universität uulm

Optimization Result from www.sigma-delta.de

Blockdiagram
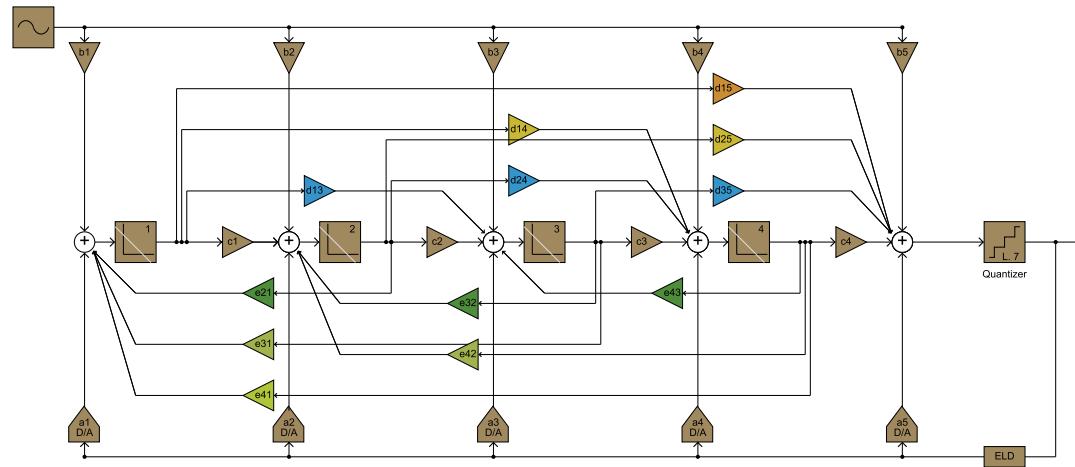
Integrators

Integrator	Function	DC gain	GBW	Swing	Prop. path value	Quality	Resonance Frequency	Output Resistance	DC Gain 2	GBW 21	GBW 22
1	Ideal	∞	∞	-	-	-	-	-	-	-	-
2	Ideal	∞	∞	-	-	-	-	-	-	-	-
3	Ideal	∞	∞	-	-	-	-	-	-	-	-
4	Ideal	∞	∞	-	-	-	-	-	-	-	-

Coefficients

Coefficient	Value	Requirements	Type
a1	-0.74000	< 0	current source
a2	-0.81380	< 0	current source
a3	-0.35090	< 0	current source
a4	-0.60180	< 0	current source
a5	0.00000	< 0	current source
b1	0.74000	a1 inverted	resistive
b2	0.10270	> 0	resistive
b3	0.88610	> 0	resistive
b4	0.15940	> 0	resistive
b5	0.10690	> 0	resistive
c1	0.00000	> 0	resistive
c2	0.48600	> 0	resistive
c3	1.41130	> 0	resistive
c4	1.00000	> 0	resistive
d13	0.73660	> 0	resistive
d14	0.80170	> 0	resistive
d15	0.51550	> 0	resistive
d24	0.27900	> 0	resistive
d25	1.00120	> 0	resistive
d35	0.00000	> 0	resistive
e21	0.00000	< 0	resistive
e31	0.00000	< 0	resistive
e32	0.00000	< 0	resistive
e41	0.00000	< 0	resistive
e42	0.00000	< 0	resistive
e43	-0.18560	< 0	resistive

Input Signal

Amplitude	Frequency
0.1 < x < 1	0.2 f/f$_{band}$

Quantizer

Level	Type	Dithering	Swing
7	Midthread	-	-

D/A converters

	Type	ELD local (+global)	Duty cycle	Time constant τ
a1	NRZ	0 (+0)	0.5	0.1
a11	NRZ	0 (+0)	0.5	0.1
a2	NRZ	0 (+0)	0.5	0.1
a21	NRZ	0 (+0)	0.5	0.1
a3	NRZ	0 (+0)	0.5	0.1
a31	NRZ	0 (+0)	0.5	0.1
a4	NRZ	0 (+0)	0.5	0.1
a41	NRZ	0 (+0)	0.5	0.1
a5	NRZ	0 (+0)	0.5	0.1
fir	undefined	undefined (+0)	undefined	undefined

Swings
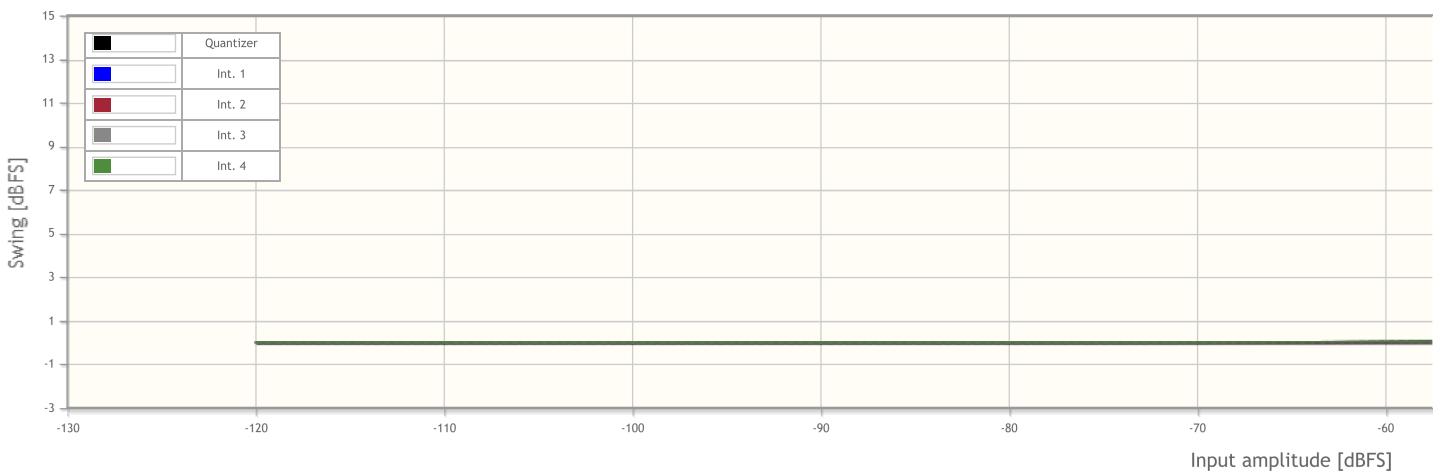
SNR
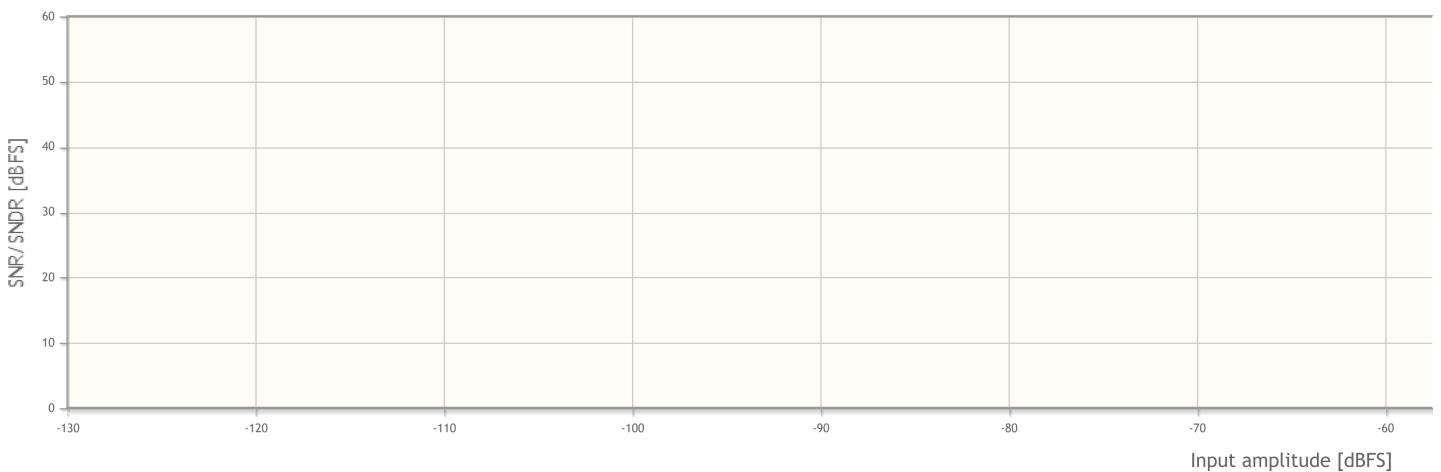
OSR	f_b	f_s	f_{center}	SNR
5	0.100	1	0.25	maximize

Spectrum
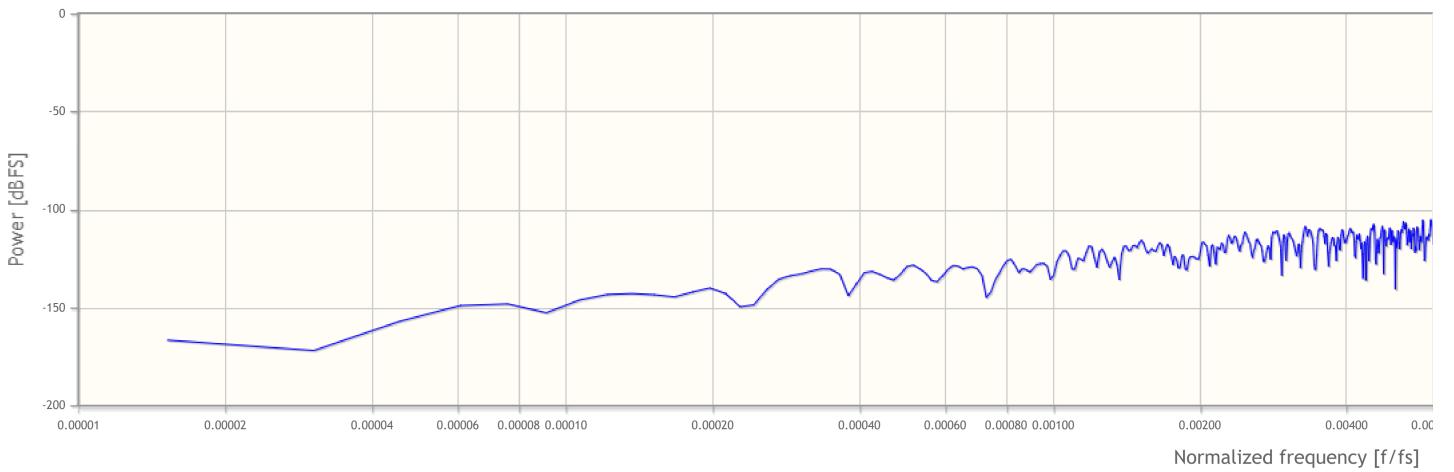
STF
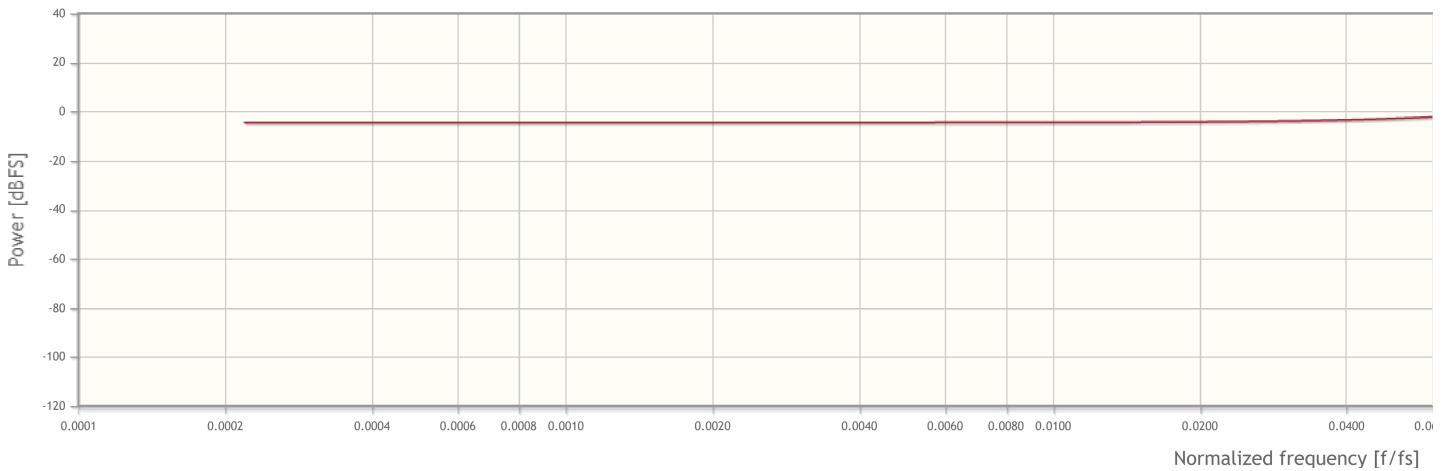
Maximum Global Gains:

Frequency	Constraints
-	-

Minimum Inband Gains:

Frequency	Constraints
-	-
-	-
-	-

Upper Out-Of-Band Constraints:

Frequency	Constraints
-	-
-	-
-	-
-	-
-	-