

Testreport No: EWA30067-43T1

Transmission Performance Testing:

according to ISO/IEC 11801:2002; DIN EN 50173-1:2002,
Permanent Link Class E

Equipment Under Test (EUT):

- Part 1: Modular Patch Panel MPP/MPD Cat.6 ♦
(scanner side)
- Part 2: Outlet AMJ45 8/8 Cat.6+ ♦
(remote side)
- Part 3: FLUKE DSP-4300
DSP-LI101 permanent Link Adapter + PM06
- Installation cable: Leoni Q-Line 4P23 SS 450 FRNC Cat.6


Result:

The EUT has verified as being compliant with the specification of the standards ISO/IEC 11801:2002; DIN EN 50173-1:2002, Permanent Link Class E.


Test location:

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Tested by:



Frank Albert
Assistant of laboratory
2003-12-15



Ralph Stoll
Laboratory manager

♦ see products list page 2

Products:

Modular Patch Panel MPP/MPD Cat.6

- J02023F0019 19" Patch Panel Cat.6 MPP24-HS screened RAL 7035
- J02023B0019 19" Patch Panel NK Networks Cat.6 MPP24-HS screened RAL 7035
- J02023C0019 19" Patch Panel Otra Cat.6 MPP24-HS screened RAL 7035
- J02023D0019 19" Patch Panel Apra Cat.6 MPP24-HS screened RAL 7035
- J02023E0019 19" Patch Panel Comsys Cat.6 MPP24-HS screened RAL 7035
- J02023H0019 19" Patch Panel Silverline Cat.6 MPP24-HS screened RAL 7035
- J02022F0024 19" Patch Panel Cat.6 MPP16-HS screened RAL 7035
- J02022B0024 19" Patch Panel Otra Cat.6 MPP16-HS screened RAL 7035
- J02022D0024 19" Patch Panel Apra Cat.6 MPP16-HS screened RAL 7035
- J02022A0038 10" Patch Panel Cat.6 MPP12-HS screened RAL 7035
- J02022A0028 Mini Distributor Cat.6 MPD12-HS screened
- J02021A0019 Mini Distributor Cat.6 MPD12-HS 3HU/10PU screened
- J02021A0015 Mini Distributor Cat.6 Typ II MPD6-HS screened
- J02021A0017 Mini Distributor Cat.6 MPD6-HS 3HU/8PU screened
- J02021A0024 Mini Distributor Apra Cat.6 MPD6-HS 3HU/8PU screened without front panel

Outlet AMJ45 8/8 Cat.6+

- J00020A0376 Outlet AMJ45 8/8 UP/50 screened Cat.6+ alpine white
- J00020A0387 Outlet AMJ45 8/8 UP/50 screened Cat.6+ pearl white RAL 1013
- J00020A0384 Outlet AMJ45 8/8 UP/0 screened Cat.6+ without face plate
- J00020A0386 Outlet AMJ45 Tehalit 8/8 UP/0 screened Cat.6+ without face plate

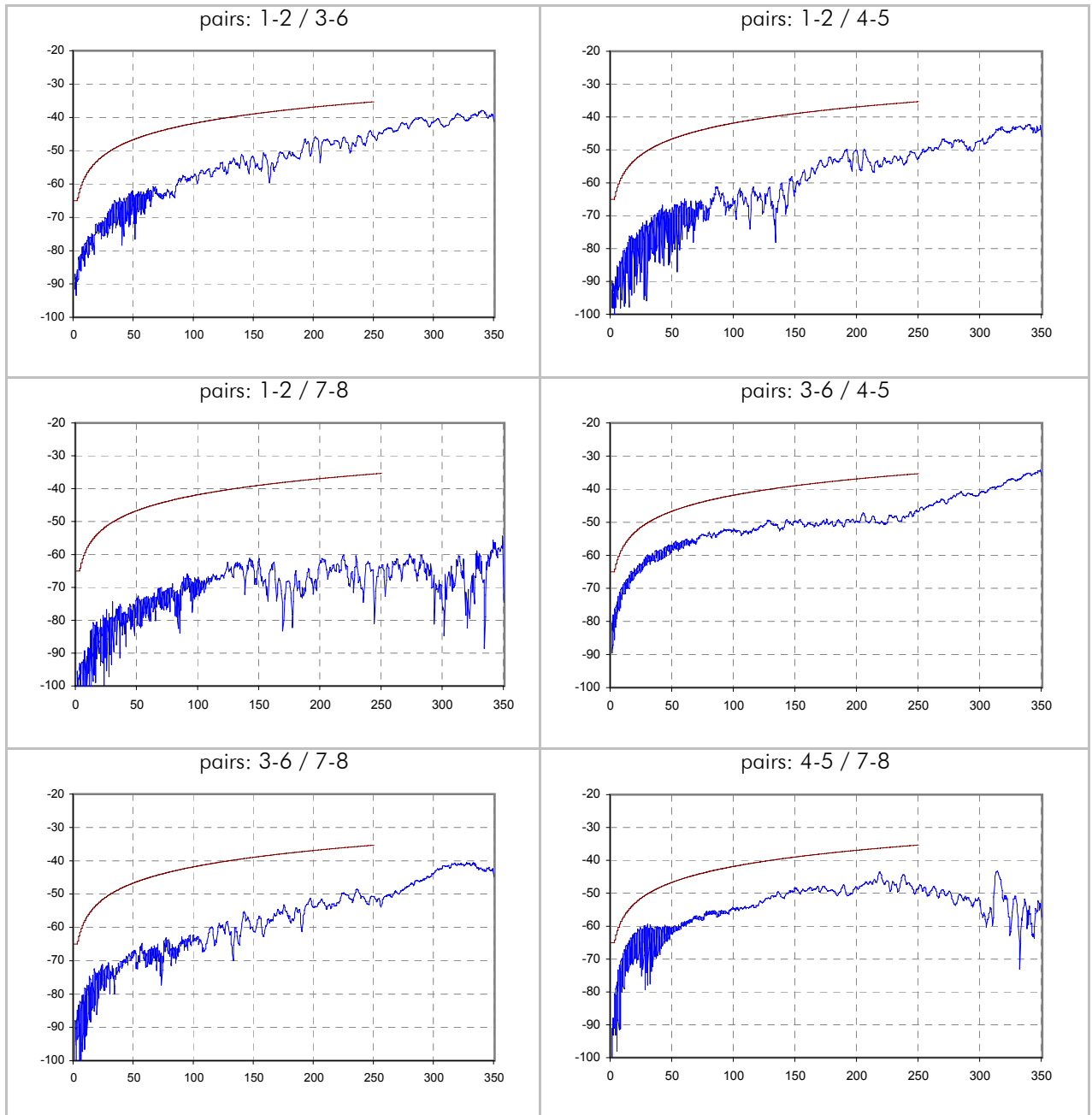
Test Results

pairs	1-2	3-6	4-5	7-8	limit	skew / ns	limit
max Propagation delay / ns	374,0	379,0	375,0	383,0	487,6	9,0	43,0
min Attenuation margin / dB	0,5	0,5	0,5	0,5			
@ f / MHz	5,3	5,1	5,4	5,1			
Attenuation limit / dB	-4,0	-4,0	-4,1	-4,0			
Attenuation @ 100 MHz / dB	-15,4	-15,6	-15,7	-15,6	-18,3		
Attenuation @ 250 MHz / dB	-24,4	-25,2	-25,3	-24,9	-30,3		
min PSNEXT margin / dB	10,4	8,9	8,8	9,4			
@ f / MHz	247,0	247,5	30,1	218,5			
PSNEXT limit / dB	-32,8	-32,8	-47,8	-33,7			
PSNEXT @ 100 MHz	-56,5	-51,2	-50,2	-53,5	-39,3		
PSNEXT @ 250 MHz	-44,8	-42,5	-44,1	-45,3	-32,7		
min PSELFEXT margin / dB	19,4	14,8	14,6	17,4			
@ f / MHz	13,3	158,0	149,5	29,7			
PSELFEXT limit / dB	-39,8	-18,3	-18,7	-32,8			
PSELFEXT @ 100 MHz	-42,1	-38,1	-37,5	-43,7	-22,3		
PSELFEXT @ 250 MHz	-37,3	-34,0	-36,4	-36,2	-14,3		
min PSACR margin / dB	15,4	12,7	9,8	11,8			
@ f / MHz	192,5	17,4	30,1	22,1			
PSACR limit / dB	8,4	44,3	38,1	41,7			
PSACR @ 100 MHz	41,5	35,7	39,7	38,0	21,0		
PSACR @ 250 MHz	22,8	18,2	25,6	21,6	2,4		
min Return Loss margin / dB	7,2	8,6	5,8	9,0			
@ f / MHz	3,1	4,3	247,5	3,1			
Return Loss limit / dB	-21,0	-21,0	-10,1	-21,0			
Return Loss @ 100 MHz	-30,1	-32,7	-27,6	-33,2	-14,0		
Return Loss @ 250 MHz	-30,2	-21,6	-16,7	-23,2	-10,0		

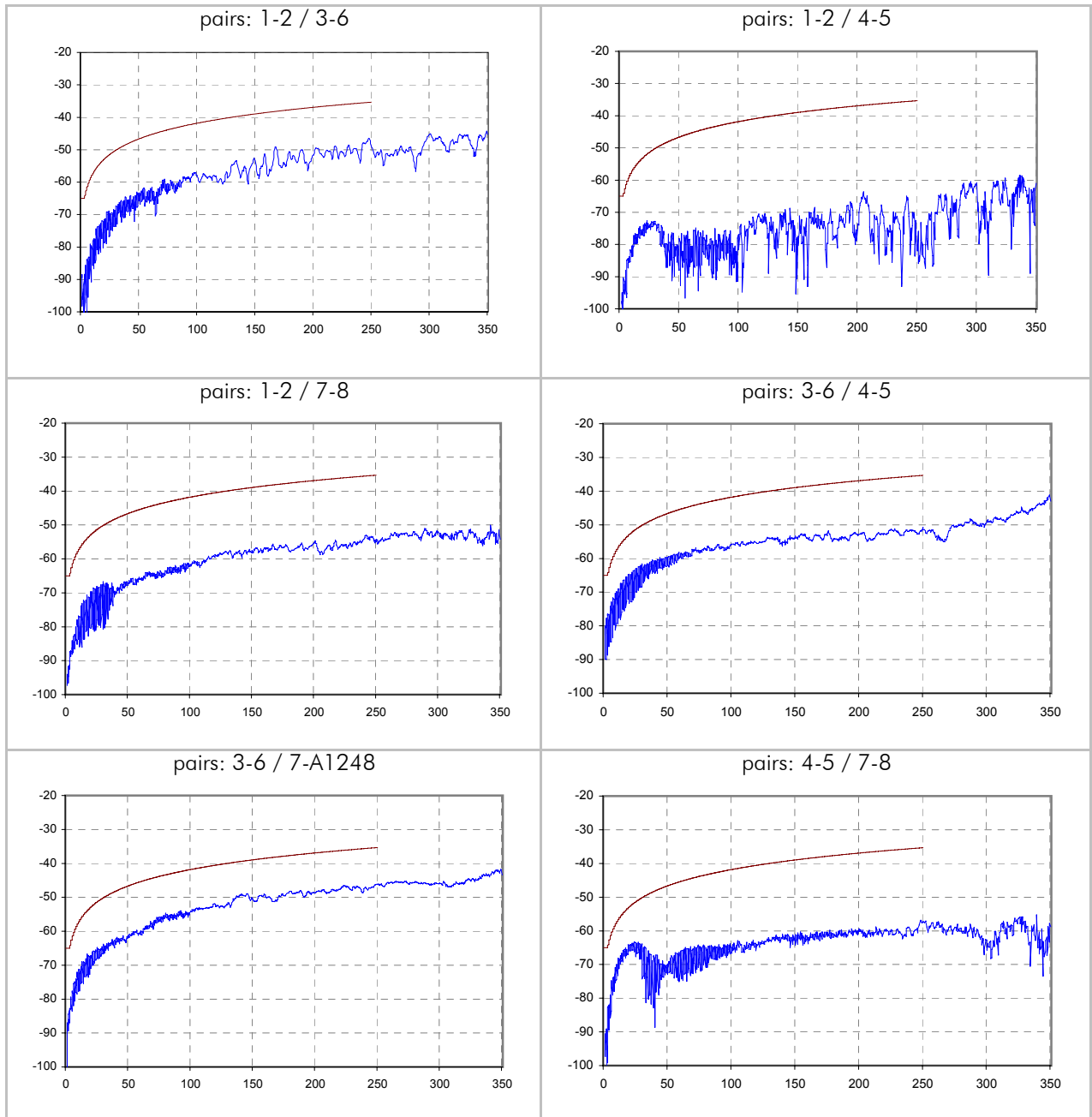
pairs	1-2 / 3-6	1-2 / 4-5	1-2 / 7-8	3-6 / 4-5	3-6 / 7-8	4-5 / 7-8	limit
min NEXT margin / dB	8,6	12,6	16,5	9,3	9,6	7,3	
@ f / MHz	247,0	192,0	22,9	127,5	141,0	218,5	
Next limit / dB	-35,4	-37,2	-52,1	-40,1	-39,4	-36,3	
NEXT @ 100 MHz	-57,8	-64,9	-61,7	-52,7	-54,8	-54,2	-41,9
NEXT @ 250 MHz	-45,6	-53,0	-54,4	-46,9	-46,2	-48,7	-35,4
min ACR margin / dB	13,4	16,7	17,6	10,7	13,1	9,6	
@ f / MHz	201,0	192,0	22,9	53,0	141,0	22,1	
ACR limit / dB	10,0	11,0	43,7	33,2	17,3	44,1	
ACR @ 100 MHz	42,4	62,3	56,2	40,3	46,9	48,4	23,6
ACR @ 250 MHz	22,9	52,8	39,1	26,6	25,8	32,7	5,0

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	18,4	13,0	23,1	23,0	16,0	19,1	
@ f / MHz	13,3	158,5	189,5	10,6	30,6	155,0	
ELFEXT limit / dB	-42,8	-21,2	-19,7	-44,7	-35,5	-21,4	
min ELFEXT margin / dB	22,0	17,2	22,6	19,9	12,6	15,0	
@ f / MHz	47,4	110,0	12,0	153,5	160,0	29,7	
ELFEXT limit / dB	-31,7	-24,4	-43,7	-21,5	-21,2	-35,8	
ELFEXT @ 100 MHz	-46,9	-39,0	-60,6	-52,2	-45,2	-52,2	-25,3
ELFEXT @ 250 MHz	-40,1	-39,2	-50,5	-45,7	-36,8	-47,8	-17,3
ELFEXT @ 100 MHz	-53,9	-42,6	-51,1	-72,5	-39,4	-48,6	
ELFEXT @ 250 MHz	-44,4	-42,8	-47,0	-40,0	-41,1	-36,4	-17,3

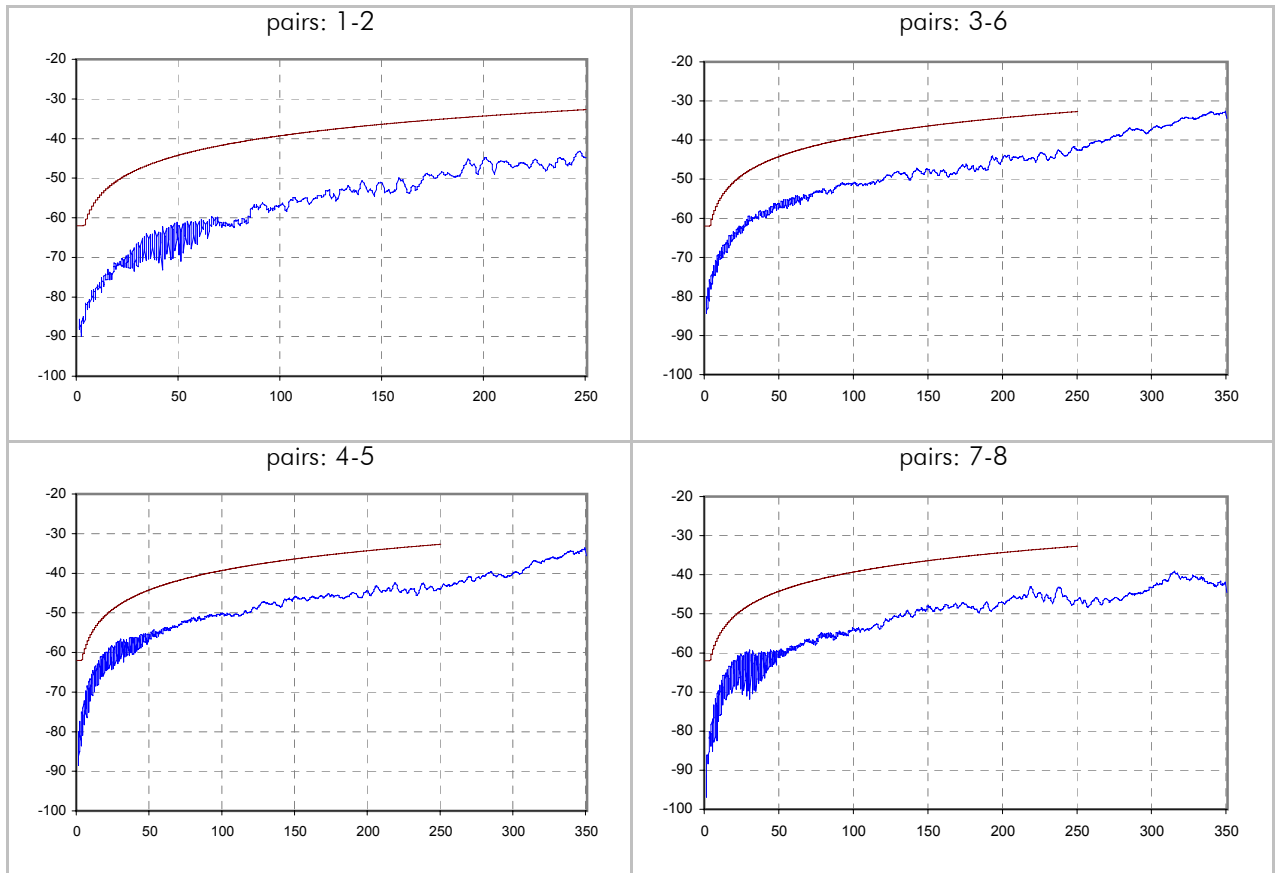
NEXT / dB (scanner side - type 1 side)



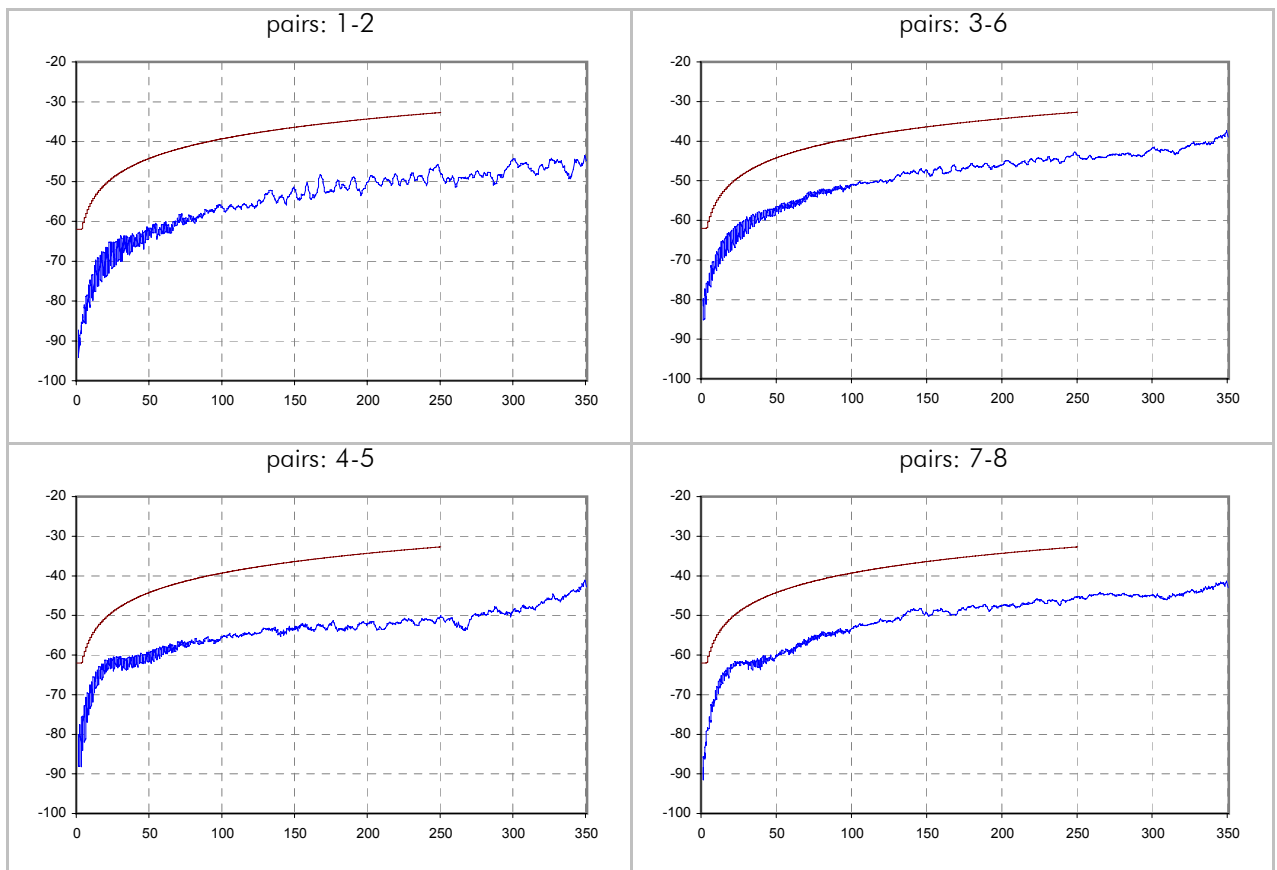
NEXT / dB (remote side - type 2 side)



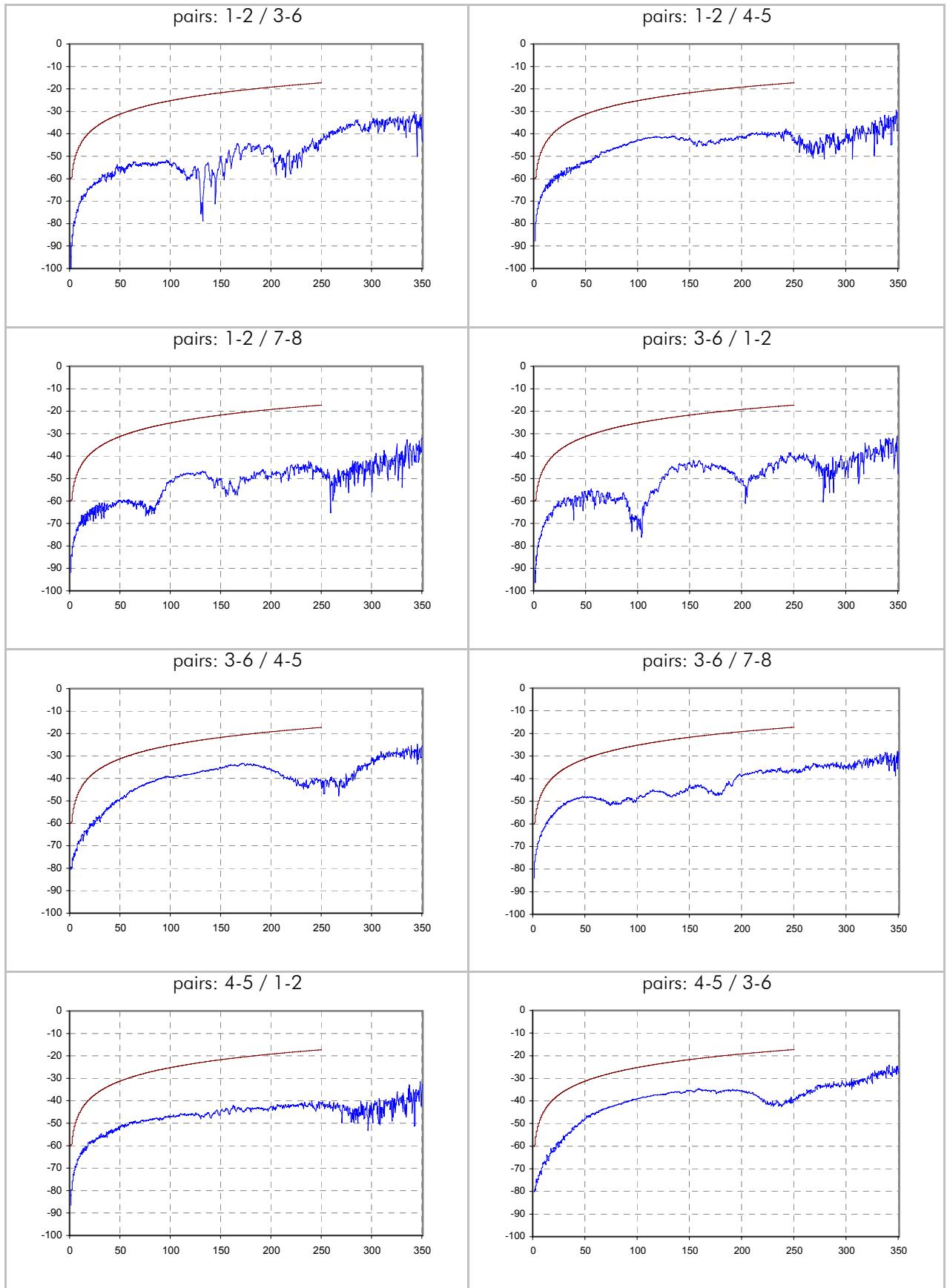
PSNEXT / dB (scanner side - type 1 side)



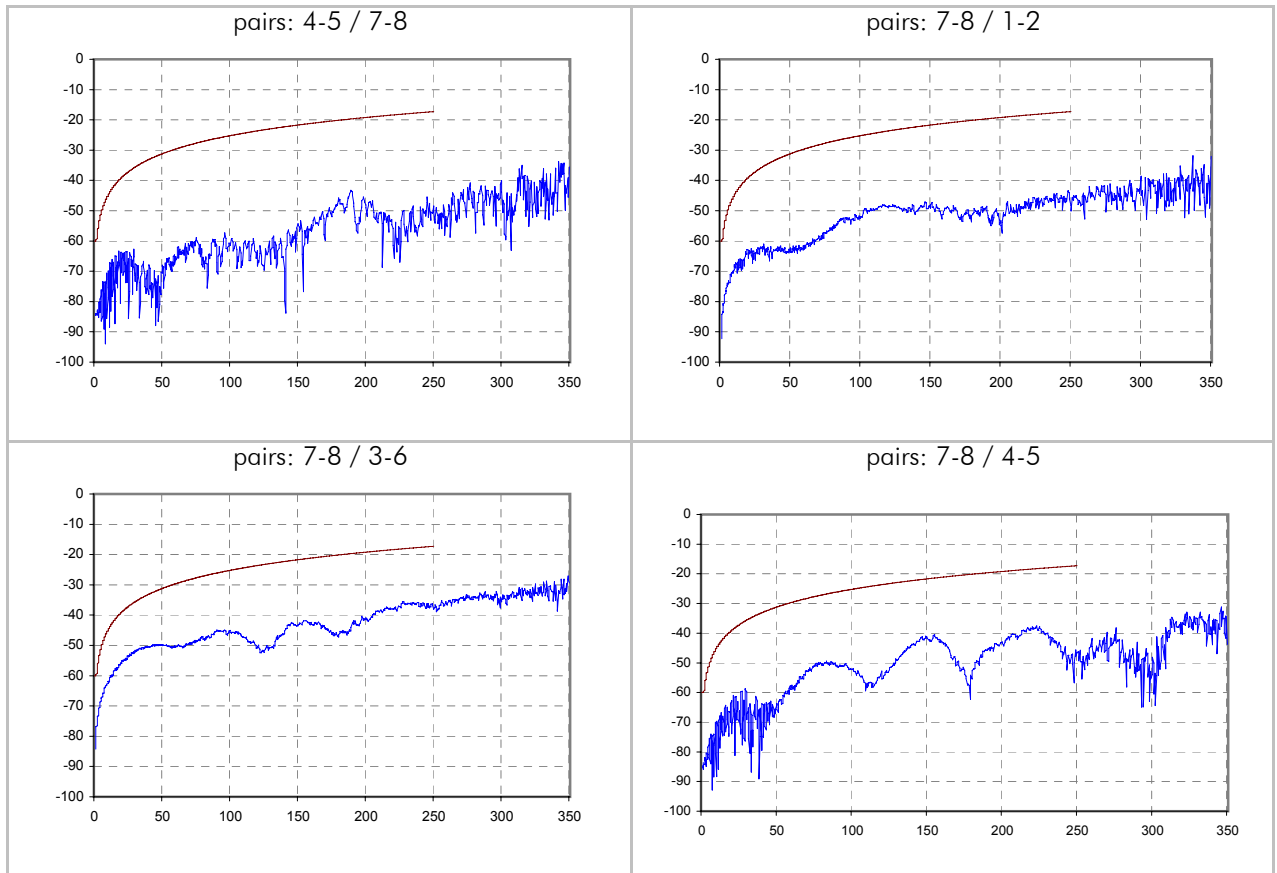
PSNEXT / dB (remote side - type 2 side)



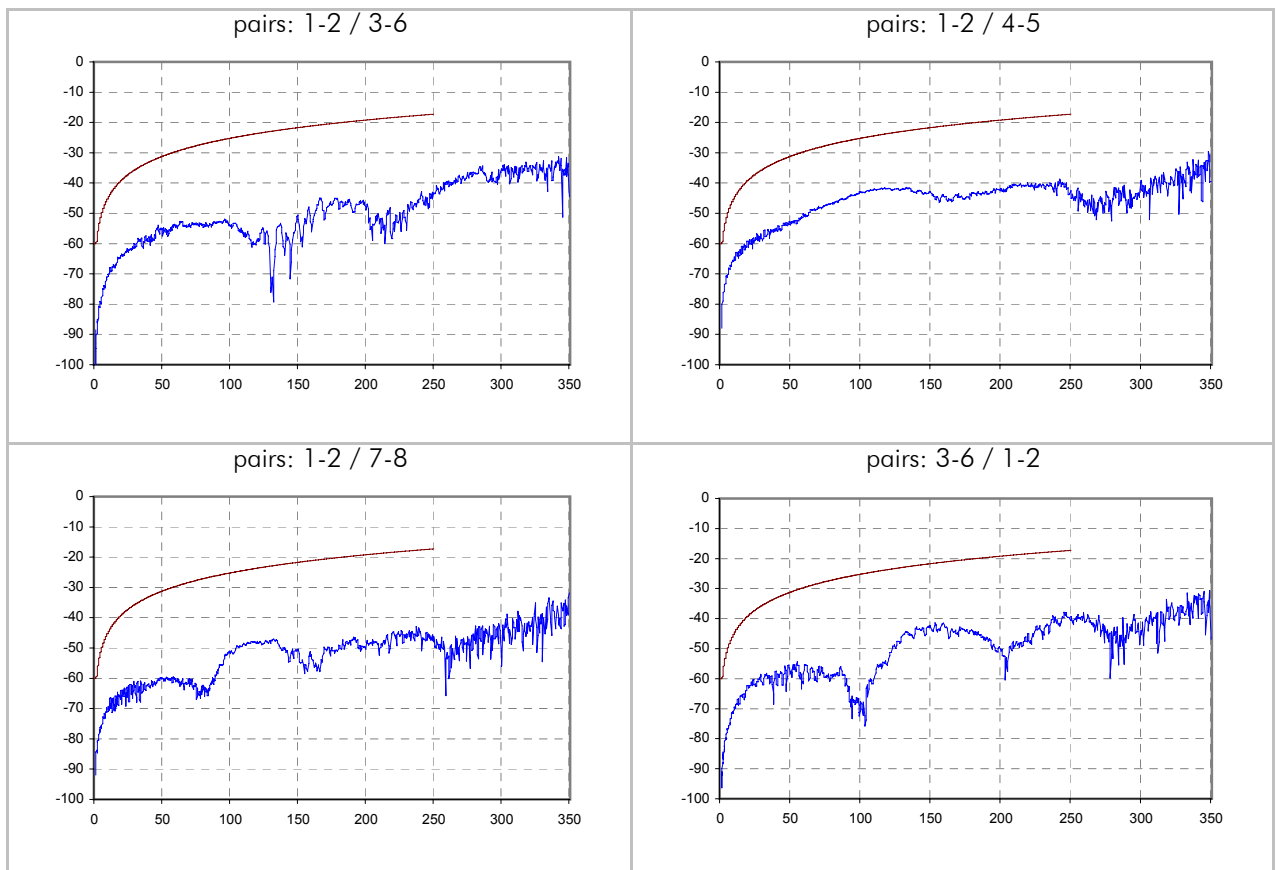
ELFEXT / dB (scanner side - type 1 side)



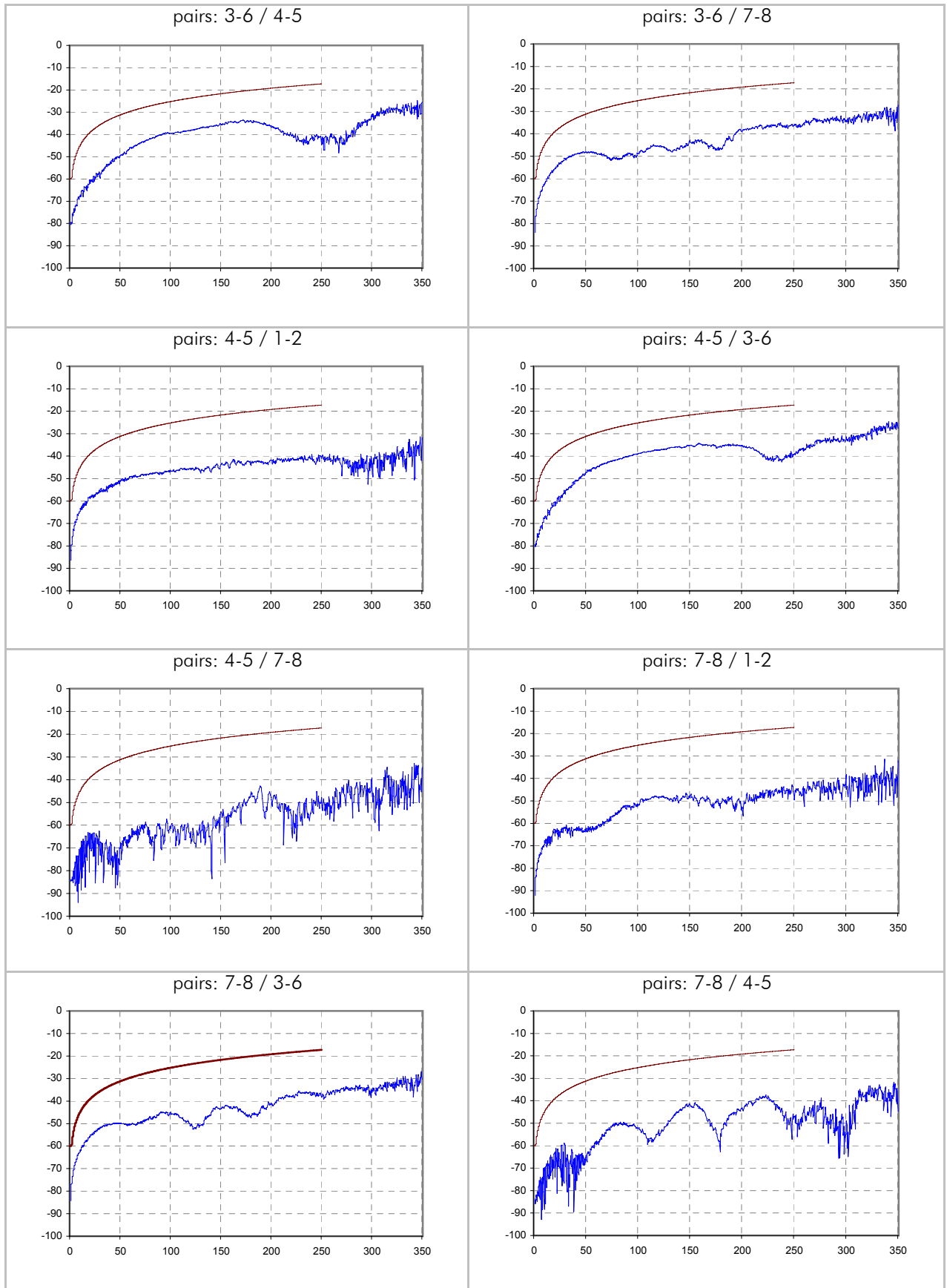
ELFEXT / dB (scanner side - type 1 side)



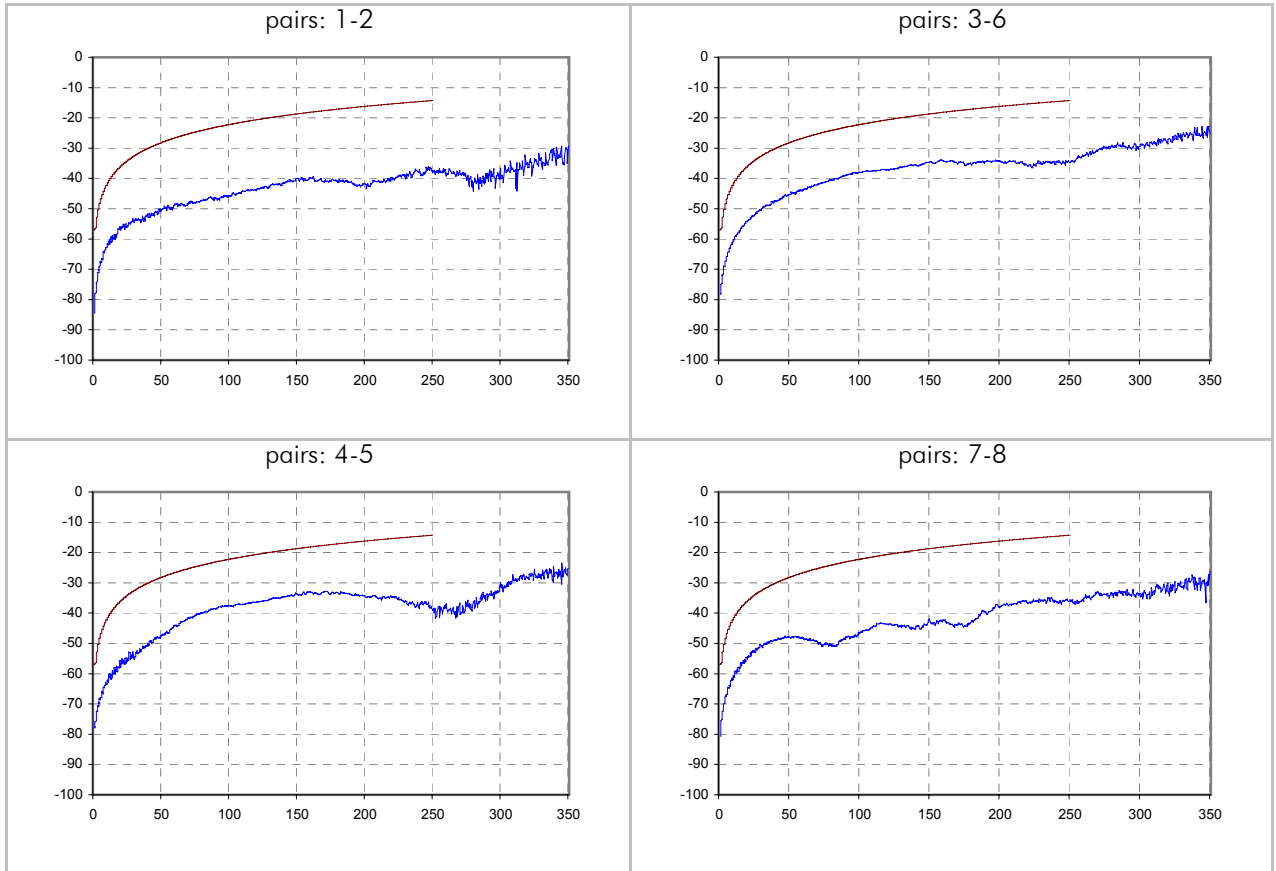
ELFEXT / dB (remote side - type 2 side)



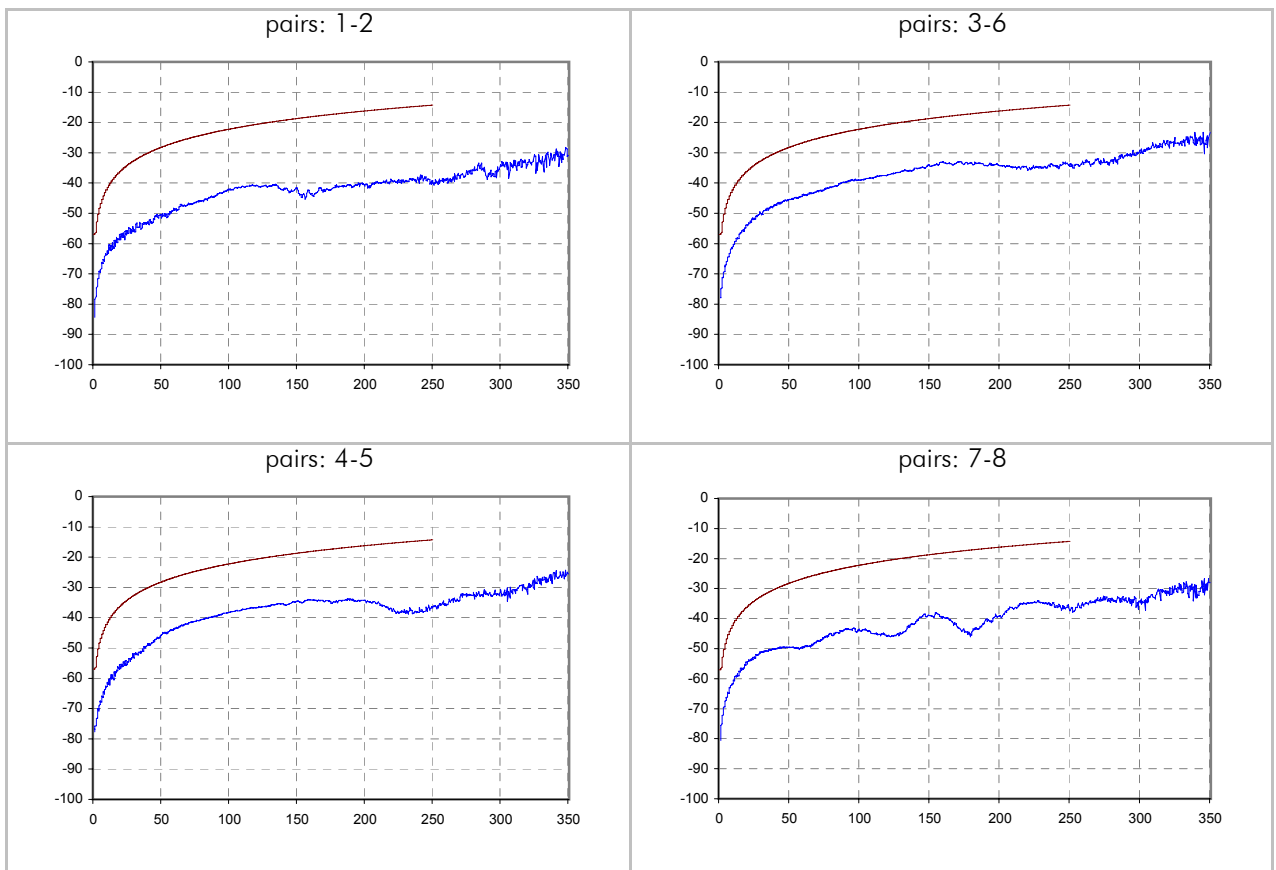
ELFEXT / dB (remote side - type 2 side)



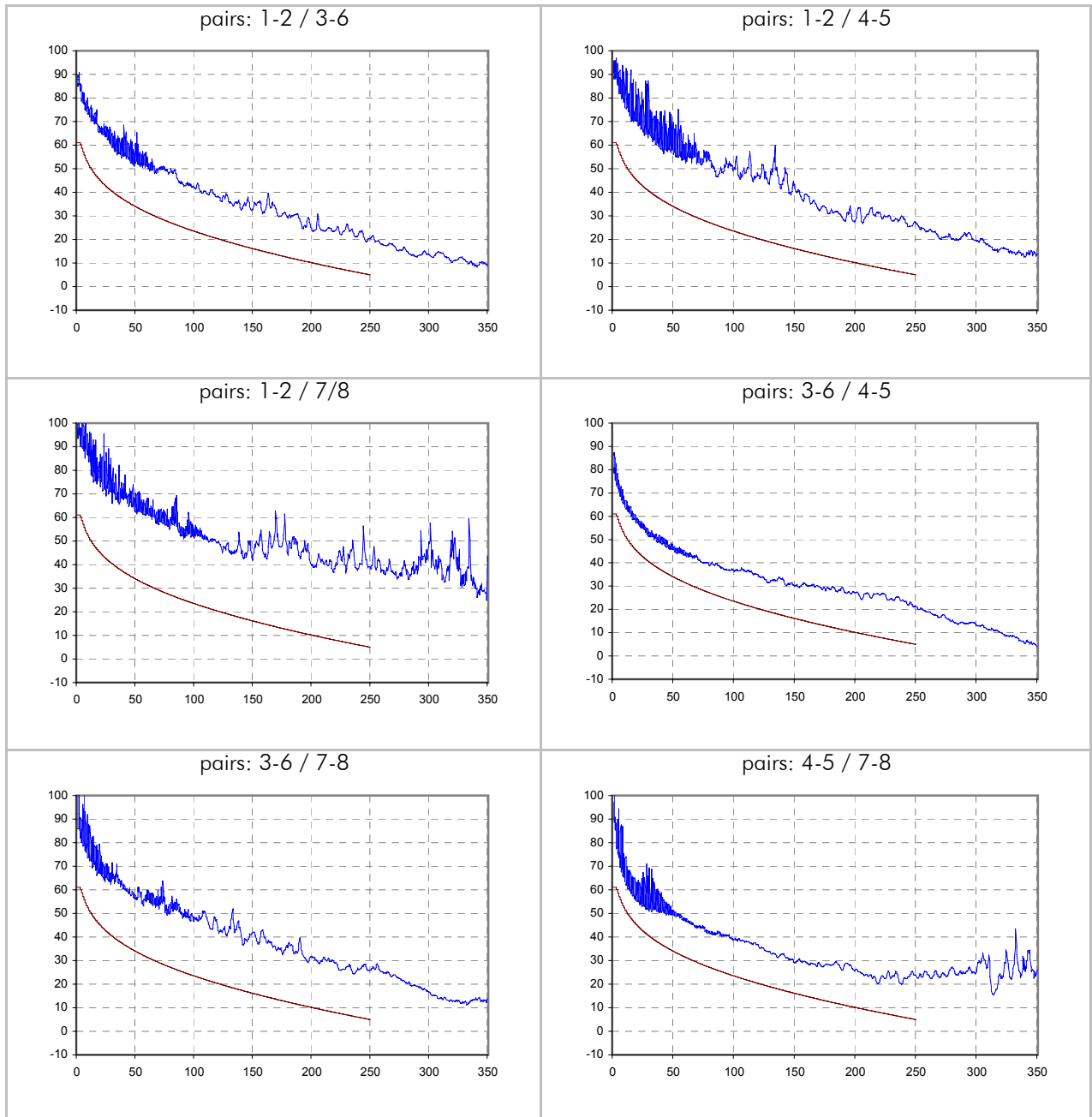
PSELFEXT / dB (scanner side - type 1 side)



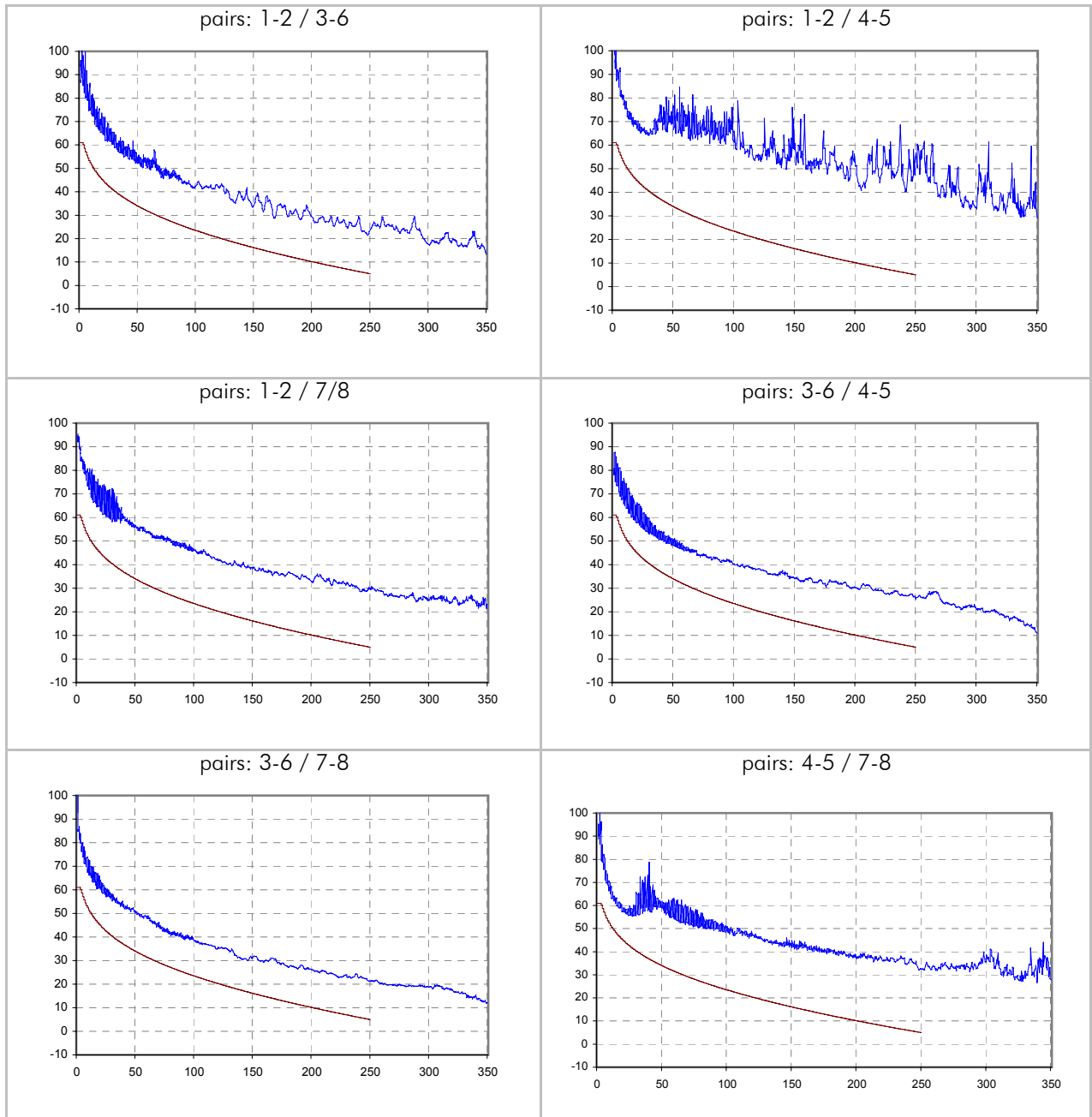
PSELFEXT / dB (remote side - type 2 side)



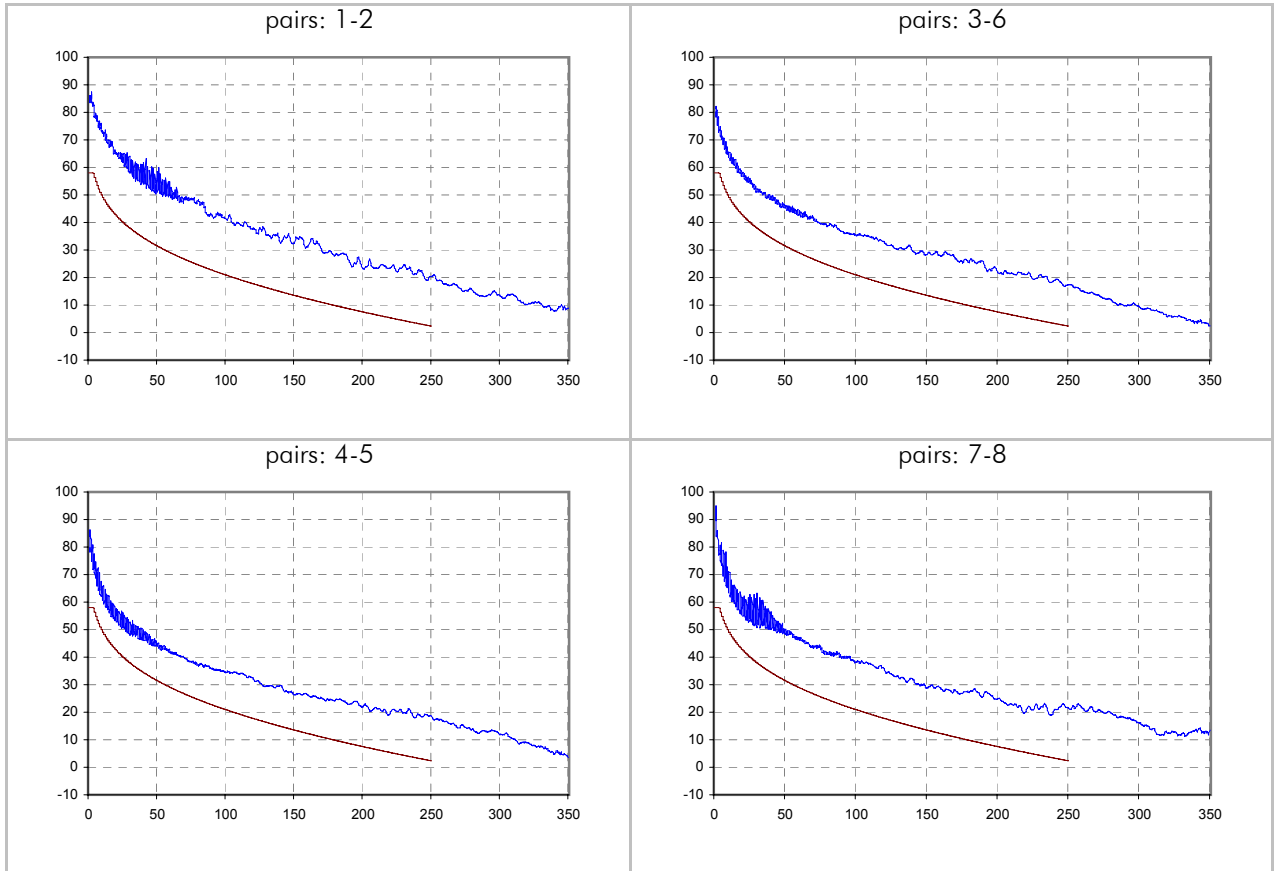
ACR / dB (scanner side - type 1 side)



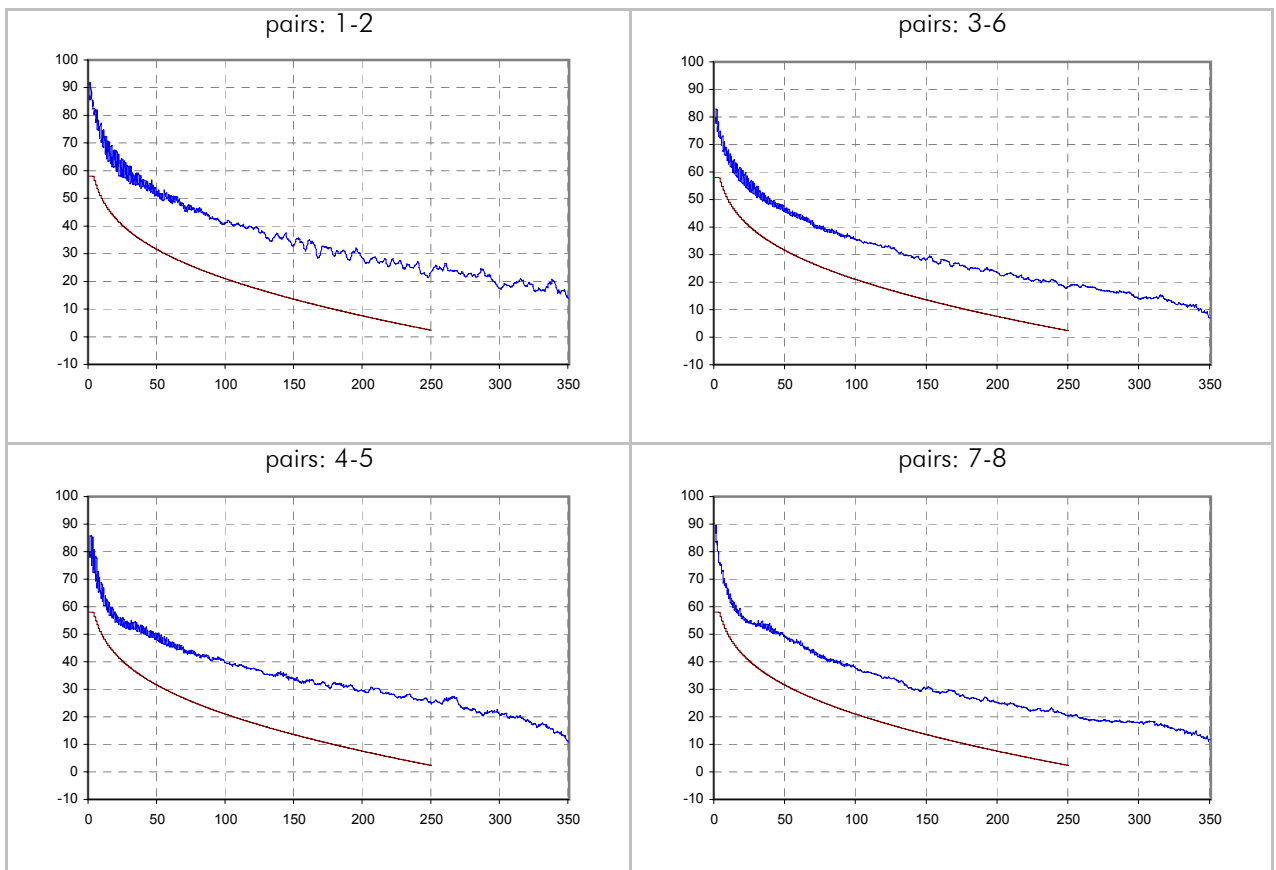
ACR / dB (remote side - type 2 side)



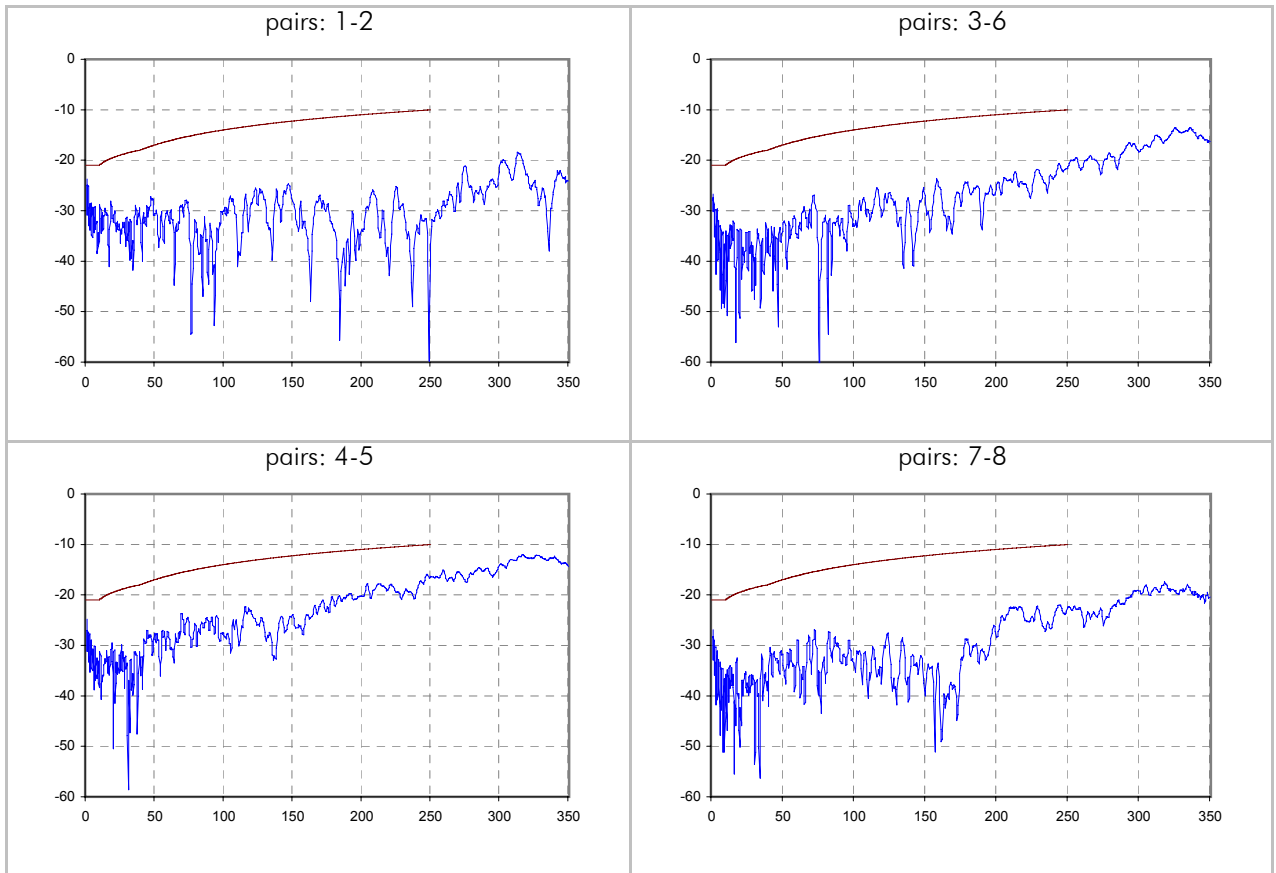
PSACR / dB (scanner side - type 1 side)



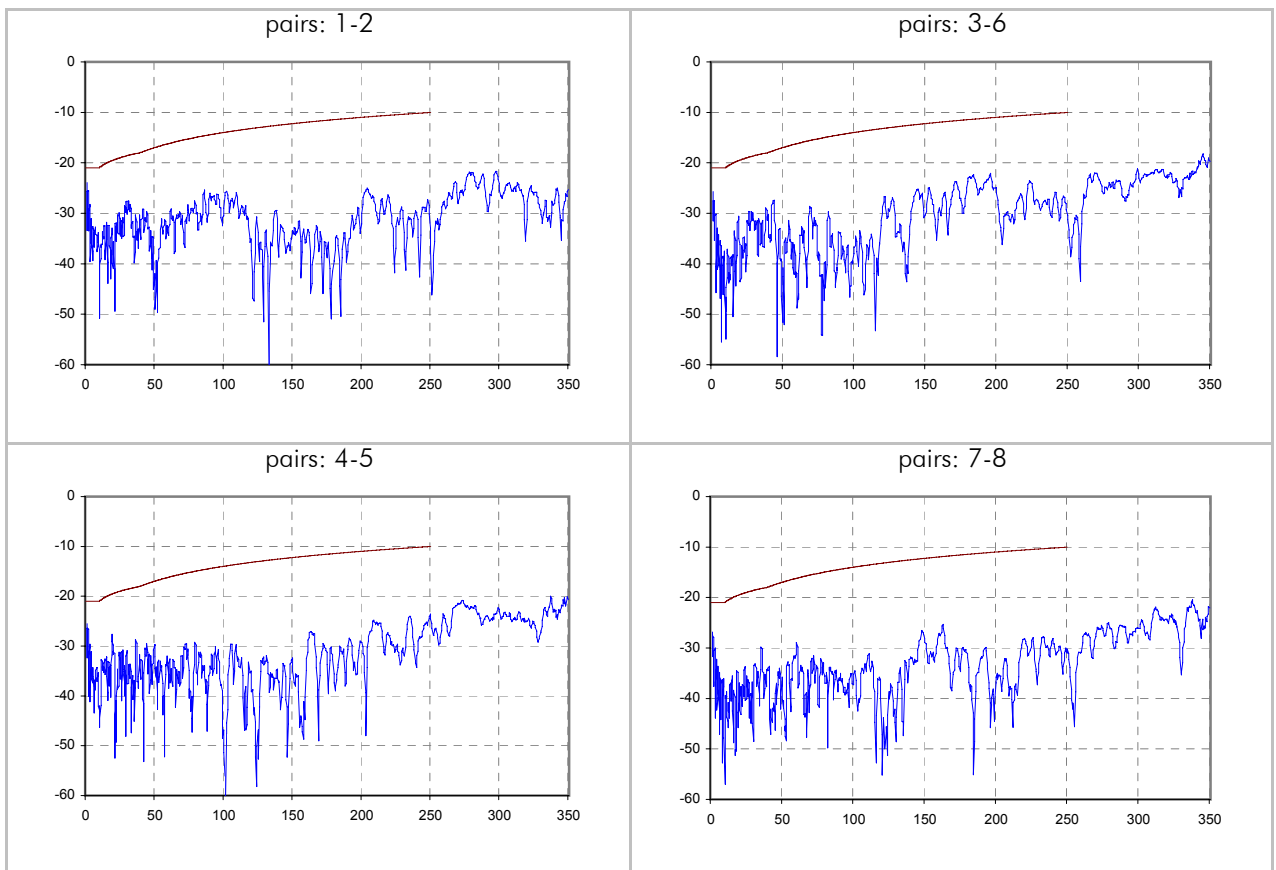
PSACR / dB (remote side - type 2 side)



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



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



Attenuation / dB

