

**Application for Certification  
For Wireless Communication Module**

Yokoyama Co., Ltd.  
Shimauchi, Matsumoto-shi,  
Nagano-ken, 390-0851

YM-103C Wireless Spread Spectrum Communications Module

FCC ID: VH3 1111

REPORT # RV88004D-004

This report was prepared in accordance with the requirements of the FCC Rules and Regulations Part 2, SubpartJ, 2.1033, Part 15.247 and other applicable sections of the rules as indicated herein.

Prepared By:

DNB Engineering, Inc.  
5969 Robinson Avenue  
Riverside, CA 92503

27 August 27, 2007

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Paragraph numbers in this report follow the application section numbers found in the FCC Rules and Regulations, Part 2, Subpart J for Certification of electronic equipment.

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## 1.0 ADMINISTRATIVE DATA

### 1.1 Certifications and Qualifications

I certify that DNB Engineering, Inc conducted the tests performed in order to obtain the technical data presented in this application. Also, based on the results of the enclosed data, I have concluded that the equipment tested meets or exceeds the requirements of the Rules and Regulations governing this application.

### 1.2 Measurement Repeatability Information

The test data presented in this report has been acquired using the guidelines set forth in FCC Part 2.1031 through 2.1057, Part 15. The test results presented in this document are valid only for the equipment identified herein under the test conditions described.

Repeatability of these test results will only be achieved with identical measurement conditions. These conditions include: The made test distance, EUT Height, Measurement Sit Characteristics, and the same EUT System Components. The system must have the same interconnecting Cables arranged in identical placement to that in the test setup, with the system and/or EUT functioning in the identical mode of operation (i.e. software and so on) as on the date of the test. Any deviation from the test conditions and the environment on the date of the test may result in measurement repeatability difficulties.

All changes made to the EUT during the course of testing as identified in this test report must be incorporated into the EUT or identical models to ensure compliance with the FCC regulations.

*Thomas Elders*

Thomas Elders  
Facility Manager  
Riverside Branch  
DNB Engineering, Inc.  
Tel. (951) 637-2630  
FAX (951) 637-2704

2.1033 (b) (1) Application for Certification

Name of Applicant: Yokohama

Applicant is: Manufacturer

Name of Manufacturer: Yokohama

Description: Wireless Communications Module

Part Number: YM-103C

Anticipated Production Quantity: Multiple Units

15.247 Frequency Bands: 2.404 GHz – 2.480 GHz

15.247 Rated Power: 9 mW

Type of Signal: Digital Modulation

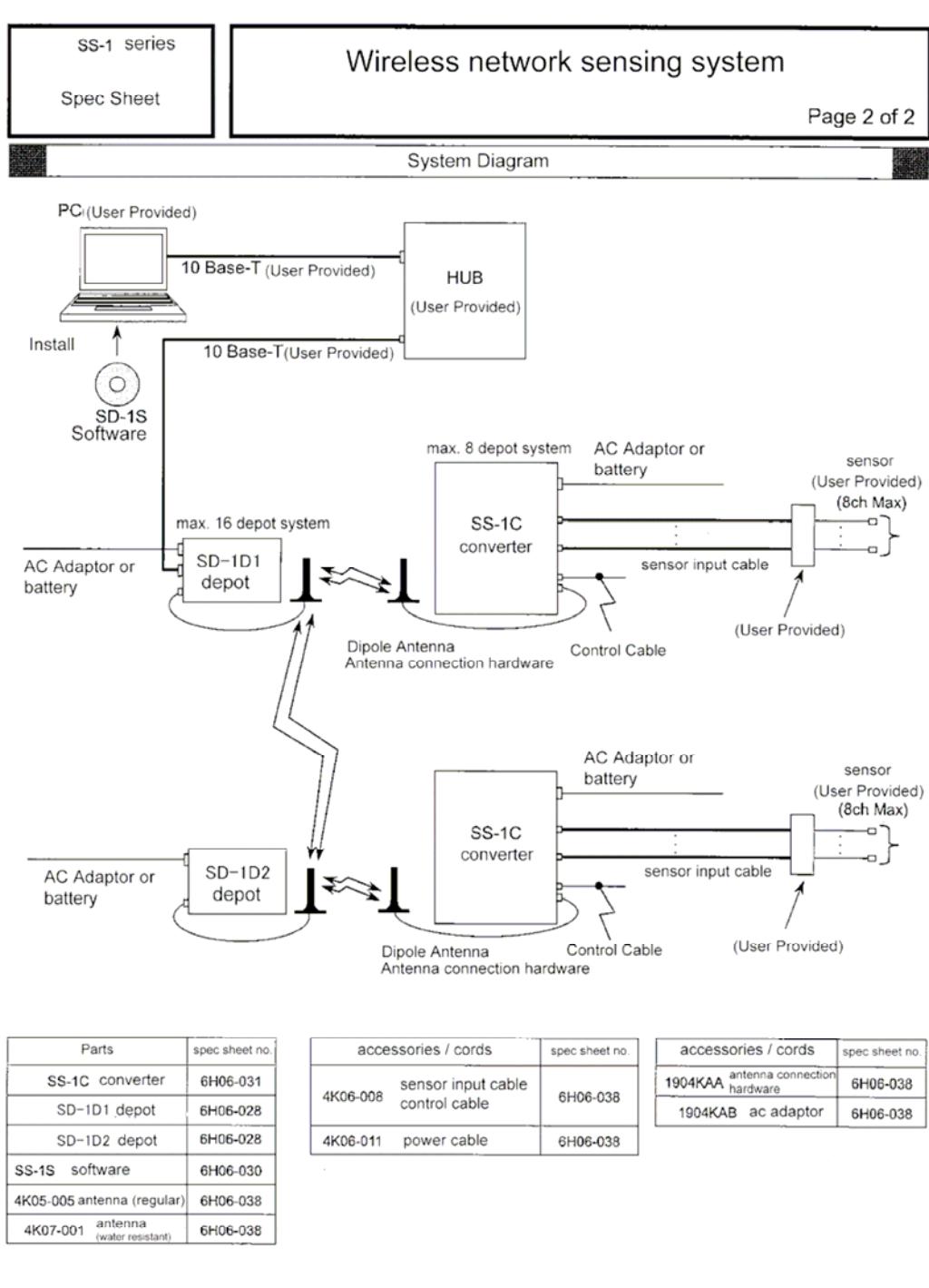
2.1033 (b) (2) FCC Identifier

VH3 1111

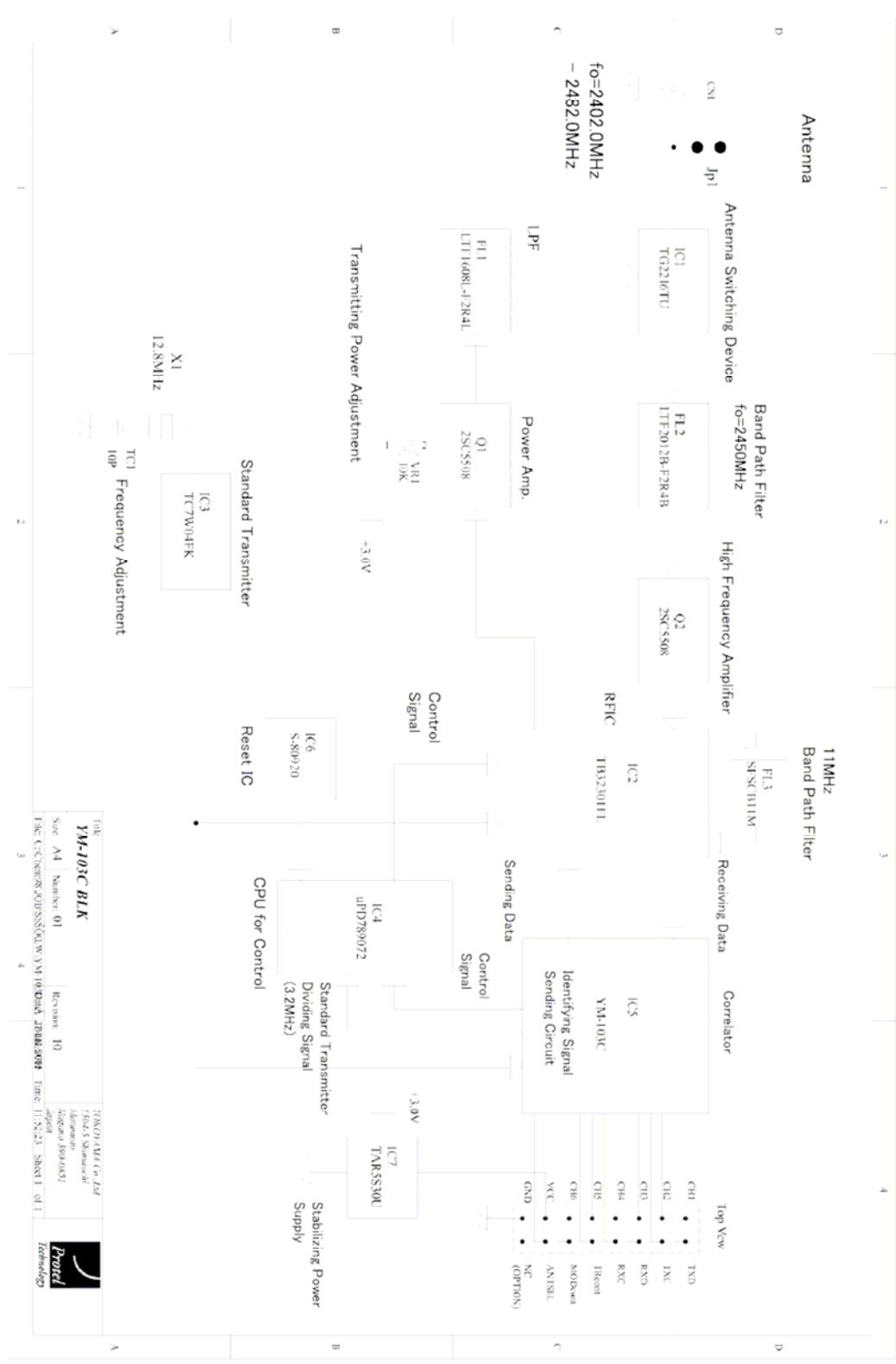
2.1033 (b) (3) Installation and Operating Instructions

To be filed as a separate attachment

## 2.1033 (b) (4) Brief Description of Circuit Function



### 2.1033 (b) (5) Block Diagram



2.1033 (b) (6) Report of Measurements

#### 15.207 Conducted Emissions (General Provisions)

Not Applicable. The equipment does not connect directly to the AC mains.

## 15.209 Radiated Emissions (General Provisions)

### Test Procedure:

The EUT was measured on an open area test site (OATS).

A measuring distance of at least 3m shall be used for measurements at frequencies up to 1 GHz. For frequencies above 1 GHz, any suitable measuring distance may be used. The equipment size (excluding the antenna) shall be less than 20% of the measuring distance.

Sufficient precautions shall be taken to ensure that reflections from extraneous objects adjacent to the site do not degrade the measurement results, in particular:

- no extraneous conduction objects having any dimension in excess of a quarter wavelength of the highest frequency tested shall be in the immediate vicinity of the site;
- all cables shall be as short as possible; as much of the cables as possible shall be on the ground plane or preferably below; and the low impedance cables shall be screened.

The EUT shall be placed upon a non-conductive table .8 meters above the ground plane and shall be placed in the “worst case” transmitting mode. The EUT shall be rotated 360 degrees to find the azimuth maxima. The receive antenna shall then be raised and lowered between 1 to 4 meters to find the maximum signal emanating from the EUT. This signal strength is then recorded on the data sheets.

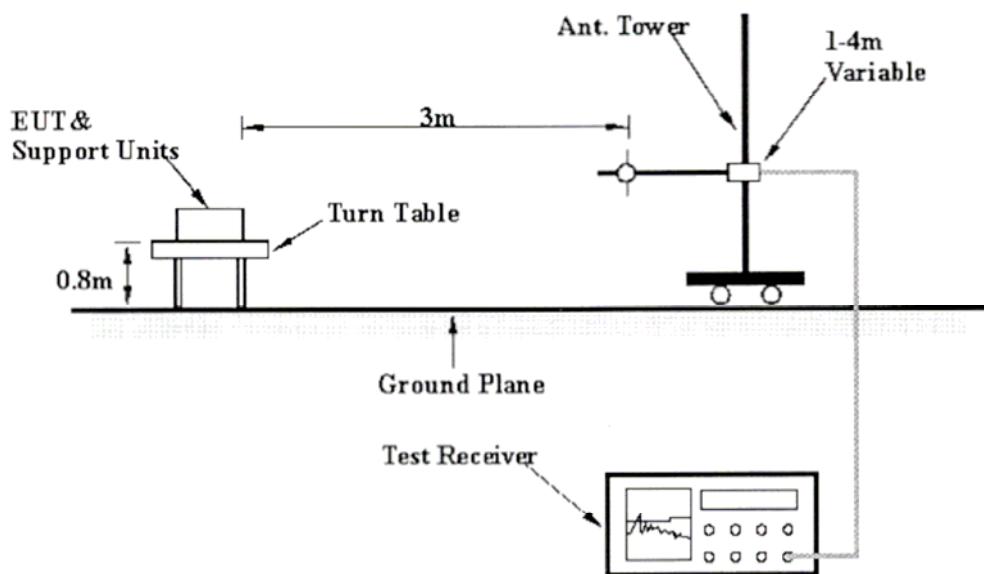
Frequency (MHz)	Field Strength (uV/m)	Field Strength (dBuVm)	Measurement Distance (meters)
.009 – 0.490	2400/F(kHz)	$20*(\log_{10}(2400/F(kHz))$	300
0.490 – 1.705	24000/F(kHz)	$20*(\log_{10}(24000/F(kHz))$	30
1.705 – 30.0	30	29.5	30
30 – 88	100	40	3
88 – 216	150	43.5	3
216 – 960	200	46.0	3
Above 960	500	54.0	3



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### Radiated Emissions

DNB Job Number:	88004	Date:	27 August 2007
Customer:	Yokoyama		
Model Number:	YM-103C	Specification:	
Description:	Wireless communications Module		
Test Setup			15.209



	5969 Robinson Ave. Riverside, CA 92503 (951)637-2630	<b>Radiated Emissions</b>	
DNB Job Number:	88004	Date:	27 August 2007
Customer:	Yokoyama		
Model Number:	YM-103C	Specification:	
Description:	Wireless communications Module		
	Test Setup		
Transmit Ant.	Vertical	Receive Ant.	Vertical



	5969 Robinson Ave. Riverside, CA 92503 (951)637-2630	<b>Radiated Emissions</b>	
DNB Job Number:	88004	Date:	27 August 2007
Customer:	Yokoyama		
Model Number:	YM-103C	Specification:	
Description:	Wireless communications Module		
	Test Setup		
Transmit Ant.	Vertical	Receive Ant.	Horizontal





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**Radiated Emissions (spurious)**

DNB Job Number:	88004	Date:	27 August 2007
Customer:	Yokoyama		
Model Number:	YM-103C	Specification:	
Description:	Wireless communications Module		
Channel 2			<b>15.209</b>

Frequency	Meter	Antenna	Amp	Cable	Corrected	Polarity	Detector	Limit	Margin
1127.5	52.43	27.3	21.4	0.1	58.43	Vertical	Peak	74	-15.57
1127.5	36.7	27.3	21.4	0.1	42.7	Vertical	Average	54	-11.3
1932.5	50.63	28	21.4	0.1	57.33	Vertical	Peak	74	-16.67
1932.5	41.83	28	21.4	0.1	48.53	Vertical	Average	54	-5.47
1947.5	44.75	28	21.4	0.1	51.45	Vertical	Peak	74	-22.55
1947.5	36.37	28	21.4	0.1	43.07	Vertical	Average	54	-10.93
2252.6	40.15	28	21.5	0.1	46.75	Vertical	Peak	74	-27.25
2252.6	35.14	28	21.5	0.1	41.74	Vertical	Average	54	-12.26
2404.1	87.18	29.2	21.8	0.1	94.68	Vertical	Peak	Fund	Fund
2404.1	86.54	29.2	21.8	0.1	94.04	Vertical	Average	Fund	Fund
3028.8	40.15	30.3	21.7	0.1	48.85	Vertical	Peak	74	-25.15
3028.8	34.52	30.3	21.7	0.1	43.22	Vertical	Average	54	-10.78
5420	38.53	35.4	21.6	0.13	52.46	Vertical	Peak	74	-21.54
5420	32.35	35.4	21.6	0.13	46.28	Vertical	Average	54	-7.72
9470	41.55	38.2	21.4	0.13	58.48	Vertical	Peak	74	-15.52
9470	35.77	38.2	21.4	0.13	52.7	Vertical	Average	54	-1.3
1202.5	39.66	27.3	21.4	0.1	45.66	Horizontal	Peak	74	-28.34
1202.5	36.88	27.3	21.4	0.1	42.88	Horizontal	Average	54	-11.12
2027.1	38.29	28	21.4	0.1	44.99	Horizontal	Peak	74	-29.01
2027.1	33.43	28	21.4	0.1	40.13	Horizontal	Average	54	-13.87
2404	75.06	29.2	21.8	0.1	82.56	Horizontal	Peak	Fund	Fund
2404	73.7	29.2	21.8	0.1	81.2	Horizontal	Average	Fund	Fund
3157.5	40.02	30.3	21.7	0.1	48.72	Horizontal	Peak	74	-25.28
3157.5	34.86	30.3	21.7	0.1	43.56	Horizontal	Average	54	-10.44
7130	41.65	30.3	35.9	0.1	36.15	Horizontal	Peak	74	-37.85
7130	36.74	30.3	35.9	0.1	31.24	Horizontal	Average	54	-22.76

## 15.205 Radiated Emissions (Restricted Bands)[15.247c]

### Test Procedure:

The EUT was measured on an open area test site (OATS).

Similar test procedure to the radiated emissions. Cable loss, antenna loss, and pre-amplifier gain form a single correction factor, which in turn is input as an offset to the spectrum analyzer. Plots were made of each restricted band. If no emission was present the highest ground floor emission was taken in each band.

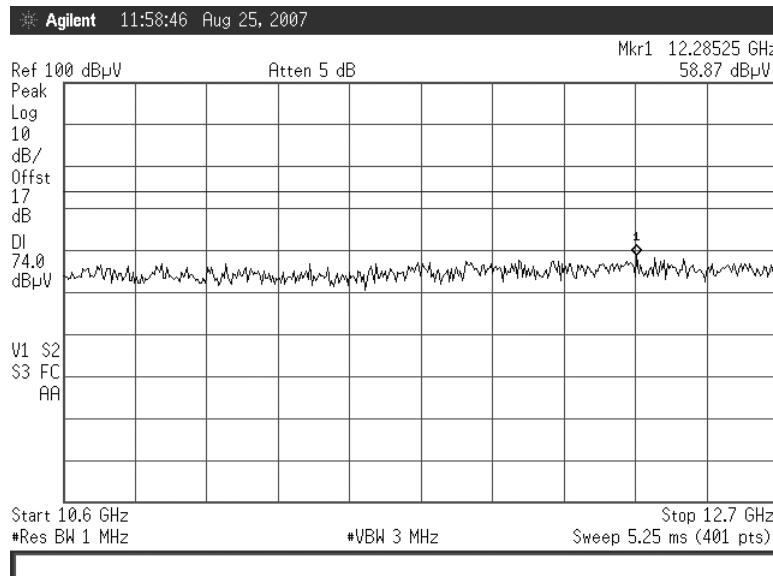


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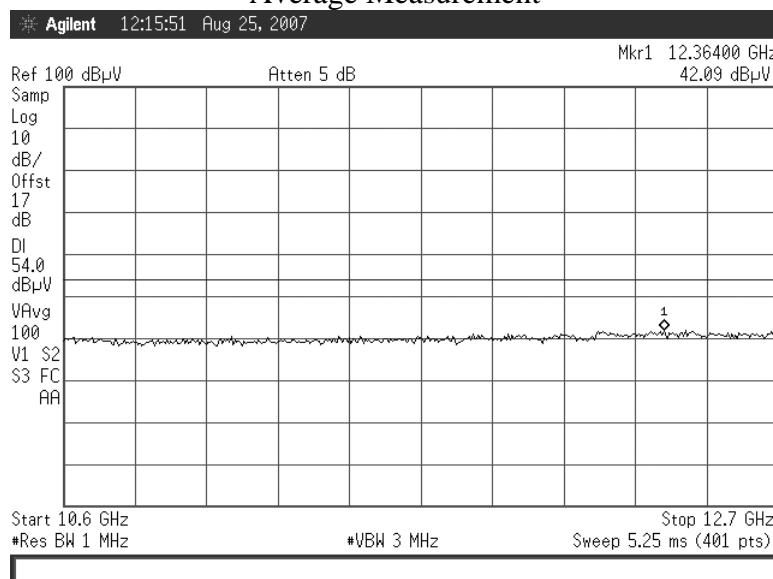
**Radiated Emissions**  
(Restricted Bands)

DNB Job Number:	88004	Date:	27 August 2007
Customer:	Yokoyama		
Model Number:	YM-103C	Specification:	15.205
Description:	Wireless communications Module		15.247(c)
Channel 2	Antenna Horizontal		

**Peak Measurement**



**Average Measurement**



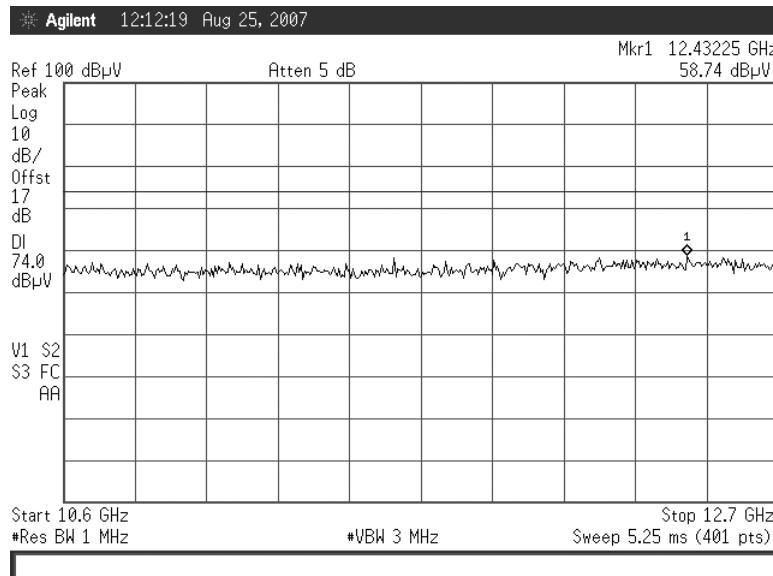


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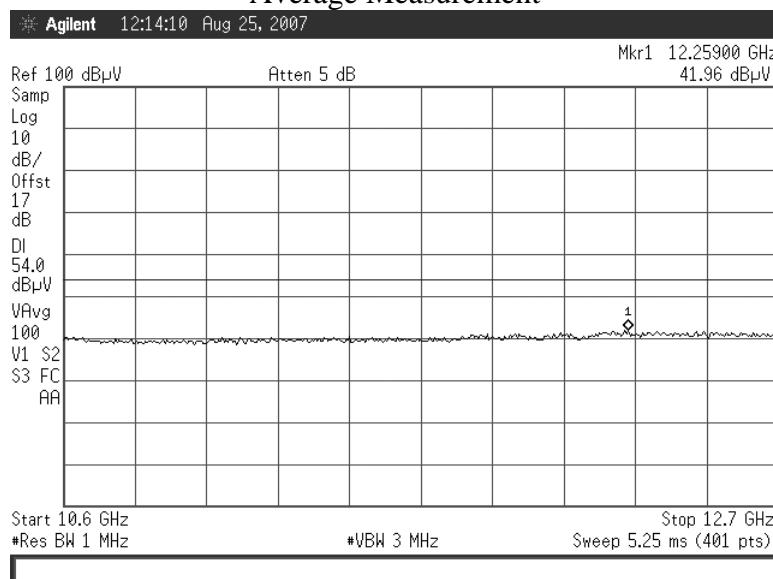
**Radiated Emissions**  
(Restricted Bands)

DNB Job Number:	88004	Date:	27 August 2007
Customer:	Yokoyama		
Model Number:	YM-103C	Specification:	15.205
Description:	Wireless communications Module		
Channel 2	Antenna Vertical		

**Peak Measurement**



**Average Measurement**



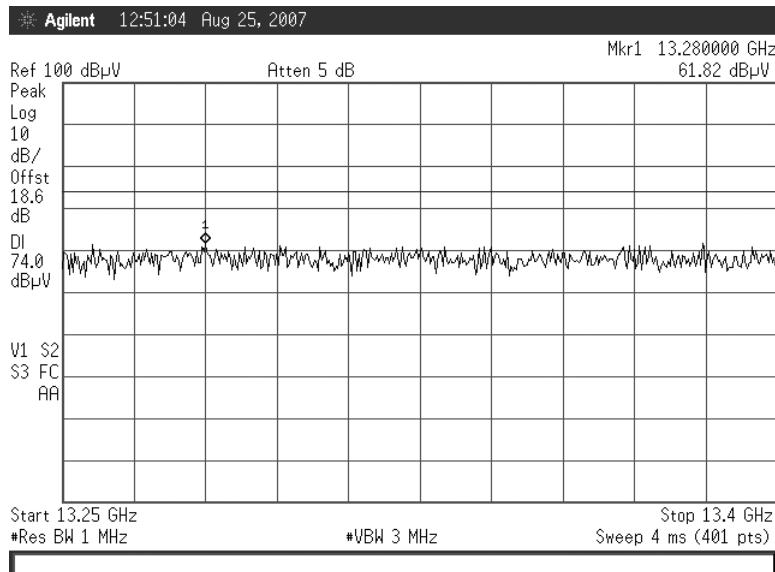


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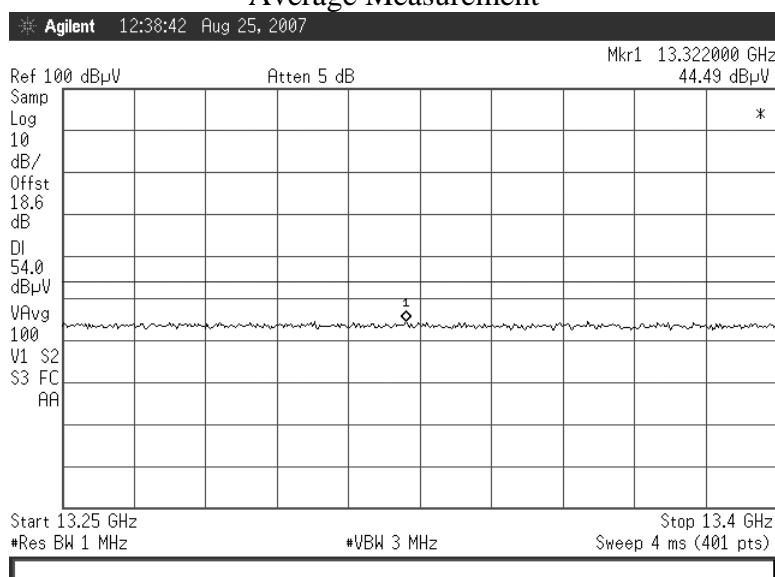
**Radiated Emissions**  
(Restricted Bands)

DNB Job Number:	88004	Date:	27 August 2007
Customer:	Yokoyama		
Model Number:	YM-103C	Specification:	15.205
Description:	Wireless communications Module		15.247(c)
Channel 2	Antenna Horizontal		

**Peak Measurement**



**Average Measurement**



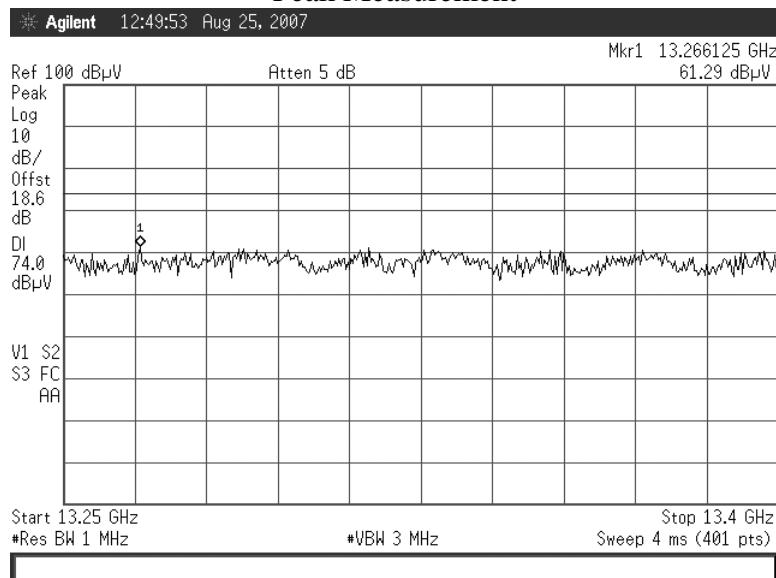


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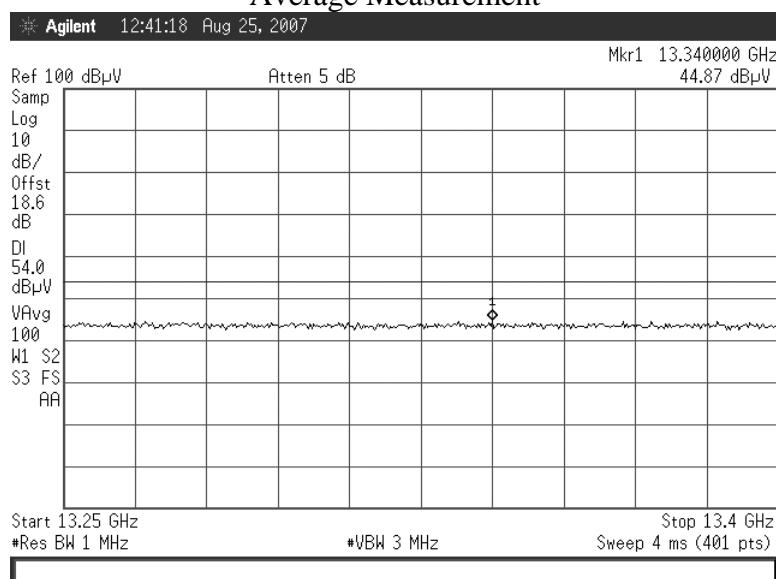
**Radiated Emissions**  
(Restricted Bands)

DNB Job Number:	88004	Date:	27 August 2007
Customer:	Yokoyama		
Model Number:	YM-103C	Specification:	15.205
Description:	Wireless communications Module		15.247(c)
Channel 2	Antenna Vertical		

**Peak Measurement**



**Average Measurement**



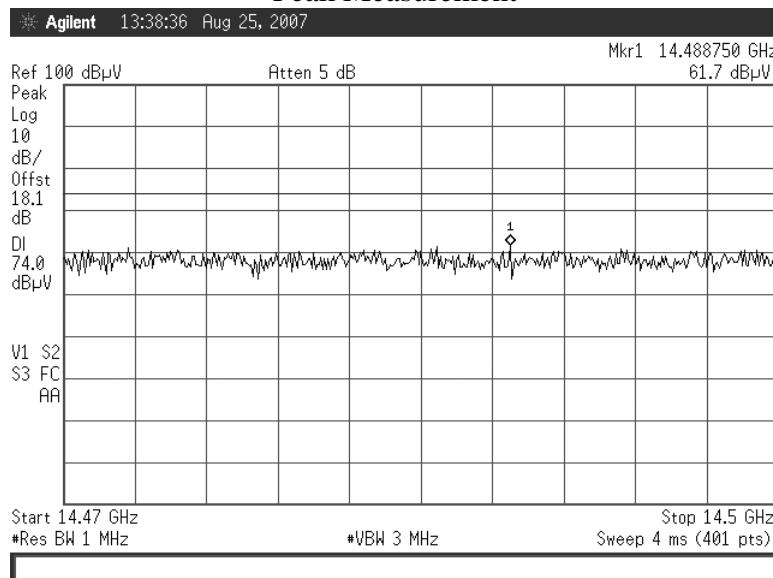


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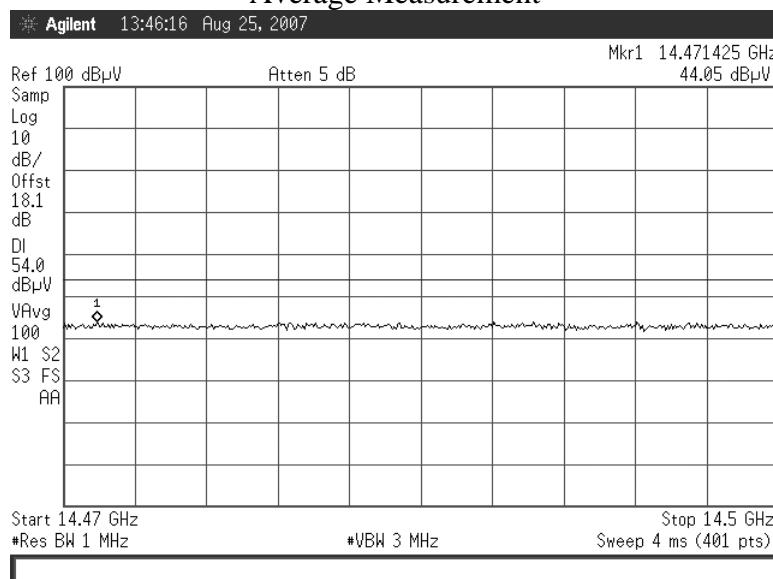
**Radiated Emissions**  
(Restricted Bands)

DNB Job Number:	88004	Date:	27 August 2007
Customer:	Yokoyama		
Model Number:	YM-103C	Specification:	15.205
Description:	Wireless communications Module		15.247(c)
Channel 2	Antenna Horizontal		

**Peak Measurement**



**Average Measurement**



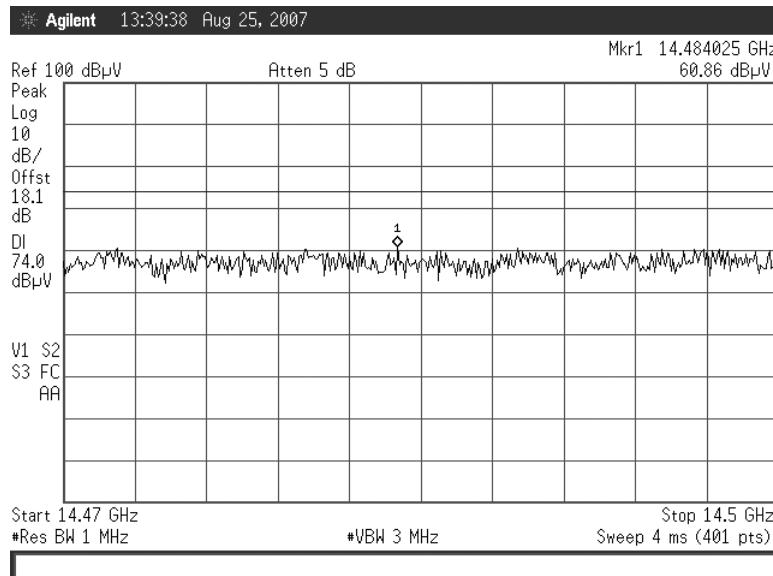


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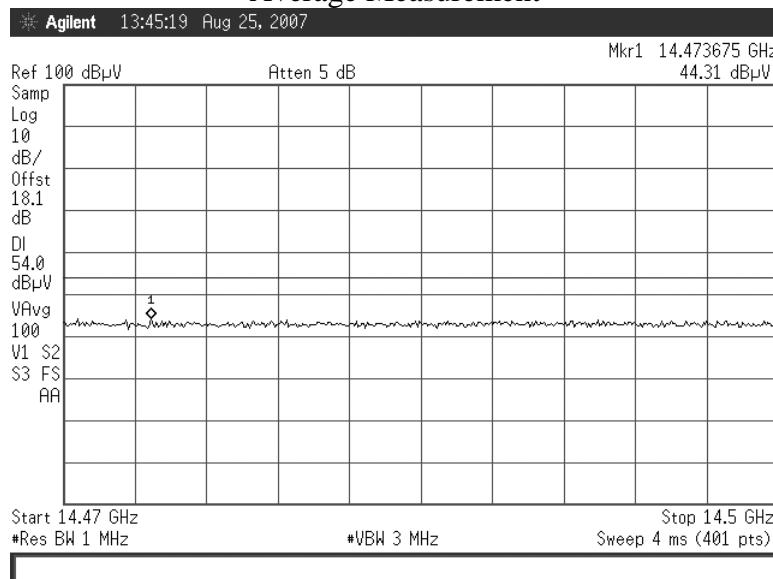
**Radiated Emissions**  
(Restricted Bands)

DNB Job Number:	88004	Date:	27 August 2007
Customer:	Yokoyama		
Model Number:	YM-103C	Specification:	15.205
Description:	Wireless communications Module		15.247(c)
Channel 2	Antenna Vertical		

**Peak Measurement**



**Average Measurement**



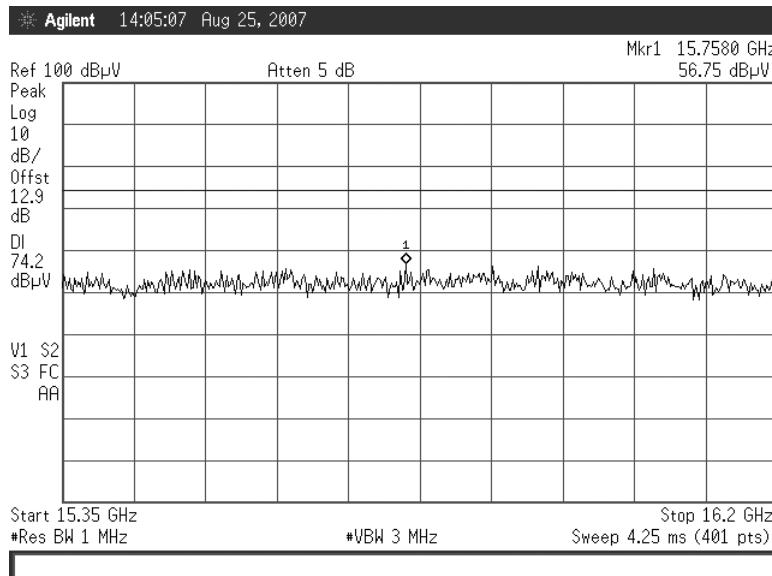


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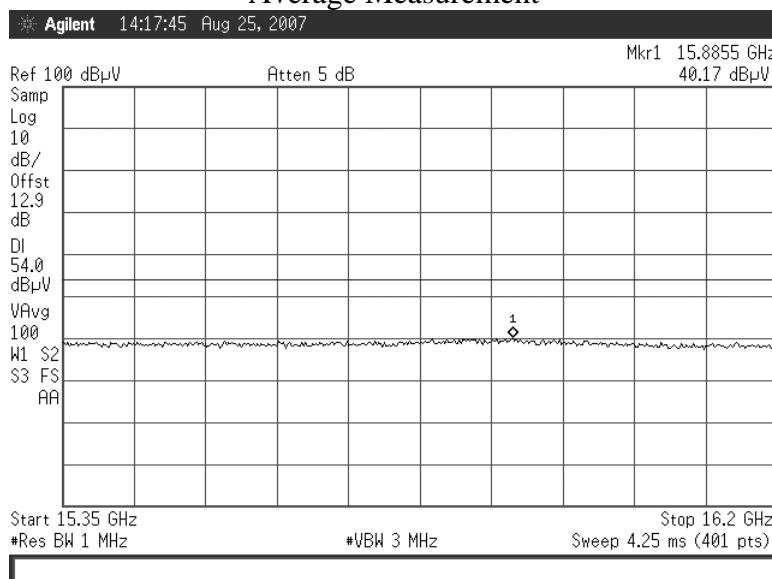
**Radiated Emissions**  
(Restricted Bands)

DNB Job Number:	88004	Date:	27 August 2007
Customer:	Yokoyama		
Model Number:	YM-103C	Specification:	
Description:	Wireless communications Module		
Channel 2	Antenna Horizontal		

**Peak Measurement**



**Average Measurement**



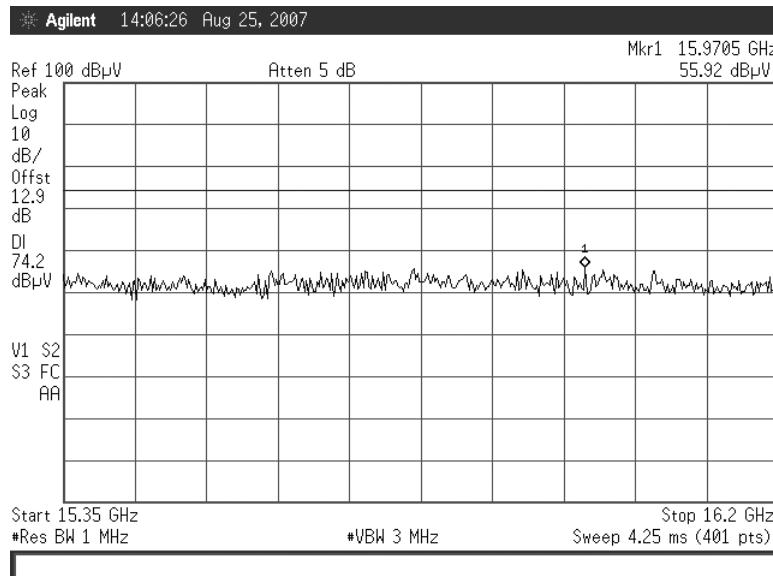


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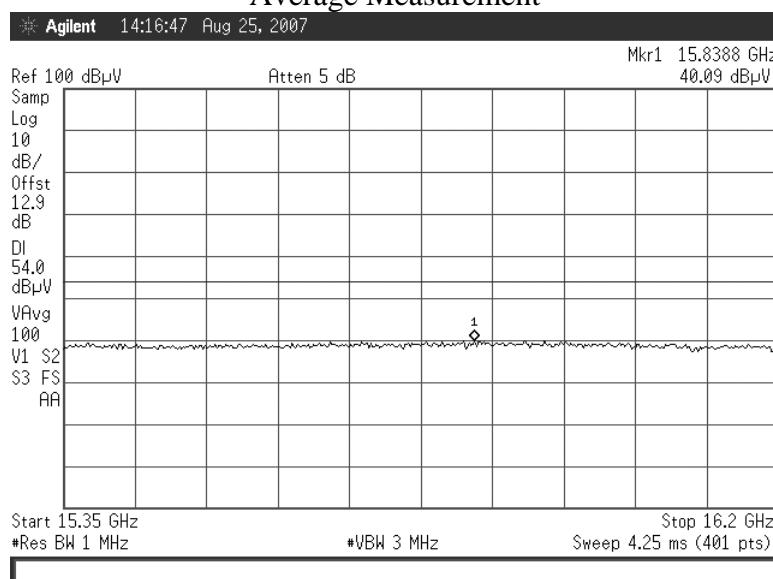
**Radiated Emissions**  
(Restricted Bands)

DNB Job Number:	88004	Date:	27 August 2007
Customer:	Yokoyama		
Model Number:	YM-103C	Specification:	15.205
Description:	Wireless communications Module		15.247(c)
Channel 2	Antenna Vertical		

**Peak Measurement**



**Average Measurement**



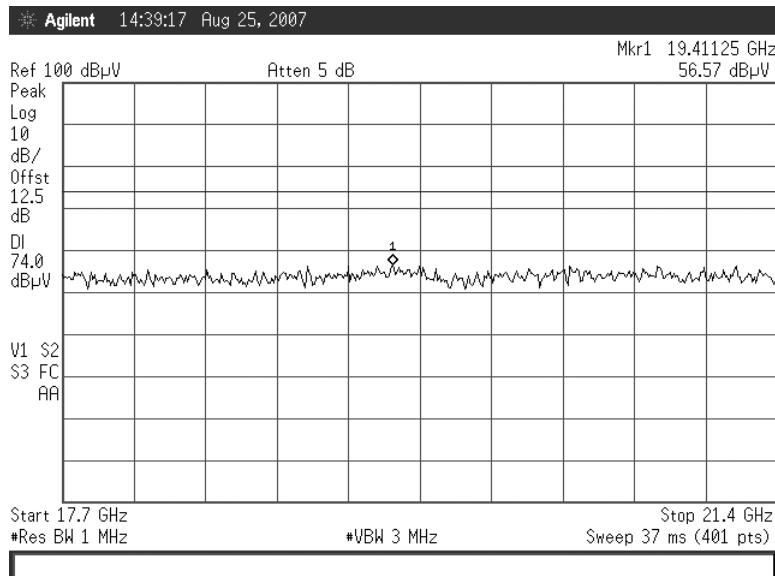


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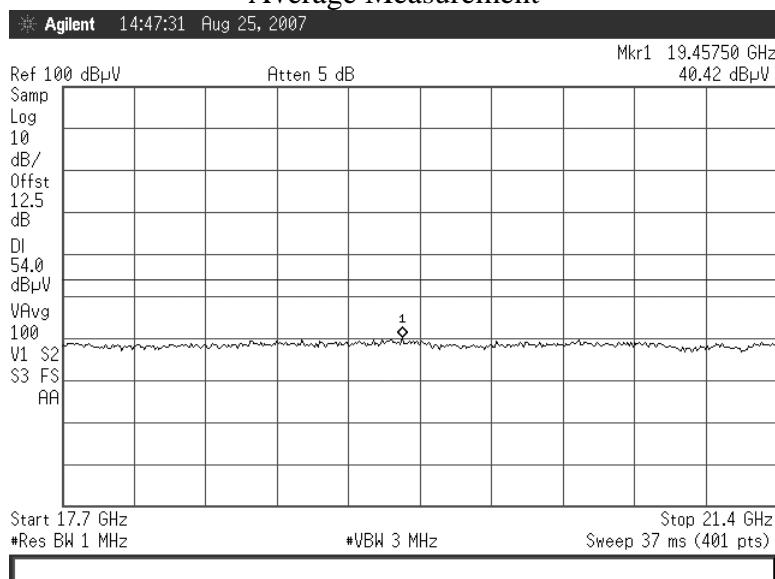
**Radiated Emissions**  
(Restricted Bands)

DNB Job Number:	88004	Date:	27 August 2007
Customer:	Yokoyama		
Model Number:	YM-103C	Specification:	15.205
Description:	Wireless communications Module		15.247(c)
Channel 2	Antenna Horizontal		

**Peak Measurement**



**Average Measurement**



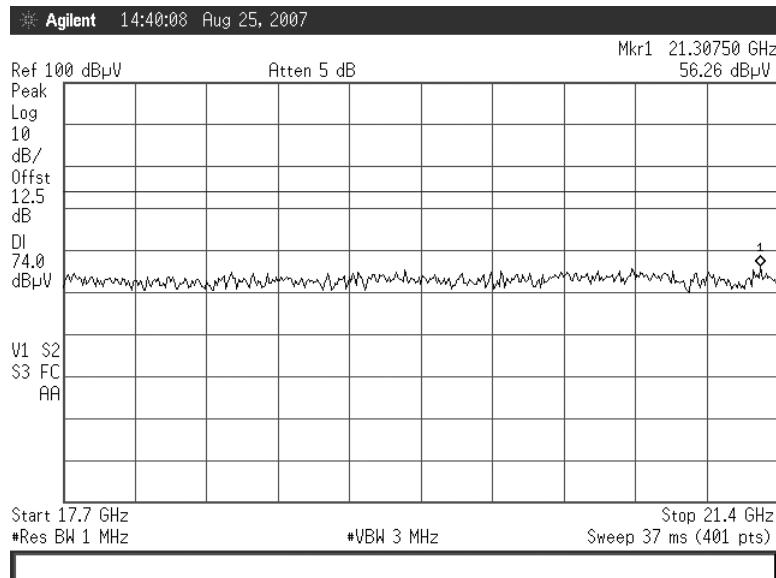


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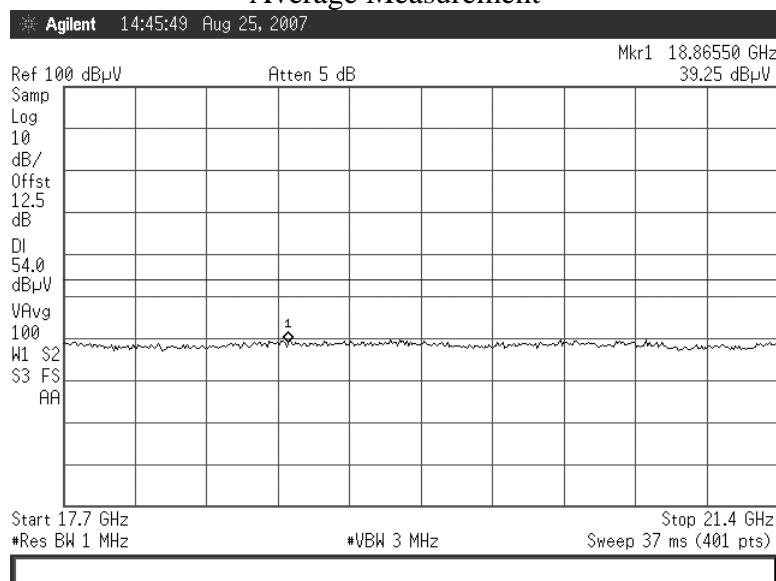
**Radiated Emissions**  
(Restricted Bands)

DNB Job Number:	88004	Date:	27 August 2007
Customer:	Yokoyama		
Model Number:	YM-103C	Specification:	15.205
Description:	Wireless communications Module		
Channel 2	Antenna Vertical		

**Peak Measurement**



**Average Measurement**



## 15.247(a, 2) 6dB Emission Bandwidth

### Test Procedure:

Use the following spectrum analyzer settings:

RBW	=	100kHz
VBW	=	300kHz
Span	=	Greater than RBW
Sweep	=	auto
Detector	=	peak
Trace	=	max hold

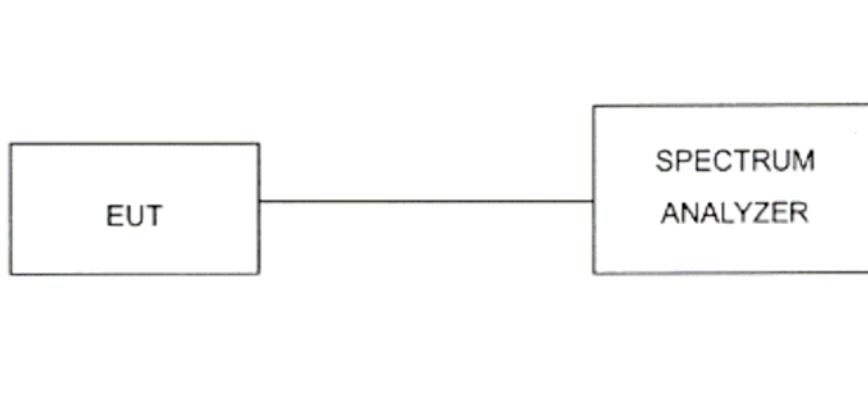
The EUT should be transmitting at its maximum data rate. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 6dB down one side of the emission. Reset the marker-delta functions, and move the marker to the other side of the emission, until it is even with the reference marker level. The marker-delta reading at this point is the 6dB bandwidth of the emission. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation.

Requirement: The minimum 6dB bandwidth shall be at least 500kHz.

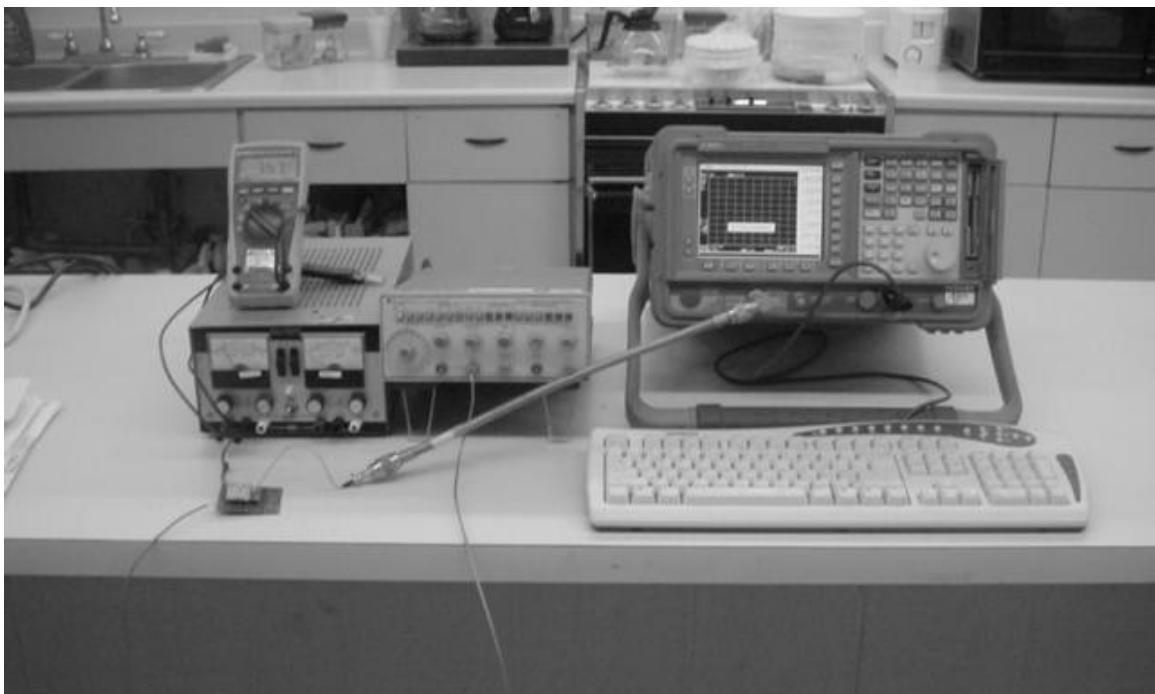
### EUT Operating Conditions:

The test fixture provided by the client allowed the EUT to transmit continuously at the low, mid, and upper channels respectively.

### Test Setup:



	5969 Robinson Ave. Riverside, CA 92503 (951)637-2630	<b>6 dB Emission Bandwidth</b>
DNB Job Number:	88004	Date: 12 Dec 2007
Customer:	Yokoyama	
Model Number:	YM-103C	Specification:
Description:	Wireless communications Module	<b>15.247(a,2)</b>
Photograph of Test Setup		

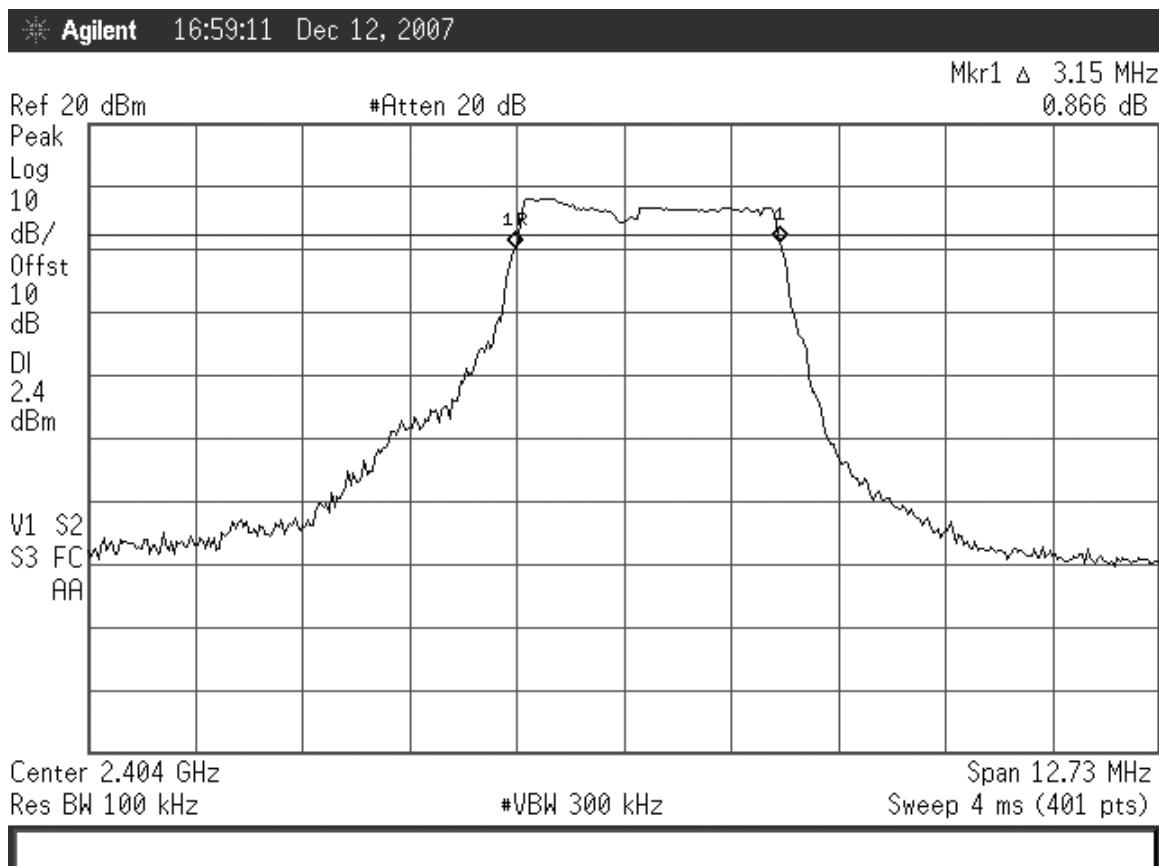




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### 6 dB Emission Bandwidth

<b>DNB Job Number:</b>	88004	<b>Date:</b>	12 Dec. 2007
<b>Customer:</b>	Yokoyama		
<b>Model Number:</b>	YM-103C	<b>Specification:</b>	15.247(a,2)
<b>Description:</b>	Wireless communications Module		
<b>Environmental conditions</b>			
Ambient Temperature	Relative Humidity	Barometric Pressure	
19°C	35%	98.9kPa	
Channel	Freq. (MHz)	6dB BW(MHz)	min. lim.(kHz)
1	2404	3.15	500
			Pass

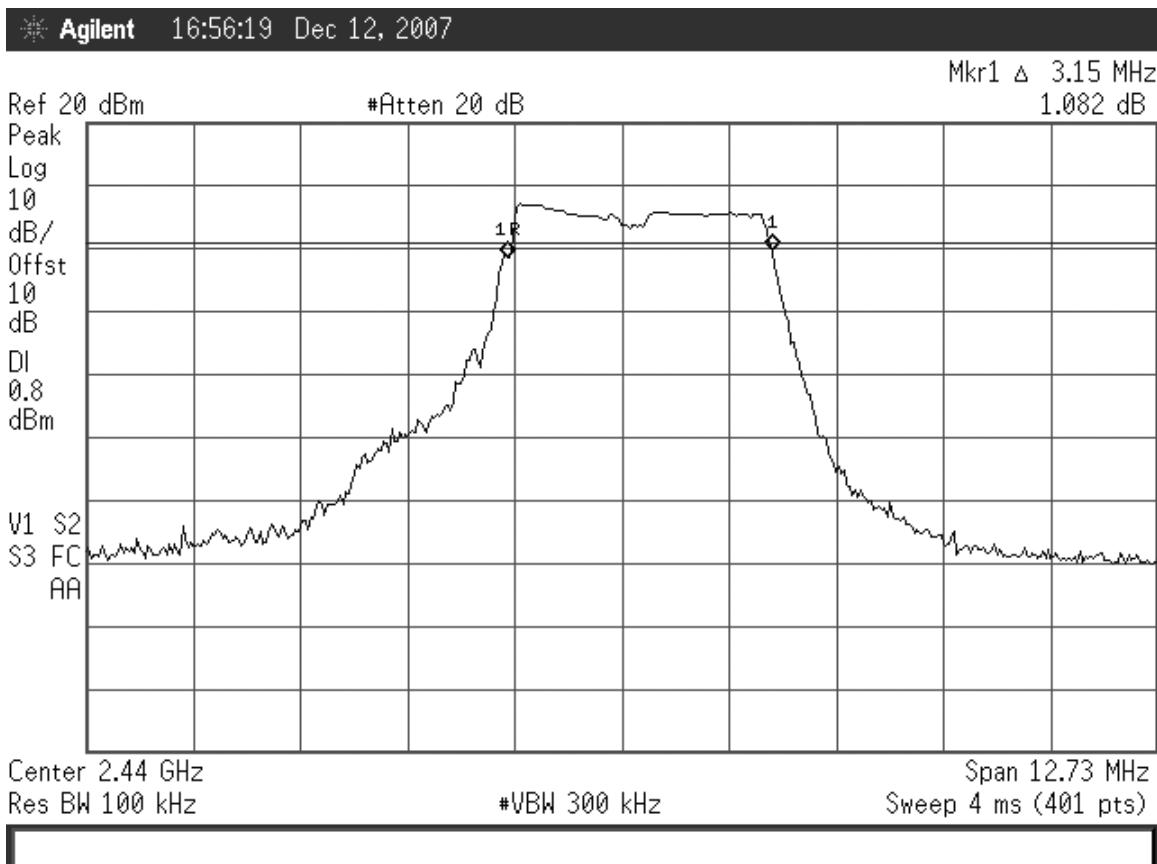




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### 6 dB Emission Bandwidth

<b>DNB Job Number:</b>	88004	<b>Date:</b>	12 Dec. 2007	
<b>Customer:</b>	Yokoyama			
<b>Model Number:</b>	YM-103C	<b>Specification:</b>	15.247(a,2)	
<b>Description:</b>	Wireless communications Module			
<b>Environmental conditions</b>				
Ambient Temperature	Relative Humidity	Barometric Pressure		
19°C	35%	98.9kPa		
Channel	Freq. (MHz)	6dB BW(MHz)	min. lim.(kHz)	Pass/fail
19	2440	3.15	500	Pass

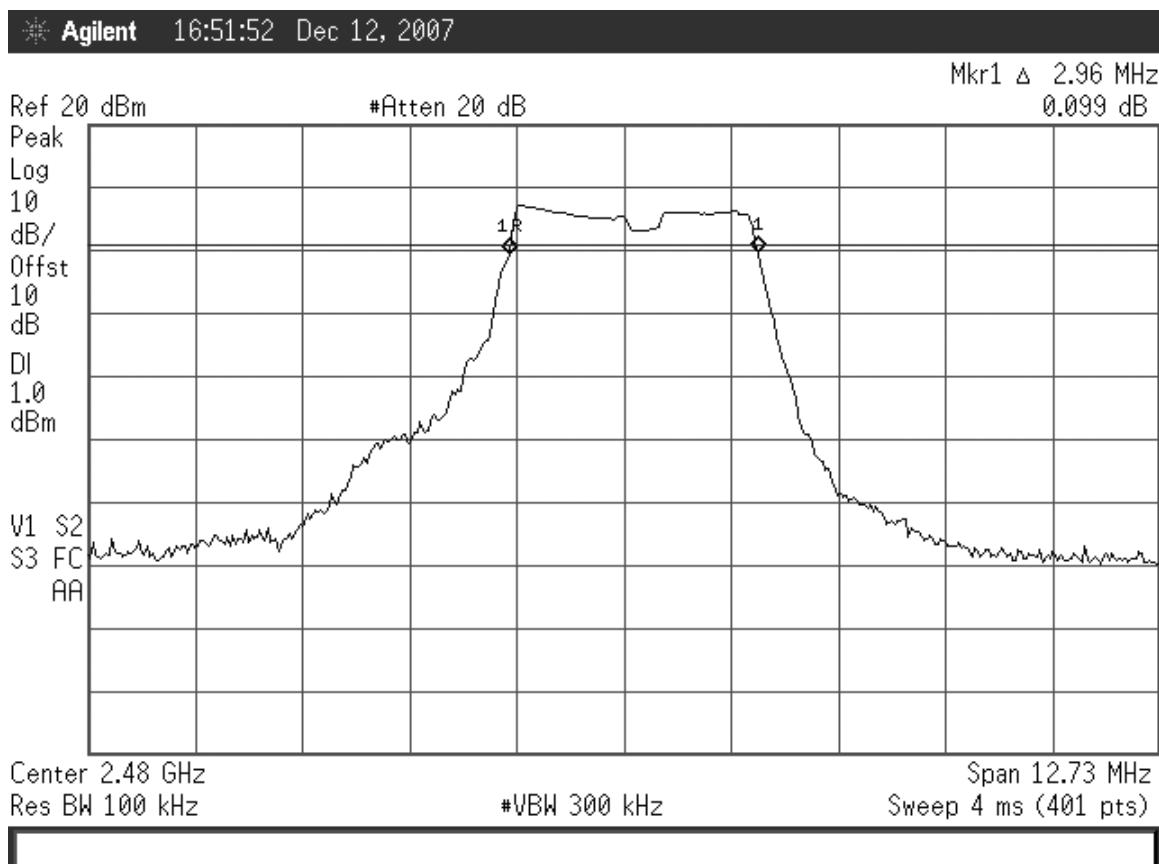




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### 6 dB Emission Bandwidth

<b>DNB Job Number:</b>	88004	<b>Date:</b>	12 Dec. 2007	
<b>Customer:</b>	Yokoyama			
<b>Model Number:</b>	YM-103C	<b>Specification:</b>	15.247(a,2)	
<b>Description:</b>	Wireless communications Module			
<b>Environmental conditions</b>				
Ambient Temperature	Relative Humidity	Barometric Pressure		
19°C	35%	98.9kPa		
Channel	Freq. (MHz)	6dB BW(MHz)	min. lim.(kHz)	Pass/fail
39	2480		500	Pass



### 15.247(b, 3) Maximum Peak Output Power (Conducted)

Test Procedure:

Connect RF power meter directly to antenna terminals. Record RF output of low, mid and upper channels.

#### De Facto EIRP Limit

Describe how the EUT complies with the *de facto* EIRP limit for every antenna proposed for use with the EUT. This includes those devices that will be used in point-to-point applications. If the peak output power, as measured above, must be reduced so that the *de facto* EIRP limit may be met for a particular antenna, describe exactly how much it will be reduced for that antenna. If the peak output power level is raised above the limit in order to compensate for cable loss between the EUT and the antenna, specify the minimum length of cable that will always be used, the type of cable and its loss in dB per unit length for the frequency of the emission. Also, specify who will be responsible for ensuring that compliant operation is maintained for every antenna that will be used with the EUT.

#### Point-to-Point Operation

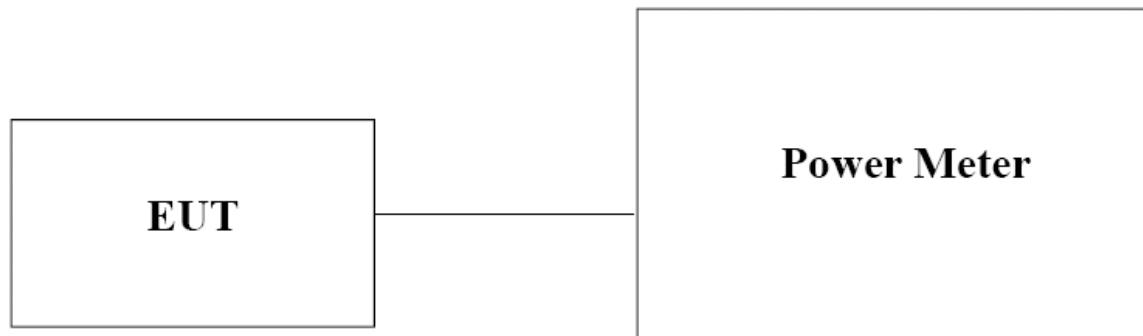
If the EIRP relaxation for point-to-point operation is proposed for any particular antenna, describe who will be responsible for ensuring that the EUT is only used in such an application.

Requirement: The maximum peak output power shall not exceed 1W (30dBm)

EUT Operating Conditions:

The test fixture provided by the client enabled the EUT to transmit continuously at the low, mid and upper channels respectively.

Test Setup:



	5969 Robinson Ave. Riverside, CA 92503 (951)637-2630	<b>Peak Output Power</b> (Conducted)	
<b>DNB Job Number:</b>	88004	<b>Date:</b>	12 Dec. 2007
<b>Customer:</b>	Yokoyama		
<b>Model Number:</b>	YM-103C	<b>Specification:</b>	15.247(b, 3)
<b>Description:</b>	Wireless communications Module		

Environmental conditions								
Ambient Temperature			Relative Humidity			Barometric Pressure		
18°C			34%			98.9kPa		
CH	Freq (MHz)	Conducted Power(dBm)	Limit (dBm)	De Facto Limit	Delta (dBm)	Pass/ Fail	Antenna Type	Gain
1	2404	9.2	30	N/A	-20.8	Pass	Omni	0 dbi

Environmental conditions								
Ambient Temperature			Relative Humidity			Barometric Pressure		
18°C			34%			98.9kPa		
CH	Freq (MHz)	Conducted Power(dBm)	Limit (dBm)	De Facto Limit	Delta (dBm)	Pass/ Fail	Antenna Type	Gain
19	2440	9.4	30	N/A	-20.6	Pass	Omni	0 dbi

Environmental conditions								
Ambient Temperature			Relative Humidity			Barometric Pressure		
18°C			34%			98.9kPa		
CH	Freq (MHz)	Conducted Power(dBm)	Limit (dBm)	De Facto Limit	Delta (dBm)	Pass/ Fail	Antenna Type	Gain
39	2480	9.1	30	N/A	-20.9	Pass	Omni	0 dbi

### 15.247(c) Spurious RF Conducted Emissions

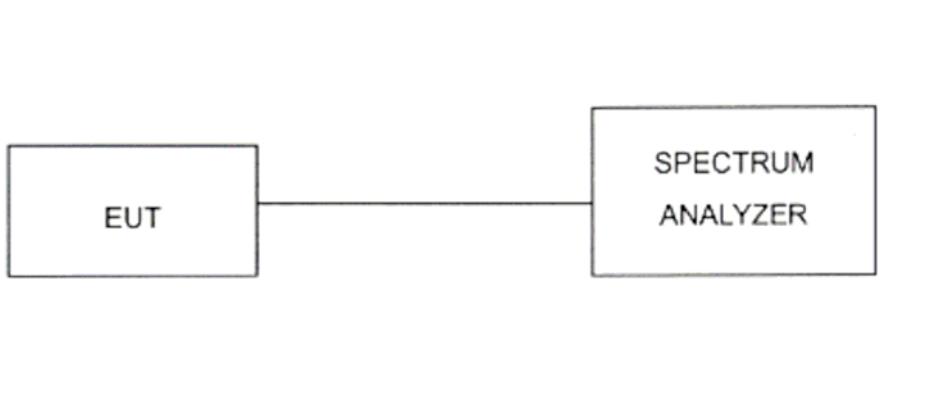
Use the following spectrum analyzer settings:

Span	=	Wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g. harmonics) from the lowest frequency generated in the EUT up through the 10 <sup>th</sup> harmonic. Typically, several plots are required to cover this entire span.
RBW	=	100kHz
VBW	=	300kHz
Sweep	=	auto
Detector	=	peak
Trace	=	max. hold

Allow the trace to stabilize. Set the marker on the peak of any spurious emission recorded.

Requirement: The maximum out-of-band emissions shall not exceed 20dBc

Test Setup:





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## Spurious Emissions (Conducted)

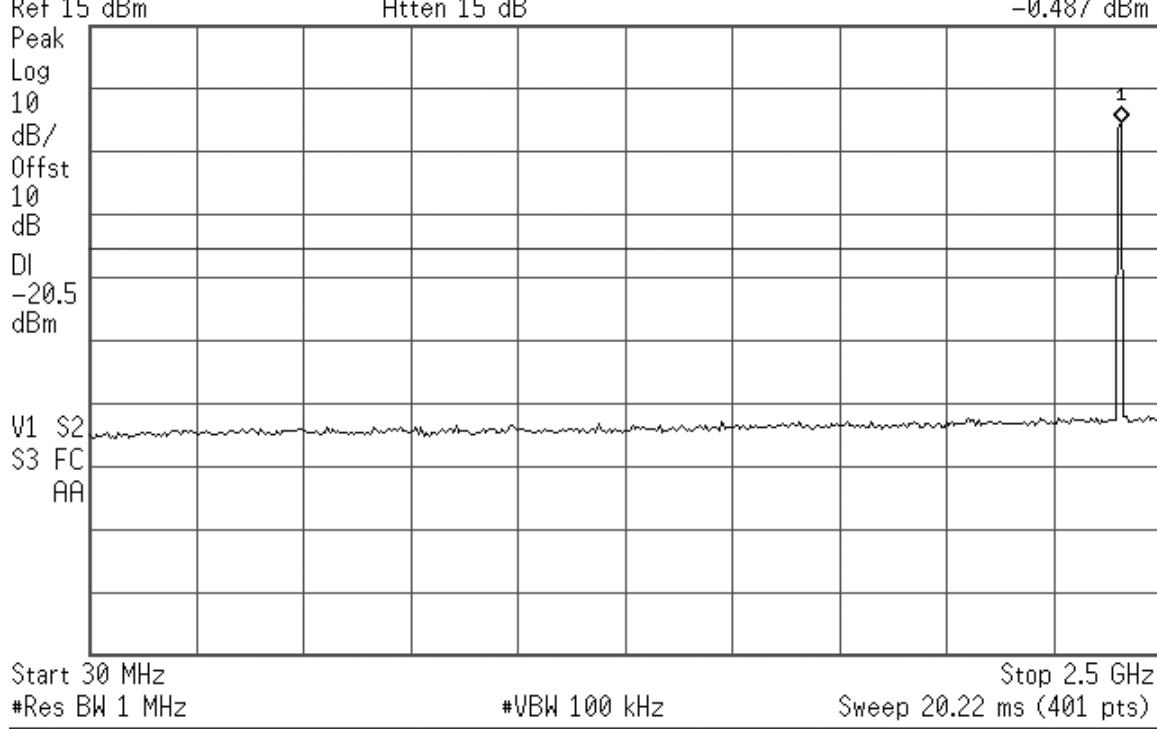
<b>DNB Job Number:</b>	88004	<b>Date:</b>	27 August 2007
<b>Customer:</b>	Yokoyama		
<b>Model Number:</b>	YM-103C	<b>Specification:</b>	15.247(c)
<b>Description:</b>	Wireless communications Module		

## Environmental conditions

Ambient Temperature		Relative Humidity		Barometric Pressure
26°C		33%		98.9kPa
Channel	Freq. (MHz)	Peak Reading	-20dBc	Pass/Fail
2	2404	-.487	-20.5	Pass

Agilent 13:55:11 Aug 15, 2007

Mkr1 2.407 GHz  
-0.487 dBm





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## Spurious Emissions (Conducted)

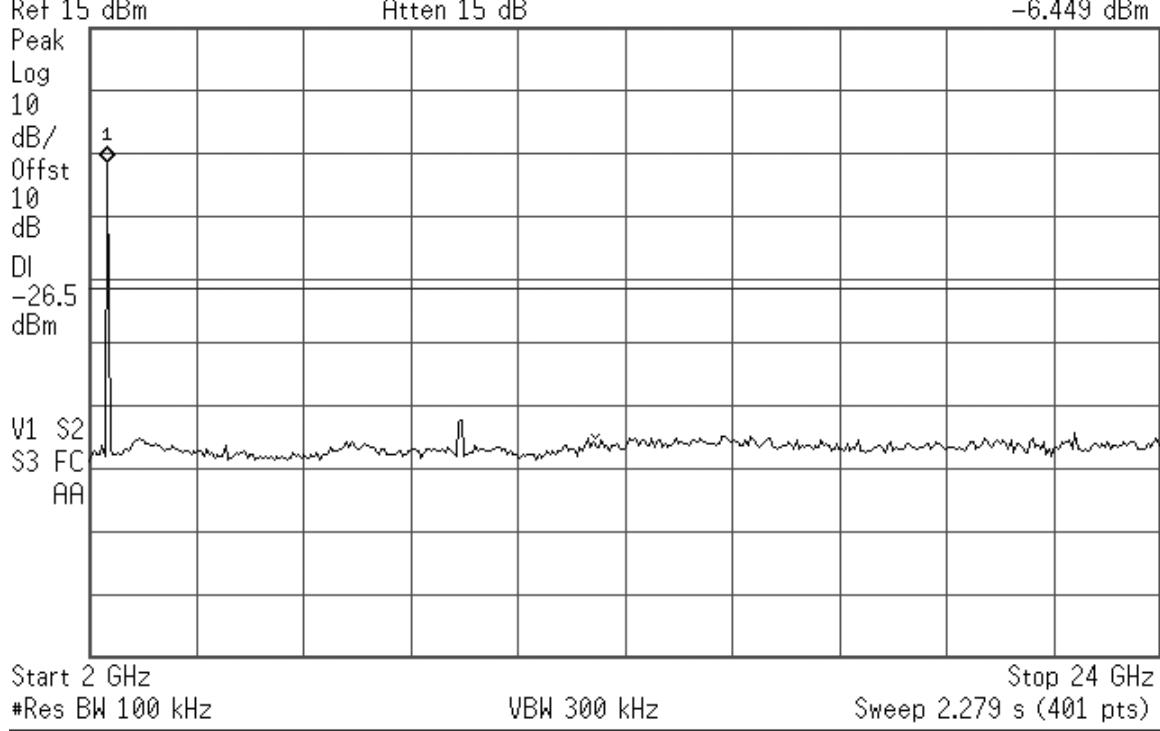
<b>DNB Job Number:</b>	88004	<b>Date:</b>	27 August 2007
<b>Customer:</b>	Yokoyama		
<b>Model Number:</b>	YM-103C	<b>Specification:</b>	15.247(c)
<b>Description:</b>	Wireless communications Module		

## Environmental conditions

Ambient Temperature		Relative Humidity		Barometric Pressure
26°C		33%		98.9kPa
Channel	Freq. (MHz)	Peak Reading	-20dBc	Pass/Fail
2	2404	-6.45	-26.5	Pass

Agilent 14:01:15 Aug 15, 2007

Mkr1 2.385 GHz  
-6.449 dBm



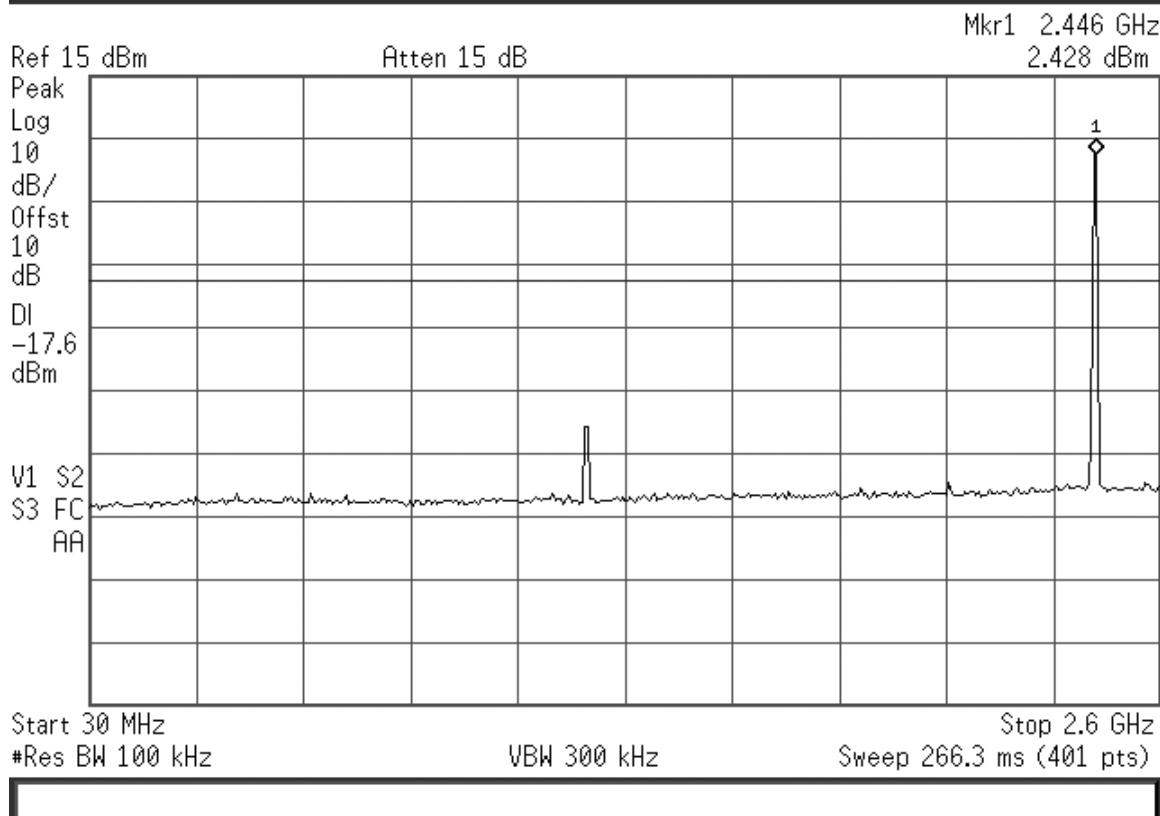


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**Spurious Emissions**  
(Conducted)

<b>DNB Job Number:</b>	88004	<b>Date:</b>	27 August 2007
<b>Customer:</b>	Yokoyama		
<b>Model Number:</b>	YM-103C	<b>Specification:</b>	15.247(c)
<b>Description:</b>	Wireless communications Module		
<b>Environmental conditions</b>			
<b>Ambient Temperature</b>		<b>Relative Humidity</b>	<b>Barometric Pressure</b>
26°C		33%	98.9kPa
<b>Channel</b>	<b>Freq. (MHz)</b>	<b>Peak Reading</b>	<b>-20dBc</b>
20	2440	2.428	-17.6
			Pass

Agilent 14:14:29 Aug 15, 2007





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## Spurious Emissions (Conducted)

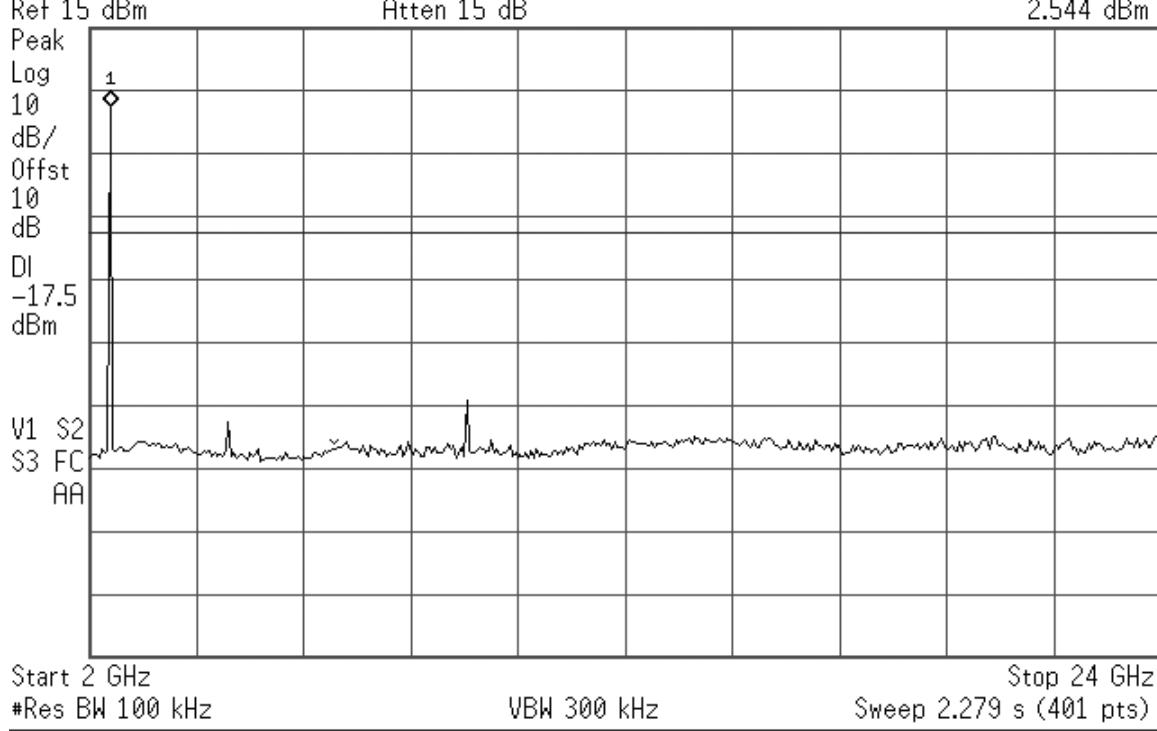
<b>DNB Job Number:</b>	88004	<b>Date:</b>	27 August 2007
<b>Customer:</b>	Yokoyama		
<b>Model Number:</b>	YM-103C	<b>Specification:</b>	15.247(c)
<b>Description:</b>	Wireless communications Module		

## Environmental conditions

Ambient Temperature		Relative Humidity		Barometric Pressure
26°C		33%		98.9kPa
Channel	Freq. (MHz)	Peak Reading	-20dBc	Pass/Fail
20	2404	2.54	-17.5	Pass

Agilent 14:05:37 Aug 15, 2007

Mkr1 2.440 GHz  
2.544 dBm





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## Spurious Emissions (Conducted)

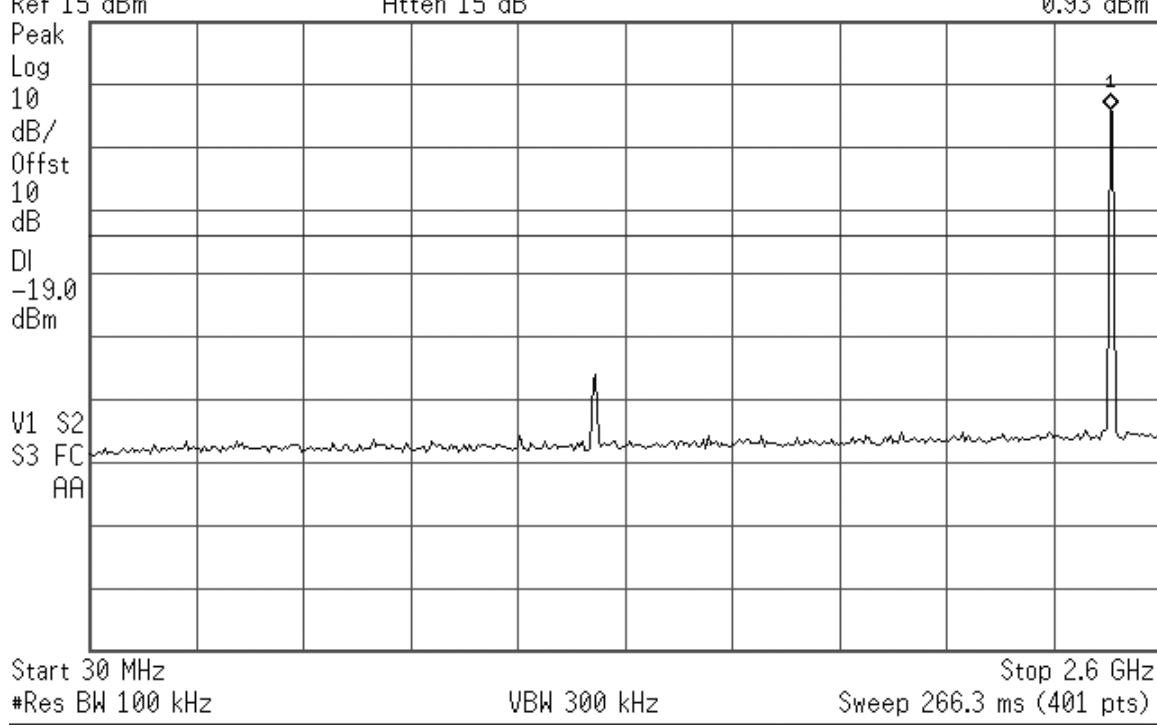
<b>DNB Job Number:</b>	88004	<b>Date:</b>	27 August 2007
<b>Customer:</b>	Yokoyama		
<b>Model Number:</b>	YM-103C	<b>Specification:</b>	15.247(c)
<b>Description:</b>	Wireless communications Module		

## Environmental conditions

Ambient Temperature		Relative Humidity		Barometric Pressure
26°C		33%		98.9kPa
Channel	Freq. (MHz)	Peak Reading	-20dBc	Pass/Fail
40	2480	.93	-19	Pass

\* Agilent 14:11:36 Aug 15, 2007

Mkr1 2.478 GHz  
0.93 dBm





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## Spurious Emissions (Conducted)

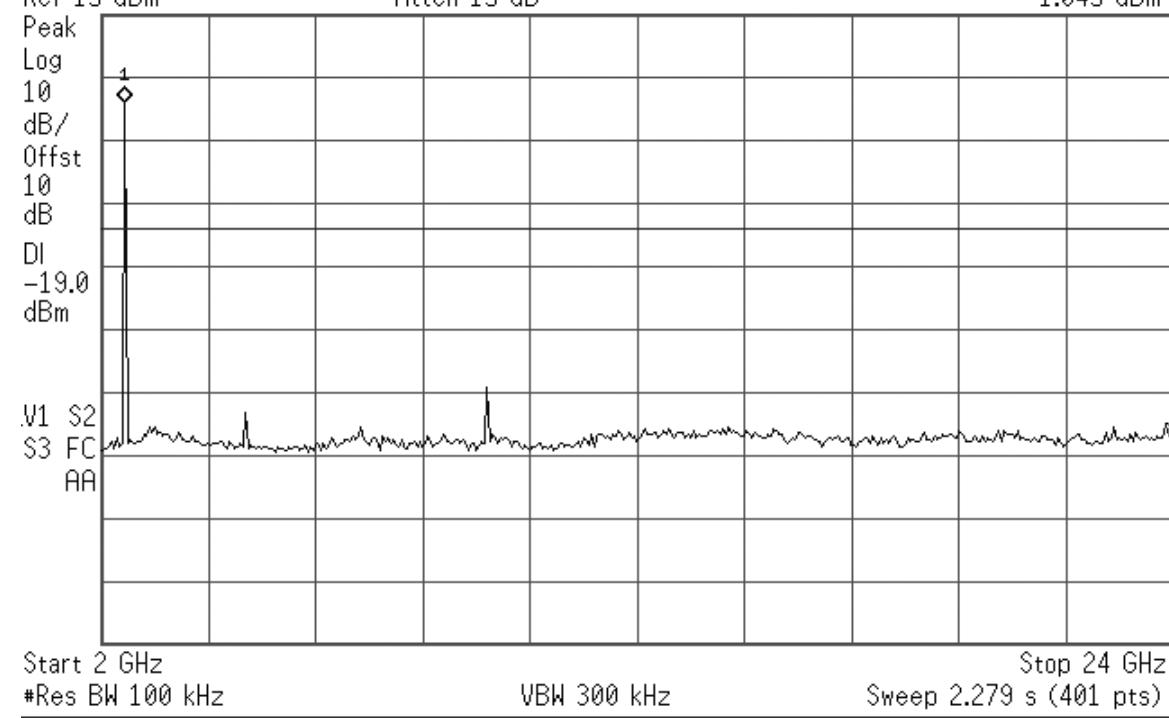
<b>DNB Job Number:</b>	88004	<b>Date:</b>	27 August 2007
<b>Customer:</b>	Yokoyama		
<b>Model Number:</b>	YM-103C	<b>Specification:</b>	15.247(c)
<b>Description:</b>	Wireless communications Module		

## Environmental conditions

Ambient Temperature		Relative Humidity		Barometric Pressure
26°C		33%		98.9kPa
Channel	Freq. (MHz)	Peak Reading	-20dBC	Pass/Fail
40	2480	1	-19	Pass

Agilent 14:08:40 Aug 15, 2007

Mkr1 2.495 GHz  
1.045 dBm



### 15.247 (c) Band Edge Measurements

Procedure:

Use the following spectrum analyzer settings:

Span = Capture peak of low and high channel, as well as emissions outside band.

RBW > 1% of the span

VBW > RBW

Sweep = auto

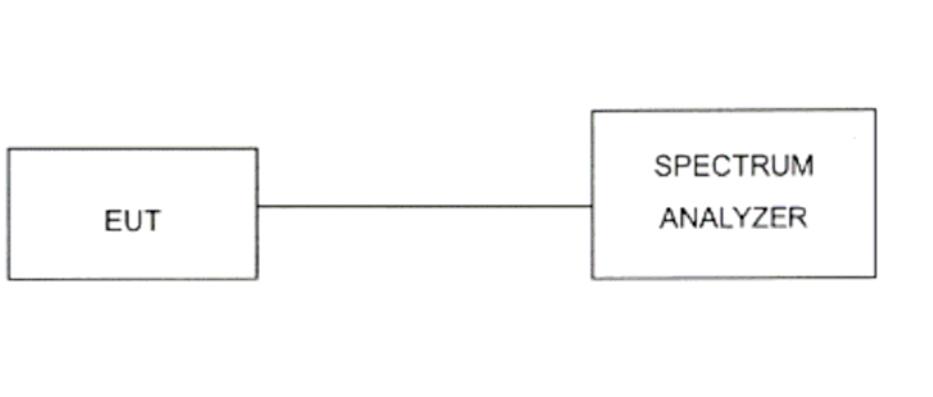
Detector = peak

Trace = max hold

Allow trace to stabilize. Set the marker on the emission at the bandedge, or on the highest modulation product outside of the band. Enable the marker-delta function, then use the marker-to-peak function to move the marker to the peak of the in-band emission.

Requirement: The maximum out-of-band emissions shall not exceed 20dBc

Test Setup:





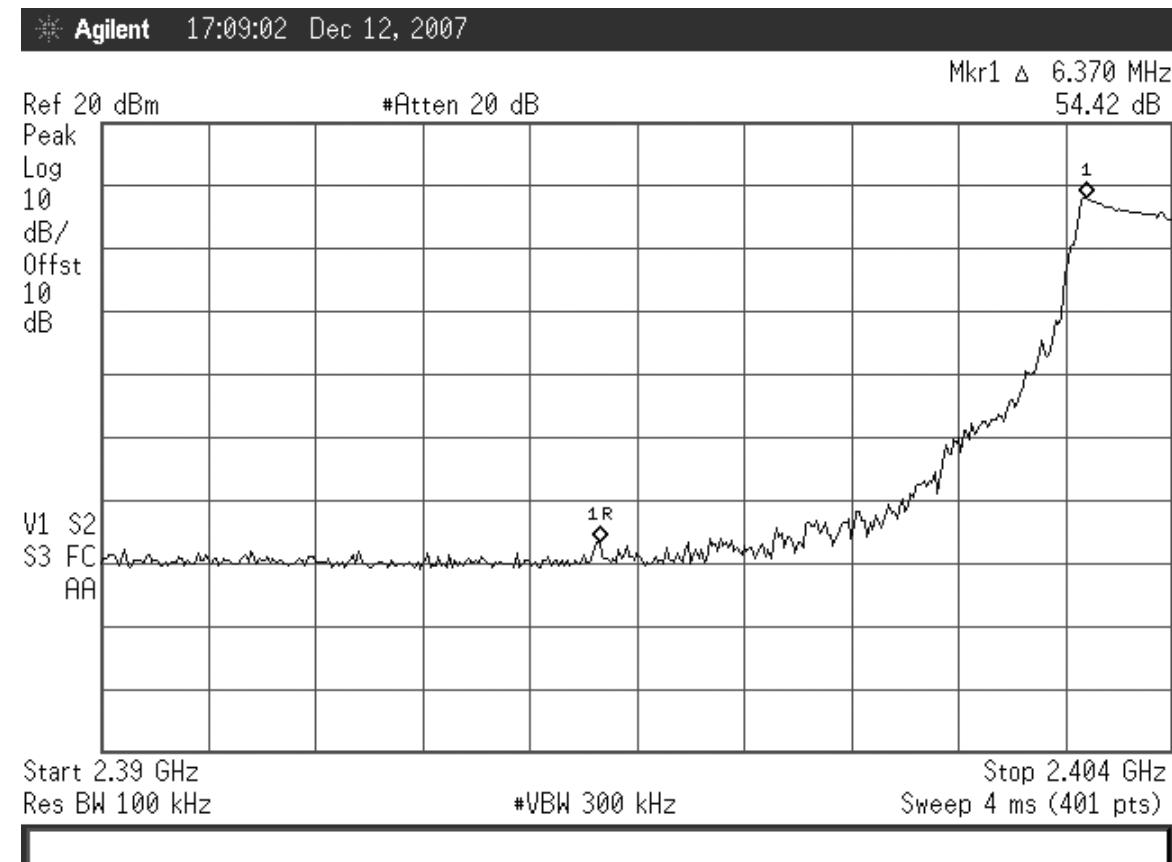
5969 Robinson Ave.  
Riverside, CA 92503  
(951)637-2630

## Band Edge Measurements (Conducted)

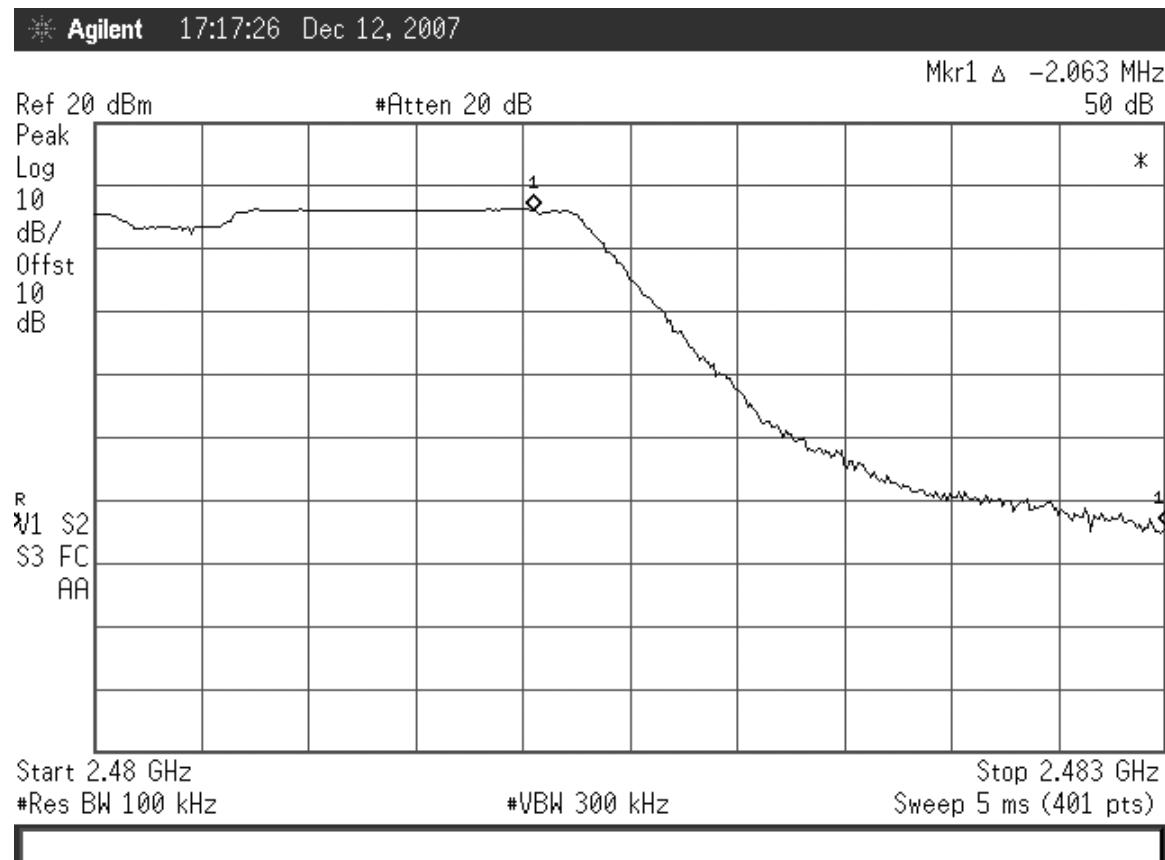
<b>DNB Job Number:</b>	88004	<b>Date:</b>	6 Dec. 2007
<b>Customer:</b>	Yokoyama		
<b>Model Number:</b>	YM-103C	<b>Specification:</b>	15.247(c)
<b>Description:</b>	Wireless communications Module		

## Environmental conditions

Ambient Temperature		Relative Humidity		Barometric Pressure
23°C		27%		99.2kPa
Channel	Freq. (MHz)	Measured dBc	Minimum dBc	Pass/Fail
1	2404	-54.42	-20	Pass



 <b>DNB</b>		5969 Robinson Ave. Riverside, CA 92503 (951)637-2630	<b>Band Edge Measurements</b> (Conducted)		
<b>DNB Job Number:</b>	88004	<b>Date:</b>	12 Dec. 2007		
<b>Customer:</b>	Yokoyama			15.247(c)	
<b>Model Number:</b>	YM-103C	<b>Specification:</b>			
<b>Description:</b>	Wireless communications Module				
<b>Environmental conditions</b>					
<b>Ambient Temperature</b>		<b>Relative Humidity</b>		<b>Barometric Pressure</b>	
23°C		27%		99.2kPa	
<b>Channel</b>	<b>Freq. (MHz)</b>	<b>Measured dBc</b>	<b>Minimum dBc</b>	<b>Pass/Fail</b>	
39	2480	-50	-20	Pass	



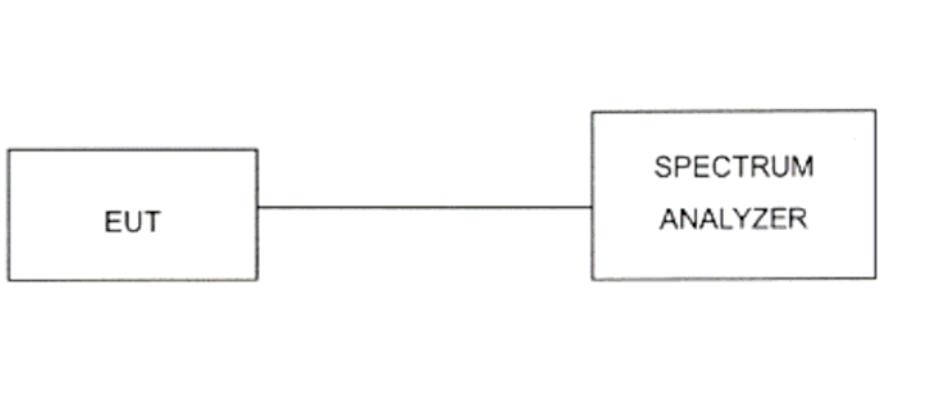
15.247 (d) Peak Power Spectral Density

Procedure:

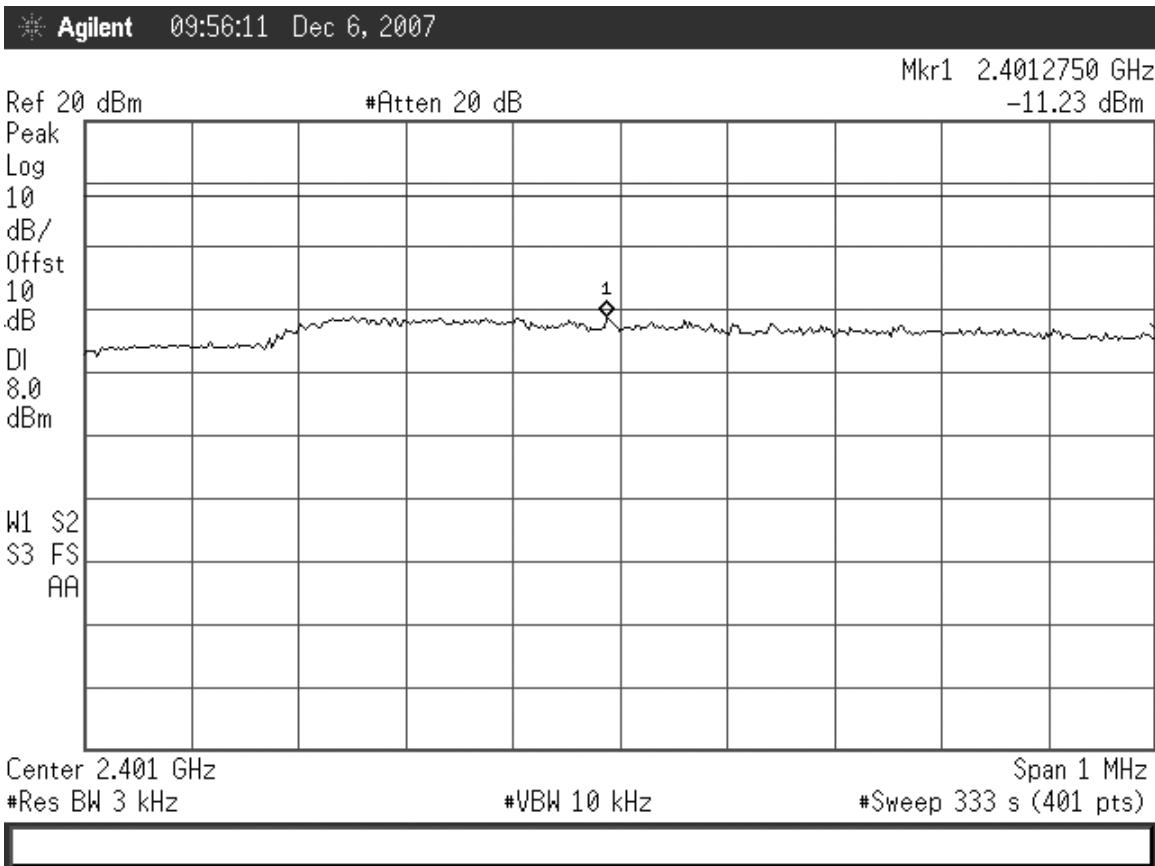
Locate and zoom in on emission peak(s) within the passband. Set RBW = 3kHz, VBW > RBW, Sweep = (Span/3kHz). The peak level measured must be no greater than +8dBm.

Requirement: The PPSD shall not exceed 8dBm

Test Setup:



	5969 Robinson Ave. Riverside, CA 92503 (951)637-2630	<b>Spectral Density</b> (Conducted)	
<b>DNB Job Number:</b>	88004	<b>Date:</b>	6 Dec. 2007
<b>Customer:</b>	Yokoyama		
<b>Model Number:</b>	YM-103C	<b>Specification:</b>	15.247(c)
<b>Description:</b>	Wireless communications Module		
<b>Environmental conditions</b>			
<b>Ambient Temperature</b>		<b>Relative Humidity</b>	<b>Barometric Pressure</b>
23°C		27%	99.2kPa
Channel	Freq. (MHz)	Peak Reading	Limit (dBm)
1	2404	-11.23	8.0
Pass		Pass	





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## Spectral Density (Conducted)

<b>DNB Job Number:</b>	88004	<b>Date:</b>	6 Dec. 2007
<b>Customer:</b>	Yokoyama		
<b>Model Number:</b>	YM-103C	<b>Specification:</b>	15.247(c)
<b>Description:</b>	Wireless communications Module		

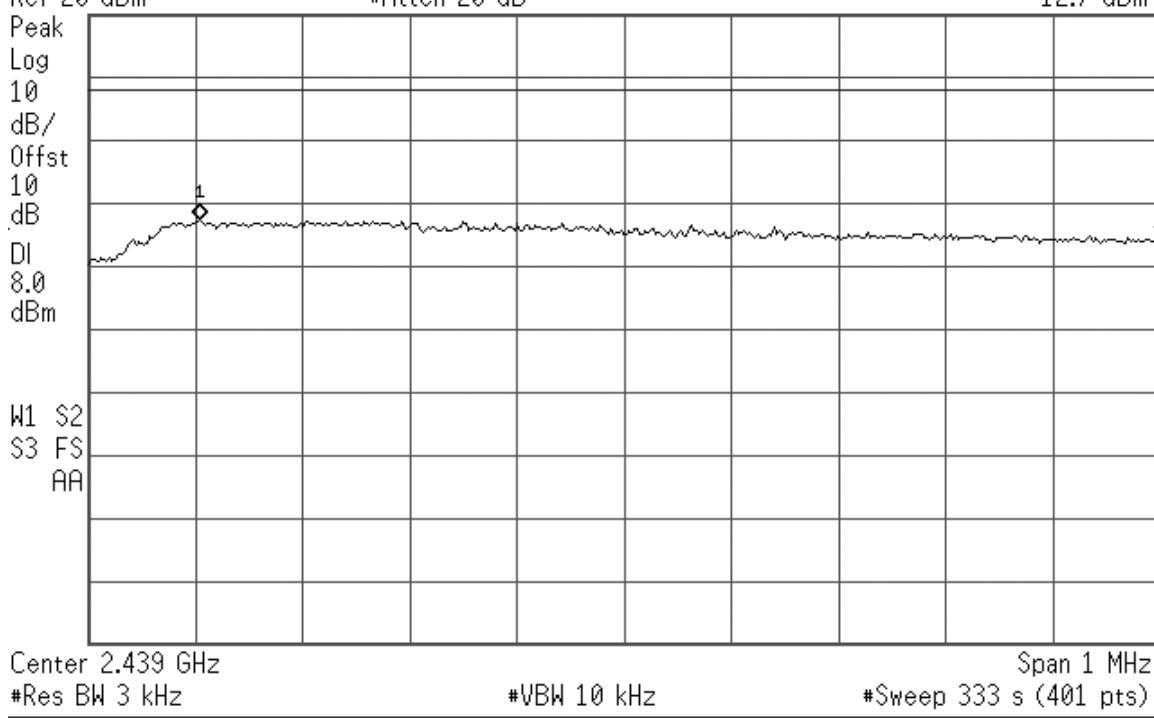
## Environmental conditions

Ambient Temperature		Relative Humidity		Barometric Pressure
23°C		27%		99.2kPa
Channel	Freq. (MHz)	Peak Reading	Limit (dBm)	Pass/Fail
20	2440	-12.7	8.0	Pass

Agilent 10:24:38 Dec 6, 2007

Mkr1 2.4384800 GHz

-12.7 dBm





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## Spectral Density (Conducted)

<b>DNB Job Number:</b>	88004	<b>Date:</b>	6 Dec. 2007
<b>Customer:</b>	Yokoyama		
<b>Model Number:</b>	YM-103C	<b>Specification:</b>	15.247(c)
<b>Description:</b>	Wireless communications Module		

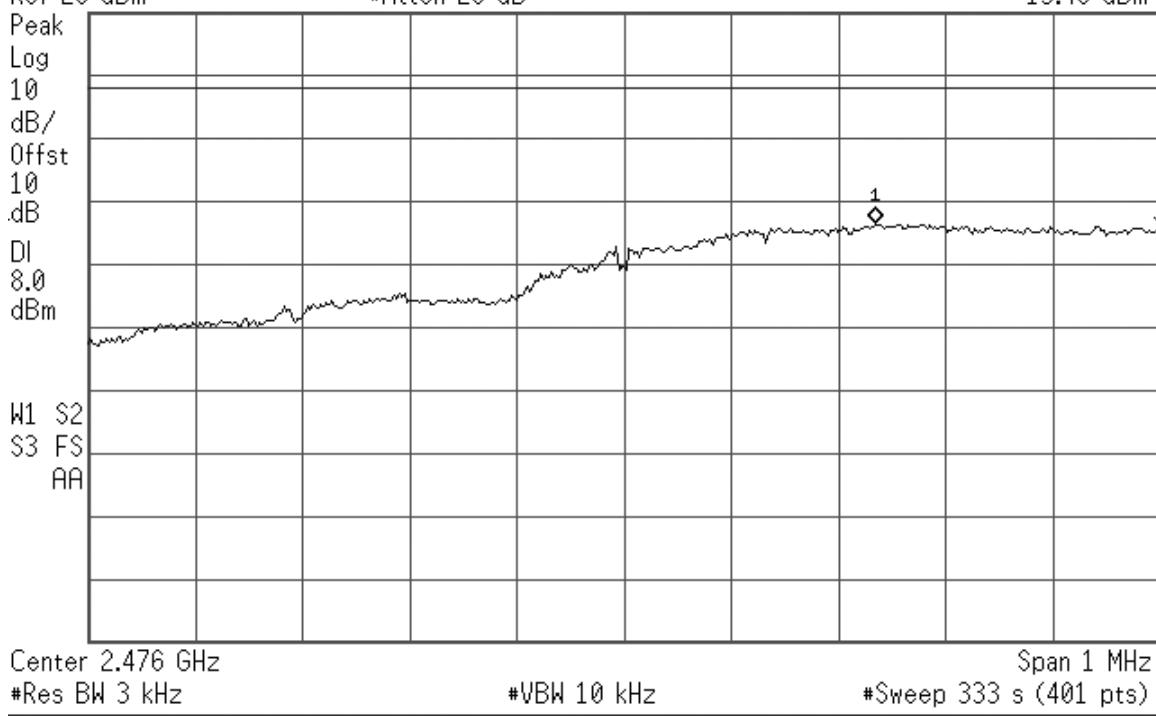
## Environmental conditions

Ambient Temperature		Relative Humidity		Barometric Pressure
23°C		27%		99.2kPa
Channel	Freq. (MHz)	Peak Reading	Limit (dBm)	Pass/Fail
40	2480	-13.46	8.0	Pass

Agilent 10:38:08 Dec 6, 2007

Mkr1 2.4761850 GHz

-13.46 dBm



2.1033 (b) (7) Equipment Photographs





End Of Report