TÜVRheinland®
Precisely Right.

Test Report No.:	**13091904.fcc01**		*Page 1 of 33*
Client:	**Ambient Systems B.V.** Colosseum 15d, 7521 PV Enschede Netherlands		
Test Item:	**Digital Transmission System (DTS), SmartPoint** IEEE802.15.4 based wireless sensor, measuring temperature and/or humidity, or equipped with reed contact; enclosure can be orange, yellow or white.		
Identification:	**SP3000T, SP3000TH, SP3000T1W, SP3000TERS**	*Serial Number:*	**--**
Project No.:	**13091904**	*Date of Receipt:*	**September 30, 2013**
Testing Location:	**TÜV Rheinland EPS** Eiberkamp 10 9351VT Leek		
Test Specification:	FCC 47 CFR Part 15, Subpart C, Section 15.247 (10-1-12 Edition) RSS-Gen (issue 3, December 2010) an RSS-210 (Issue 8, December 2010) ANSI C63.10:2009 KDB Publication No. 558074 D01 V3.01: Measurement of Digital Transmission Systems Operating under Section 15.247 (10/4/13)		
Test Result:	*The test item **passed** the test specification(s).*		
Testing Laboratory:	**TÜV Rheinland EPS** Eiberkamp 10 9351 VT Leek		

Tested by:			*Reviewed by:*		
2013-10-09	R. van der Meer / Inspector		2013-10-09	O. Hoekstra / Reviewer	
Date	*Name/Position*	*Signature*	*Date*	*Name/Position*	*Signature*

Other Aspects:-.

Abbreviations:

P(ass)	=	***passed***
F(ail)	=	***failed***
N/A	=	***not applicable***
N/T	=	***not tested***

TEST SUMMARY

5.1.1 CONDUCTED MEASUREMENTS AT ANTENNA PORT
RESULT: PASS

5.1.2 6DB AND 99% BANDWIDTH
RESULT: PASS

5.1.3 PEAK POWER SPECTRAL DENSITY
RESULT: PASS

5.1.4 BAND EDGE CONDUCTED EMISSIONS
RESULT: Pass

5.1.5 RADIATED SPURIOUS EMISSIONS OF TRANSMITTER
RESULT: PASS

5.1.6 RADIATED SPURIOUS EMISSIONS OF TRANSMITTER IN RESTRICTED BANDS
RESULT: PASS

5.2.1 AC POWER LINE CONDUCTED EMISSION OF TRANSMITTER
RESULT: PASS

Contents

1. General Remarks

1.1 Complementary Materials

Appendix: Identical Equipment Declaration SP3000.

2. Test Sites

2.1 Test Facilities

The Federal Communications Commission and Industry Canada has reviewed the technical characteristics of the test facilities at TÜV Rheinland EPS , located in Leek, 9351VT Eiberkamp 10, The Netherlands, and has found these test facilities to be in compliance with the requirements of 47 CFR Part 15, section 2.948.

The description of the test facilities has been filed at the Office of the Federal Communications Commission under registration number 90828. The facility has been added to the list of laboratories performing these test services for the public on a fee basis.

The description of the test facilities has been filed to Industry Canada under registration number 2932G-2. The facility has been added to the list of laboratories performing these test services for the public on a fee basis.

Normal test conditions:

Temperature (*) : +15°C to +35°C
Relative humidity(*) : 20 % to 75 %
Supply voltage : 120VAC/60Hz
Air pressure : 950 – 1050 hPa

When it was impracticable to carry out the tests under these conditions, a note to this effect stating the ambient temperature and relative humidity during the tests are stated separately.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Kind of Equipment	Manufacturer	Model Name	Inventory number	Calibration date (mm/yyyy)	Calibration due date (mm/yyyy)
For Antenna Port Conducted Emission					
Temperature-Humiditymeter	Extech	SD500	99857	02/2012	02/2014
Power Supply	EA	PS 2016-050	99623	12/2012	12/2013
RF cable	Huber + Suhner	Sucotest 18/Sucoflex 102	99742	04/2013	04/2014
Spectrum Analyzer	Rohde & Schwarz	FSV	99733	05/2013	05/2014
For Radiated Emission					
Measurement Receiver	Rohde & Schwarz	ESCI	99699	03/2013	03/2014
RF Cable S-AR	Gigalink	APG0500	99858	02/2013	02/2014
Controller	Maturo	SCU/088/ 8090811	99861	N/A	N/A
Controller	EMCS	DOC202	99608	N/A	N/A
Controller	Heinrich Deisel	4630-100	99107	N/A	N/A
Test facility	Comtest	FCC listed: 90828 IC: 2932G-2	99580/ 99847	12/2011	12/2014
Spectrum Analyzer	Rohde & Schwarz	FSV	99733	05/2013	05/2014
Controller	EMCS	DOC202	99608	N/A	N/A
Antenna mast	EMCS	AP-4702C	99609	N/A	N/A
Temperature-Humiditymeter	Extech	SD500	99855	02/2012	02/2014
Guidehorn 1-18 GHz	EMCO	3115	12484	04/2013	04/2014
Guidehorn 18-40 GHz	EMCO	RA42-K-F-4B-C	12488	04/2013	04/2014
Biconilog Testantenna	Teseq	CBL 6111D	99877	06/2013	06/2014
2.4 GHz bandreject filter	BSC	XN-1783	14450	N/A	N/A
Bandpass filter 4-10 GHz	Reactel	7AS-7G-6G-511	99076	N/A	N/A
Bandpass filter 10-26 GHz	Reactel	9HS-10G/26.5G-S11	99136	N/A	N/A
Preamplifier 0.5 - 18 GHz	Miteq	AMF-5D-005180-28-13p	99596	N/A	N/A
Filterbox	EMCS	RFS06S	99606	10/2012	10/2013

Conformance of the used measurement and test equipment with the requirements of ISO/IEC 17025:2005 has been confirmed before testing.

2.3 Measurement Uncertainty

Table 2: Emission Measurement Uncertainty

Measurement Type	Frequency	Uncertainty
Antenna Port Conducted Emission	< 1GHz	±0.5dB
	> 1GHz	±0.7dB
Radiated Emission	150kHz - 30MHz	±5.0dB
	30MHz - 1GHz	±5.0dB
	> 1GHz	±5.5dB

3. General Product Information

3.1 Product Function and Intended Use

The brand Ambient models SP3000T, SP3000TH, SP3000T1W, SP3000TERS , hereafter referred to as EUT, is a battery powered 2.4GHz IEEE802.15.4 based wireless sensor, measuring temperature and/or humidity, or equipped with reed contact; enclosure can be orange, yellow or white. The module will support and utilizes OQPSK modulation techniques.

Models:
SP3000T ==> internal temperature sensor
SP3000TH ==> internal temperature sensor + internal humidity sensor
SP3000T1W ==> internal temperature sensor + on wire temperature sensor
SP3000TERS ==> internal temperature sensor + on wire reed contact

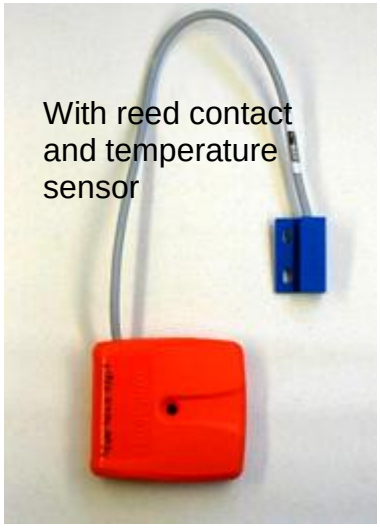
See next page for photographs of the models covered by this report.

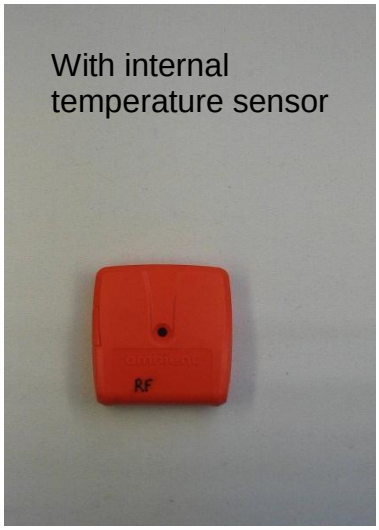
The content of this report and measurement results have not been changed other than the way of presenting the data.

3.2 System Details

Details and an overview of the system and all of its components, as it has been tested, may be found below.

EUT	:	Digital Transmission System,
Manufacturer	:	Ambient Systems B.V.
Brand	:	Ambient
Model(s)	:	SP3000T, SP3000TH, SP3000T1W, SP3000TERS
Serial Number	:	--
Voltage input rating	:	3.6 Vdc (battery power)
Voltage output rating	:	--
Current input rating	:	--
Antenna	:	Internal, integrated on the PCB
Antenna Gain	:	3.3 dBi (declared)
Operating frequency	:	2405MHz-2480MHz.
Modulation	:	OQPSK
Remarks	:	n.a.





The following products are identical to EUT 1 to EUT 4 and are described in the annexed Letter of Similarity

Table 3: Interfaces present on the EUT

No.	Port	From	To	Remarks
1.	Mains	Mains	Laptop (AUX1)	Unshielded cable <3m
2.	Data com.	Laptop USB	EUT	Shielded cable <1m
3.	Antenna port	EUT	Spectrum analyzer	Conducted tests, shielded cable 30cm

3.3 Countermeasures to achieve EMC Compliance

No additional measures were employed to achieve compliance.

4. Test Set-up and Operation Modes

4.1 Test Methodology

The test methodology used is based on the requirements of RSS-GEN, RSS-210, 47 CFR Part 15, Sections 15.31, 15.33, 15.35, 15.205, 15.207, 15.209, 15.247 and ANSI C63.10:2009

.

The test methods, which have been used, are based on ANSI C63.10-2009**.**

For details, see under each test item.

4.2 Operation Modes

Testing was performed at the lowest operating frequency (2405 MHz), at the operating frequency in the middle of the specified frequency band (2440 MHz) and at the highest operating frequency (2480 MHz). These operation modes were selected after review of the capabilities and characteristics of the EUT. The test software as mentioned in section 4.4 enabled the settings of these modes.

The EUT has been tested in the modes as described in table below

Operation Mode	EUT Status	Channel	Frequency (MHz)	TX power
Transmit (Tx)	On	11	2405	245
Transmit (Tx)	On	18	2440	245
Transmit (Tx)	On	26	2480	245

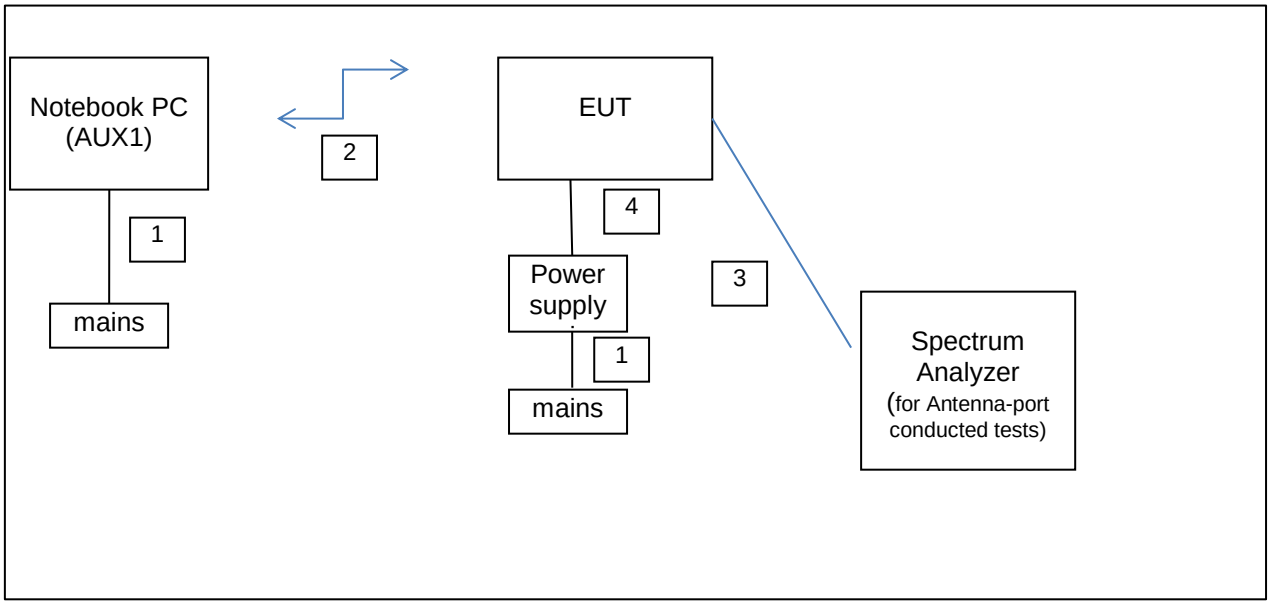
4.3 Physical Configuration for Testing

The EUT was connected to the usb port of a laptop computer. The laptop computer was used to configure the EUT to continuously transmit at a specified output power and channel as specified in the testdata. See section 4.5 for Auxiliary details.

The EUT was tested on a stand-alone basis and the test system was configured in a typical fashion (as a customer would normally use it). For radiated tests the EUT was powered with batteries and for conducted tests the EUT was powered by a power supply.

The justification and manipulation of cables and equipment in order to simulate a worst-case behavior of the test setup has been carried out as prescribed in ANSI C63.10-2009.

Figure 1: Test Setup Diagram



Notes:

For more details, refer to the document: Test Set-Up Photographs document.

4.4 Test Software

A continuous transmit or receive mode could be initiated by using test software as supplied by Intel Corporation. The test software was used to define various different operational modes of the EUT for the purpose of compliance testing. The version of the test software, as supplied by the applicant and used during all tests is:

Test software : Ambient Studio 3000
Version : 1.2p0-pre3(r8734) release 1.1

This software was running on a notebook PC (AUX1). It was used to enable the test operation modes listed in section 4.2 as appropriate.

4.5 Special Accessories and Auxiliary Equipment

The product has been tested together with the following additional accessories:

1. AUX1
   - Product: Notebook PC
   - Brand: BTO
   - Model: A25PA
   - Serial Number: --
   - Remark: host for testsoftware

2. AUX2
   - Product: Comms
   - Brand: Ambient
   - Model: GW3000
   - Serial Number: --
   - FCC ID: XGR-GW3000
   - IC: 8398A-GW3000
   - Remark: communicates with EUT

3. AUX3
   - Product: USB to RS-232 converter
   - Brand: --
   - Model: --
   - Serial Number: --
   - Remark: for communication between AUX1 and AUX2

4. AUX4
   - Product: Power supply
   - Brand: EA
   - Model: PS 2016-050
   - Serial Number: 2005490844
   - Remark: power supply for EUT, 3-5 Vdc, typical: 3,6Vdc

5. Test Results

5.1 Conducted Measurements at Antenna Port

5.1.1 Conducted Output Power

RESULT: PASS

Date of testing: 2013-10-09

Requirements:

FCC 15.247(b)(3), RSS-210 A8.4(2)

For systems using digital modulation in the 2400-2483.5 MHz band, the maximum peak output power is 1W (+30dBm).
RSS-Gen: the e.i.r.p. shall not exceed 4 W (36 dBm).

Test procedure:

ANSI C63.10:2009
.

The Peak Conducted Output Power was measured using the channel integration method according to section 9.1.2 in KDB 558074 D01.

The maximum peak output power (conducted) was measured at the antenna connector with a spectrum analyzer. The final measurement takes into account the loss generated by all the involved cables.

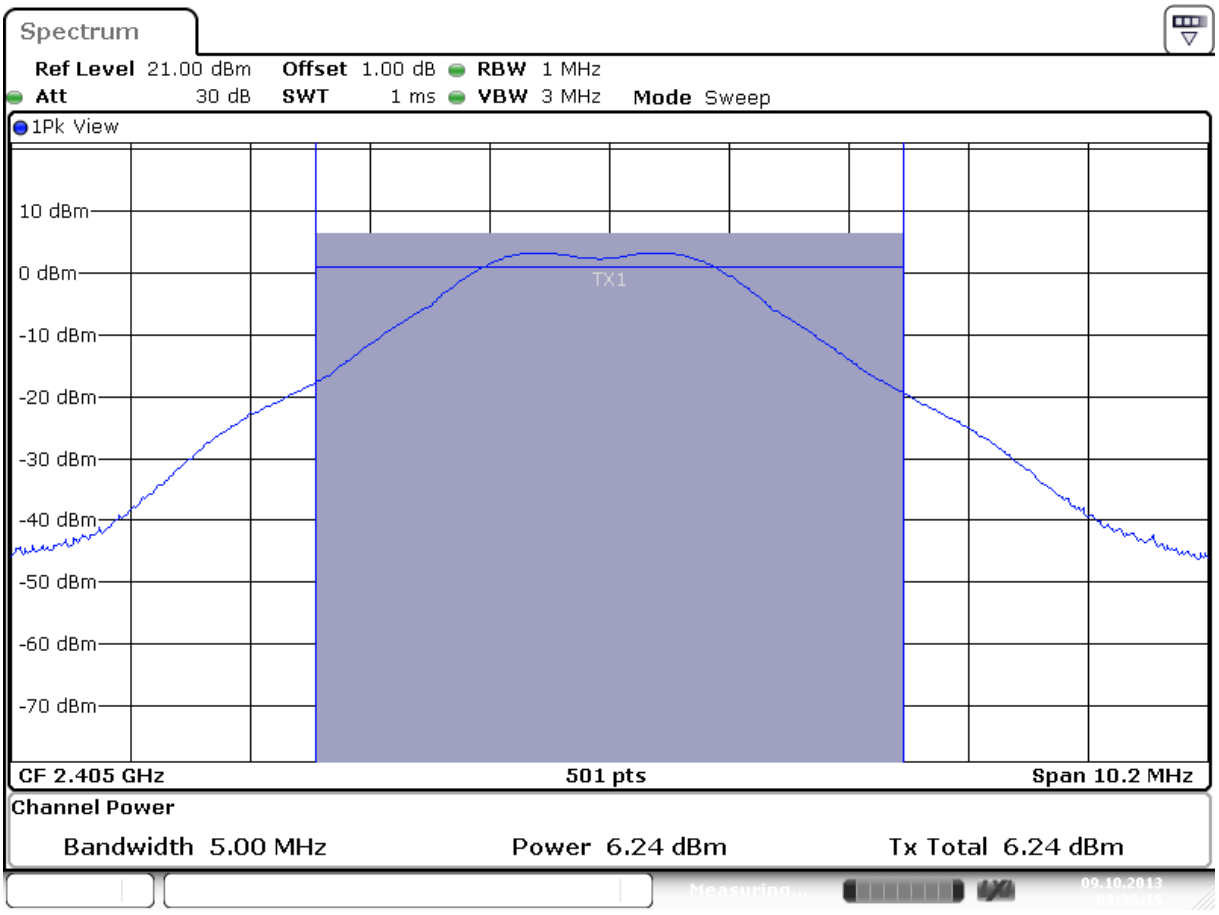
The EIRP power (dBm) is calculated by adding the declared maximum antenna gain to the measured conducted power.

Notes: mW = 10 ^ (dBm/10)
dBm = 10 x log(mW)

plots : Peak power plots,
Figures A, B and C show plots of the Peak Power outputs, correction factors (= 1.0dB Cableloss) included in the reading.

Conducted Output Power

Freq-uency [MHz]	Output Power [dBm]	Output Power [mW]	Limit [dBm]	Limit [mW]	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Plot number
2405	6.2	4.2	+30	1000	3.3	9.5	8.9	A
2440	5.9	3.9	+30	1000	3.3	9.2	8.3	B
2480	5.4	3.5	+30	1000	3.3	8.7	7.4	C



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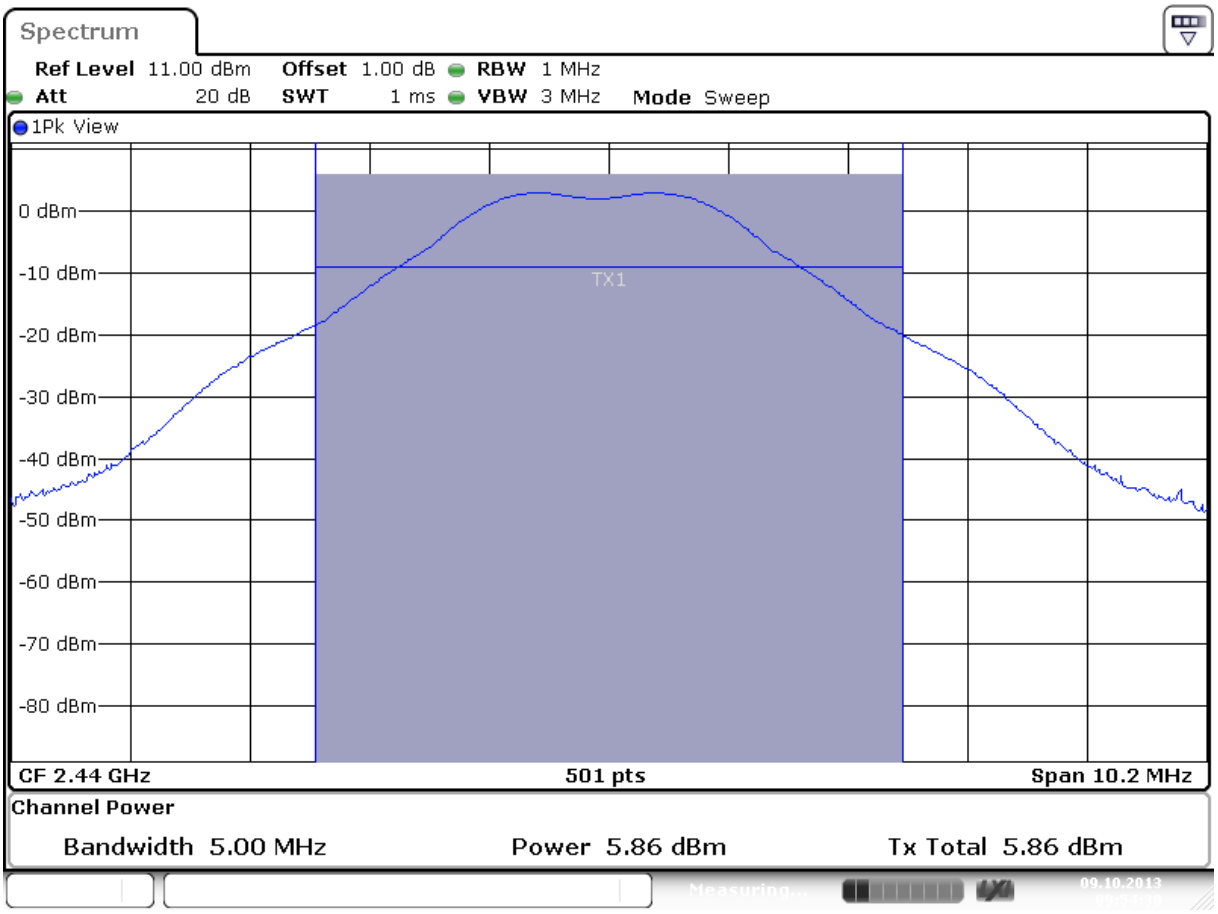
Plot A



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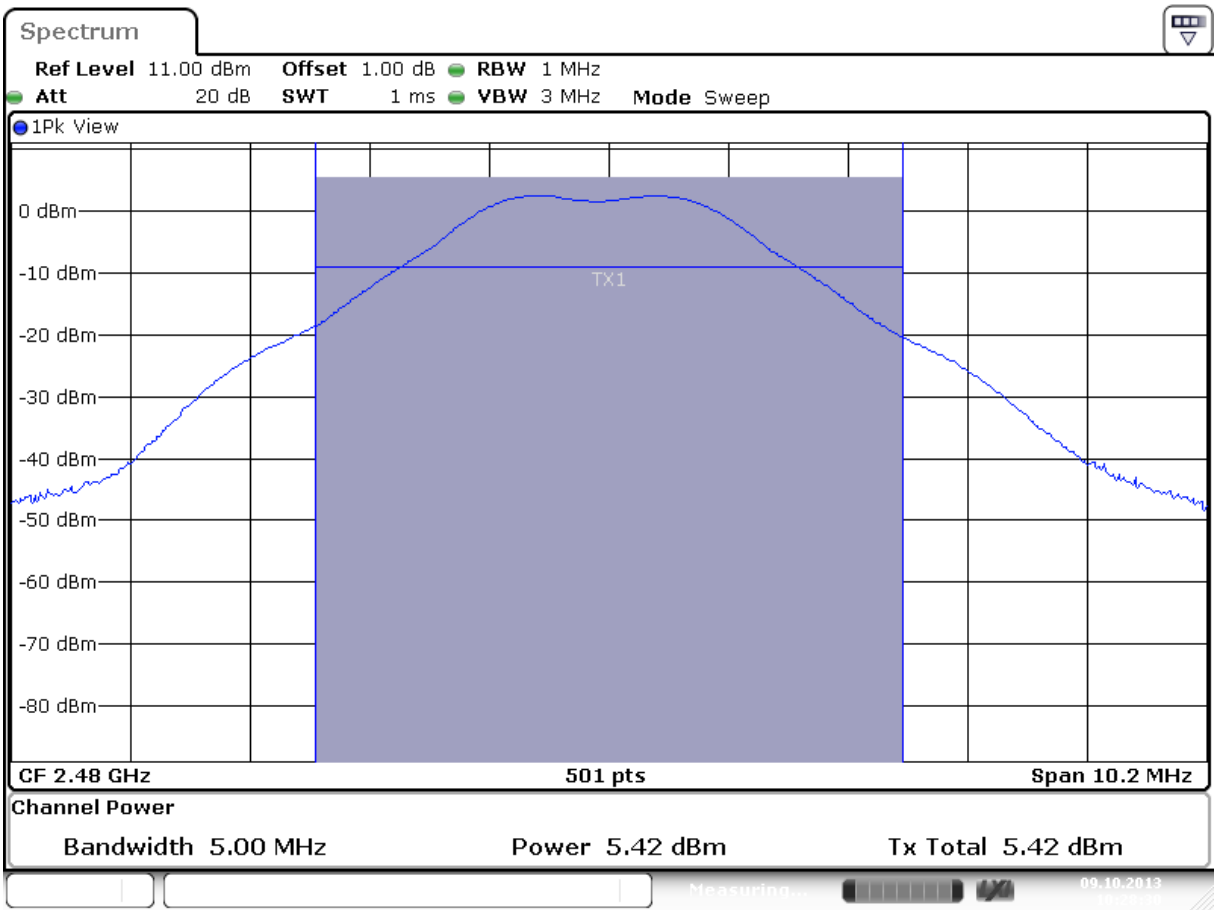
Plot B



Date: 9.OCT.2013 10:28:30

Plot C

5.1.2 6dB and 99% Bandwidth

RESULT: PASS

Date of testing: 2013-10-09

Requirements:

FCC 15.247(a)(2), RSS-210 A8.2(a)
For systems using digital modulation in the 2400-2483.5MHz band, the 6dB bandwidth shall be at least 500kHz.

For 99% Bandwidth: RSS-Gen Section 4.6.1: No requirement is given.

Test procedure 6dB bandwidth:

ANSI C63.10:2009
.

A spectrum analyzer was connected to the antenna port of the EUT. The spectrum analyzer resolution bandwidth was set to 100kHz, video bandwidth to 300kHz and the span wide enough to capture the modulated carrier.

For 99% Bandwidth:

ANSI C63.10-2009 and RSS-Gen.

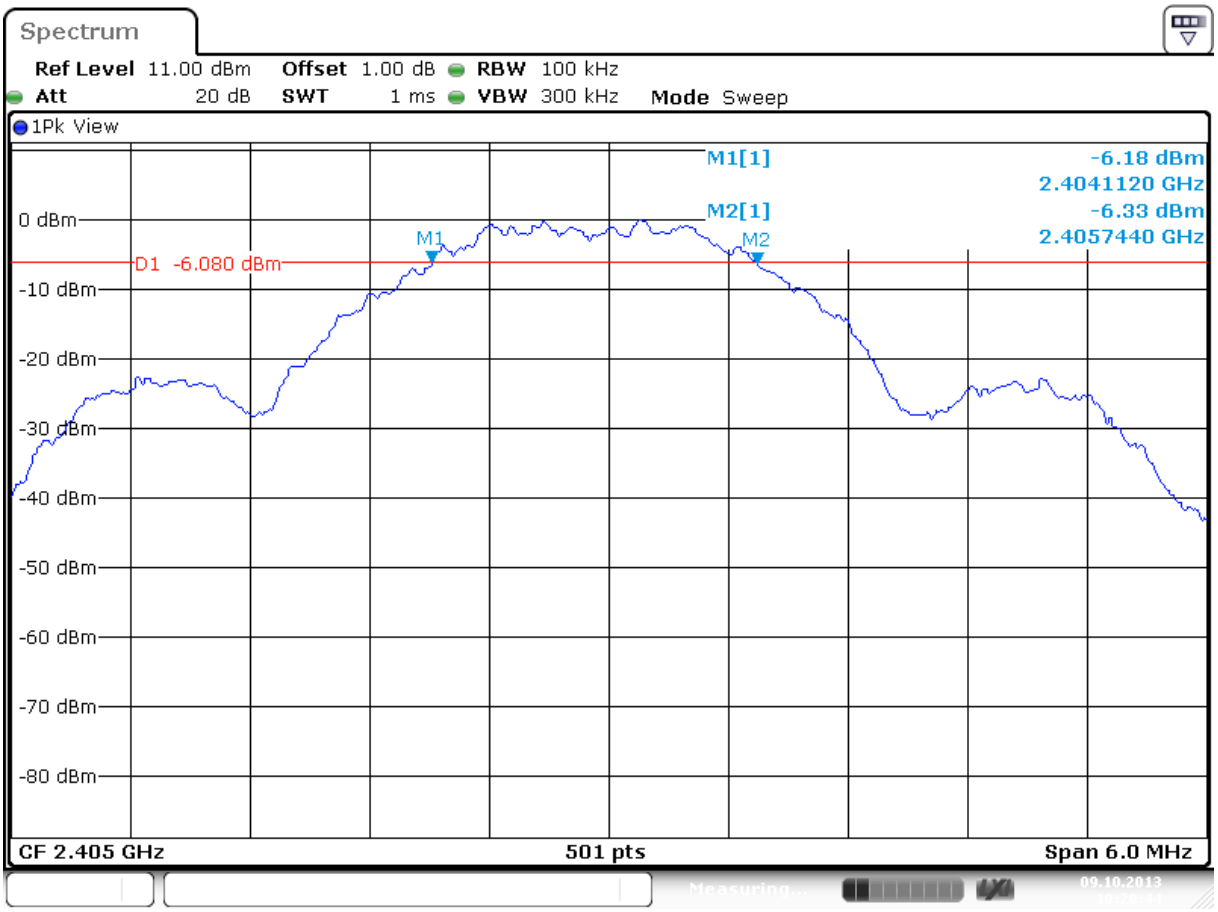
The transmitter shall be operated at its maximum carrier power measured under normal test conditions. The span of the analyzer shall be set to capture all products of the modulation process, including the emission sideskirts. The resolution bandwidth shall be set as close to 1% of the selected span as is possible without being below 1%. The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical, a sampling detector shall be used given that a peak or peak hold may produce a wider bandwidth than actual.

A spectrum analyzer was connected to the antenna port of the EUT. The spectrum analyzer resolution bandwidth was set to 1% of the selected span, Video bandwidth was set to 3 times the resolution bandwidth. The span was set to capture the whole modulation process. The Spectrum analyzers automated function for 99% BW was used.

Plots shown on the next pages are of the 6 dB bandwidth.

6dB Bandwidth

Operating Frequency [MHz]	99% Bandwidth [kHz]	6dB Bandwidth [kHz]	Limit [kHz]	Plot number
2405	2790.4	1632	>500	A
2440	2778.4	1620	>500	B
2480	2790.4	1632	>500	C



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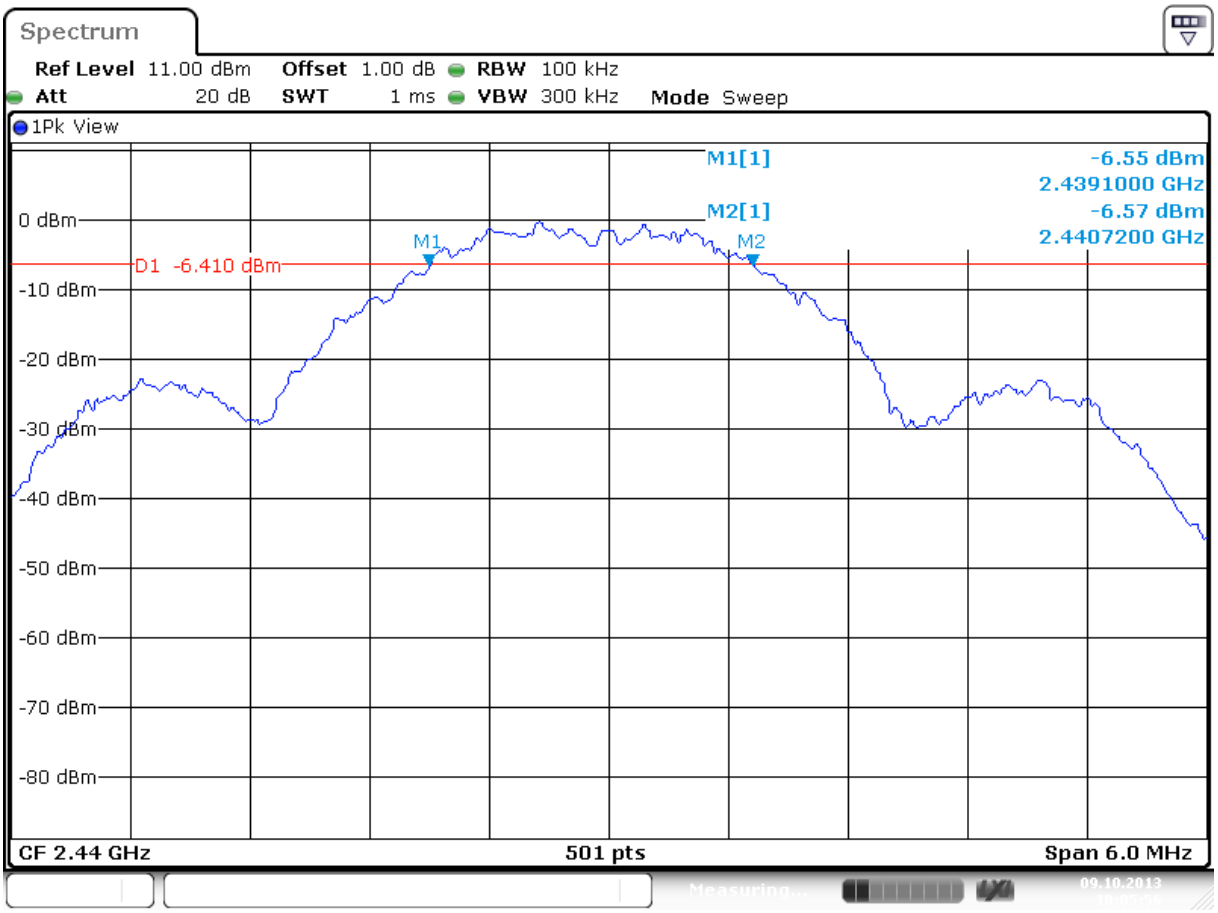
Plot A



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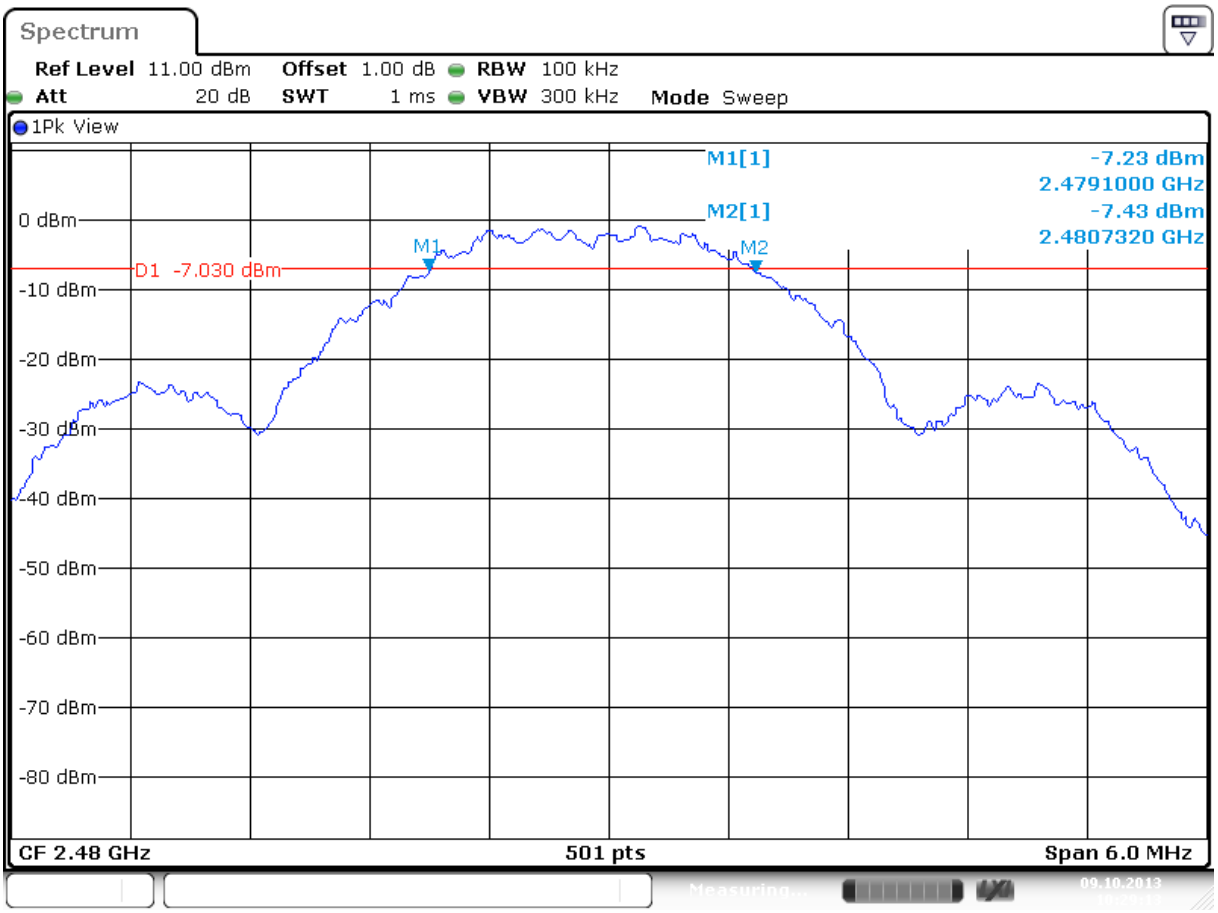
Plot B



Date: 9.OCT.2013 10:29:14

Plot C

5.1.3 Peak Power Spectral Density

RESULT: PASS

Date of testing: 2013-10-09

Requirements:

FCC 15.247(e) and RSS-210 section A8.2(b)

For digitally modulated systems, the power spectral density (PSD) conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

Test procedure:

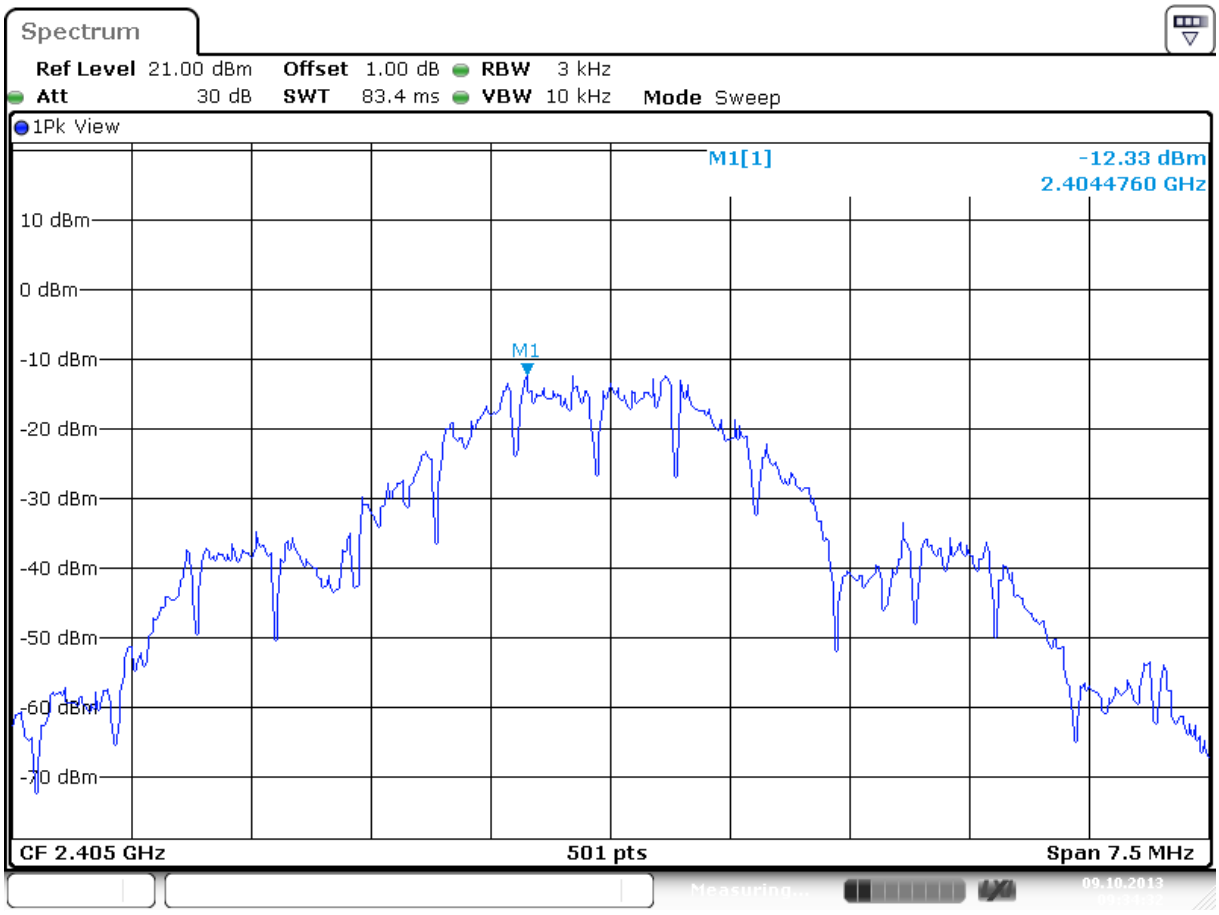
ANSI C63.10:2009

.

The section 10.2 PKPSD peak PSD procedure was used. A spectrum analyzer was connected to the antenna port of the EUT. The analyzer resolution bandwidth was set to 3kHz and the video bandwidth was set to 10kHz. The sweep time was set to auto couple and the trace was allowed to stabilize before making the final measurement. By using the Peak marker function the maximum amplitude was determined. The final measurement takes into account the loss generated by all the involved cables (1.0 dB).

Peak Power Spectral Density

Operating Frequency [MHz]	Max PSD [dBm]	Limit [dBm]	Verdict [Pass/Fail]	Plot
2405	-12.33	8	Pass	A
2440	-12.89	8	Pass	B
2480	-12.65	8	Pass	C



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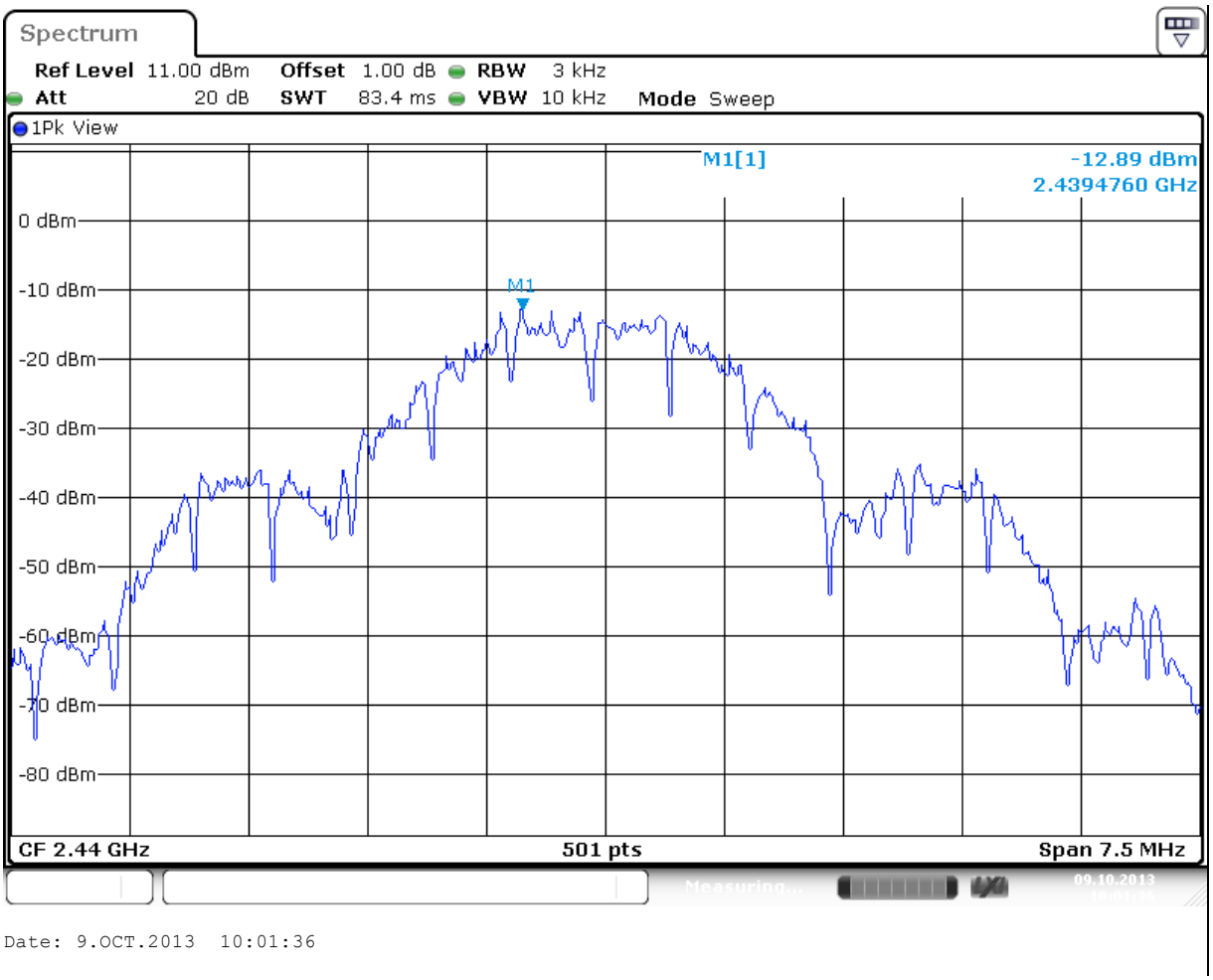
Plot A:



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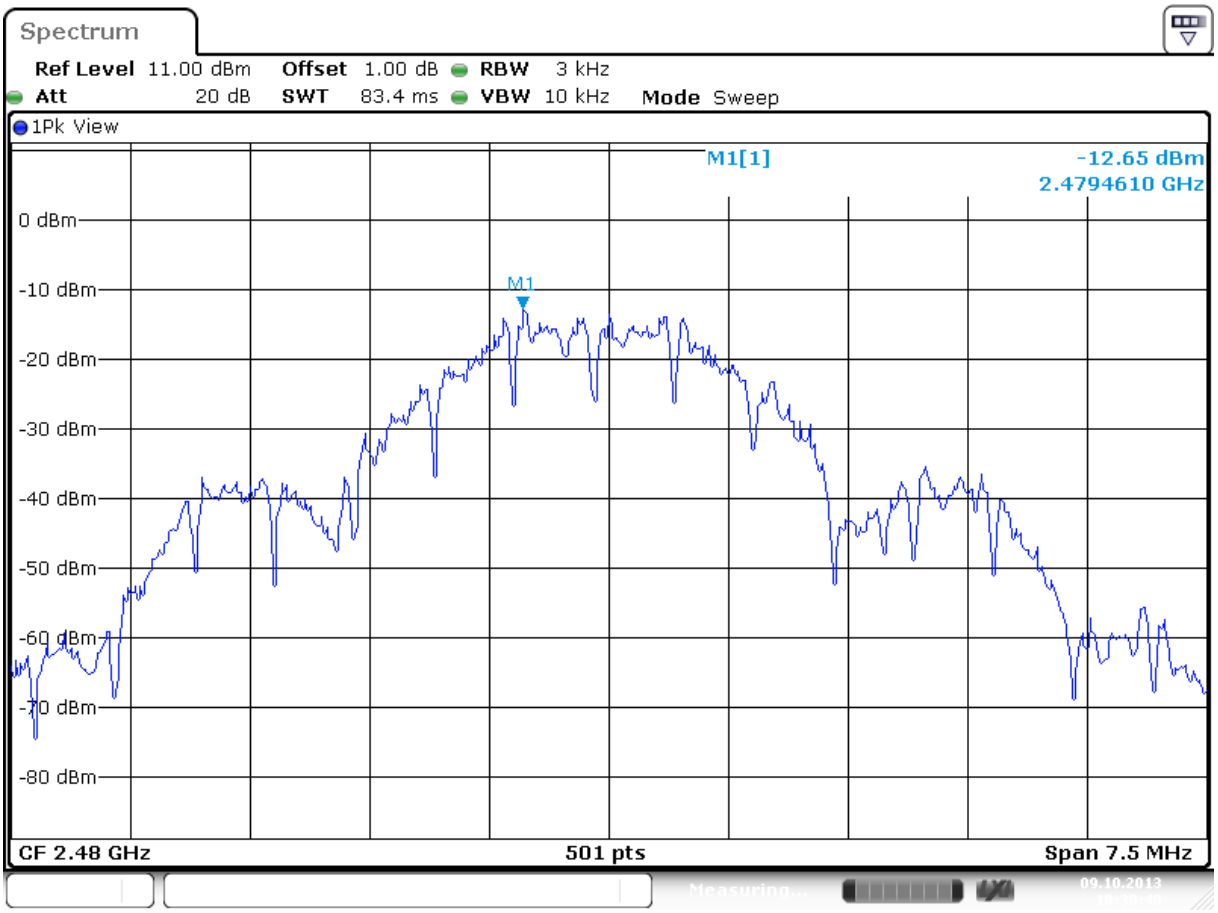
Plot B



Date: 9.OCT.2013 10:30:40

Plot C

5.1.4 Band Edge Conducted Emissions

RESULT: Pass

Date of testing: 2013-10-09

Requirements:

FCC 15.205, FCC 15.209, FCC 15.247(d) and RSS-210 section A8.5

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

Test procedure:

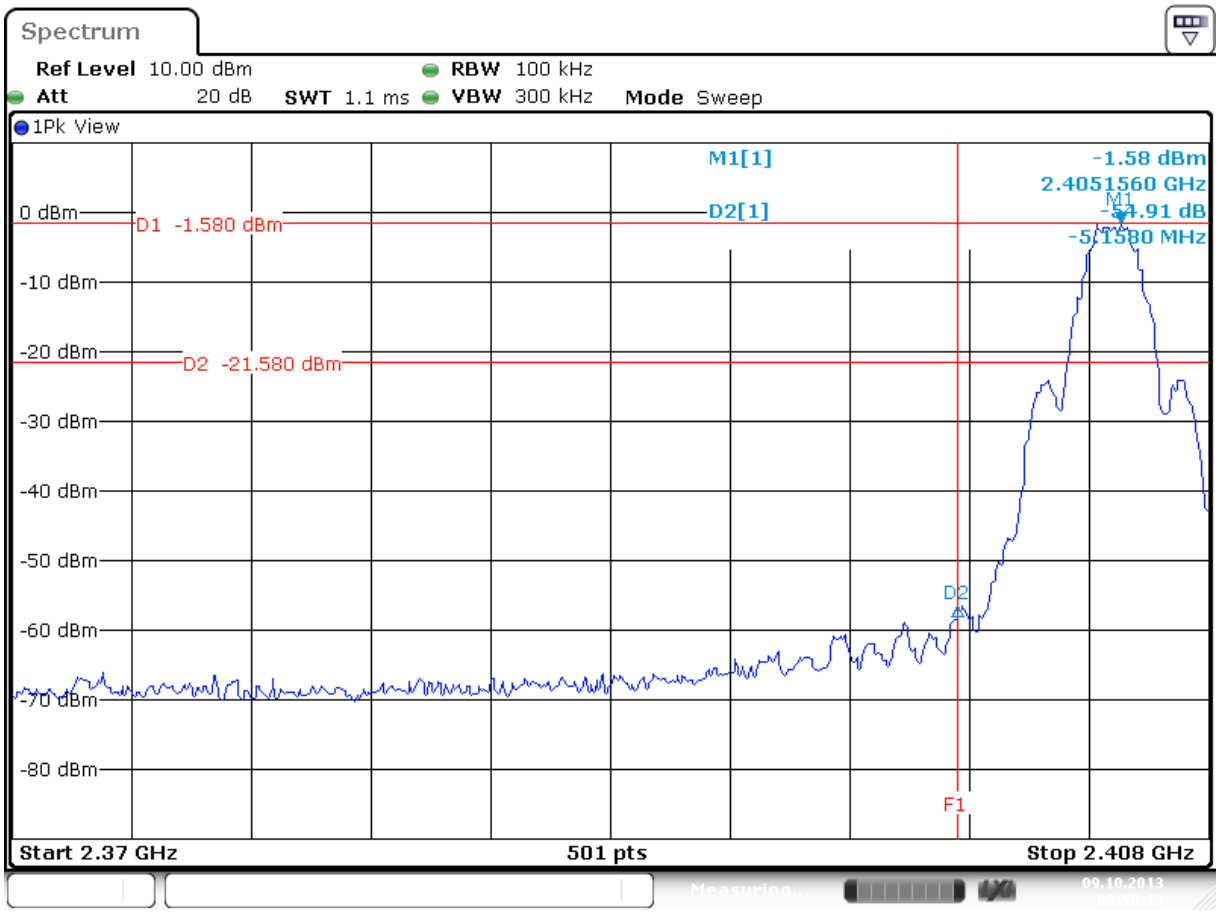
ANSI C63.10:2009
.

The marker-delta method, as described in ANSI C63.10 was used.

Measurements were performed using a spectrum analyzer with a suitable span to encompass the peak of the fundamental and using the following settings:
RBW = 100kHz, VBW = 300kHz.

The highest emission amplitudes relative to the appropriate limit were measured and recorded in this report.

Results: All out of band spurious emissions are more than 20 dB below the fundamental.
See the figures on the following pages.



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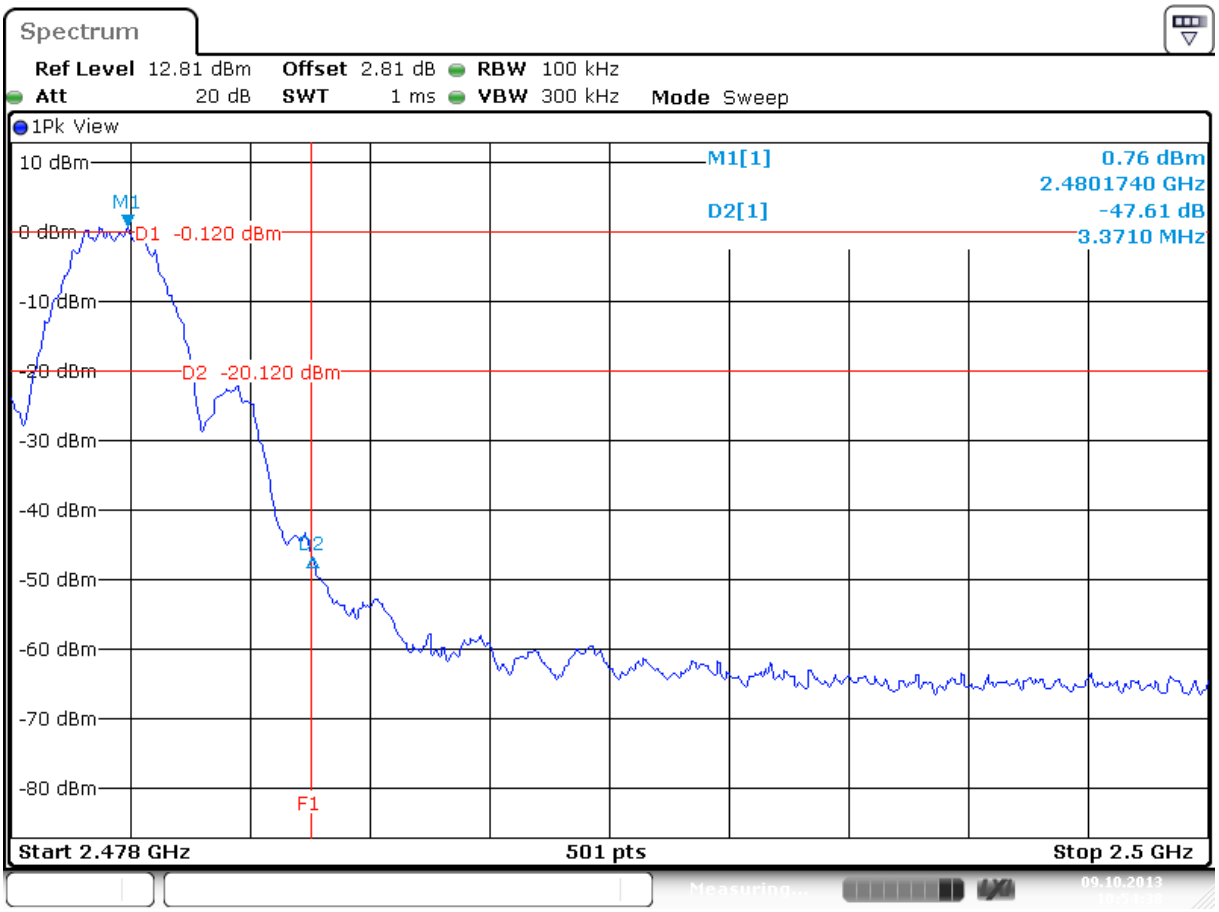
Plot: Band Edge Conducted Emission, Spectral Diagram, 2405 MHz

Plot showing more than 20 dB band edge attenuation.
F1 shows the band edge frequency of 2400 MHz.



Date: 9.OCT.2013 10:54:37

Plot: Band Edge Conducted Emission, Spectral Diagram, 2480 MHz.
Plot showing more than 20 dB band edge attenuation.
F1 shows the band edge frequency of 2483,5 MHz.

5.1.5 Radiated Spurious Emissions of Transmitter

RESULT: PASS

Date of testing: 2013-10-08

Frequency range: 30MHz - 25GHz

Requirements:

FCC 15.209 and FCC 15.247(d) and RSS-Gen

Radiated emissions which fall outside the operation frequency band and outside restricted bands shall either meet the limit specified in FCC 15.209(a) or be attenuated at least 20dB below the power level in the 100kHz bandwidth within the band that contains the highest level of the desired power (the less severe limit applies).
Radiated emissions which fall in the restricted bands, as defined in FCC 15.205(a), must comply with the radiated emission limits specified in FCC 15.209(a).

Test procedure:

ANSI C63.10:2009
.

The EUT was placed on a nonconductive turntable 0.8m above the ground plane. Before final measurements of radiated emissions were performed, the EUT was scanned to determine its emission spectrum profile. The physical arrangement of the test system, the associated cabling and the EUT orientation (X, Y, Z) were varied in order to ensure that maximum emission amplitudes were attained.

The spectrum was examined from 30MHz to the 10th harmonic of the highest fundamental transmitter frequency (25GHz). Final radiated emission measurements were made at 3m distance.

At each frequency where a spurious emission was found, the EUT was rotated 360° and the antenna was raised and lowered from 1 to 4m in order to determine the emission's maximum level. Measurements were taken using both horizontal and vertical antenna polarizations.

The highest emission amplitudes relative to the appropriate limit were recorded in this report. Field strength values of radiated emissions at frequencies not listed in the tables are more than 20 dB below the applicable limit.

Correction factors are incorporated in the spectrum analyzers as an automated function.
Refer to section 4.2 for the power settings and modes.
Correction factors includes: antenna factor, cable loss and pre-amplifier gain.

.

Radiated Emission, Quasi Peak Data, 30MHz - 1GHz, Horizontal and Vertical Antenna Orientations

Freq. [MHz]	Antenna Orientation	Level QP [dBµV/m]	Limit [dBµV/m]	Margin [dB]
206.54	Vertical	19.8	43.5	-23.7
627.52	Vertical	29.6	46.0	-16.4
637.22	Vertical	29.9	46.0	-16.1
659.68	Vertical	29.9	46.0	-16.1
734.22	Vertical	31.6	46.0	-14.4
881.66	Vertical	33.4	46.0	-12.6

Note:
- Quasi Peak detector used with a bandwidth of 120 kHz
- Tested in modes as described in section 4.2, highest values noted.
- Preliminary measurements indicated that the radiated emissions from EUT were not affected by the EUT's operating frequency.
- Preliminary measurements indicated that the worst case EUT was model SP3000TERS.

Radiated Emission, 1 - 25GHz, Horizontal and Vertical Antenna Orientations, 2405 MHz.

Frequency [MHz]	Antenna Orientation	Detector	Resolution Bandwidth (kHz)	Level Pk [dBm]	Limit Av/Pk [dBm]*1	Result
1008.2 *R	Vertical	Peak (Pk)	1000	-62.8	-41.2 / -21.2	Pass
1079.7 *R	Horizontal	Peak (Pk)	1000	-65.4	-41.2 / -21.2	Pass
1321.7 *R	Horizontal	Peak (Pk)	1000	-66.5	-41.2 / -21.2	Pass
1442.7 *R	Horizontal	Peak (Pk)	1000	-58.7	-41.2 / -21.2	Pass
7000.1	Vertical	Peak (Pk)	1000	-53.8	-41.2 / -21.2	Pass
7213.0	Vertical	Peak (Pk)	1000	-49.4	-41.2 / -21.2	Pass
16675.8	Vertical	Peak (Pk)	1000	-46.7	-41.2 / -21.2	Pass

See notes on page 32

Radiated Emission, 1 - 25GHz, Horizontal and Vertical Antenna Orientations, 2440 MHz.

Frequency [MHz]	Antenna Orientation	Detector	Resolution Bandwidth (kHz)	Level Pk [dBm]	Limit Av/Pk [dBm]*1	Result
1079.6 *R	Horizontal	Peak (Pk)	1000	-64.7	-41.2 / -21.2	Pass
1319.8 *R	Horizontal	Peak (Pk)	1000	-66.2	-41.2 / -21.2	Pass
1441.4 *R	Horizontal	Peak (Pk)	1000	-57.3	-41.2 / -21.2	Pass
1502.2 *R	Horizontal	Peak (Pk)	1000	-66.8	-41.2 / -21.2	Pass
4882.0 *R	Horizontal	Peak (Pk)	1000	-49.5	-41.2 / -21.2	Pass
7318.0 *R	Horizontal	Peak (Pk)	1000	52.6	-41.2 / -21.2	Pass
12195.4 *R	Horizontal	Peak (Pk)	1000	-51.9	-41.2 / -21.2	Pass

See notes on page 32

Radiated Emission, 1 - 25GHz, Horizontal and Vertical Antenna Orientations, 2480 MHz.

Frequency [MHz]	Antenna Orientation	Detector	Resolution Bandwidth (kHz)	Level Pk [dBm]	Limit Av/Pk [dBm]*1	Result
1018.8 *R	Horizontal	Peak (Pk)	1000	-68.0	-41.2 / -21.2	Pass
1079.6 *R	Horizontal	Peak (Pk)	1000	-65.7	-41.2 / -21.2	Pass
1319.8 *R	Horizontal	Peak (Pk)	1000	-65.8	-41.2 / -21.2	Pass
1441.4 *R	Horizontal	Peak (Pk)	1000	-61.8	-41.2 / -21.2	Pass
2280.8 *R	Horizontal	Peak (Pk)	1000	-62.1	-41.2 / -21.2	Pass
4960.0 *R	Horizontal	Peak (Pk)	1000	-50.2	-41.2 / -21.2	Pass
7435.0 *R	Vertical	Peak (Pk)	1000	-54.0	-41.2 / -21.2	Pass
11603.0 *R	Vertical	Peak (Pk)	1000	-47.2	-41.2 / -21.2	Pass
16884.2	Vertical	Peak (Pk)	1000	-44.4	-41.2 / -21.2	Pass

Note:
- Peak detector used with a bandwidth of 1 MHz
- Tested in modes as described in section 4.2, highest values noted.
- Peak value were already within Average limits, therefor Average not tested.
- Preliminary measurements indicated that the worst case EUT was model SP3000TERS.
- *1: Derived from the expression dBm = dBµV/m – 95.2dB.
- *R denotes emission in restricted band.

5.2 AC Power Line Conducted Measurements

5.2.1 AC Power Line Conducted Emission of Transmitter

AC power line conducted emissions is not applicable, EUT is battery operated only.

End of report

Ambient Systems B.V.

Identical Equipment Declaration

Number: **CF103**
Version: **V02**
Date: 01-08-2010

Hereby we,

(the approval holder or manufacturer)

Company name	Ambient Systems B.V.
Address	Colosseum 15d
City	7521 PV Enschede
Country	The Netherlands

declare that the following equipment:

Product Description	Smartpoint (with orange colored enclosure)
Type or Model(s)	SP3000T, SP3000TH, SP3000T1W, SP3000TERS
Tradename or Brand(s)	Ambient

is technically and functionally identical with the following equipment:

Product Description	Smartpoint (with white or yellow colored enclosure)
Type or Model(s)	SP3000T, SP3000TH, SP3000T1W, SP3000TERS
Tradename or Brand(s)	

Attestation:

City and Country:	**Date:**	**Name:** (this must be a person)	**Function:**	**Signature:** (or official company stamp)
Enschede, The Netherlands	2013-10-02	Dr. Ir. Lodewijk van Hoesel	CTO	L. van Hoesel

Ambient Systems B.V.
http://ambient-systems.net
Enschede, the Netherlands