TEST RESULT SUMMARY

FCC Part 15 Subpart C Section 15.249
Industry Canada RSS-210 Issue 7 Section A2.9
Industry Canada RSS-Gen Issue 1 Sections 4.4.1

MANUFACTURER	Select Comfort Corporation
NAME OF EQUIPMENT	RFCS - Wireless hand control
MODEL NUMBER	**XX-YR**
MANUFACTURER'S ADDRESS	6105 Trenton Ln N Minneapolis MN 55442
TEST REPORT NUMBER	WC705782.2 Rev A
TEST DATES	28 & 29 August, 29 September 2007

According to testing performed at TÜV America Inc, the above-mentioned unit is in compliance with the electromagnetic compatibility (EMC) portions of the requirements defined in FCC Part 15 Subpart C Section 15.249 and IC RSS-210 Issue 7 Section A2.9

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 America Inc, as an independent testing laboratory, declares that the equipment tested as specified above conforms to the EMC requirements of FCC Part 15 Subpart C "Intentional radiators" Sections 15.249 "Operation within the bands 902–928 MHz, 2400–2483.5 MHz, 5725–5875 MHZ, and 24.0–24.25 GHz." and 15.207 "Conducted limits" and IC RSS-210 Issue 7 "Low-power License-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment" Section A2.9 "902-928, 2400-2483.5 and 5725-5875 MHz" and RSS-Gen Issue 1 "General Requirements and Information for the Certification of Radiocommunication Equipment" Sections 4.4.1 "Occupied Bandwidth".

Date: 01 November 2007

Location: Taylors Falls MN
USA

Thomas K. Swanson
Tom K Swanson
Senior EMC Technician

Susan L Rupp
Susan L Rupp
EMC Technical Writer

Not Transferable

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

Test Report File No.	:	**WC705782.2 Rev A**	Date of issue:	01 November 2007

Model / Serial No.	:	**XX-YR / 002**
Product Name	:	RFCS - Wireless hand control
Applicant	:	Select Comfort Corporation
Manufacturer	:	Select Comfort Corporation
Address	:	6105 Trenton Ln N Minneapolis MN 55442

Test Result	:	■ **Positive**	☐ **Negative**
Test Project Number Reference(s)	:	**WC705782.2 Rev A**	
Total pages including Appendices		**45**	

TÜV America 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 America Inc shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV America Inc issued reports.

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

TÜV AMERICA INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 120505

REVISION RECORD

REVISION	TOTAL NUMBER OF PAGES	DATE	DESCRIPTION
	44	24 October 2007	Initial Release
A	45	01 November 2007	Revisions include: ▪ Added setup photo showing antenna.

D I R E C T O R Y

Sign Explanations:
☐ - not applicable
■ - applicable

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EMISSIONS TEST REGULATIONS :

The emissions tests were performed according to following regulations:

- ■ - FCC Part 15 Subpart C
- ■ - IC RSS-210 Issue 7
- ■ - IC RSS-Gen Issue 1

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Field strength of fundamental
FCC 15.249(a), IC RSS-210 A2.9

Test summary
The requirements are: ■ - MET ☐ - NOT MET
Maximum field strength (peak) measured at a 3 meter distance = 0.086 mV/m (38.7 dBμV/m) at 2425.0 MHz
Minimum margin of compliance is 55 dB

The duty cycle correction factor is calculated by 20 log (.660/100) or -43.6 dB. This correction factor has been added to the final measurement levels. See pages 9-10 (duty cycle plot).

Measurements were made on the lowest, mid and highest channel, per Section 15.31, cw mode.

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

Test equipment

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
2075	3115	EMCO	Ridge Guide Ant. 1-18 GHz	9001-3275	12-Jan-08
3294	8566B	Hewlett-Packard	Spectrum Analyzer	2349A03098	16-May-08
3295	85662A	Hewlett-Packard	Analyzer Display	2349A06144	16-May-08
2681	85650A	Hewlett-Packard	Quasi-Peak Adapter	2430A00562	23-Mar-08
10527	SL18B4020	Phase One Microwave	Preamplifier 1 – 18 GHz	0001	Code B

Cal Code B = Calibration verification performed internally. Cal Code Y = Calibration not required when used with other calibrated equipment.

Test limits at 3 meters

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902–928 MHz	50	500
2400–2483.5 MHz	50	500
5725–5875 MHz	50	500
24.0–24.25 GHz	250	2500

The average limit at 2425 MHz = 50 mV/m (94 dBμV/m)
The peak limit at 2425 MHz = 5.01 mV/m (74 dBμV/m)

Test data
See run 4 data pages 5 - 8

TÜV AMERICA INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 120505

RADIATED EMISSIONS

Test Report #:	WC705782 Run 4	Test Area:	LTS		
EUT Model #:	RFCSXX-YY	Date:	8/29/2007		
EUT Serial #:		EUT Power:	60Hz/120VAC	Temperature:	20.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Select Comfort			Rel. Humidity:	74.0 %
EUT Description:	Pegasus Pump Hand Control - Wireless				
Notes:	Transmitter				
Data File Name:	5782.dat			Page:	1 of 4

List of measurements for run #: 4

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / Duty Cycle Factor (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC 15.249 Fundamental Average	DELTA2 FCC 15.249 Harmonic Peak
High Channel						
Lying flat on Back						
2.48 GHz	91.55 Pk	5.05 / 29.11 / 43.62 / -43.6	38.49	V / 1.00 / 0	-55.51*	n/a
4.959 GHz	61.15 Pk	7.65 / 33.12 / 43.66 / -43.6	14.66	V / 1.70 / 5	n/a	-59.34*
2.48 GHz	91.85 Pk	5.05 / 29.11 / 43.62 / -43.6	38.79	H / 1.40 / 0	-55.21*	n/a
4.959 GHz	61.3 Pk	7.65 / 33.12 / 43.66 / -43.6	14.81	H / 1.90 / 40	n/a	-59.19*
7.439 GHz	61.65 Pk	9.89 / 36.32 / 43.12 / -43.6	21.15	H / 1.20 / 0	n/a	-52.85*
7.439 GHz	59.35 Pk	9.89 / 36.32 / 43.12 / -43.6	18.85	V / 1.30 / 0	n/a	-55.15*
9.922 GHz	56.9 Pk	13.15 / 37.91 / 41.94 / -43.6	22.41	V / 1.50 / 270	n/a	-51.59*
9.922 GHz	63.0 Pk	13.15 / 37.91 / 41.94 / -43.6	28.51	H / 1.30 / 30	n/a	-45.49*
End of scan on High Channel 30 MHz to 25 GHz						
Mid Channel						
2.425 GHz	76.5 Pk	5.02 / 28.99 / 43.4 / -43.6	23.51	H / 1.30 / 0	-70.49*	- n/a
2.425 GHz	71.75 Pk	5.02 / 28.99 / 43.4 / -43.6	18.76	V / 1.00 / 0	-75.24*	n/a
4.851 GHz	57.25 Pk	7.62 / 32.9 / 43.6 / -43.6	10.57	V / 1.00 / 0	n/a	-63.43*

Tested by: T. K. Swanson (Printed) — Thomas K. Swanson (Signature)

Reviewed by: S. L. Rupp (Printed) — Susan L Rupp (Signature)

RADIATED EMISSIONS

Test Report #:	WC705782 Run 4	Test Area:	LTS		
EUT Model #:	RFCSXX-YY	Date:	8/29/2007		
EUT Serial #:		EUT Power:	60Hz/120VAC	Temperature:	20.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Select Comfort			Rel. Humidity:	74.0 %
EUT Description:	Pegasus Pump Hand Control - Wireless				
Notes:	Transmitter				
Data File Name:	5782.dat			Page:	2 of 4

List of measurements for run #: 4

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / Duty Cycle Factor (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC 15.249 Fundamental Average	DELTA2 FCC 15.249 Harmonic Peak
7.277 GHz	60.25 Pk	9.74 / 36.11 / 43.15 / -43.6	19.35	V / 1.00 / 0	n/a	-54.65*
4.851 GHz	61.05 Pk	7.62 / 32.9 / 43.6 / -43.6	14.37	H / 1.50 / 0	n/a	-59.63*
7.277 GHz	55.1 Pk	9.74 / 36.11 / 43.15 / -43.6	14.2	H / 1.00 / 0	n/a	-59.8*
9.702 GHz	51.15 Pk	12.76 / 37.77 / 42.1 / -43.6	15.98	V / 1.00 / 0	n/a	-58.02*
9.702 GHz	56.55 Pk	12.76 / 37.77 / 42.1 / -43.6	21.38	H / 1.50 / 0	n/a	-52.62*
End of scan on mid channel 30 MHz to 25 GHz						
Low Channel						
2.405 GHz	79.1 Pk	5.01 / 28.95 / 43.47 / -43.6	25.99	H / 1.00 / 0	-68.01*	n/a
4.811 GHz	60.15 Pk	7.61 / 32.82 / 43.55 / -43.6	13.43	V / 1.00 / 0	n/a	-60.57*
4.811 GHz	62.15 Pk	7.61 / 32.82 / 43.55 / -43.6	15.43	H / 1.50 / 0	n/a	-58.57*
7.216 GHz	55.9 Pk	9.67 / 36.04 / 43.12 / -43.6	14.89	H / 1.50 / 0	n/a	-59.11*
7.217 GHz	56.5 Pk	9.67 / 36.04 / 43.12 / -43.6	15.49	V / 1.50 / 0	n/a	-58.51*
9.622 GHz	48.5 Pk	12.62 / 37.72 / 42.12 / -43.6	13.12	V / 1.00 / 0	n/a	-60.88*
9.622 GHz	49.5 Pk	12.62 / 37.72 / 42.12 / -43.6	14.12	H / 1.50 / 0	n/a	-59.88*

Tested by: T. K. Swanson (Printed) — Thomas K. Swanson (Signature)

Reviewed by: S. L. Rupp (Printed) — Susan L Rupp (Signature)

RADIATED EMISSIONS

Test Report #:	WC705782 Run 4	Test Area:	LTS		
EUT Model #:	RFCSXX-YY	Date:	8/29/2007		
EUT Serial #:		EUT Power:	60Hz/120VAC	Temperature:	20.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Select Comfort			Rel. Humidity:	74.0 %
EUT Description:	Pegasus Pump Hand Control - Wireless				
Notes:	Transmitter				
Data File Name:	5782.dat			Page:	3 of 4

List of measurements for run #: 4

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / Duty Cycle Factor (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC 15.249 Fundamental Average	DELTA2 FCC 15.249 Harmonic Peak
2.405 GHz	66.0 Pk	5.01 / 28.95 / 43.47 / -43.6	12.89	V / 1.50 / 0	-81.11*	n/a
End of scan 30 MHz to 25 GHz						

Measurement summary for limit1: 15.249 2.4 GHz (Av)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / Duty Cycle Factor (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC 15.249 Fundamental Average
2.48 GHz	91.85 Pk	5.05 / 29.11 / 43.62 / -43.6	38.79	H / 1.40 / 0	-55.21*
2.425 GHz	76.5 Pk	5.02 / 28.99 / 43.4 / -43.6	23.51	H / 1.30 / 0	-70.49*
2.405 GHz	79.1 Pk	5.01 / 28.95 / 43.47 / -43.6	25.99	H / 1.00 / 0	-68.01*
2.405 GHz	66.0 Pk	5.01 / 28.95 / 43.47 / -43.6	12.89	V / 1.50 / 0	-81.11*

Tested by: T. K. Swanson (Printed) Thomas K. Swanson (Signature)

Reviewed by: S. L. Rupp (Printed) Susan L Rupp (Signature)

RADIATED EMISSIONS

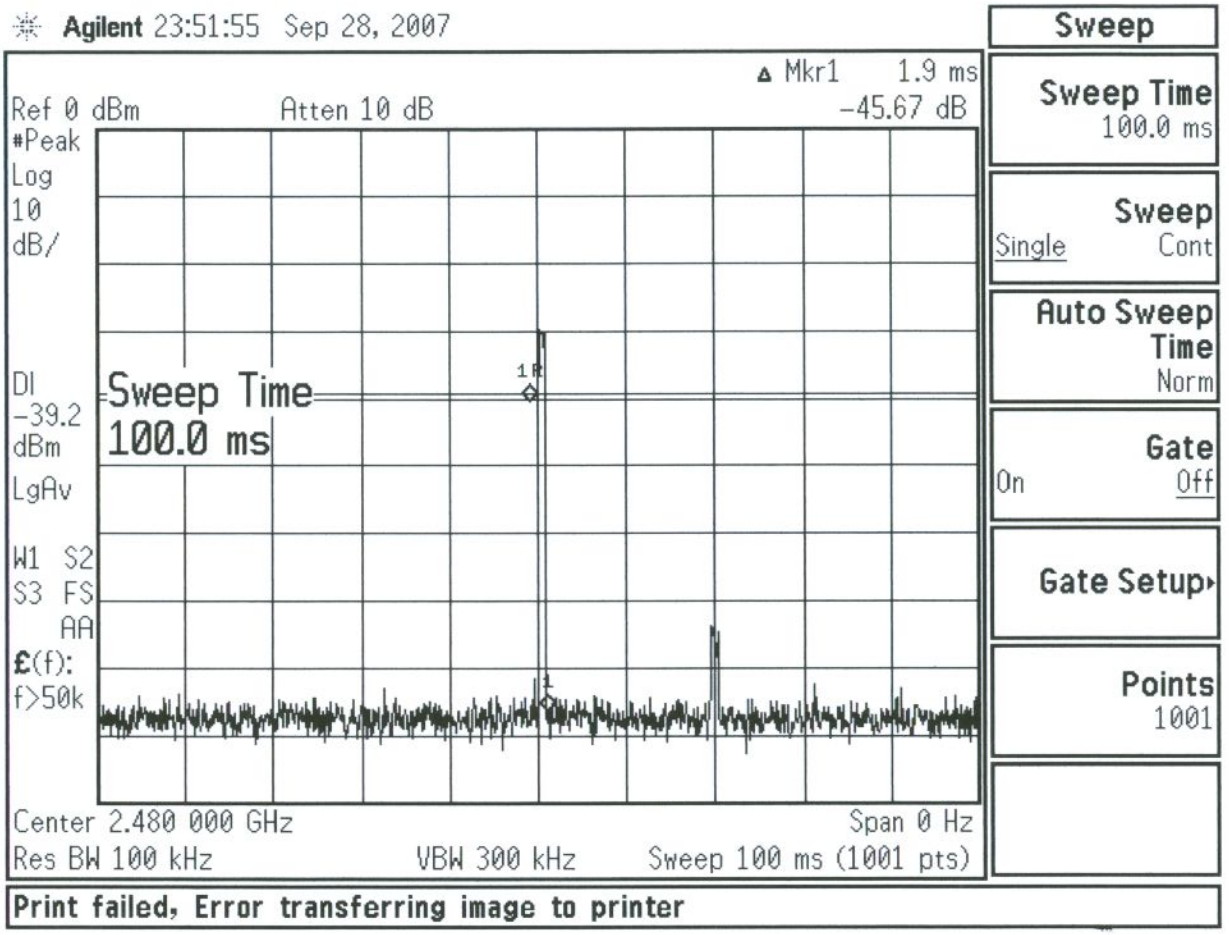
Test Report #:	WC705782 Run 4	Test Area:	LTS		
EUT Model #:	RFCSXX-YY	Date:	8/29/2007		
EUT Serial #:		EUT Power:	60Hz/120VAC	Temperature:	20.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Select Comfort			Rel. Humidity:	74.0 %
EUT Description:	Pegasus Pump Hand Control - Wireless				
Notes:	Transmitter				
Data File Name:	5782.dat			Page:	4 of 4

Measurement summary for limit2: 15.249 Harmonic (Peak)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / Duty Cycle Factor (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA2 FCC 15.249 Harmonic Peak
4.959 GHz	61.3 Pk	7.65 / 33.12 / 43.66 / -43.6	14.81	H / 1.90 / 40	-59.19*
7.439 GHz	61.65 Pk	9.89 / 36.32 / 43.12 / -43.6	21.15	H / 1.20 / 0	-52.85*
9.922 GHz	63.0 Pk	13.15 / 37.91 / 41.94 / -43.6	28.51	H / 1.30 / 30	-45.49*
4.851 GHz	61.05 Pk	7.62 / 32.9 / 43.6 / -43.6	14.37	H / 1.50 / 0	-59.63*
7.277 GHz	60.25 Pk	9.74 / 36.11 / 43.15 / -43.6	19.35	V / 1.00 / 0	-54.65*
9.702 GHz	56.55 Pk	12.76 / 37.77 / 42.1 / -43.6	21.38	H / 1.50 / 0	-52.62*
4.811 GHz	62.15 Pk	7.61 / 32.82 / 43.55 / -43.6	15.43	H / 1.50 / 0	-58.57*
7.216 GHz	55.9 Pk	9.67 / 36.04 / 43.12 / -43.6	14.89	H / 1.50 / 0	-59.11*
7.217 GHz	56.5 Pk	9.67 / 36.04 / 43.12 / -43.6	15.49	V / 1.50 / 0	-58.51*
9.622 GHz	49.5 Pk	12.62 / 37.72 / 42.12 / -43.6	14.12	H / 1.50 / 0	-59.88*

Tested by: T. K. Swanson (Printed) Thomas K. Swanson (Signature)

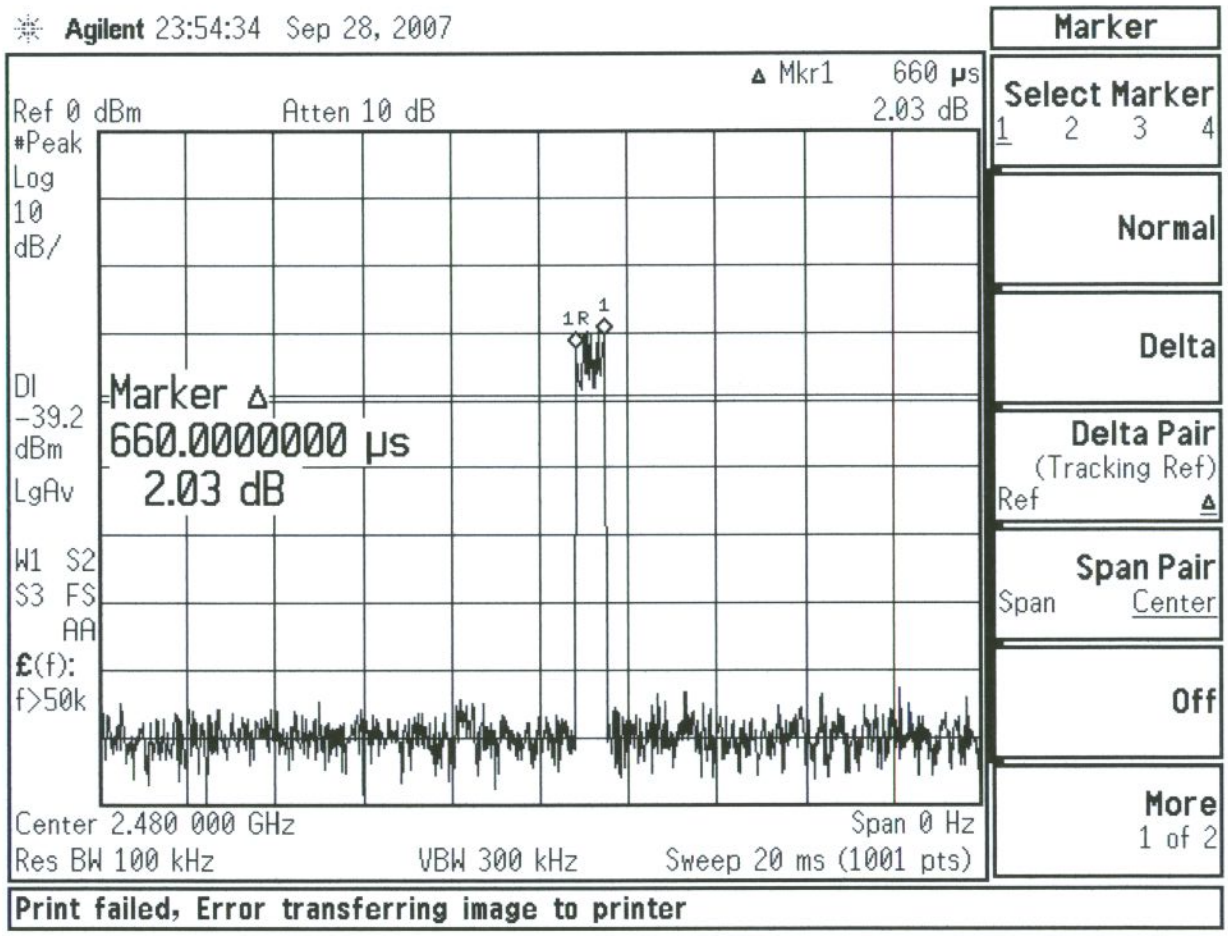
Reviewed by: S. L. Rupp (Printed) Susan L Rupp (Signature)



duty cycle - Select Comfort handheld xmtr

660µs/100msec

same for base



duty cycle - Select Comfort handheld xmtr

- same for base

Field strength of harmonics
FCC 15.249(a), IC RSS-210 A2.9

Test summary
The requirements are: ■ - MET ☐ - NOT MET

Maximum peak measurement is 28.51 dBμV/m at 9.922 GHz
Minimum peak margin of compliance is 45 dB

The duty cycle correction factor is calculated by 20 log (.660/100) or -43.6 dB. , This correction factor has been added to the final measurement levels. See pages 9-10 (duty cycle plot).

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

Test equipment

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
2075	3115	Electro-Mechanics (EMCO)	Ridge Guide Ant. 1-18 GHz	9001-3275	12-Jan-08
3847	ZHL-1042J	Mini-Circuits	Preamplifier 10 - 3000 MHz	0607	Code B
3958	SL18B4020	Phase One Microwave	Preamplifier 1 – 18 GHz	0002	Code B
2684	85650A	Hewlett-Packard	Quasi-Peak Adapter	2521A01006	28-Mar-08
2690	8566B	Hewlett-Packard	Spectrum Analyzer	2430A00930	07-Jun-08
2673	85662A	Hewlett-Packard	Analyzer Display	2152A03687	07-Jun-08
3371	E4440A	Agilent	Spectrum Analyzer	MY43362222	29 Nov 07
3978	SL26-3010	Phase One Microwave	Amplifier 18-26.5 GHz	0005	26 Mar 08
6717	3116	EMCO	Ridge Guide Ant 18-40 GHz	2005	05 Oct 07

Cal Code B = Calibration verification performed internally.

Test limits

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902–928 MHz	50	500
2400–2483.5 MHz	50	500
5725–5875 MHz	50	500
24.0–24.25 GHz	250	2500

The average limit at 9922 MHz = 500 μV/m (54 dBμV/m)
The peak limit at 9922 MHz = 5 mV/m (74 dBμV/m)

Test data
See run 4 data on pages 12 – 15.

RADIATED EMISSIONS

Test Report #:	WC705782 Run 4	Test Area:	LTS		
EUT Model #:	RFCSXX-YY	Date:	8/29/2007		
EUT Serial #:		EUT Power:	60Hz/120VAC	Temperature:	20.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Select Comfort			Rel. Humidity:	74.0 %
EUT Description:	Pegasus Pump Hand Control - Wireless				
Notes:	Transmitter				
Data File Name:	5782.dat			Page:	1 of 4

List of measurements for run #: 4

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / Duty Cycle Factor (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC 15.249 Fundamental Average	DELTA2 FCC 15.249 Harmonic Peak
High Channel						
Lying flat on Back						
2.48 GHz	91.55 Pk	5.05 / 29.11 / 43.62 / -43.6	38.49	V / 1.00 / 0	-55.51*	n/a
4.959 GHz	61.15 Pk	7.65 / 33.12 / 43.66 / -43.6	14.66	V / 1.70 / 5	n/a	-59.34*
2.48 GHz	91.85 Pk	5.05 / 29.11 / 43.62 / -43.6	38.79	H / 1.40 / 0	-55.21*	n/a
4.959 GHz	61.3 Pk	7.65 / 33.12 / 43.66 / -43.6	14.81	H / 1.90 / 40	n/a	-59.19*
7.439 GHz	61.65 Pk	9.89 / 36.32 / 43.12 / -43.6	21.15	H / 1.20 / 0	n/a	-52.85*
7.439 GHz	59.35 Pk	9.89 / 36.32 / 43.12 / -43.6	18.85	V / 1.30 / 0	n/a	-55.15*
9.922 GHz	56.9 Pk	13.15 / 37.91 / 41.94 / -43.6	22.41	V / 1.50 / 270	n/a	-51.59*
9.922 GHz	63.0 Pk	13.15 / 37.91 / 41.94 / -43.6	28.51	H / 1.30 / 30	n/a	-45.49*
End of scan on High Channel 30 MHz to 25 GHz						
Mid Channel						
2.425 GHz	76.5 Pk	5.02 / 28.99 / 43.4 / -43.6	23.51	H / 1.30 / 0	-70.49*	- n/a
2.425 GHz	71.75 Pk	5.02 / 28.99 / 43.4 / -43.6	18.76	V / 1.00 / 0	-75.24*	n/a
4.851 GHz	57.25 Pk	7.62 / 32.9 / 43.6 / -43.6	10.57	V / 1.00 / 0	n/a	-63.43*

Tested by: T. K. Swanson (Printed) — Thomas K. Swanson (Signature)

Reviewed by: S. L. Rupp (Printed) — Susan L Rupp (Signature)

RADIATED EMISSIONS

Test Report #:	WC705782 Run 4	Test Area:	LTS		
EUT Model #:	RFCSXX-YY	Date:	8/29/2007		
EUT Serial #:		EUT Power:	60Hz/120VAC	Temperature:	20.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Select Comfort			Rel. Humidity:	74.0 %
EUT Description:	Pegasus Pump Hand Control - Wireless				
Notes:	Transmitter				
Data File Name:	5782.dat			Page:	2 of 4

List of measurements for run #: 4

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / Duty Cycle Factor (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC 15.249 Fundamental Average	DELTA2 FCC 15.249 Harmonic Peak
7.277 GHz	60.25 Pk	9.74 / 36.11 / 43.15 / -43.6	19.35	V / 1.00 / 0	n/a	-54.65*
4.851 GHz	61.05 Pk	7.62 / 32.9 / 43.6 / -43.6	14.37	H / 1.50 / 0	n/a	-59.63*
7.277 GHz	55.1 Pk	9.74 / 36.11 / 43.15 / -43.6	14.2	H / 1.00 / 0	n/a	-59.8*
9.702 GHz	51.15 Pk	12.76 / 37.77 / 42.1 / -43.6	15.98	V / 1.00 / 0	n/a	-58.02*
9.702 GHz	56.55 Pk	12.76 / 37.77 / 42.1 / -43.6	21.38	H / 1.50 / 0	n/a	-52.62*
End of scan on mid channel 30 MHz to 25 GHz						
Low Channel						
2.405 GHz	79.1 Pk	5.01 / 28.95 / 43.47 / -43.6	25.99	H / 1.00 / 0	-68.01*	n/a
4.811 GHz	60.15 Pk	7.61 / 32.82 / 43.55 / -43.6	13.43	V / 1.00 / 0	n/a	-60.57*
4.811 GHz	62.15 Pk	7.61 / 32.82 / 43.55 / -43.6	15.43	H / 1.50 / 0	n/a	-58.57*
7.216 GHz	55.9 Pk	9.67 / 36.04 / 43.12 / -43.6	14.89	H / 1.50 / 0	n/a	-59.11*
7.217 GHz	56.5 Pk	9.67 / 36.04 / 43.12 / -43.6	15.49	V / 1.50 / 0	n/a	-58.51*
9.622 GHz	48.5 Pk	12.62 / 37.72 / 42.12 / -43.6	13.12	V / 1.00 / 0	n/a	-60.88*
9.622 GHz	49.5 Pk	12.62 / 37.72 / 42.12 / -43.6	14.12	H / 1.50 / 0	n/a	-59.88*

Tested by: T. K. Swanson (Printed) — Thomas K. Swanson (Signature)

Reviewed by: S. L. Rupp (Printed) — Susan L Rupp (Signature)

RADIATED EMISSIONS

Test Report #:	WC705782 Run 4	Test Area:	LTS		
EUT Model #:	RFCSXX-YY	Date:	8/29/2007		
EUT Serial #:		EUT Power:	60Hz/120VAC	Temperature:	20.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Select Comfort			Rel. Humidity:	74.0 %
EUT Description:	Pegasus Pump Hand Control - Wireless				
Notes:	Transmitter				
Data File Name:	5782.dat			Page:	3 of 4

List of measurements for run #: 4

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / Duty Cycle Factor (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC 15.249 Fundamental Average	DELTA2 FCC 15.249 Harmonic Peak
2.405 GHz	66.0 Pk	5.01 / 28.95 / 43.47 / -43.6	12.89	V / 1.50 / 0	-81.11*	n/a
End of scan 30 MHz to 25 GHz						

Measurement summary for limit1: 15.249 2.4 GHz (Av)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / Duty Cycle Factor (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC 15.249 Fundamental Average
2.48 GHz	91.85 Pk	5.05 / 29.11 / 43.62 / -43.6	38.79	H / 1.40 / 0	-55.21*
2.425 GHz	76.5 Pk	5.02 / 28.99 / 43.4 / -43.6	23.51	H / 1.30 / 0	-70.49*
2.405 GHz	79.1 Pk	5.01 / 28.95 / 43.47 / -43.6	25.99	H / 1.00 / 0	-68.01*
2.405 GHz	66.0 Pk	5.01 / 28.95 / 43.47 / -43.6	12.89	V / 1.50 / 0	-81.11*

Tested by: T. K. Swanson (Printed) Thomas K. Swanson (Signature)

Reviewed by: S. L. Rupp (Printed) Susan L Rupp (Signature)

RADIATED EMISSIONS

Test Report #:	WC705782 Run 4	Test Area:	LTS		
EUT Model #:	RFCSXX-YY	Date:	8/29/2007		
EUT Serial #:		EUT Power:	60Hz/120VAC	Temperature:	20.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Select Comfort			Rel. Humidity:	74.0 %
EUT Description:	Pegasus Pump Hand Control - Wireless				
Notes:	Transmitter				
Data File Name:	5782.dat			Page:	4 of 4

Measurement summary for limit2: 15.249 Harmonic (Peak)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / Duty Cycle Factor (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA2 FCC 15.249 Harmonic Peak
4.959 GHz	61.3 Pk	7.65 / 33.12 / 43.66 / -43.6	14.81	H / 1.90 / 40	-59.19*
7.439 GHz	61.65 Pk	9.89 / 36.32 / 43.12 / -43.6	21.15	H / 1.20 / 0	-52.85*
9.922 GHz	63.0 Pk	13.15 / 37.91 / 41.94 / -43.6	28.51	H / 1.30 / 30	-45.49*
4.851 GHz	61.05 Pk	7.62 / 32.9 / 43.6 / -43.6	14.37	H / 1.50 / 0	-59.63*
7.277 GHz	60.25 Pk	9.74 / 36.11 / 43.15 / -43.6	19.35	V / 1.00 / 0	-54.65*
9.702 GHz	56.55 Pk	12.76 / 37.77 / 42.1 / -43.6	21.38	H / 1.50 / 0	-52.62*
4.811 GHz	62.15 Pk	7.61 / 32.82 / 43.55 / -43.6	15.43	H / 1.50 / 0	-58.57*
7.216 GHz	55.9 Pk	9.67 / 36.04 / 43.12 / -43.6	14.89	H / 1.50 / 0	-59.11*
7.217 GHz	56.5 Pk	9.67 / 36.04 / 43.12 / -43.6	15.49	V / 1.50 / 0	-58.51*
9.622 GHz	49.5 Pk	12.62 / 37.72 / 42.12 / -43.6	14.12	H / 1.50 / 0	-59.88*

Tested by: T. K. Swanson (Printed) Thomas K. Swanson (Signature)

Reviewed by: S. L. Rupp (Printed) Susan L Rupp (Signature)

Emissions outside of the specified frequency bands other than harmonics
FCC 15.249(d), IC RSS-210 A2.9

Test summary
The requirements are: ■ - MET ☐ - NOT MET
No emissions detected. Minimum margin of compliance is > 10 dB.

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

Test equipment

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
2075	3115	Electro-Mechanics (EMCO)	Ridge Guide Ant. 1-18 GHz	9001-3275	12-Jan-08
2665	ZHL-1042J	Mini-Circuits	Preamplifier	32296	Code B
3958	SL18B4020	Phase One Microwave	Preamplifier 1 – 18 GHz	0002	Code B
2684	85650A	Hewlett-Packard	Quasi-Peak Adapter	2521A01006	28-Mar-08
2690	8566B	Hewlett-Packard	Spectrum Analyzer	2430A00930	07-Jun-08
2673	85662A	Hewlett-Packard	Analyzer Display	2152A03687	07-Jun-08
3371	E4440A	Agilent	Spectrum Analyzer	MY43362222	29 Nov 07
3978	SL26-3010	Phase One Microwave	Amplifier 18-26.5 GHz	0005	26 Mar 08
6717	3116	EMCO	Ridge Guide Ant 18-40 GHz	2005	10 Oct 08
3202	EM-6917B	Electro-Metrics	Biconicalog Periodic	101	10-May-08

Cal Code B = Calibration verification performed internally.

Test limits

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009–0.490	2400/F(kHz)	300
0.490–1.705	24000/F(kHz)	30
1.705–30.0	30	30
30–88	100**	3
88–216	150**	3
216–960	200**	3
Above 960	500	3

Test data
See run 4 data on pages 17 – 20

RADIATED EMISSIONS

Test Report #:	WC705782 Run 4	Test Area:	LTS		
EUT Model #:	RFCSXX-YY	Date:	8/29/2007		
EUT Serial #:		EUT Power:	60Hz/120VAC	Temperature:	20.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Select Comfort			Rel. Humidity:	74.0 %
EUT Description:	Pegasus Pump Hand Control - Wireless				
Notes:	Transmitter				
Data File Name:	5782.dat			Page:	1 of 4

List of measurements for run #: 4

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / Duty Cycle Factor (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC 15.249 Fundamental Average	DELTA2 FCC 15.249 Harmonic Peak
High Channel						
Lying flat on Back						
2.48 GHz	91.55 Pk	5.05 / 29.11 / 43.62 / -43.6	38.49	V / 1.00 / 0	-55.51*	n/a
4.959 GHz	61.15 Pk	7.65 / 33.12 / 43.66 / -43.6	14.66	V / 1.70 / 5	n/a	-59.34*
2.48 GHz	91.85 Pk	5.05 / 29.11 / 43.62 / -43.6	38.79	H / 1.40 / 0	-55.21*	n/a
4.959 GHz	61.3 Pk	7.65 / 33.12 / 43.66 / -43.6	14.81	H / 1.90 / 40	n/a	-59.19*
7.439 GHz	61.65 Pk	9.89 / 36.32 / 43.12 / -43.6	21.15	H / 1.20 / 0	n/a	-52.85*
7.439 GHz	59.35 Pk	9.89 / 36.32 / 43.12 / -43.6	18.85	V / 1.30 / 0	n/a	-55.15*
9.922 GHz	56.9 Pk	13.15 / 37.91 / 41.94 / -43.6	22.41	V / 1.50 / 270	n/a	-51.59*
9.922 GHz	63.0 Pk	13.15 / 37.91 / 41.94 / -43.6	28.51	H / 1.30 / 30	n/a	-45.49*
End of scan on High Channel 30 MHz to 25 GHz						
Mid Channel						
2.425 GHz	76.5 Pk	5.02 / 28.99 / 43.4 / -43.6	23.51	H / 1.30 / 0	-70.49*	- n/a
2.425 GHz	71.75 Pk	5.02 / 28.99 / 43.4 / -43.6	18.76	V / 1.00 / 0	-75.24*	n/a
4.851 GHz	57.25 Pk	7.62 / 32.9 / 43.6 / -43.6	10.57	V / 1.00 / 0	n/a	-63.43*

Tested by: T. K. Swanson (Printed) — Thomas K. Swanson (Signature)

Reviewed by: S. L. Rupp (Printed) — Susan L Rupp (Signature)

RADIATED EMISSIONS

Test Report #:	WC705782 Run 4	Test Area:	LTS		
EUT Model #:	RFCSXX-YY	Date:	8/29/2007		
EUT Serial #:		EUT Power:	60Hz/120VAC	Temperature:	20.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Select Comfort			Rel. Humidity:	74.0 %
EUT Description:	Pegasus Pump Hand Control - Wireless				
Notes:	Transmitter				
Data File Name:	5782.dat			Page:	2 of 4

List of measurements for run #: 4

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / Duty Cycle Factor (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC 15.249 Fundamental Average	DELTA2 FCC 15.249 Harmonic Peak
7.277 GHz	60.25 Pk	9.74 / 36.11 / 43.15 / -43.6	19.35	V / 1.00 / 0	n/a	-54.65*
4.851 GHz	61.05 Pk	7.62 / 32.9 / 43.6 / -43.6	14.37	H / 1.50 / 0	n/a	-59.63*
7.277 GHz	55.1 Pk	9.74 / 36.11 / 43.15 / -43.6	14.2	H / 1.00 / 0	n/a	-59.8*
9.702 GHz	51.15 Pk	12.76 / 37.77 / 42.1 / -43.6	15.98	V / 1.00 / 0	n/a	-58.02*
9.702 GHz	56.55 Pk	12.76 / 37.77 / 42.1 / -43.6	21.38	H / 1.50 / 0	n/a	-52.62*
End of scan on mid channel 30 MHz to 25 GHz						
Low Channel						
2.405 GHz	79.1 Pk	5.01 / 28.95 / 43.47 / -43.6	25.99	H / 1.00 / 0	-68.01*	n/a
4.811 GHz	60.15 Pk	7.61 / 32.82 / 43.55 / -43.6	13.43	V / 1.00 / 0	n/a	-60.57*
4.811 GHz	62.15 Pk	7.61 / 32.82 / 43.55 / -43.6	15.43	H / 1.50 / 0	n/a	-58.57*
7.216 GHz	55.9 Pk	9.67 / 36.04 / 43.12 / -43.6	14.89	H / 1.50 / 0	n/a	-59.11*
7.217 GHz	56.5 Pk	9.67 / 36.04 / 43.12 / -43.6	15.49	V / 1.50 / 0	n/a	-58.51*
9.622 GHz	48.5 Pk	12.62 / 37.72 / 42.12 / -43.6	13.12	V / 1.00 / 0	n/a	-60.88*
9.622 GHz	49.5 Pk	12.62 / 37.72 / 42.12 / -43.6	14.12	H / 1.50 / 0	n/a	-59.88*

Tested by: T. K. Swanson (Printed) — Thomas K. Swanson (Signature)

Reviewed by: S. L. Rupp (Printed) — Susan L Rupp (Signature)

RADIATED EMISSIONS

Test Report #:	WC705782 Run 4	Test Area:	LTS		
EUT Model #:	RFCSXX-YY	Date:	8/29/2007		
EUT Serial #:		EUT Power:	60Hz/120VAC	Temperature:	20.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Select Comfort			Rel. Humidity:	74.0 %
EUT Description:	Pegasus Pump Hand Control - Wireless				
Notes:	Transmitter				
Data File Name:	5782.dat			Page:	3 of 4

List of measurements for run #: 4

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / Duty Cycle Factor (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC 15.249 Fundamental Average	DELTA2 FCC 15.249 Harmonic Peak
2.405 GHz	66.0 Pk	5.01 / 28.95 / 43.47 / -43.6	12.89	V / 1.50 / 0	-81.11*	n/a
End of scan 30 MHz to 25 GHz						

Measurement summary for limit1: 15.249 2.4 GHz (Av)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / Duty Cycle Factor (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC 15.249 Fundamental Average
2.48 GHz	91.85 Pk	5.05 / 29.11 / 43.62 / -43.6	38.79	H / 1.40 / 0	-55.21*
2.425 GHz	76.5 Pk	5.02 / 28.99 / 43.4 / -43.6	23.51	H / 1.30 / 0	-70.49*
2.405 GHz	79.1 Pk	5.01 / 28.95 / 43.47 / -43.6	25.99	H / 1.00 / 0	-68.01*
2.405 GHz	66.0 Pk	5.01 / 28.95 / 43.47 / -43.6	12.89	V / 1.50 / 0	-81.11*

Tested by: T. K. Swanson (Printed) Thomas K. Swanson (Signature)

Reviewed by: S. L. Rupp (Printed) Susan L Rupp (Signature)

RADIATED EMISSIONS

Test Report #:	WC705782 Run 4	Test Area:	LTS		
EUT Model #:	RFCSXX-YY	Date:	8/29/2007		
EUT Serial #:		EUT Power:	60Hz/120VAC	Temperature:	20.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Select Comfort			Rel. Humidity:	74.0 %
EUT Description:	Pegasus Pump Hand Control - Wireless				
Notes:	Transmitter				
Data File Name:	5782.dat			Page:	4 of 4

Measurement summary for limit2: 15.249 Harmonic (Peak)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / Duty Cycle Factor (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA2 FCC 15.249 Harmonic Peak
4.959 GHz	61.3 Pk	7.65 / 33.12 / 43.66 / -43.6	14.81	H / 1.90 / 40	-59.19*
7.439 GHz	61.65 Pk	9.89 / 36.32 / 43.12 / -43.6	21.15	H / 1.20 / 0	-52.85*
9.922 GHz	63.0 Pk	13.15 / 37.91 / 41.94 / -43.6	28.51	H / 1.30 / 30	-45.49*
4.851 GHz	61.05 Pk	7.62 / 32.9 / 43.6 / -43.6	14.37	H / 1.50 / 0	-59.63*
7.277 GHz	60.25 Pk	9.74 / 36.11 / 43.15 / -43.6	19.35	V / 1.00 / 0	-54.65*
9.702 GHz	56.55 Pk	12.76 / 37.77 / 42.1 / -43.6	21.38	H / 1.50 / 0	-52.62*
4.811 GHz	62.15 Pk	7.61 / 32.82 / 43.55 / -43.6	15.43	H / 1.50 / 0	-58.57*
7.216 GHz	55.9 Pk	9.67 / 36.04 / 43.12 / -43.6	14.89	H / 1.50 / 0	-59.11*
7.217 GHz	56.5 Pk	9.67 / 36.04 / 43.12 / -43.6	15.49	V / 1.50 / 0	-58.51*
9.622 GHz	49.5 Pk	12.62 / 37.72 / 42.12 / -43.6	14.12	H / 1.50 / 0	-59.88*

Tested by: T. K. Swanson (Printed) Thomas K. Swanson (Signature)

Reviewed by: S. L. Rupp (Printed) Susan L Rupp (Signature)

Band edge compliance
FCC 15.249(d), IC RSS-210 A2.9

Test summary
The requirements are: ■ - MET ☐ - NOT MET
The fundamental emissions are within 2400 – 2483.5 MHz

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

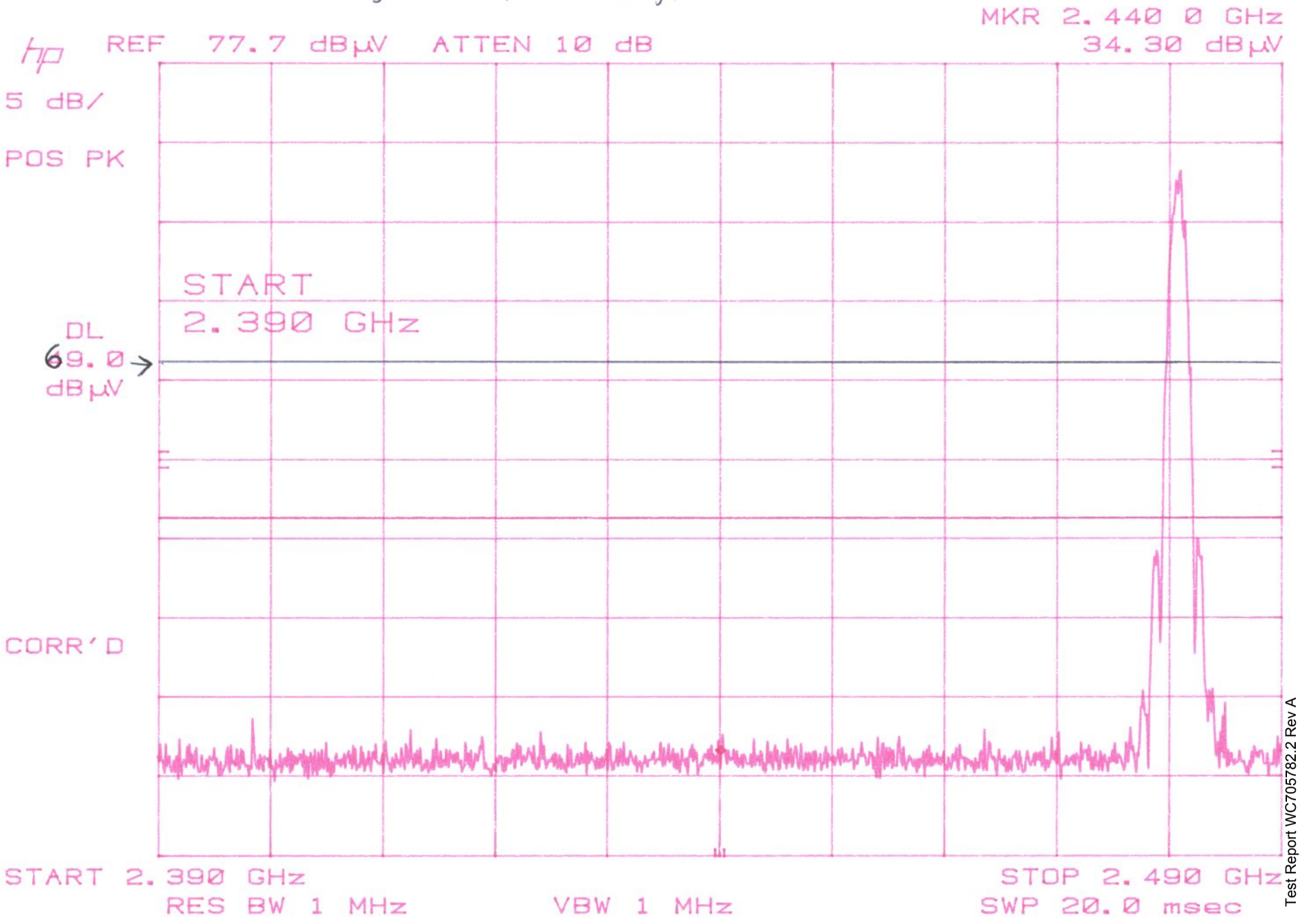
Test equipment

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
2075	3115	Electro-Mechanics (EMCO)	Ridge Guide Ant. 1-18 GHz	9001-3275	12-Jan-08
3847	ZHL-1042J	Mini-Circuits	Preamplifier 10 - 3000 MHz	0607	Code B
2690	8566B	Hewlett-Packard	Spectrum Analyzer	2430A00930	07-Jun-08
2673	85662A	Hewlett-Packard	Analyzer Display	2152A03687	07-Jun-08

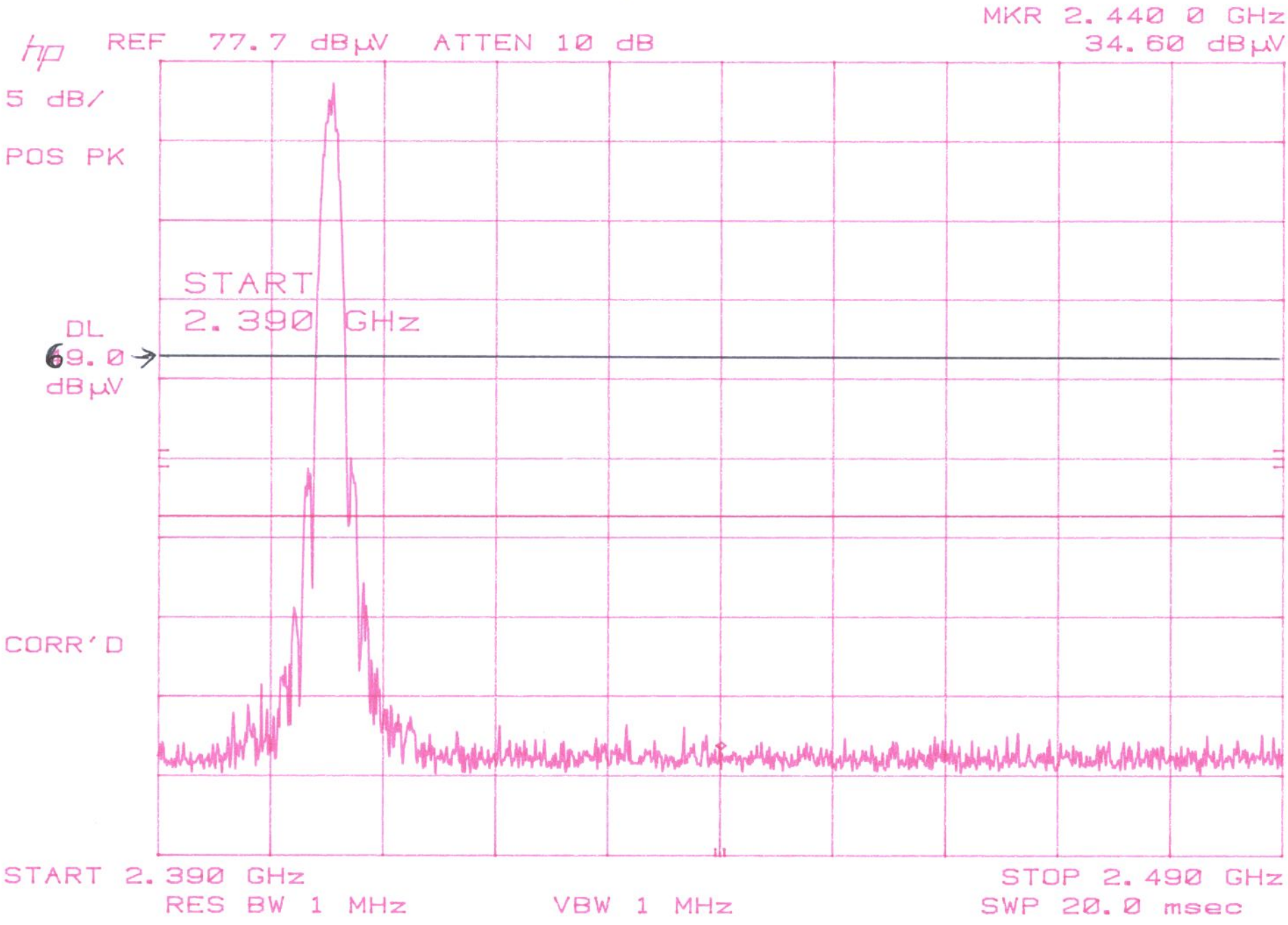
Cal Code B = Calibration verification performed internally.

Test data
See plot on pages 22-23

High Channel Band Edge - Handheld



Low Channel Band Edge - Handheld



Occupied Bandwidth
RSS-Gen 4.4.1

Test summary
The requirements are: ■ - MET ☐ - NOT MET
The 20 dB (99%) bandwidth is 2.68 MHz

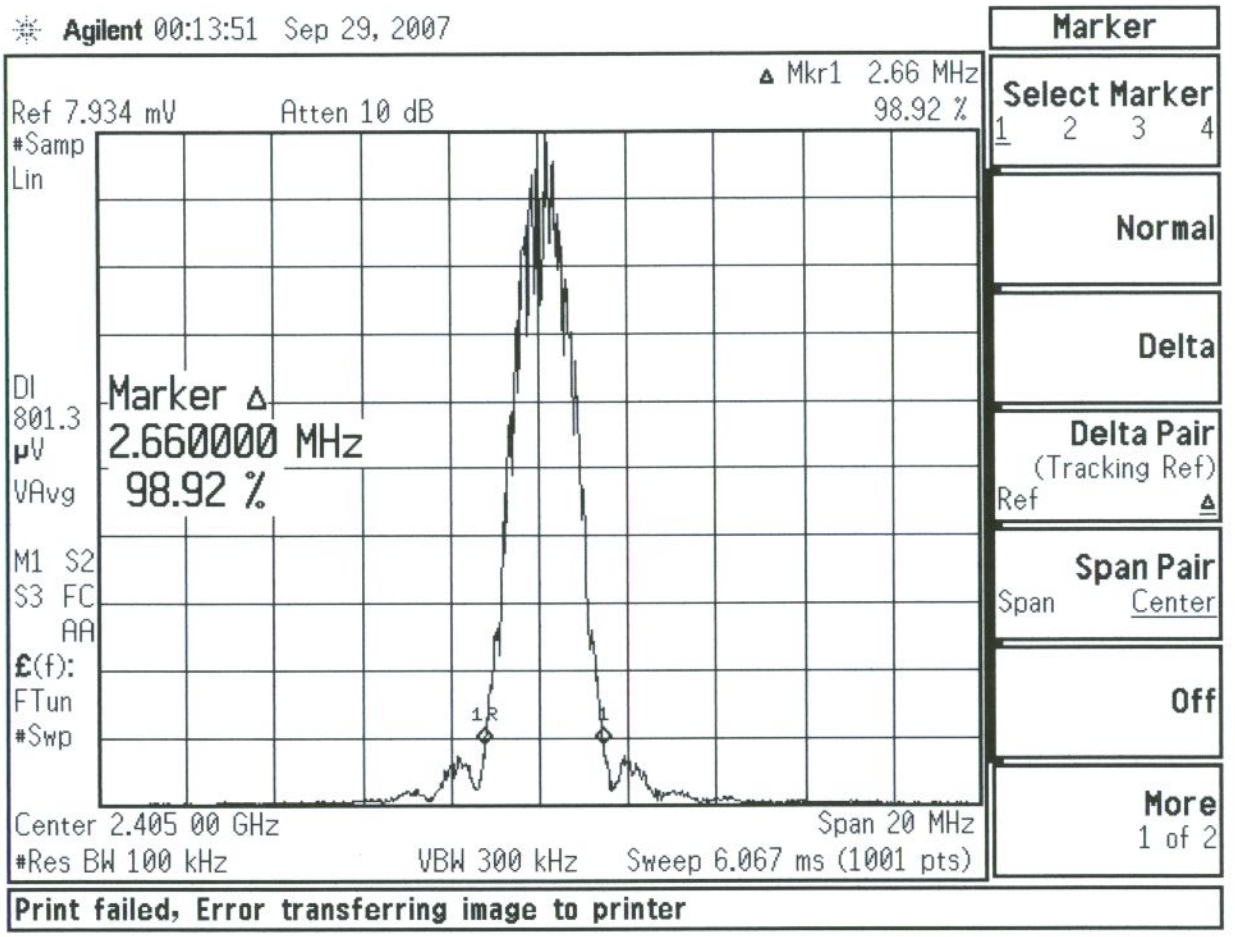
Test location
■ - Wild River Lab Large Test Site (Open Area Test Site)
☐ - Wild River Lab Small Test Site (Open Area Test Site)

Test equipment

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
2075	3115	Electro-Mechanics (EMCO)	Ridge Guide Ant. 1-18 GHz	9001-3275	12-Jan-08
3847	ZHL-1042J	Mini-Circuits	Preamplifier 10 - 3000 MHz	0607	Code B
2690	8566B	Hewlett-Packard	Spectrum Analyzer	2430A00930	07-Jun-08
2673	85662A	Hewlett-Packard	Analyzer Display	2152A03687	07-Jun-08

Cal Code B = Calibration verification performed internally.

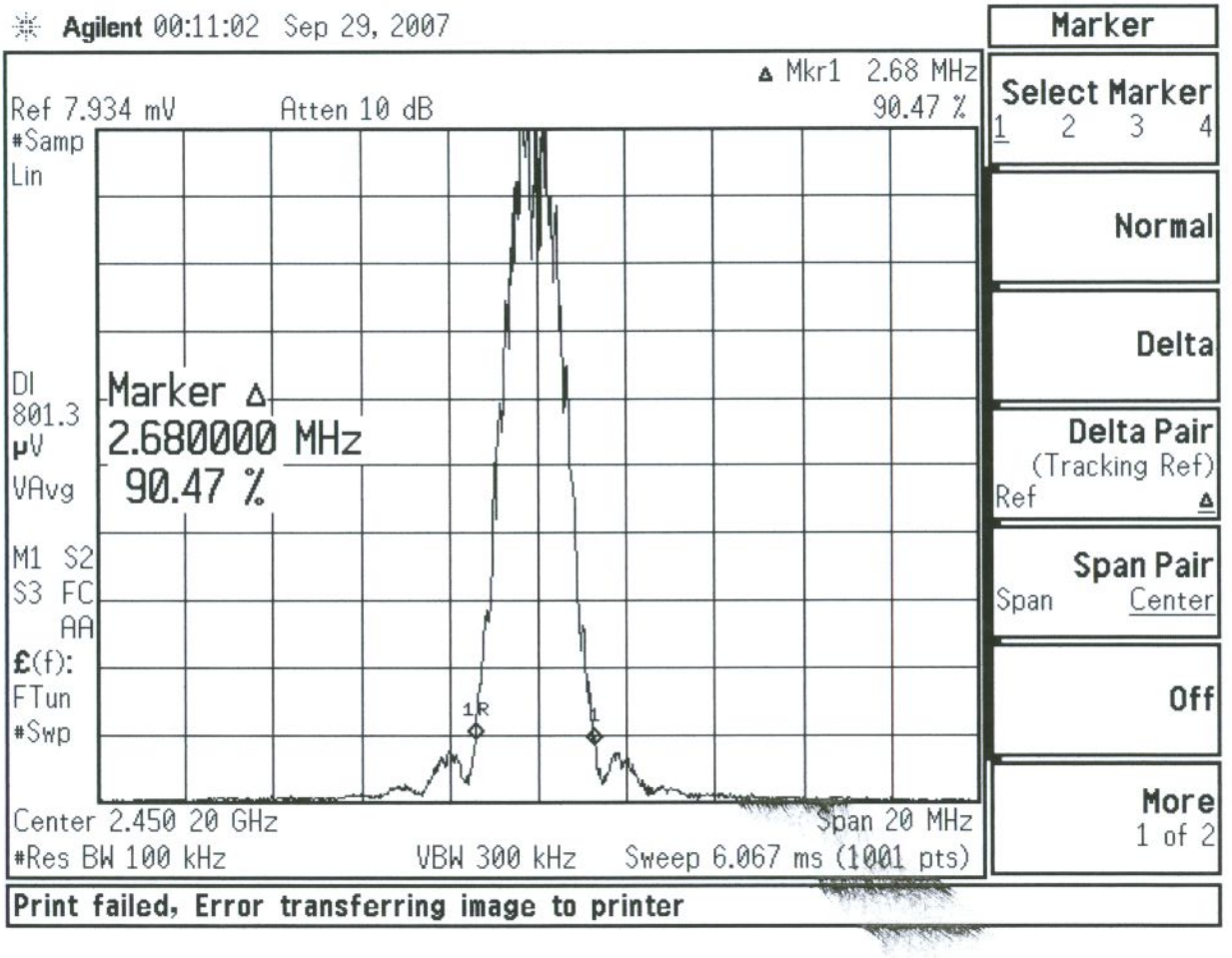
Test data
See plots on pages 25-27.



99% Bw

Select Comfort handheld xmtr

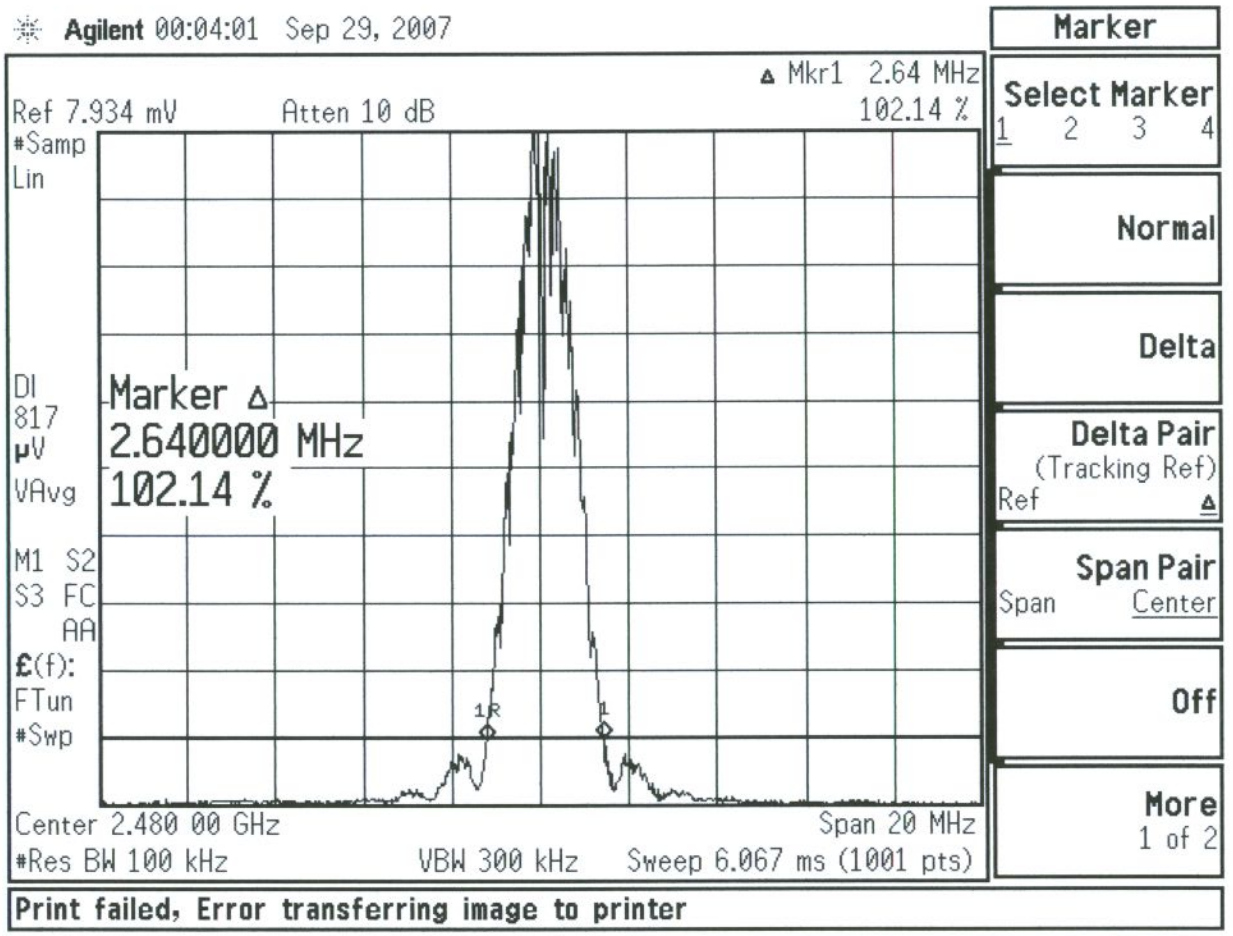
Low channel



99% BW

Select Comfort handheld xmtr

Mid channel



99% BW

Select Comfort handheld xmtr

High channel

AC line conducted emissions
FCC 15.207, IC RSS-Gen 7.2.2

Test summary
The requirements are: ☐ - MET ☐ - NOT MET ■ - Not Applicable - EUT is battery powered.

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

Test equipment
Cal Code B = Calibration verification performed internally.

Test limits

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

*Decreases with the logarithm of the frequency.

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T

Test Operation Mode:

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

■ - Measurements were made with the EUT transmitting on the low or high channel in cw mode, and with the EUT transmitting normally on all channels.

Configuration of the device under test:

■ - See “Constructional Data Form” in Appendix B

DEVIATIONS FROM STANDARD:

None.

GENERAL REMARKS:

Modifications required to pass:
■ None
☐ As indicated on the data sheet(s)

Test Specification Deviations: Additions to or Exclusions from:
■ None
☐ As indicated in the Test Plan

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.

EUT Received Date:	29 August 2007
Condition of EUT:	Normal
Testing Start Date:	29 August 2007
Testing End Date:	29 September 2007

- TÜV AMERICA INC -

Thomas K. Swanson
T. K. Swanson
Senior EMC Technician

Susan L Rupp
Susan L Rupp
EMC Technical Writer

TÜV AMERICA INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 120505

TEST SETUP FOR EMISSIONS TESTING

WILD RIVER LAB
Large Test Site

Notes:

1. Items shown in dotted lines are located on the floor below the test area. It is 5 meters vertically from the ground floor to the test area.

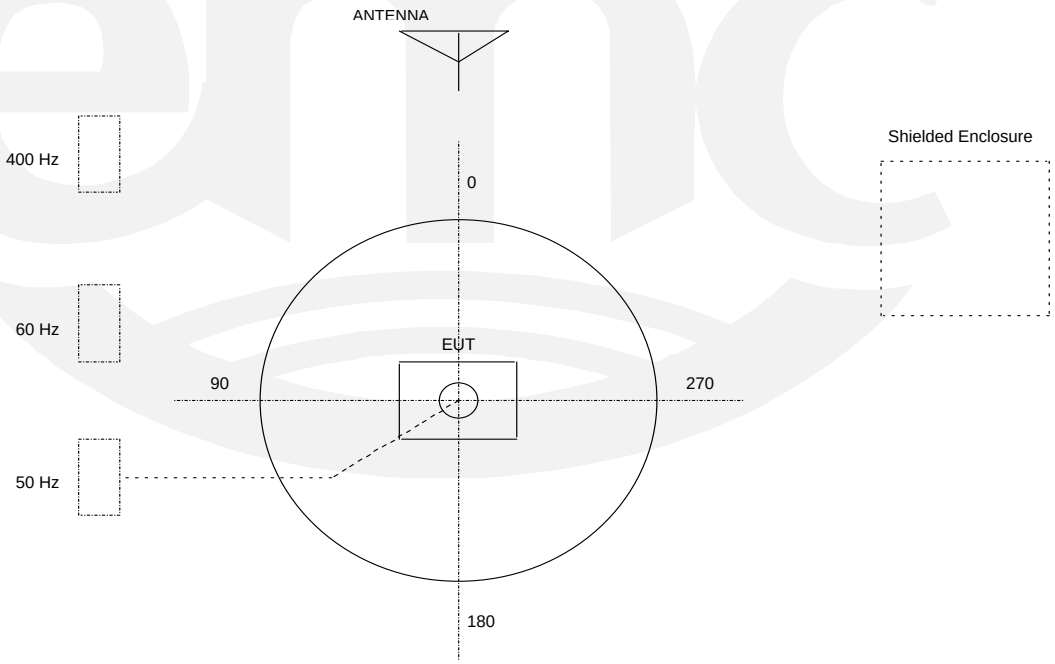
2. 50 Hz, 60 Hz, and 400 Hz are power panels for alternating current.

3. The antenna may be positioned horizontally 3, 10 or 30 meters from the center of the turntable.

4. The circle is a 6.7 meter diameter turntable.

5. A ground plane is in the plane of this sheet.

6. The test sample is shown in the azimuthal position representing zero degrees.



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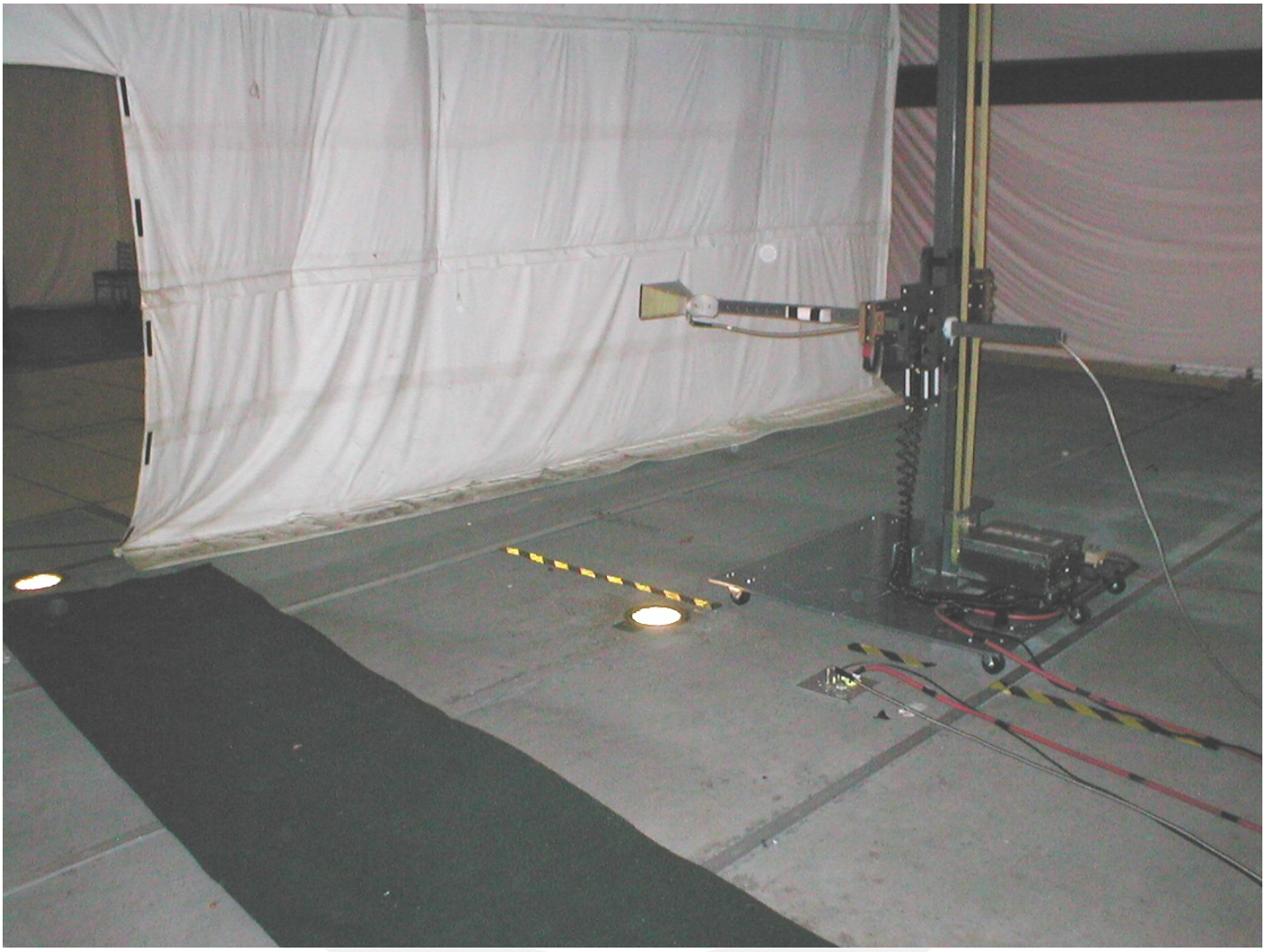
Test-setup photo, radiated emissions

TÜV AMERICA INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 120505

Test-setup photo, radiated emissions

TÜV AMERICA INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 120505

Test-setup photo, radiated emissions



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Appendix A

Constructional Data Form

TÜV AMERICA INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 120505

EMC Test Plan and Constructional Data Form

PLEASE COMPLETE THIS DOCUMENT IN FULL, ENTERING N/A IF THE FIELD IS NOT APPLICABLE. IF TESTING RESULTS IN MODIFICATIONS TO THE EQUIPMENT, PLEASE SUBMIT A REVISED TP/CDF INDICATING THOSE MODIFICATIONS.
NOTE: This information will be input into your test report as shown below. Press the F1 key at any time to get HELP for the current field selected.

Company:	Select Comfort Corporation		
Address:	6105 Trenton Ln N		
	Minneapolis, MN 55442		
Contact:	Paul Mahoney	Position:	Sr Project Engineer
Phone:	763.551.7157	Fax:	763.551.7826
E-mail Address:	mahopj@comfort.com		

General Equipment Description -- ***NOTE: This information will be input into your test report as shown below.***

EUT Description	Wireless hand control		
EUT Name	RFCS		
Model No.:	XX-YR	Serial No.:	002
Product Options:	NA		
Configurations to be tested:	Dual wireless hand control		

Equipment Modification (*If applicable, indicate modifications since EUT was last tested. If modifications are made during this testing, submit revised TP/CDF after testing is complete.)*

Modifications since last test:	NA
Modifications made during test:	NA

Test Objective(s): ***Please indicate the tests to be performed, entering the applicable standard(s) where noted.***

- ☒ EMC Directive 2004/108/EC (EMC) — Std: ☐
- ☐ Machinery Directive 89/392/EEC (EMC) — Std: ☐
- ☐ Medical Device Directive 93/42/EEC (EMC) — Std: ☐
- ☐ Vehicle Directive: ☐ 2001/3/EC (EMC) ☐ 2004/104/EC (EMC) ☐ Other Vehicle Std: ☐
- ☐ FDA Reviewers Guidance for Premarket Notification Submissions (EMC)

☐ FCC:	Class	☐ A	☒ B	Part	☐
☐ VCCI:	Class	☐ A	☐ B		
☐ BSMI:	Class	☐ A	☐ B		
☐ Canada:	Class	☐ A	☒ B		
☐ Australia:	Class	☐ A	☐ B		
☐ Other:	☐				

Third Party Certification, if applicable (*Signature on Page 6 Required)

- ☐ Attestation of Conformity (AoC)*
- ☐ Certificate of Conformity (CoC)*
- ☐ EMC Certification (used with Octagon Mark)*
- ☒ Compliance Document*

Protection Class (N/A for vehicles) ☐ Class I ☐ Class II ☐ Class III

(Press **F1** when field is selected to show additional information on Protection Class.)

- ☒ FCC / TCB Certification
- ☐ E-Mark Certification
- ☒ Industry Canada / FCB Certification
- ☐ Taiwan Certification

EMC Test Plan and Constructional Data Form

Attendance

Test will be: ☒ Attended by the customer ☐ Unattended by the customer

Failure - *Complete this section if testing will not be attended by the customer.*

If a failure occurs, TÜV America should:

☐ Call contact listed above, if not available then stop testing. (After hrs phone): _____

☐ Continue testing to complete test series.

☐ Continue testing to define corrective action.

☐ Stop testing.

EUT Specifications and Requirements

Length: 7" Width: 2.5" Height: 1.5" Weight: .25lbs

Power Requirements

Regulations require testing to be performed at typical power ratings in the countries of intended use. (i.e., European power is typically 230 VAC 50 Hz or 400 VAC 50 Hz, single and three phase, respectively)

Voltage: 9 VDC (If battery powered, make sure battery life is sufficient to complete testing.)

# of Phases: NA

Current (Amps/phase(max)): <1 Current (Amps/phase(nominal)): 100 micro amps

Other _____

Other Special Requirements

Typical Installation and/or Operating Environment

(ie. Hospital, Small Business, Industrial/Factory, etc.)
Appliance

EUT Power Cable

☐ Permanent OR ☐ Removable Length (in meters): 2

☐ Shielded OR ☐ Unshielded

☒ Not Applicable

EMC Test Plan and Constructional Data Form

EUT Interface Ports and Cables

Type			During Test		Qty	Shielding			Termination	Connector Type	Port Termination	Length tested (in meters)	Removable	Permanent
	Analog	Digital	Active	Passive		Yes	No	Type						
EXAMPLE: *RS232*	☐	☒	☒	☐	*2*	☒	☐	*Foil over braid*	*Coaxial*	*Metallized 9-pin D-Sub*	*Characteristic Impedance*	*6*	☒	☐
	☐	☐	☐	☐		☐	☐						☐	☐
	☐	☐	☐	☐		☐	☐						☐	☐
	☐	☐	☐	☐		☐	☐						☐	☐
	☐	☐	☐	☐		☐	☐						☐	☐
	☐	☐	☐	☐		☐	☐						☐	☐
	☐	☐	☐	☐		☐	☐						☐	☐
	☐	☐	☐	☐		☐	☐						☐	☐
	☐	☐	☐	☐		☐	☐						☐	☐
	☐	☐	☐	☐		☐	☐						☐	☐
	☐	☐	☐	☐		☐	☐						☐	☐
	☐	☐	☐	☐		☐	☐						☐	☐
	☐	☐	☐	☐		☐	☐						☐	☐

EMC Test Plan and Constructional Data Form

EUT Software.

Revision Level: v 1.02.1 hand controller

Description: Firmware hand controller

Equipment Under Test (EUT) Operating Modes to be Tested -- list the operating modes to be used during test. It is recommended the equipment be tested while operating in a typical operation mode. FCC testing of personal computers and/or peripherals requires that a simple program generate a complete line of upper case H's. Provide a general description of all software, firmware, and PLD algorithms used in the equipment. List all code modules as described above, with the revision level used during testing. Consult with your TÜV Product Service Representative if additional assistance is required.

1. Normal operation -- North America. Unit is at idle.

2. Intentional radiator operation. Hand controller can be set to bottom, middle or top channel.

3. Normal operation -- CE testing. Display visible.

Equipment Under Test (EUT) System Components -- List and describe all components which are part of the EUT. For FCC & Taiwan testing a minimum configuration is required. (ie. Mouse, Printer, Monitor, External Disk Drive, Motherboard, etc)

Description	Model #	Serial #	FCC ID #

EMC Test Plan and Constructional Data Form

Support Equipment -- List and describe all support equipment which is not part of the EUT. (i.e. peripherals, simulators, etc) This information is required for FCC & Taiwan testing.

Description	*Model #*	*Serial #*	*FCC ID #*

Oscillator Frequencies

Manufacturer	*Frequency*	*Derived Frequency*	*Component # / Location*	*Description of Use*
		16MHz	U2	Internal RC oscillator
	16MHz	2.4GHz	Y1/U4	Internal PLL

Power Supply

Manufacturer	*Model #*	*Serial #*	*Type*
			☐ Switched-mode: (Frequency) _____ ☐ Linear ☒ Other: 9 volt battery
			☐ Switched-mode: (Frequency) _____ ☐ Linear ☐ Other: _____

Power Line Filters

Manufacturer	*Model #*	*Location in EUT*

EMC Test Plan and Constructional Data Form

Critical EMI Components (Capacitors, ferrites, etc.)				
Description	***Manufacturer***	***Part # or Value***	***Qty***	***Component # / Location***

EMC Critical Detail -- Describe other EMC Design details used to reduce high frequency noise.

(PLEASE INSERT "**ELECTRONIC SIGNATURE**" BELOW IF POSSIBLE)

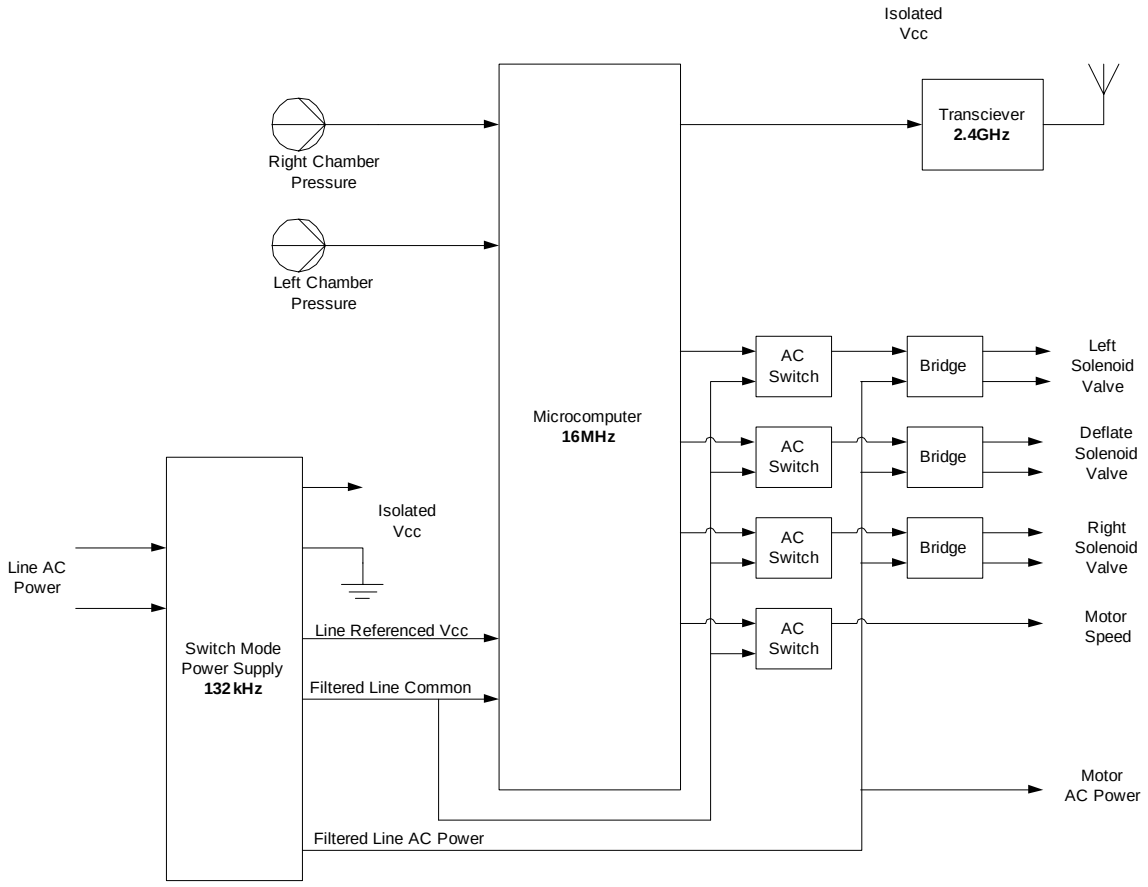
Authorization Signatures (Signature Required for Certifications checked on pg 1)

Paul Mahoney	9.18.2007
Customer authorization to perform tests according to this test plan.	Date
Test Plan/CDF Prepared By (please print)	Date

Form

EMC Block Diagram Form

System Configuration Block Diagram -- Provide a line drawing identifying the EUT, simulators, support equipment, I/O cables, power cables, and any other pertinent components to be used during testing. Use a dashed line to separate the equipment in the testing field versus equipment outside testing field.



SCC RFCSXX-YY BASE BLOCK
Wireless DIAGRAM

Authorization Signatures

Paul Mahoney	9.18.2007
Customer authorization to perform tests according to this test plan.	Date
Test Plan/CDF Prepared By (please print)	Date

Appendix B

Measurement Protocol

TÜV AMERICA INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 120505

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. This test system has a measurement uncertainty of ±1.8 dB. The test system for radiated emissions is defined as the antenna, the pre-amplifier, the spectrum analyzer and the coaxial cable. This test system has a measurement uncertainty of ±4.8 dB. The equipment comprising the test systems is 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 its 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 CISPR 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) and adding the antenna correction factor and cable loss factor (Factor dB) to it. This result then has the CISPR limit subtracted from it to provide the Delta, which gives the tabular data as shown in the data sheets in Attachment B. The amplifier gain is automatically accounted for by using an analyzer offset.

Example:

FREQ (MHz)	LEVEL (dBuV)		CABLE/ANT/PREAMP (dB)		(dB/m)	(dB)	FINAL (dBuV/m)	POL/HGT/AZ	(m)	(deg)	DELTA1 EN 55022
60.80	42.5Qp	+	1.2	+	10.9	- 25.5 =	29.1	V	1.0	0.0	-10.9

TÜV AMERICA INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 120505

DETAILS OF TEST PROCEDURES

General Standard Information

The test methods used comply with ANSI C63.4-2003 - "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 50 Hz and/or 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. Tabletop 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 2000 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 peak detection. Tabletop 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, 10 or 30 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 orthogonal axes to determine the attitude that maximizes the emissions.