger connected to a 110V, 60 Hz AC Mains Supply.

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

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

### **5.1. 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 6 for details of measurement uncertainties.

### **5.2. 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, UK.

FCC Site Registration Number: 90895

IC Site Registration Number: 3485

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

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### **5.3. Test Results**

#### **Idle Mode AC Conducted Emissions**

Tests were performed using the test methods detailed in ANSI C63.4 Section 7.

#### **Results:**

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

Frequency (MHz)	Line	Level (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	Note(s)
0.150000	Neutral	43.2	66.0	22.8	-
0.398000	Neutral	31.8	57.9	26.1	-
0.490000	Neutral	31.7	56.2	24.5	-
0.498000	Live	31.4	56.0	24.6	-
2.114000	Live	32.2	56.0	23.8	-
2.386000	Live	33.9	56.0	22.1	-
2.646000	Live	34.9	56.0	21.1	-
2.894000	Live	35.1	56.0	20.9	-
3.330000	Live	34.2	56.0	21.8	-
3.626000	Live	31.2	56.0	24.8	-

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

Frequency (MHz)	Line	Level (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	Note(s)
0.490000	Live	19.3	46.2	26.9	-
0.498000	Live	19.1	46.0	26.9	-
1.666000	Live	18.9	46.0	27.1	-
2.114000	Live	20.8	46.0	25.2	-
2.402000	Live	22.6	46.0	23.4	-
2.638000	Live	23.5	46.0	22.5	-
2.874000	Live	24.0	46.0	22.0	-
3.310000	Live	22.4	46.0	23.6	-
3.606000	Live	21.1	46.0	24.9	-
4.814000	Live	18.2	46.0	27.8	-

#### **Test Equipment Used:**

A1069, A1830, C1268, C363, M1263, S212

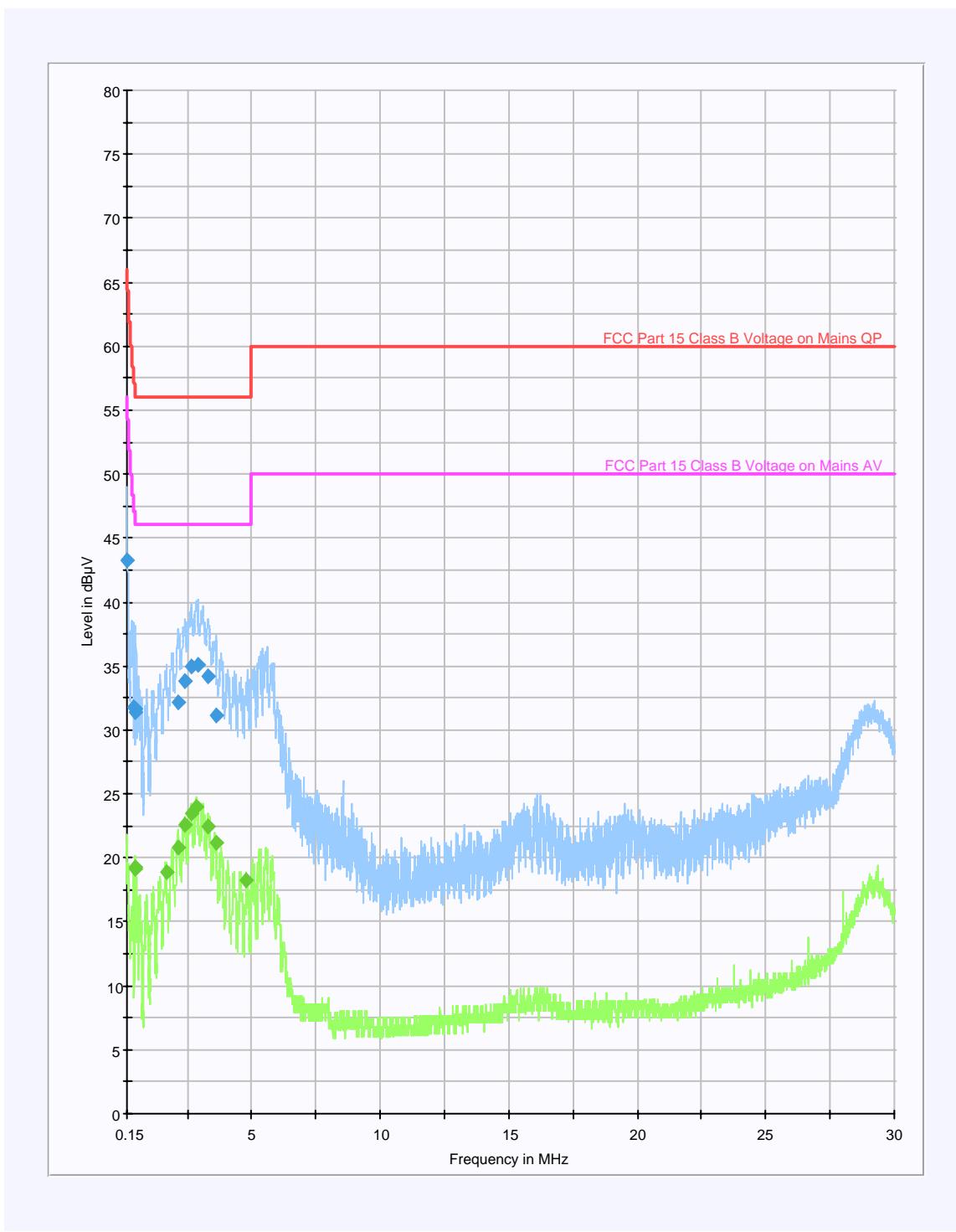
Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

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**Idle Mode AC Conducted Emissions (Continued)**

**Graph(s):**



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

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

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### Idle Mode Radiated Emissions

Tests were performed using the test methods detailed in ANSI C63.4 Section 8, and Public Notice DA 00-705 (March 30, 2000).

#### Results:

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

Frequency (MHz)	Antenna Polarity	Q-P Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Note(s)
120.18	Vertical	41.3	43	2.7	-

#### Note(s):

1. All emissions shown on the plot were investigated and found to be radiating from the support equipment or ambient. The highest emission level shown on the plot is recorded in the table above.

#### Test Equipment Used:

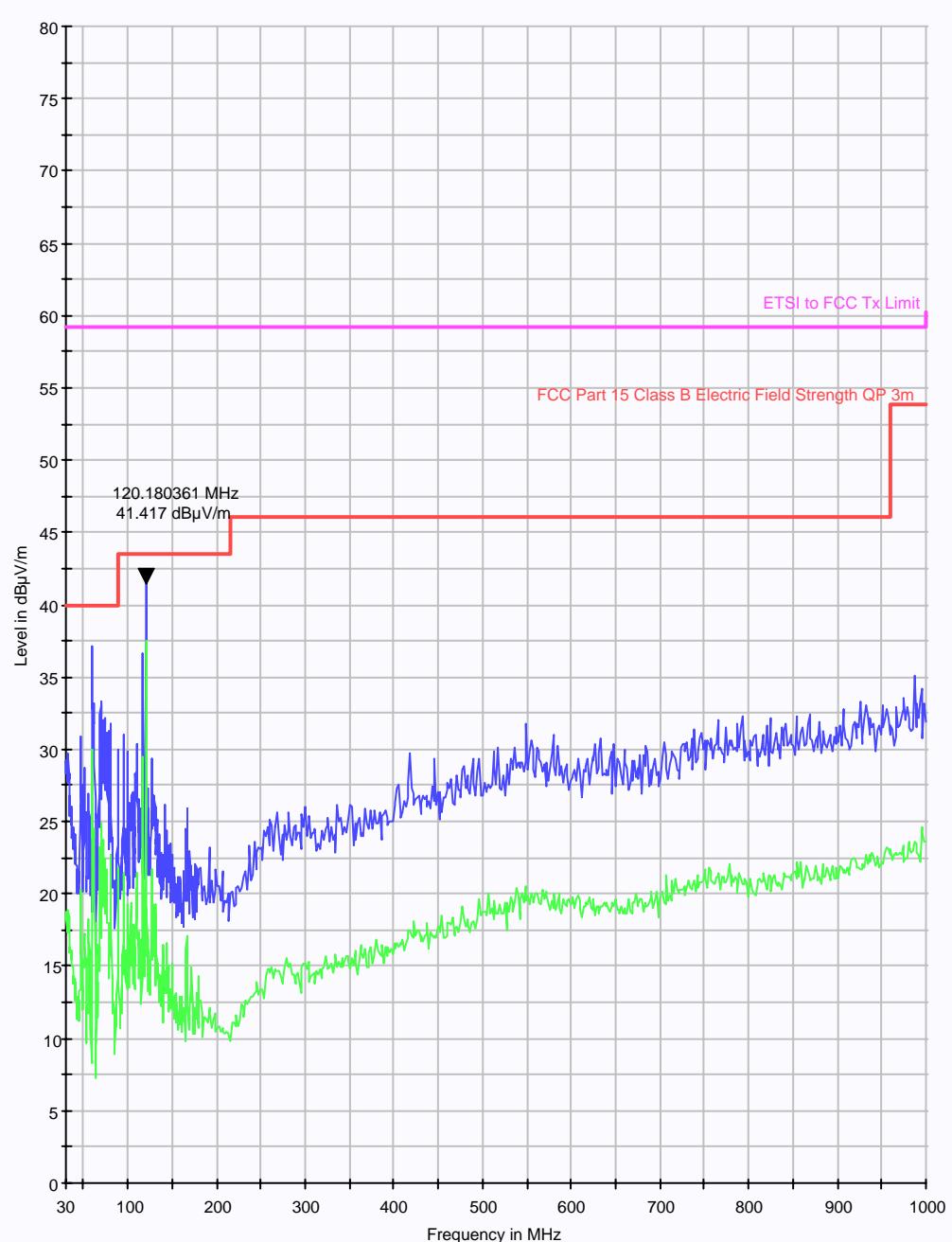
A1037, C151, C160, C348, M1263, S212

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

**Idle Mode Radiated Emissions (Continued)**

**Graph(s):**



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

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

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**Idle Mode Radiated Emissions (Continued)**

Tests were performed using the test methods detailed in ANSI C63.4 Section 8, and Public Notice DA 00-705 (March 30, 2000).

**Results:**

**Electric Field Strength Measurements (Frequency Range: 1 GHz 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)	Note(s)
3.883767	H	52.6	-6.0	46.6	54.0	7.4	-

**Note(s):**

1. *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*

**Test Equipment Used:**

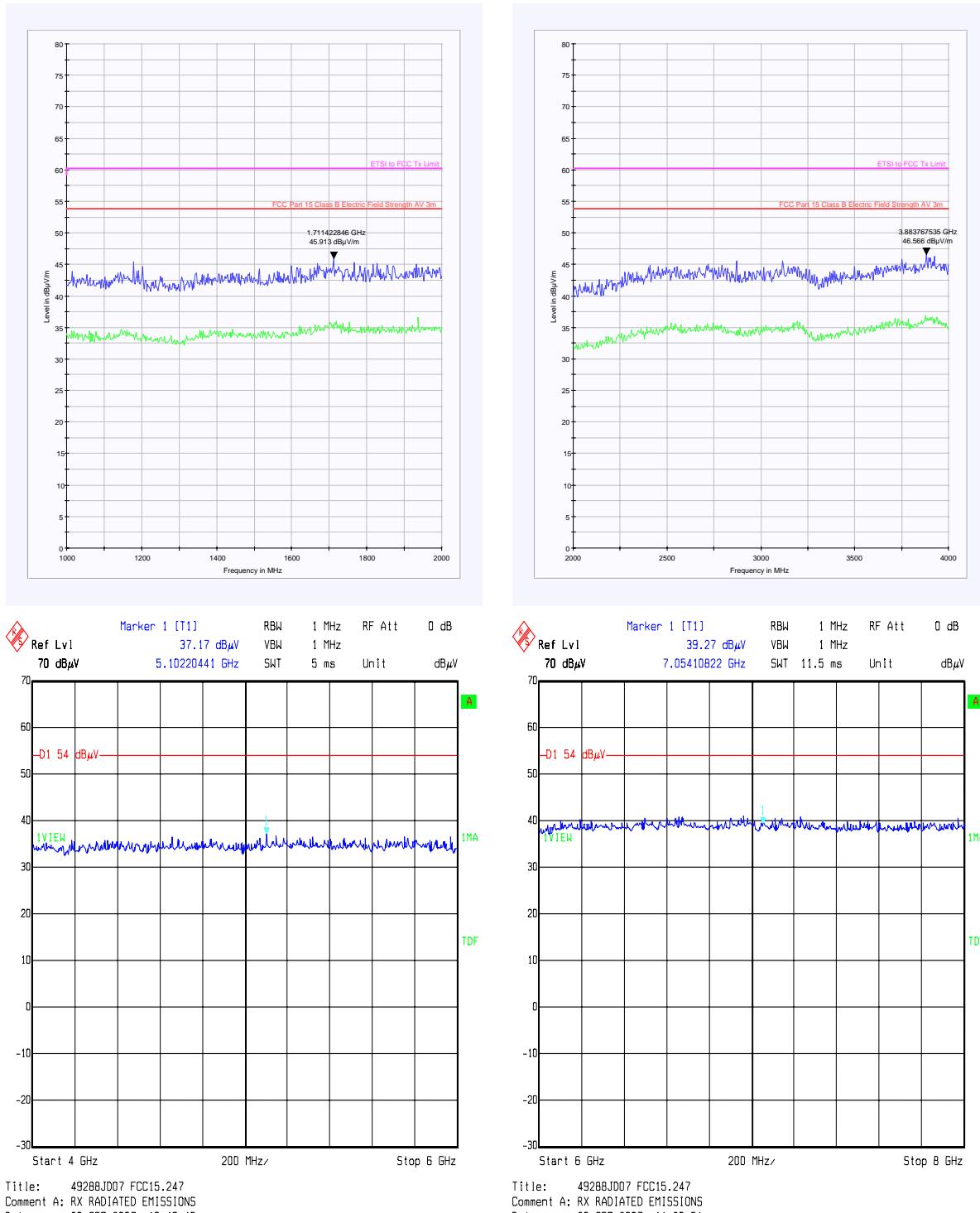
A028, A031, A1534, A253, A254, A255, C1165, C1167, C151, C160, C348, M1242, M1263, S202, S212

**Test of:** Nextlink. To A/S  
INVISIO Q7

**To:** FCC Part 15.247: 2006 (Subpart C)

**Idle Mode Radiated Emissions (Continued)**

**Graph(s):**



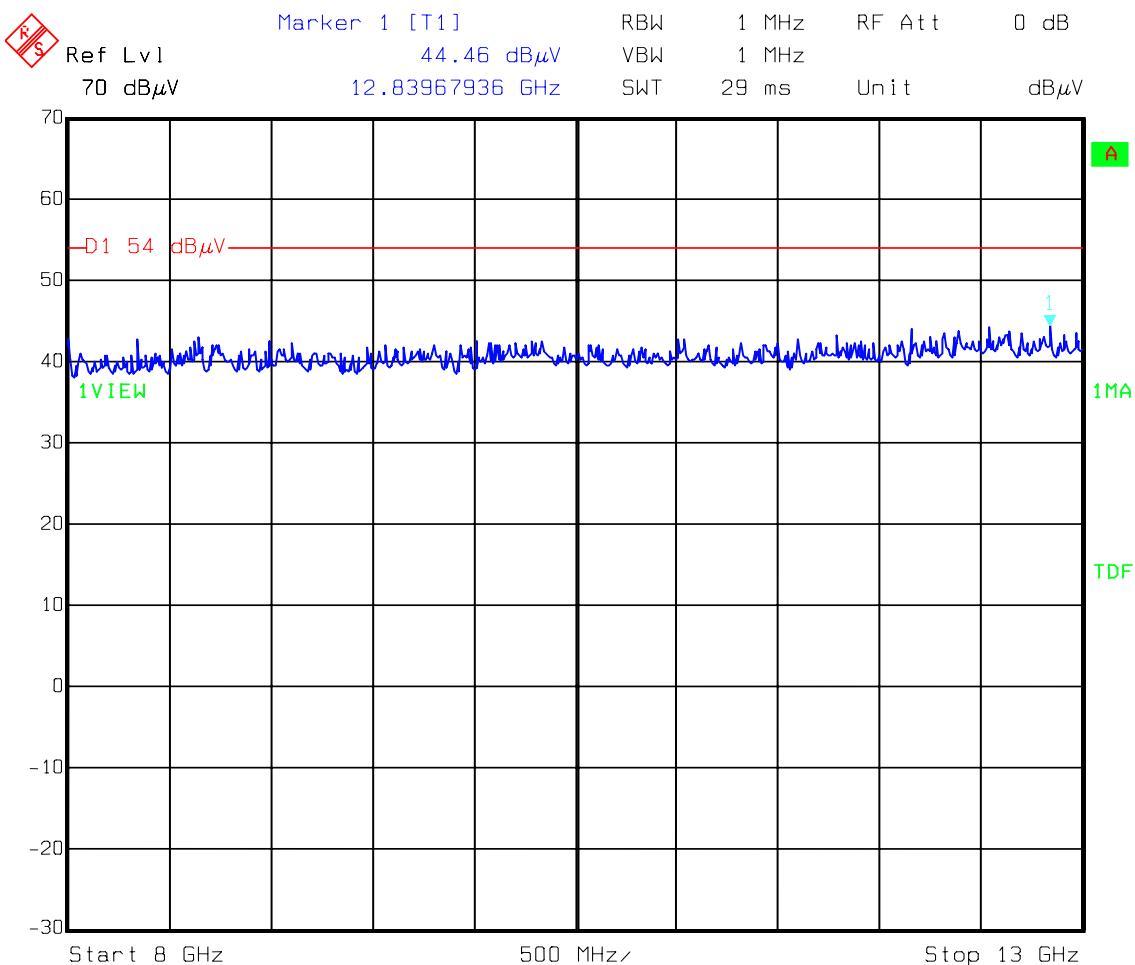
These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

**Idle Mode Radiated Emissions (Continued)**

**Graph(s):**



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

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

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**Transmitter AC Conducted Emissions**

Tests were performed using the test methods detailed in ANSI C63.4 Section 7.

**Results:**

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

**Top Channel**

Frequency (MHz)	Line	Level (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	Note(s)
0.150000	Neutral	43.1	66.0	22.9	-
0.398000	Neutral	31.7	57.9	26.2	-
0.490000	Neutral	31.6	56.2	24.6	-
0.498000	Live	31.4	56.0	24.6	-
2.106000	Live	32.1	56.0	23.9	-
2.418000	Live	34.0	56.0	22.0	-
2.662000	Live	35.0	56.0	21.0	-
2.894000	Live	35.4	56.0	20.6	-
3.178000	Live	33.1	56.0	22.9	-
3.630000	Live	31.6	56.0	24.4	-

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

**Top Channel**

Frequency (MHz)	Line	Level (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	Note(s)
0.490000	Live	19.6	46.2	26.6	-
0.498000	Live	19.3	46.0	26.7	-
1.674000	Live	19.2	46.0	26.8	-
2.118000	Live	21.2	46.0	24.8	-
2.402000	Live	22.9	46.0	23.1	-
2.642000	Live	23.8	46.0	22.2	-
2.858000	Live	24.1	46.0	21.9	-
3.338000	Live	23.2	46.0	22.8	-
3.614000	Live	21.5	46.0	24.5	-
4.318000	Live	18.6	46.0	27.4	-

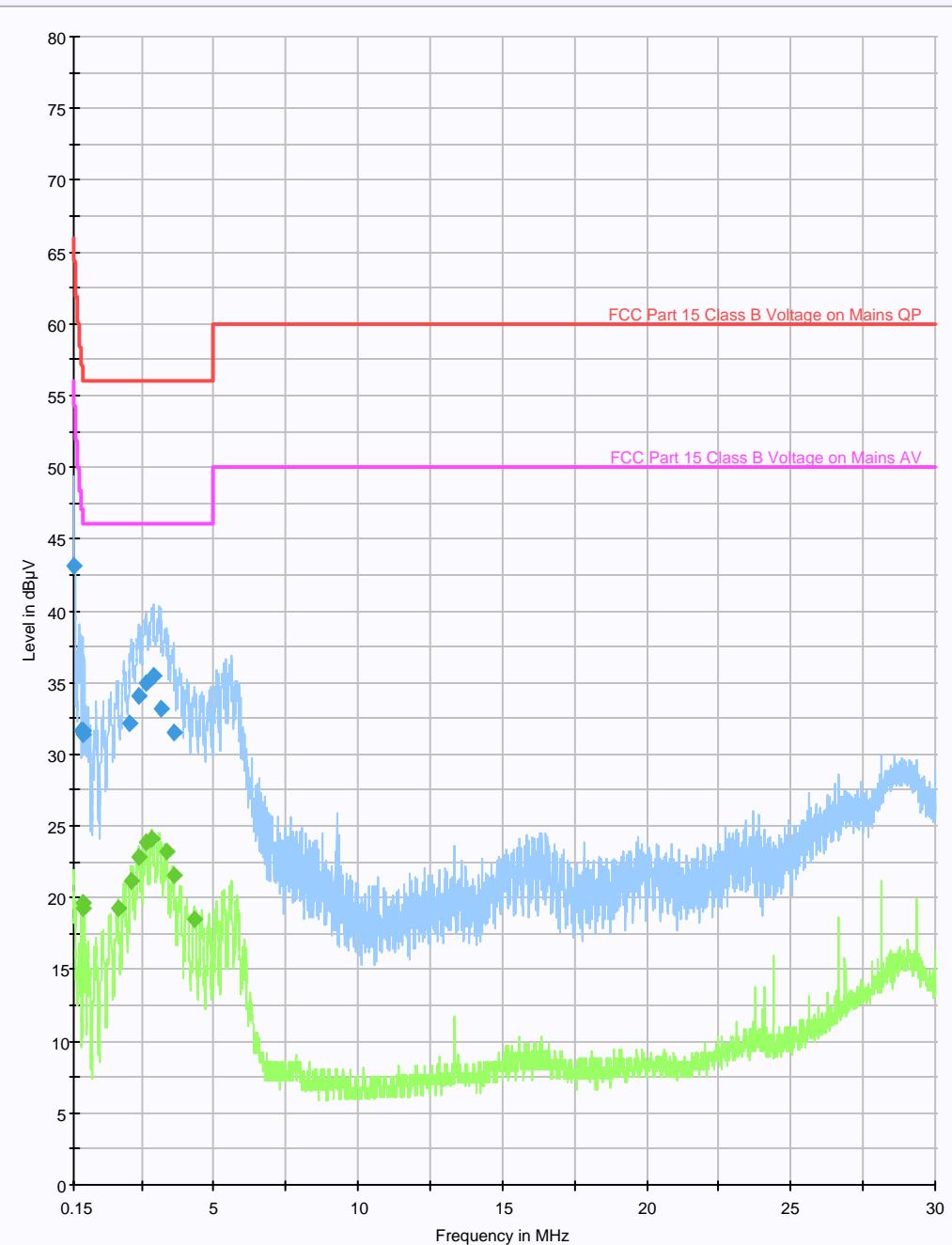
**Test Equipment Used:**

A1069, A1830, C1268, C363, M1263, S212

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

**Transmitter AC Conducted Emissions (Continued)**



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

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

### 20 dB Bandwidth

Tests were performed using the test methods detailed in Public Notice DA 00-705 (March 30, 2000).

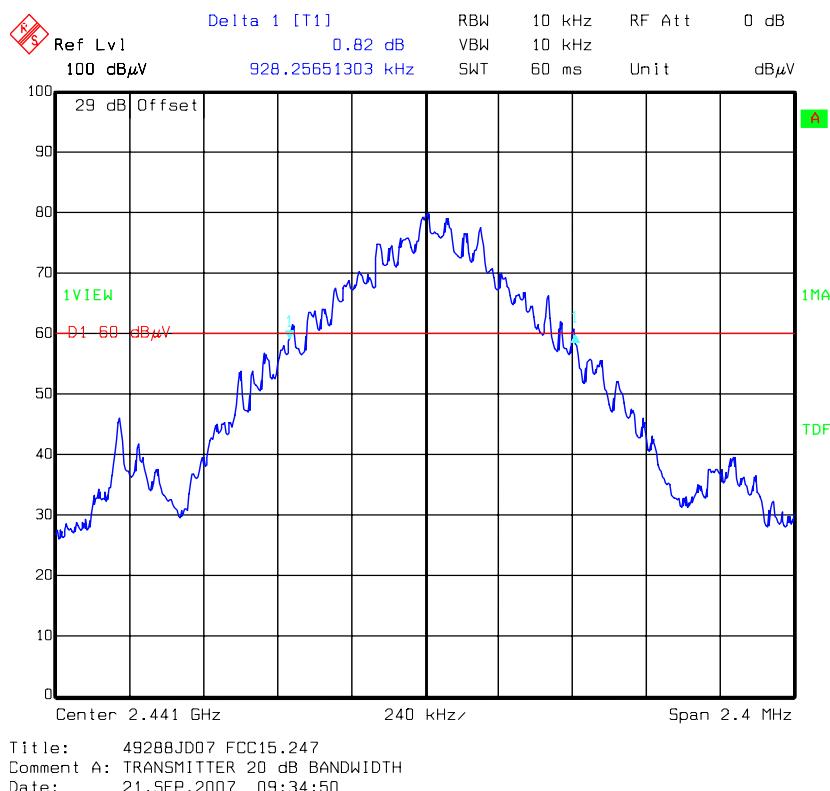
### Results:

20 dB Bandwidth (kHz)	Limit (kHz)
928.256	None specified

### Test Equipment Used:

A031, C1167, M1242, S202

### Graph(s):



**Test of: Nextlink. To A/S  
INVISIO Q7**

**To: FCC Part 15.247: 2006 (Subpart C)**

## Carrier Frequency Separation

Tests were performed using the test methods detailed in Public Notice DA 00-705 (March 30, 2000).

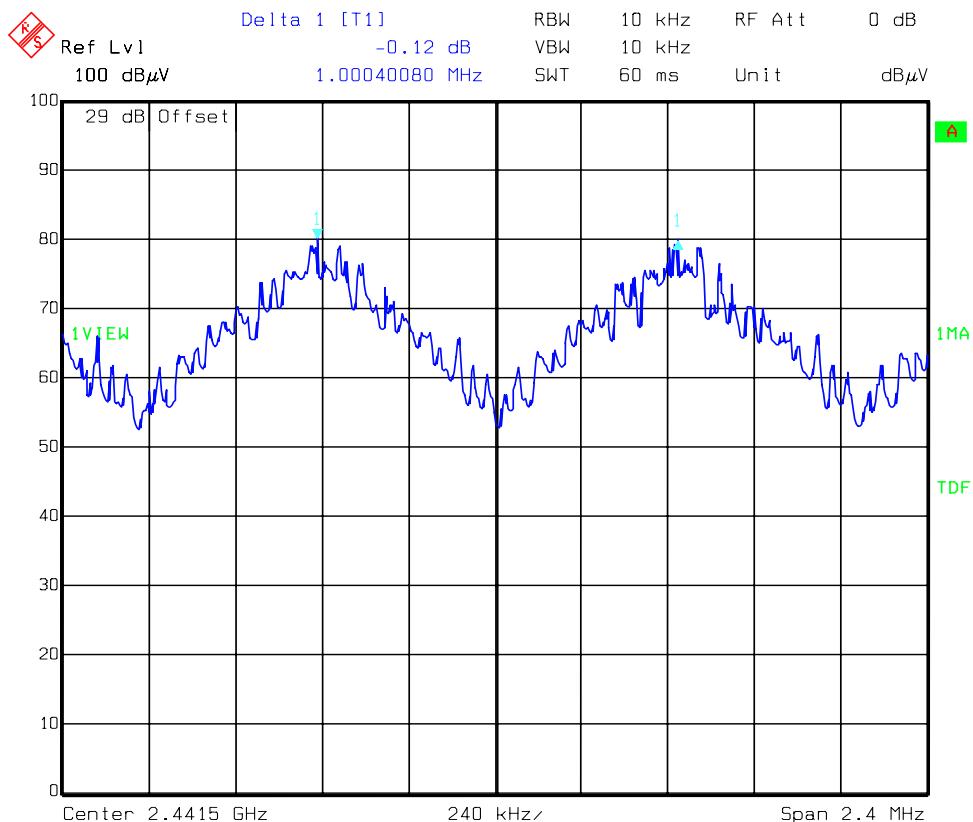
## **Results:**

Transmitter Carrier Frequency Separation (kHz)	Limit ( $> \frac{2}{3}$ of 20 dB BW) (kHz)	Margin (kHz)	Note(s)
1000.400	618.83	381.57	-

### **Test Equipment Used:**

A031, C1167, M1242, S202

### Graph(s):



Title: 49288JD07 FCC15.247  
Comment A: TRANSMITTER CARRIER FREQUENCY SEPARATION  
Date: 21.SEP.2007 10:04:22

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

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**Average Time of Occupancy**

Tests were performed using the test methods detailed in Public Notice DA 00-705 (March 30, 2000).

**Results:**

Emission Width (μs)	Number of Hops in 31.6 Seconds	Average Time of Occupancy (s)	Limit (s)	Margin (s)	Note(s)
2915.831	59	0.1720	0.4	0.228	-

**Test Equipment Used:**

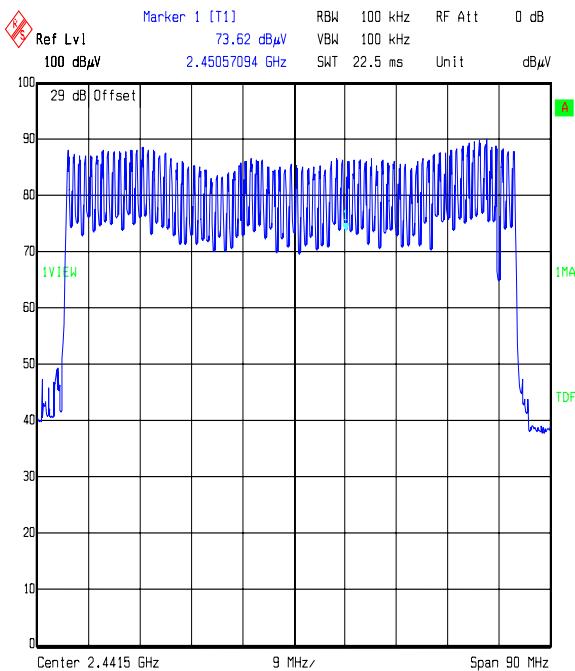
A031, C1167, M1242, S202

**Test of:** Nextlink. To A/S  
INVISIO Q7

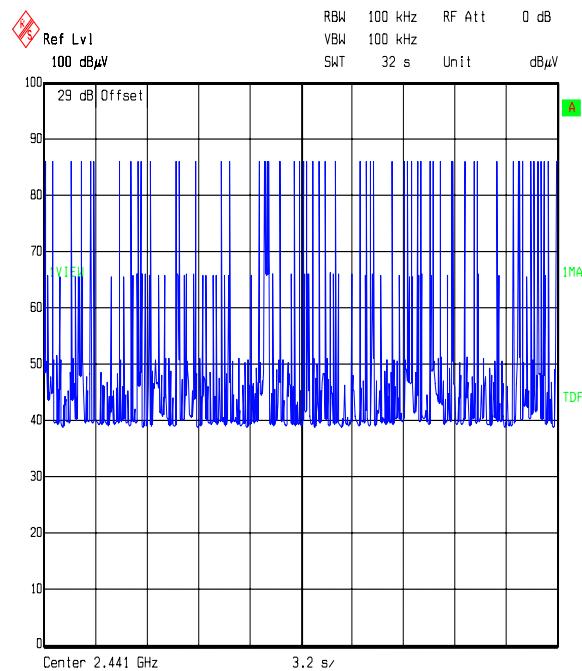
**To:** FCC Part 15.247: 2006 (Subpart C)

**Average Time of Occupancy (Continued)**

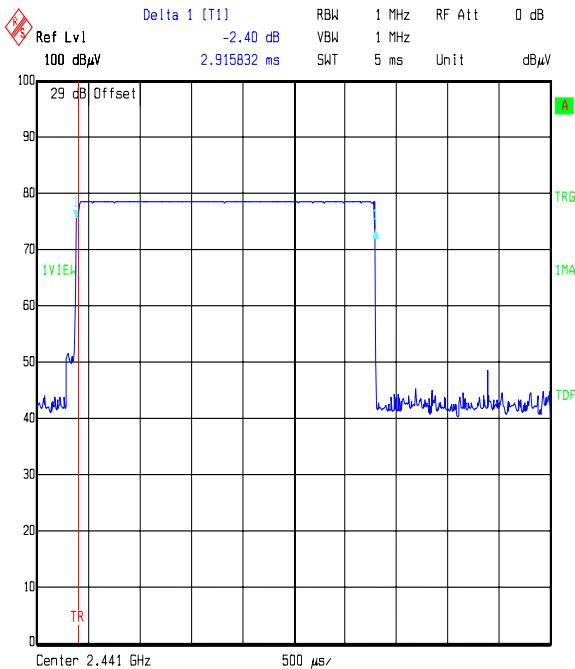
**Graph(s):**



Title: 49288JD07 FCC15.247  
Comment A: AVERAGE TIME OF OCCUPANCY, NUMBER OF CHANNELS  
Date: 21.SEP.2007 09:46:52



Title: 49288JD07 FCC15.247  
Comment A: AVERAGE TIME OF OCCUPANCY, NUMBER OF HOPS  
Date: 21.SEP.2007 10:00:40



Title: 49288JD07 FCC15.247  
Comment A: AVERAGE TIME OF OCCUPANCY, PULSE LENGTH  
Date: 21.SEP.2007 09:53:23

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

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**Transmitter Maximum Peak Output Power: (EIRP)**

Tests were performed using the test methods detailed in Public Notice DA 00-705 (March 30, 2000), ANSI TIA-603-C-2004 and FCC CFR part 2.

**Results:**

**Battery Powered Devices (Non-EDR)**

Channel	EIRP (dBm)	Limit (dBm)	Margin (dB)	Note(s)
Bottom	2.7	30.0	27.3	-
Middle	2.2	30.0	27.8	-
Top	1.2	30.0	28.8	-

**Battery Powered Devices (EDR)**

Channel	EIRP (dBm)	Limit (dBm)	Margin (dB)	Note(s)
Bottom	2.7	30.0	27.3	-
Middle	2.4	30.0	27.6	-
Top	1.6	30.0	28.4	-

**Note(s):**

1. These tests were performed radiated; therefore the EUT antenna gain is encompassed in the final result.

**Test Equipment Used:**

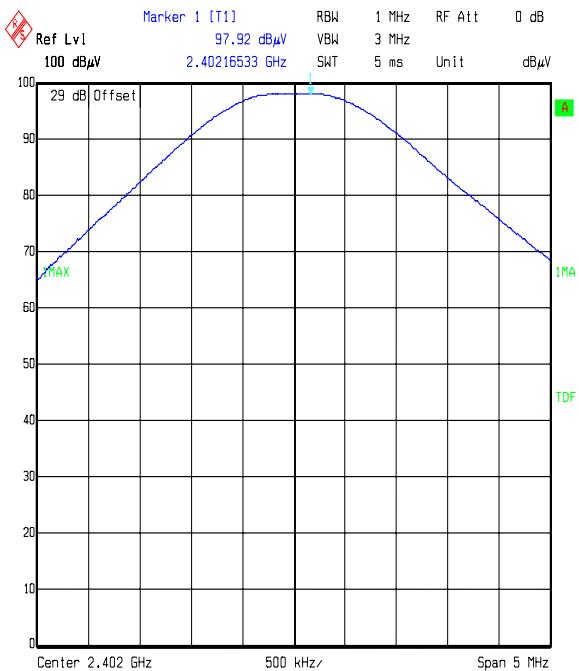
A031, C1164, M1242, S202

**Test of:** Nextlink. To A/S  
INVISIO Q7

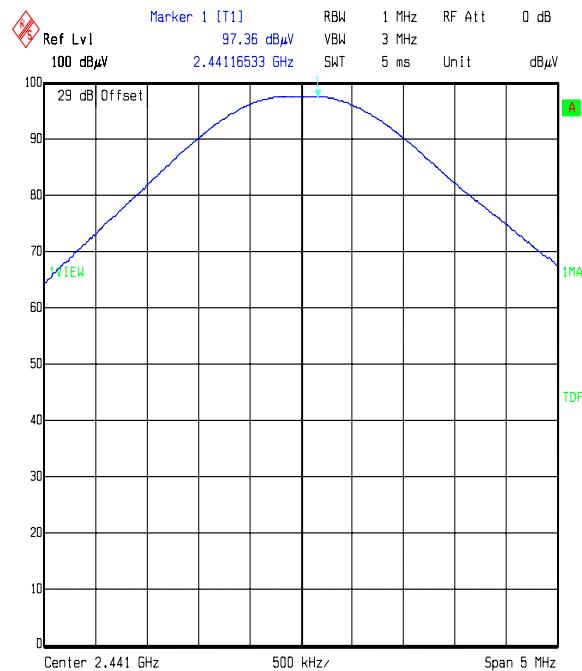
**To:** FCC Part 15.247: 2006 (Subpart C)

**Transmitter Maximum Peak Output Power: (EIRP) (Continued)**

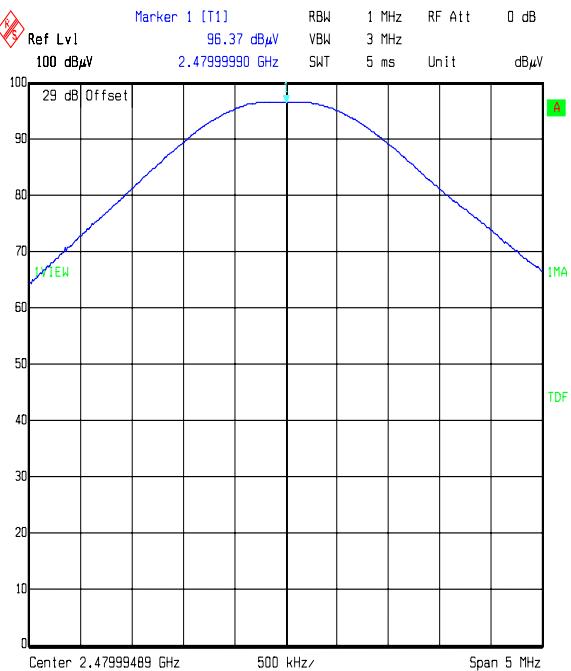
**Graph(s): Non-EDR**



Title: 49288JD07 FCC15.247  
Comment A: MAXIMUM PEAK OUTPUT POWER BOTTOM CHANNEL  
Date: 20.SEP.2007 12:04:40



Title: 49288JD07 FCC15.247  
Comment A: MAXIMUM PEAK OUTPUT POWER MIDDLE CHANNEL  
Date: 20.SEP.2007 12:02:13



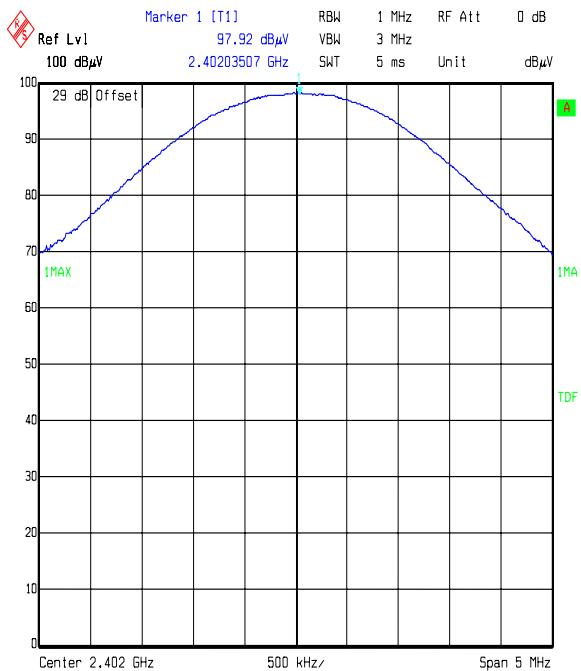
Title: 49288JD07 FCC15.247  
Comment A: MAXIMUM PEAK OUTPUT POWER TOP CHANNEL  
Date: 20.SEP.2007 11:57:46

**Test of: Nextlink. To A/S  
INVISIO Q7**

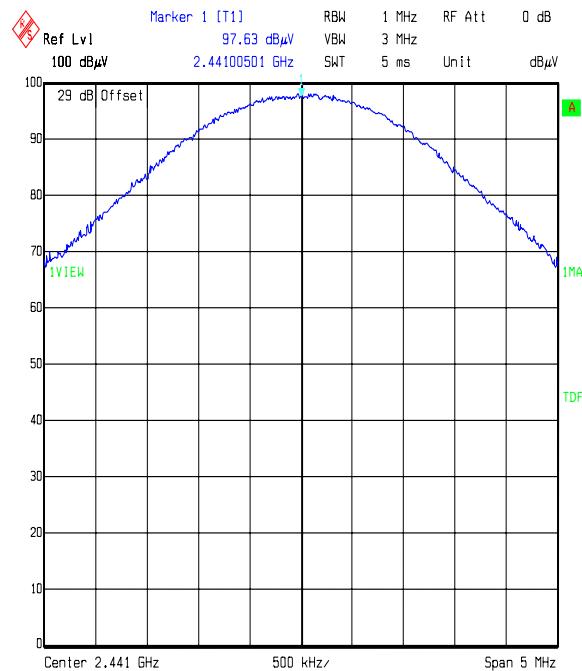
**To: FCC Part 15.247: 2006 (Subpart C)**

**Transmitter Maximum Peak Output Power: (EIRP) (Continued)**

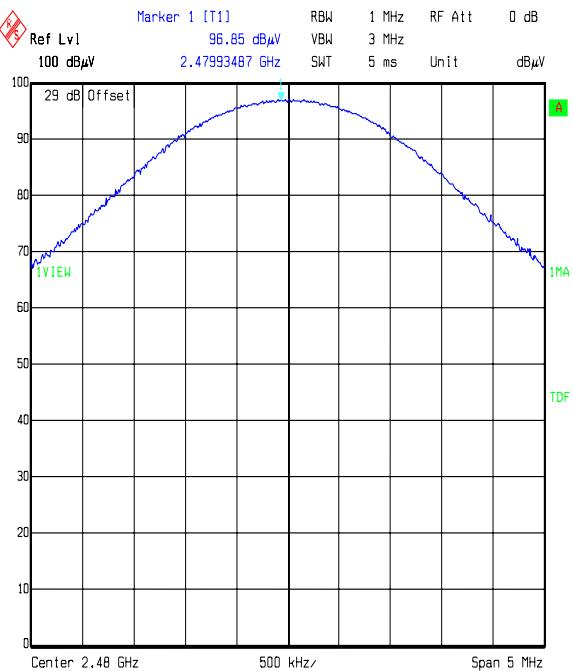
**Graph(s): EDR**



Title: 49288JD07 FCC15.247  
Comment A: MAXIMUM PEAK OUTPUT POWER BOTTOM CHANNEL EDR MODE  
Date: 20.SEP.2007 14:53:16



Title: 49288JD07 FCC15.247  
Comment A: MAXIMUM PEAK OUTPUT POWER MIDDLE CHANNEL EDR MODE  
Date: 20.SEP.2007 14:59:41



Title: 49288JD07 FCC15.247  
Comment A: MAXIMUM PEAK OUTPUT POWER TOP CHANNEL EDR MODE  
Date: 20.SEP.2007 15:02:42

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

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### **Transmitter Radiated Emissions**

Tests were performed using the test methods detailed in ANSI C63.4 Section 8, and Public Notice DA 00-705 (March 30, 2000).

#### **Results:**

#### **Electric Field Strength Measurements: 30 MHz 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)	Note(s)
120.18	Vertical	41.3	43	2.7	-

#### **Note(s):**

1. *The preliminary scans showed similar emission levels below 1 GHz for each channel of operation. Therefore final radiated emissions measurements were performed with the EUT set to the top channel only.*
2. *All emissions shown on the plot were investigated and found to be radiating from the support equipment and not the EUT. This was proven by removing the EUT from the test chamber and leaving the support equipment operating. The support equipment had to be in close proximity to the EUT, in order for a communications link to be established. The highest emission level shown on the plot is recorded in the table above and radiates from the support equipment.*

#### **Test Equipment Used:**

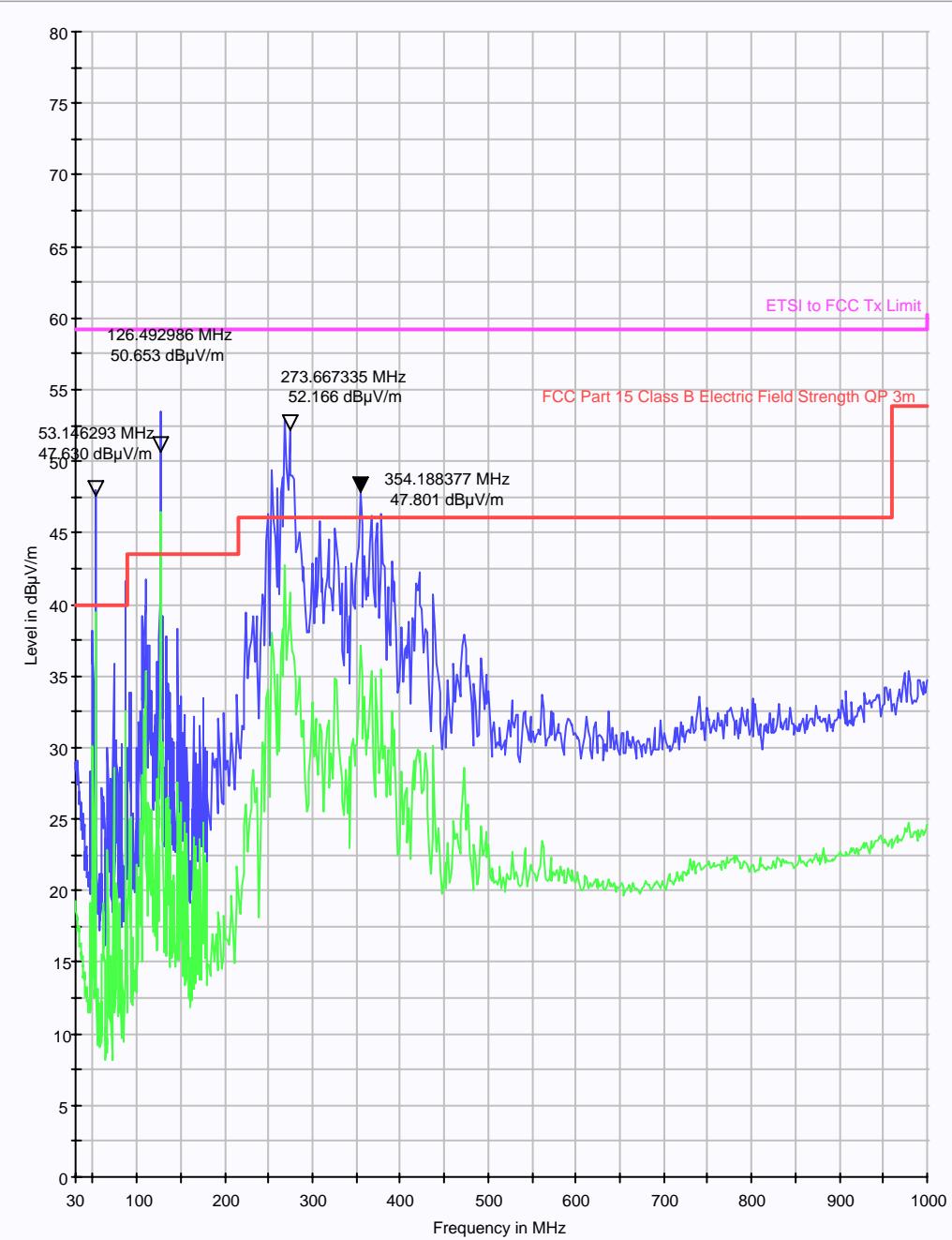
A1069, A1830, C1268, C363, M1263, S212

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

**Transmitter Radiated Emissions (Continued)**

**Graph(s):**



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

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

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**Transmitter Radiated Emissions (Continued)**

Tests were performed using the test methods detailed in ANSI C63.4 Section 8, and Public Notice DA 00-705 (March 30, 2000).

**Results:**

**Electric Field Strength Measurements (Frequency Range: 1 GHz to 25 GHz)  
(emissions occurring in the restricted bands)**

**Highest Peak Level: Bottom 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)	Note(s)
4.804008	Horizontal	47.9	-3.3	44.6	74.0	29.4	-

**Highest Average Level: Bottom 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)	Note(s)
4.804008	Horizontal	38.3	-3.3	35.0	54.0	19.0	-

**Highest Peak Level: Middle 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)	Note(s)
4.882029	Horizontal	46.9	-3.5	43.4	74.0	30.6	-

**Highest Average Level: Middle 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)	Note(s)
4.882029	Horizontal	38.5	-3.5	35.0	54.0	19.0	-

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

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**Transmitter Radiated Emissions (Continued)**

**Results:**

**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)	Note(s)
4.959989	Horizontal	46.0	-3.7	42.3	74.0	21.7	-

**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)	Note(s)
4.959989	Horizontal	37.6	-3.7	33.9	54.0	20.1	-

**Highest Peak Level: Hopping 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)	Note(s)
4.841683	Horizontal	47.1	-3.5	43.6	74.0	30.4	-

**Highest Average Level: Hopping 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)	Note(s)
4.841683	Horizontal	31.2	-3.5	27.7	54.0	26.3	-

**Test Equipment Used:**

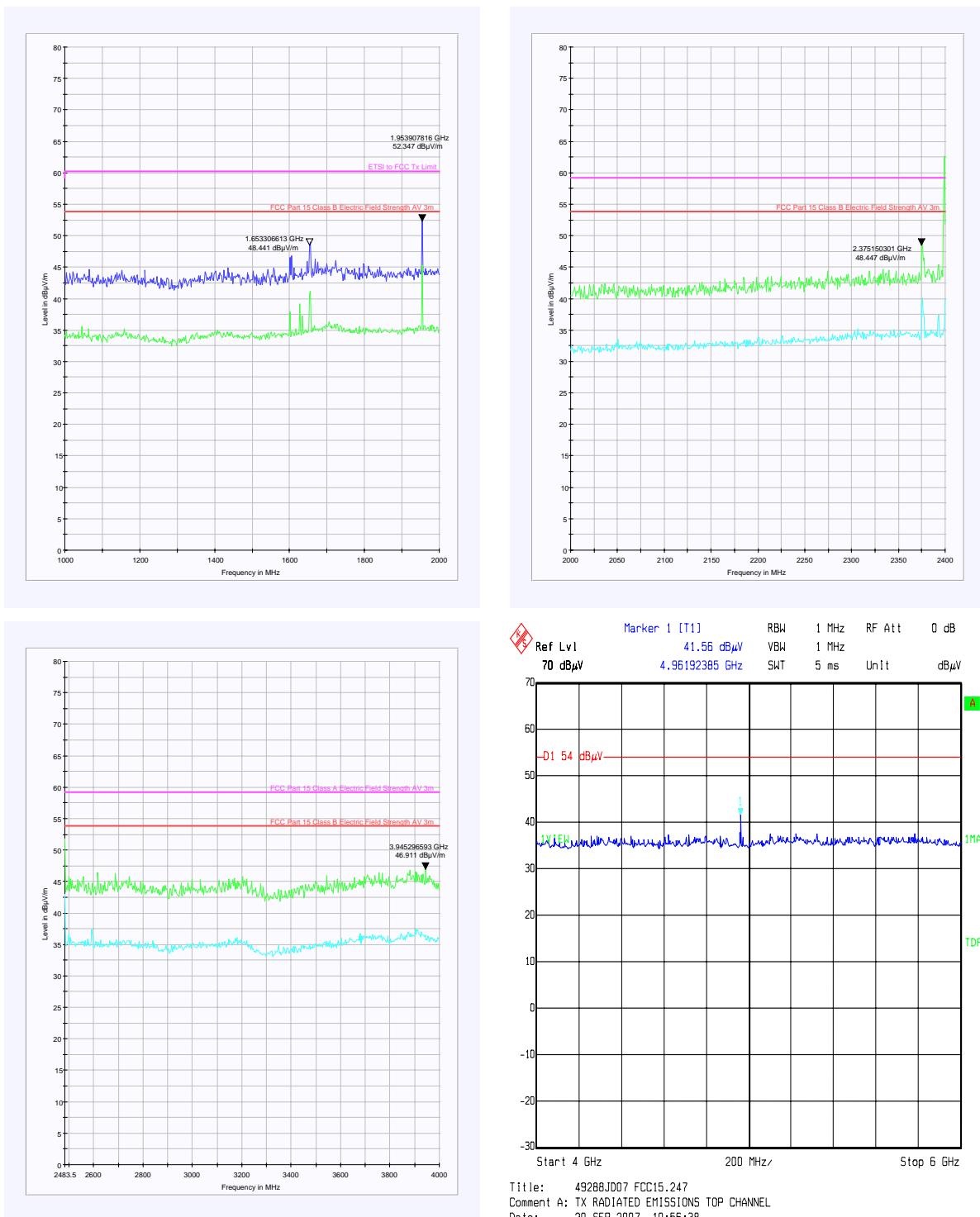
A028, A031, A1534, A253, A254, A255, A256, A436, C1165, C1167, C151, C160, C348, M1242, M1263, S202, S212

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

**Transmitter Radiated Emissions (Continued)**

**Graph(s):**



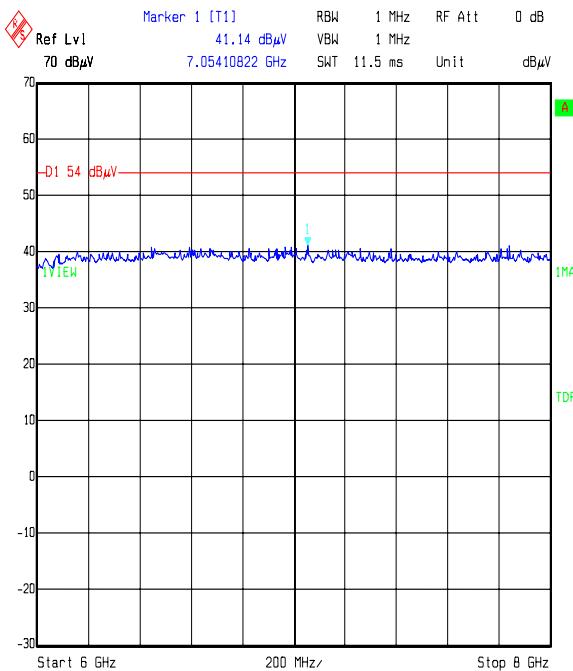
These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

**Test of: Nextlink. To A/S  
INVISIO Q7**

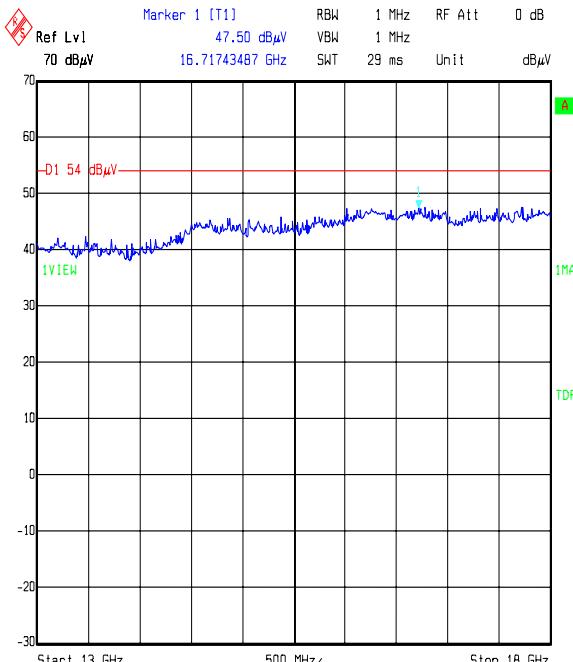
**To: FCC Part 15.247: 2006 (Subpart C)**

**Transmitter Radiated Emissions (Continued)**

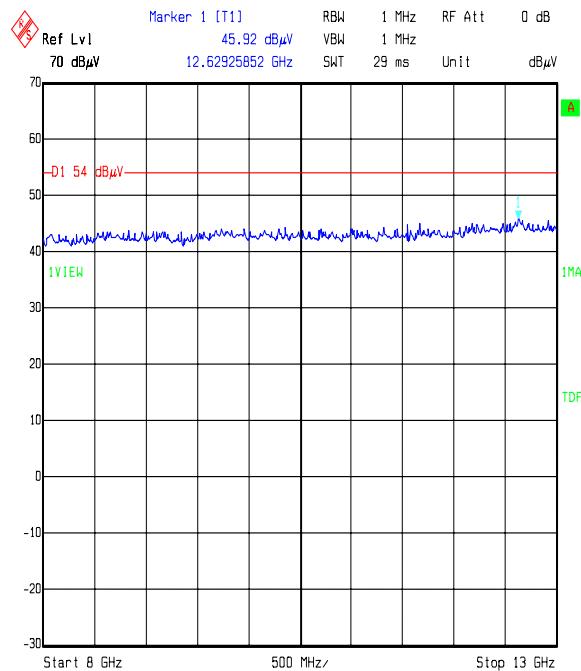
**Graph(s):**



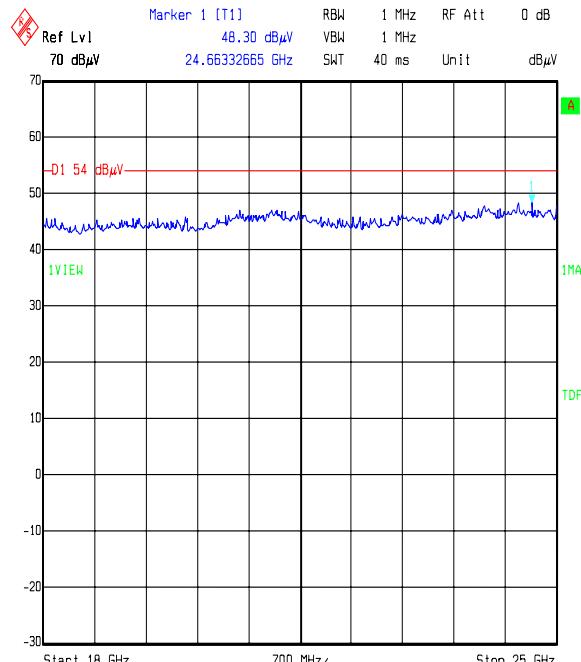
Title: 49288JD07 FCC15.247  
Comment A: TX RADIATED EMISSIONS TOP CHANNEL  
Date: 20.SEP.2007 11:19:27



Title: 49288JD07 FCC15.247  
Comment A: TX RADIATED EMISSIONS TOP CHANNEL  
Date: 20.SEP.2007 11:34:06



Title: 49288JD07 FCC15.247  
Comment A: TX RADIATED EMISSIONS TOP CHANNEL  
Date: 20.SEP.2007 11:26:52



Title: 49288JD07 FCC15.247  
Comment A: TX RADIATED EMISSIONS TOP CHANNEL  
Date: 20.SEP.2007 11:39:12

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

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

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### **Transmitter Band Edge Radiated Emissions**

Tests were performed using the test methods detailed in ANSI C63.4 Section 8, and Public Notice DA 00-705 (March 30, 2000).

#### **Results:**

#### **Electric Field Strength Measurements**

##### **Peak Power Level Hopping 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)	Note(s)
2.4000	Horizontal	58.4	-6.5	51.9	73.3	21.4	-
2.4835	Horizontal	50.0	-8.0	42.0	74.0	32.0	-

##### **Average Power Level Hopping 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)	Note(s)
2.4835	Horizontal	41.9	-8.0	33.9	54.0	20.1	-

##### **Peak Power Level Hopping Mode EDR:**

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)	Note(s)
2.4000	H	49.7	-6.5	43.2	72.0	28.8	-
2.4835	H	57.8	-8.0	49.8	74.0	27.9	-

##### **Average Power Level Hopping Mode EDR:**

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)	Note(s)
2.4835	H	43.2	-8.0	35.2	54.0	18.8	-

#### **Note(s):**

1. The band edge at 2.400 GHz is not within a restricted band; therefore the limit is -20 dBc.
2. The band edge at 2.4835 GHz is within a restricted band; therefore the limit is FCC part 15.209.

#### **Test Equipment Used:**

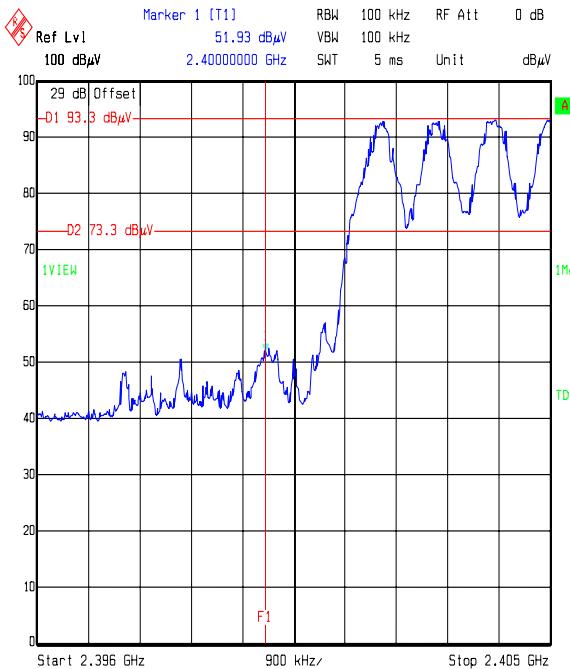
A031, C1167, M1242, M1447, S202

**Test of:** Nextlink. To A/S  
INVISIO Q7

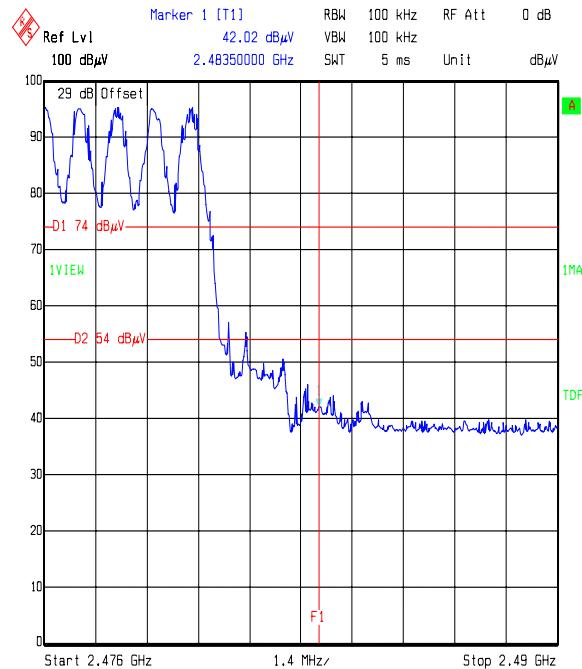
**To:** FCC Part 15.247: 2006 (Subpart C)

**Transmitter Band Edge Radiated Emissions**

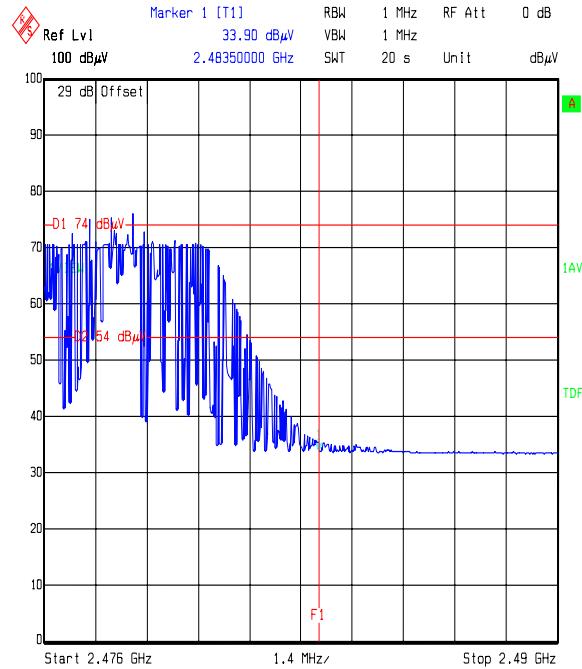
**Graph(s): Non EDR**



Title: 49288JD07 FCC15.247  
Comment A: TX BAND EDGE, HOPPING, BOTTOM CHANNEL, PEAK DETECTOR  
Date: 20.SEP.2007 13:46:00



Title: 49288JD07 FCC15.247  
Comment A: TX BAND EDGE, HOPPING, TOP CHANNEL, PEAK DETECTOR  
Date: 20.SEP.2007 13:49:33



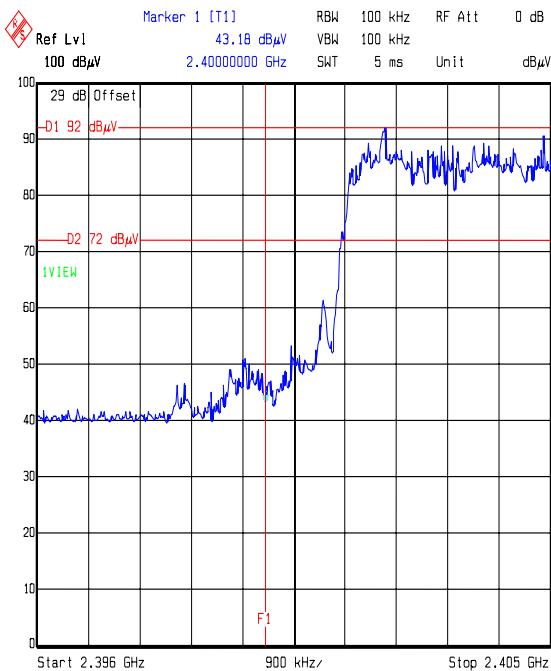
Title: 49288JD07 FCC15.247  
Comment A: TX BAND EDGE, HOPPING, TOP CHANNEL, AV DETECTOR  
Date: 20.SEP.2007 14:00:19

**Test of:** Nextlink. To A/S  
INVISIO Q7

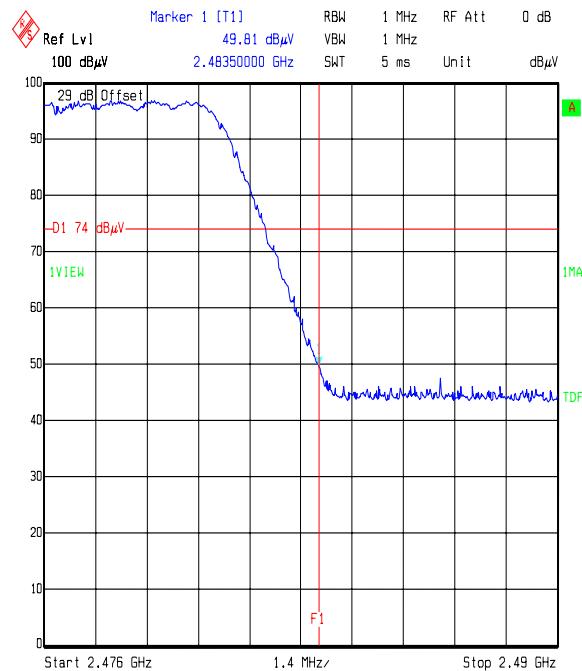
**To:** FCC Part 15.247: 2006 (Subpart C)

**Transmitter Band Edge Radiated Emissions (Continued)**

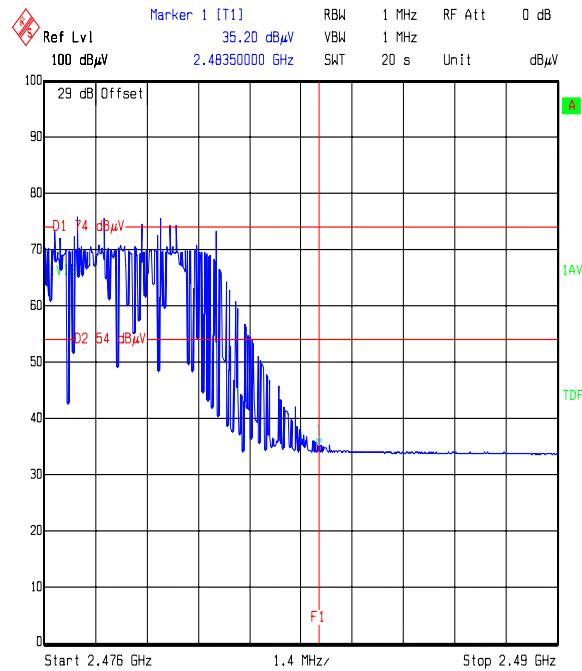
**Graph(s): EDR**



Title: 49288JD07 FCC15.247  
Comment A: TX BAND EDGE, HOPPING, BOTTOM CHANNEL, PEAK DET, EDR MODE  
Date: 20.SEP.2007 15:39:51



Title: 49288JD07 FCC15.247  
Comment A: TX BAND EDGE, HOPPING, TOP CHANNEL, PEAK DET, EDR MODE  
Date: 20.SEP.2007 15:29:33



Title: 49288JD07 FCC15.247  
Comment A: TX BAND EDGE, HOPPING, TOP CHANNEL, AV DET, EDR MODE  
Date: 20.SEP.2007 15:34:58

Test of: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

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**Transmitter Band Edge Radiated Emissions (Continued)**

Tests were performed using the test methods detailed in ANSI C63.4 Section 8, and Public Notice DA 00-705 (March 30, 2000).

**Results:**

**Peak 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)	Note(s)
2.4000	Horizontal	59.4	-6.5	52.9	73.3	20.4	-
2.4835	Horizontal	61.4	-8.0	53.4	74.0	20.6	-

**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)	Note(s)
2.4835	Horizontal	49.5	-8.0	41.5	54.0	12.5	-

**Peak Power Level Static Mode EDR:**

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)	Note(s)
2.4000	Horizontal	56.8	-6.5	50.3	73.3	23.0	-
2.4835	Horizontal	59.3	-8.0	51.3	74.0	22.7	-

**Average Power Level Static Mode EDR:**

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)	Note(s)
2.4835	Horizontal	48.5	-8.0	40.5	54.0	13.5	-

**Note(s):**

1. The band edge at 2.400 GHz is not within a restricted band; therefore the limit is -20 dBc.
2. The band edge at 2.4835 GHz is within a restricted band; therefore the limit is FCC part 15.209.

**Test Equipment Used:**

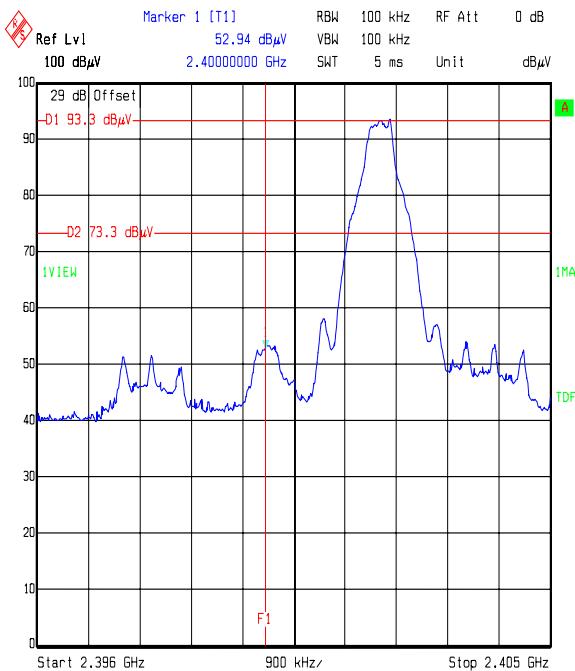
A031, C1167, M1242, M1447, S202

**Test of:** Nextlink. To A/S  
INVISIO Q7

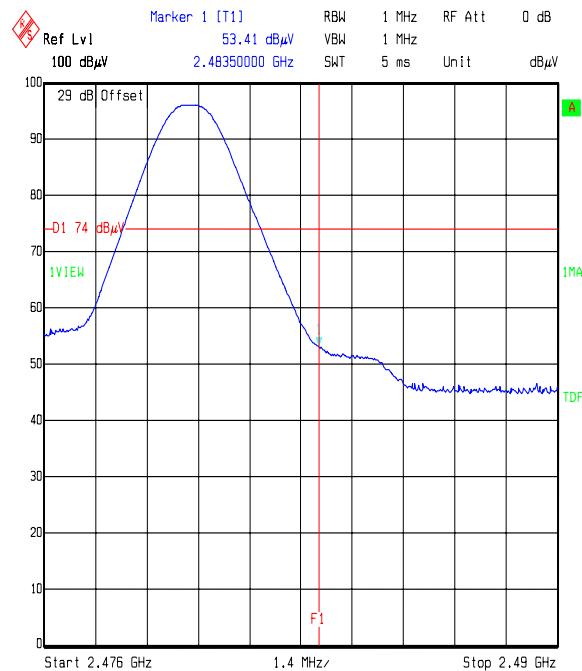
**To:** FCC Part 15.247: 2006 (Subpart C)

**Transmitter Band Edge Radiated Emissions (Continued)**

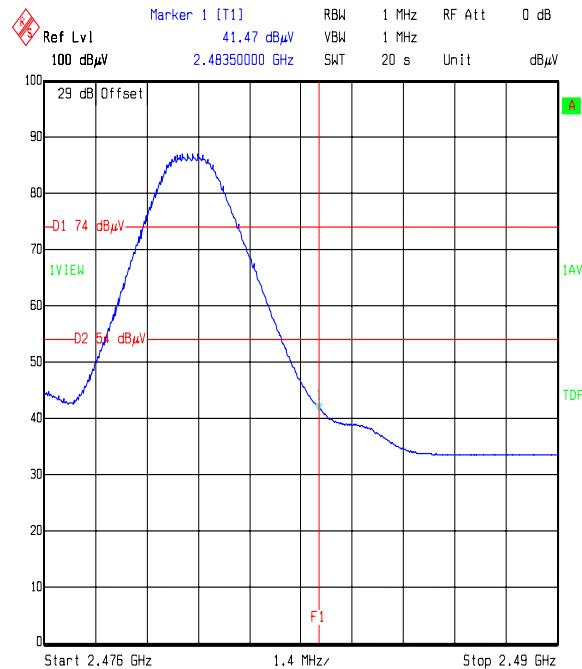
**Graph(s): EDR**



Title: 49288JD07 FCC15.247  
Comment A: TX BAND EDGE, STATIC, BOTTOM CHANNEL, PEAK DETECTOR  
Date: 20.SEP.2007 13:42:23



Title: 49288JD07 FCC15.247  
Comment A: TX BAND EDGE, STATIC, TOP CHANNEL, PEAK DETECTOR  
Date: 20.SEP.2007 14:22:13



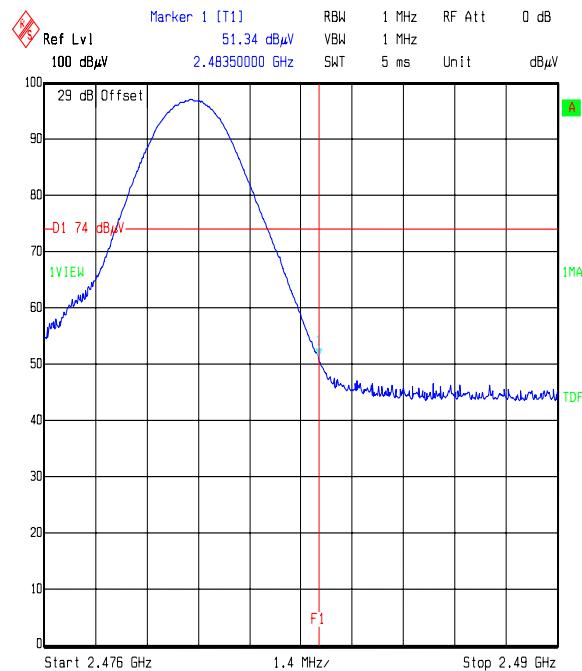
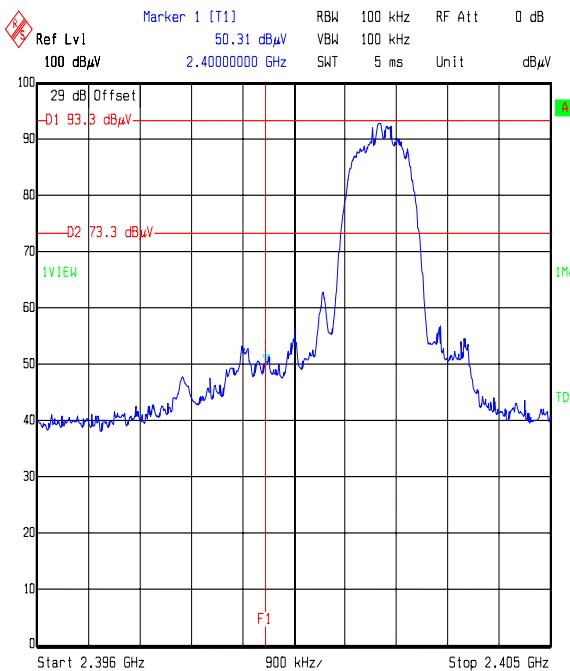
Title: 49288JD07 FCC15.247  
Comment A: TX BAND EDGE, STATIC, TOP CHANNEL, AV DETECTOR  
Date: 20.SEP.2007 14:01:42

**Test of:** Nextlink. To A/S  
INVISIO Q7

**To:** FCC Part 15.247: 2006 (Subpart C)

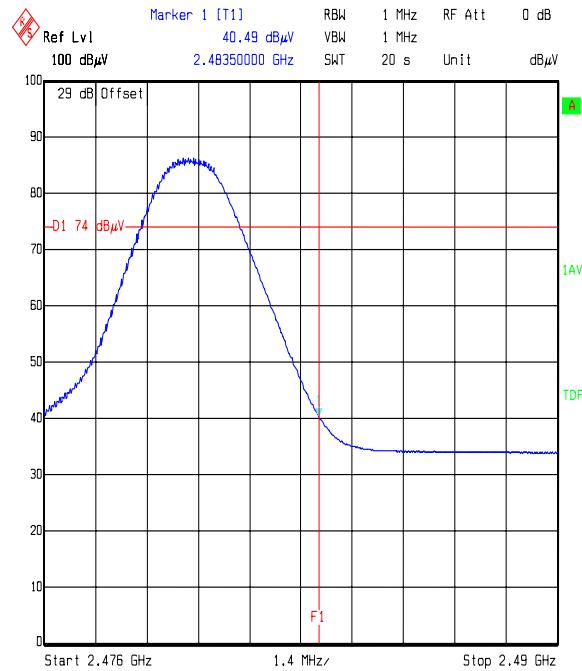
**Transmitter Band Edge Radiated Emissions (Continued)**

**Graph(s):**



Title: 49288JD07 FCC15.247  
Comment A: TX BAND EDGE, STATIC, BOTTOM CHANNEL, PEAK DET, EDR MODE  
Date: 20.SEP.2007 15:48:02

Title: 49288JD07 FCC15.247  
Comment A: TX BAND EDGE, STATIC, TOP CHANNEL, PEAK DET, EDR MODE  
Date: 20.SEP.2007 15:06:19



Title: 49288JD07 FCC15.247  
Comment A: TX BAND EDGE, STATIC, TOP CHANNEL, AV DET, EDR MODE  
Date: 20.SEP.2007 15:08:22

**Test of:** Nextlink. To A/S  
INVISIO Q7

**To:** FCC Part 15.247: 2006 (Subpart C)

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## 6. 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
Transmitter Carrier Frequency Separation	Not Applicable	95%	±11.4 ppm
Transmitter Average Time of Occupancy	Not Applicable	95%	±0.3 ns
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: Nextlink. To A/S  
INVISIO Q7

To: FCC Part 15.247: 2006 (Subpart C)

## Appendix 1. Test Equipment Used

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Last Calibrated	Cal. Interval (Months)
A028	Horn Antenna	Eaton	91888-2	304	08 Jun 2006	36
A031	Horn Antenna	Eaton	91889-2	557	08 Jun 2006	36
A1037	Bilog Antenna	Chase EMC Ltd	CBL6112B	2413	20 Sep 2006	12 (Note 1)
A1069	LISN	Rohde & Schwarz	ESH3-Z5	837469/012	09 Feb 2007	12
A1534	Preamplifier	Hewlett Packard	8449B OPT H02	3008A00405	Calibrated before use	12
A1830	Pulse Limiter	Rhode & Schwarz	ESH3-Z2	100668	08 Jan 2007	12
A253	Horn Antenna	Flann Microwave	12240-20	128	17 Nov 2006	36
A254	Horn Antenna	Flann Microwave	14240-20	139	17 Nov 2006	36
A255	Horn Antenna	Flann Microwave	16240-20	519	17 Nov 2006	36
A256	Horn Antenna	Flann Microwave	18240-20	400	17 Nov 2006	36
A436	Horn Antenna	Flann	20240-20	330	24 Apr 2006	36
C1164	Cable	Rosenberger Micro-Coax	FA210A101500 7070	43188-1	Calibrated before use	-
C1165	Cable	Rosenberger	FA210A102000 7070	43189-1	Calibrated before use	-
C1167	Cable	Rosenberger	FA210A103000 7070	43190-01	Calibrated before use	-
C1268	Cable	Rosenberger	FA210A007500 8080	49356-1	Calibrated before use	-
C151	Cable	Rosenberger	UFA210A-1-1181-70x70	None	Calibrated before use	-
C160	Cable	Rosenberger	UFA210A-1-1181-70x70	None	Calibrated before use	-
C348	Cable	Rosenberger	UFA210A-1-1181-70x70	2993	Calibrated before use	-
C363	Cable	Rosenberger	RG142	None	Calibrated before use	-
M1263	Test Receiver	Rohde & Schwarz	ESIB7	100265	25 Jan 2007	12
S202	Open Area Test Site	RFI	2	S202-15011990	17 Nov 2006	12
S212	Screened Room	RFI	12	None	Calibrated before use	-

Note 1: This item was used only before calibration expired.

**NB** In accordance with UKAS requirements, all the measurement equipment is on a calibration schedule. All equipment was within calibration at the time of the test.