Report reference No	REP010158
Test item description	Ascom/Mitel DH10 DECT Handset
Model	DH10
Testing Laboratory	**Nemko Canada Inc.**
Address	303 River Road Ottawa, Ontario, Canada, K1V 1H2 +1 (613) 737-9680
Applicant's Name	**Ascom (Sweden) AB**
Address	Grimbodalen 2, SE-417 49 Gothenburg, Sweden
Test specification	FCC Part 68 FCC rules for Registration of Telephone Equipment 68.316, 68.317 & CS-03, Part V, issue 9, Amendment 3, August 2021, Requirements and test methods for magnetic output from handset telephones for Hearing Aid Coupling and for Receive Volume Control
Tested by	Kurt Mikolajewski Telecom Specialist
Approved by	Stuart Beck Director, Nemko Group Certification
Date of issue	May 3, 2023
Number of Pages	28

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1 Client information

Client name:	Ascom (Sweden) AB
Address:	Grimbodalen 2, SE-417 49 Gothenburg, Sweden
Telephone:	+46 31 55 94 00
E-mail:	peter.soderberg@ascom.se
Contact name:	Peter Soderberg

2 Equipment details

Product name:	Ascom/Mitel DH10 DECT Handset
Product type:	DECT Handset
Model(s):	DH10

3 Test project performance

Project ID:	PRJ0030269-2TRFTTE
Location:	Nemko Canada Inc. 303 River Road, RR#5 Ottawa, Ontario, Canada K1V 1H2
Test started:	4/4/2023 2:08:00 PM
Test specification(s):	FCC Part 68 FCC rules for Registration of Telephone Equipment 68.316, 68.317 & CS-03, Part V, issue 9, Amendment 3, August 2021, Requirements and test methods for magnetic output from handset telephones for Hearing Aid Coupling and for Receive Volume Control
Test suite:	FCC pt 68 & CS-03 HAC and Volume control (4/18/2023)

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4 Test report summary

Testing was completed against all relevant requirements of the test standard. The results obtained indicate that the product under test does comply in full with the requirements tested.

The test results relate only to the items tested.

A summary of the test status of the product under test with respect to each test requirement of the standard is provided in section 10 of this report.

Detailed test results are presented in section 11 of this report.

5 Equipment under test

5.1 EUT Description

The EUT is a DECT wireless handset with Bluetooth. The DH10 is a ruggedized handset which supports narrow band and wideband audio, three Audio settings for normal and noisy environments, and volume control with ten steps. The audio settings are the same for the receive direction with the exception of side tone levels. The native CODEC's are G.726 GAP-Standard, G.722 CATiq, BV32 Mitel only. The support equipment DECT base station will convert G.711 into G.726 for narrow band and will use G.722 for wide band.

The DH10 has a rechargeable battery that can be replaced. The DH10 can be charged in a cradle or via a USB-C cable.

5.2 Technical judgement

No technical judgements were made during the assessment.

5.3 Modification performed during the assessment

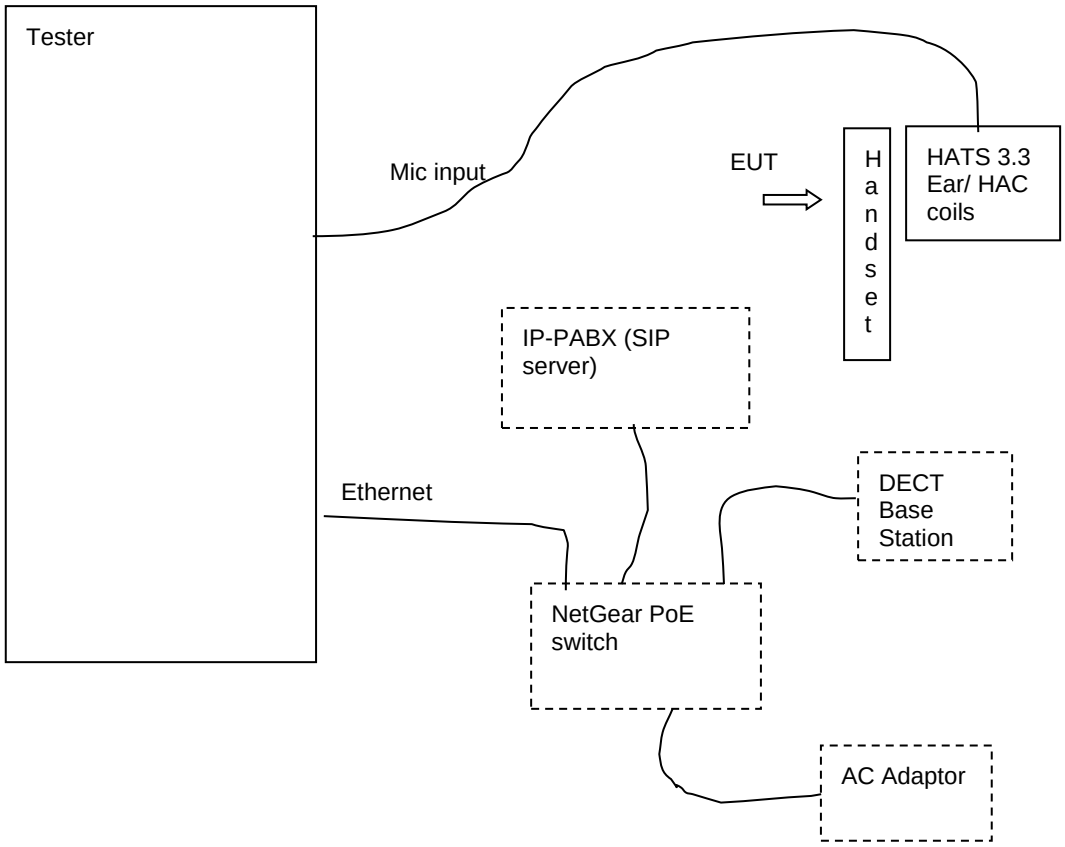
No modifications were made during the assessment.

5.4 Additional observations

Software Version: 9.0.1.23

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Block Diagram



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5.5 Samples Submitted for testing

The following samples have been for type assessment:

Sample	Description	Model Number	Serial Number
PRJ004635310004	Ascom/Mitel DH9 handset	DH10	PPPVV2237RRR005
	Support Equipment		
PRJ004635310006	Mitel IP DECT Indoor Base station	RFP 45	3BXFW2233A338ED
PRJ004635310008	Innovaphone IP-PBX	IP-6010	Not readable except 008E
PRJ004635310002	Netgear PoE Switch w PSU	FSP108P	3BN1937C808CB

The first samples were received on: November 8th, 2022

6 Test laboratory description

Nemko Canada Inc., a testing laboratory, is accredited by the ANSI National Accreditation Board (ANAB). The tests included in this report are within the scope of this accreditation.

7 Test equipment used

Description	Model	S/N	Hardware Rev.	Software Rev.	Last Calibration	Calibration Due
Telecom Conformance Analyzer	Hermon Laboratories TCA 8200	FA002045 8747	A5.01	2.4.79, build 5057, Mon 12/21/2020 18:01:14.22	Aug 28, 2022	Aug 28, 2024
H.A.C. probes	TEL 901-1 TEL 901-2	FA000685 FA000686			Verified	Verified
Type 3 ear (HATS)	B&K 4158C	FA002149			Jul 9, 2019	Jul 9, 2023

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8 Photographs of test samples

Photographs were taken of relevant samples during the assessment. These are detailed below and are included in this section.

8.1 EUT Top View

8.2 EUT Rear View

8.3 EUT Internal View

The photographs depict the samples as originally submitted.

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8.1 EUT Top View



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8.2 EUT Rear View



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8.3 EUT Internal View



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9 Requirement conditions table

Condition	Applies
FCC pt 68 & CS-03 HAC and Volume control (4/18/2023)	
Does the TE have a handset?	Yes
Does the TE have a loop-start interface (LS)?	No
Does the TE have a VoIP WAN/LAN ports?	Yes
Is the TE Axial field intensity greater than -19 dB?	Yes
Does the TE ear cup seal on a Type 1 ear?	No
Does the TE volume control reset to Nominal on Handset hang-up?	Yes
Use TIA-49065 Test procedures?	Yes
Is the Handset Wideband?	Yes

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10 Test results summary

Test	Status
FCC pt 68 & CS-03 HAC and Volume control (4/18/2023)	
68.316 / CS-03, Part V Hearing aid compatibility	
68.316 / CS-03, Part V Hearing aid compatibility (analogue telephone)	
68.316 Cl 4.2 / Part V Cl 8.1.1 Axial field intensity	Not required
68.316 Cl 4.3 / Part V Cl 8.1.2 Radial field Intensity	Not required
68.316 4.4.1 / Part V 8.1.3 (a) Induced voltage frequency response (axial field intensity > -19 dB)	Not required
68.316 4.4.2 / Part V 8.1.3 (b) Induced voltage frequency response (axial field intensity -19dB to -22dB)	Not required
68.316 / CS-03, Part V Hearing aid compatibility (digital (VoIP) telephone) (Type 1)	
68.316 / Part V 8 (a), (b), (c) Reference Input Level for 0 dBPa. (Type 1 Ear)	Not required
68.316 Cl 4.2 / Part V 8.1.1 Axial field intensity (VoIP)	Not required
68.316 4 / Part V 8.1.2 Radial field Intensity (VoIP)	Not required
68.316 4.4.1 / Part V 8.1.3 (a) Induced voltage frequency response (axial field intensity > -19 dB)(VoIP)	Not required
68.316 4.4.2 / Part V 8.1.3 (b) Induced voltage frequency response (intensity (-19 to -22) dB)(VoIP)	Not required
68.316 / CS-03, Part V Hearing aid compatibility NB (digital (VoIP) telephone) (Type 3.3)	
68.316 4 / Part V 8 (a), (b), (c) Reference Input Level for 0 dBPa. (Type 3.3 ear)	Pass
68.316 4.2 / Part V 8.1.1 Axial field intensity (VoIP)	Pass
68.316 4.3 / Part V 8.1.2 Radial field Intensity (VoIP)	Pass
68.316 4.4.1 / Part V 8.1.3 (a), Induced voltage frequency response (axial field intensity > -19 dB)(VoIP)	Pass
68.316 4.4.2 / Part V 8.1.3 (b), Induced voltage frequency response (intensity (-19 to -22) dB)(VoIP)	Not required
68.316 / CS-03, Part V Hearing aid compatibility WB (digital (VoIP) telephone) (Type 3.3)	
68.316 4 / Part V 8 (a), (b), (c) Reference Input Level for 0 dBPa. (Type 3.3 ear)	Not required
68.316 4.2 / Part V 8.1.1 Axial field intensity WB (VoIP)	Pass
68.316 4.3 / Part V 8.1.2 Radial field Intensity WB (VoIP)	Pass
68.316 4.4.1 / Part V 8.1.3 (a) Induced voltage frequency response WB (axial field intensity > -19 dB)(VoIP)	Pass
68.316 4.4.2 / Part V 8.1.3 (b) Induced voltage frequency response WB (intensity (-19 to -22) dB)(VoIP)	Not required

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Test	Status
68.317 / CS-03, Part V Hearing aid compatibility Volume Control	
68.317 / CS-03, Part V Hearing aid compatibility Volume Control (Analogue)	
68.317 (b) to (g) Hearing aid compatibility volume control Type 1(analog)	Not required
68.317 (b) to (g) Hearing aid compatibility volume control Type 3.3(analog)	Not required
68.317 (b) to (g) Reset to reference VC in case VC > 18 dB)	Not required
68.317 (h) / Part V 9.1 / ANSI/TIA-4965 4.4.1.1 Analog Terminals	Not required
68.317 (h) / Part V 9.1 / ANSI/TIA-4965 4.4.1.2 Requirements for terminals with CG exceed 24 dB.	Not required
68.317 Hearing aid compatibility volume control (VoIP) (Type 1)	
68.317 (b) to (g) Reference Input Level for 0 dBPa (VoIP) (Type 1)	Not required
68.317 (b) to (g) Hearing aid compatibility volume control (VoIP) (Type 1)	Not required
68.317 (b) to (g) Reset to reference VC in case VC > 18 dB) (Type 1)	Not required
68.317 / CS-03, Part V Hearing aid compatibility volume control (VoIP) (Type 3.3)	
68.317 (b) to (g Reference Input Level for 0 dBPa (VoIP) (Type 3.3)	Not required
68.317 (b) to (g) Hearing aid compatibility volume control (VoIP) (Type 3.3)	Not required
68.317 (b) to (g) Reset to reference VC in case VC > 18 dB) (Type 3.3)	Not required
68.317 (h) /Part V 9.1 / ANSI/TIA-4965 4.4.1.1 Digital Terminals (WB)	Pass (needs reset)
68.317 (h) /Part V 9.1 / ANSI/TIA-4965 4.4.1.1 Digital Terminals (NB)	Pass (needs reset)
68.317 (h) /Part V 9.1 / ANSI/TIA-4965 4.4.1.2 Requirements for terminals with CG exceed 24 dB.	Pass (reset confirmed)

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11 Detailed test results

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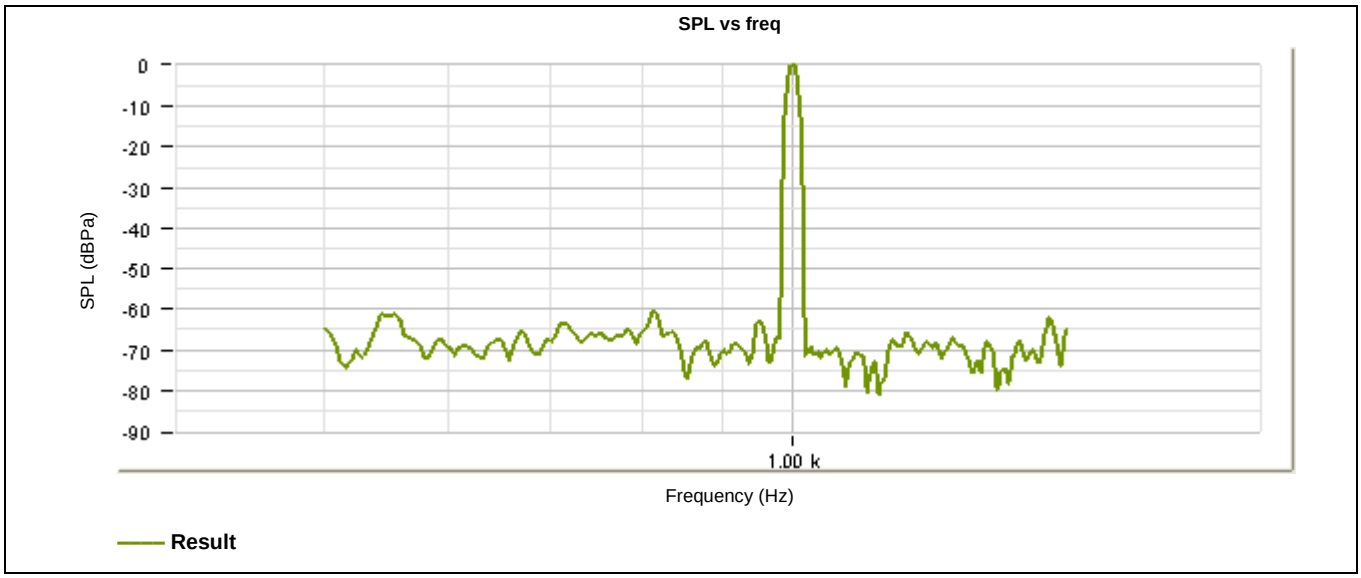
Test specification:	Part V 6.2.2 / Part V 8.1 (a), (b), (c) Reference Input Level for 0 dBPa. (Type 3.3 ear)		
Test purpose:	To determine the level of the 1 kHz sine-wave signal applied at the digital interface which corresponds to a 0 dBPa sound pressure at the acoustic output of the handset.		
Test mode:	Compliance	**Verdict:**	PASS
Date & Time:	4/18/2023 8:35:18 AM		
Temperature: 18.0 °C	**Air Pressure:** 99.1 kPa	**Relative Humidity:** 42.7 %	**Mains Power Supply:** Battery
Remarks: Position=HATS standard 10N, Volume step 5, ref -8.76			

Measurement uncertainty

Expanded Uncertainty, k=2 (95% confidence) ± 0.38 dB

General parameters

Parameter	Value
EUT state	HATS position, Nominal VC.
Microphone type	T4158C-HATS-OR
Stimulus (units)	Stimulus level = 0dBPa



Reference level, Sound pressure

Reference level	SPL	Limit min	Limit max	Verdict
				Pass
-8.76 dBV	-0.20 dBPa	-0.2 dBPa	0.2 dBPa	Pass

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Test specification:	68.316 4.2 / Part V 8.1.1 Axial field intensity (VoIP)		
Test purpose:	When measured as specified in 4.1.2, the axial component of the magnetic field directed along the measurement axis and located at the measurement plane, shall be greater than -22 dB relative to 1 A/m, for an input of -10 dBV at 1000 Hz (see Fig 2).		
Test mode:	Compliance	**Verdict:**	PASS
Date & Time:	4/18/2023 8:38:23 AM		
Temperature: 18.0 °C	**Air Pressure:** 99.1 kPa	**Relative Humidity:** 42.7 %	**Mains Power Supply:** Battery
Remarks: Volume step 5, ref -8.76			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Signal level (200 Hz - 4 kHz) ±0.2 dB

General parameters

Parameter	Value
EUT state	Handset on the Axial HAC probe.
Stimulus level	-8.76 dBV
Stimulus frequency	1.00 kHz

Field intensity vs probe position

HAC Probe position	Field Intensity	Limit	Verdict
			Pass
Axial normal mode	-6.23 dB A/m	-22 dB A/m	Pass

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Test specification:	68.316 4.3 / Part V 8.1.2 Radial field Intensity (VoIP)		
Test purpose:	When measured as specified in 4.1.2, radial components of the magnetic field as measured at four points 90° apart, and at a distance >16 mm from the measurement axis (as selected in 4.2), shall be greater than -27 dB relative to 1 A/m, for an input of -10 dBV at 1000 Hz		
Test mode:	Compliance	**Verdict:**	PASS
Date & Time:	4/18/2023 8:37:46 AM		
Temperature: 18.0 °C	**Air Pressure:** 99.1 kPa	**Relative Humidity:** 42.7 %	**Mains Power Supply:** Battery
Remarks: Volume step 5, ref -8.76			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Signal level (200 Hz - 4 kHz) ±0.2 dB

General parameters

Parameter	Value
EUT state	Handset on the Radial HAC probe.
Stimulus level	-8.76 dBV
Stimulus frequency	1.00 kHz

Field intensity vs probe position

HAC Probe position	Field Intensity	Limit	Verdict
			Pass
Radial normal 0 deg.	-20.07 dB A/m	-27 dB A/m	Pass
Radial normal 90 deg.	-20.46 dB A/m	-27 dB A/m	Pass
Radial normal 180 deg.	-20.79 dB A/m	-27 dB A/m	Pass
Radial normal 270 deg.	-20.75 dB A/m	-27 dB A/m	Pass

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Test specification:	68.316 4.4.1 / Part V 8.1.3 (a) Induced voltage frequency response (axial field intensity > -19 dB)(VoIP)		
Test purpose:	For receivers with an axial component which exceeds -19 dB relative to 1 A/m, when measured as specified in 4.1.2, the frequency response shall fall within the acceptable region of Fig 4A		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	4/18/2023 8:38:56 AM		
Temperature: 18.0 °C	Air Pressure: 99.1 kPa	Relative Humidity: 42.7 %	Mains Power Supply: Battery
Remarks: Volume step 5, ref -8.76			

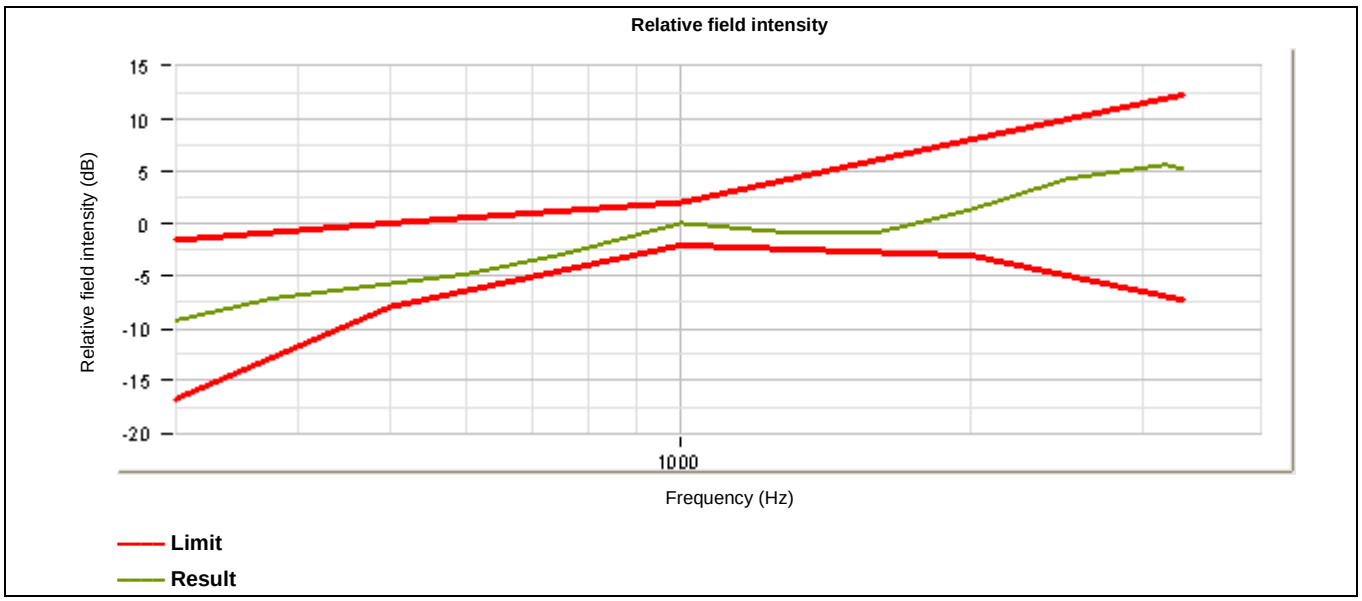
Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Signal level (200 Hz - 4 kHz) ±0.2 dB

General parameters

Parameter	Value
EUT state	Handset on the Axial HAC probe
Stimulus	Level value = -10dBV



Field intensity, Relative field intensity

Frequency	Field intensity	Relative field intensity	Limit min	Limit max	Verdict
					Pass
300 Hz	-15.51 dB A/m	-9.19 dB	-16.8 dB	-1.5 dB	Pass
378 Hz	-13.46 dB A/m	-7.14 dB	-12.82 dB	-0.821 dB	Pass
476 Hz	-12.21 dB A/m	-5.9 dB	-8.85 dB	-0.144 dB	Pass
600 Hz	-11.1 dB A/m	-4.78 dB	-6.42 dB	0.526 dB	Pass
756 Hz	-9.19 dB A/m	-2.88 dB	-4.42 dB	1.19 dB	Pass
953 Hz	-6.8 dB A/m	-0.49 dB	-2.42 dB	1.86 dB	Pass
1000 Hz	-6.32 dB A/m	0 dB	-2 dB	2 dB	Pass
1260 Hz	-7 dB A/m	-0.69 dB	-2.33 dB	4 dB	Pass
1588 Hz	-7.31 dB A/m	-0.99 dB	-2.67 dB	6 dB	Pass

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Test specification:	68.316 4.4.1 / Part V 8.1.3 (a) Induced voltage frequency response (axial field intensity > -19 dB)(VoIP)		
Test purpose:	For receivers with an axial component which exceeds -19 dB relative to 1 A/m, when measured as specified in 4.1.2, the frequency response shall fall within the acceptable region of Fig 4A		
Test mode:	Compliance	**Verdict:**	PASS
Date & Time:	4/18/2023 8:38:56 AM		
Temperature: 18.0 °C	**Air Pressure:** 99.1 kPa	**Relative Humidity:** 42.7 %	**Mains Power Supply:** Battery
Remarks: Volume step 5, ref -8.76			

Frequency	Field intensity	Relative field intensity	Limit min	Limit max	Verdict
2000 Hz	-4.9 dB A/m	1.42 dB	-3 dB	8 dB	Pass
2520 Hz	-2.08 dB A/m	4.23 dB	-4.98 dB	9.98 dB	Pass
3176 Hz	-0.75 dB A/m	5.56 dB	-6.97 dB	11.97 dB	Pass
3300 Hz	-1.08 dB A/m	5.24 dB	-7.3 dB	12.3 dB	Pass

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Test specification:	68.316 4.2 / Part V 8.1.1 Axial field intensity WB (VoIP)		
Test purpose:	When measured as specified in 4.1.2, the axial component of the magnetic field directed along the measurement axis and located at the measurement plane, shall be greater than -22 dB relative to 1 A/m, for an input of -10 dBV at 1000 Hz (see Fig 2).		
Test mode:	Compliance	**Verdict:**	PASS
Date & Time:	4/18/2023 2:02:33 PM		
Temperature: 21.2 °C	**Air Pressure:** 99.2 kPa	**Relative Humidity:** 38.1 %	**Mains Power Supply:** Battery
Remarks: WB			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Signal level (200 Hz - 4 kHz) ±0.2 dB

General parameters

Parameter	Value
EUT state	Handset on the Axial HAC probe.
Stimulus level	-8.76 dBV
Stimulus frequency	1.00 kHz

Field intensity vs probe position

HAC Probe position	Field Intensity	Limit	Verdict
			Pass
Axial normal mode	-2.95 dB A/m	-22 dB A/m	Pass

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Test specification:	68.316 4.3 / Part V 8.1.2 Radial field Intensity WB (VoIP)		
Test purpose:	When measured as specified in 4.1.2, radial components of the magnetic field as measured at four points 90° apart, and at a distance >16 mm from the measurement axis (as selected in 4.2), shall be greater than -27 dB relative to 1 A/m, for an input of -10 dBV at 1000 Hz		
Test mode:	Compliance	**Verdict:**	PASS
Date & Time:	4/18/2023 2:04:51 PM		
Temperature: 21.2 °C	**Air Pressure:** 99.2 kPa	**Relative Humidity:** 38.1 %	**Mains Power Supply:** Battery
Remarks: WB			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Signal level (200 Hz - 4 kHz) ±0.2 dB

General parameters

Parameter	Value
EUT state	Handset on the Radial HAC probe.
Stimulus level	-8.76 dBV
Stimulus frequency	1.00 kHz

Field intensity vs probe position

HAC Probe position	Field Intensity	Limit	Verdict
			Pass
Radial normal 0 deg.	-17.34 dB A/m	-27 dB A/m	Pass
Radial normal 90 deg.	-17.21 dB A/m	-27 dB A/m	Pass
Radial normal 180 deg.	-17.93 dB A/m	-27 dB A/m	Pass
Radial normal 270 deg.	-17.61 dB A/m	-27 dB A/m	Pass

This test report shall not be reproduced in any form except in full without the written approval of the Test Laboratory.

Test specification:	68.316 4.4.1 / Part V 8.1.3 Induced voltage frequency response WB (axial field intensity > -19 dB)(VoIP)		
Test purpose:	For receivers with an axial component which exceeds -19 dB relative to 1 A/m, when measured as specified in 4.1.2, the frequency response shall fall within the acceptable region of Fig 4A		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	4/18/2023 2:03:22 PM		
Temperature: 21.2 °C	Air Pressure: 99.2 kPa	Relative Humidity: 38.1 %	Mains Power Supply: Battery
Remarks: WB			

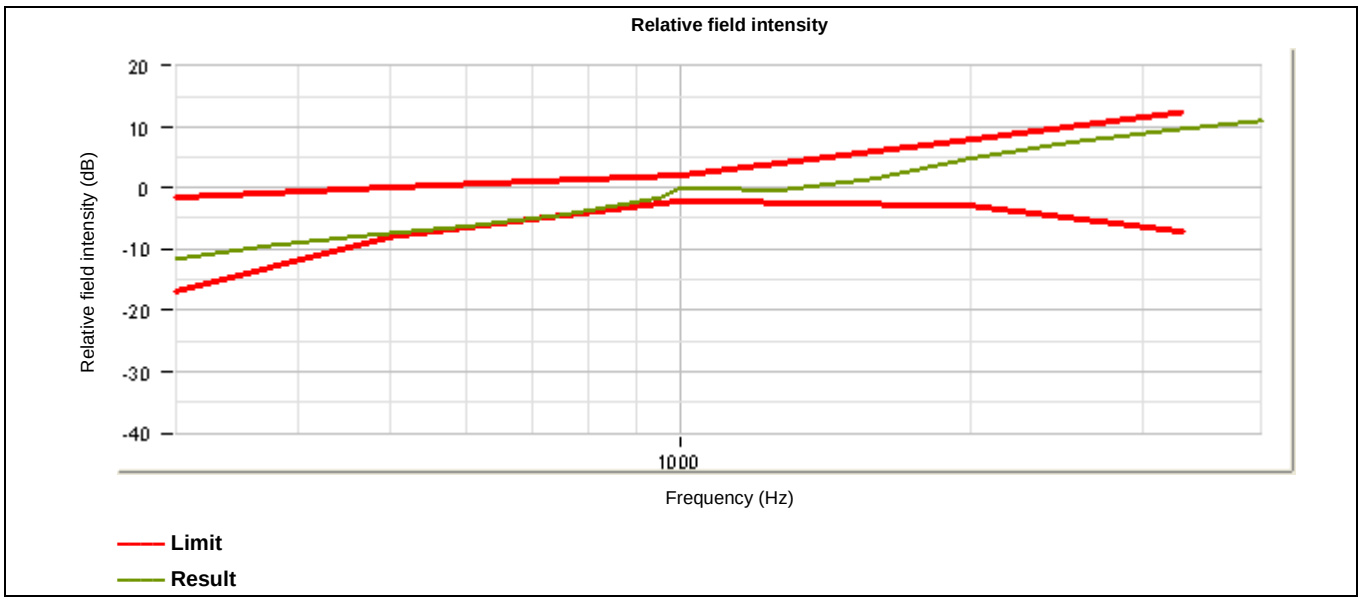
Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Signal level (200 Hz - 4 kHz) ±0.2 dB

General parameters

Parameter	Value
EUT state	Handset on the Axial HAC probe
Stimulus	Level value = -10dBV



Field intensity, Relative field intensity

Frequency	Field intensity	Relative field intensity	Limit min	Limit max	Verdict
					Pass
300 Hz	-15.2 dB A/m	-11.71 dB	-16.8 dB	-1.5 dB	Pass
378 Hz	-12.99 dB A/m	-9.51 dB	-12.82 dB	-0.821 dB	Pass
476 Hz	-11.12 dB A/m	-7.63 dB	-8.85 dB	-0.144 dB	Pass
600 Hz	-9.82 dB A/m	-6.33 dB	-6.42 dB	0.526 dB	Pass
756 Hz	-7.8 dB A/m	-4.31 dB	-4.42 dB	1.19 dB	Pass
953 Hz	-5.09 dB A/m	-1.6 dB	-2.42 dB	1.86 dB	Pass
1000 Hz	-3.49 dB A/m	0 dB	-2 dB	2 dB	Pass
1260 Hz	-3.83 dB A/m	-0.34 dB	-2.33 dB	4 dB	Pass
1588 Hz	-2.12 dB A/m	1.37 dB	-2.67 dB	6 dB	Pass

This test report shall not be reproduced in any form except in full without the written approval of the Test Laboratory.

Test specification:	68.316 4.4.1 / Part V 8.1.3 Induced voltage frequency response WB (axial field intensity > -19 dB)(VoIP)		
Test purpose:	For receivers with an axial component which exceeds -19 dB relative to 1 A/m, when measured as specified in 4.1.2, the frequency response shall fall within the acceptable region of Fig 4A		
Test mode:	Compliance	**Verdict:**	PASS
Date & Time:	4/18/2023 2:03:22 PM		
Temperature: 21.2 °C	**Air Pressure:** 99.2 kPa	**Relative Humidity:** 38.1 %	**Mains Power Supply:** Battery
Remarks: WB			

Frequency	Field intensity	Relative field intensity	Limit min	Limit max	Verdict
2000 Hz	1.25 dB A/m	4.74 dB	-3 dB	8 dB	Pass
2520 Hz	3.91 dB A/m	7.4 dB	-4.98 dB	9.98 dB	Pass
3176 Hz	5.85 dB A/m	9.34 dB	-6.97 dB	11.97 dB	Pass
4002 Hz	7.56 dB A/m	11.05 dB	-	-	-
5042 Hz	9.28 dB A/m	12.77 dB	-	-	-
6353 Hz	10.56 dB A/m	14.05 dB	-	-	-
8000 Hz	-36.98 dB A/m	-33.49 dB	-	-	-

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Test specification:	68.317 (h) / Part V 9.1 / ANSI/TIA-4965 4.4.1.1 Digital Terminals (WB)		
Test purpose:	To check that the terminal have at least one volume control setting that will produce a conversational gain of >= 18 dB without significant clipping of the test signal. If the Conversational Gain exceeds 24 dB for any volume control setting, the volume control shall be reset so that it produces a conversational gain < 24 dB when the terminal is caused to pass through a proper on-hook transition.		
Test mode:	Compliance	**Verdict:**	(NEEDS RESET TO PASS)
Date & Time:	4/18/2023 1:40:46 PM		
Temperature: 21.2 °C	**Air Pressure:** 99.2 kPa	**Relative Humidity:** 38.1 %	**Mains Power Supply:** Battery
Remarks: Position=HATS standard 10N, volume max			

Measurement uncertainty

Expanded Uncertainty, k=2 (95% confidence)

Conversational gain = ±0.23 dB

General parameters

Parameter	Value
EUT state	HATS position (force 10 N)
Stimulus	Level value = -25.86dBm0
Stimulus freq.	100...8000
DRP correction	DRP-FF

Conversational gain

Conversational gain	Limit min	Limit max	Verdict
			Needs Reset to PASS
25.12 dB	18 dB	24 dB	Needs Reset to PASS

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Test specification:	68.317 (h) / Part V 9.1 / ANSI/TIA-4965 4.4.1.1 Digital Terminals (WB)		
Test purpose:	To check that the terminal have at least one volume control setting that will produce a conversational gain of >= 18 dB without significant clipping of the test signal. If the Conversational Gain exceeds 24 dB for any volume control setting, the volume control shall be reset so that it produces a conversational gain < 24 dB when the terminal is caused to pass through a proper on-hook transition.		
Test mode:	Compliance	**Verdict:**	PASS (RESET CONFIRMED)
Date & Time:	4/18/2023 1:42:57 PM		
Temperature: 21.2 °C	**Air Pressure:** 99.2 kPa	**Relative Humidity:** 38.1 %	**Mains Power Supply:** Battery
Remarks: Position=HATS standard 10N, volume reset from call completion Volume auto reset to step 5			

Measurement uncertainty

Expanded Uncertainty, k=2 (95% confidence)

Conversational gain = ±0.23 dB

General parameters

Parameter	Value
EUT state	HATS position (force 10 N)
Stimulus	Level value = -25.86dBm0
Stimulus freq.	100...8000
DRP correction	DRP-FF

Conversational gain

Conversational gain	Limit min	Limit max	Verdict
			-
12.88 dB	18 dB	24 dB	Reset Confirmed

This test report shall not be reproduced in any form except in full without the written approval of the Test Laboratory.

Test specification:	68.317 (h) / Part V 9.1 / ANSI/TIA-4965 4.4.1.1 Digital Terminals (NB)		
Test purpose:	To check that the terminal have at least one volume control setting that will produce a conversational gain of >= 18 dB without significant clipping of the test signal. If the Conversational Gain exceeds 24 dB for any volume control setting, the volume control shall be reset so that it produces a conversational gain < 24 dB when the terminal is caused to pass through a proper on-hook transition.		
Test mode:	Compliance	**Verdict:**	(NEEDS RESET TO PASS)
Date & Time:	4/18/2023 1:36:21 PM		
Temperature: 21.2 °C	**Air Pressure:** 99.2 kPa	**Relative Humidity:** 38.1 %	**Mains Power Supply:** Battery
Remarks: Position=HATS standard 10N, volume max			

Measurement uncertainty

Expanded Uncertainty, k=2 (95% confidence)

Conversational gain = ±0.23 dB

General parameters

Parameter	Value
EUT state	HATS position (force 10 N)
Stimulus	Level value = -20dBm0
Stimulus freq.	300...3350
DRP correction	DRP-FF

Conversational gain

Conversational gain	Limit min	Limit max	Verdict
			Needs Reset to PASSI
24.25 dB	18 dB	24 dB	Needs Reset to PASS

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Test specification:	68.317 (h) / Part V 9.1 / ANSI/TIA-4965 4.4.1.1 Digital Terminals (NB)		
Test purpose:	To check that the terminal have at least one volume control setting that will produce a conversational gain of >= 18 dB without significant clipping of the test signal. If the Conversational Gain exceeds 24 dB for any volume control setting, the volume control shall be reset so that it produces a conversational gain < 24 dB when the terminal is caused to pass through a proper on-hook transition.		
Test mode:	Compliance	**Verdict:**	PASS (RESET CONFIRMED)
Date & Time:	4/18/2023 1:38:06 PM		
Temperature: 21.2 °C	**Air Pressure:** 99.2 kPa	**Relative Humidity:** 38.1 %	**Mains Power Supply:** Battery
Remarks: Position=HATS standard 10N, volume reset from call completion Volume auto reset to step 5			

Measurement uncertainty

Expanded Uncertainty, k=2 (95% confidence)

Conversational gain = ±0.23 dB

General parameters

Parameter	Value
EUT state	HATS position (force 10 N)
Stimulus	Level value = -20dBm0
Stimulus freq.	300...3350
DRP correction	DRP-FF

Conversational gain

Conversational gain	Limit min	Limit max	Verdict
			-
11.97 dB	18 dB	24 dB	Reset confirmed

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Test specification:	68.317 (h) / Part V 9.1 / ANSI/TIA-4965 4.4.1.2 Requirements for terminals with CG exceed 24 dB.		
Test purpose:			
Test mode:	Compliance	**Verdict:**	PASS
Date & Time:	4/18/2023 1:38:44 PM		
Temperature: 21.2 °C	**Air Pressure:** 99.2 kPa	**Relative Humidity:** 38.1 %	**Mains Power Supply:** Battery
Remarks: Position=HATS standard 10N, volume reset to 5			

Test results

Standard reference	Requirement	Description	Verdict
4.4.1.2	**Requirements for terminals with conversational gain exceed 24 dB.** If the Conversational Gain exceeds 24 dB for any volume control setting, the volume control shall be reset so that it produces a conversational gain ≤ 24 dB when the terminal is caused to pass through a proper on-hook transition.	Volume reset confirmed on call completion for both NB and WB operation.	Pass

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