



EMC TEST REPORT FCC 47 CFR Part 15B Industry Canada RSS-Gen Electromagnetic compatibility - Unintentional radiators	
Report Reference No.	G0M-1202-1757-EF01-V02
Testing Laboratory	Eurofins Product Service GmbH
Address	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation	<div style="text-align: center;">   </div> <p>A2LA Accredited Testing Laboratory, Certificate No.: 1983.01 FCC Filed Test Laboratory, Reg.-No.: 96970 IC OATS Filing assigned code: 3470A</p>
Applicant's name	Polycom Inc.
Address	6001 America Center Drive 95002 San Jose CA
Test specification:	
Standard.....	47 CFR Part 15 Subpart B RSS-Gen, Issue 3, 2010-12 ANSI C63.4:2009
Equipment under test (EUT):	
Product description	Desktop VoIP Bluetooth Telephone
Model No.	VVX600
Hardware version	2200-44600-001
Firmware / Software version	4.1.0.xxxx
Contains	FCC-ID: M72-VVX600 IC: 1849C-VVX600
Test result	Passed

Possible test case verdicts:


- not applicable to test object..... : N/A
- test object does meet the requirement : P (Pass)
- test object does not meet the requirement : F (Fail)


Testing:

Date of receipt of test item..... : 2012-06-07

Date (s) of performance of tests..... : 2012-07-20 – 2012-07-30

Compiled by..... : Marc Eichhorn

Tested by (+ signature) : Marcus Klein 

Approved by (+ signature)..... : Jens Zimmermann 

Date of issue..... : 2012-08-22

Total number of pages : 32

General remarks:

The test results presented in this report relate only to the object tested.

The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

Additional comments:

REPORT INDEX

1	EQUIPMENT (TEST ITEM) DESCRIPTION	4
1.1	Photos – Equipment external	5
1.2	Photos – Equipment internal	7
1.3	Photos – Test setup	8
1.4	Supporting Equipment Used During Testing	9
1.5	Operating Modes	10
1.6	Test Equipment Used During Testing	11
1.7	Sample emission level calculation	12
2	RESULT SUMMARY	13
3	TEST CONDITIONS AND RESULTS	14
3.1	Test Conditions and Results – Radiated emissions	14
3.2	Test Conditions and Results – AC power line conducted emissions	27

1 Equipment (Test item) Description



Description	Desktop VoIP Bluetooth Telephone
Model	VVX600
Serial number	None
Hardware version	2200-44600-001
Software / Firmware version	4.1.0.xxxx
Contains FCC-ID	M72-VVX600
Contains IC	1849C-VVX600
Power supply	48 VDC
AC/DC-Adaptor	Model : PSC18U-480 Manufacturer : Polycom Input : 100-240VAC / 50-60Hz Output : 48VDC / 0.38A
AC/DC-Adaptor	None
Manufacturer	Polycom Inc. 6001 America Center Drive 95002 San Jose CA
Highest emission frequency	Fmax[MHz] = 300
Device classification	Class B
Equipment type	Tabletop
Number of tested samples	1

1.1 Photos – Equipment external

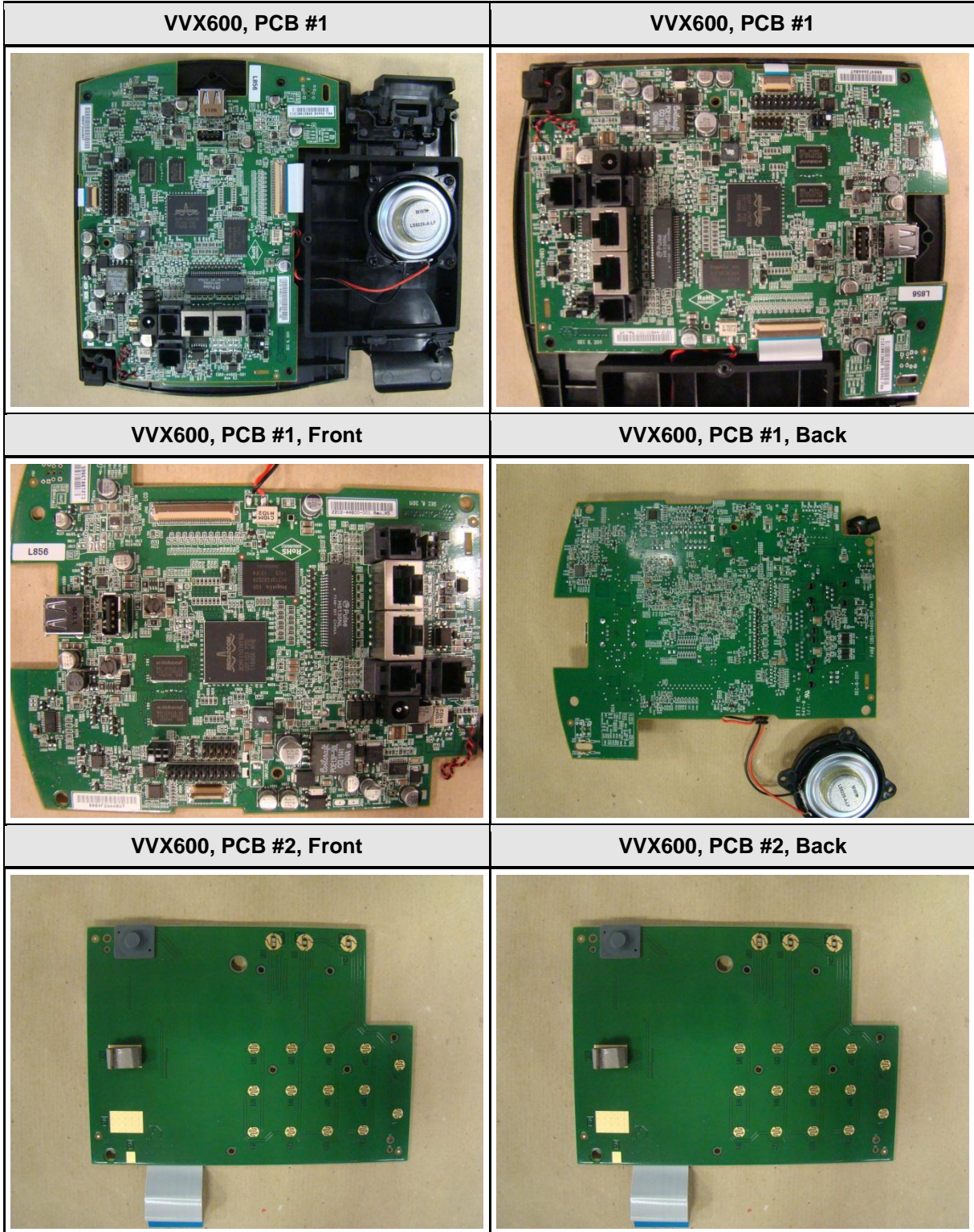


Test Report No.: G0M-1202-1757-EF01-V02

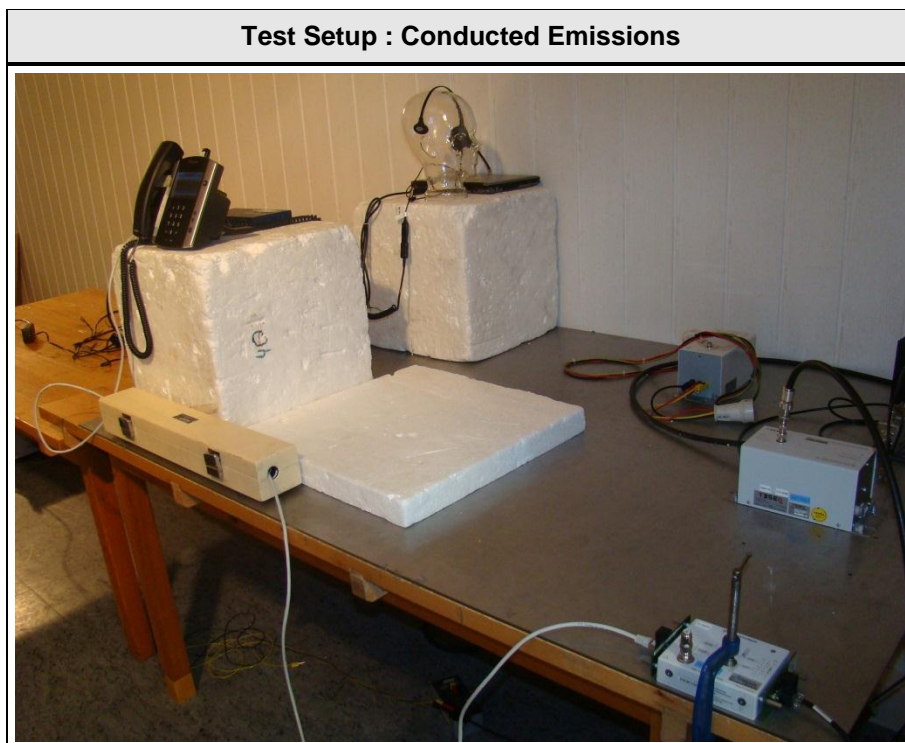
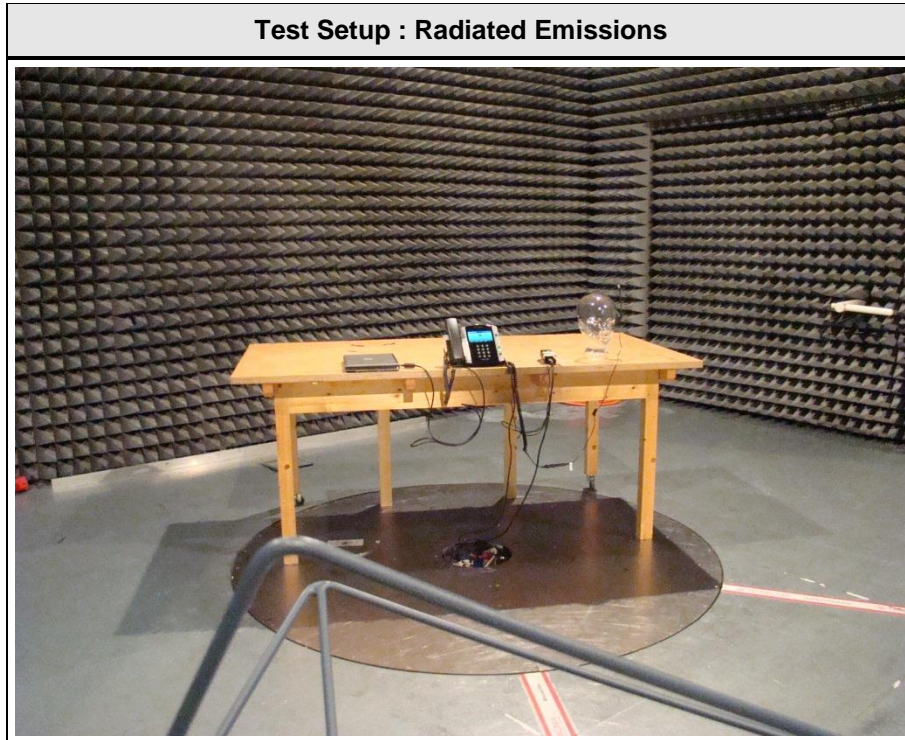
Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany

VVX600, AC/DC-Adapter	VVX600, Sticker
 <p>SWITCHING POWER SUPPLY P/N: 1465-4270A01-000 型号: MODEL PSC181-480 输入: INPUT: 100V-240V~ 0.5A 50-60HZ 25-25VA 输出: OUTPUT: 12V / 500mA 功率: POWER: 6W 效率: EFFICIENCY: 80% 待机功耗: STANDBY POWER: 0.500W @ 100VAC 待机功耗: STANDBY POWER: 0.500W @ 240VAC 安全警告: SAFETY WARNING: READ INSTRUCTIONS 警告: CAUTION: RISK OF ELECTRIC SHOCK & BURN 注意: ATTENTION: RISK OF ELECTRIC SHOCK & BURN 中国: CHINA 产地: MADE IN CHINA 产地: MADE IN CHINA</p>	 <p>0004F2AAA0A7 L656 Rev X1 Made in China 生产日期 20120117 12 ALPHA UNIT NOT FOR RESALE 3111-44600-001 Rev X1 MERLOT</p>

1.2 Photos – Equipment internal



1.3 Photos – Test setup



1.4 Supporting Equipment Used During Testing

Product Type*	Device	Manufacturer	Model No.	Comments
AE	2xUSB-Stick	Maxell; SanDisk	4GB; SDCZ36-008G	-
AE	Headset	Plantronics	HW251N	-
SIM	IP-Telephone	Polycom	0004F2A87892	-
SIM	Switch	Netgear	F5108P	-
SIM	Notebook	Dell	EU870D	-

***Note:** Use the following abbreviations:

AE : Auxiliary/Associated Equipment, or

SIM : Simulator (Not Subjected to Test)

CABL : Connecting cables

1.5 Operating Modes

Mode #	Description
1	AC powered, active voice call, BT scanning
2	PoE powered, active voice call, BT scanning
3	AC powered, active voice call, BT-Headset-Connection established

1.6 Test Equipment Used During Testing

Radiated emissions					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Biconical Antenna	R&S	HK 116	EF00012	2010-01	2013-01
LPD-Antenne	R&S	HL 223	EF00187	2011-02	2014-02
LPD-Antenna	R&S	HL 025	EF00327	2010-02	2013-02
EMI Test Receiver	R&S	ESU8	EF00379	2011-12	2012-12
EMI Test Receiver	R&S	ESCS30	EF00297	2011-08	2012-08

Conducted emissions					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
AMN	R&S	ESH2-Z5	EF00182	2010-09	2012-09
AMN	R&S	ESH3-Z5	EF00036	2010-11	2012-11
EMI Test Receiver	R&S	ESCS 30	EF00297	2011-08	2012-08

1.7 Sample emission level calculation

The following is a description of terms and a sample calculation, as appears in the radiated emissions data table. The numbers used in the calculation are for example only. There is no direct correlation to the specific data taken for the product described in this document:

Reading:

This is the reading obtained on the spectrum analyzer in dB μ V. Any external preamplifiers used are taken into account through internal analyzer settings.

A.F.:

This is the antenna factor for the receiving antenna. It is a conversion factor, which converts electric fields strengths to voltages, which can be measured directly on the spectrum analyzer. It is treated as a loss in dB. Cable losses have been included with the A.F. to simplify the calculations. The antenna factor is used in calculations as follows:

$$\text{Reading on Analyzer (dB}\mu\text{V)} + \text{A.F. (dB)} = \text{Net field strength (dB}\mu\text{V/m)}$$

Net:

This is the net field strength measurement (as shown above).

Limit:

This is the FCC Class B radiated emission limit (in units of dB μ V/m). The FCC limits are given in units of μ V/m. The following formula is used to convert the units of μ V/m to dB μ V/m:

$$\text{Limit (dB}\mu\text{V/m)} = 20 * \log (\mu\text{V/m})$$

Margin:

This is the margin of compliance below the FCC limit. The units are given in dB. A negative margin indicates the emission was below the limit. A positive margin indicates that the emission exceeds the limit.

Example only:

$$\begin{array}{rclclcl} \text{Reading} & + & \text{AF} & = & \text{Net Reading} & : & \text{Net reading - FCC limit} & = & \text{Margin} \\ 21.5 \text{ dB}\mu\text{V} & + & 26 \text{ dB} & = & 47.5 \text{ dB}\mu\text{V/m} & : & 47.5 \text{ dB}\mu\text{V/m} - 57.0 \text{ dB}\mu\text{V/m} & = & -9.5 \text{ dB} \end{array}$$

2 Result Summary

FCC 47 CFR Part 15B, Industry Canada RSS-Gen				
Product Specific Standard	Requirement – Test	Reference Method	Result	Remarks
47 CFR 15.109 RSS-Gen 4.9 & 4.10	Radiated emissions	ANSI C 63.4	PASS	-
47 CFR 15.107 RSS-Gen 7.2.4	AC power line conducted emissions	ANSI C63.4	PASS	-
Remarks: -				

3 Test Conditions and Results

3.1 Test Conditions and Results – Radiated emissions

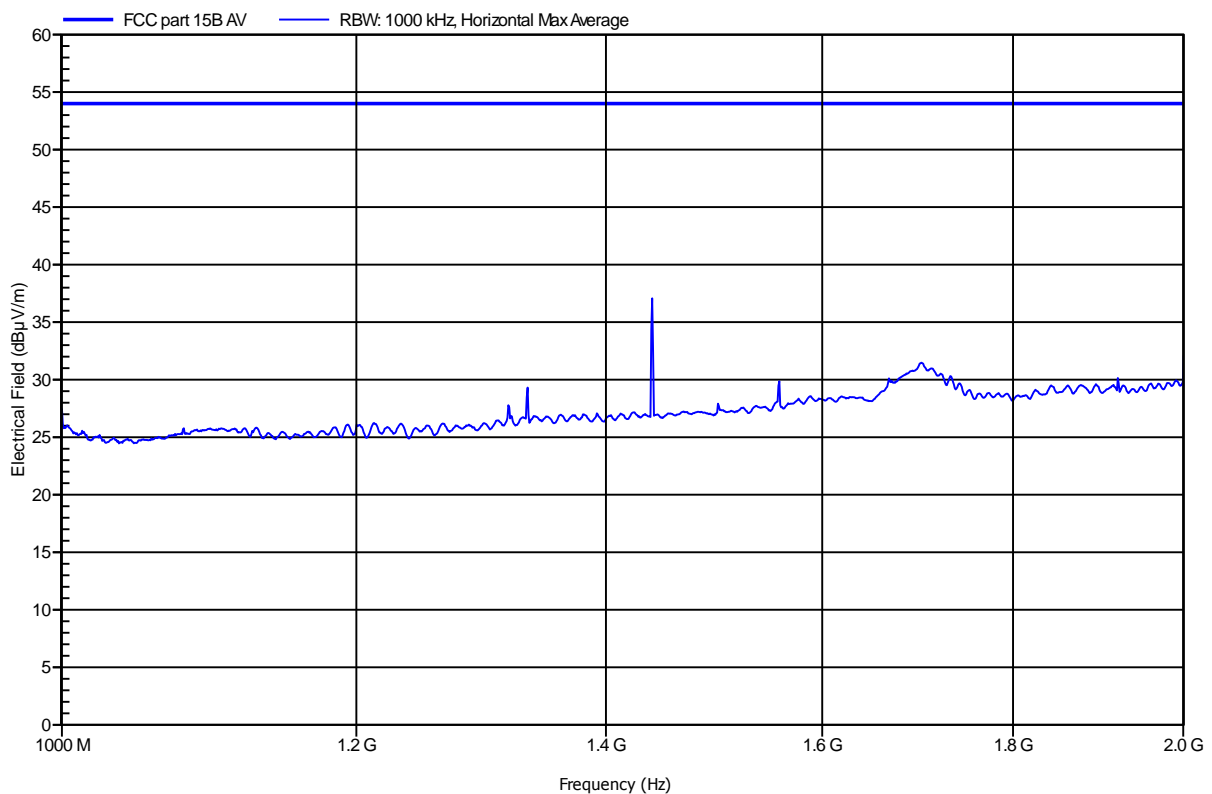
Radiated emissions acc. FCC 47 CFR 15.109 / IC RSS-Gen				Verdict: PASS		
Laboratory Parameters:		Required prior to the test		During the test		
Ambient Temperature		15 to 35 °C		24°C		
Relative Humidity		30 to 60 %		53%		
Test according referenced standards		Reference Method				
		ANSI C63.4				
Sample is tested with respect to the requirements of the equipment class		Equipment class				
		Class B				
Test frequency range determined from highest emission frequency		Highest emission frequency				
		Fmax[MHz] = 300				
Fully configured sample scanned over the following frequency range		Frequency range				
		30 MHz to 2 GHz				
Operating mode		1, 2				
Limits and results Class B						
Frequency [MHz]	Quasi-Peak [dBµV/m]	Result	Average [dBµV/m]	Result	Peak [dBµV/m]	Result
30 – 88	40	PASS	-		-	-
88 – 216	43.5	PASS	-		-	-
216 – 960	46	PASS	-		-	-
960 – 1000	54	PASS	-		-	-
> 1000	-	-	54	PASS	74	PASS
Limits and results Class A						
Frequency [MHz]	Quasi-Peak [dBµV/m]	Result	Average [dBµV/m]	Result	Peak [dBµV/m]	Result
30 – 88	39	PASS	-		-	-
88 – 216	43.5	PASS	-		-	-
216 – 960	46.5	PASS	-		-	-
960 – 1000	54	PASS	-		-	-
> 1000	-	-	54	PASS	74	PASS
Comments:						

Spurious emissions under normal conditions according to EN 301489 - 1

Project number: G0M-1202-1757

Manufacturer:	Polycom Inc
EUT Name:	Desktop VoIP Bluetooth Telephone
Model:	VVX600
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Eichhorn
Test Conditions:	Tnom: 22°C, Unom: AC 120V
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3m, converted to 10m
Mode:	AC (120V) powered, active voice call, BT scanning
Test Date:	2012-07-20
Note:	

Index 13

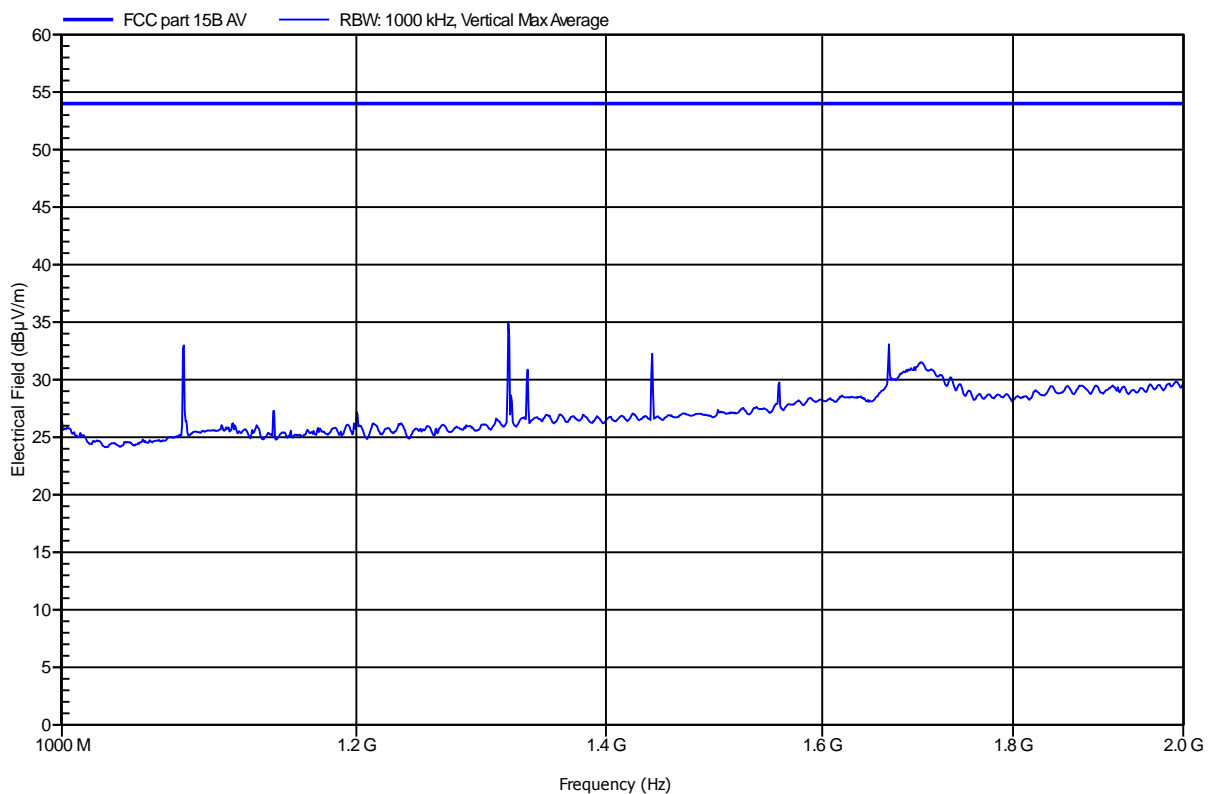


Spurious emissions under normal conditions according to EN 301489 - 1

Project number: G0M-1202-1757

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Operator:	Mr. Eichhorn
Test Conditions:	Tnom: 22°C, Unom: AC 120V
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3m, converted to 10m
Mode:	AC (120V) powered, active voice call, BT scanning
Test Date:	2012-07-20
Note:	

Index 14

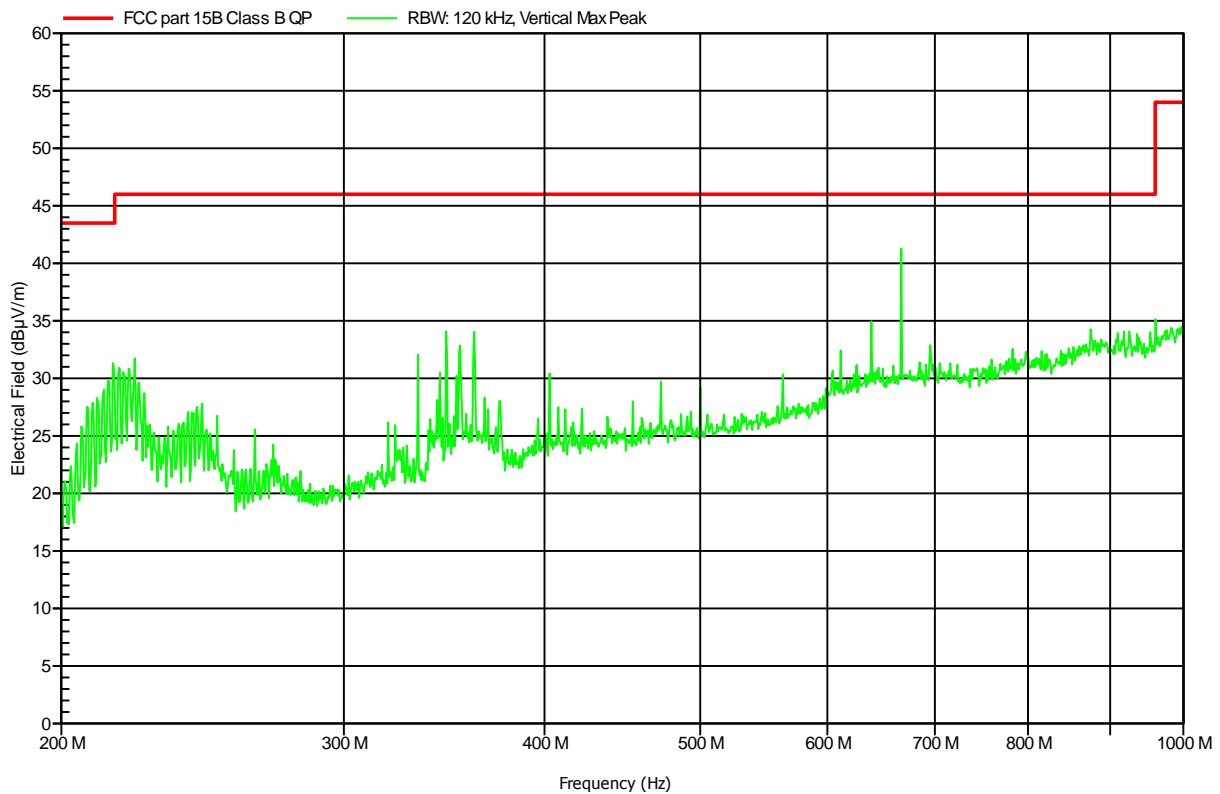


Spurious emissions under normal conditions according to EN 301489 - 1

Project number: G0M-1202-1757

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Model:	VVX600
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Eichhorn
Test Conditions:	Tnom: 22°C, Unom: AC 120V
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3m, converted to 10m
Mode:	AC (120V) powered, active voice call, BT scanning
Test Date:	2012-07-20
Note:	

Index 15

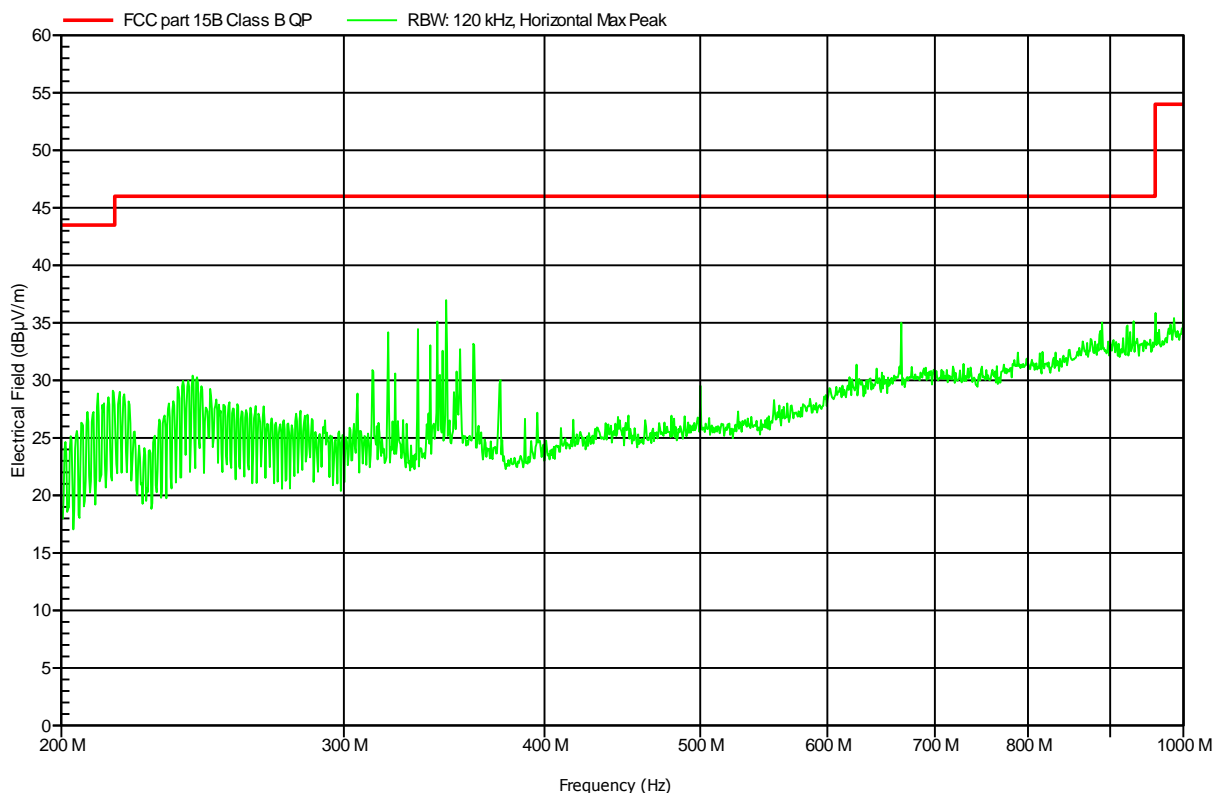


Spurious emissions under normal conditions according to EN 301489 - 1

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EUT Name:	Desktop VoIP Bluetooth Telephone
Model:	VVX600
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Eichhorn
Test Conditions:	Tnom: 22°C, Unom: AC 120V
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3m, converted to 10m
Mode:	AC (120V) powered, active voice call, BT scanning
Test Date:	2012-07-20
Note:	

Index 16

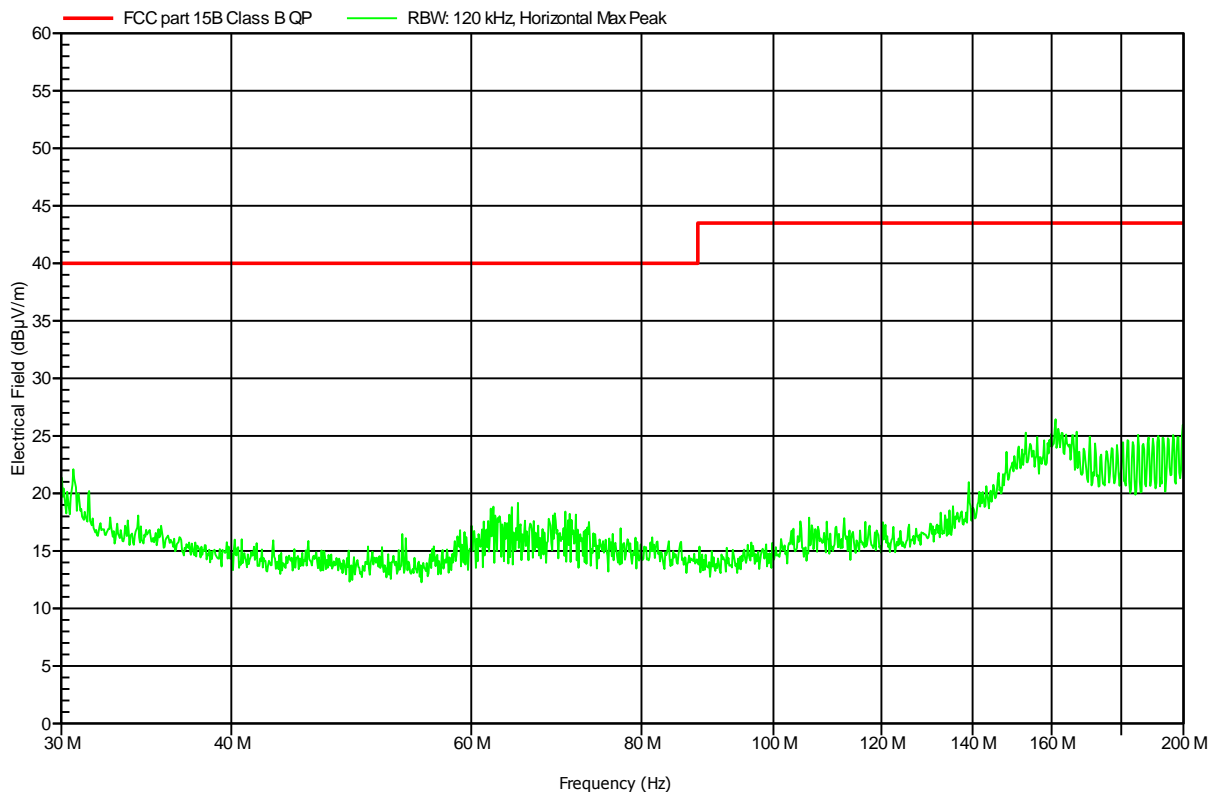


Spurious emissions under normal conditions according to EN 301489 - 1

Project number: G0M-1202-1757

Manufacturer:	Polycm Inc
EUT Name:	Desktop VoIP Bluetooth Telephone
Model:	VVX600
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Eichhorn
Test Conditions:	Tnom: 22°C, Unom: AC 120V
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3m, converted to 10m
Mode:	AC (120V) powered, active voice call, BT scanning
Test Date:	2012-07-20
Note:	

Index 17

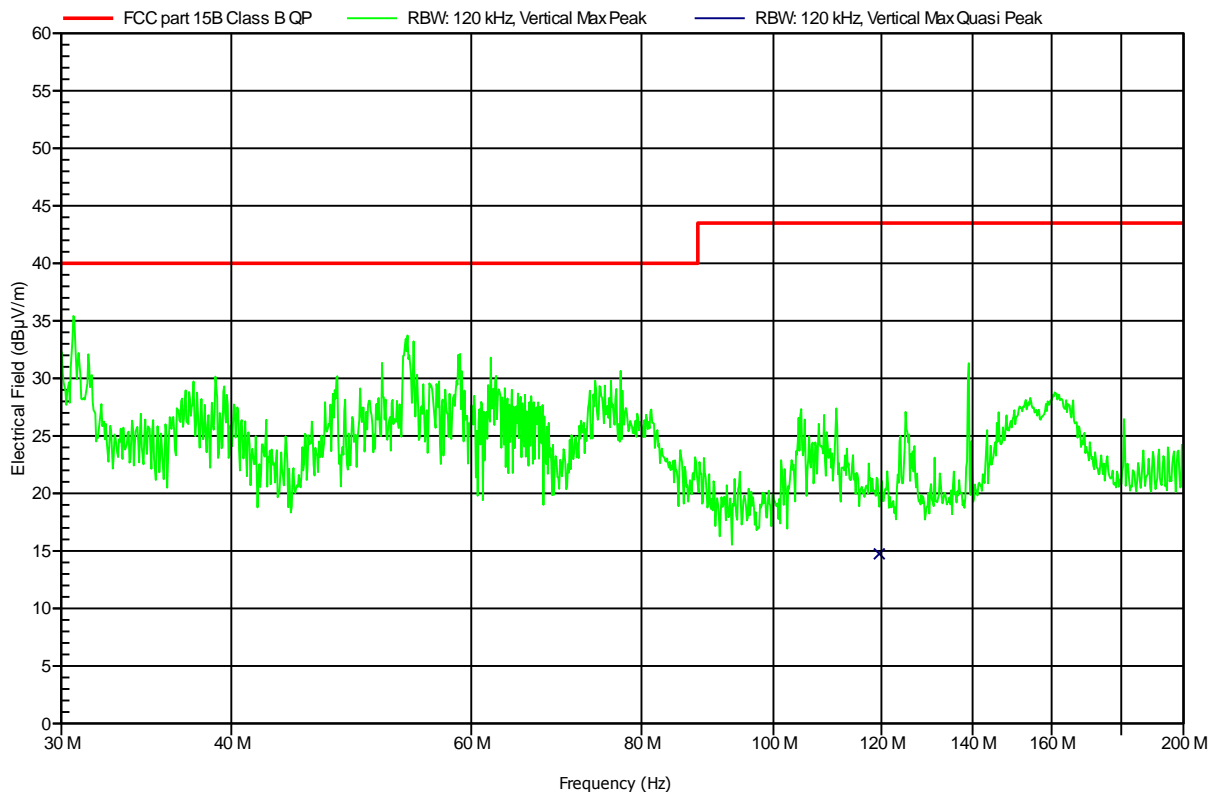


Spurious emissions under normal conditions according to EN 301489 - 1

Project number: G0M-1202-1757

Manufacturer:	Polycm Inc
EUT Name:	Desktop VoIP Bluetooth Telephone
Model:	VVX600
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Eichhorn
Test Conditions:	Tnom: 22°C, Unom: AC 120V
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3m, converted to 10m
Mode:	AC (120V) powered, active voice call, BT scanning
Test Date:	2012-07-20
Note:	

Index 18

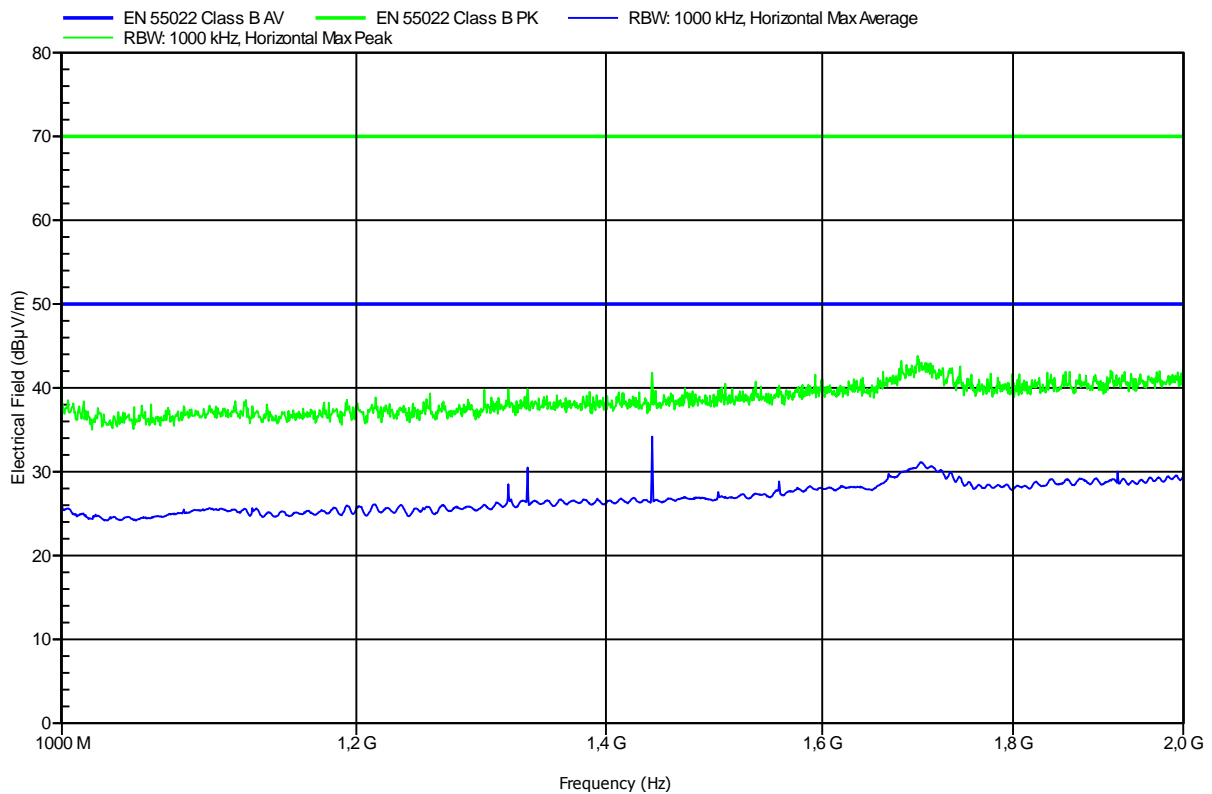


Spurious emissions under normal conditions according to EN 301489 - 1

Project number: G0M-1202-1757

Manufacturer:	Polycom Inc
EUT Name:	Desktop VoIP Bluetooth Telephone
Model:	VVX600
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Eichhorn
Test Conditions:	Tnom: 22°C, Unom: PoE (48V)
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3m, converted to 10m
Mode:	PoE powered, active voice call, BT scanning
Test Date:	2012-07-20
Note:	

Index 12

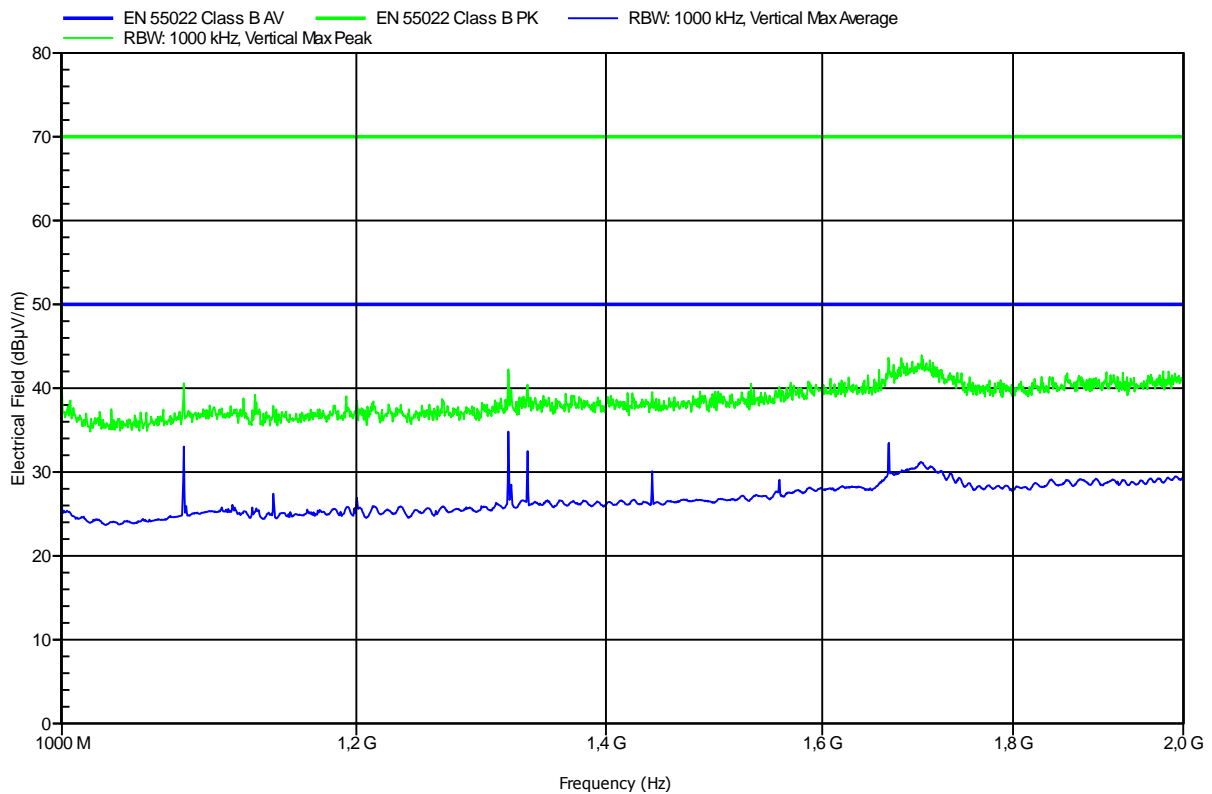


Spurious emissions under normal conditions according to EN 301489 - 1

Project number: G0M-1202-1757

Manufacturer:	Polycom Inc
EUT Name:	Desktop VoIP Bluetooth Telephone
Model:	VVX600
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Eichhorn
Test Conditions:	Tnom: 22°C, Unom: PoE (48V)
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3m, converted to 10m
Mode:	PoE powered, active voice call, BT scanning
Test Date:	2012-07-20
Note:	

Index 11

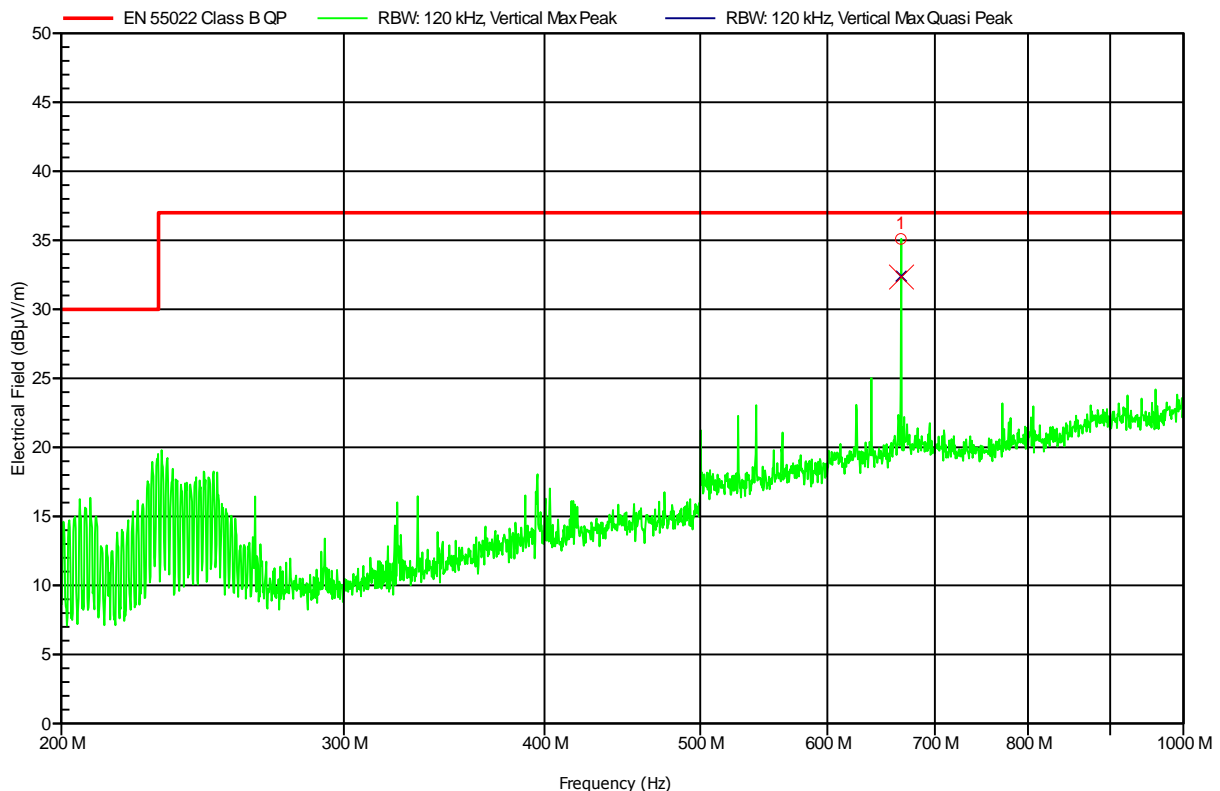


Spurious emissions under normal conditions according to EN 301489 - 1

Project number: G0M-1202-1757

Manufacturer: Polycm Inc
 EUT Name: Desktop VoIP Bluetooth Telephone
 Model: VVX600
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Eichhorn
 Test Conditions: Tnom: 22°C, Unom: PoE (48V)
 Antenna: Rohde & Schwarz HL 223, Vertical
 Measurement distance: 3m, converted to 10m
 Mode: PoE powered, active voice call, BT scanning
 Test Date: 2012-07-20
 Note:

Index 6



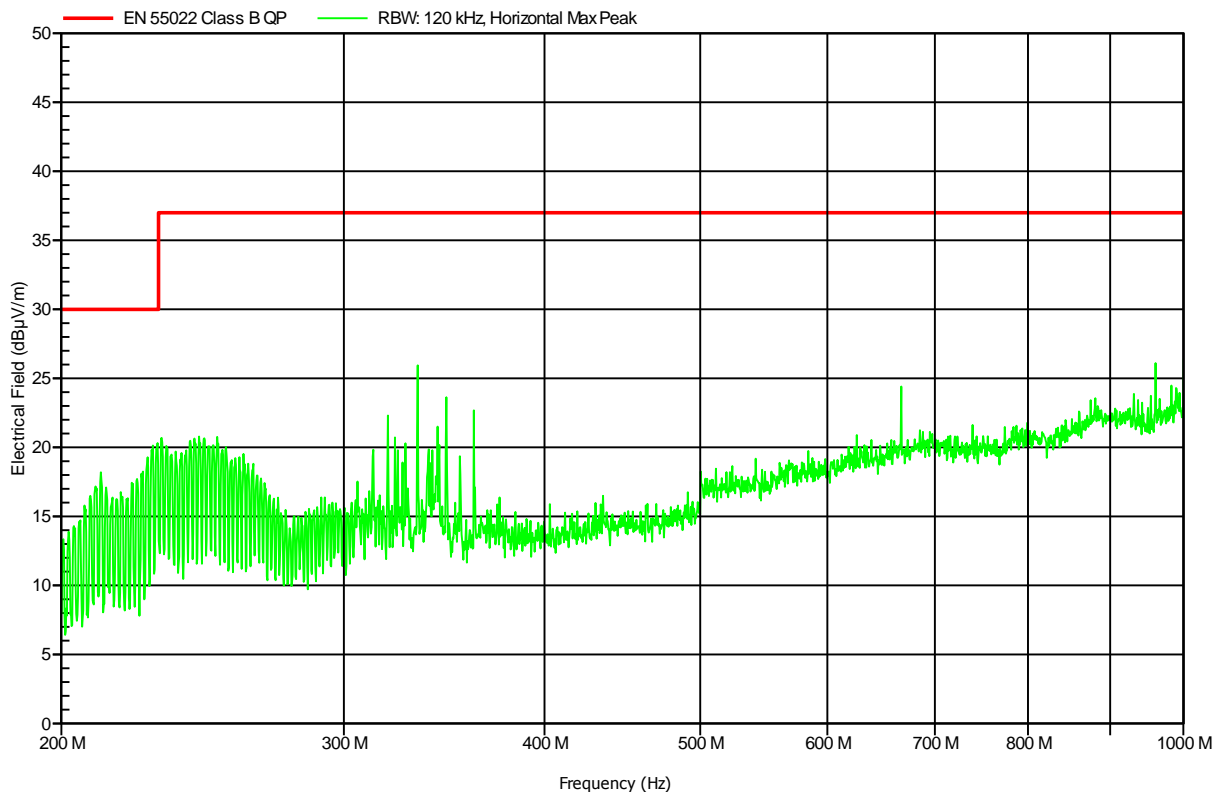
Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
666,71 MHz	32,38 dBµV/m	37 dBµV/m	-4,62 dB	Pass

Spurious emissions under normal conditions according to EN 301489 - 1

Project number: G0M-1202-1757

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EUT Name:	Desktop VoIP Bluetooth Telephone
Model:	VVX600
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Eichhorn
Test Conditions:	Tnom: 22°C, Unom: PoE (48V)
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3m, converted to 10m
Mode:	PoE powered, active voice call, BT scanning
Test Date:	2012-07-20
Note:	

Index 5

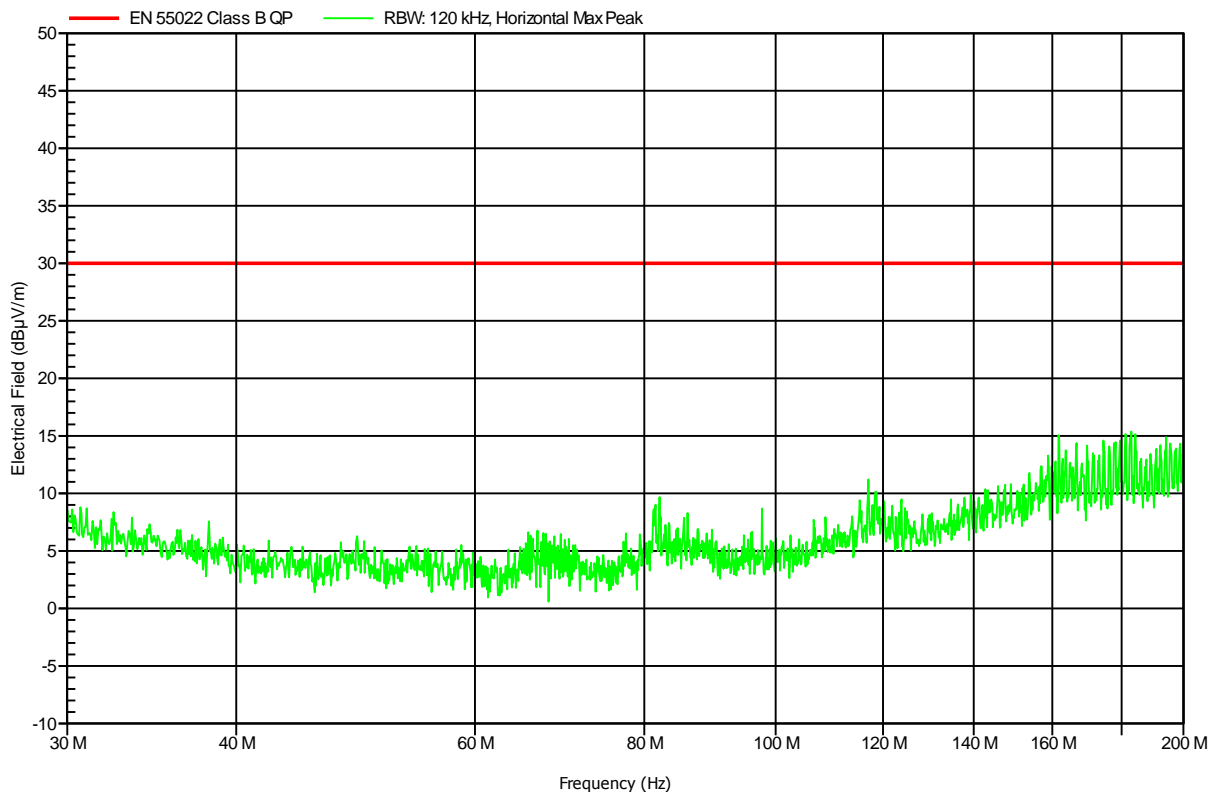


Spurious emissions under normal conditions according to EN 301489 - 1

Project number: G0M-1202-1757

Manufacturer:	Polycm Inc
EUT Name:	Desktop VoIP Bluetooth Telephone
Model:	VVX600
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Eichhorn
Test Conditions:	Tnom: 22°C, Unom: PoE (48V)
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3m, converted to 10m
Mode:	PoE powered, active voice call, BT scanning
Test Date:	2012-07-20
Note:	

Index 4

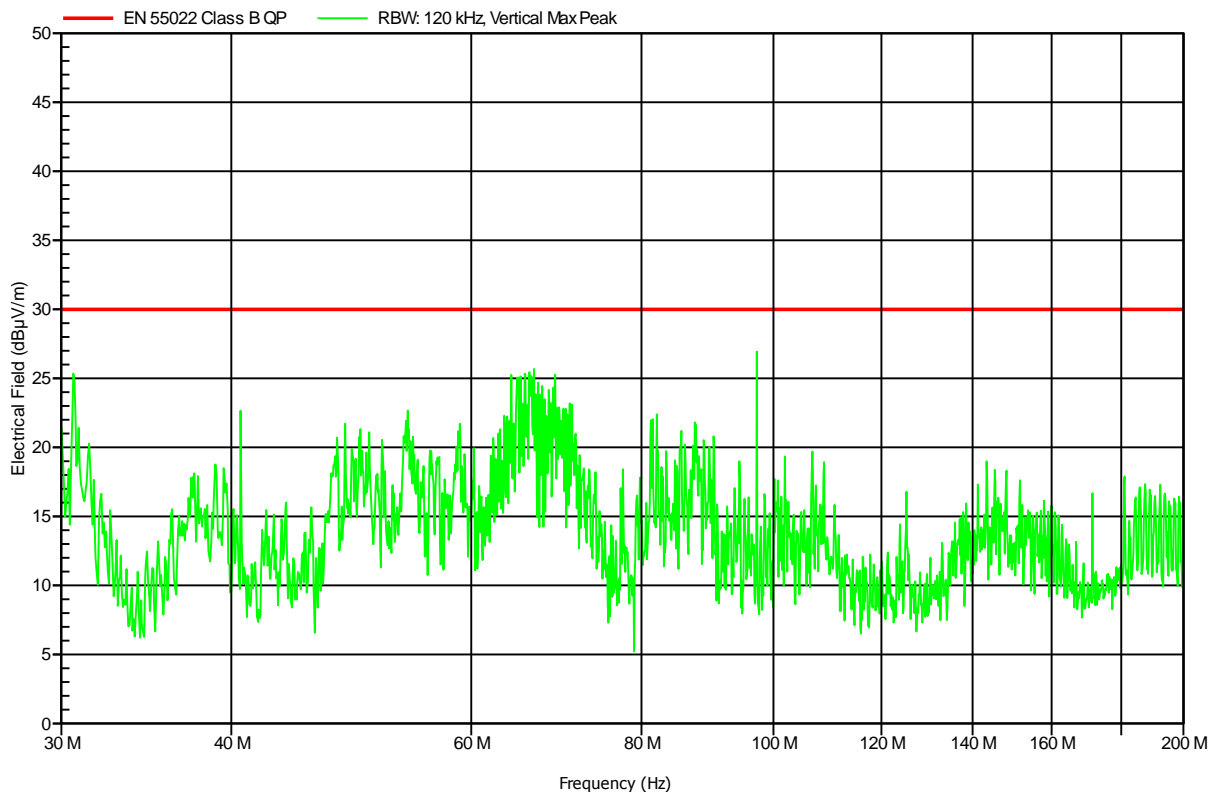


Spurious emissions under normal conditions according to EN 301489 - 1

Project number: G0M-1202-1757

Manufacturer:	Polycom Inc
EUT Name:	Desktop VoIP Bluetooth Telephone
Model:	VVX600
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Eichhorn
Test Conditions:	Tnom: 22°C, Unom: PoE (48V)
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3m, converted to 10m
Mode:	PoE powered, active voice call, BT scanning
Test Date:	2012-07-20
Note:	

Index 3



3.2 Test Conditions and Results – AC power line conducted emissions

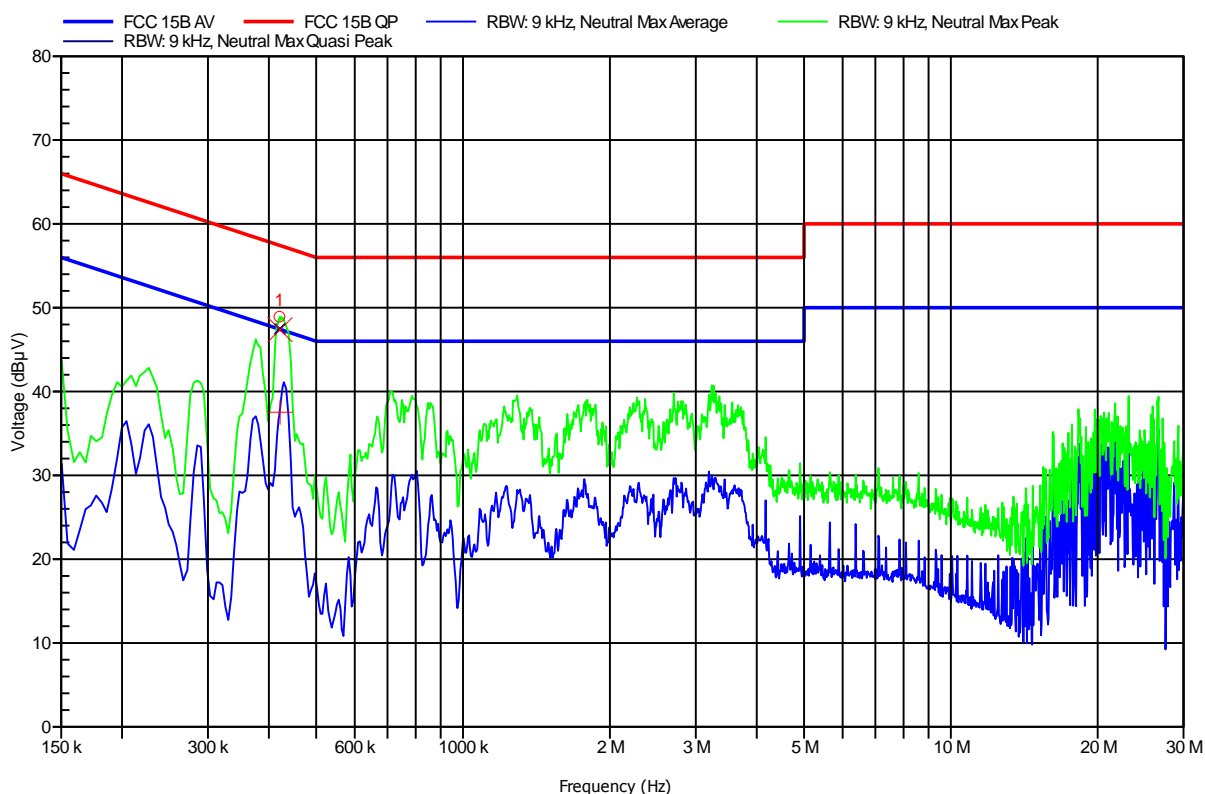
Conducted emissions acc. FCC 47 CFR 15.107 / IC RSS-Gen			Verdict: PASS	
Laboratory Parameters:	Required prior to the test	During the test		
Ambient Temperature	15 to 35 °C	24°C		
Relative Humidity	30 to 60 %	53%		
Test according referenced standards	Reference Method			
	ANSI C63.4			
Fully configured sample scanned over the following frequency range	Frequency range			
	0.15 MHz to 30 MHz			
Sample is tested with respect to the requirements of the equipment class	Equipment class			
	Class B			
Points of Application	Application Interface			
AC Mains	LISN			
Operating mode	1, 2			
Limits and results Class B				
Frequency [MHz]	Quasi-Peak [dBµV]	Result	Average [dBµV]	Result
0.15 to 5	66 to 56*	PASS	56 to 46*	PASS
0.5 to 5	56	PASS	46	PASS
5 to 30	60	PASS	50	PASS
Limits and results Class A				
Frequency [MHz]	Quasi-Peak [dBµV]	Result	Average [dBµV]	Result
0.15 to 5	79	PASS	66	PASS
5 to 30	73	PASS	60	PASS
Comments:				
* Limit decreases linearly with the logarithm of the frequency.				

EMI voltage test in the ac-mains according to EN 301489 - 1

Project number: G0M-1202-1757

Manufacturer: Polycm Inc
 EUT Name: Desktop VoIP Bluetooth Telephone
 Model: VVX600
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Eichhorn
 Test Conditions: Tnom: 24°C, Unom: AC 120V
 LISN: ESH2-Z5 N
 Mode: AC (120V) powered, active voice call, BT scanning
 Test Date: Freitag, 27. Juli 2012
 Note:

Index 21



Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
420,45 kHz	47,46 dBµV	57,44 dBµV	-9,98 dB	Pass

Frequency	Average	Average Limit	Average Difference	Average Status
420,45 kHz	37,61 dBµV	47,44 dBµV	-9,83 dB	Pass

Test Report No.: G0M-1202-1757-EF01-V02

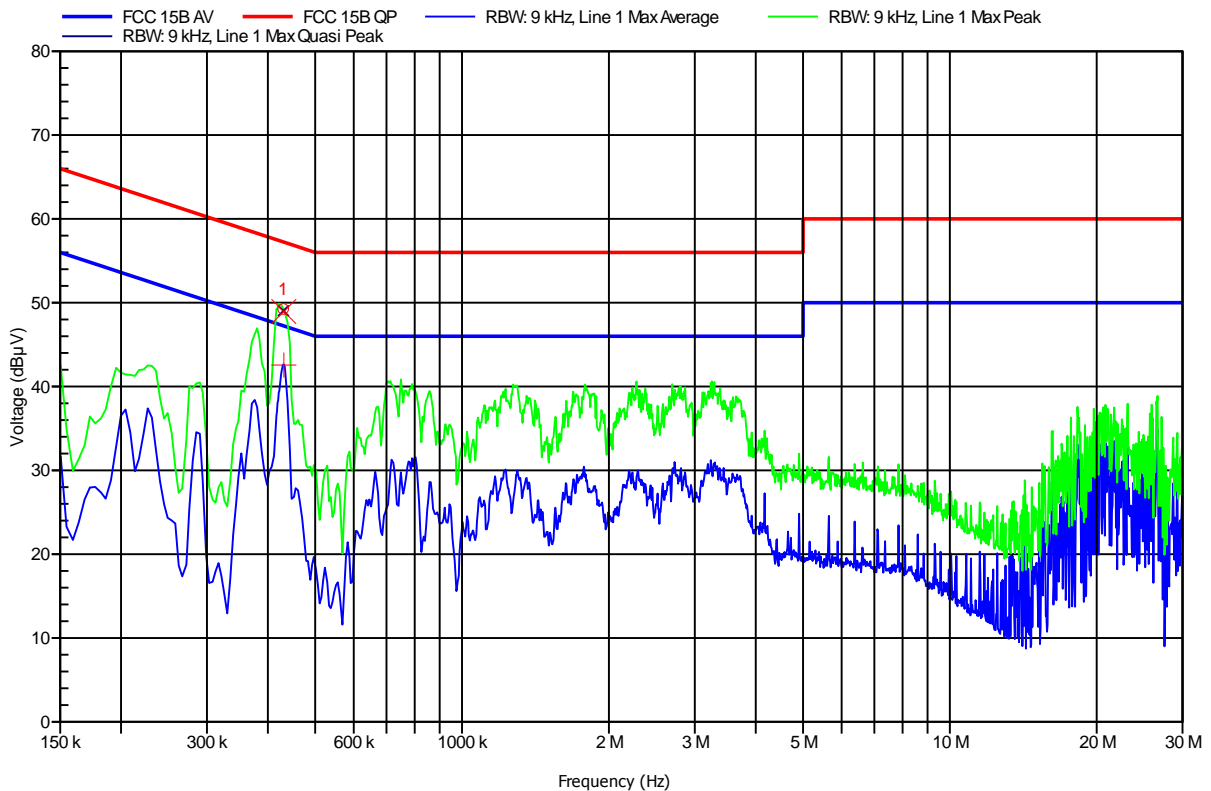
 Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

EMI voltage test in the ac-mains according to EN 301489 - 1

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Manufacturer: Polycm Inc
 EUT Name: Desktop VoIP Bluetooth Telephone
 Model: VVX600
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Eichhorn
 Test Conditions: Tnom: 24°C, Unom: AC 120V
 LISN: ESH2-Z5 L
 Mode: AC (120V) powered, active voice call, BT scanning
 Test Date: Freitag, 27. Juli 2012
 Note:

Index 22



Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
429,9 kHz	49,03 dBµV	57,25 dBµV	-8,23 dB	Pass
Frequency	Average	Average Limit	Average Difference	Average Status
429,9 kHz	42,65 dBµV	47,25 dBµV	-4,61 dB	Pass

Test Report No.: G0M-1202-1757-EF01-V02

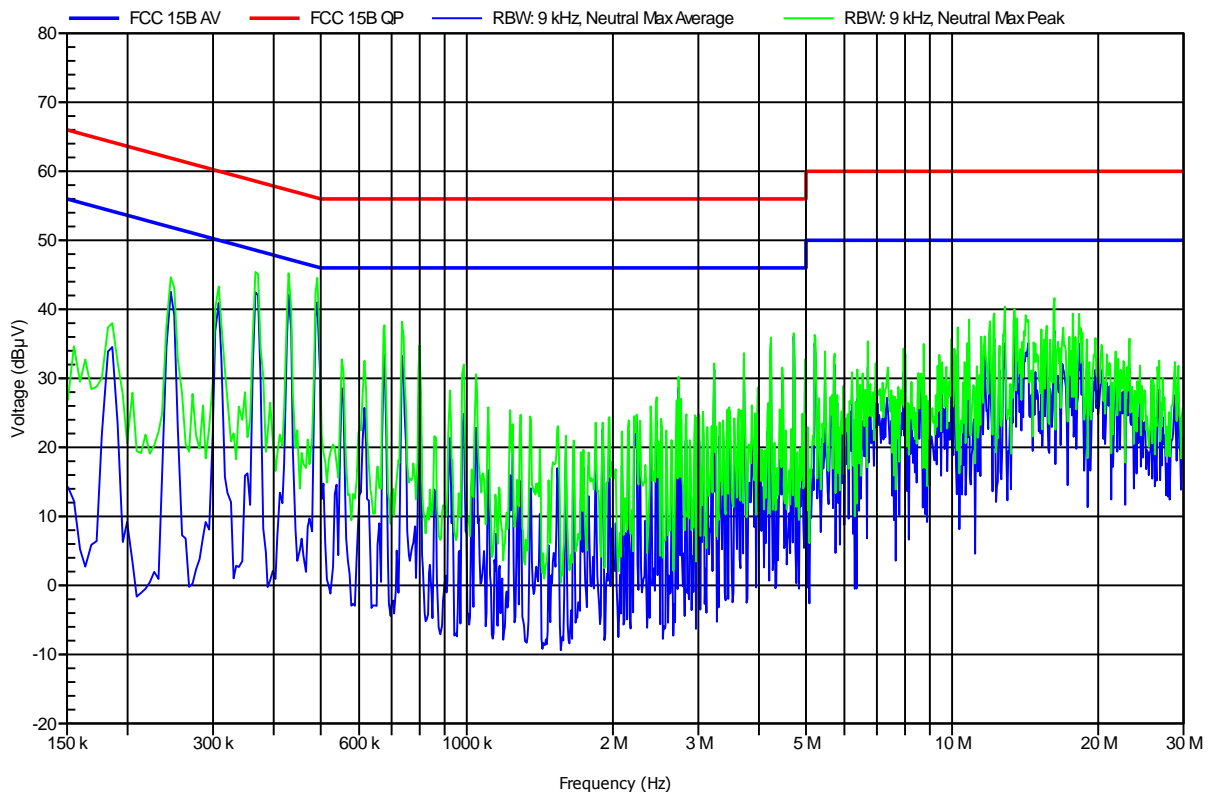
 Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

EMI voltage test in the ac-mains according to EN 301489 - 1

Project number: G0M-1202-1757

Manufacturer:	Polycom Inc
EUT Name:	Desktop VoIP Bluetooth Telephone
Model:	VVX600
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Eichhorn
Test Conditions:	Tnom: 24°C, Unom: PoE (48V)
LISN:	ESH2-Z5 N
Mode:	PoE powered, active voice call, BT scanning
Test Date:	2012-07-30
Note:	ESH2-Z5 N @ PoE Switch Power Supply

Index 25



Test Report No.: G0M-1202-1757-EF01-V02

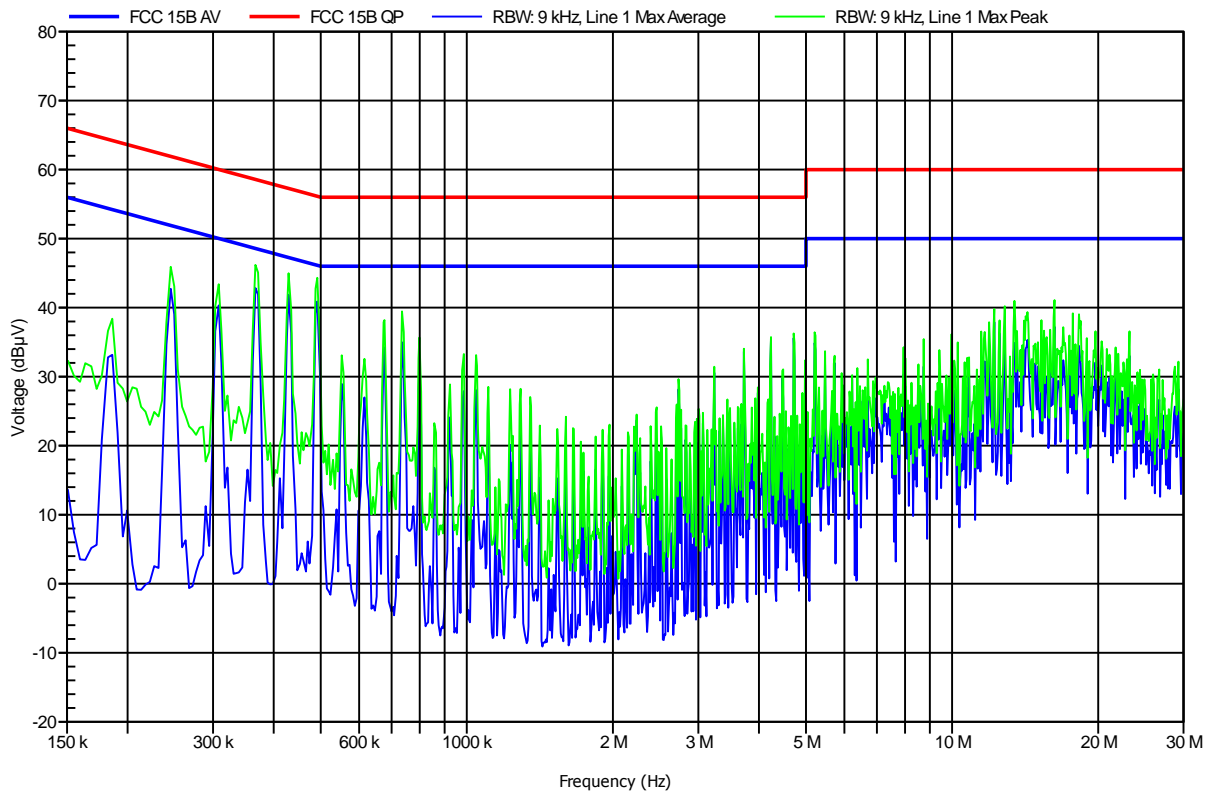
 Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

EMI voltage test in the ac-mains according to EN 301489 - 1

Project number: G0M-1202-1757

Manufacturer:	Polycm Inc
EUT Name:	Desktop VoIP Bluetooth Telephone
Model:	VVX600
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Eichhorn
Test Conditions:	Tnom: 24°C, Unom: PoE (48V)
LISN:	ESH2-Z5 L
Mode:	PoE powered, active voice call, BT scanning
Test Date:	2012-07-30
Note:	ESH2-Z5 L @ PoE Switch Power Supply

Index 26



Version History

Version	Issue Date	Remarks	Revised by
01	2012-08-17	Initial Release	M. Eichhorn
02	2012-08-22	Replaced document: GOM-1202-1757-EF01-V01 Replaced by: GOM-1202-1757-EF01-V02 Reason: <ul style="list-style-type: none">• Page 6: Power Supply corrected	M. Klein
