Telegärtner
Karl Gärtner GmbH

Test Report No. EWA20026-34

Transmission Performance Testing:

according to ISO/IEC JTC 1/SC 25 N 739 IT (2001-10-10)
Channel Class E

The Equipment Under Test (EUT)

Part 1:	Modular Patch Panel MPP /MPD Cat. 6
Part 2:	Outlet AMJ45 8/8 Cat. 6 / Class E
Part 3:	L00003A0049 (2x) TG Measuring Cable Cat. 6 - 5m (2x)
Part 4:	M06015A0079 (2x) Microtest Omniscanner 2 Channel Adapter Cat. 6
Installation Cable:	Draka MC UC600 SS23 4P Cat. 7

Result:

The EUT has been verified as being compliant with the transmission specifications according to the standard ISO/IEC JTC 1/SC 25 N 739 IT (2001).
The minimum NEXT reserve of the Channel Class E is:
@100 MHz = -7,7 dB and @ 250 MHz = -8,1dB.

Test location:

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Tested by:

Frank Albert

Steinenbronn, August 06, 2002

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Products:

The electrical modul Modular Patch Panel MPP / MPD Cat. 6 / Class E and Outlet AMJ45 8/8 Cat. 6 / Class E is used in the following products:

Modular Patch Panel MPP / MPD Cat. 6:

J02023F0019 Mod. Patch Panel Cat. 6 MPP24-HS screened, RAL 7035

J02023B0019 Mod. Patch Panel Cat. 6 MPP24-HS screened, RAL 7035

J02023C0019 Mod. Patch Panel Cat. 6 MPP24-HS screened, RAL 7035

J02023D0019 Mod. Patch Panel Cat. 6 MPP24-HS screened, RAL 7035

J02023E0019 Mod. Patch Panel Cat. 6 MPP24-HS screened, RAL 7035

J02023H0019 Mod. Patch Panel Cat. 6 MPP24-HS screened, RAL 7035

J02022F0024 Mod. Patch Panel Cat. 6 MPP16-HS screened, RAL 7035

J02022B0024 Mod. Patch Panel Cat. 6 MPP16-HS screened, RAL 7035

J02022D0024 Mod. Patch Panel Cat. 6 MPP16-HS screened, RAL 7035

J02022A0038 10" Mod. Patch Panel Cat. 6 MPP12-HS screened, RAL 7035

J02022A0028 Distributor Cat. 6 MPD12-HS screened

J02021A0019 Distributor Cat. 6 MPD12-HS 3HU/ 10PU screened

J02021A0015 Distributor Cat. 6 Typ II MPD6-HS screened

J02021A0017 Distributor Cat. 6 Typ II MPD6-HS screened

J02021A0024 Distributor Cat. 6 MPD6-HS 3HU/8PU screened without front panel

Outlet AMJ45 8/8 Cat. 6 / Class E

J00020A0393 Outlet AMJ45 8/8 UP/50 EK screenend, Cat. 6 / Class E alpine white

J00020A0394 Outlet AMJ45 8/8 UP/50 EK screenend, Cat. 6 / Class E pearl white RAL 1013

J00020A0395 Outlet AMJ45 8/8 UP/50 EK screenend, Cat. 6 / Class E without cover plate

J00020H0393 Outlet AMJ45 8/8 UP/50 EK screenend, Cat. 6 / Class E alpine white

J00020H0394 Outlet AMJ45 8/8 UP/50 EK screenend, Cat. 6 / Class E pearl white RAL 1013

J00020A0392 Outlet AMJ45 8/8 UP/50 EK screenend, Cat. 6 / Class E without cover plate

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Test Results

pairs	1-2	3-6	4-5	7-8	limit	skew / ns	limit
max Propagation delay / ns	479,0	484,0	478,0	481,0	546,3	6,0	50,0
Attanuation @ 100 MHz / dB	-21,3	-21,7	-21,3	-21,6	-21,7		
Attanuation @ 250 MHz / dB	-33,8	-35,5	-34,3	-35,0	-21,7		
min PSNEXT margin / dB	14,2	6,1	7,5	8,0			
@ f / MHZ	238,0	237,1	34,2	231,7			
PSNEXT limit / dB	-30,5	-30,6	-45,0	-30,7			
PSNEXT @ 100 MHz	-55,9	-46,5	-46,5	-50,5	-37,1		
PSNEXT @ 250 MHz	-47,7	-38,7	-39,5	-40,2	-30,2		
min PSELFEXT margin / dB	13,7	7,6	7,0	12,2			
@ f / MHZ	1,4	1,0	1,0	210,1			
PSELFEXT limit / dB	-57,3	-60,6	-60,6	-13,8			
PSELFEXT @ 100 MHz	-34,7	-30,6	-29,7	-44,7	-20,3		
PSELFEXT @ 250 MHz	-29,7	-20,5	-21,6	-25,4	-12,3		
min PSACR margin / dB	15,9	6,9	7,4	8,7			
@ f / MHZ	238,0	234,4	34,2	231,7			
PSACR limit / dB	-4,4	-4,0	32,7	-3,7			
PSACR @ 100 MHz	41,4	34,4	31,9	33,1	15,4		
PSACR @ 250 MHz	18,3	5,6	7,6	5,6	-5,7		
min Return Loss margin / dB	3,3	4,2	2,9	4,5			
@ f / MHZ	2,3	2,3	2,3	2,3			
Return Loss limit / dB	-19,0	-19,0	-19,0	-19,0			

pairs	1-2 / 3-6	1-2 / 4-5	1-2 / 7-8	3-6 / 4-5	3-6 / 7-8	4-5 / 7-8	limit
min NEXT margin / dB	11,9	14,2	19,7	5,5	5,4	9,1	
@ f / MHZ	238,0	218,2	48,0	34,2	231,7	248,8	
Next limit / dB	-33,5	-34,1	-45,3	-47,8	-33,7	-33,2	
NEXT @ 100 MHz	-60,7	-59,6	-61,9	-47,6	-53,6	-53,9	-39,9
NEXT @ 250 MHz	-47,9	-52,9	-65,6	-43,2	-41,2	-42,3	-33,1
min ACR margin / dB	12,8	15,4	19,5	5,3	6,2	10,0	
@ f / MHZ	236,2	218,2	48,0	34,2	231,7	249,7	
ACR limit / dB	-1,3	0,8	30,6	35,4	-0,8	-2,8	
ACR @ 100 MHz	38,9	38,3	40,3	25,9	31,9	32,3	18,2
ACR @ 250 MHz	12,4	18,6	30,6	7,7	5,7	7,2	-2,8

pairs	3-6 / 1-2	4-5 / 1-2	7-8 / 1-2	4-5 / 3-6	7-8 / 3-6	7-8 / 4-5	limit
	1-2 / 3-6	1-2 / 4-5	1-2 / 7-8	3-6 / 4-5	3-6 / 7-8	4-5 / 7-8	
min ELFEXT margin / dB	18,0	10,9	24,6	5,3	10,9	11,3	
@ f / MHZ	229,0	32,7	238,9	1,0	250,1	229,9	
ELFEXT limit / dB	-16,1	-33,0	-15,7	-63,6	-15,3	-16,0	
min ELFEXT margin / dB	17,3	10,9	23,9	5,3	11,6	10,9	
@ f / MHZ	229,0	29,8	238,9	1,0	249,7	223,6	
ELFEXT limit / dB	-16,1	-33,8	-15,7	-63,6	-15,3	-16,3	
ELFEXT @ 100 MHz	-46,1	-35,0	-56,0	-30,7	-45,4	-52,6	-23,3
ELFEXT @ 250 MHz	-38,3	-30,3	-47,0	-21,8	-26,5	-30,1	-15,3
ELFEXT @ 100 MHz	-45,6	-35,0	-55,7	-31,1	-45,5	-52,3	-23,3
ELFEXT @ 250 MHz	-36,5	-29,8	-45,7	-23,0	-26,9	-29,4	-15,3

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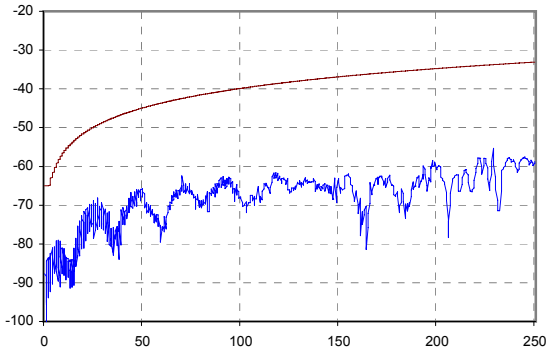
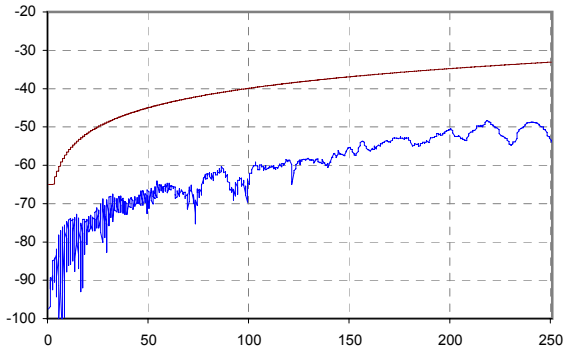
NEXT / dB (scanner side - type 1 side)

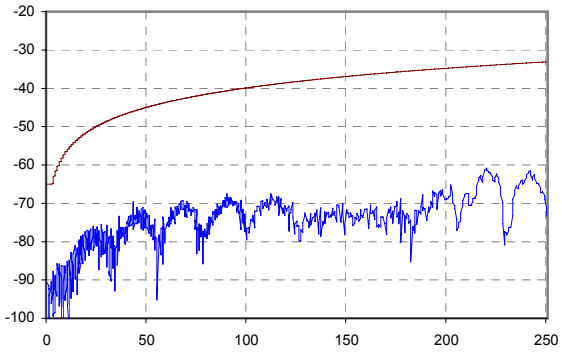
pairs: 1-2 / 3-6



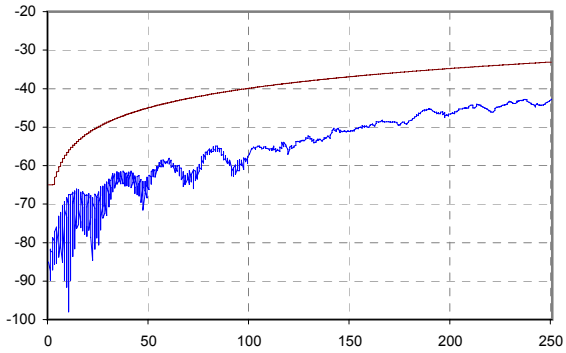
pairs: 1-2 / 4-5



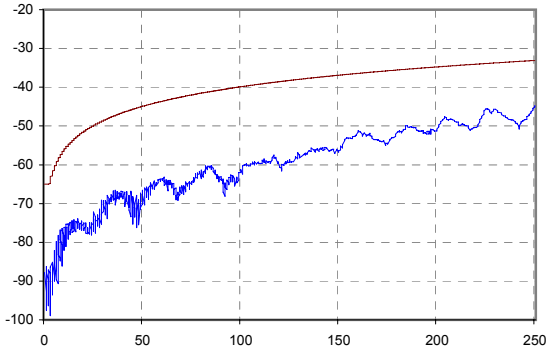
pairs: 1-2 / 7-8



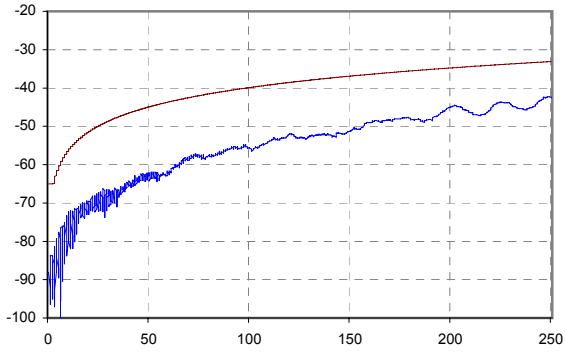
pairs: 3-6 / 4-5



pairs: 3-6 / 7-8



pairs: 4-5 / 7-8



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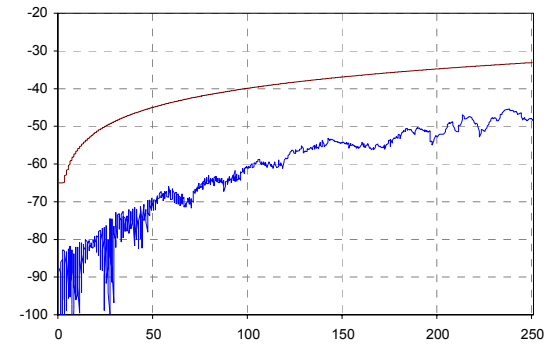
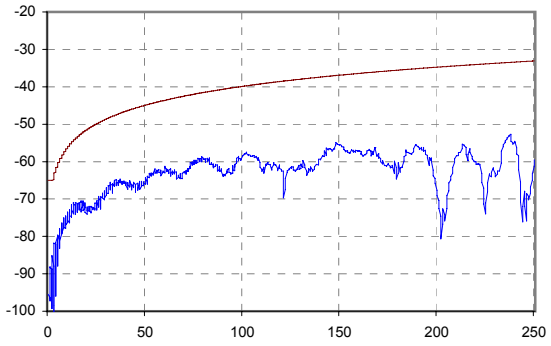
NEXT / dB (remote side - type 2 side)

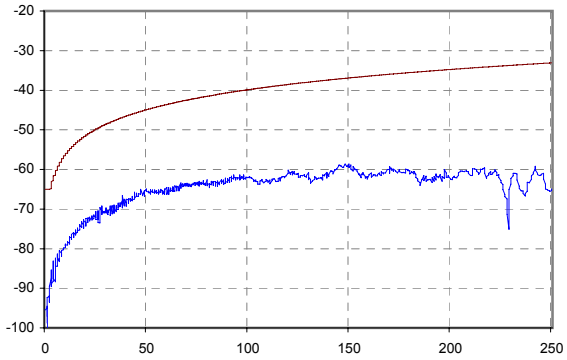
pairs: 1-2 / 3-6



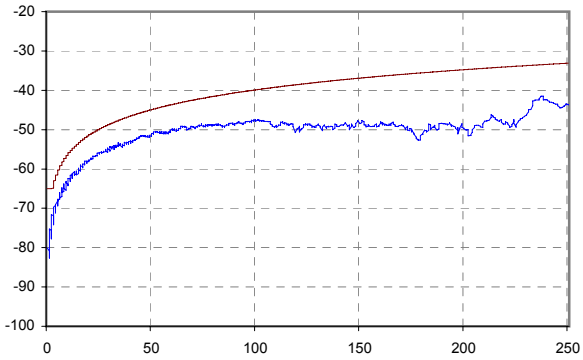
pairs: 1-2 / 4-5



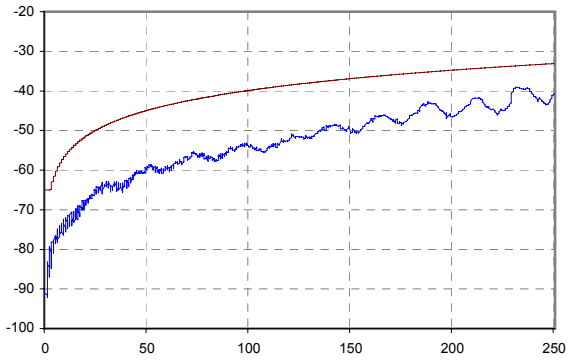
pairs: 1-2 / 7-8



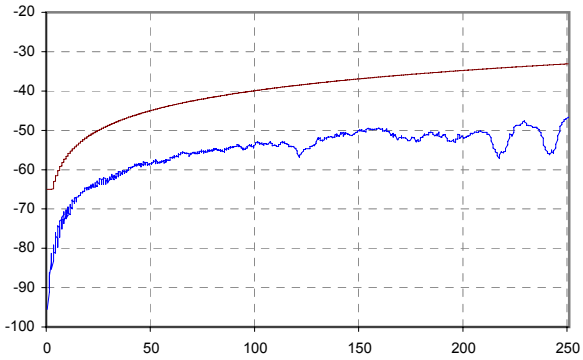
pairs: 3-6 / 4-5



pairs: 3-6 / 7-A1248



pairs: 4-5 / 7-8



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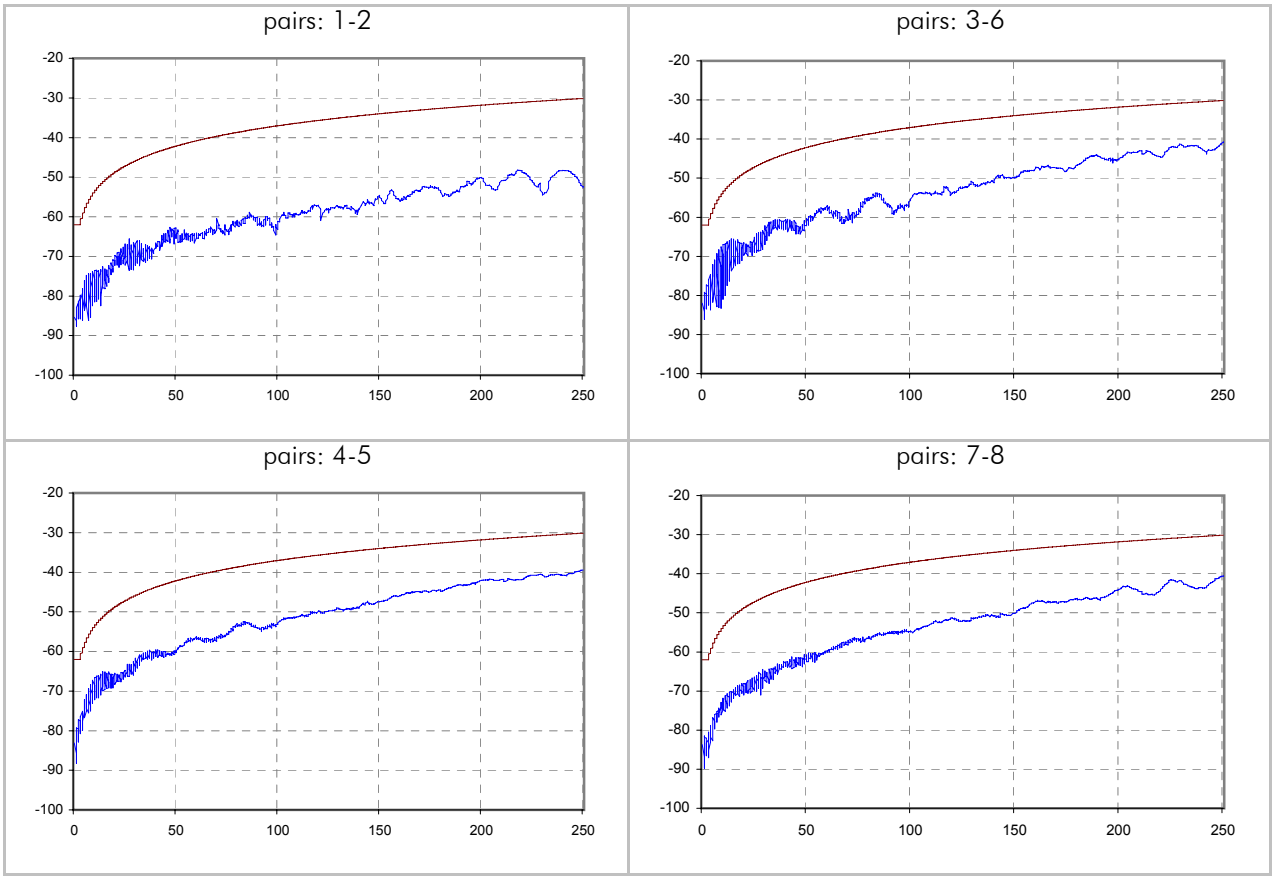
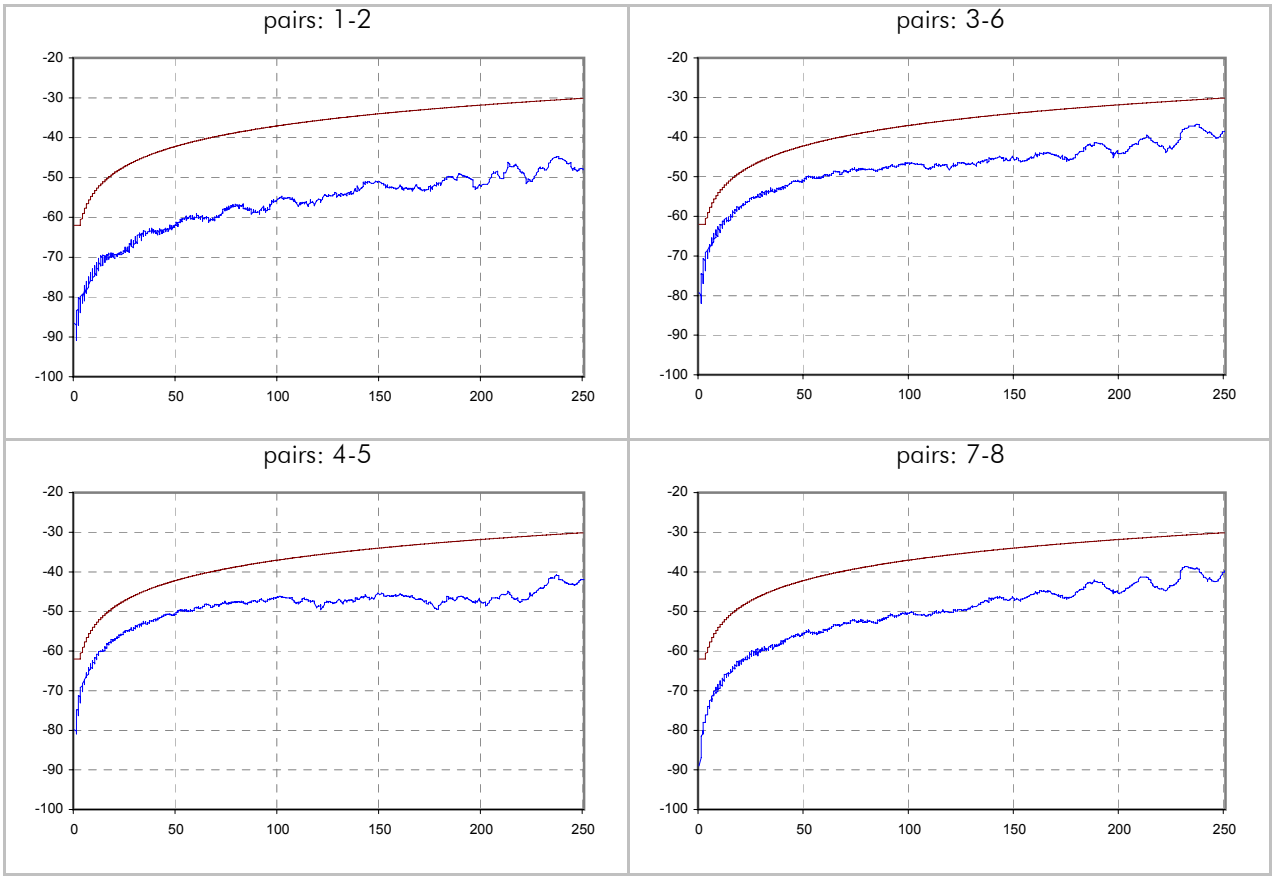
PSNEXT / dB (scanner side - type 1 side)



PSNEXT / dB (remote side - type 2 side)



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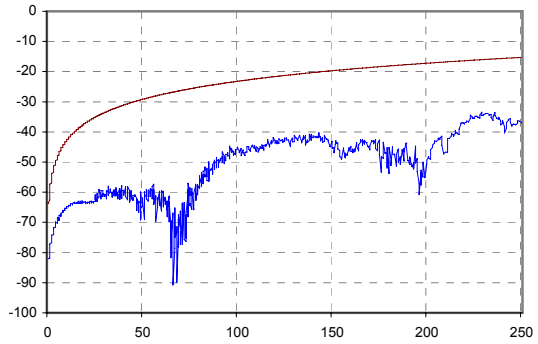
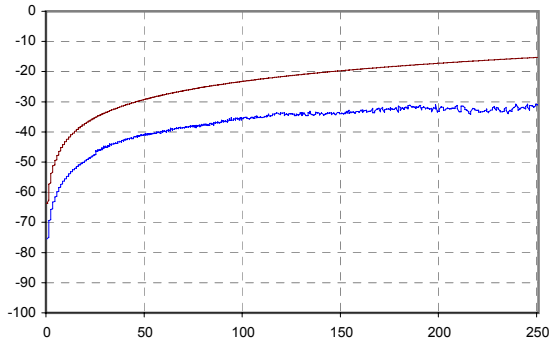
ELFEXT / dB (scanner side - type 1 side)

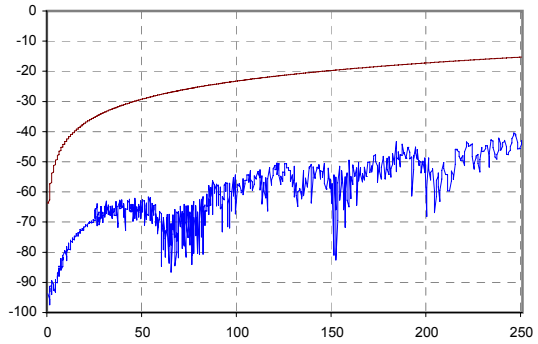
pairs: 1-2 / 3-6



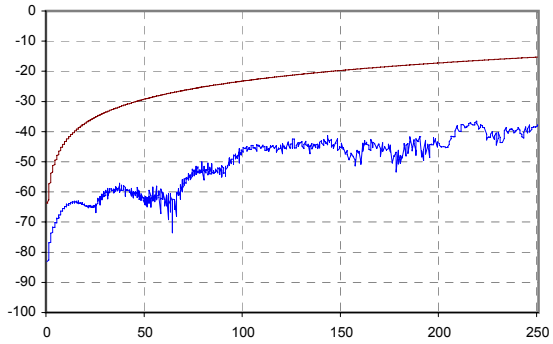
pairs: 1-2 / 4-5



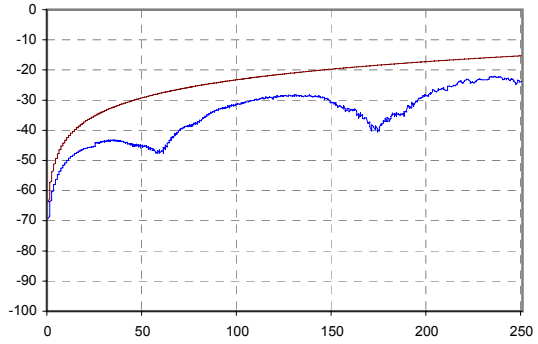
pairs: 1-2 / 7-8



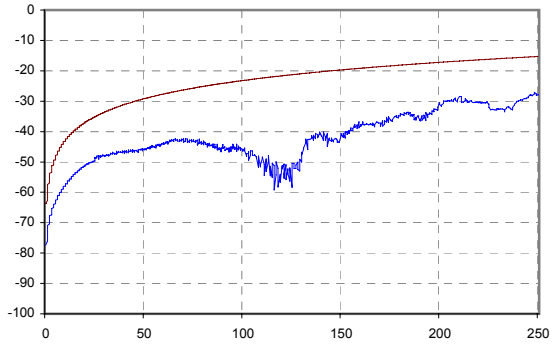
pairs: 3-6 / 1-2



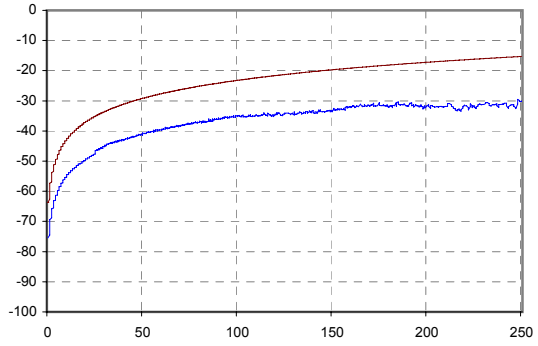
pairs: 3-6 / 4-5



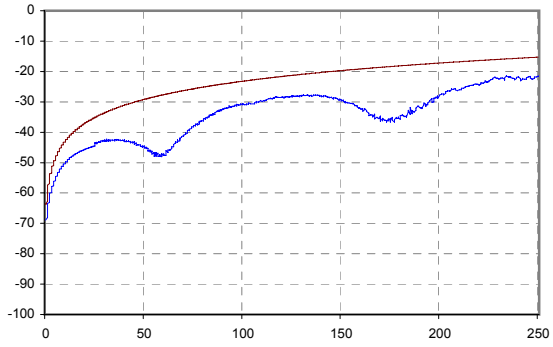
pairs: 3-6 / 7-8



pairs: 4-5 / 1-2



pairs: 4-5 / 3-6



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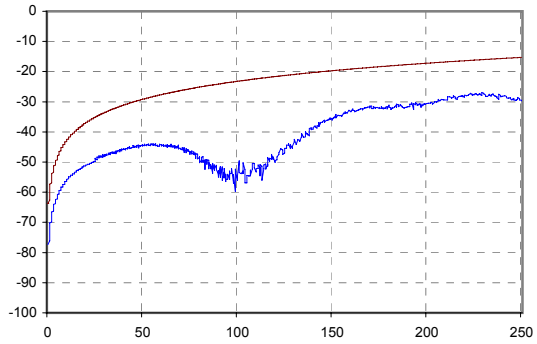
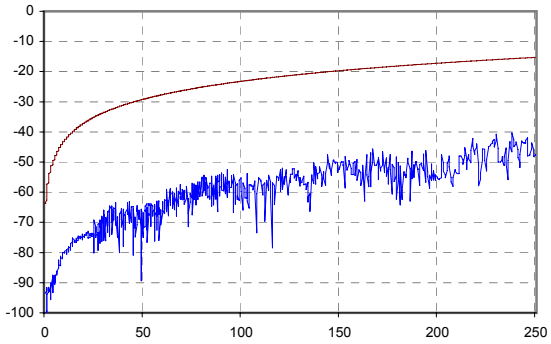
ELFEXT / dB (scanner side - type 1 side)

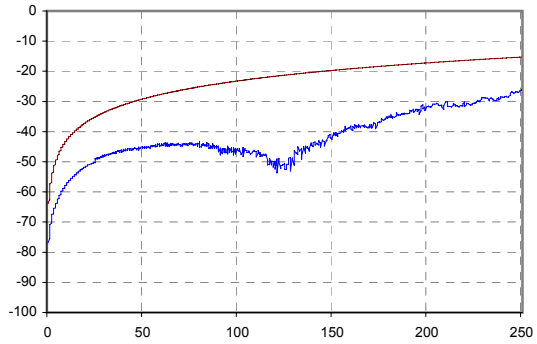
pairs: 4-5 / 7-8



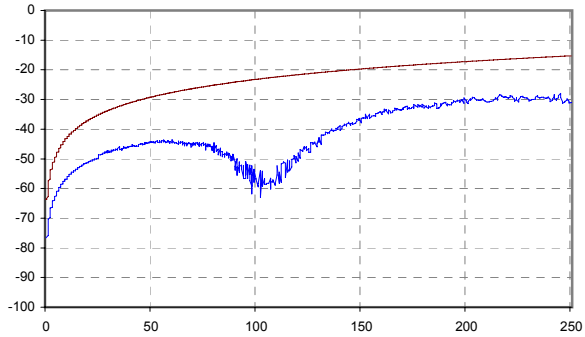
pairs: 7-8 / 1-2



pairs: 7-8 / 3-6

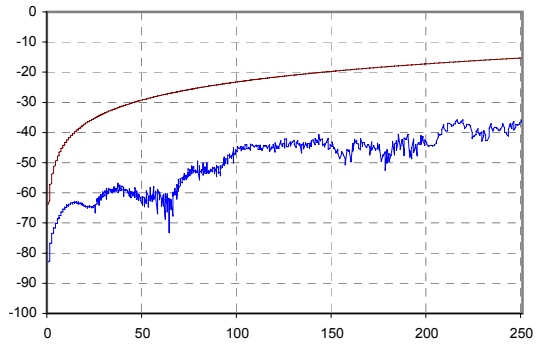


pairs: 7-8 / 4-5

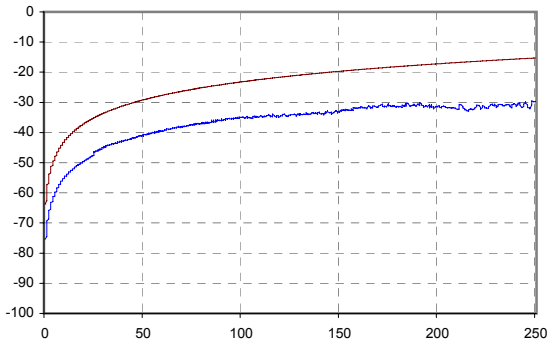


ELFEXT / dB (remote side - type 2 side)

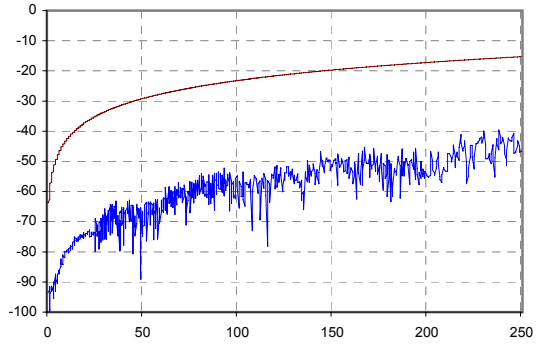
pairs: 1-2 / 3-6



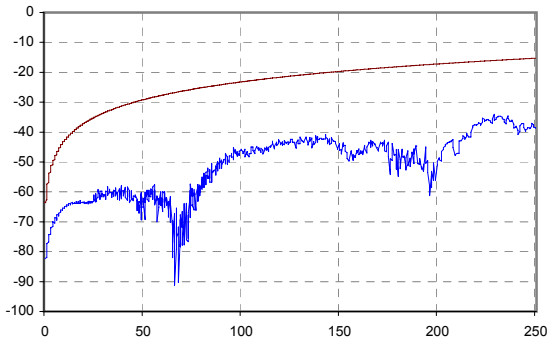
pairs: 1-2 / 4-5



pairs: 1-2 / 7-8

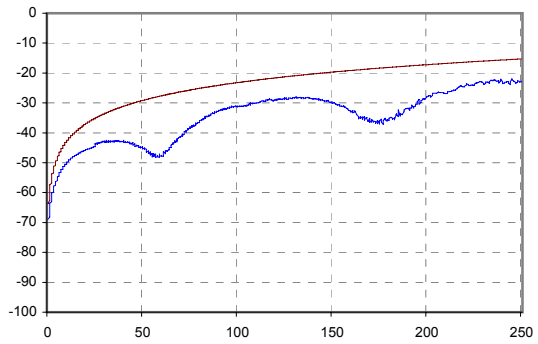


pairs: 3-6 / 1-2

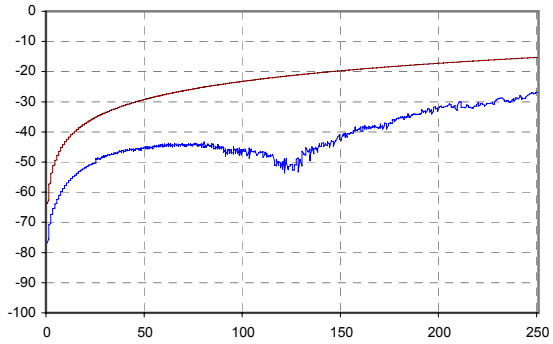


ELFEXT / dB (remote side - type 2 side)

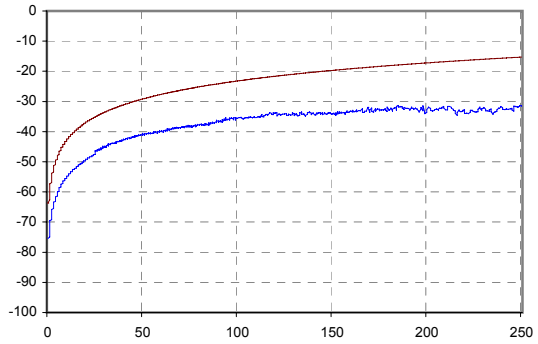
pairs: 3-6 / 4-5



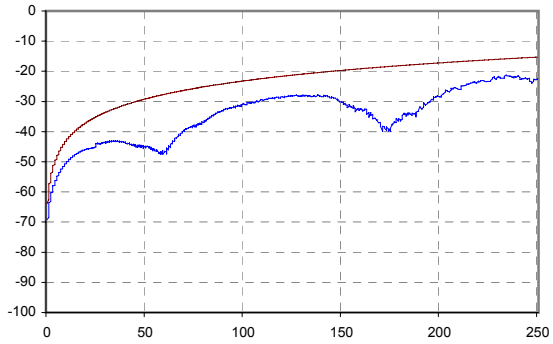
pairs: 3-6 / 7-8



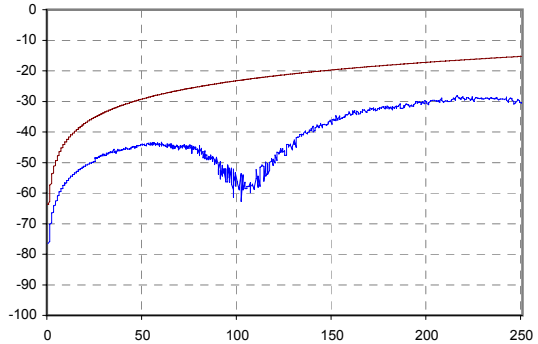
pairs: 4-5 / 1-2



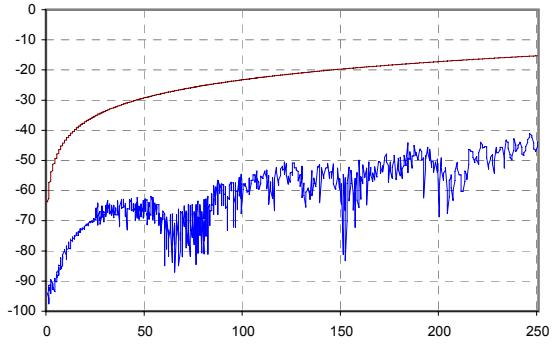
pairs: 4-5 / 3-6



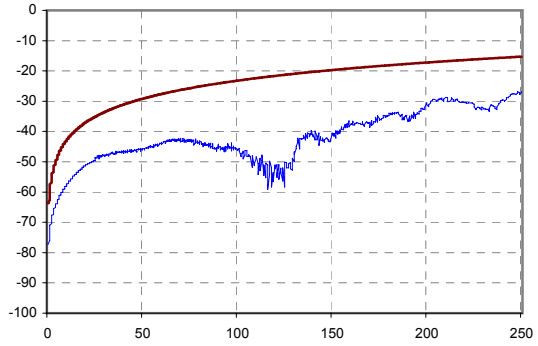
pairs: 4-5 / 7-8



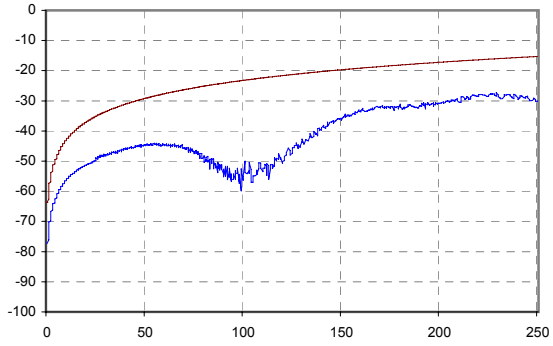
pairs: 7-8 / 1-2



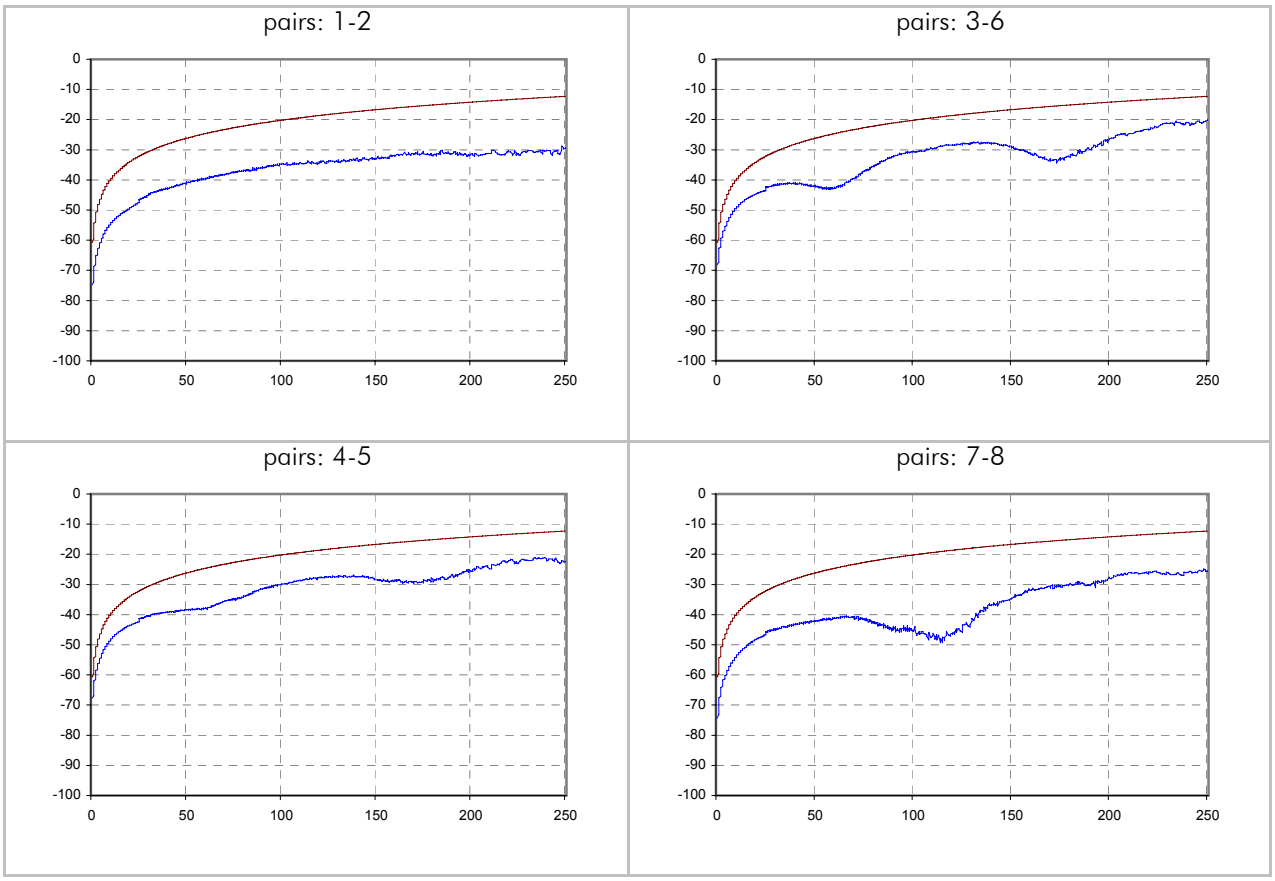
pairs: 7-8 / 3-6



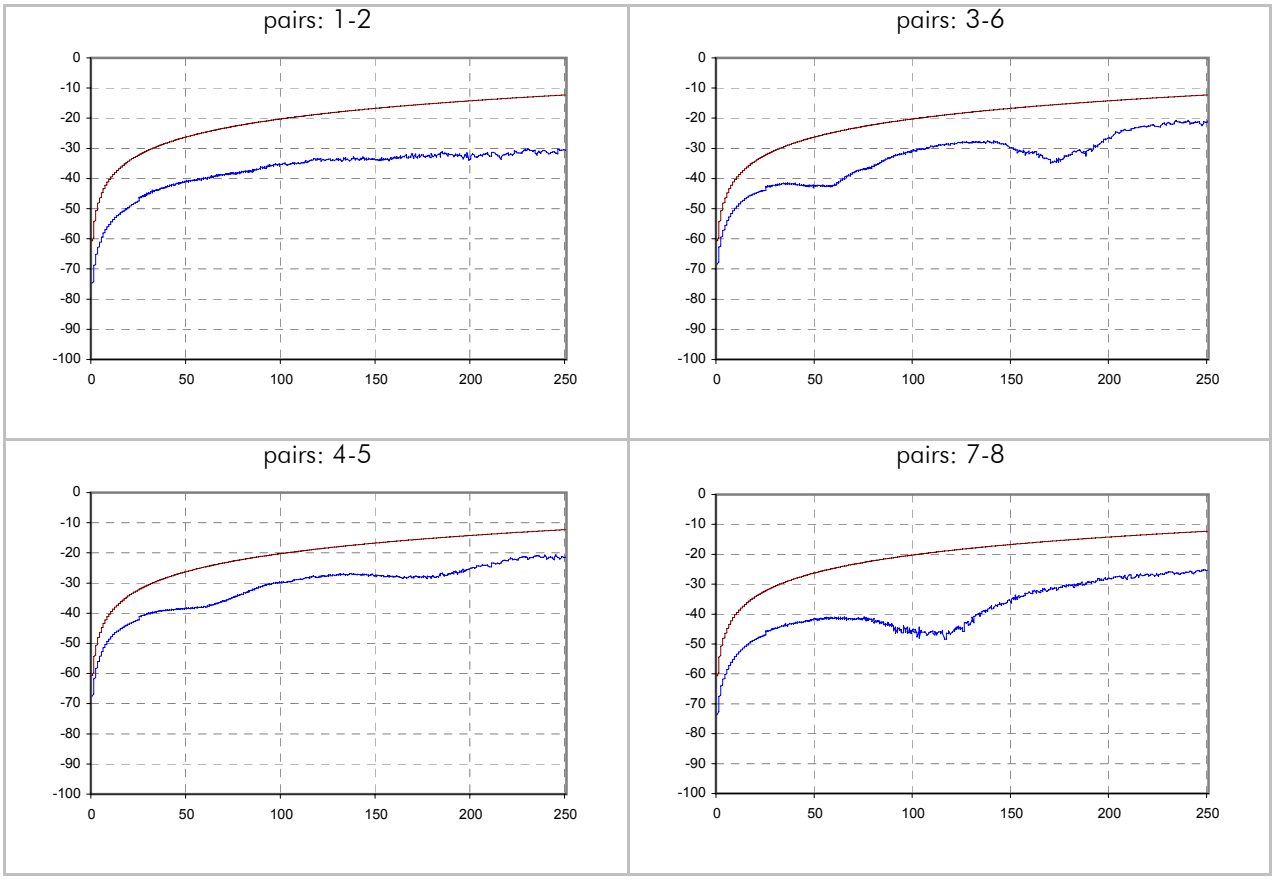
pairs: 7-8 / 4-5



PSELFEXT / dB (scanner side - type 1 side)



PSELFEXT / dB (remote side - type 2 side)



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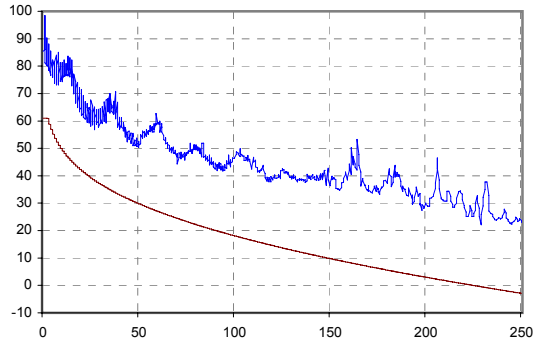
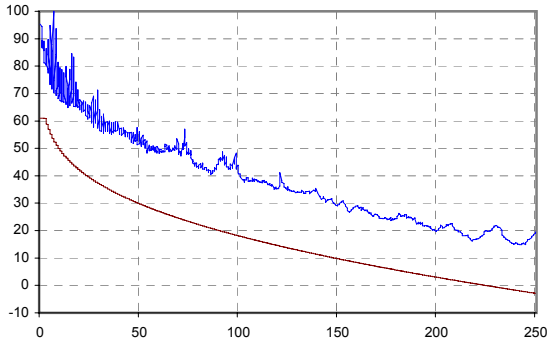
ACR / dB (scanner side - type 1 side)

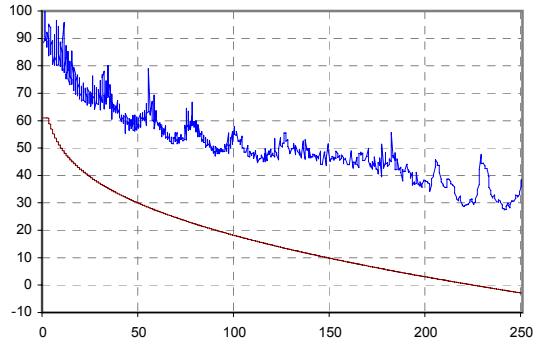
pairs: 1-2 / 3-6



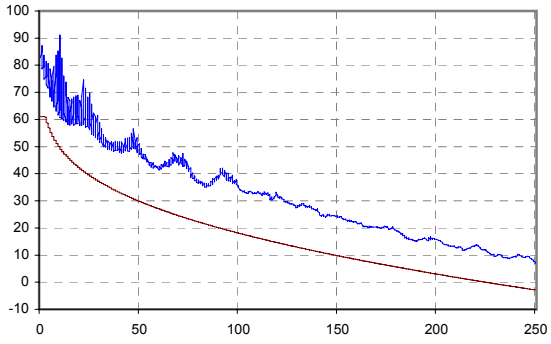
pairs: 1-2 / 4-5



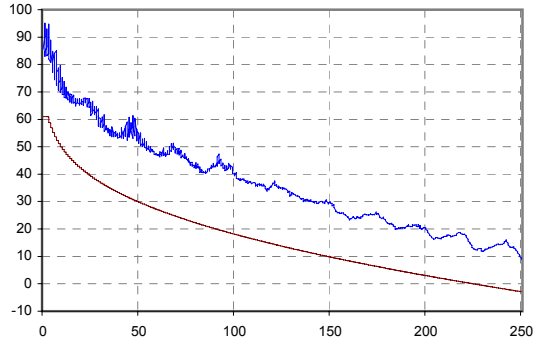
pairs: 1-2 / 7/8



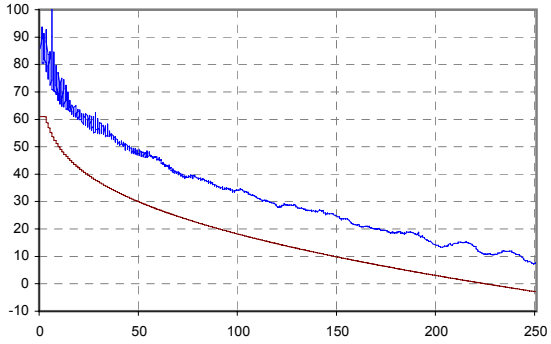
pairs: 3-6 / 4-5



pairs: 3-6 / 7-8

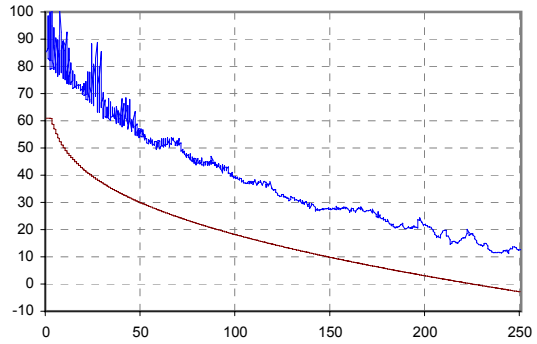


pairs: 4-5 / 7-8

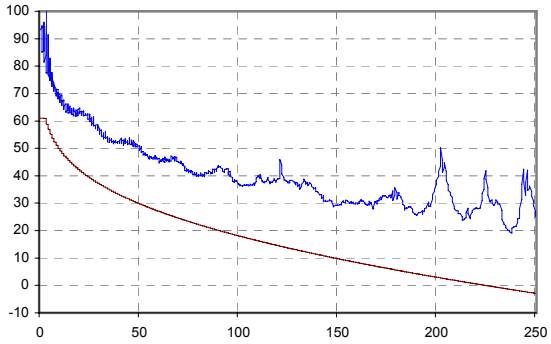


ACR / dB (remote side - type 2 side)

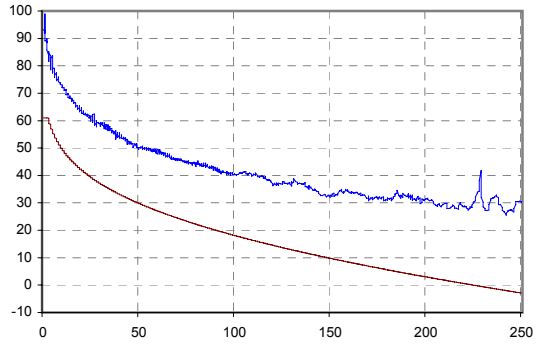
pairs: 1-2 / 3-6



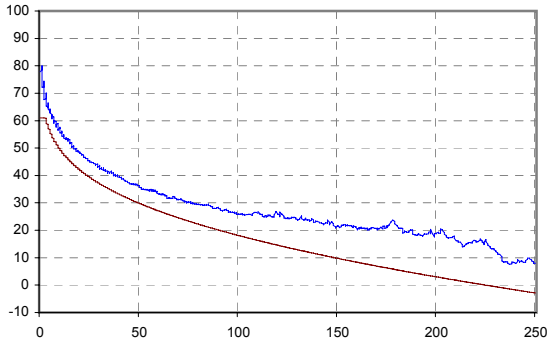
pairs: 1-2 / 4-5



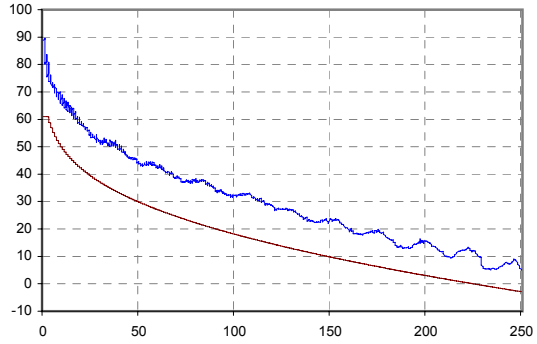
pairs: 1-2 / 7/8



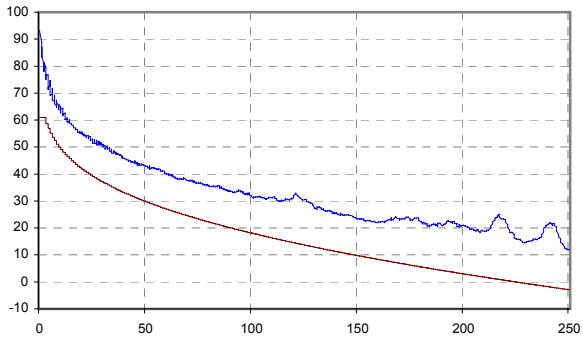
pairs: 3-6 / 4-5



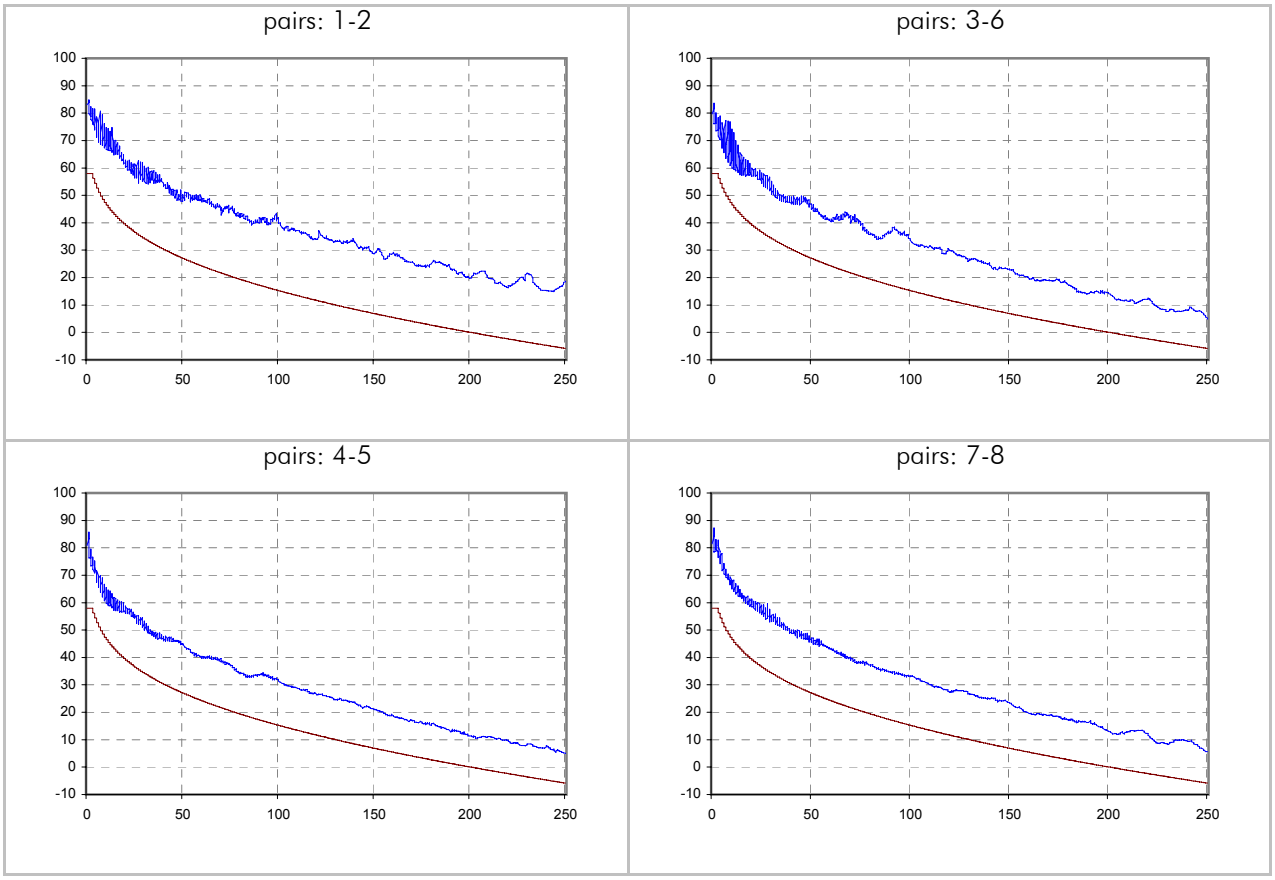
pairs: 3-6 / 7-8



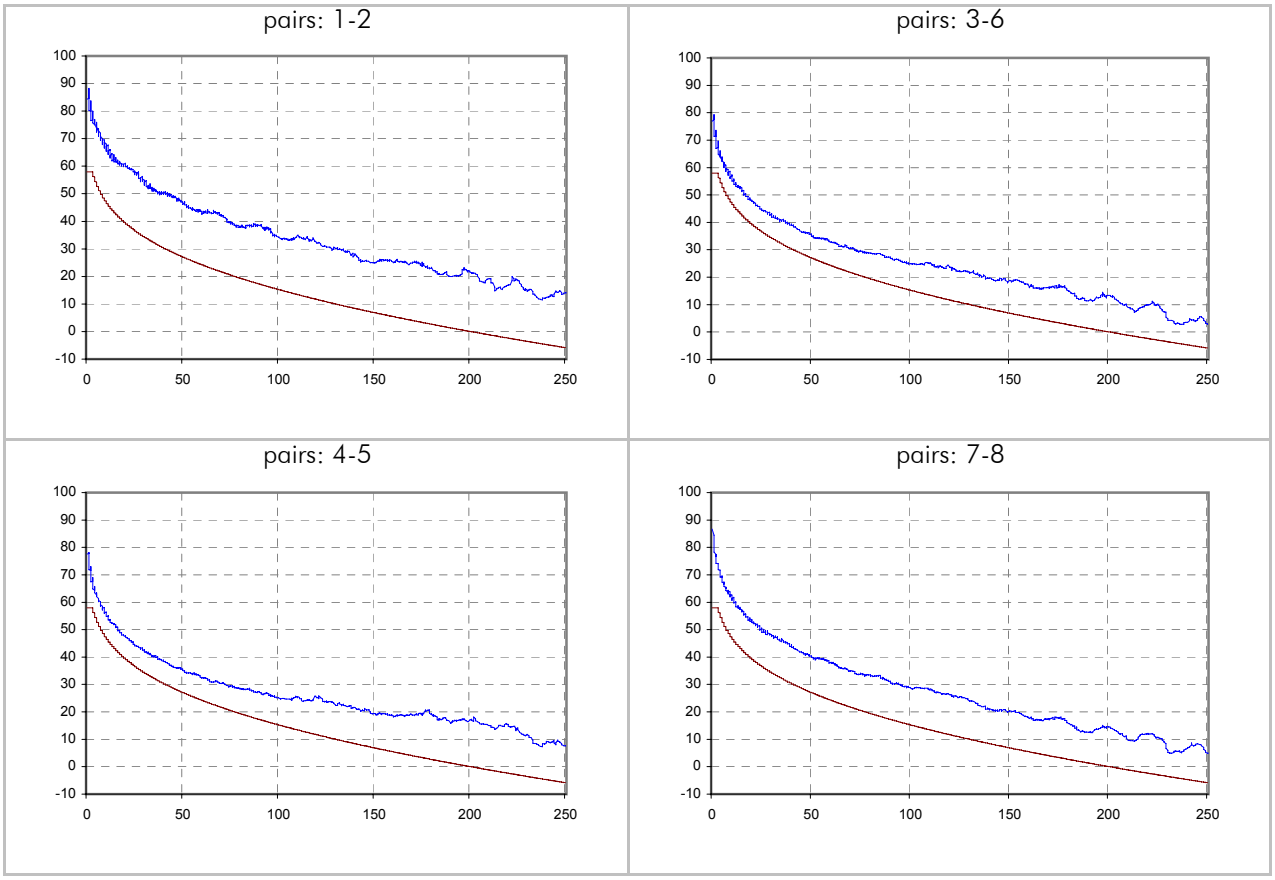
pairs: 4-5 / 7-8



PSACR / dB (scanner side - type 1 side)



PSACR / dB (remote side - type 2 side)



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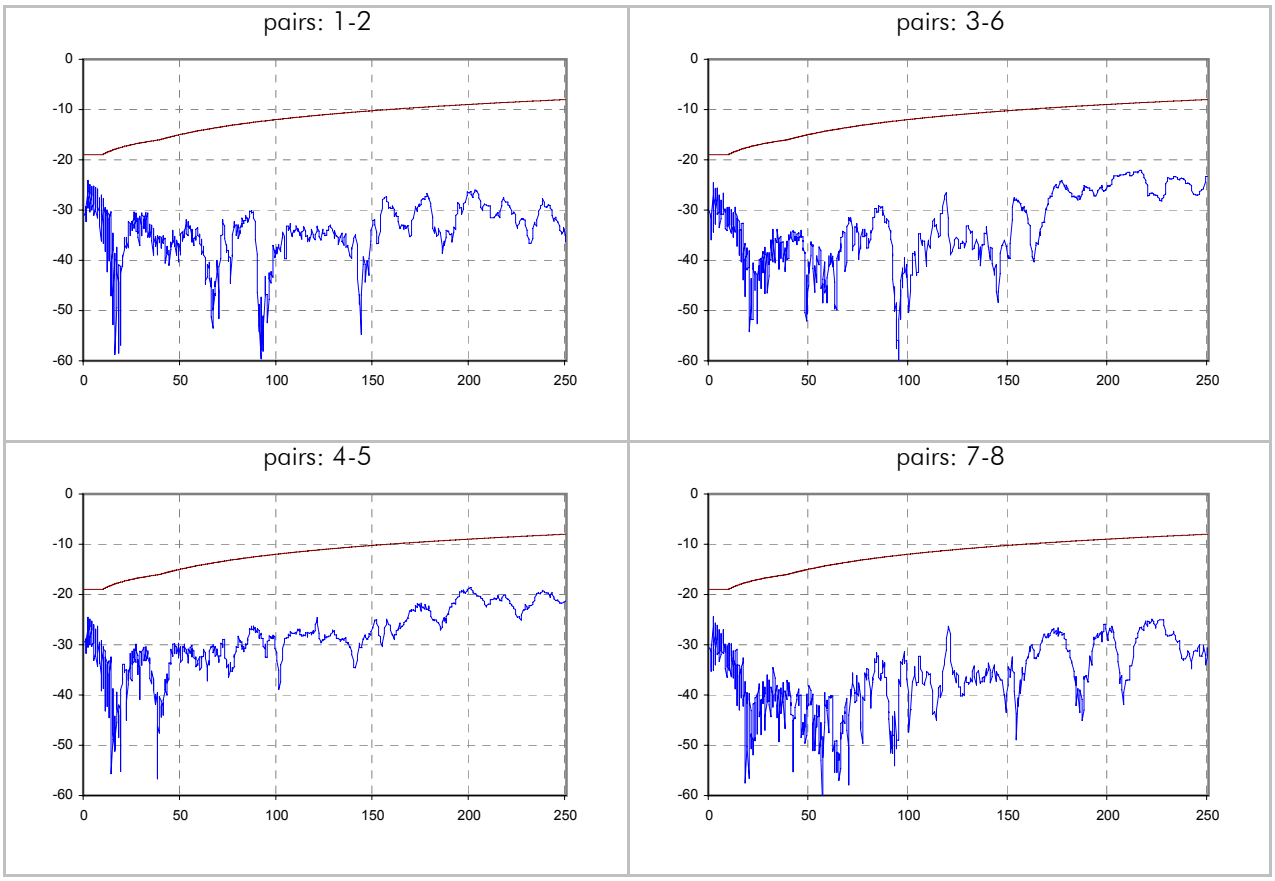
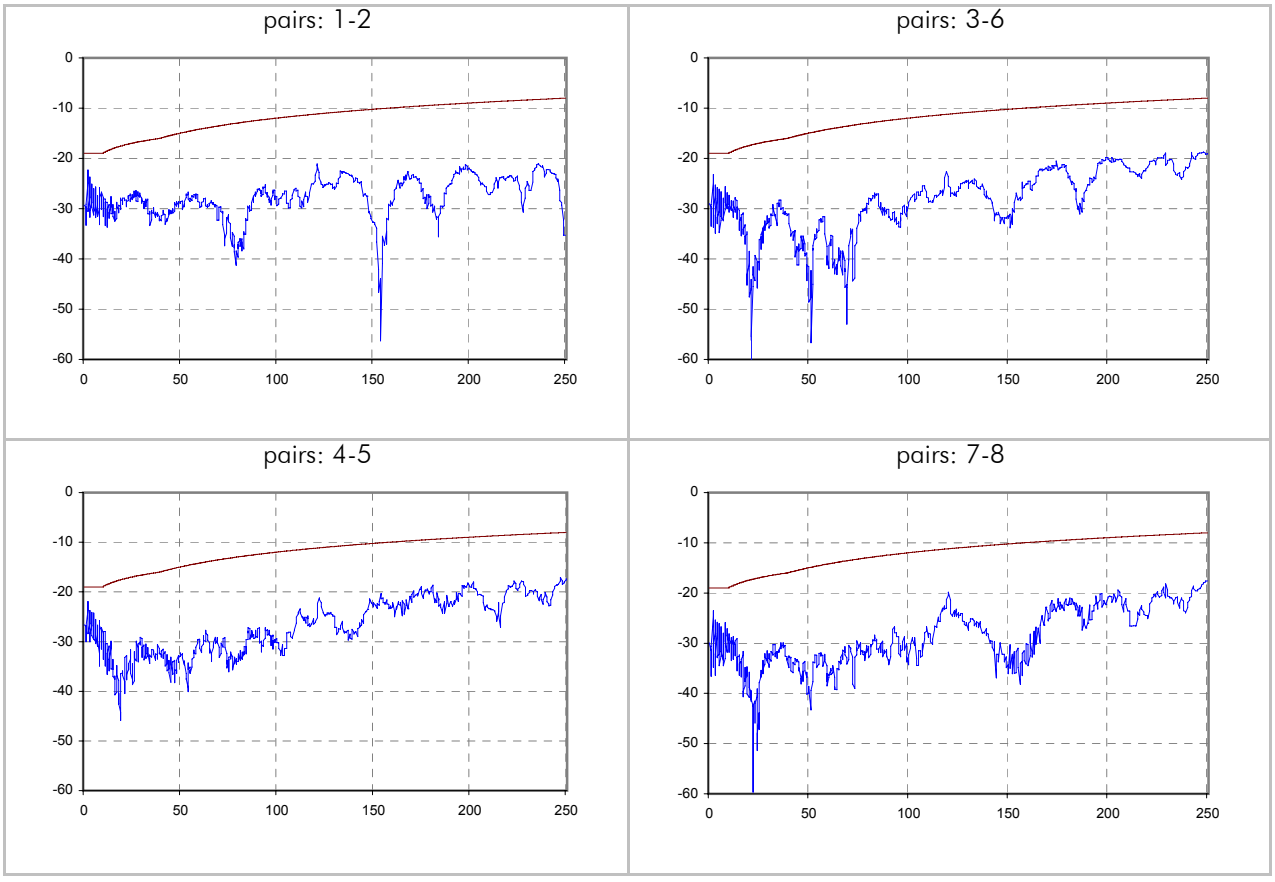
Return Loss / dB (scanner side - type 1 side)



Return Loss / dB (remote side - type 2 side)



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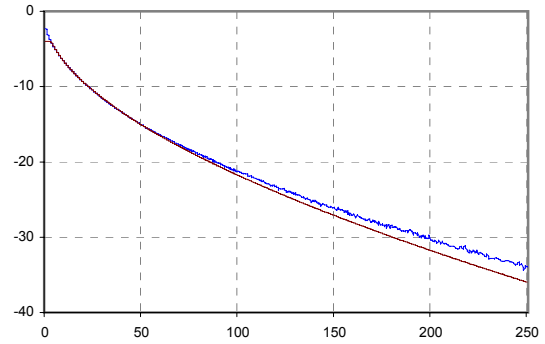
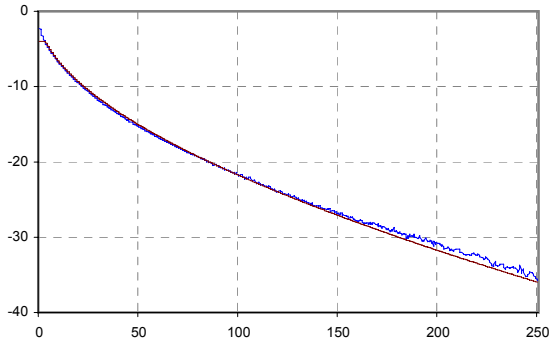
Attenuation / dB

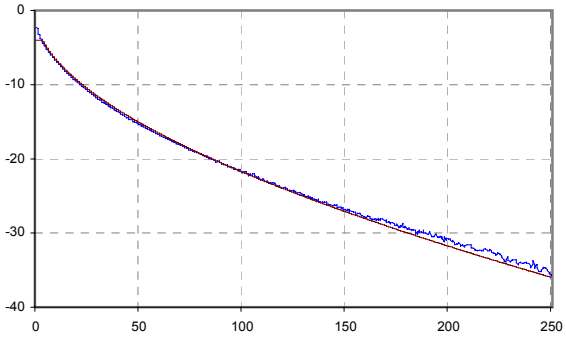
pairs: 4-5



pairs: 7-8



pairs: 4-5



pairs: 7-8