TEST RESULT SUMMARY

FCC PART 15 Subpart C
Section 15.231

MANUFACTURER'S NAME	Visteon Asia Pacific, Inc.
TYPE OF EQUIPMENT	Keyless Entry Transmitter
MODEL NUMBER	**41846**
MANUFACTURER'S ADDRESS	Hiroshima Sangyo Bunka Center 9F 16-35 Hijiyama-honmachi, Minami-ku, Hiroshima 732-0816 Japan
TEST REPORT NUMBER	NC300141.1
TEST DATE	16 January & 03 February 2003

According to testing performed at TÜV Product Service Inc, the above-mentioned unit is in compliance with the electromagnetic compatibility requirements defined in FCC Part 15 Subpart C Section 15.231.

It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical characteristics. Any modifications necessary for compliance made during testing on the above mentioned date(s) must be implemented in all production units for compliance to be maintained.

TÜV Product Service Inc, as an independent testing laboratory, declares that the equipment tested as specified above conforms to the requirements of FCC Part 15 Subpart C Section 15.231.

Date: 10 February 2003

Location: Taylors Falls MN USA	G. S. Jakubowski Tested By	J. T. Schneider Reviewed By

Not Transferable

EMC EMISSION - T E S T R E P O R T

Test Report File No.	:	**NC300141.1**	Date of issue:	10 February 2003

Model No.	:	**41846**
Product Type	:	Keyless Entry Transmitter
Applicant	:	Visteon Asia Pacific, Inc.
Address	:	Hiroshima Sangyo Bunka Center 9F
	:	16-35 Hijiyama-honmachi, Minami-ku, Hiroshima 732-0816 Japan
Manufacturer	:	Visteon Electronics Shanghai Plant
Address	:	300 Minolta Road
	:	Songjiang country Shanghai, China 201600
Test Result	:	■ **Positive** ☐ **Negative**
Test Project Number Reference(s)	:	**NC300141.1**
Total pages including Appendices		23

TÜV Product Service Inc is a subcontractor to TÜV Product Service, GmbH according to the principles outlined in ISO/IEC Guide 25 and EN 45001.

TÜV Product Service Inc reports apply only to the specific samples tested under stated test conditions. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. TÜV Product Service Inc shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV Product Service Inc issued reports.

This report is the confidential property of the client. As a mutual protection to our clients, the public and ourselves, extracts from the test report shall not be reproduced except in full without our written approval. This report shall not be used by the client to claim product endorsement by NVLAP or any agency of the US government.

TÜV Product Service Inc and its professional staff hold government and professional organization certifications and are members of AAMI, ACIL, AEA, ANSI, IEEE, NVLAP, and VCCI

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

D I R E C T O R Y - EMISSIONS

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

EMISSIONS TEST REGULATIONS :

The emissions tests were performed according to following regulations:

☐ - EN 50081-1 / 1991

☐ - EN 55011 / 1991 ☐ - Group 1 ☐ - Group 2
☐ - Class A ☐ - Class B

☐ - EN 55013 / 1990

☐ - EN 55014 / 1987 ☐ - Household appliances and similar
☐ - Portable tools
☐ - Semiconductor devices

☐ - EN 55014 / A2:1990

☐ - EN 55014 / 1993 ☐ - Household appliances and similar
☐ - Portable tools
☐ - Semiconductor devices

☐ - EN 55015 / 1987

☐ - EN 55015 / A1:1990

☐ - EN 55015 / 1993

☐ - EN 55022 / 1987 ☐ - Class A ☐ - Class B

☐ - EN 55022 / 1994 ☐ - Class A ☐ - Class B

☐ - BS

☐ - VCCI ☐ - Class A ☐ - Class B

■ - FCC Part 15 Subpart C Section 15.231

☐ - AS 3548 (1992) ☐ - Class A ☐ - Class B

☐ - CISPR 11 (1990) ☐ - Group 1 ☐ - Group 2
☐ - Class A ☐ - Class B

☐ - CISPR 22 (1993) ☐ - Class A ☐ - Class B

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

Environmental conditions in the lab:

	Actual
Temperature	: 22 °C
Relative Humidity	: 25 %
Atmospheric pressure	: 98.3 kPa
Power supply system	: Battery

Sign Explanations:

☐ - not applicable
■ - applicable

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

Emissions Test Conditions: CONDUCTED EMISSIONS (Interference Voltage)

The *CONDUCTED EMISSIONS (INTERFERENCE VOLTAGE)* measurements were performed at the following test location:

■ - Test not applicable

☐ - Wild River Lab Large Test Site (Open Area Test Site)
☐ - Wild River Lab Small Test Site (Open Area Test Site)
☐ - Oakwood Lab (Open Area Test Site)
☐ - Wild River Lab Screen Room
☐ - New Brighton Lab Shielded Room

Emissions Test Conditions: RADIATED EMISSIONS (Magnetic Field)

The *RADIATED EMISSIONS (MAGNETIC FIELD)* measurements were performed at the following test location:

■ - Test not applicable

☐ - Wild River Lab Large Test Site (Open Area Test Site)
☐ - Wild River Lab Small Test Site (Open Area Test Site)
☐ - Oakwood Lab (Open Area Test Site)

Emissions Test Conditions: INTERFERENCE POWER

The *INTERFERENCE POWER* measurements were performed by using the absorbing clamp on the mains and interface cables in the frequency range 30 MHz - 300 MHz at the following test location:

■ - Test not applicable

☐ - Wild River Lab Large Test Site (Open Area Test Site)
☐ - Wild River Lab Small Test Site (Open Area Test Site)
☐ - Oakwood Lab (Open Area Test Site)
☐ - Wild River Lab Screen Room
☐ - New Brighton Lab Shielded Room

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

Emissions Test Conditions: RADIATED EMISSIONS (Electric Field)

The *RADIATED EMISSIONS (ELECTRIC FIELD)* measurements, in the frequency range of 30 MHz-3200 MHz, were tested in a horizontal and vertical polarization at the following test location:

☐ **- Test not applicable**

■ - Wild River Lab Large Test Site (Open Area Test Site) – NSA measurements made 7-02, due 7-03.
☐ - Wild River Lab Small Test Site (Open Area Test Site)
☐ - Oakwood Lab (Open Area Test Site)

at a test distance of :

■ - 3 meters
☐ - 10 meters
☐ - 30 meters

Test equipment used :

	TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
■-	2665	ZHL-1042J	Mini-Circuits	Preamplifier 30-4500 MHz	32296	10-15-03
■ -	3202	EM-6917B	Electro-Metrics	Biconicalog Periodic 30-2000 MHz	102	10-04-03
■-	2690	8566B	Hewlett-Packard	Spectrum Analyzer (Unit F)	2430A00930	12-02-03
■ -	2678	85662A	Hewlett-Packard	Analyzer Display (Unit F)	2403A08134	12-02-03
■ -	2684	85650A	Hewlett-Packard	Quasi-Peak Adapter (Unit F)	2521A01006	11-26-03
■ -	2075	3115	Electro-Mechanics (EMCO)	Ridge Guide Ant. 2-18 GHz	9001-3275	11-13-03
■ -	2477	AFT-8434	Avantek	Preamplifier 4-8 GHz	2613A92801	3-18-03
■ -	3935	F548B-1	Acronetics	Band Pass Filter	010	6-18-03
■ -	3934	F549B-1	Acronetics	Band Pass Filter	010	6-18-03

All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST) and is calibrated annually.

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

Equipment Under Test (EUT) Test Operation Mode - Emission tests :

The device under test was operated under the following conditions during emissions testing:

☐ - Standby

☐ - Test program (H - Pattern)

☐ - Test program (color bar)

☐ - Test program (customer specific)

☐ - Practice operation

☐ - Normal Operating Mode

■ - Constant transmit.

Configuration of the device under test:

☐ - See Constructional Data Form in Appendix B - Page B2

■ - See Product Information Form in Appendix B - beginning on Page B2

The following peripheral devices and interface cables were connected during the measurement:

☐ - _____ Type : _____

☐ - _____ Type : _____

☐ - _____ Type : _____

☐ - _____ Type : _____

☐ - _____ Type : _____

☐ - _____ Type : _____

☐ - _____ Type : _____

☐ - _____ Type : _____

☐ - unshielded power cable

☐ - unshielded cables

☐ - shielded cables MPS.No.: _____

☐ - customer specific cables

☐ - _____

☐ - _____

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

Emission Test Results:

FCC 15.207 - Conducted emissions 10/150 kHz - 30 MHz

The requirements are ☐ - MET ☐ - NOT MET ■ - N/A

Minimum margin of compliance _____ dB at _____ kHz

Maximum margin of non-compliance _____ dB at _____ MHz

Remarks: Battery operated.

FCC 15.231 - Radiated emissions (electric field) 30 MHz - 4400 MHz

The requirements are ■ - MET ☐ - NOT MET

Minimum margin of compliance for fundamental 4 dB at 313.87 MHz [15.231(c)]

Minimum margin of compliance for spurious <1 GHz. 9 dB at 627.6 MHz [15.231(c)]

Minimum margin of compliance for spurious >1 GHz. 10 dB at 1255.21 MHz [15.209]

Remarks: The fundamental was measured to be 70.6 dBuV/m or 3388.4 uV/m (76.6 dBuV/m minus 6 dB duty cycle correction factor) in peak mode compared to a limit of 75.5 dBuV/m (5956.6uV/m). The 627.6 MHz signal was measured to be 45.6 dBuV/m or 190.5 uV/m (51.6 dBuV/m minus 6 dB duty cycle correction factor) in peak mode compared to a limit of 55.5 dBuV/m (595.6 uV/m). At 1255.21 MHz, peak reading of 45.5 dBuV/m or 188.4 uV/m (51.5 dBuV/m minus 6 dB duty cycle correction factor), compared to a limit of 55.5 dBuV/m (595.6 uV/m). The duty cycle correction factor is calculated by 20 log (50/100) or -6 dB, with -6 dB used in the calculation to demonstrate peak compliance.

FCC 15.231 (c) - Emission Bandwidth

The requirements are ■ - MET ☐ - NOT MET

Remarks: The bandwidth of the fundamental must be less than 0.25% of the center frequency, or 784.5 kHz. Page 6 shows the bandwidth to be 275 kHz.

FCC 15.35 (c) – Duty Cycle

The requirements are ■ - MET ☐ - NOT MET

Remarks: Duty cycle declared to be worst case is 50%. So duty cycle calculation is 20 log (50 msec/100 msec) or -6 dB, with -6 dB being used in the calculation to demonstrate peak compliance as well. See pages A7 & A8.

FCC 15.231 (a) – Signal Deactivation

The requirements are ■ - MET ☐ - NOT MET

Remarks: The duration of the transmission is 314 milliseconds.

DEVIATIONS FROM STANDARD:

None.

GENERAL REMARKS:

SUMMARY:

The requirements according to the technical regulations are

■ - met

☐ - **not** met.

The device under test does

■ - fulfill the general approval requirements mentioned on page 3.

☐ - **not** fulfill the general approval requirements mentioned on page 3.

Testing Start Date: 16 January 2003

Testing End Date: 03 February 2003

- TÜV PRODUCT SERVICE INC -

J. T. Schneider
Reviewed By

Tested By:
G. S. Jakubowski

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

Test-setup photo(s):
Radiated emission 30 MHz – 3.2 GHz - Transmitter

See Test-Setup Exhibit

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

Appendix A

Test Data Sheets

and

Test Setup Drawing(s)

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

TEST SETUP FOR EMISSIONS TESTING

WILD RIVER LAB
Large Test Site

See Test-Setup Exhibit

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

Radiated Electromagnetic Emissions

TÜV PRODUCT SERVICE

Test Report #:	**0141 Run 03**	Test Area:	LTS 3m		
Test Method:	FCC 15.231	Test Date:	03-Feb-2003		
EUT Model #:	41846	EUT Power:	Internal DC		
EUT Serial #:				Temperature:	22 °C
Manufacturer:	VISTEON ASIA PACIFIC INC			Relative Humidity:	25 %
EUT Description:	Transmitter			Air Pressure:	98.3 kPa
Notes:	Duty cycle is 50%, duty cycle correction factor = -6 dB			Page:	1 of 3

FREQ (MHz)	LEVEL (dBuV)	CABLE / ANT / PREAMP (dB) (dB/m) (dB)	FINAL (dBuV/m)	POL / HGT / AZ (m) (DEG)	FINAL w/duty cycle correction factor (dBuV/m)	15.231 limit (dBuV/m)
Antenna: LTS Bilog 3M SN 102						
All measurements maximized						
EUT on its back						
313.87	61.6 Pk	1.6 / 13.3 / 0.0	76.6	H / 1.0 / 306.0	70.6	75.5
EUT upright						
313.87	58.5 Pk	1.6 / 13.3 / 0.0	73.4	V / 1.8 / 265.0	67.4	75.6
EUT on its side						
313.87	58.0 Pk	1.6 / 13.3 / 0.0	72.9	V / 1.9 / 265.0	66.9	75.5
Following measurements with EUT on its back						
PreAmp: LTS Preamp ID 2665						
313.88	89.2 Pk	1.6 / 13.3 / 28.2	75.9	H / 1.0 / 306.0	69.9	75.5
627.60	57.2 Pk	2.3 / 20.1 / 28.0	51.6	H / 1.2 / 93.0	45.6	55.5
941.40	45.6 Pk	2.9 / 23.6 / 27.7	44.3	H / 1.4 / 79.0	38.3	55.5
1-2GHz BPF						
1255.21	51.2 Pk	3.2 / 24.9 / 27.8	51.5	H / 1.2 / 220.0	45.5	55.5
1569.02	40.0 Pk	3.7 / 26.8 / 28.1	42.3	V / 1.1 / 313.0	36.3	54.0
1882.83	44.6 Pk	4.0 / 28.6 / 27.7	49.5	V / 1.0 / 97.0	43.5	55.5

Tested by: G Jakubowski

Printed | Signature

Reviewed by: T. K. Swanson

Printed | Signature

Radiated Electromagnetic Emissions

Test Report #:	**0141 Run 03**	Test Area:	LTS 3m		
Test Method:	FCC 15.231	Test Date:	03-Feb-2003		
EUT Model #:	41846	EUT Power:	Internal DC		
EUT Serial #:				Temperature:	22 °C
Manufacturer:	VISTEON ASIA PACIFIC INC			Relative Humidity:	25 %
EUT Description:	Transmitter			Air Pressure:	98.3 kPa
Notes:	Duty cycle is 50%, duty cycle correction factor = -6 dB			Page:	2 of 3

FREQ (MHz)	LEVEL (dBuV)	CABLE / ANT / PREAMP (dB) (dB/m) (dB)	FINAL (dBuV/m)	POL / HGT / AZ (m) (DEG)	FINAL w/duty cycle correction factor (dBuV/m)	15.231 limit (dBuV/m)
2-4GHz BPF						
Antenna: LTS Horn ID# 2075						
2196.63	38.5 Pk	4.4 / 30.0 / 27.4	45.5	V / 1.3 / 106.0	39.5	55.5
2510.44	35.4 Pk	4.6 / 30.7 / 27.4	43.3	H / 1.0 / 75.0	37.3	55.5
2824.25	32.8 Pk	5.0 / 31.3 / 27.6	41.6	H / 1.6 / 41.0	35.6	54.0
3138.05	28.9 Pk	5.3 / 32.1 / 27.6	38.6	H / 1.2 / 41.0	32.6	55.5

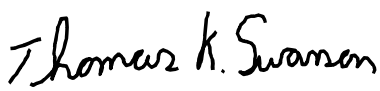
Tested by: G Jakubowski

Printed

Signature

Reviewed by: T. K. Swanson

Printed



Signature

Radiated Electromagnetic Emissions

Test Report #:	**0141 Run 03**	Test Area:	LTS 3m			
Test Method:	FCC 15.231	Test Date:	03-Feb-2003			
EUT Model #:	41846	EUT Power:	Internal DC			
EUT Serial #:				Temperature:	22	°C
Manufacturer:	VISTEON ASIA PACIFIC INC			Relative Humidity:	25	%
EUT Description:	Transmitter			Air Pressure:	98.3	kPa
Notes:	Duty cycle is 50%, duty cycle correction factor = -6 dB			Page:	3 of 3	

FREQ (MHz)	LEVEL (dBuV)	CABLE / ANT / PREAMP (dB) (dB/m) (dB)	FINAL (dBuV/m)	POL / HGT / AZ (m) (DEG)	FINAL w/duty cycle correction factor (dBuV/m)	15.231 limit (dBuV/m)
********** **MEASUREMENT SUMMARY** **********						
313.87	61.6 Pk	1.6 / 13.3 / 0.0	76.6	H / 1.0 / 306.0	70.6	75.5
627.60	57.2 Pk	2.3 / 20.1 / 28.0	51.6	H / 1.2 / 93.0	45.6	55.5
941.40	45.6 Pk	2.9 / 23.6 / 27.7	44.3	H / 1.4 / 79.0	38.3	55.5
1255.21	51.2 Pk	3.2 / 24.9 / 27.8	51.5	H / 1.2 / 220.0	45.5	55.5
1569.02	40.0 Pk	3.7 / 26.8 / 28.1	42.3	V / 1.1 / 313.0	36.3	54.0
1882.83	44.6 Pk	4.0 / 28.6 / 27.7	49.5	V / 1.0 / 97.0	43.5	55.5
2196.63	38.5 Pk	4.4 / 30.0 / 27.4	45.5	V / 1.3 / 106.0	39.5	55.5
2510.44	35.4 Pk	4.6 / 30.7 / 27.4	43.3	H / 1.0 / 75.0	37.3	55.5
2824.25	32.8 Pk	5.0 / 31.3 / 27.6	41.6	H / 1.6 / 41.0	35.6	54.0
3138.05	28.9 Pk	5.3 / 32.1 / 27.6	38.6	H / 1.2 / 41.0	32.6	55.5

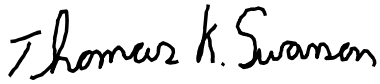
Tested by: G Jakubowski

Printed

Signature

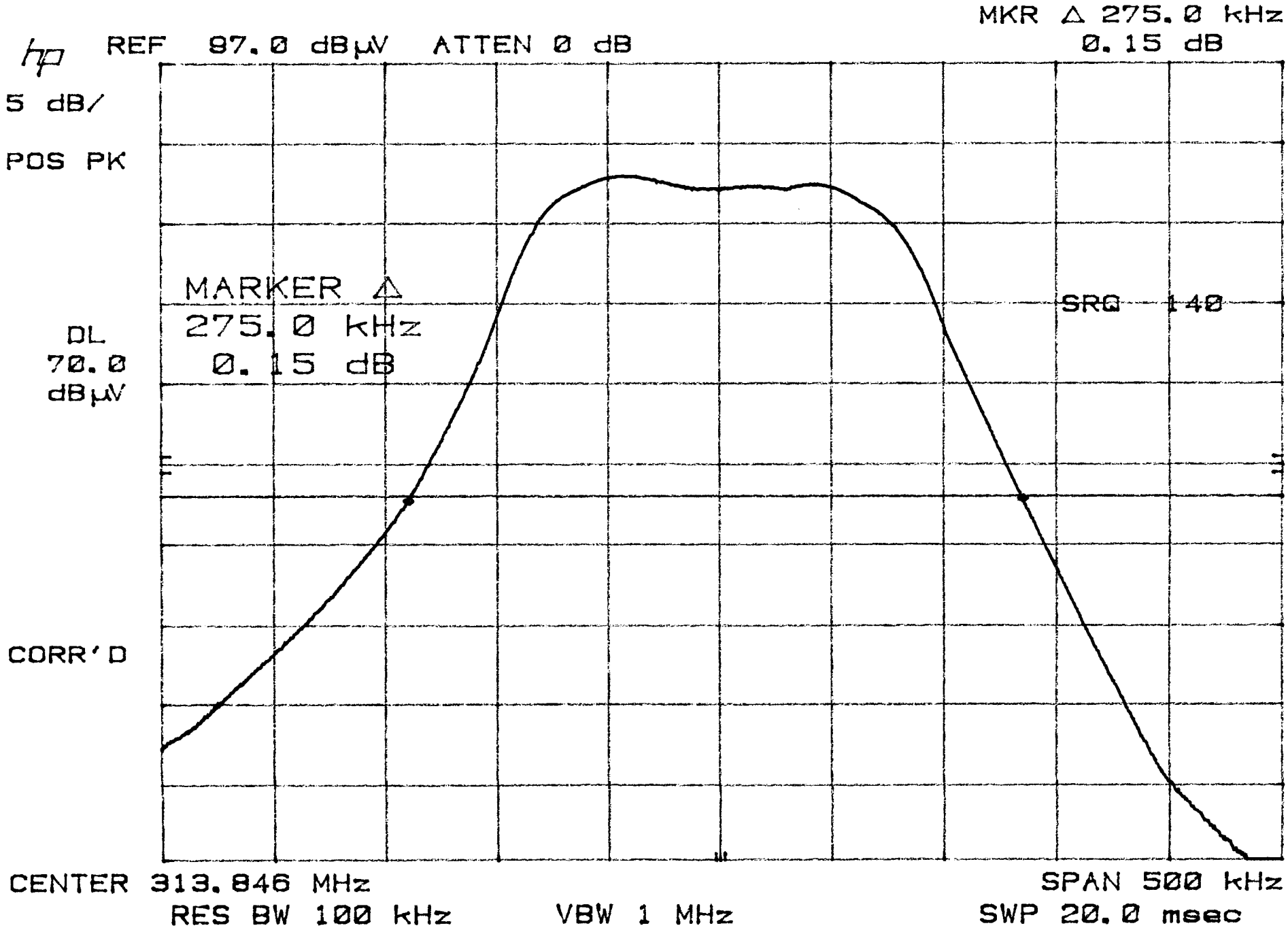
Reviewed by: T. K. Swanson

Printed



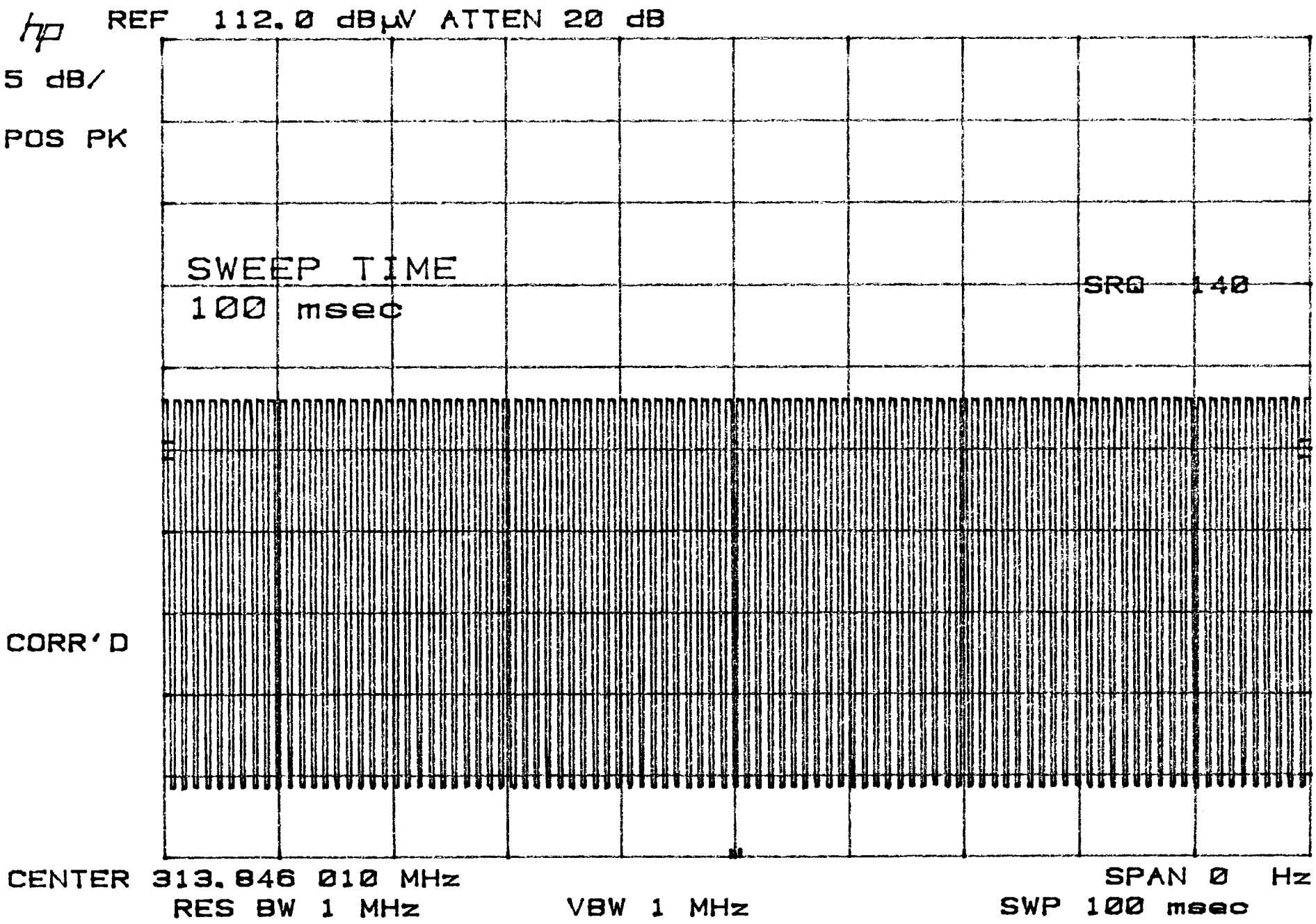
Signature

FCC 15.231(c) Emission Bandwidth

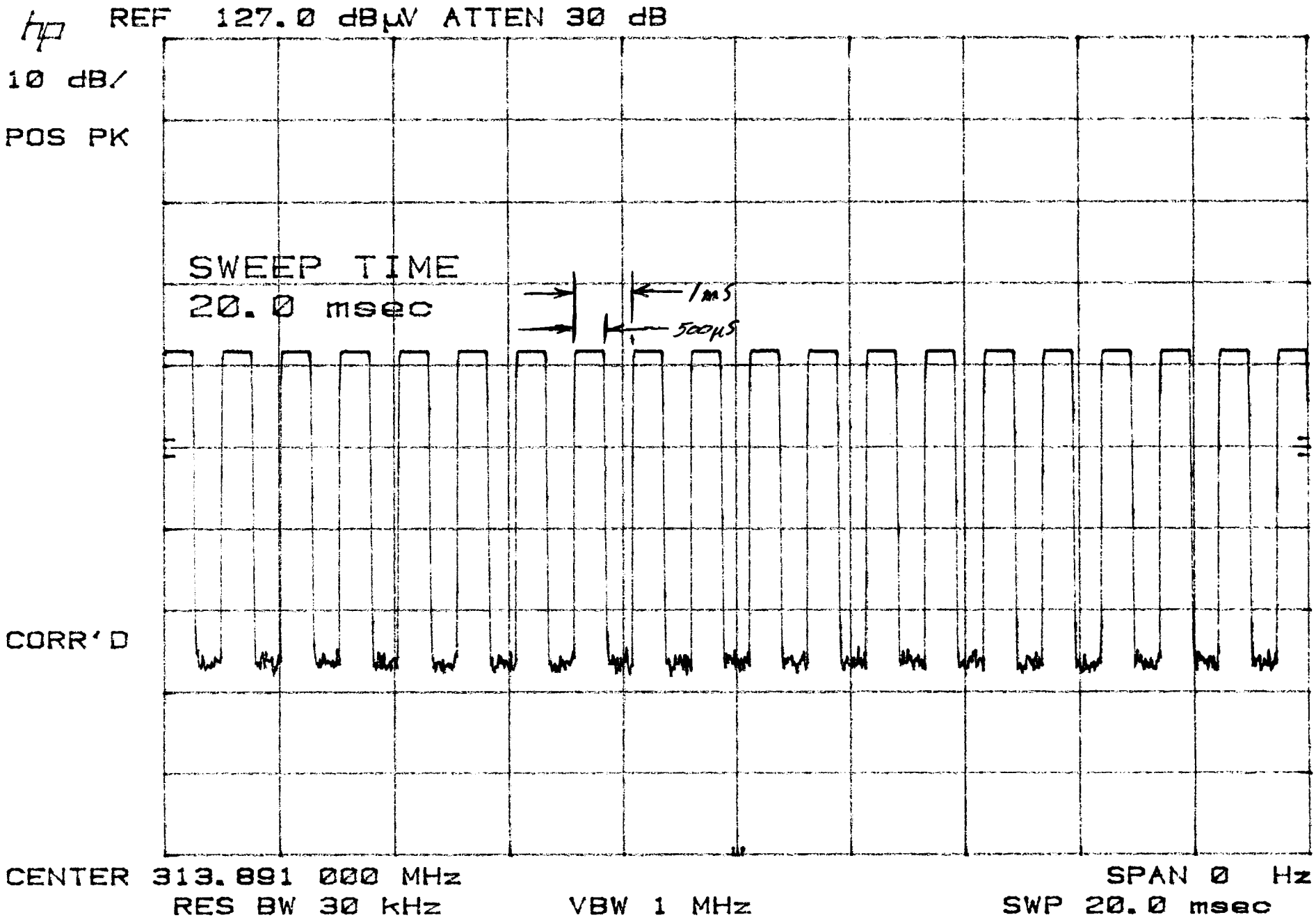


NC300141
Visteon Asia Pacific, mn:41846 Transmitter
03 February, 2003 G Jakubowski

FCC 15.35(c) Duty Cycle



FCC 15.35(c) Duty Cycle



Appendix B

Constructional Data Form

And/or

Product Information Form

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

3. Transmitter (41846)

3-1. Model Name:

Transmitter

3-2. Product Number:

41846

3-4. System Description

Transmitter contains of 3 buttons.

- Door Lock button
- Door Unlock button
- Panic Alarm button

There is no difference among LOCK, UNLOCK and PANIC conditions regarding the electrical and mechanical function of a transmitter. Also there is no difference on each condition regarding the frequency of radiated emissions. The only difference is a transmission code.

Transmitter operation with a lithium battery (: CR2025)

Radio frequency Oscillator: Carrier: 313.85 MHz
Frequency Modulation: 40 kHz

Appendix C

MEASUREMENT PROTOCOL

GENERAL INFORMATION

Measurement Uncertainty

The test system for conducted emissions is defined as the LISN, tuned receiver or spectrum analyzer, and coaxial cable. The test system for radiated emissions is defined as the antenna, the pre-amplifier, the spectrum analyzer and the coaxial cable. These test systems have a measurement uncertainty of ±4.5 dB. The equipment comprising the test systems are calibrated on an annual basis.

Justification

The Equipment Under Test (EUT) is configured in a typical user arrangement in accordance with the manufacturer's instructions. A cable is connected to each available port and either terminated with a peripheral into it's characteristic impedance or left unterminated. When appropriate, the cables are manually manipulated with respect to each other to obtain maximum emissions from the unit.

CONDUCTED EMISSIONS

The final level, expressed in dBµV, is arrived at by taking the reading directly from the EMI receiver. This level is compared directly to the FCC limit.

To convert between dBµV and µV, the following conversions apply:

dBµV = 20(log µV)
µV = Inverse log(dBµV/20)

RADIATED EMISSIONS

The final level, expressed in dBµV/m, is arrived at by taking the reading from the spectrum analyzer (Level dBµV), adding the antenna correction factor and cable loss factor (Factor dB) to it, then subtracting the preamp gain. This result then has the FCC limit subtracted from it to provide the Delta which gives the tabular data as shown in the data sheets in Attachment A.

Example:

FREQ (MHz)	LEVEL (dBuV)		CABLE/ANT/PREAMP (dB)		(dB)	FINAL (dBuV/m)		POL/HGT/AZ (m)	(deg)		DELTA1 LIMIT
60.80	42.5Qp	+	1.2	+ 10.9	- 25.5 =	29.1		V 1.0	0.0	-	-10.9

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

DETAILS OF TEST PROCEDURES

General Standard Information

The test methods used comply with ANSI C63.4-1992 - "Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz."

Conducted Emissions

Conducted emissions on the 60 Hz power interface of the EUT are measured in the frequency range of 150 kHz to 30 MHz. The measurements are performed using a receiver, which has CISPR characteristic bandwidth and quasi-peak detection, and a Line Impedance Stabilization Network (LISN), with 50 Ω/50 μH (CISPR 16) characteristics. Table top equipment is placed on a non-conducting table 80 centimeters above the floor and is positioned 40 centimeters from the vertical ground plane (wall) of the screen room. In some cases, a pre-scan using a spectrum analyzer is initially performed on the units comprising the system under test to locate the highest emissions. If the minimum passing margin appears to be less than 20 dB with a peak mode measurement, the emissions are re-measured using a tuned receiver or spectrum analyzer with quasi-peak and average detection and recorded on the data sheets.

Radiated Emissions

Radiated emissions from the EUT are measured in the frequency range of 30 to 3200 MHz using a spectrum analyzer and appropriate broadband linearly polarized antennas. Measurements between 30 MHz and 1000 MHz are made with 120 kHz/6 dB bandwidth and quasi-peak detection and measurements above 1000 MHz are made with a 1 MHz/6 dB bandwidth and average detection. Table top equipment is placed on a 1.0 X 1.5 meter non-conducting table 80 centimeters above the ground plane. Floor standing equipment is placed directly on the turntable/ground plane. Interface cables that are closer than 40 centimeters to the ground plane are bundled in the center in a serpentine fashion so they are at least 40 centimeters from the ground plane. Cables to simulators/testers (if used in this test) are routed through the center of the table and to a screen room located outside the test area. The antenna is positioned 3 meters horizontally from the EUT. To locate maximum emissions from the test sample the antenna is varied in height from 1 to 4 meters, measurement scans are made with both horizontal and vertical antenna polarizations and the EUT are rotated 360 degrees. Intentional radiators are rotated through three orthogonal axes to determine the attitude that maximizes the emissions.

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0