

TEST - REPORT

FCC RULES PART 15 / SUBPART B IC RSS-GEN ISSUE 2

FCC ID: UOU68743AA142D-01

IC: 1884E68743000

Test report no.:

G0M20807-1914-C-2





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



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1 General Information

1.1 Notes

The purpose of conformity testing is to increase the probability of adherence to the essential requirements or conformity specifications, as appropriate.

The tests were carried out and passed in accordance to the standards:

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The complexity of the technical specifications, however, means that full and thorough testing is impractical for both technical and economic reasons.

Furthermore, there is no guarantee that a test sample which has passed all the relevant tests conforms to a specification (only telecommunication products).

Neither is there any guarantee that such a test sample will interwork with other genuinely open systems.

The existence of the tests nevertheless provides the confidence that the test sample possesses the qualities as maintained and that its performance generally conforms to representative cases of communications equipment.

The test results of this test report relate exclusively to the item tested as specified in 1.6.

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Important Notes:

Proper labeling is required for each device. Devices shall be labeled in accordance with labeling requirements pursuant to section 15.19 and section 2.1074 of the FCC rules.

Devices subject to a Declaration of Conformity shall be uniquely identified by the responsible party. This identification shall not be of a format which could be confused with the FCC Identifier required on certified, notified type accepted or type approved equipment.

The responsible party shall maintain adequate identification records to facilitate positive identification for each device.

The user manual or instruction manual shall included also a warning statement that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Reference Section 15.21

Furthermore information to the user regarding to the interference potential of the device and about simple measures that can be taken to correct interference is required.

Reference Section 15.105

The responsible party must warrant that each unit of equipment marketed under a Declaration of Conformity is identical to the unit tested and found acceptable with the standards and that the records maintained by the responsible party continue to reflect the equipment being produced under the Declaration of Conformity within the variation that can be expected due to quantity production and testing on a statistical basis.



1.2	Operator:

26.09.2008		A. Pflug	4.	Day
Date	Eurofins Lab.	Name	Signature	1

Technical responsibility for area of testing:

26.09.2008 J. Zimmermann

Date Eurofins Name Signature



1.3 Testing laboratory

1.3.1 Location

EUROFINS PRODUCT SERVICE GMBH STORKOWER STR. 38c D- 15526 REICHENWALDE B. BERLIN GERMANY

Telephone: + 49 33631 888-00

Telefax: + 49 33631 888-660

1.3.2 Details of accreditation status

DAR ACCREDITED TESTING LABORATORY

DAR-REGISTRATION NUMBER: DAT-P-268/08

RECOGNIZED NOTIFIED BODY EMC

REGISTRATION NUMBER: BNetzA-bS EMV-07/61

RECOGNIZED NOTIFIED BODY R&TTE

REGISTRATION NUMBER: BNetzA-bS-02/51-53

FCC FILED TEST LABORATORY

Reg.-No. 96970

A2LA ACCREDITED TESTING LABORATORY

CERTIFICATE No. 1983.01

BLUETOOTH QUALIFICATION TEST FACILITY (BQTF)

ACCREDITED BY BLUETOOTH QUALIFICATION REVIEW BOARD

INDUSTRY CANADA FILED TEST LABORATORY

REG. No. IC 3470A

1.3.3 Test location, where different

: ./.
: ./.
: ./.
: ./.
: ./.
: ./.

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1.4 Details of applicant

Name : Aastra DeTeWe GmbH

 Street
 : Zeughofstr. 1

 Town
 : 10997 Berlin

 Country
 : Deutschland

 Telephone
 : 030/6104 5329

 Fax
 : 030/6104 4521

Contact : Herr Gerhard Hofmann

Telephone : 030/6104 5329

1.5 Application details

Date of receipt of application : 29.07.2008

Date of receipt of test item : 29.07.2008

Date of test : 29.07.2008 – 30.07.2008

1.6 Test item

1.6.1 Description of test item

Type of product : DECT Phone

Type identification : Aastra 142d

Serial number : without

Photos : Please find in Annex.

Power supply : 3.6 V DC 120 V AC/DC Adapter

- Phihong PSM01R-075R - FRIWO No.: 1-1891221

Equipment class : JBP – Computing Device Peripheral



1.6.2 Manufacturer (if different from applicant in point 1.4)

Name : Aastra DeTeWe GmbH

Street : Zeughofstr. 1
Town : 10997 Berlin
Country : Deutschland

Contact . Herr Gerhard Hofmann

Phone . 030/6104 5329

1.6.3 Frequency behavior

Highest clock Frequency	< 200 MHz

1.7 Test standards

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2 Technical test

2.1 Summary of test results

No deviations from the technical specification(s) were ascertained in the course of the tests performed.	×
or	
The deviations as specified in 2.3 were ascertained in the course of the tests performed.	

2.2 Test environment

Temperature : 23 ° C

Relative humidity content : 46 %

Air pressure : 1009 hPa

Details of power supply : 3.6 V DC 120 V AC/DC Adapter

Phihong PSM01R-075R FRIWO No.: 1-1891221

Other parameters : ./.



2.3 Test results

×	1 st test		test after modification		production test
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Test Emission / Immunity	Done	Test passed	Test failed		
Conducted Emission	FCC part 15.107	RSS-Gen 7.2.2	×	×	
Radiated Emission	FCC part 15.109	RSS-Gen 7.2.3	×	×	

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2.4 Test equipment utilized

No.	Test Equipmen	Туре	Manufacturer
ETS 0001	ESD Gun	SESD 30000	Schlöder
ETS 0008	Antenna	Loop antenna	Siemens
ETS 0012	Biconical Antenna	HK 116	R&S
ETS 0013	LPD Antenna	HL 223	R & S
ETS 0014	Log Periodical Antenna	HL 025	R & S
ETS 0038	RF amplifier	150L	Amplifier Research
ETS 0032	Controller	HD 050	Heinrich Deisel
ETS 0039	Absorbing clamp	MDS 21	R&S
ETS 0040	Artificial Mains Network	ESH3-Z5	R&S
ETS 0041	T-Artificial Mains Network	ESH3-Z4	R&S
ETS 0042	Artificial Mains	ESH3-Z6	R&S
ETS 0045	Vehicle LISN	NNBM 8126D	Schwarzbeck
ETS 0052	Audio analyzer	UPA 4	R&S
ETS 0056	Ultra Compact Simulator	UCS 500 M4	EM Test
ETS 0057	Motor Variac	MV 2616	EM Test
ETS 0058	Capacitive coupling clamp	E 502 B	Keytek/ EMC
ETS 0059	Kikusui amplifier	PCR 2000L	Keytek/ EMC
ETS 0064	CDN IEC 61000-4-6		Keytek/ EMC
ETS 0066	EM Injection Clamp		FCC/ EMC
ETS 0076	Feeding bridge A	SBA 1000	ESP
ETS 0082	PC system		Esotronic
ETS 0085	Shielded room	SR 1	Frankonia
ETS 0086	Semi-Anechoic chamber	AC 1	Frankonia
ETS 0088	Color TV pattern Generator	PM 5518-TX VPS	Philips
ETS 0092	Power Amplifier	150W1000	AR Amplifier Research
ETS 0102	CDN	M3-801/6	MEB
ETS 0103	Magnetic field test set	MF1000	EMC-Partner
ETS 0148	RF Current Probe	F-65	FCC
ETS 0155	Signal Generator	SMG	R&S
ETS 0157	TV and Sat-Signalgenerator	VTG 700	Grundig
ETS 0161	Harmonic / Flicker Analyzer	HFA 3000	Schlöder
ETS 0178	Open area test side	10m	ETS
ETS 0233	Direction coupler	RK 100	MEB
ETS 0276	Audio Analyzer	UPL 16	R&S
ETS 0282	RF bridge 75 Ohm	86207 A	HP
ETS 0287	EMI Test receiver	ESHS10	R&S
ETS 0288	Artificial mains	ESH2-Z5	R&S
ETS 0292	RF Generator	SMHU	R&S
ETS 0348	RF Millivolt meter	URV 55	R&S
ETS 0300	RF amplifier	75 A 250	Ar
ETS 0348	RF Millivolt meter	URV 55	R & S
ETS 0401	MPEG2 Generator	DVG	R & S
ETS 0402	TV Messender	SFQ	R & S
ETS 0409	Stripline	DC220	Schwarzbeck
ETS 0428	4-WIRE ISN with B1	ENY41	R&S
ETS 0448	RF Power Amplifier	AR 60S1G3	AR Amplifier Research
ETS 0472	Antenna	BTA-H	Frankonia
ETS 0474	EMI Test Receiver	ESCS 30	R&S
ETS 0485	Radio Communication Tester	CMU 200	R&S

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2.4.1 Conducted Emission

2.4.1.1 Test Equipment

- a) Artificial mains (ESH3-Z5)
 - For your reference please find it in our test equipment list at page 10 as number: 40.
- b) Artificial mains (ESH3-Z4)
 - For your reference please find it in our test equipment list at page 10 as number: 41.
- c) Test receiver (ESHS10)
 - For your reference please find it in our test equipment list at page 10 as number: 01.
- d) Monitoring System
 - For your reference please find it in our test equipment list at page 10 as number: 71.
- e) Inter phone System
 - For your reference please find it in our test equipment list at page 10 as number: 72.
- f) Shielded room
 - For your reference please find it in our test equipment list at page 10 as number: 85.

2.4.1.2 Test Procedures

· Test configuration

The test configuration is contained inside of a shielded chamber and corresponds to the standard ANSI C.63.4: 2003. The equipment under test is placed in the facility on a wooden table 0.8m high. The equipment under test is connected with the artificial mains network (AMN) in a distance of 0,8m and also 0,8m from other subassembly and metallic area. The measurement receiver is placed in a special room adjacent to the chamber. The observation of the equipment under test is realized by 3 video cameras and by a microphone.

Test parameters and marginal conditions

The tests are carried out with nominal impedance by 50 Ω / 50 μ H of the AMN in a frequency range 150 kHz to 30 MHz. This measurement was transacted first with instrumentation using an average and peak detector and a 10 kHz bandwidth. If the peak detector achieves a calculated level, the measurement is repeated by an instrumentation using a quasi-peak detector,

Further information please find in test report.



2.4.2 Spurious Emission

2.4.2.1 Test Equipment

- a) Antenna (HK116)
 - For your reference please find it in our test equipment list at page 10 as number: 12.
- b) Antenna (HL223)
 - For your reference please find it in our test equipment list at page 10 as number: 13.
- c) Video camera system
 - For your reference please find it in our test equipment list at page 10 as number: 71.
- d) Interphone System
 - For your reference please find it in our test equipment list at page 10 as number: 72.
- e) Semi anechoic chamber
 - For your reference please find it in our test equipment list at page 10 as number: 86.
- f) EMI test receiver ESCS-30
 - For your reference please find it in our test equipment list at page 10 as number: 474.

2.4.2.2 Test Procedures

Test configuration

The test configuration corresponds to the standard ANSI C 63.4: 2003. The equipment under test is placed on a non metallic table with 0,8 m height. The power supply and the RF connection points are close to the equipment under test at the floor inside a connection box. The cables to this connection box are shielded and below the double floor. The receiving antenna is placed in a height at 1,0 to 4,0 m, in a distance of 10 m. The measurement receiver is placed in a special room. The observation of the equipment under test is realized by 3 video cameras and by a microphone.

· Test parameters and marginal conditions

The test are carried out with horizontal and vertical polarization of the antenna in a frequency range of 30 MHz to 5 000 MHz. Further information please find in the test protocol.

2.5 Test protocols

Conducted Emission

Emission

Standard: FCC part 15.107; RSS-Gen 7.2.2

Reg.-no. : G0M20807-1914-C-2

<u>Device</u> : Aastra 142d <u>Date</u> : 26.09.2008

Class : B

Frequency Range	Limit dBµV		Passed	Failed	Number of rechecks
	Quasi- peak	Average			
150 kHz - 500 kHz AC	66 to 56 [*]	56 to 46 [*]	×		0
500 kHz - 5 MHz AC	56	46	×		0
5 MHz - 30 MHz AC	60	50	×		0

^{*} Decreases with logarithm of the frequency

Uncertainty: $U_{lab(cond)} = 3.8 \text{ dB}.$

Comment: See attached diagrams in Annex B.



Radio Noise Field Strength

Emission

Standard: FCC part 15.109; RSS-Gen 7.2.3

Reg.-no.: G0M20807-1914-C-2

<u>Device</u>: AASTRA 142D
Date: 26.09.2008

Class : B

Frequency Range Polarization	Limit μV/m	Passed	Failed	Number of rechecks
30 MHz - 88 MHz	90	×		0
88 MHz - 216 MHz	150	×		0
216 MHz - 960 MHz	210	×		0
960 MHz - 5000 MHz	300	×		0

Uncertainty: $U_{lab(rad)} = 5.3 \text{ dB}$

Comment: See attached diagrams in Annex B.



2.6 Equipment Modification

No modifications were installed by Eurofins Product Service GmbH.



3 Normative references

- /1/ FCC part 15: September 2007 Radio Frequency Devises
- /2/ CISPR 22: 2006 Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
- /3/ ANSI C 63.4: 2003
 American National Standard for Methods of Measurement of Radio-Noise Emission from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
- IC RSS-Gen Issue 2 June 2007
 General Requirements and Information for the Certification of Radio communication Equipment



Annex B

Diagrams

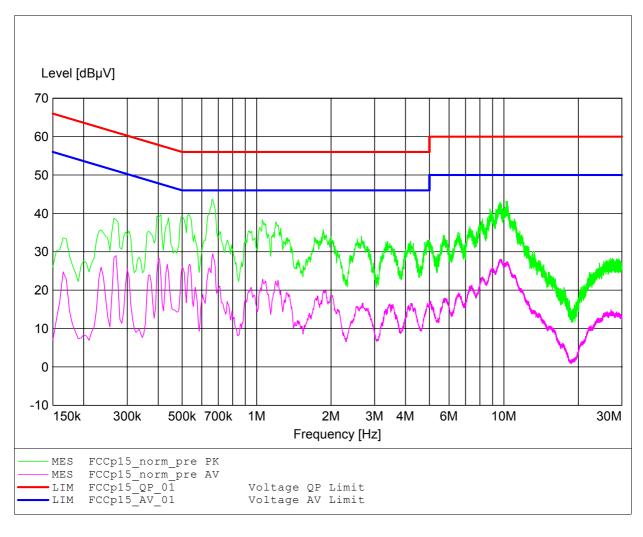
Ordernumber: G5M20803-1914

Approval Holder: Aastra DeTeWe GmbH DECT6.0 Handset EUT: Model: Aastra 142

Test Site / Operator: eurofins Product Service GmbH / Mr. Pflug Unom: 120 V AC (AC/DC-ADAPTOR), Tnom: 23°C Test Conditions:

Test Specification: V-Network: ESH2-Z5 (L1)

mode: charging (ENGINEERING SAMPLE) + dect-link
mode: PS PHIHONG model:PSM01R-075R Comment 1:



Ordernumber: G5M20803-1914

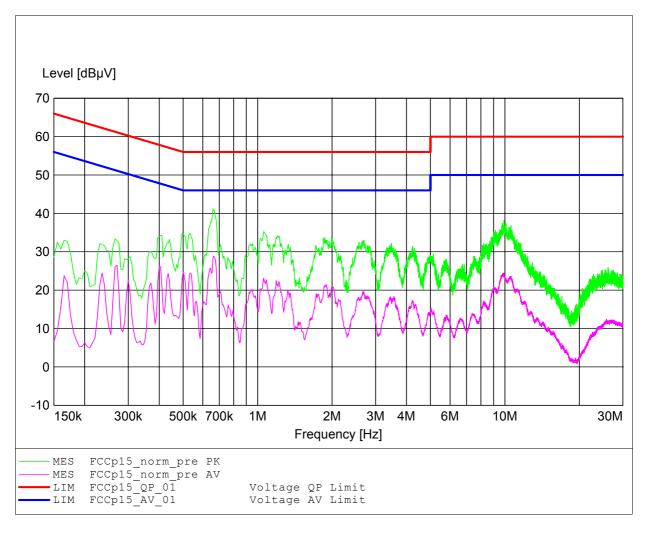
Approval Holder: Aastra DeTeWe GmbH DECT6.0 Handset EUT: Model:

Aastra 142

Test Site / Operator: eurofins Product Service GmbH / Mr. Pflug Unom: 120 V AC (AC/DC-ADAPTOR), Tnom: 23°C Test Conditions:

Test Specification: V-Network: ESH2-Z5 (N)

mode: charging (ENGINEERING SAMPLE) + dect-link
mode: PS PHIHONG model:PSM01R-075R Comment 1:



Ordernumber: G5M20803-1914

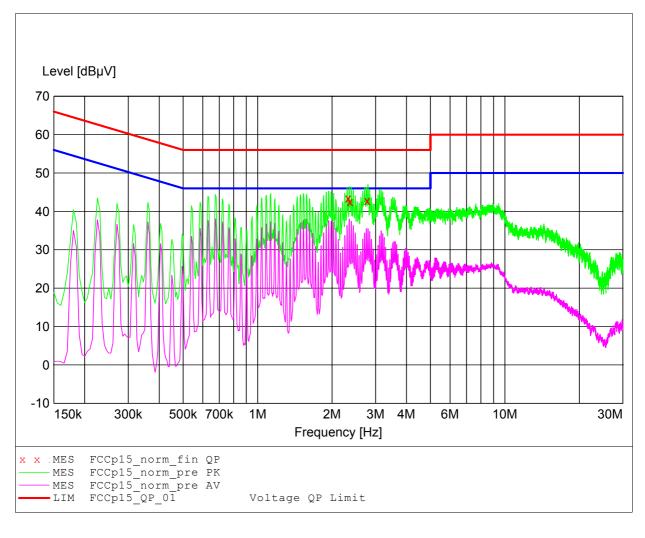
Approval Holder: Aastra DeTeWe GmbH DECT6.0 Handset EUT:

Aastra 142 Model:

Test Site / Operator: eurofins Product Service GmbH / Mr. Pflug Unom: 120 V AC (AC/DC-ADAPTOR), Tnom: 23°C Test Conditions:

Test Specification: V-Network: ESH2-Z5 (L1)

mode: charging (ENGINEERING SAMPLE) + dect-link
mode: (PS FRIWO No.: 1 -1891221-) Comment 1:



Ordernumber: G5M20803-1914

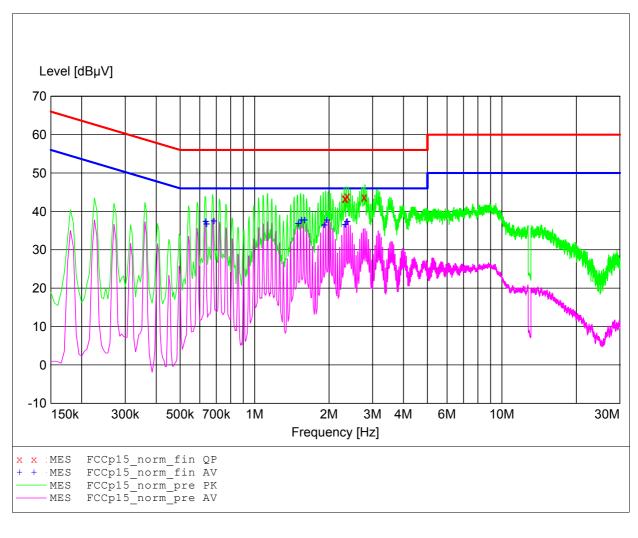
Approval Holder: Aastra DeTeWe GmbH DECT6.0 Handset EUT: Model:

Aastra 142

Test Site / Operator: eurofins Product Service GmbH / Mr. Pflug Unom: 120 V AC (AC/DC-ADAPTOR), Tnom: 23°C Test Conditions:

Test Specification: V-Network: ESH2-Z5 (L1)

mode: charging (ENGINEERING SAMPLE) + dect-link
mode: (PS FRIWO No.: 1 -1891221-) Comment 1:



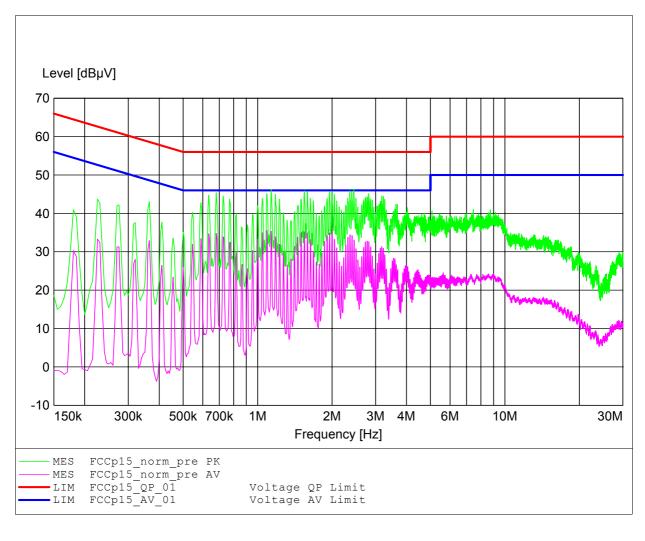
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Approval Holder: Aastra DeTeWe GmbH DECT6.0 Handset EUT: Aastra 142 Model:

Test Site / Operator: eurofins Product Service GmbH / Mr. Pflug Unom: 120 V AC (AC/DC-ADAPTOR), Tnom: 23°C Test Conditions:

Test Specification: V-Network: ESH2-Z5 (N)

mode: charging (ENGINEERING SAMPLE) + dect-link
mode: (PS FRIWO No.: 1 -1891221-) Comment 1:



to FCC part 15 Ordernumber: GOM2807-1914

Approval Holder: Aastra DeTeWe GmbH DECT6.0 Handset EUT: Aastra 142

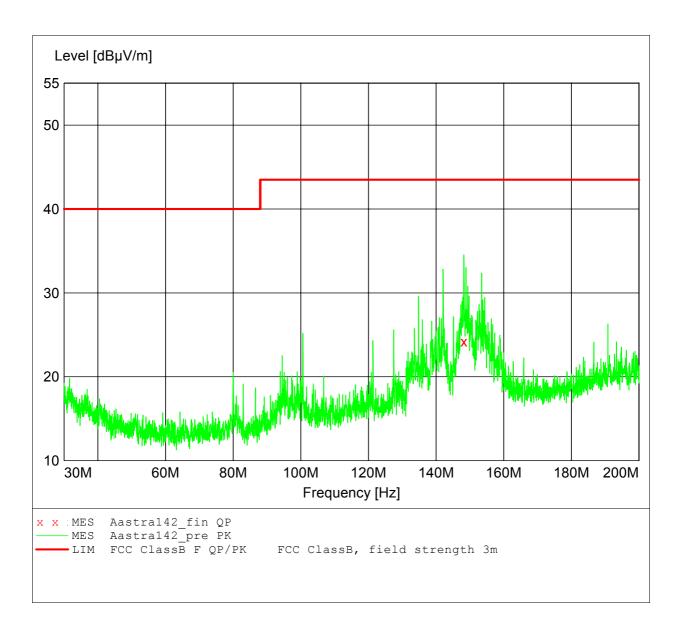
Model:

Test Site / Operator: eurofins Product Service GmbH / Mr. Pflug Tnom: 23°C, Unom: 120 VAC (AC/DC-adapter) Test Conditions:

Test Specification: Ant: HK 116, vertical

Comment 1: mode: dect-link + handset + usb-cable

Comment 2: mode:



to FCC part 15 Ordernumber: G0M2807-1914

Approval Holder: Aastra DeTeWe GmbH EUT: DECT6.0 Handset

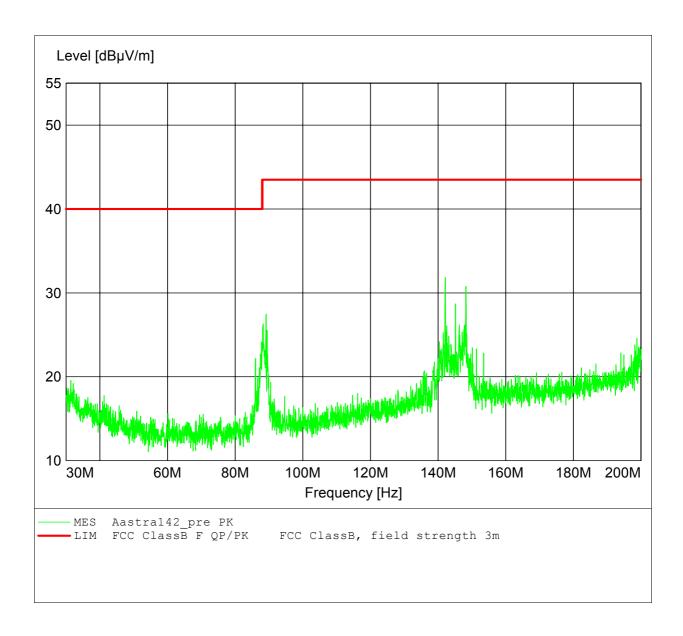
Model: Aastra 142

Test Site / Operator: eurofins Product Service GmbH / Mr. Pflug Test Conditions: Tnom: $23\,^{\circ}\text{C}$, Unom: $120\,\,\text{VAC}$ (AC/DC-adapter)

Test Specification: Ant: HK 116, horizontal

Comment 1: mode: dect-link + handset + usb-cable

Comment 2: mode:



to FCC part 15 Ordernumber: G0M2807-1914

Approval Holder: Aastra DeTeWe GmbH EUT: DECT6.0 Handset

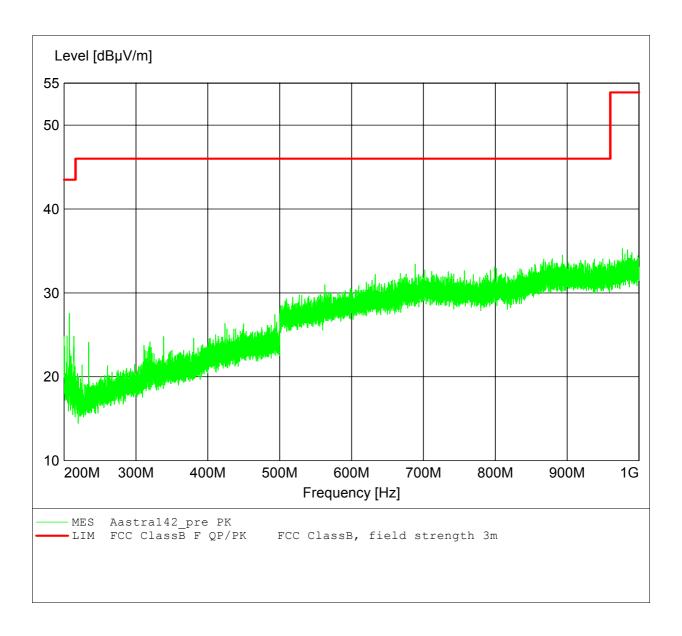
Model: Aastra 142

Test Site / Operator: eurofins Product Service GmbH / Mr. Pflug Test Conditions: Tnom: 23°C, Unom: 120 VAC (AC/DC-adapter)

Test Specification: Ant: HL 223, vertical

Comment 1: mode: dect-link + handset + usb-cable

Comment 2: mode:



to FCC part 15 Ordernumber: G0M2807-1914

Approval Holder: Aastra DeTeWe GmbH EUT: DECT6.0 Handset

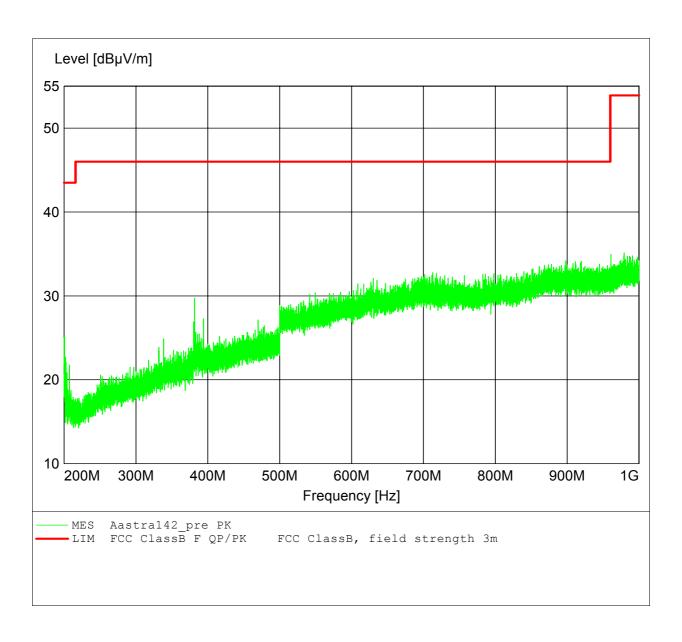
Model: Aastra 142

Test Site / Operator: eurofins Product Service GmbH / Mr. Pflug Test Conditions: Tnom: 23°C, Unom: 120 VAC (AC/DC-adapter)

Test Specification: Ant: HL 223, horizontal

Comment 1: mode: dect-link + handset + usb-cable

Comment 2: mode:



to FCC part 15 Ordernumber: GOM2807-1914

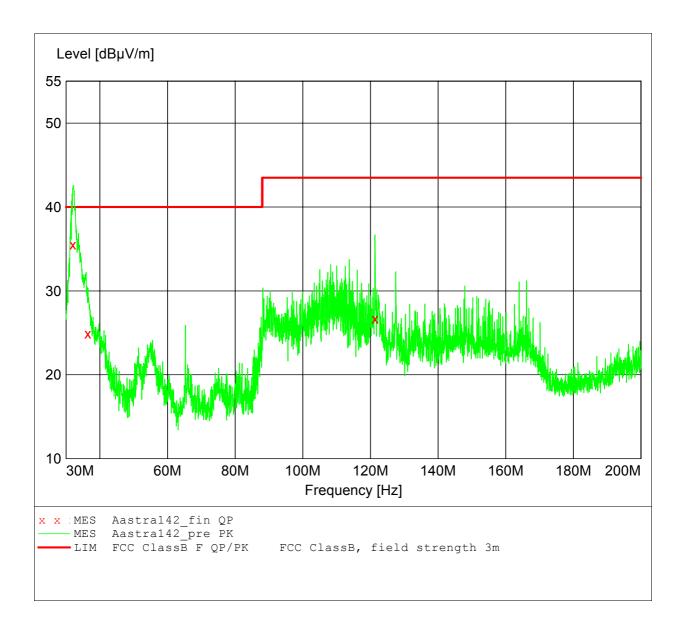
Approval Holder: Aastra DeTeWe GmbH DECT6.0 Handset EUT:

Model: Aastra 142

Test Site / Operator: eurofins Product Service GmbH / Mr. Pflug Tnom: 23°C, Unom: 120 VAC (AC/DC-adapter) Test Conditions:

Test Specification: Ant: HK 116, vertical

mode: charging (ENGINEERING SAMPLE) + dect-link
mode: PS FRIWO No.: 1-1891221-Comment 1:



to FCC part 15 Ordernumber: GOM2807-1914

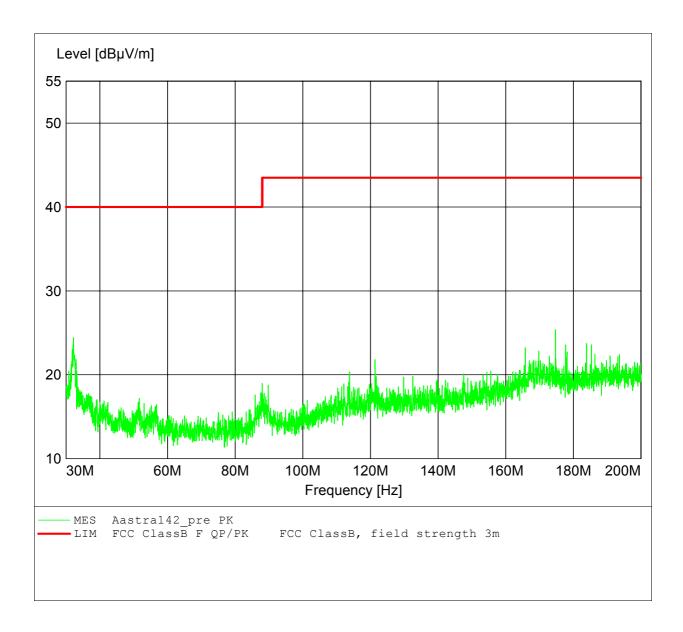
Approval Holder: Aastra DeTeWe GmbH DECT6.0 Handset EUT:

Model: Aastra 142

Test Site / Operator: eurofins Product Service GmbH / Mr. Pflug Test Conditions: Tnom: 23°C, Unom: 120 VAC (AC/DC-adapter)

Test Specification: Ant: HK 116, horizontal

Comment 1: mode: charging (ENGINEERING SAMPLE) + dect-link
mode: PS FRIWO No.: 1-1891221-



to FCC part 15 Ordernumber: G0M2807-1914

Approval Holder: Aastra DeTeWe GmbH EUT: DECT6.0 Handset

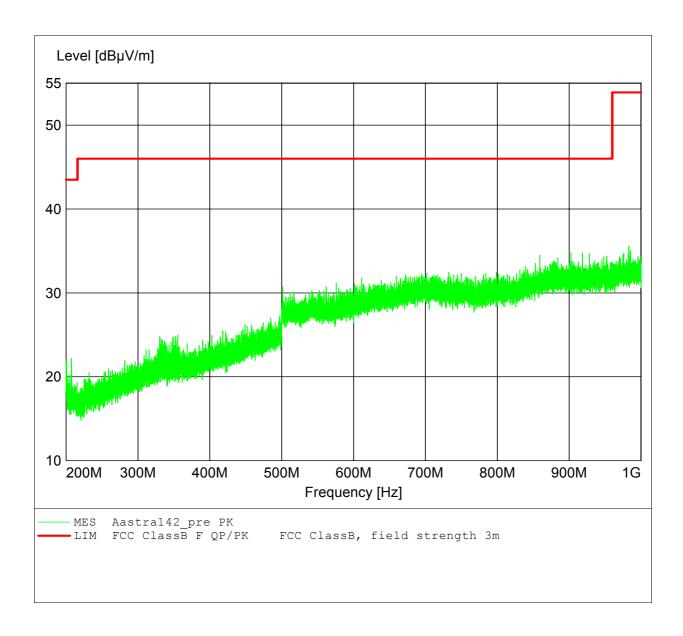
Model: Aastra 142

Test Site / Operator: eurofins Product Service GmbH / Mr. Pflug Test Conditions: Tnom: 23°C, Unom: 120 VAC (AC/DC-adapter)

Test Specification: Ant: HL 223, vertical

Comment 1: mode: charging (ENGINEERING SAMPLE) + dect-link

Comment 2: mode: PS FRIWO No.: 1-1891221-



to FCC part 15 Ordernumber: G0M2807-1914

Approval Holder: Aastra DeTeWe GmbH EUT: DECT6.0 Handset

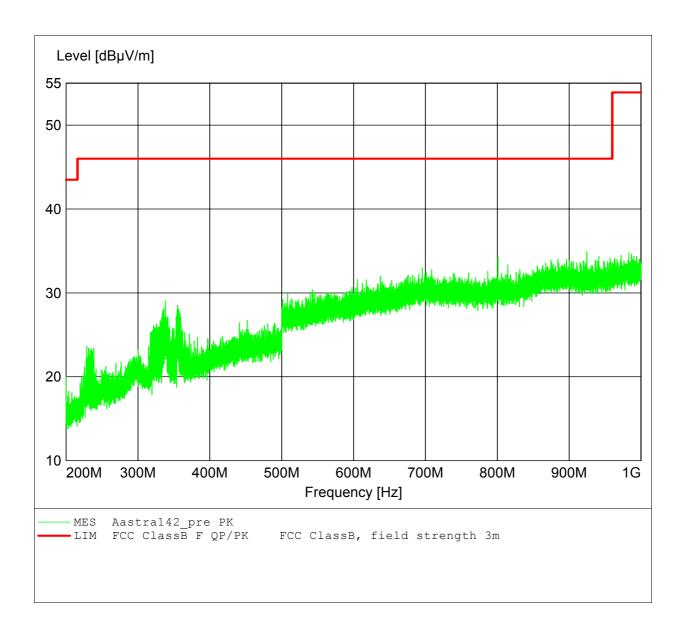
Model: Aastra 142

Test Site / Operator: eurofins Product Service GmbH / Mr. Pflug Test Conditions: Tnom: 23°C, Unom: 120 VAC (AC/DC-adapter)

Test Specification: Ant: HL 223, horizontal

Comment 1: mode: charging (ENGINEERING SAMPLE) + dect-link

Comment 2: mode: PS FRIWO No.: 1-1891221-



to FCC part 15 Ordernumber: G0M2807-1914

Approval Holder: Aastra DeTeWe GmbH EUT: DECT6.0 Handset

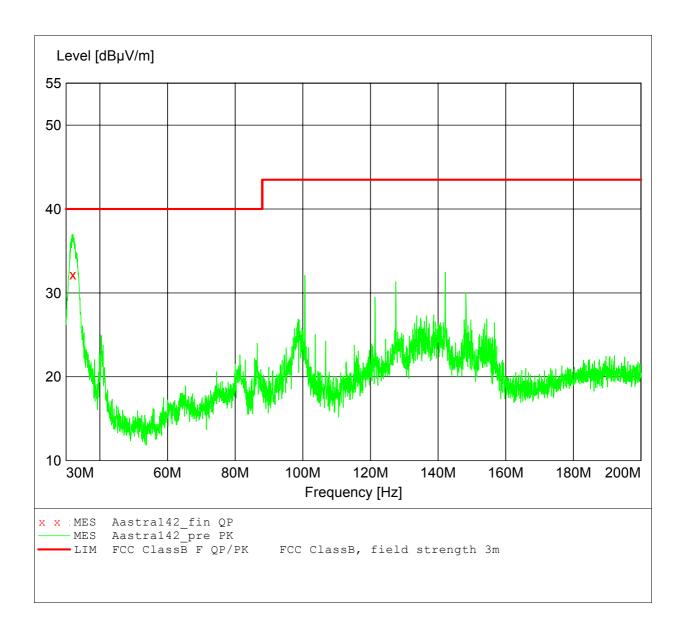
Model: Aastra 142

Test Site / Operator: eurofins Product Service GmbH / Mr. Pflug Test Conditions: Tnom: 23°C, Unom: 120 VAC (AC/DC-adapter)

Test Specification: Ant: HK 116, vertical

Comment 1: mode: charging (ENGINEERING SAMPLE) + dect-link

Comment 2: mode: PS PHIHONG No.: 1 -PSM01R-075R



to FCC part 15 Ordernumber: G0M2807-1914

Approval Holder: Aastra DeTeWe GmbH EUT: DECT6.0 Handset

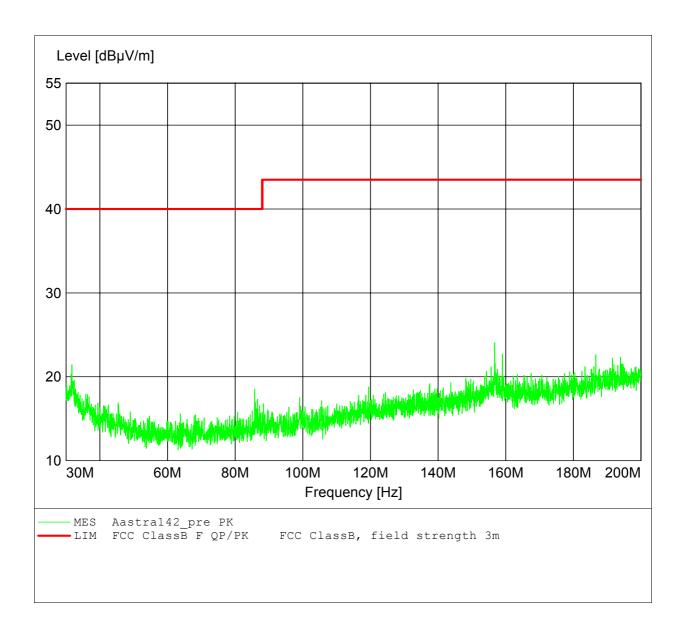
Model: Aastra 142

Test Site / Operator: eurofins Product Service GmbH / Mr. Pflug Test Conditions: Tnom: $23\,^{\circ}\text{C}$, Unom: $120\,\text{VAC}$ (AC/DC-adapter)

Test Specification: Ant: HK 116, horizontal

Comment 1: mode: charging (ENGINEERING SAMPLE) + dect-link

Comment 2: mode: PS PHIHONG No.: 1 -PSM01R-075R



to FCC part 15 Ordernumber: G0M2807-1914

Approval Holder: Aastra DeTeWe GmbH EUT: DECT6.0 Handset

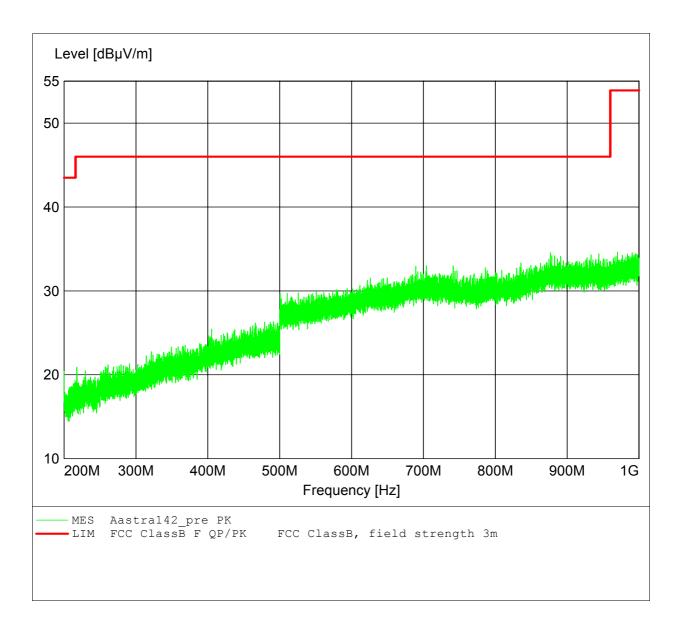
Model: Aastra 142

Test Site / Operator: eurofins Product Service GmbH / Mr. Pflug Test Conditions: Tnom: 23°C, Unom: 120 VAC (AC/DC-adapter)

Test Specification: Ant: HL 223, vertical

Comment 1: mode: charging (ENGINEERING SAMPLE) + dect-link

Comment 2: mode: PS PHIHONG No.: 1 -PSM01R-075R



to FCC part 15 Ordernumber: GOM2807-1914

Approval Holder: Aastra DeTeWe GmbH DECT6.0 Handset EUT:

Model: Aastra 142

Test Site / Operator: eurofins Product Service GmbH / Mr. Pflug Tnom: 23°C, Unom: 120 VAC (AC/DC-adapter) Test Conditions:

Test Specification: Ant: HL 223, horizontal

mode: charging (ENGINEERING SAMPLE) + dect-link Comment 1:

Comment 2: mode: PS PHIHONG No.: 1 -PSM01R-075R

