

Doc. ID:	D00280234	Version:	1.0	Date:	See signatures
Title:	Antenna Specification				

1 General Information

Copyright WSAUD A/S. All rights reserved.

1.1 Document Release

Author:

Role	Name	Date & signature
RF Design Engineer	Jan Zøllner Mølgård	

Reviewer:

Role	Name	Date & signature
HW Design Engineer	Claus Pedersen	

Approver:

Role	Name	Date & signature
Project Manager	Jens Denborg	

Doc. ID:	D00280234	Version:	1.0	Date:	See signatures
Title:	Antenna Specification				

1.2 Table of Content

1	General Information	1
1.1	Document Release	1
1.2	Table of Content	2
1.3	Purpose	3
1.4	Change History	3
2	Antenna Parameters.....	4
2.1	Mechanical Structure	4
2.2	Simulated Radiation Pattern	4
3	Measurements	6
3.1	Setup	6
3.2	Efficiency	7
3.3	Directivity Pattern	7
3.4	Gain	7

Restricted. Print outs are uncontrolled copies.

Doc. ID:	D00280234	Version:	1.0	Date:	See signatures
Title:	Antenna Specification				

1.3 Purpose

This document describes the antenna specifications for the Widex Sound Assist.

1.4 Change History

Version	Description
1.0	Initial release of document.

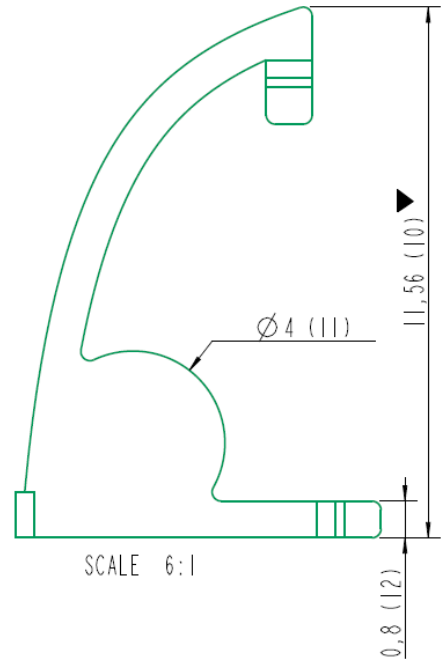
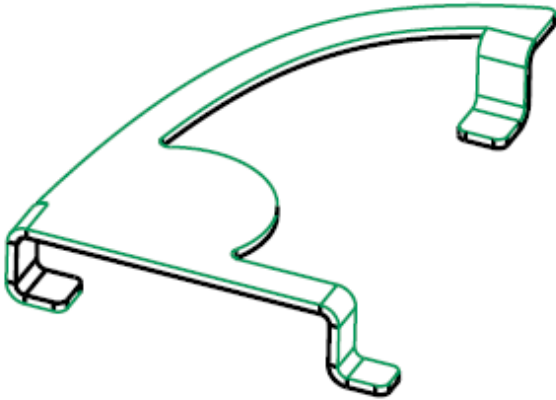
Doc. ID:	D00280234	Version:	1.0	Date:	See signatures
Title:	Antenna Specification				

2 Antenna Parameters

Antenna part no is 30-6100-000 and is an internal part manufactured by Widex.

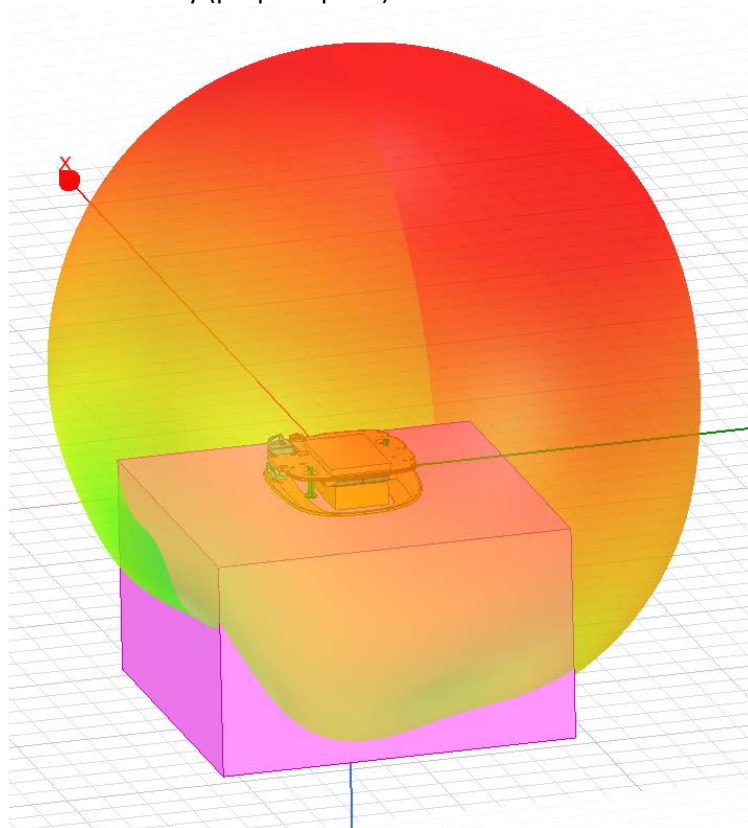
2.1 Mechanical Structure

Material is NICKEL SILVER ALLOY C7521 1/2H with a thickness of 0.2mm.



2.2 Simulated Radiation Pattern

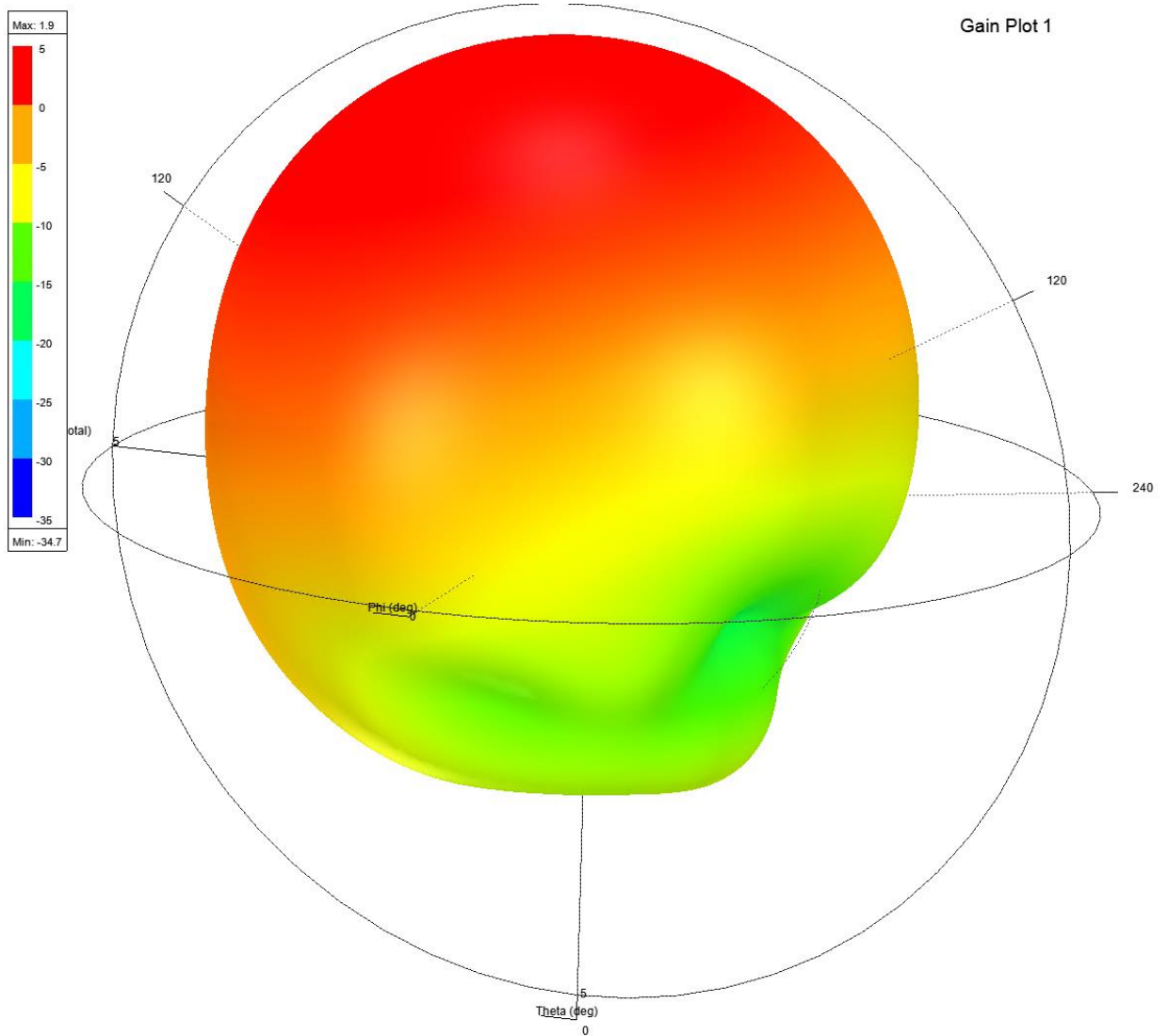
Configuration of antenna with added body (purple square):



Restricted. Print outs are uncontrolled copies.

Doc. ID:	D00280234	Version:	1.0	Date:	See signatures
Title:	Antenna Specification				

Maximum simulated gain is 1.9dBi.



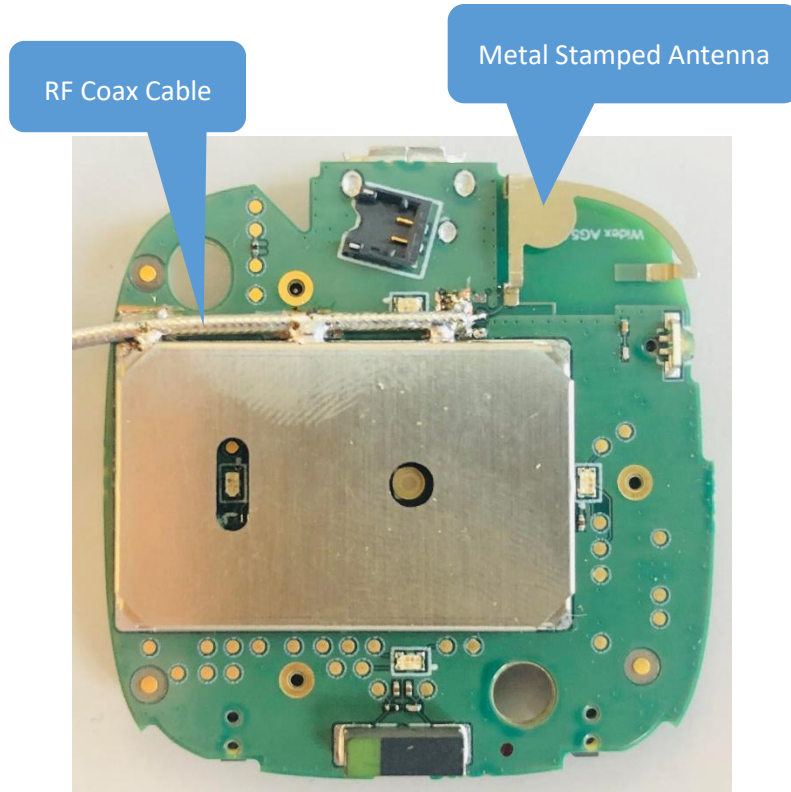
Restricted. Print outs are uncontrolled copies.

Doc. ID:	D00280234	Version:	1.0	Date:	See signatures
Title:	Antenna Specification				

3 Measurements

3.1 Setup

Picture of antenna and device placed in hand. Coaxial cable added to measure radiation pattern.



Restricted. Print outs are uncontrolled copies.

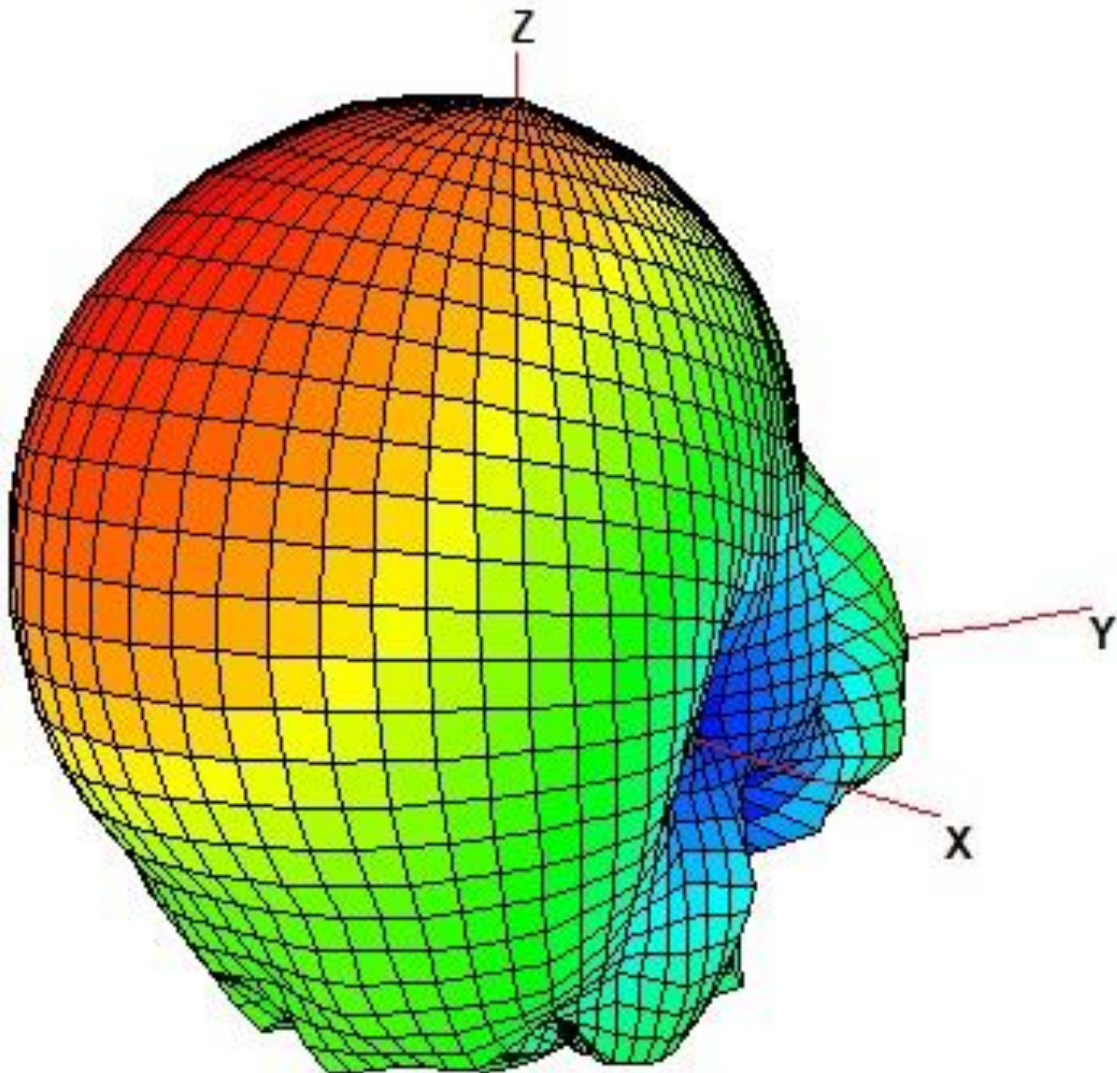
Doc. ID:	D00280234	Version:	1.0	Date:	See signatures
Title:	Antenna Specification				

3.2 Efficiency

Metal Stamp Antenna	2402 MHz	2440 MHz	2480 MHz	Average
Measured efficiency	-4.31dB	-4.41dB	-4.66dB	-4.46dB
Gain	1.34dBi	1.1dBi	0.8dBi	

3.3 Directivity Pattern

Maximum directivity is measured to 5.6dBi.



Restricted. Print outs are uncontrolled copies.

3.4 Gain

Maximum gain is 1.3dBi at 2.402GHz, referring to the table above.

$$\text{Gain} = \text{Directivity} + \text{Efficiency}$$

Note: The radiation shape is somehow similar to the simulation, but there are differences in gain value due to RF cable and other loss factors.