

Testing Tomorrow's Technology

Application for

**US Code Title 47, Part 2, Subpart J, Section 2.947, Certification
Per
Part 15, Subpart C, for Intentional Radiators, Section 15.249, Intentional Radiator
Operating within the Band 2400 MHz to 2483.5 MHz.**

And

**US Code Title 47, Part 2, Subpart J, Section 2.902, Verification
Per
Part 15, Subpart B, for Unintentional Radiators, section 15.101, 15.107 and 15.109**

For the

Electronica Clarion S.A. de C.V

BTD3341 Model: ME-14D3341AL-02

Manufactured by

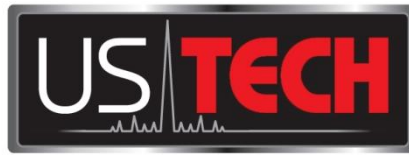
Electronica Clarion S.A. de C.V

UST Project: 14-0063

Test Date(s): March 25 to April 10, 2014

Issue Date: April 17, 2014

**3505 Francis Circle Alpharetta, GA 30004
PH: 770-740-0717 Fax: 770-740-1508
www.ustech-lab.com**



Testing Tomorrow's Technology

I certify that I am authorized to sign for the test facility and that all of the statements in this report and in the Exhibits attached hereto are true and correct to the best of my knowledge and belief:

US TECH (Agent Responsible For Test):

By: 

Name: Alan Ghasiani

Title: Consulting Engineer - President

Date: April 17, 2014

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BTD3341 Model ME-14D3341AL-02

MEASUREMENT/TECHNICAL REPORT

COMPANY NAME: Electronica Clarion S.A. de C.V
MODEL(S): BTD3341, Model ME-14D3341AL-02
FCC ID: 2ABGYBTD33-CLARION
DATE: April 14, 2014

This report concerns (check one): Original grant
Class II change

Equipment type: Intentional Radiator Operating within the bands 2400-2483.5 MHz

Deferred grant requested per 47 CFR 0.457(d) (1) (ii)? yes No

If yes, defer until: _____
 date

N.A. agrees to notify the Commission by N.A.
 date
of the intended date of announcement of the product so that the grant can be issued
on that date.

Report prepared by:

 US Tech
 3505 Francis Circle
 Alpharetta, GA 30004

 Phone Number: (770) 740-0717
 Fax Number: (770) 740-1508

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SUMMARY OF TEST REQUIREMENTS

<u>FCC Requirement</u>	<u>Title</u>	<u>Disposition</u>
15.205	Restricted Bands	Pass
15.207	Intentional Radiator Power Line Conducted Emissions	Pass
15.209	Intentional Radiator Radiated Emissions	Pass
15.249(a)	Fundamental Field Strength	Pass
15.107	Unintentional Radiator Power Line Conducted Emissions	N/A
15.109	Unintentional Radiator Radiated Emissions	Pass

N/A = Not applicable for this unit.

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J	Theory of Operation
K	User's Manual

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1 General Information

1.1 Purpose of this Report

This report is prepared as a means of presenting test data to be used by a Telecom Certification Body in determination of whether this product is permitted for unlicensed dissemination to the general public according to the FCC Rules and Regulations for RF Devices Intentional Radiators.

1.2 Product Description

The Equipment Under Test (EUT) is the Electronica Clarion S.A. de C.V, Model BTD3341, Model: ME-14D3341AL-02. This device is a car stereo with a Bluetooth capabilities. Other inputs and outputs are as follows: SD card slot, stereo jack, 4 speakers, and antenna port. The EUT is powered by a 12VDC system, and has the following Blue Tooth Radio Features:

Modulation: FHSS/GFSK and DPSK (EUT tested in GFSK mode)

Data Packet: DH1, DH3, and DH5

Bluetooth rated maximum output power: +4 dBm

Frequency band of operation: 2400 MHz to 2483.5 MHz

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1.3 Related Submittal(s)/Grant(s)

1.3.1 The EUT is subject to the following FCC authorizations:

- a) Certification under section 15.249 as a transmitter.
- b) Verification/Declaration of Conformity under 15.101 as a digital device and receiver.

1.3.2 Certification of the Transmitter

The EUT employs spread spectrum modulation, but is not being certified under CFR 15.247 because the field strength of the fundamental and its harmonics are within the limits specified in 47 CFR 15.249. Therefore the EUT is instead being presented under the requirements of CFR 15.249. The EUT will operate within the frequency band of 2400 MHz to 2483.5 MHz.

1.3.3 Verification of the Digital apparatus

The Verification requirement shares many common report elements with the Certification report. Therefore, though this report is mostly intended to provide data for the Certification process, the Verification authorization report (part 15.107 and 109) for the EUT is included herein.

2 Tests and Measurements

2.1 Configuration of Tested System

The sample was set up and tested per ANSI C63.4, Methods of Measurement from Low-Voltage Electrical and Electronic Equipment in the Frequency Range of 9 kHz to 40 GHz (2003). Conducted and radiated emissions data were taken with the EMC test receiver (or spectrum analyzer's) resolution bandwidth adjusted to 9 kHz and 120 kHz, respectively. All measurements are peak unless stated otherwise. The video filter associated with the spectrum analyzer was off throughout the evaluation process. A Block diagram of the tested system is shown in Figure 1. A listing of the EUT and its test peripherals is found in Table 1 below. Test configuration photographs for spurious and fundamental emissions measurements are in the attached appendices.

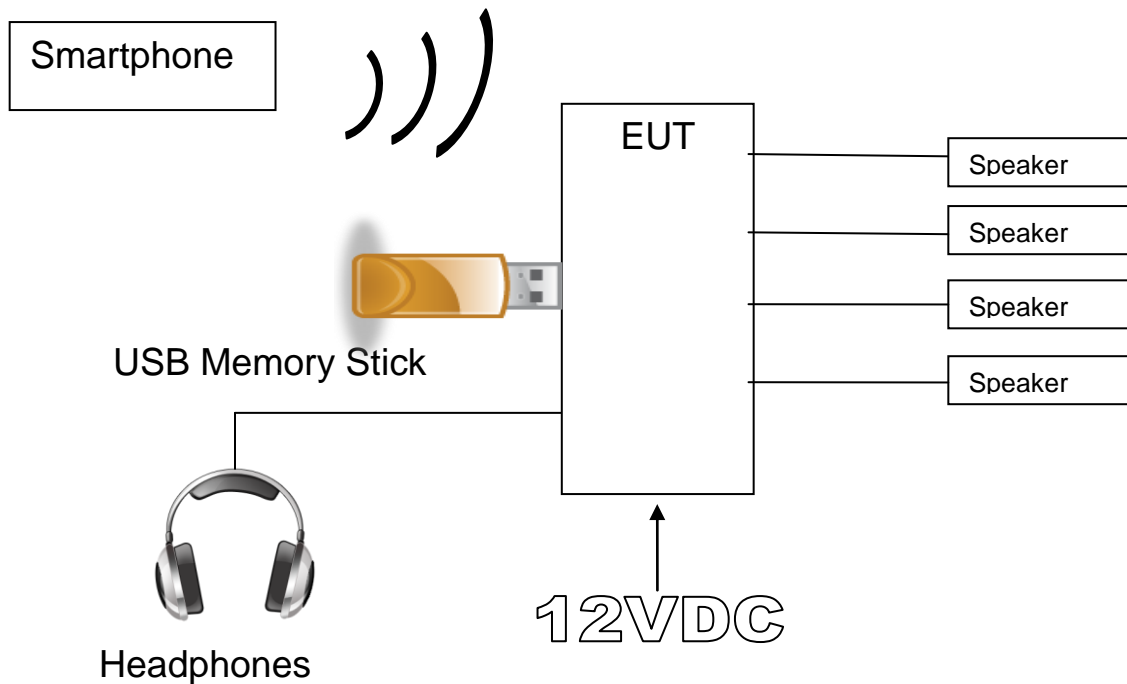


Figure 1. Test Configuration

Table 1. EUT and Peripherals

PERIPHERAL AND MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID	CABLES P/D
(EUT) Electronica Clarion S.A. de C.V	ME-14D3341AL-02	Engineering Sample	2ABGYBTD33- CLARION	1.5m U P 1.5m S D(x4)
Smart Phone LG	LG-VS950	NA	ZNFVS950	NA
Car audio receiver antenna Various	RMA900	NA	NA	2.0m S D
Head Phones Various	Various	Various	N/A	1.5m U D
4 ohm Speakers Various	Various	Various	NA	1.5m U D QTY (4)

S= Shielded, U=Unshielded, P= Power line, D= Data line

2.2 EUT Characterization

The sample used for testing was received by US Tech on March 24, 2014 in good operating condition.

2.3 Test Facility

Testing was performed at US Tech's measurement facility at 3505 Francis Circle, Alpharetta, GA. This site has been fully described and registered with the FCC under site designation number 186022. Additionally this site has also been fully described and submitted to Industry Canada (IC), and has been approved under file number 2982A-1.

2.4 Test Equipment

Table 2 describes test equipment used to evaluate this product.

Table 2. Test Instruments used for Evaluation

TEST INSTRUMENT	MODEL NUMBER	MANUFACTURER	SERIAL NUMBER	DATE OF LAST CALIBRATION
SPECTRUM ANALYZER	E4407B	AGILENT	US41442935	11/8/2013
SPECTRUM ANALYZER	8566B	HEWLETT-PACKARD	2410A00109	2/03/2014
RF PREAMP 100 kHz to 1.3 GHz	8447D	HEWLETT-PACKARD	2944A06291	2/06/2014
BICONICAL ANTENNA	3110B	EMCO	9306-1708	7/02/2012 2 yr cycle
LOG PERIODIC ANTENNA	3146	EMCO	3110-3236	6/05/2012 2 yr cycle
HORN ANTENNA	SAS-571	A. H. Systems	605	7/23/2013 2 yr cycle
HORN ANTENNA	EMCO	3116	9505-2255	8/09/12 2 yr cycle
LOOP ANTENNA	SAS-200/562	A. H. Systems	142	9/12/2013
12 Automotive Battery	124R-3	Everstart	JCA110896559	NA
12VDC Power Supply	1680	BK Percision	L51413694	NA
Automotive Antenna	RMA900	Scorche	NA	NA
PREAMP 1.0 GHz to 26.0 GHz	8449B	HEWLETT-PACKARD	3008A00480	2/06/2014
CALCULATION PROGRAM	N/A	N/A	Ver. 6.0	N/A

Note: The calibration interval of the above test instruments is 12 months unless stated otherwise, and all calibrations are traceable to NIST/USA.

2.5 Modifications to EUT

No modifications were made by US Tech to bring the EUT into compliance with FCC Part 15, Subpart B, Class B Limits for the receiver and digital portion of the EUT or the Subpart C, Transmitter requirements.

2.6 Measurement Standards (CFR 15.31)

Intentional and unintentional radiators are to use the methods of ANSI C63.4: 2003. Measurements were made on an Open Area Test Site (OATS) wherever possible. For battery powered equipment, new (or fully charged) batteries are used. Section 15.31(m) indicates that if the EUT System operates over the 2400 MHz to 2483.5 MHz ISM band, measurements must be made near the bottom of the band (around 2400 MHz for example) and in the middle of the band (2440 MHz) as well as near the top of the band (2483.5 MHz).

The test data is detailed below for this section. Several radiated emissions above 1 GHz were measured at a distance of 1 meter. The measured value at 1 meter was then extrapolated to the resultant at 3 meters using an inverse distance extrapolation factor of -20 dB/decade. There were no test failures.

2.7 Frequency Range of Radiated Measurements (CFR 15.33)

The frequency range is detailed below for intentional and unintentional radiators.

2.7.1 Frequency Range for Intentional Radiators

The spectrum was investigated from the lowest RF signal generated without going below 9 kHz to the 10th harmonic of the highest fundamental transmitter frequency.

2.7.2 Frequency Range for Unintentional Radiators

The spectrum was investigated from the lowest RF signal generated without going below the lowest frequency for which an emissions limit is specified (30 MHz) to the 5th harmonic of the highest fundamental frequency of the digital device (12.5 GHz maximum).

2.7.3 Measurement Detector Function and Bandwidth (CFR 15.35)

On any frequency below 1000 MHz, the limits shown are based upon measuring equipment employing a CISPR quasi-peak detector function and related measurement bandwidths. On frequencies above 1000 MHz, the radiation limits are based upon the use of measuring instrumentation employing an average detector function.

When average detector measurements are specified for use, including emission measurements below 1000 MHz, there is also a corresponding limit for Peak detector measurements having a limit of 20 dB above the corresponding average limit unless a different peak emission limit is specified. Measurements above 1000 MHz utilize a minimum resolution bandwidth of 1 MHz.

When radiated emissions limits are expressed in terms of the average value of the emission and pulsed operation is employed, the measurement field strength is determined by averaging over one complete pulse train (Duty Cycle) including blanking intervals for pulse trains up to 0.1 second in duration. The exact method of calculating the average field strength for this radio is expressed below. Refer to Figure 2 and Figure 3 for duty cycle screen shot measurement data.

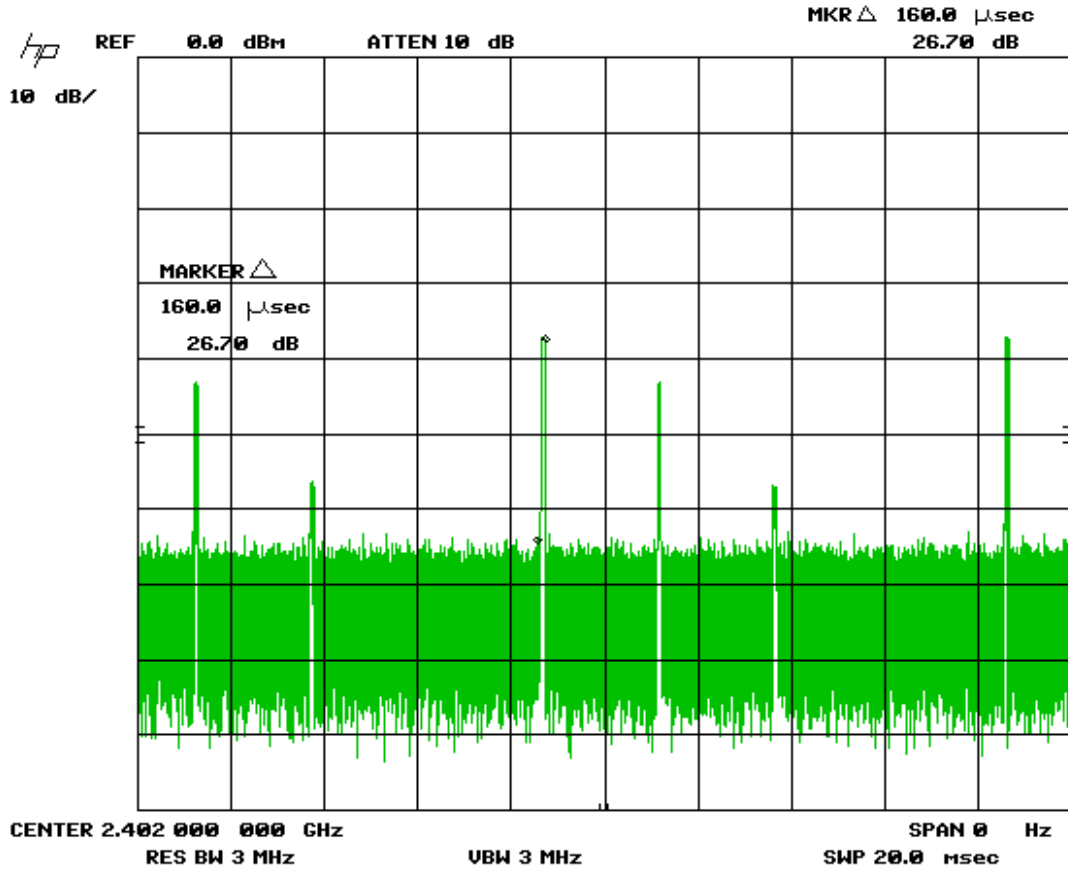


Figure 2. Transmitter Pulse Width (20ms)

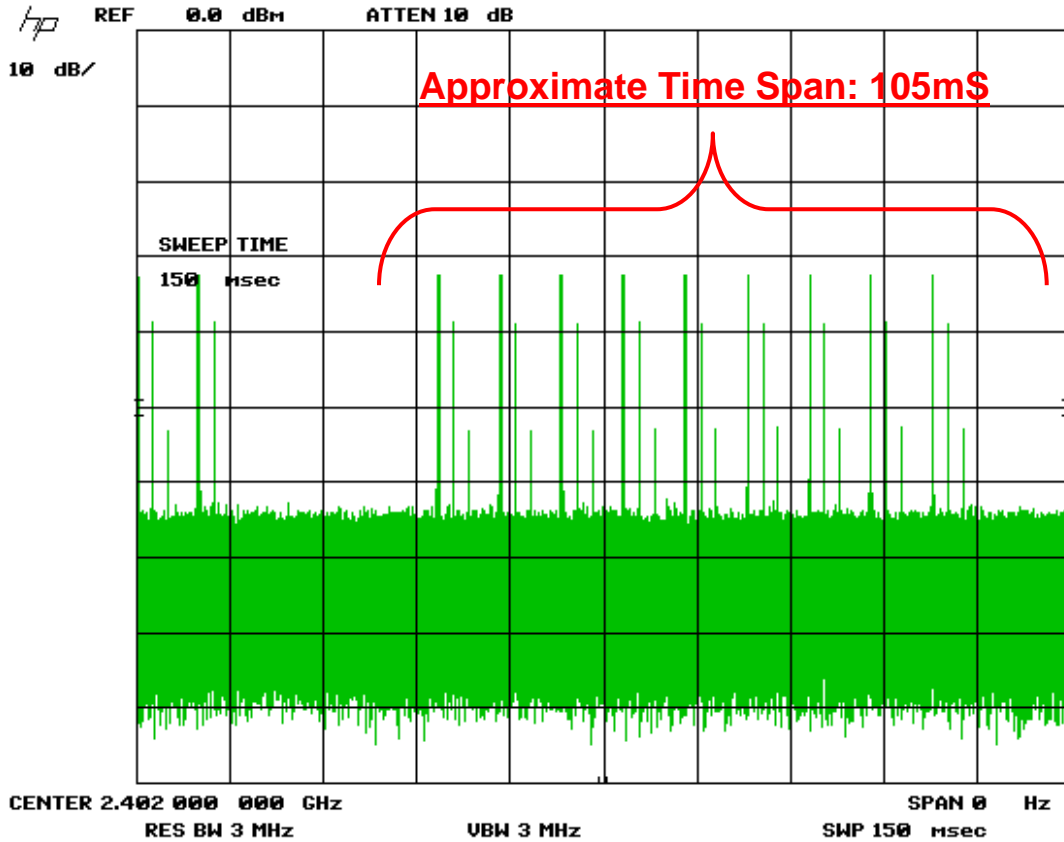


Figure 3. Transmitter Pulse Width (100ms)

$$(27 \text{ Pulses}) * (0.16\text{ms/Pluse}) = 4.32\text{mS Total Time On}$$

$$(4.32\text{mS Total Time On})/(100\text{mS FCC Standard}) = 0.0432 \text{ Numeric Duty Cycle}$$

$$\text{Duty Cycle} = 20 \text{ Log } (0.0432) = \boxed{-27.29 \text{ dB}}$$

The Duty Cycle applied in this test report is -20 dB.

2.8 Antenna Requirement (CFR 15.203)

The EUT has an internal radiator; there are no external antenna ports.

Table 3. Allowed Antenna(s)

MANUFACTURER	TYPE OF ANTENNA	MODEL	REPORT REFERENCE	GAIN dB _i	TYPE OF CONNECTOR
Amotech	Multilayer Chip antenna	ALA931C5	Antenna	2.8	soldered

2.9 Intentional Radiator, Power Line Conducted Emissions (CFR 15.207)

The EUT requires 12.0 VDC to operate; this power is supplied by most automotive electrical systems. Not intended to be connected to the AC mains.

2.10 Intentional Radiator, Radiated Emissions (CFR 15.249 (a), (e))

The EUT was placed into a continuous transmit mode of operation. A preliminary scan was performed on the EUT to find signal frequencies that were caused by the transmitter part of the product and to obtain the worse case result the EUT tested in all X, Y and Z axis. Radiated measurements below 30 MHz were tested with a RBW = 9 kHz; emissions below 1 GHz were tested with a RBW = 120 kHz and radiated measurements above 1 GHz were measured using a RBW = 1 MHz and VBW = 3 MHz.

Test data is found in Table 4 and Table 5 below.

2.11 Restricted Bands of Operation (CFR 15.205)

Only radiated harmonics and other spurious signals can be permitted to fall into the restricted bands of 15.205. All signals found in paragraph 2.7 above shall be examined for this requirement. Limits are based upon the limits of paragraph 15.209. Above 1 GHz, the limits are for Average value. See Table 4 and Table 5 below for peak and Average measurements. According to CFR 15.35, the peak limits can exceed the average limits by 20 dB.

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Table 4. Peak Fundamental and Harmonics, (CFR15.249 (a))

Tested By: JW		Test: FCC Part 15, Para 15.249(a) Project: 14-0063		Client: Clarion Model: BTD3341			
Frequency (MHz)	Test Data (dBuV)	AF+CL-PA (dB/m)	Corrected Results (dBuV/m)	Limits (dBuV/m)	Distance / Polarization	Margin (dB)	Detection Mode
Low Channel - Peak							
2402.42	66.86	31.78	98.64	114.0	3m/Vert.	15.4	PK
4805.08	54.75	5.03	~50.28	74.0	1m/vert.	23.7	PK
7207.39	56.94	11.71	~59.15	74.0	1m/vert.	14.9	PK
9606.68	45.72	15.69	~51.91	74.0	1m/vert.	22.1	PK
Mid Channel - Peak							
2440.50	70.96	31.88	102.84	114.0	3m/Vert.	11.2	PK
4881.00	59.44	5.16	~55.10	74.0	1m/vert.	18.9	PK
7321.50	62.08	12.51	~65.09	74.0	1m/vert.	8.9	PK
9761.80	47.43	14.60	~52.53	74.0	1m/vert.	21.5	PK
High Channel - Peak							
2480.48	71.94	31.73	103.67	114.0	3m/Vert.	10.3	PK
4960.88	58.19	4.61	~53.30	74.0	1m/vert.	20.7	PK
7441.50	62.58	12.71	~65.79	74.0	1m/vert.	8.2	PK
9919.50	45.77	14.36	~50.63	74.0	1m/vert.	23.4	PK

- (*) Falls within the restricted bands of CFR 15.205. Limits based on CFR15.209 & 20 dB relaxation for peak measurements of CFR 15.35.
- No other signals detected within 20 dB of specification limit. Harmonics investigated up to the 10th harmonic (25GHz using EMCO 3116 Horn Antenna)
- (~) Measurements taken at 1 meter were extrapolated to 3 meters using a factor of (-9.5 dB)
- Sample Calculation at 4805.08MHz:

Magnitude of Measured Frequency	54.74 dBuV
+Antenna Factor + Cable Loss+ Amplifier Gain	+5.03 dBVm
1 meter to 3 meter extrapolation	-9.50 dB
Corrected Result	50.28 dBuV/m

Test Date: March 25, 2014

Tested By

Signature: John Wynn

Name: John Wynn

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Table 5. Fund and Harmonics Average limits, (CFR 15.35(b), 15.249(a))

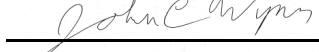
Tested By: JW		Test: FCC Part 15, Para 15.249(a) Project: 14-0063		Client: Clarion Model: BTD3341			
Frequency (MHz)	Test Data (dBuV)	AF+CL-PA (dB/m)	Corrected Results (dBuV/m)	Limits (dBuV/m)	Distance / Polarization	Margin (dB)	Detection Mode
Low Channel - Average							
2402.42	66.21	11.78	77.99	94.0	3m/Vert.	16.0	AVG
4805.08	51.16	-14.97	26.69~	54.0	1m/vert.	27.3	AVG
7207.39	56.94	-8.29	39.15~	54.0	1m/vert.	14.9	AVG
Mid Channel - Average							
2440.50	70.19	11.88	82.07	94.0	3m/Vert.	11.9	AVG
4881.00	57.12	-14.84	32.78~	54.0	1m/vert.	21.2	AVG
7321.50	60.83	-7.49	43.84~	54.0	1m/vert.	10.2	AVG
9761.80	36.41	-5.40	21.51~	54.0	1m/vert.	32.5	AVG
High Channel - Average							
2480.48	71.87	11.73	83.60	94.0	3m/Vert.	10.4	AVG
4960.88	56.54	-15.39	31.65~	54.0	1m/vert.	22.3	AVG
7441.50	61.64	-7.29	44.85~	54.0	1m/vert.	9.2	AVG

- (*) Falls within the restricted bands of CFR 15.205. Limits based on CFR15.209 & 20 dB relaxation for peak measurements of CFR 15.35.
- No other signals detected within 20 dB of specification limit. Harmonics investigated up to the 10th harmonic (25GHz using EMCO 3116 Horn Antenna)
- (~) Measurements taken at 1 meter were extrapolated to 3 meters using a factor of (-9.5 dB).
- Duty cycle factor of -20 applied. EUT was operating at >98% duty cycle during testing. All sweeping/hopping stopped and pulsed operation disabled.
- Sample Calculation at 4805.08MHz:

Magnitude of Measured Frequency	51.16 dBuV
+Antenna Factor + Cable Loss+ Amplifier Gain +Duty Cycle	-14.97 dB/m
1 meter to 3 meter extrapolation	-9.50 dB
Corrected Result	26.69 dBuV/m

Test Date: March 10, 2014

Tested By

Signature: 

Name: John Wynn

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2.12 Band Edge Measurements (CFR15.249(d))

Band Edge measurements were made at a Low Channel and High Channel peak at highest EUT related emission outside the upper and lower occupied bandwidth. A measurement was made of the fundamental and the emission was measured using a quasi peak setting. A Resolution Bandwidth of $> 1\%$ of the emission bandwidth was used. This procedure was repeated for the high channel. The limits were derived as described in the following sections.

2.12.1 High Band Edge

Above 2483.5 MHz the limit per section 15.249(d) is 50 dB below the fundamental or the value expressed by CFR 15.209 (54 dBuV/m) whichever is the lesser attenuation.

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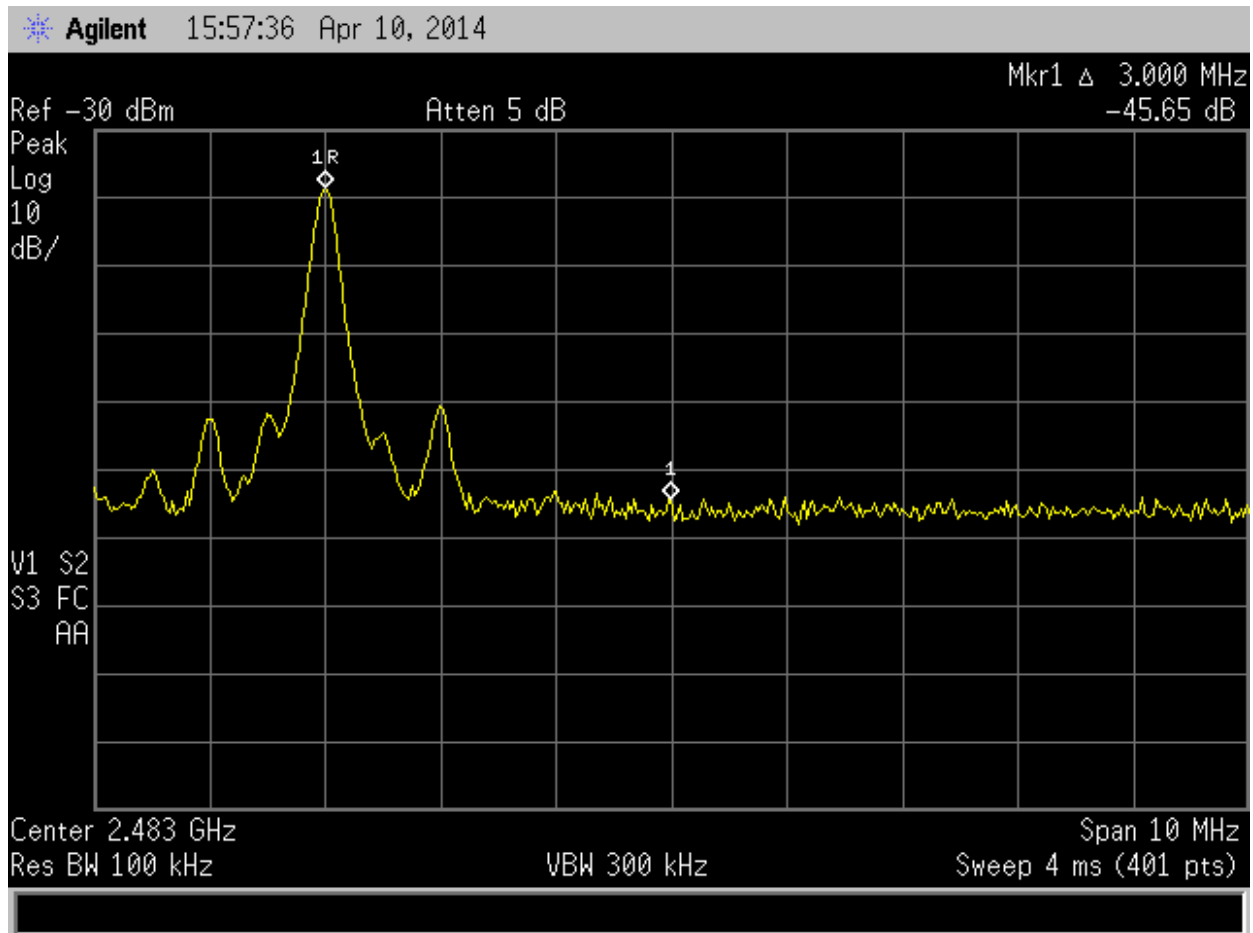


Figure 4. Radiated Band Edge – High Channel Delta

Test Date: April 10, 2014

Tested By

Signature: John C Wynn

Name: John Wynn

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FCC ID:
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Calculation of worst case PEAK upper band edge measurement:

High Channel Corrected Measured Value from Table 4	103.67	dBuV
High Channel Band Edge Delta from Figure 7	-45.65	dB
Calculated Result	58.11	dBuV/m
•		
Average Limit + 20dB Relaxation for PEAK	74.00	dBuV/m
Calculated Result	-58.11	dBuV/m
Band Edge Margin	15.89	dBuV/m

Calculation of worst case AVERAGE upper band edge measurement:

High Channel Corrected Measured Value from Table 5	83.60	dBuV
High Channel Band Edge Delta from Figure 7	-45.65	dB
Calculated Result	37.95	dBuV/m
•		
Peak Limit	54.00	dBuV/m
Calculated Result	37.95	dBuV/m
Band Edge Margin	16.05	dBuV/m

2.12.2 Low Band Edge

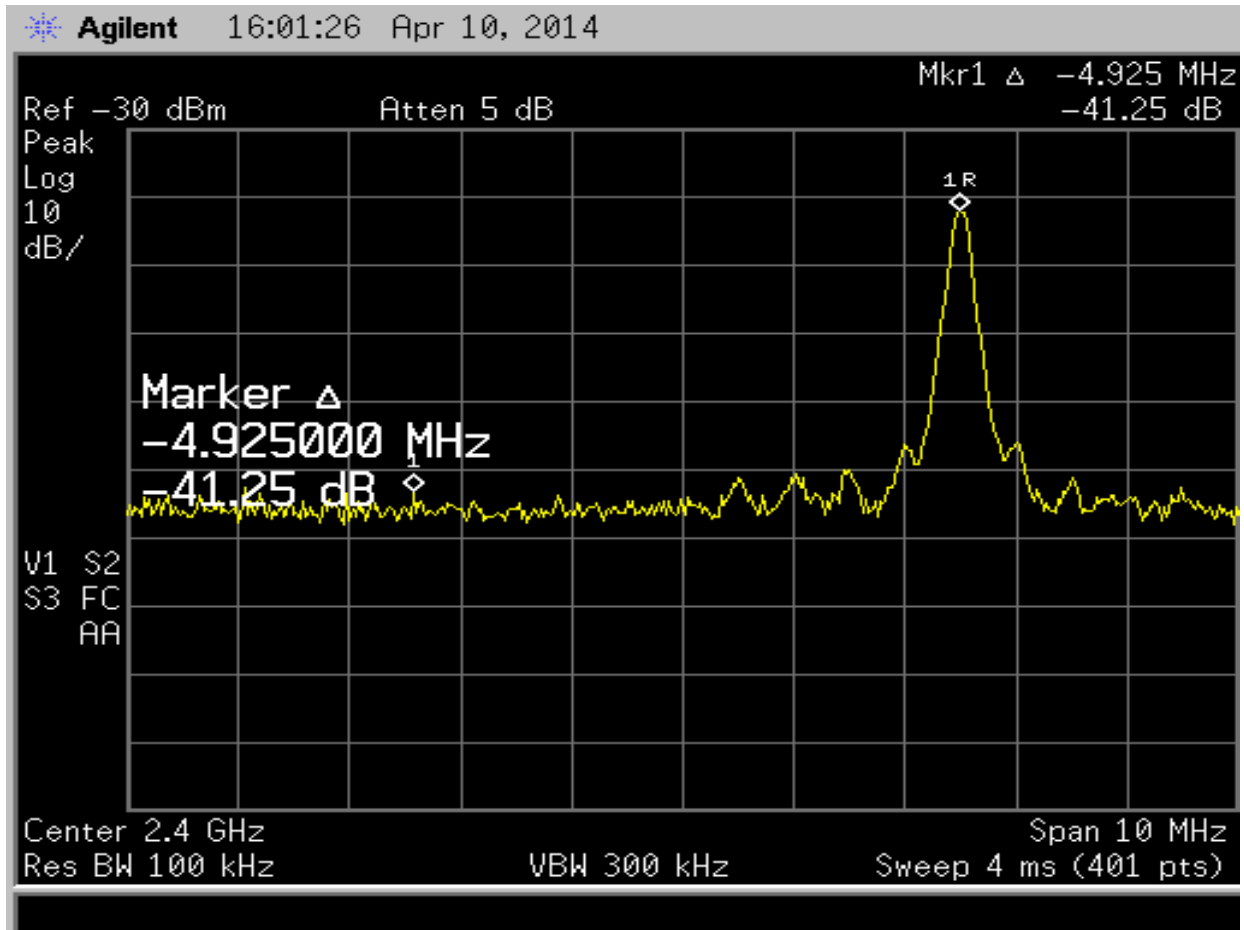


Figure 5. Radiated Band Edge – Low Channel Delta

Test Date: April 10, 2014

Tested By

Signature: John Wynn

Name: John Wynn

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Low Channel Corrected Measured Value from Table 4	98.64	dBuV
Low Channel Band Edge Delta from Figure 8	-41.25	dB
Calculated Result	57.39	dBuV/m
•		
Average Limit + 20dB Relaxation for PEAK	74.00	dBuV/m
Calculated Result	-57.39	dBuV/m
Band Edge Margin	16.61	dBuV/m

Calculation of worst case AVERAGE upper band edge measurement:

Low Channel Corrected Measured Value from Table 5	77.99	dBuV
Low Channel Band Edge Delta from Figure 8	-41.25	dB
Calculated Result	36.74	dBuV/m
•		
Peak Limit	54.00	dBuV/m
Calculated Result	36.74	dBuV/m
Band Edge Margin	17.26	dBuV/m

US Tech Test Report:
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Model:

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2.13 20 dB Bandwidth Measurement per CFR 15.249

The EUT antenna port was connected to a spectrum analyzer having a 50 Ω input impedance. Measurements were performed similar to the method of FCC, KDB Publication No. DA 00-705 for a bandwidth of 20 dB. The RBW was set to approximately 1/100 of the manufacturers claimed RBW and with the VBW \geq RBW. The results of this test are given in Table 6 and Figures 4-6.

Table 6. Bandwidth Measurements, 20 dB

Frequency (MHz)	20 dB Bandwidth (MHz)
2402	0.355
2440	0.370
2480	0.348

Test Date: April 10, 2014

Tested By

Signature: 

Name: John Wynn

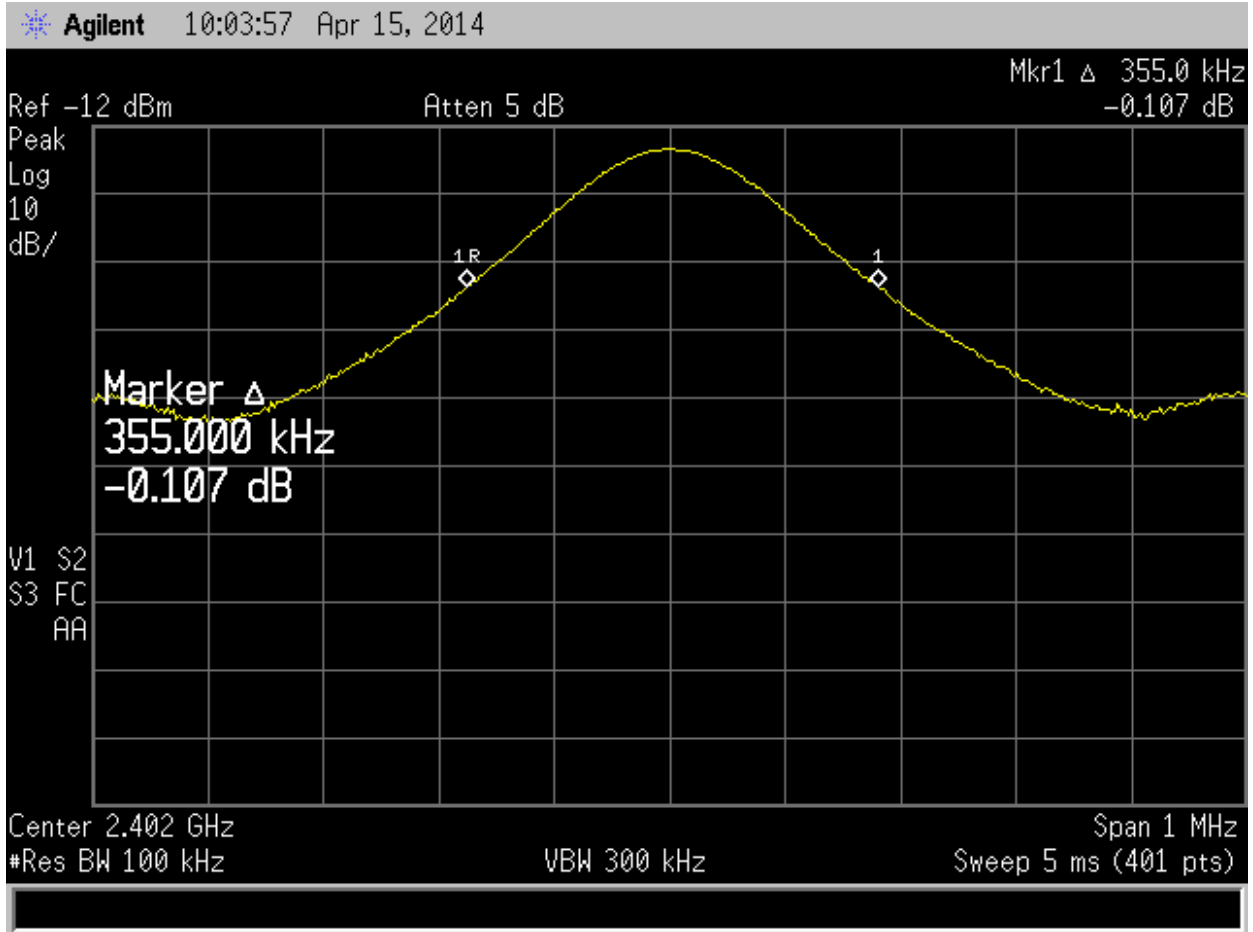


Figure 6. Low Channel 20dB Bandwidth

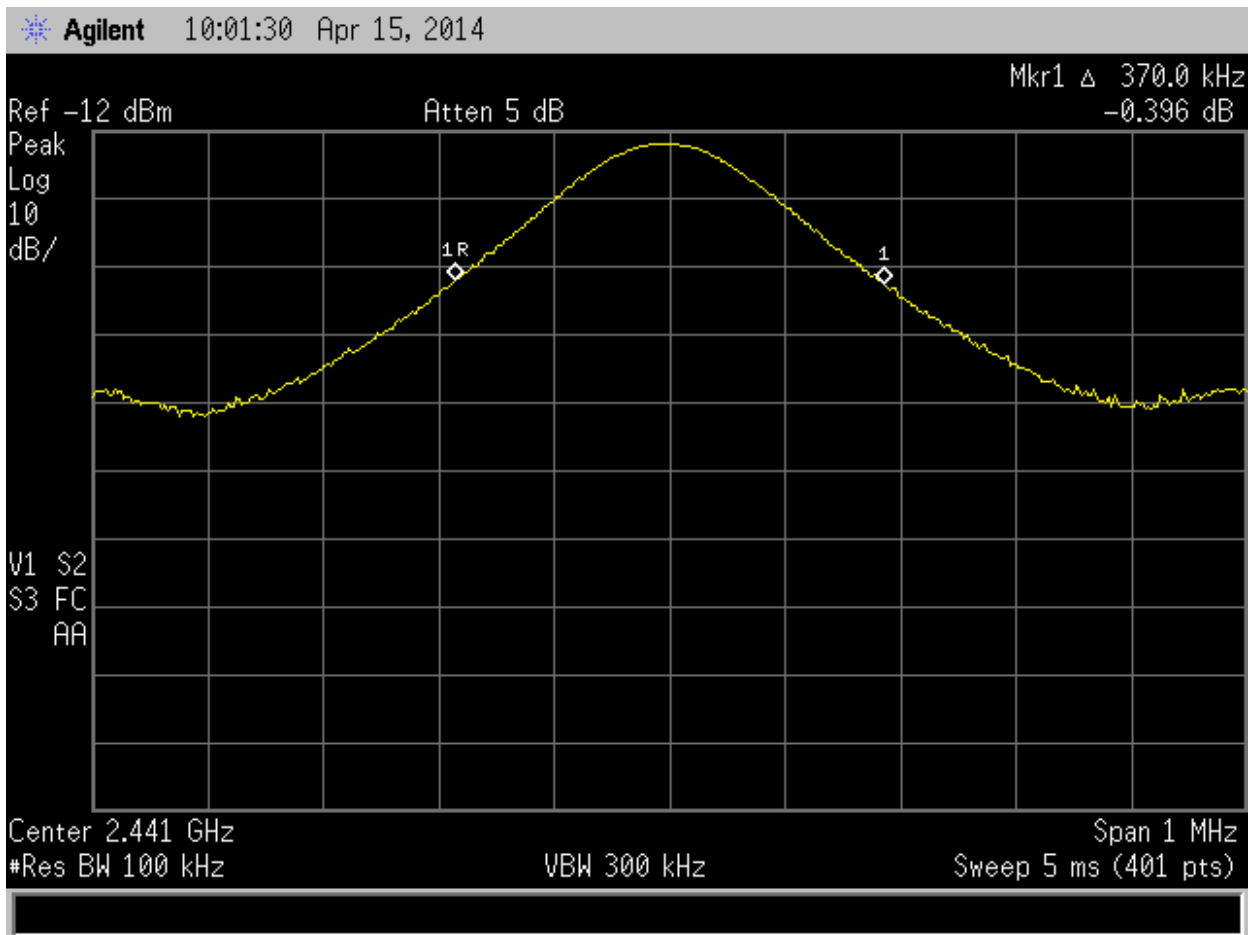


Figure 7. Mid Channel 20dB Bandwidth

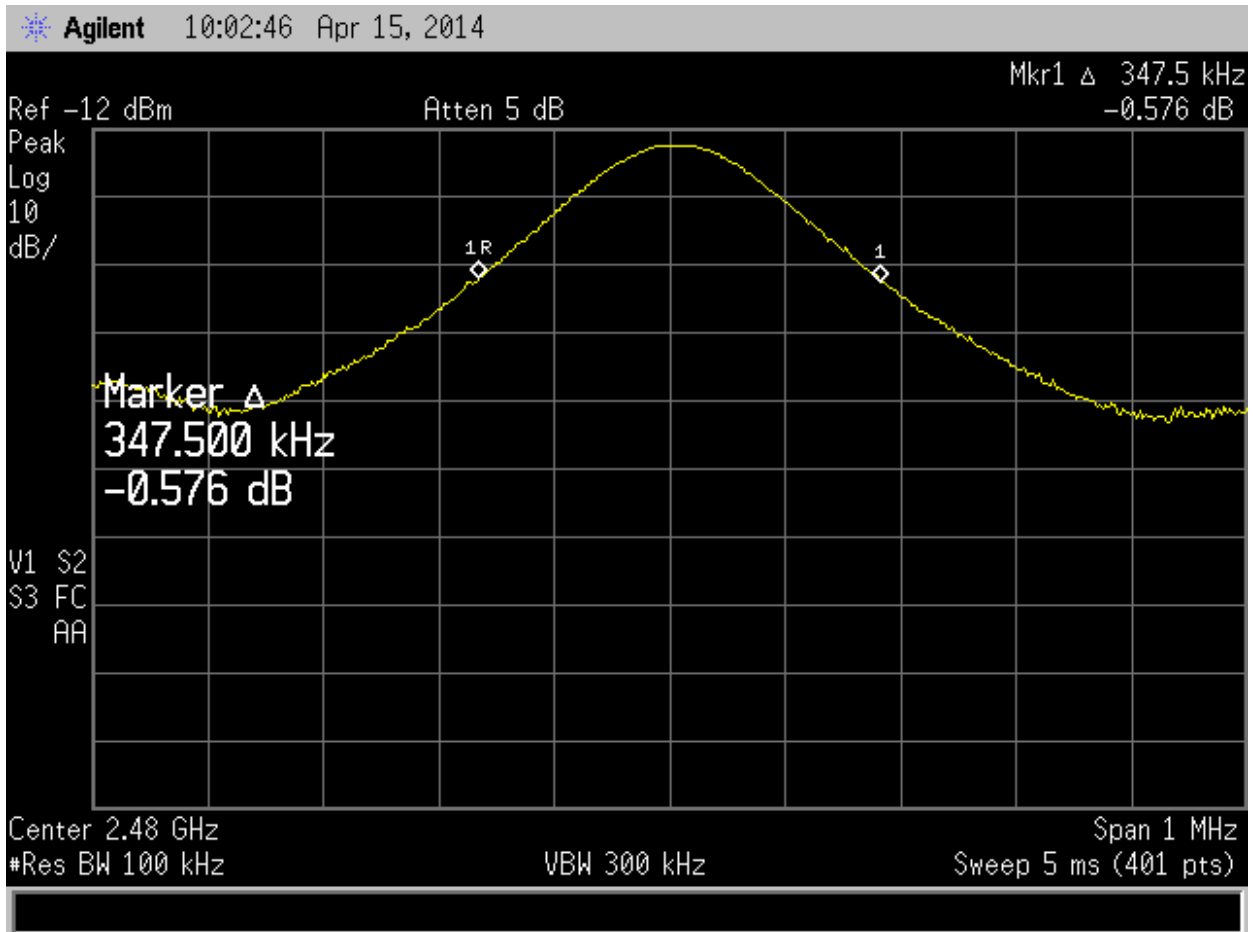


Figure 8. High Channel 20dB Bandwidth

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2.13 Unintentional Radiator, Power Conducted Emissions (CFR 15.107)

The EUT is battery operated.

Table 7. Power line Conducted Emissions Data, Class B

Conducted Emissions							
Test By: JW	Test: FCC Part 15.107			Client: Electronica Clarion S.A. de C.V			
	Project: 14-0063		Class: B		Model: BTD3341		
Frequency (MHz)	Test Data (dBuV)	AF+CA-AMP (dB)	Corrected results (dBuV)	AVG Limits (dBuV)	Phase	Margin (dB)	Detector PK/QP/AVG
The EUT is not powered by AC mains. Conducted emissions testing is not required.							

Note: The data presented here is to show that the EUT and host comply with the Verification requirements of Part 15.109 as an unintentional digital device.

2.14 Unintentional Radiator, Radiated Emissions (CFR 15.109)

Radiated emissions within the band 9 KHz (or lowest clock frequency of the EUT) to 30 MHz and 30 MHz to 12.5 GHz were measured with a spectrum analyzer via a pre-amplifier by connecting the spectrum analyzer to a receiving antenna spaced three (3) meters from the EUT. The spectrum analyzer was set for a 50 Ω input impedance with the VBW set to \geq the RBW bandwidth. The antenna was raised and lowered over a span of 4 meters in order to maximize the signal coming from the EUT. Similarly, the turntable was rotated through 360 degrees in the same maximizing effort. Also the EUT was scanned for a maximum radiated power when placed in each of the three mutually exclusive orthogonal planes.

Radiated emissions within the band of 9 kHz to 30 MHz were investigated using a calibrated Loop Antenna and per the requirements of ANSI C63.4:2003. The resolution bandwidth was set to 9 kHz, the video bandwidth was set to three times the resolution bandwidth.

For measurements above 30 MHz the measurements were made with the analyzer's resolution bandwidth set to 120 kHz for measurements made below 1 GHz and 1 MHz for measurements made above 1 GHz. The video bandwidth was set to three times the resolution bandwidth.

All measured signals were at least 6 db below the specification limit. The results of the measurements are reported in the tables below.

Note: The data presented here is to show that the EUT and host comply with the verification requirements of Part 15.109 as an unintentional digital device.

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Table 8. Unintentional Radiated Emissions from 9KHz 1000MHz (CFR 15.109)

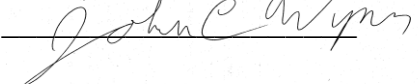
Test By: JCW	Test: Part 15.109		Client: Electronica Clarion S.A. de C.V				
	Project: 14-0063		Class: B		Model: ME-14D3341AL-02		
Frequency (MHz)	Test Data (dBuV)	AF+CA-AMP (dB)	Corrected Results (dBuV/m)	QP Limits (dBuV)	Distance / Polarity	Margin (dB)	Detector PK/QP
192.04	50.18	-11.60	38.58	43.5	3m/Hor.	4.9	QP
192.04	46.80	-10.90	35.90	43.5	3m/Ver.	7.6	QP
270.43	38.30	-12.92	25.38	46.0	3m/Hor.	20.6	PK
672.00	45.96	-7.40	38.56	46.0	3m/Ver	7.4	QP
672.03	48.34	-7.40	40.94	46.0	3m/Ver	5.1	PK
768.35	34.35	-6.60	27.75	46.0	3m/Ver	18.3	PK
864.06	48.84	-4.86	43.98	46.0	3m/Ver	2.0	QP
864.07	48.60	-4.56	44.04	46.0	3m/Hor.	2.0	QP
Measurements were made over the frequency range of 9KHz MHz – 1 GHz							

SAMPLE CALCULATION At 864.07 MHz:

Magnitude of Measured Frequency	48.60	dBuV
Antenna Factor + Cable Loss+ Amplifier Gain	-4.56	dB
Corrected Result	44.04	dBuV/m

Test Date: March 26, 2014

Tested by

Signature:  **Name: John C. Wynn**

Note: The data presented here is to show the EUT and host comply with the verification requirements of Part 15.109 as an unintentional digital device.

US Tech Test Report:
 Report Number:
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 2ABGYBTD33-CLARION
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Table 9. Unintentional Radiated Emissions from 9KHz 1000MHz(CFR 15.109)

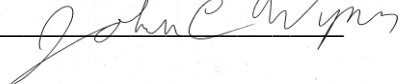
Test By: JCW	Test: Part 15.109		Client: Electronica Clarion S.A. de C.V				
	Project: 14-0063		Class: B		Model: ME-14D3341AL-02		
Frequency (MHz)	Test Data (dBuV)	AF+CA-AMP (dB)	Corrected Results (dBuV/m)	AVG Limits (dBuV)	Distance / Polarity	Margin (dB)	Detector PK/QP
1248.00	56.05	-13.95	42.10	54.0	3m/Vert.	11.9	PK
1249.10	49.79	-14.12	35.67	54.0	3m/Hor.	18.3	PK
1439.70	51.61	-13.80	37.81	54.0	3m/Vert.	16.2	PK
1440.25	51.66	-13.80	37.86	54.0	3m/Vert.	16.1	PK
1248.00	56.05	-13.95	42.10	54.0	3m/Vert.	11.9	PK
Measurements were made over the frequency range of 1 GHz – 13GHz							

SAMPLE CALCULATION At 1248.00 MHz:

Magnitude of Measured Frequency	56.05	dBuV
Antenna Factor + Cable Loss+ Amplifier Gain	-13.95	dB
Corrected Result	42.10	dBuV/m

Test Date: March 26, 2014

Tested by

Signature:  Name: John C. Wynn

Note: The data presented here is to show the EUT and host comply with the verification requirements of Part 15.109 as an unintentional digital device.

2.15 Measurement Uncertainty

The measurement uncertainties given were calculated using the method detailed in CISPR 16-4. A coverage factor of $k=2$ was used to give a level of confidence of approximately 95%.

2.15.1 Conducted Emissions Measurement Uncertainty

Measurement Uncertainty (within a 95% confidence level) for this test is ± 2.8 dB.

The EUT is battery operated. This test was not applicable.

2.15.2 Radiated Emissions Measurement Uncertainty

For a measurement distance of 3 m the measurement uncertainty (with a 95% confidence level) for this test using a Biconical Antenna (30 MHz to 200 MHz) is ± 5.33 dB. This value includes all elements of measurement.

The measurement uncertainty (with a 95% confidence level) for this test using a Log Periodic Antenna (200 MHz to 1000 MHz) is ± 5.12 dB.

The measurement uncertainty (with a 95% confidence level) for this test using a Horn Antenna is ± 5.15 dB.

The data listed in this test report does not have sufficient margin to negate the effects of uncertainty. Therefore, the EUT conditionally meets this requirement.