

# harman consumer group

Engineering Design  
Specification

Date

5/3/2007

Rev #

X1

Document Number

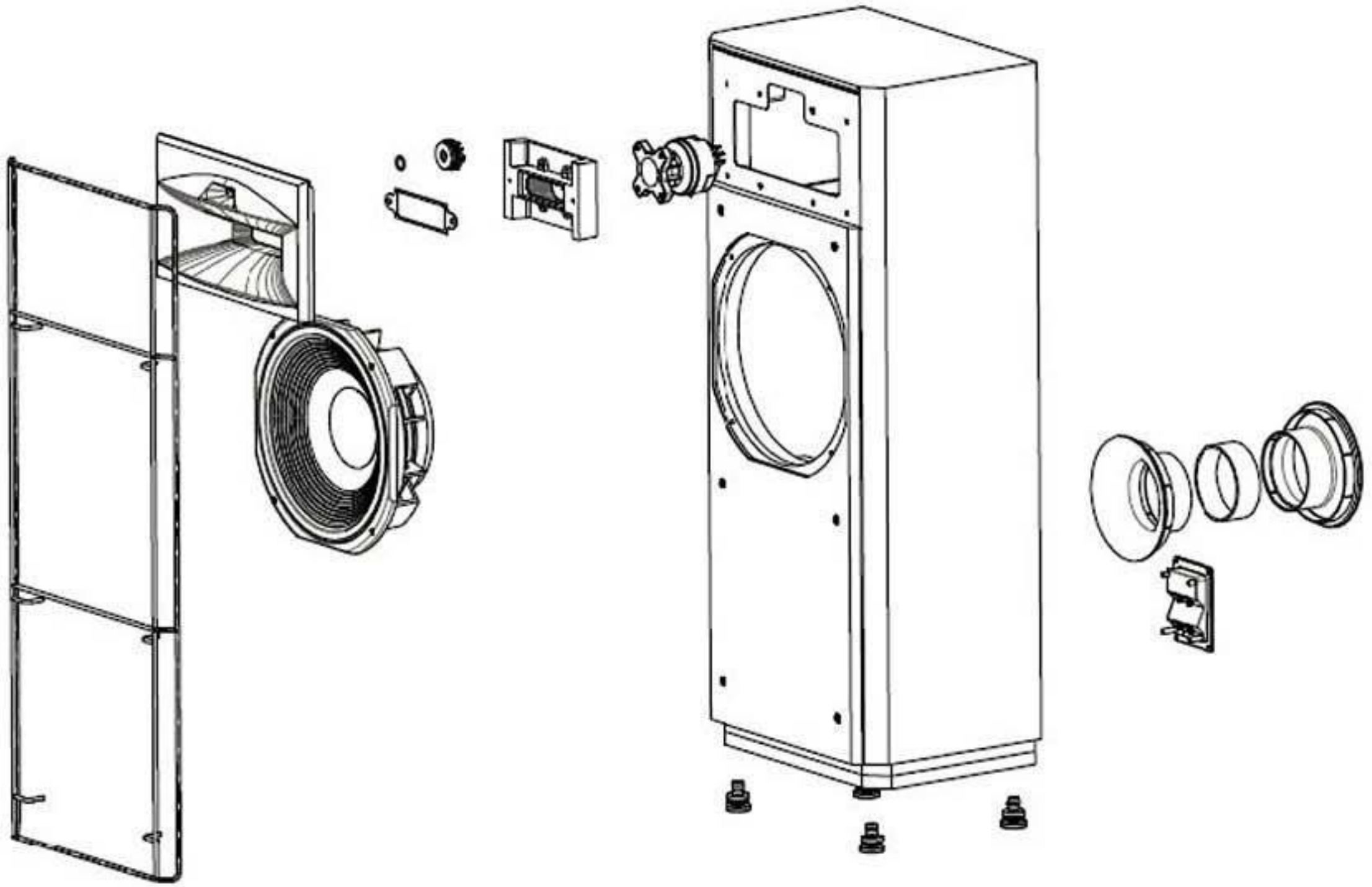
364286

**S4600**

## S4600 Description (Dimension Unit:mm)



S4600



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**S4600**

**Document Revision History**

Rev #	Date	Description of Change	ECO#	Approval	
				M.E.	S.E.
X1	5/3/2007			C.B.	G.T.



**S4600**

**System Physical Specifications**

*may be superceded by information on the drawings*

**Description:**

14" 3-Way Compression Driver System

**Specification:**

Material	MDF
Panel Thickness	1"
Ext. Dimensions	39.88 H x 16.5 W x 11.85 D Plus 1" H for feet, Plus 0.88" D for horn lip & grille
Weight	115 Lb
Net Internal Vol	2.8 cubic feet
Sub Enclosure	None
Bracing	2 perimeter braces
Feet	Black chrome spike feet
Finish	Cherry F/C manmade veneer with satin top coat
Grille	Wire frame with gray cloth (ST-113-07)
Grille Cup	6, rubber, HLS, 333249
Port	4" Flared (360806), Tuned to 38 Hz
Damping Material	1" fiberglass
Terminals	5-way binding posts and jumper straps
Terminal Cup	Plastic, 351441-001
Front Controls	None
Badging	Logo on grille and front baffle, 362682-002
Foils	Polycarbonate, rear
Mounting Features	None
RoHS	All material specified in this EDS shall comply with European Directive 2002 / 95 / EC

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**System Physical Specifications (continued)**

*may be superceded by information on the drawings*

<b>Driver(s)</b>	<b>Qty</b>	<b>Size</b>	<b>Supplier</b>	<b>Model /Part #</b>	<b>Specification</b>
Low Frequency Transducer:	1	14"	JBL Pro	LE14H-4	
Mid Frequency Transducer:					
High Frequency Transducer:	1	1.75"	JBL Pro	175Nd-3	
UHF Transducer:	1	0.75"	Falcon	138Nd	

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**Acoustical and Electrical Specifications**

**System:**

Sensitivity: 91 dB for 2.83 v @ 1m

Nominal Impedance: 8  $\Omega$

Minimum Impedance: 6 ohms @ 110 Hz and 25 kHz

Power Dissipation

Bandwidth (-6 dB): 35 Hz - 40k Hz

f3 (-3 dB): 50 Hz

Distortion Criteria

System Polarity: E.I.A.

**Network:**

Voltage Drive: See Attachment

Schematic: See Attachment



**S4600**

**System Test Specifications**

*production testing quantities per HCG QA AQL*

**System:**

*Reliability Test:* HCG Reliability Test Plan for Passive Loudspeaker System (Latest Revision)

*Visual Criteria:* HCG QA Visual Inspection Criteria (Latest Revision) Level:

*Dynamic Test:*

<i>Sine Sweep Voltage:</i>	6 volts
<i>Frequency Range:</i>	20 Hz - 20 kHz
<i>Sweep Duration:</i>	5 seconds

*Power Test:*

<i>Input Signal:</i>	20 v, IEC Shaped Noise, 6 dB crest factor
<i>Duration:</i>	8 + 92 hours
<i>Control Settings:</i>	N/A

*Polarity Test:*

*Microphone Position:*

*Control Position:*

*Frequency Response:*

Window	Averaging	Slope
+/- 1.5 dB, 50 Hz - 6000 Hz	1/3 Octave	36 dB / Octave
+/- 2.0 dB, 6000 Hz - 20,000 Hz	1 Octave	36 dB / Octave
	1/3 Octave	36 dB / Octave
	1/3 Octave	36 dB / Octave
	1/3 Octave	36 dB / Octave

**Network:**

*Voltage Drive:*

Window	Averaging	Slope
+/- 0.5 dB, 20 Hz - 200 Hz	1/6 Octave	36 dB / Octave
+/- 0.7 dB, 200 Hz - 800 Hz	1/6 Octave	36 dB / Octave
+/- 1 dB, 800 Hz - 1600 Hz	1/6 Octave	36 dB / Octave
+/- 1.5 dB, 1600 Hz - 6400 Hz	1/3 Octave	36 dB / Octave

*LF*   $\Omega$

	1/3 Octave	36 dB / Octave
	1/6 Octave	36 dB / Octave
	1/6 Octave	36 dB / Octave
	1/6 Octave	36 dB / Octave
	1/3 Octave	36 dB / Octave

*HF*   $\Omega$

+/- 1.5 dB, 100 Hz - 400 Hz	1/3 Octave	36 dB / Octave
+/- 1.0 dB, 400 Hz - 800 Hz	1/6 Octave	36 dB / Octave
+/- 0.5 dB, 800 Hz - 6000 Hz	1/6 Octave	36 dB / Octave
+/- 1.0 dB, 6000 Hz - 12000 Hz	1/6 Octave	36 dB / Octave
+/- 1.5 dB, 12000 Hz - 20000 Hz	1/3 Octave	36 dB / Octave

*UHF*   $\Omega$

+/- 1.5 dB, 1000 Hz - 4000 Hz	1/3 Octave	36 dB / Octave
+/- 1.0 dB, 4000 Hz - 12000 Hz	1/6 Octave	36 dB / Octave
+/- 0.7 dB, 12000 - 20000 Hz	1/6 Octave	36 dB / Octave
	1/6 Octave	36 dB / Octave

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**System Package Specifications**

*may be superceded by information on the drawings*

**Accessories:**

Owners Manual

Warranty Card

Wire

Hardware

**Packaging:**

Material

Thickness

Colors

Finish

Endpad Material

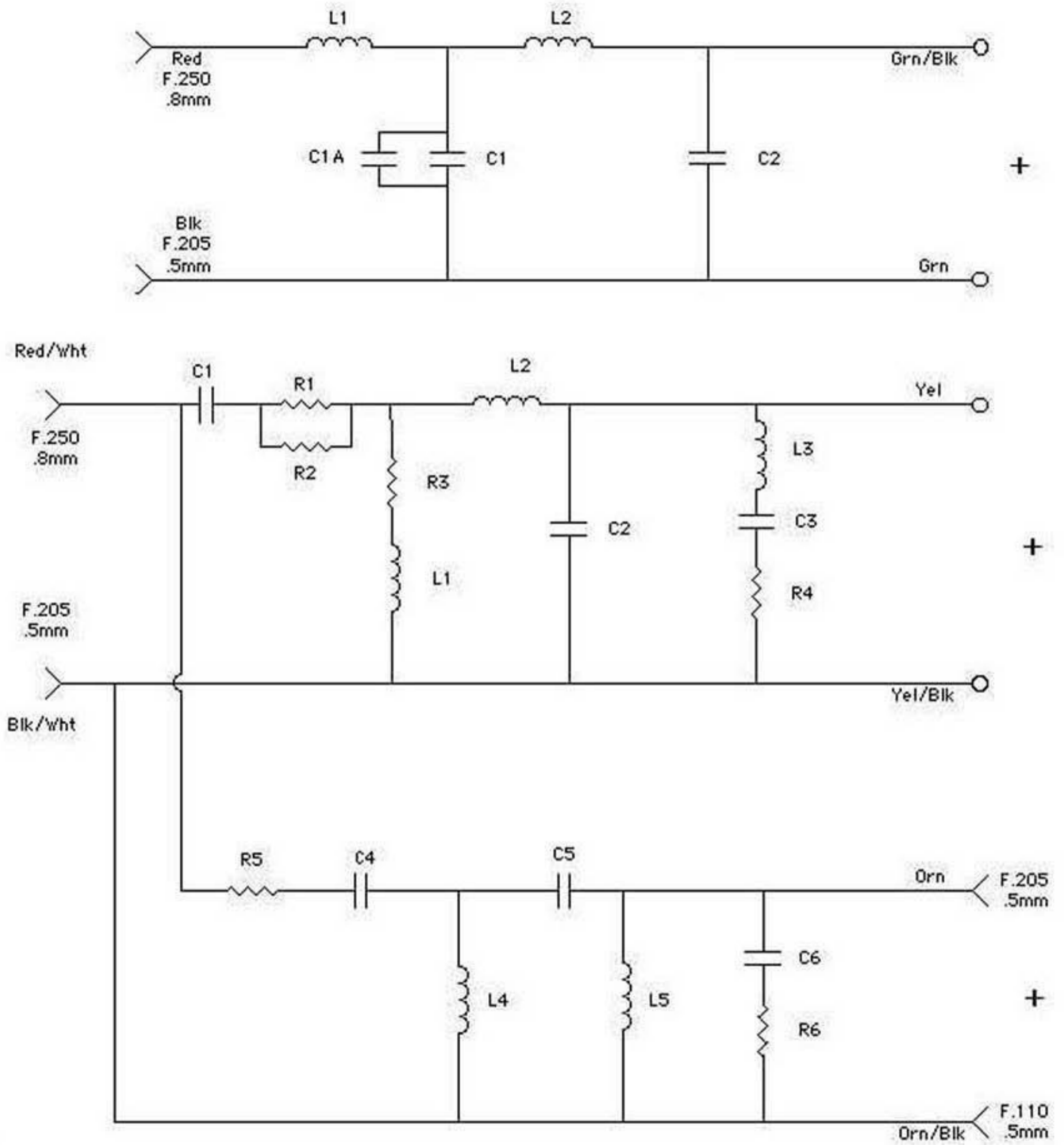
Master Carton



S4600

S4600  
P/N 364159

4/5/07  
Rev. 4  
G.T.



**S4600**LF Parts List  
364159-002L1 - 4.7 mH  $\pm$  5%, Air Core, DCR < 0.45  $\Omega$ L2 - 2.0 mH  $\pm$  5%, Air Core, DCR < 0.25  $\Omega$ C1 - 27  $\mu$ F  $\pm$  5%, 100 V NPE DF <4%C1A - 3  $\mu$ F  $\pm$  5%, 100 V PolypropyleneC2 - 20  $\mu$ F  $\pm$  5%, 100 V Polypropylene

Grn, Grn/Blk Wires - 23" 14 AWG, UL1015, Strip and Tin (10mm)

Red - 6", 14 AWG, UL1015, F.250 (.8mm)

Blk - 6", 14 AWG, UL1015, F.205 (.5mm)

HF and UHF Parts List  
364159-001L1 - 0.2 mH  $\pm$  5%, Air Core, DCR < 0.3  $\Omega$ L2 - 0.15 mH  $\pm$  5%, Air Core, DCR < 0.25  $\Omega$ L3 - 0.44 mH  $\pm$  5%, Air core, DCR < 0.4  $\Omega$ L4 - 0.06 mH  $\pm$  5%, Air Core, DCR 0.15 $\Omega$  - 0.25 $\Omega$ L5 - 0.16 mH  $\pm$  5%, Air Core, DCR 0.15 $\Omega$  - 0.25 $\Omega$ C1 - 8.2  $\mu$ F  $\pm$  5%, 100 V PolypropyleneC2 - 8.2  $\mu$ F  $\pm$  5%, 100 V PolypropyleneC3 - 12  $\mu$ F  $\pm$  5%, 100 V PolypropyleneC4 - 1.2  $\mu$ F  $\pm$  5%, 100 V PolypropyleneC5 - 2.4  $\mu$ F  $\pm$  5%, 100 V PolypropyleneC6 - 0.56  $\mu$ F  $\pm$  5%, 100 V PolypropyleneR1, R2 - 27  $\Omega$   $\pm$  5%, 10 W, Metal standoff legsR3 - 2.7  $\Omega$   $\pm$  5%, 5 W, Metal standoff legsR4 - 3.9  $\Omega$   $\pm$  5%, 5 W, Metal standoff legsR5 - 2.2  $\Omega$ ,  $\pm$  5%, 5 W, Metal OxideR6 - 10  $\Omega$   $\pm$  5%, 0.5 W

Yel, Yel/Blk - 17", 16 AWG, UL1015, Strip and Tin (10mm)

Orn - 21", 16 AWG, UL1015, F.205 (.5mm)

Orn/Blk - 21", 16 AWG, UL1015, F.110 (.5mm)

Red/Wht - 22" 16 AWG, UL1015, F.250 (.8mm)

Blk/Wht - 22" 16 AWG, UL1015, F.205 (.5mm)

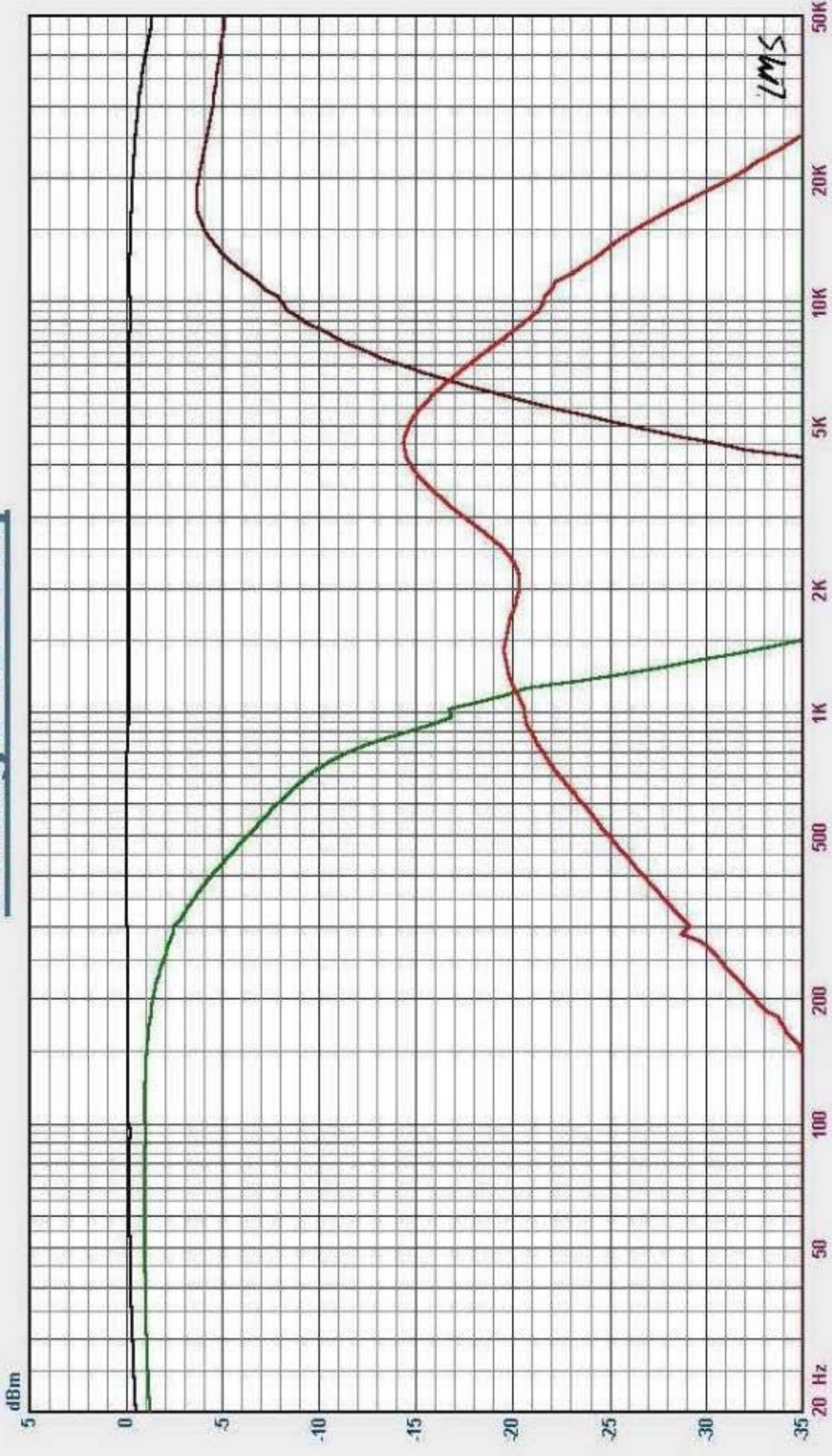
## Notes

1. Separate HF and UHF sections on the same circuit board
2. Orient both inductors on UHF (L4 & L5) Vertically. Do not lie either one down flat.
3. Spacing between resistors and any other parts is at least 5 mm



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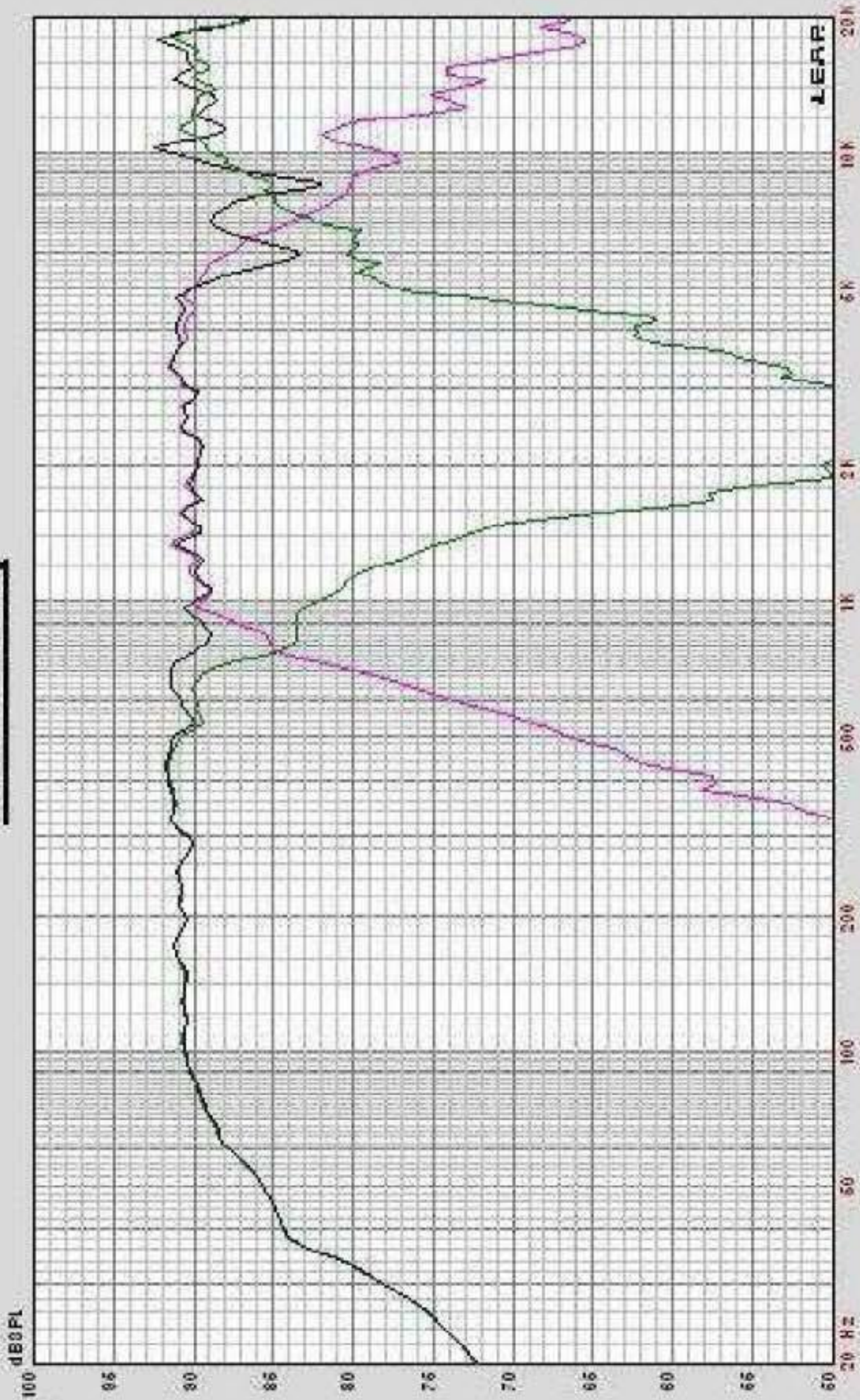
Voltage vs Freq





**S4600**

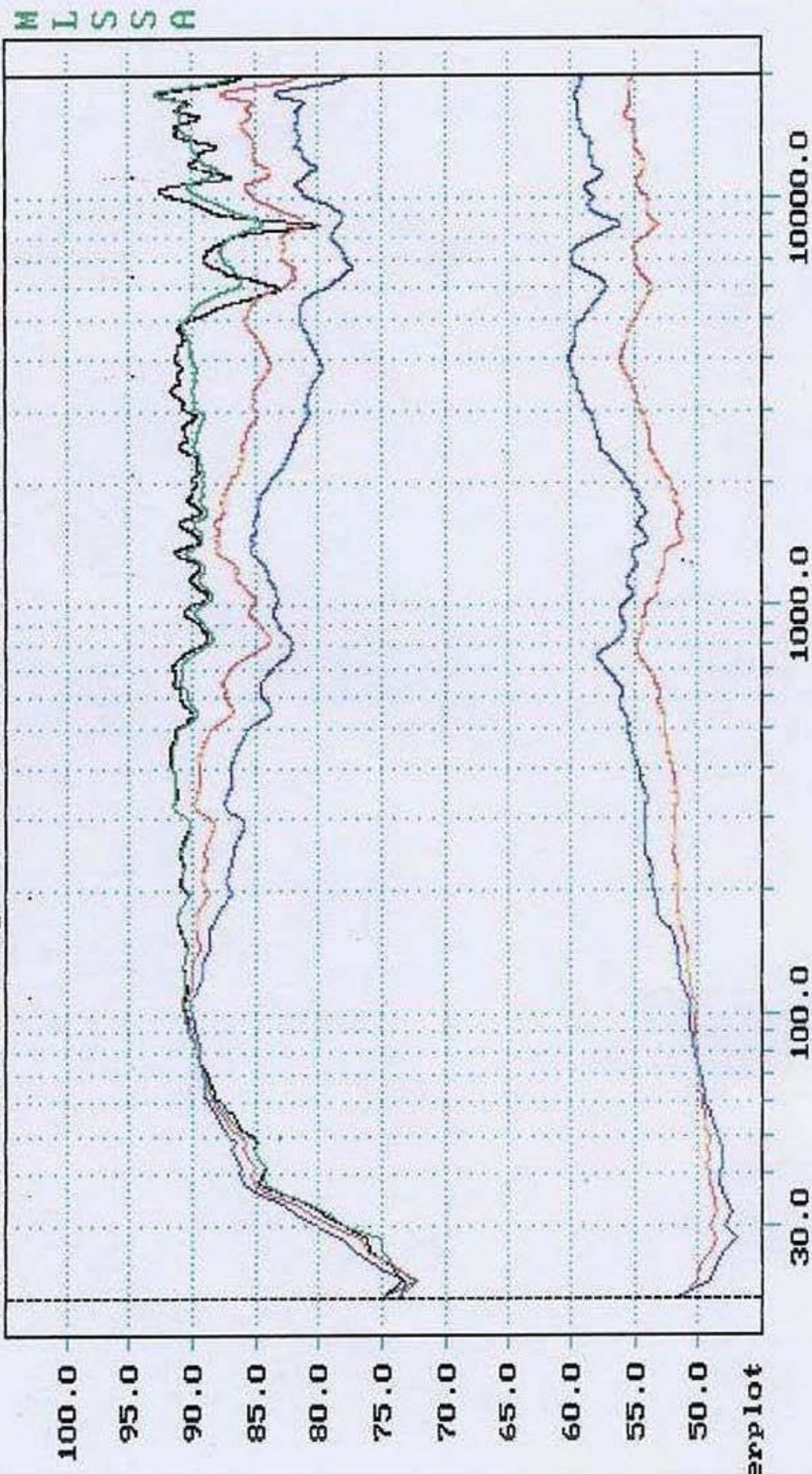
**SPL vs Freq**





S4600

File: C:\SNDPWR\DI\_SND\_FRQ 4-25-2007 8:46 AM (equalized)  
Transfer Function Mag - dB volts/volts (0.05 oct)



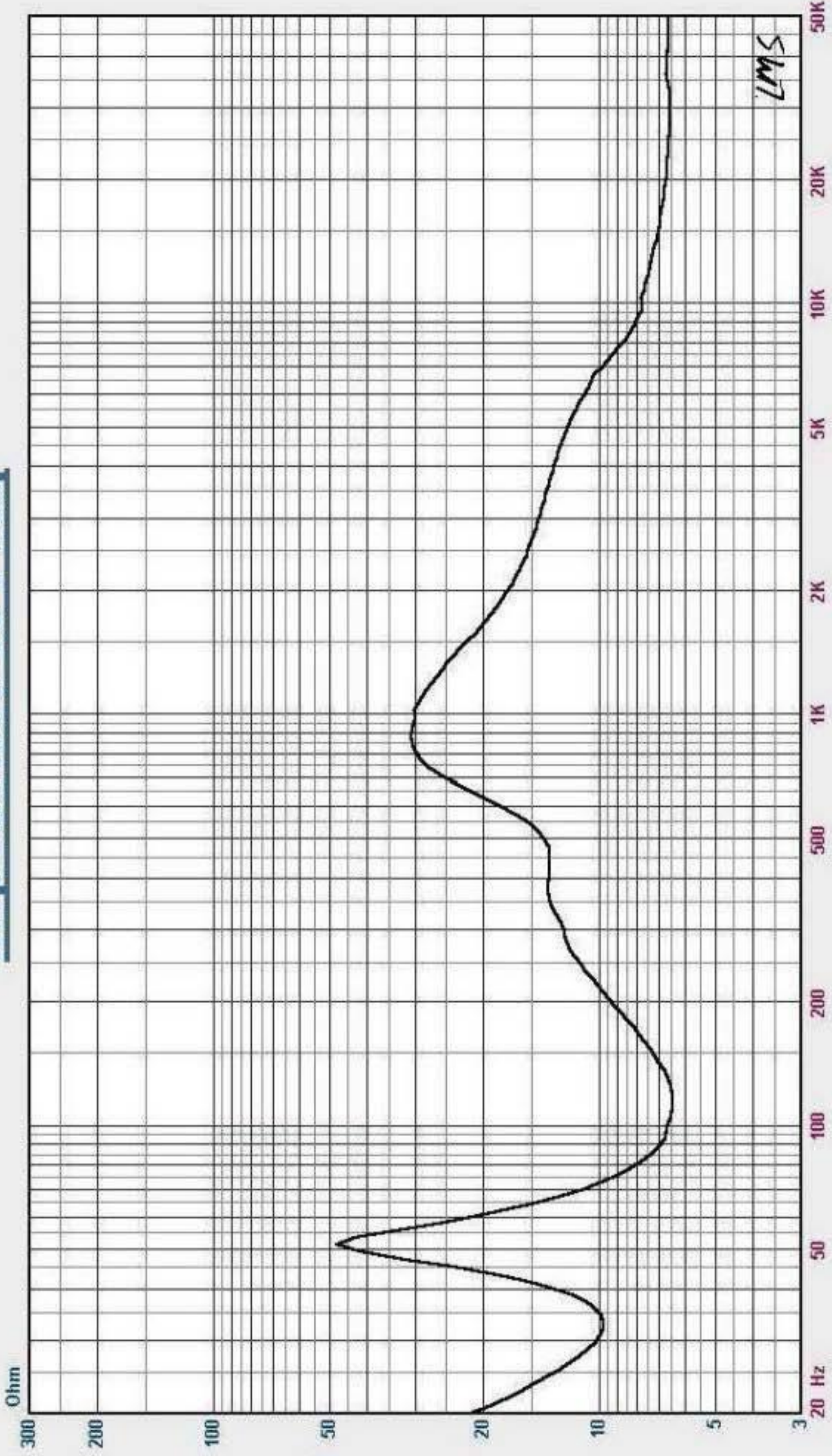
log Frequency - Hz

On Axis, Direct, 1st Reflections, Soundpower, DI\_SND, DI\_1ST



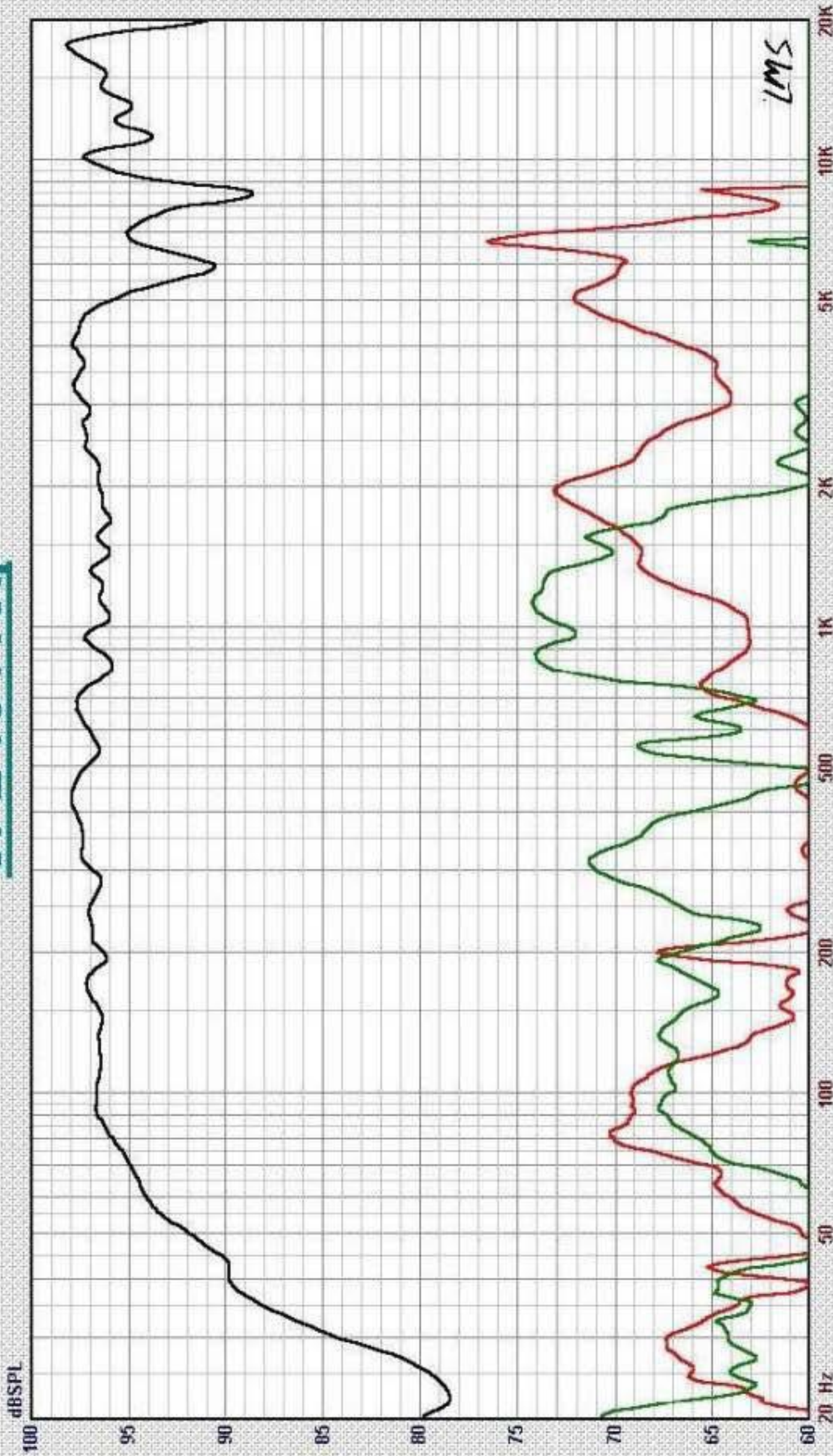
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Impedance vs Freq





**SPL vs Freq**



- 1. On Axis Response, 96 dB
- 2. 2nd Harmonic, Raised 20 dB
- 3. 3rd Harmonic, Raised 20 dB

Map

Notes

**LINEAR**  
S I M U L A T I O N S

Jun 1, 2006  
Thr 3:32 pm

Project:  
File: Dt.lib

Person:  
Company:

LMS 1.5.0.352  
Jul 01/2005

LMS