

Type

Butterworth	▼
Chebyshev	
Elliptic	
Butterworth	
Inverse Chebyshev	
Bessel	
Legendre	

Butterworth

Butterworth 11次

Filter Properties

Response

Highpass

Type

Butterworth

Topology

Series First

Order

11

Cutoff Frequency

750

MHz

Input Impedance (Ω)

50

Output Impedance (Ω)

50

Additional Settings

Component Values

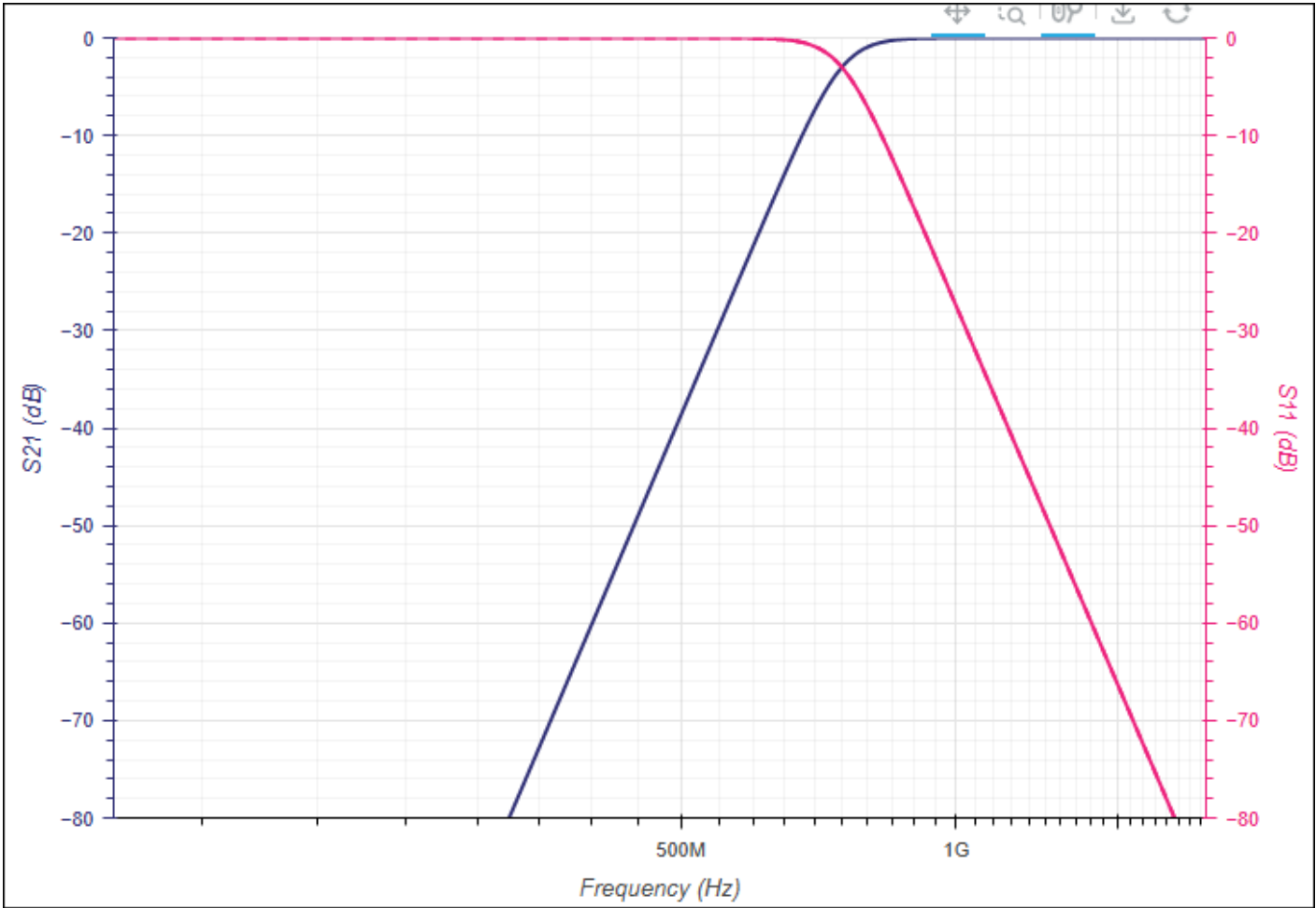
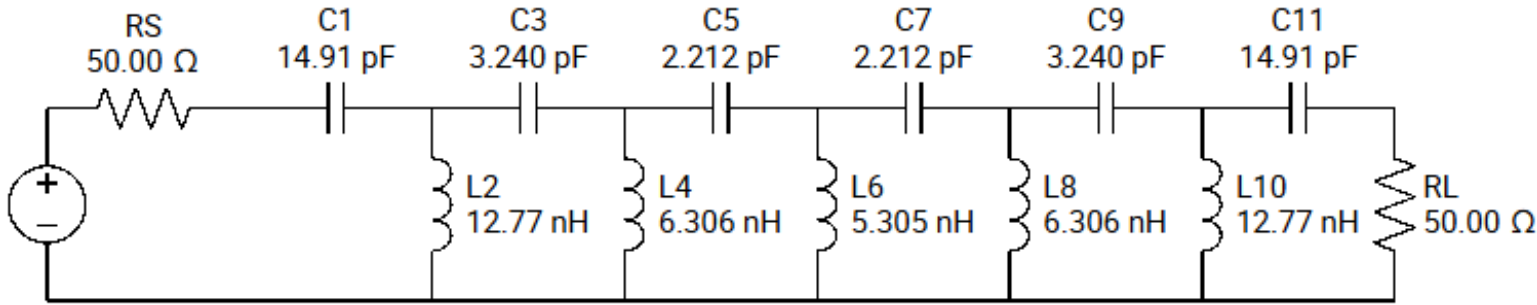
Exact

Freq[MHz]	S21
200.64	-125.98
401.34	-59.74

減衰傾度 66.2 dB/oct

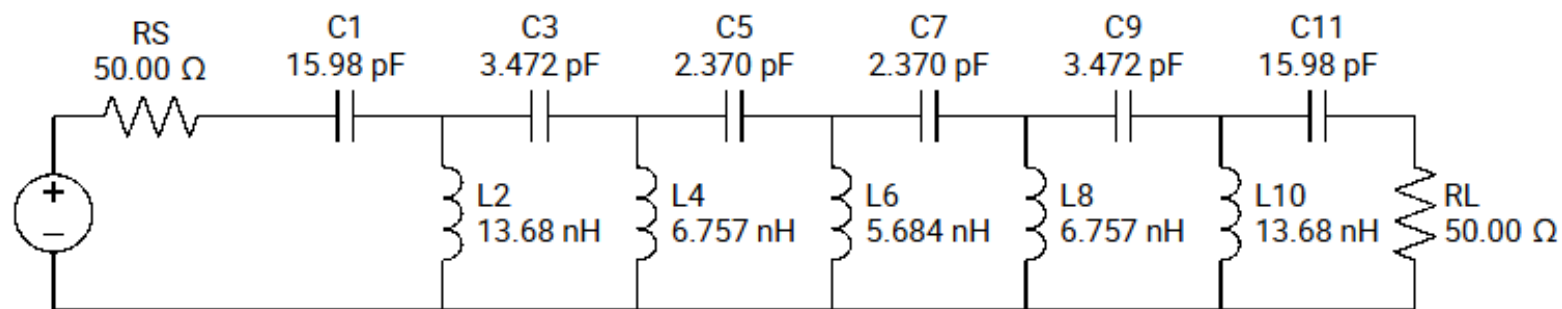
1fの減衰量

Freq[MHz]	S21
440.86	-50.77

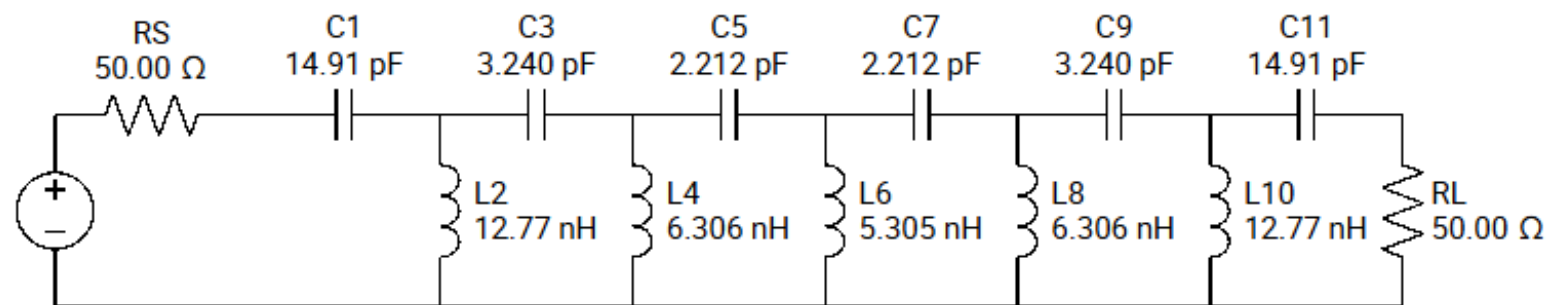


Butterworth 11次 fcを振ってみる

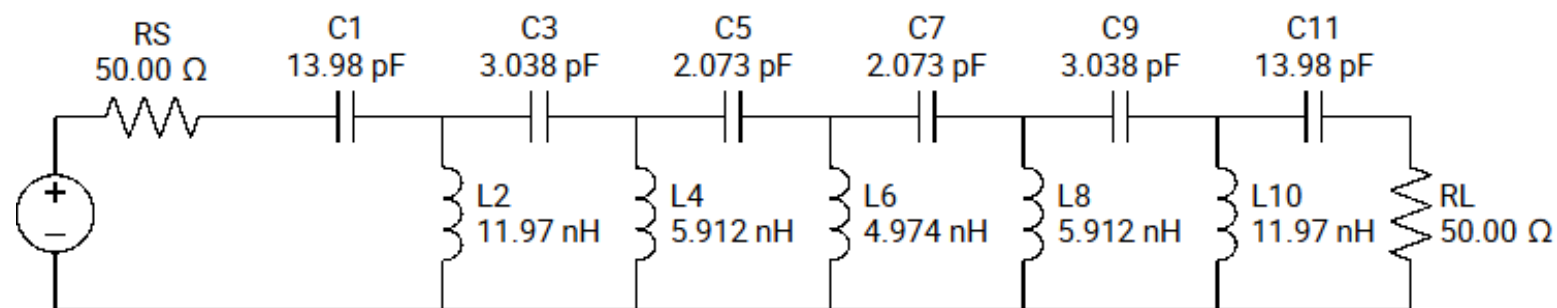
$f_c = 700\text{MHz}$



$f_c = 750\text{MHz}$



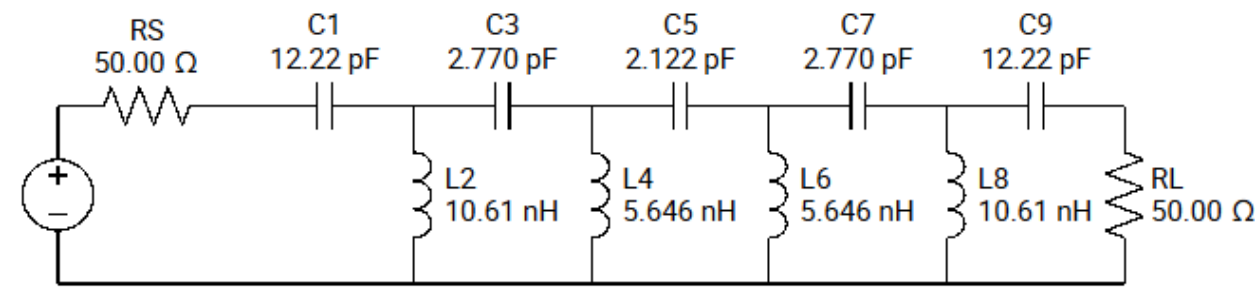
$f_c = 800\text{MHz}$



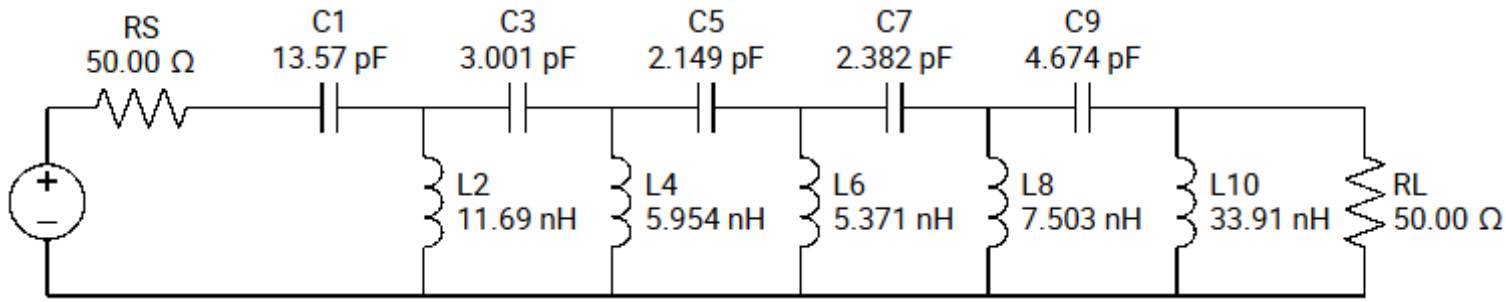
Cが小さくなりすぎる

Butterworth 次数を振ってみる @ fc 750MHz

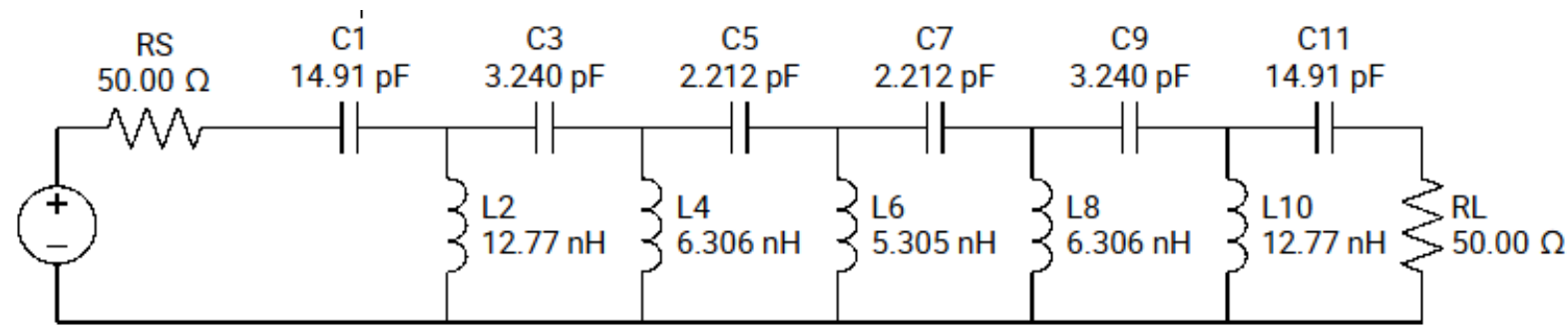
9次



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11次



Chebyshev

Chebyshev 11次

Response

Highpass

Type

Chebyshev

Topology

Series First

Order

11

Cutoff Frequency

750

MHz

Passband Ripple (dB)

0.3

Input Impedance (Ω)

50

Output Impedance (Ω)

50

Additional Settings

Component Values

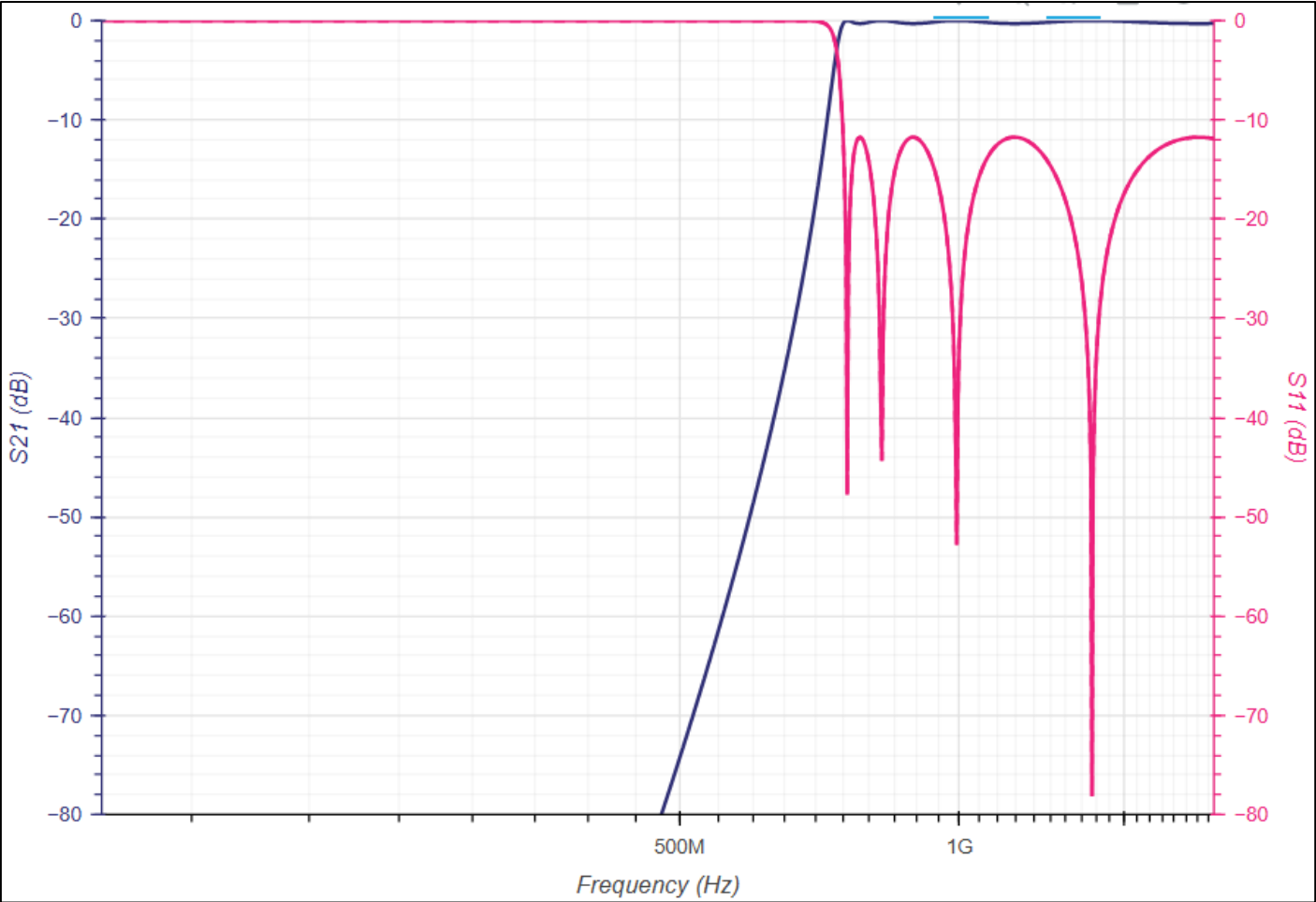
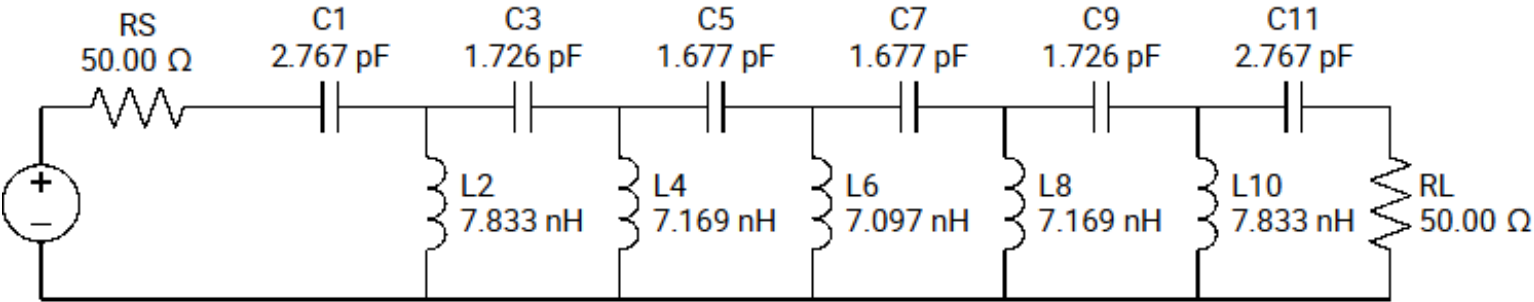
Exact

Freq[MHz]	S21
200.64	-172.97
401.34	-100.77

減衰傾度 72.2 dB/oct

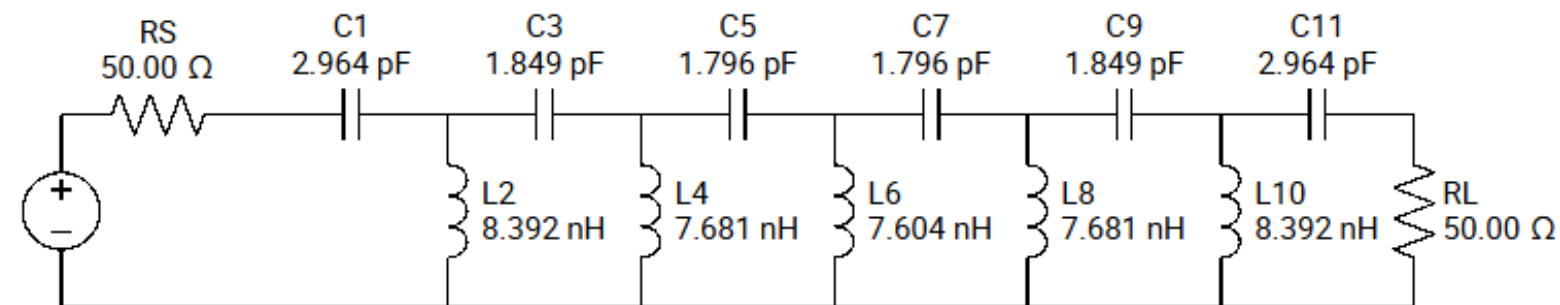
1fの減衰量

Freq[MHz]	S21
440.86	-89.93

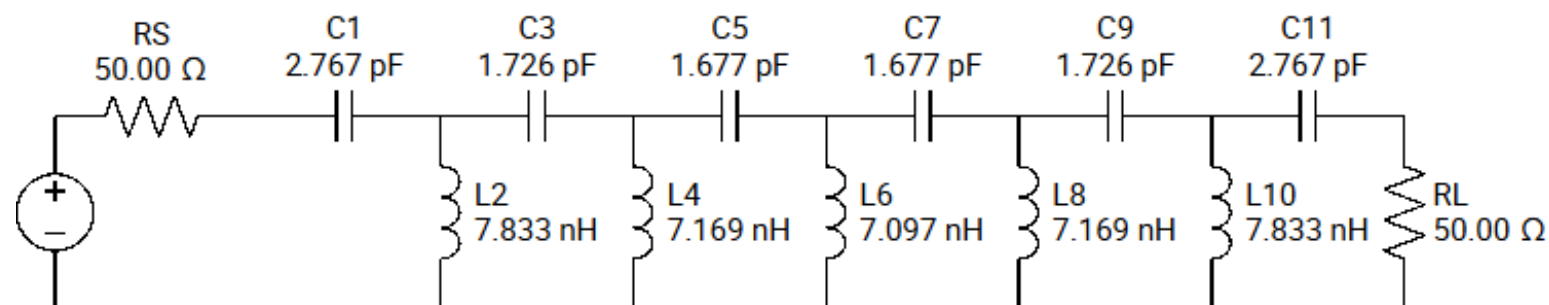


Chebyshev 11次 fcを振ってみる @ Ripple 0.3dB

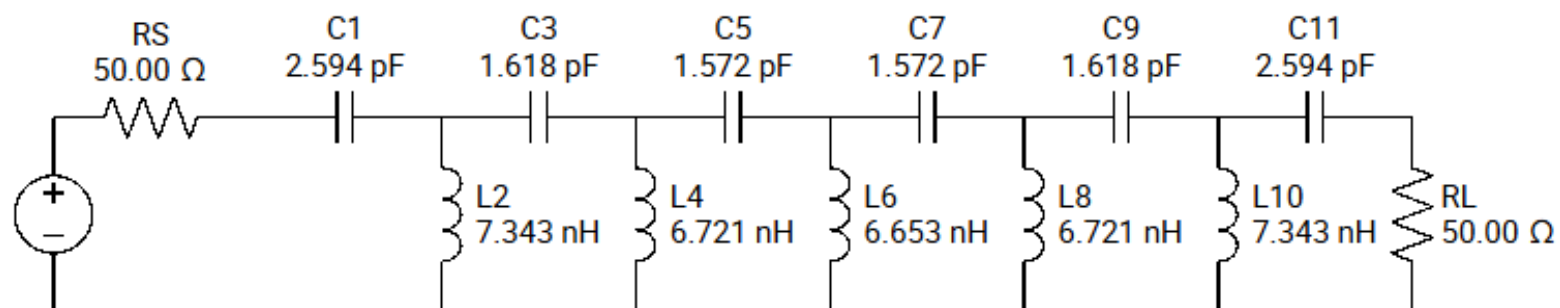
$f_c = 700\text{MHz}$



$f_c = 750\text{MHz}$



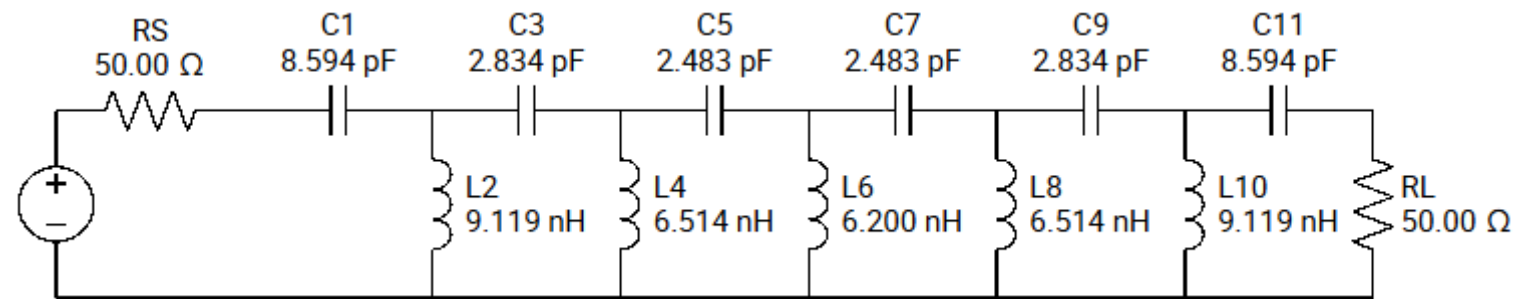
$f_c = 800\text{MHz}$



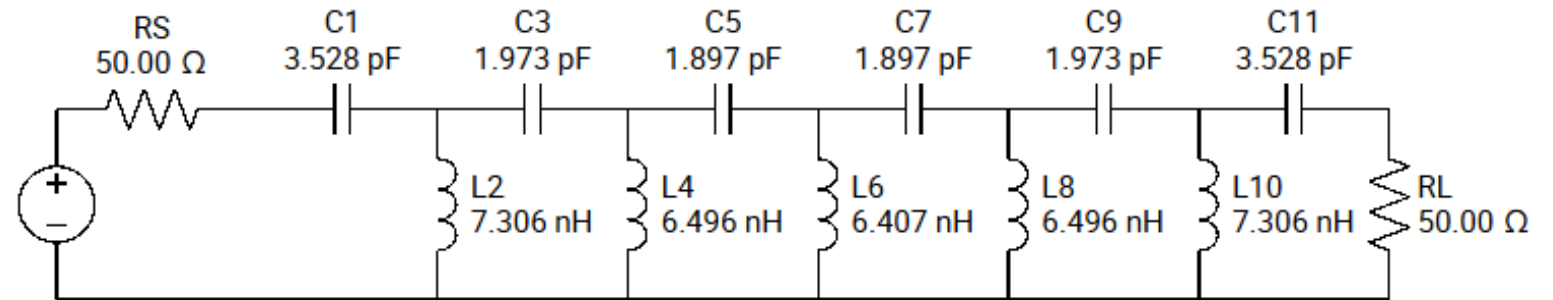
Cが小さくなりすぎる

Chevbyshv 11次 Rippleを振ってみる @ $f_c = 750\text{MHz}$

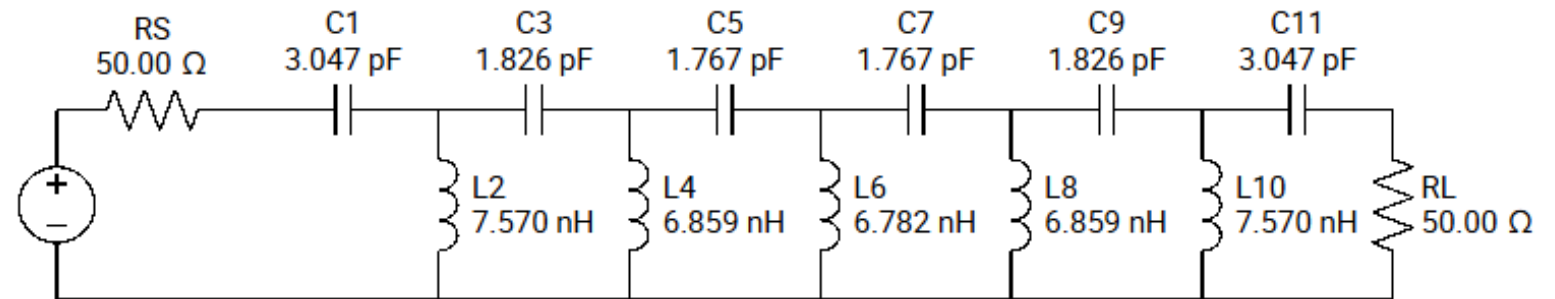
Ripple : 0.0001dB



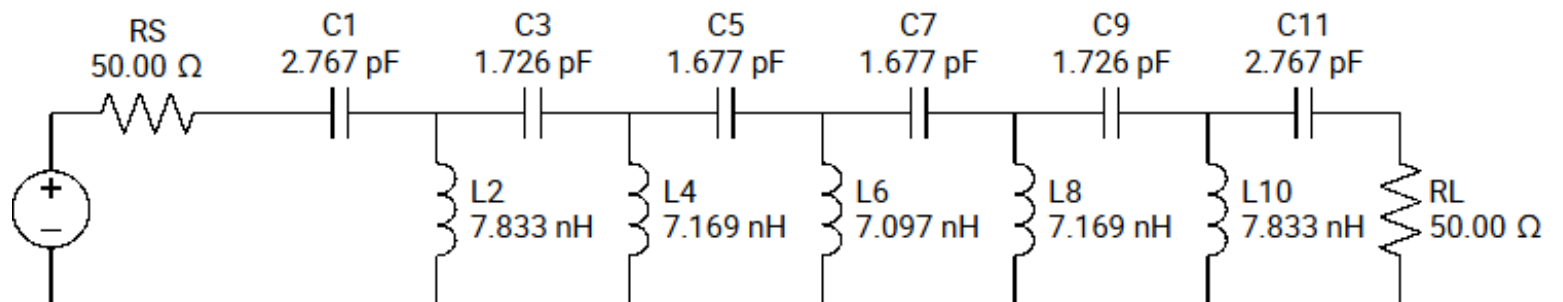
Ripple : 0.1dB



Ripple : 0.2dB



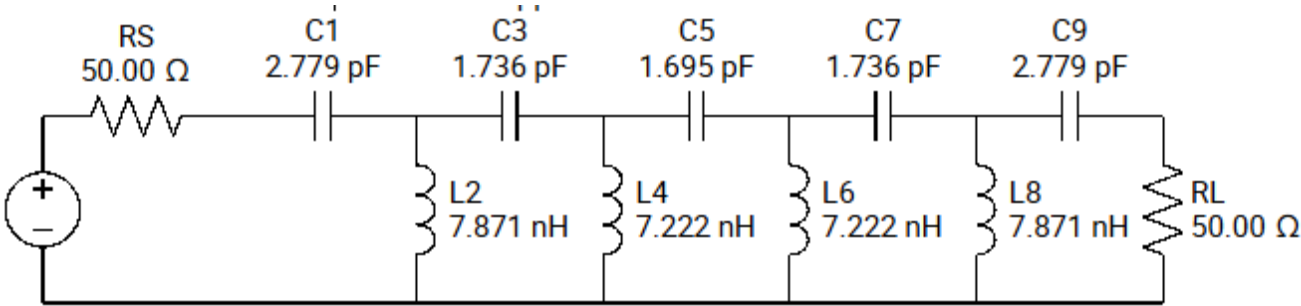
Ripple : 0.3dB



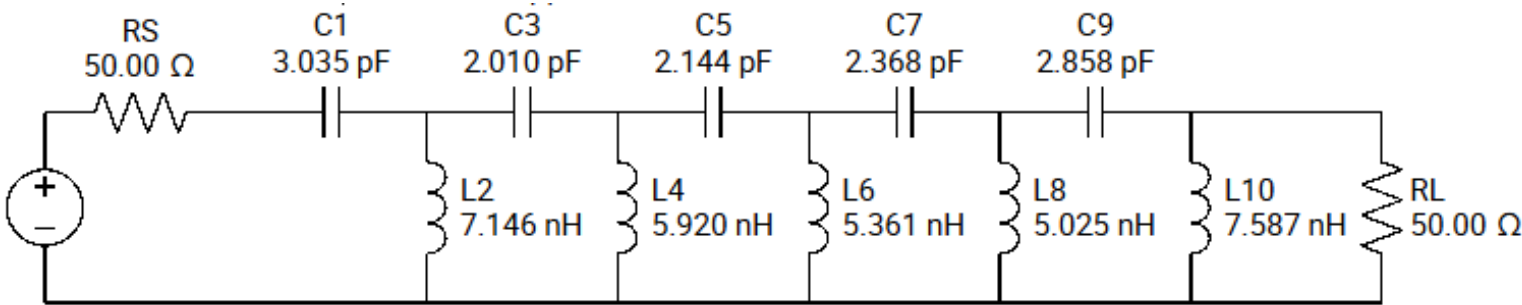
Ripple 0dBに近づけると、
Butterworthの定数に近づく

Chevbyshhev 次数を振ってみる @ $f_c = 750\text{MHz}$ 、Ripple 0.3dB

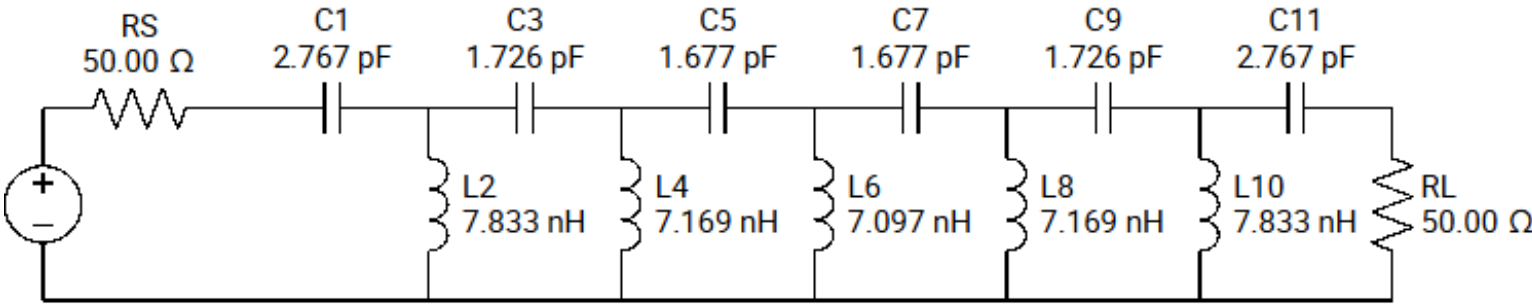
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11次



Elliptic

Elliptic 11次

Response

Highpass

Type

Elliptic

Topology

Series First

Order

11

Cutoff Frequency

750

MHz

Passband Ripple (dB)

0.3

Stopband Atten. (dB)

50

Input Impedance (Ω)

50

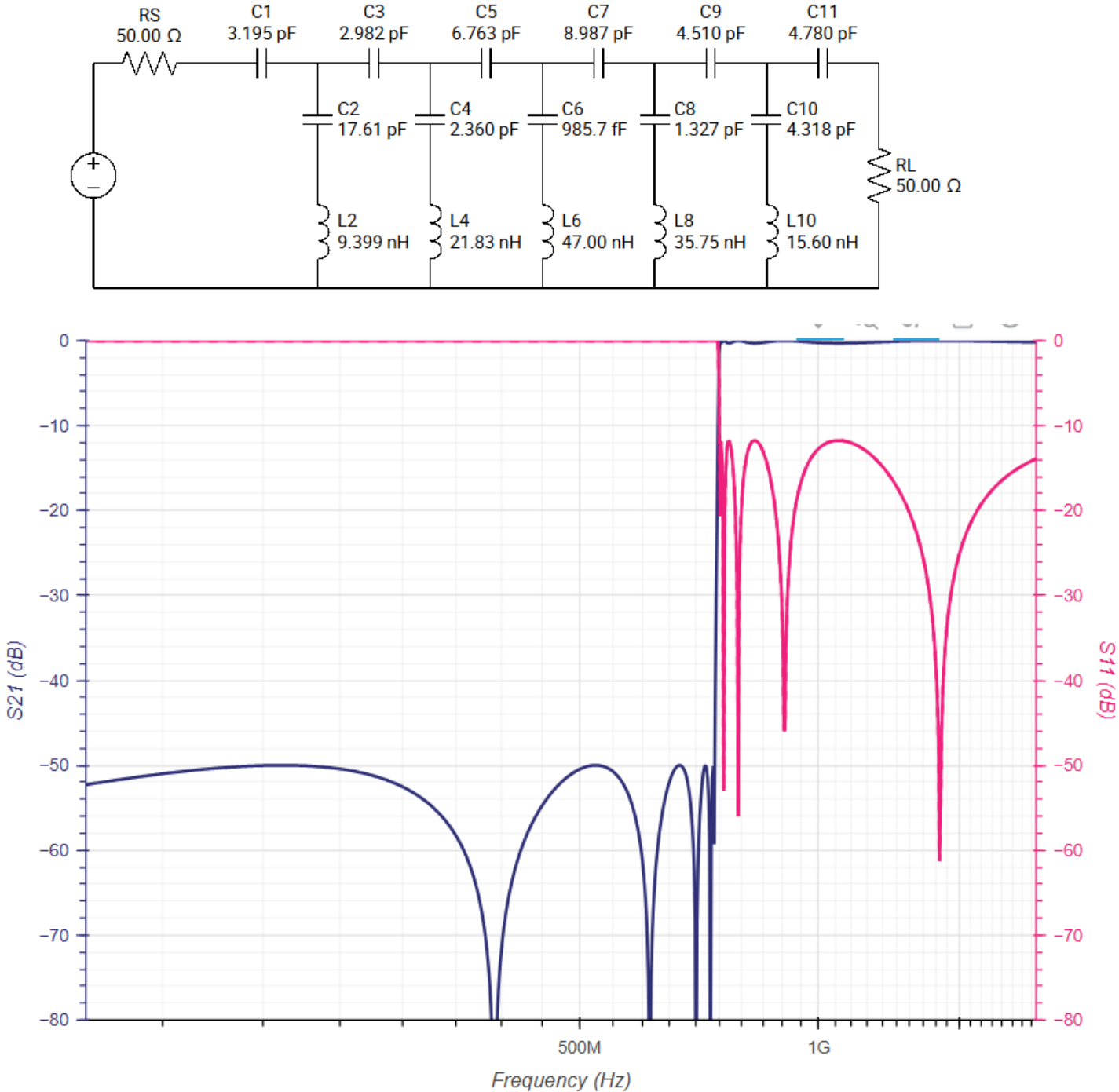
Output Impedance (Ω)

50

Additional Settings

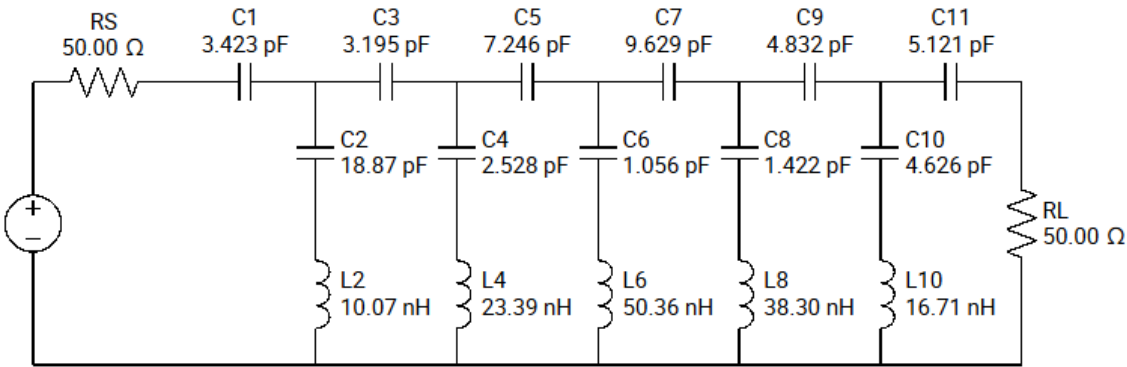
Component Values

Exact

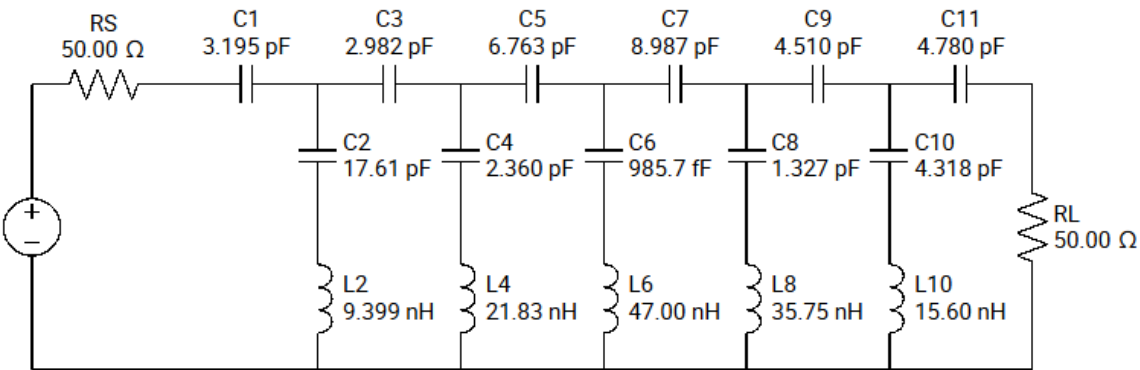


Elliptic 11次 fcを振ってみる @ Ripple 0.3dB、Stop Band Att 50dB

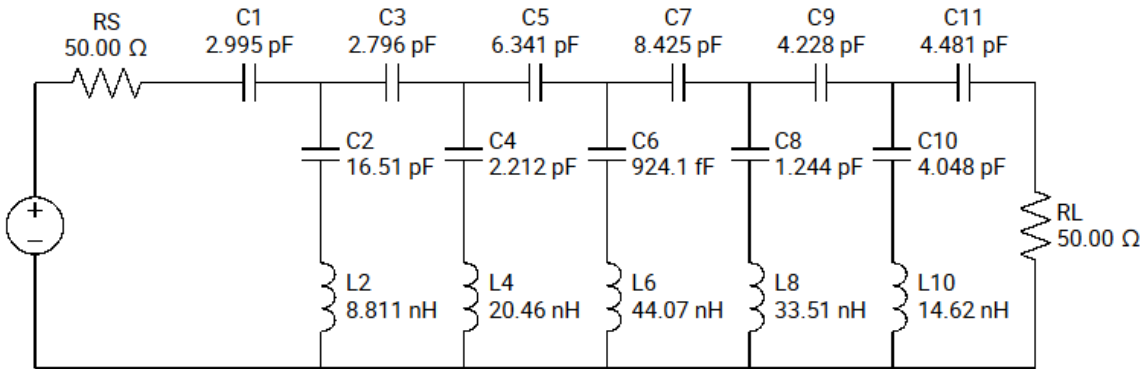
$f_c = 700\text{MHz}$



$f_c = 750\text{MHz}$

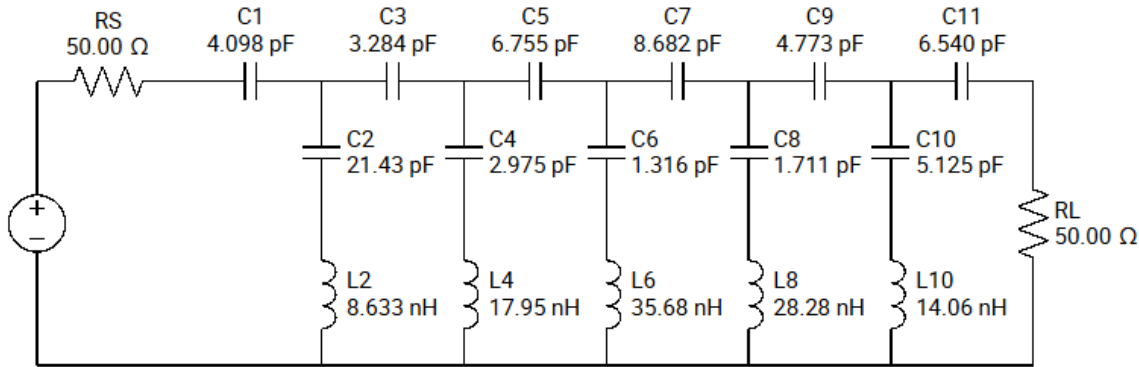


$f_c = 800\text{MHz}$

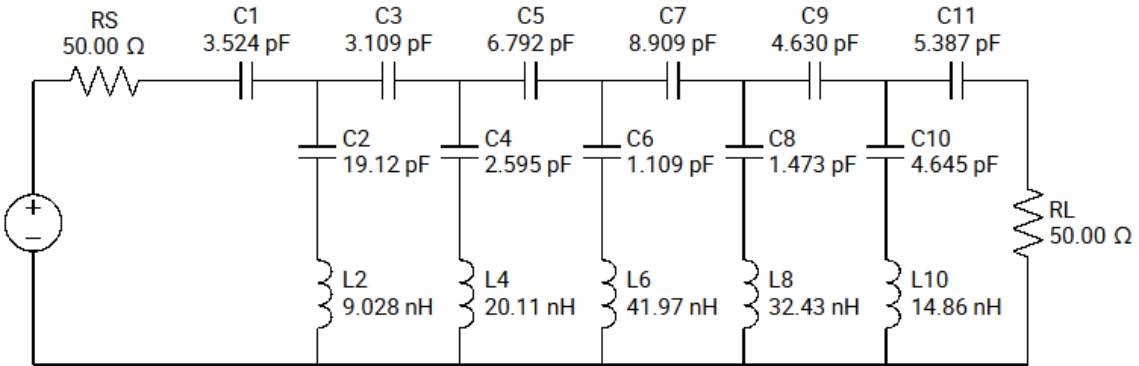


Elliptic 11次 Rippleを振ってみる @ fc 750MHz、Stop Band Att 50dB

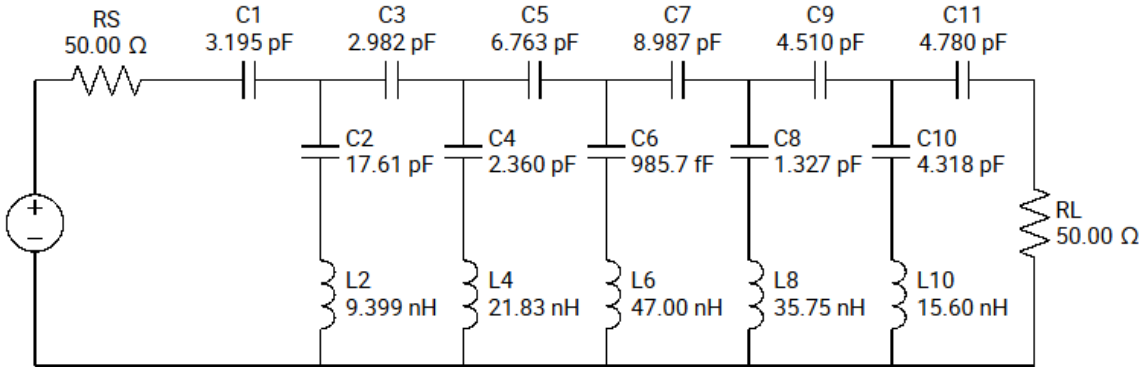
Ripple 0.1dB



Ripple 0.2dB

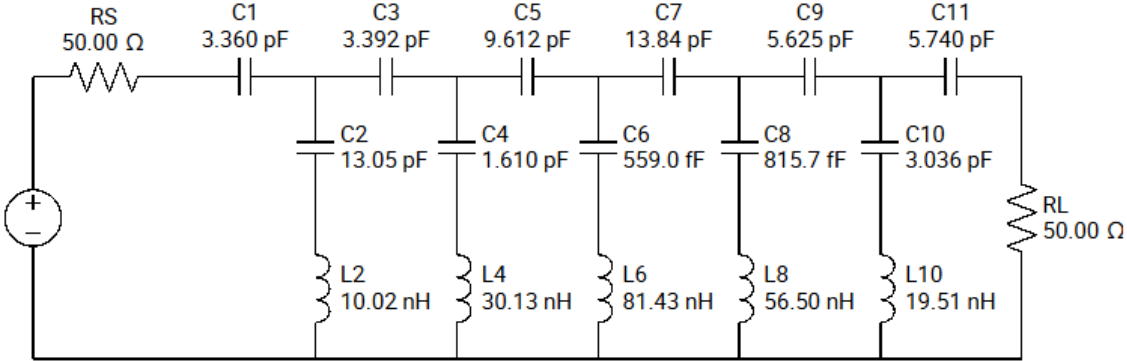


Ripple 0.3dB

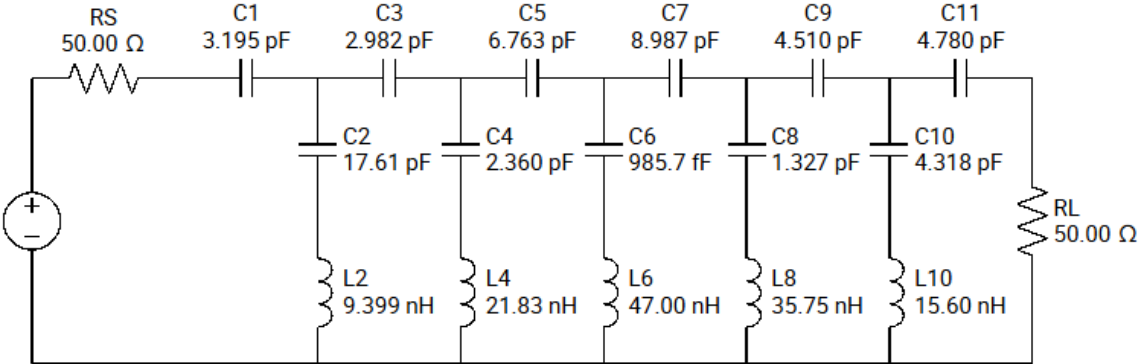


Elliptic 11次 Stop Band ATTを振ってみる @ fc 750MHz、Ripple 0.3dB

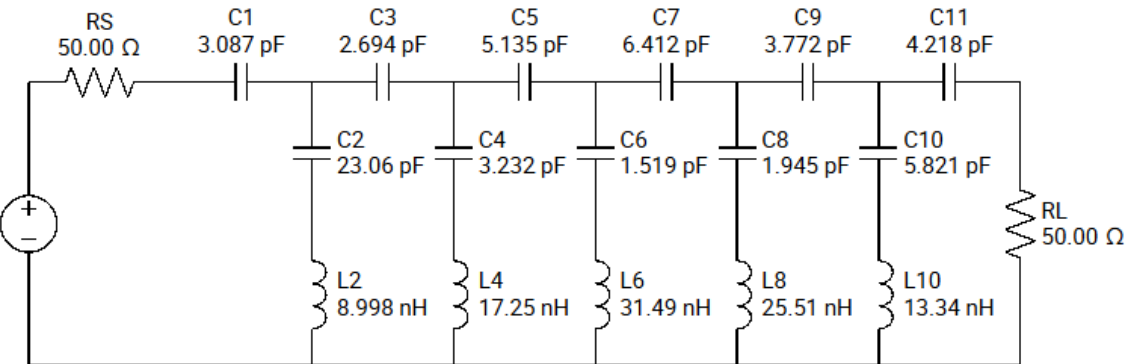
Stop Band ATT 40dB



Stop Band ATT 50dB

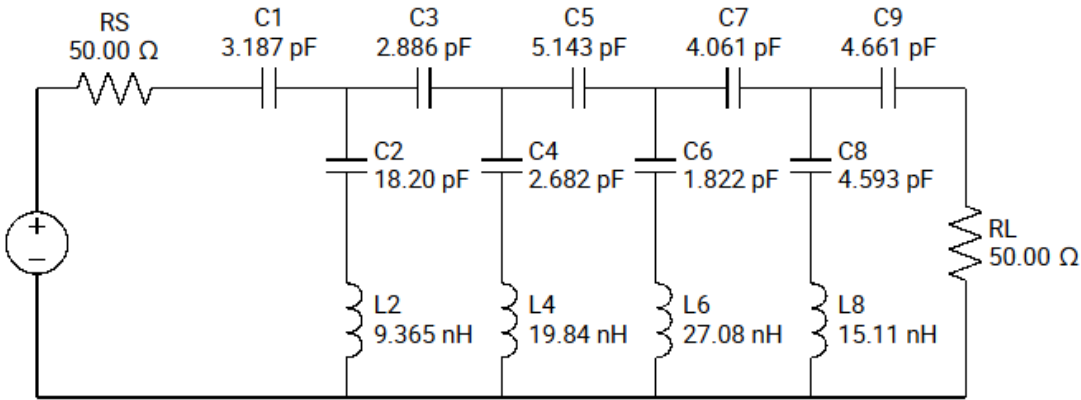


Stop Band ATT 60dB

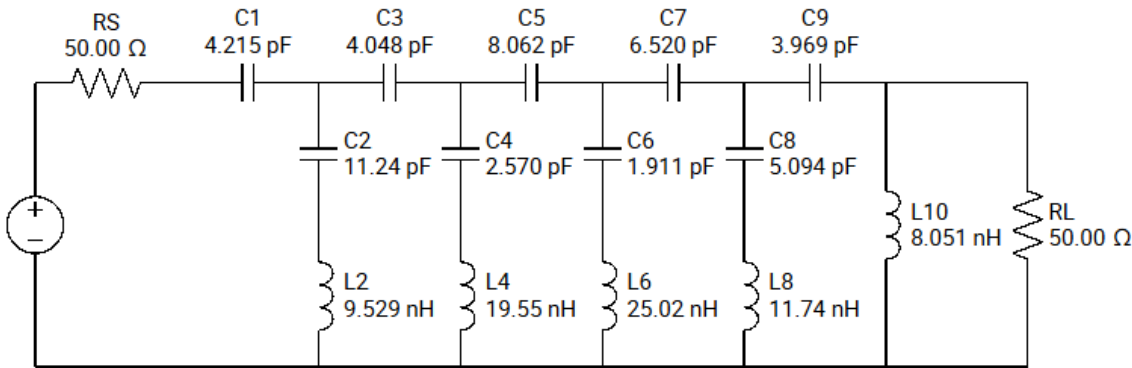


Elliptic 次数を振ってみる @ f_c 750MHz、Ripple 0.3dB、Stop Band ATT 50dB

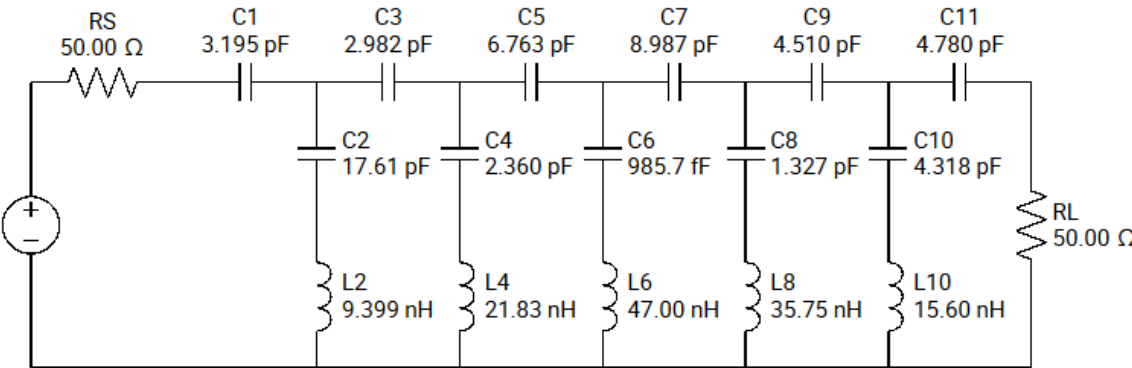
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11次



Bessel

Bessel 11次

Filter Properties

Response

Highpass

Type

Bessel

Topology

Series First

Order

11

Cutoff Frequency

750

MHz

Input Impedance (Ω)

50

Output Impedance (Ω)

50

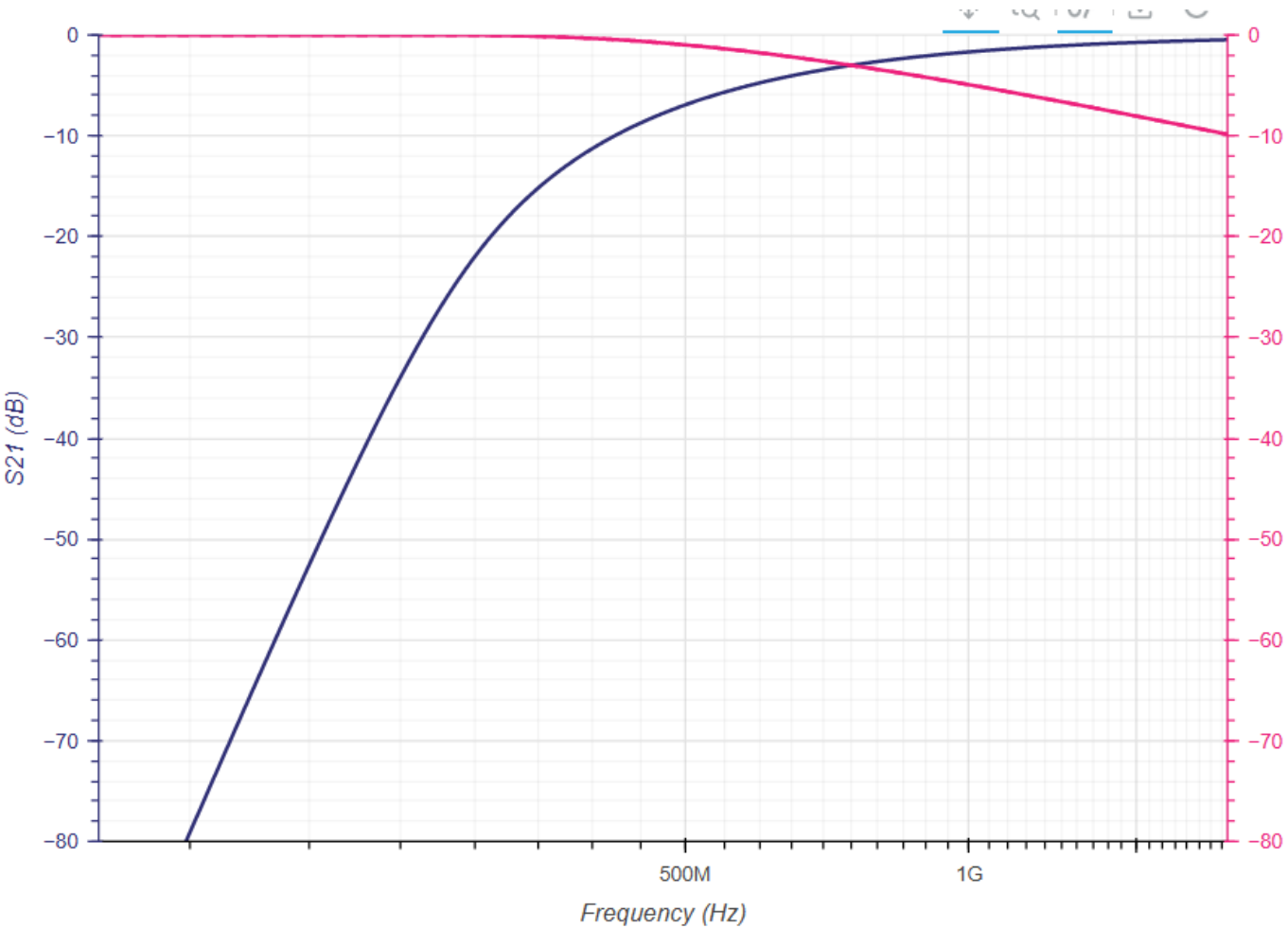
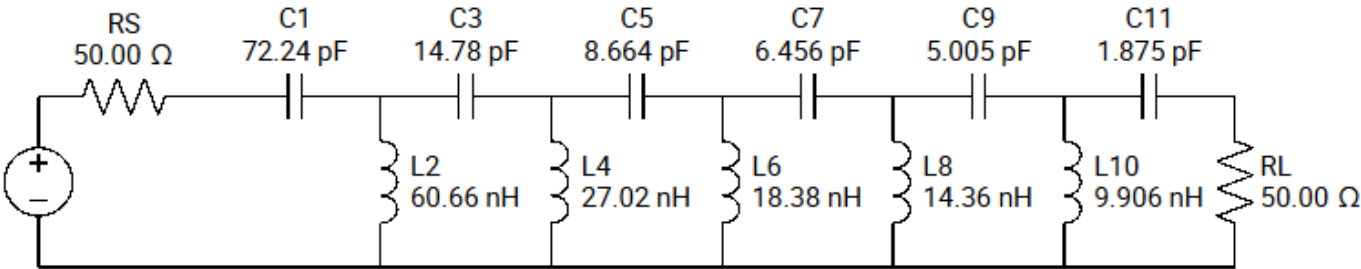
Additional Settings

Component Values

Exact

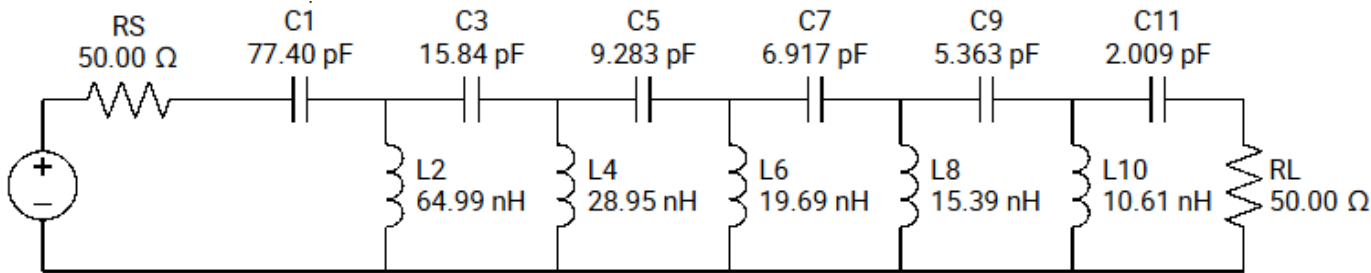
1fの減衰量

Freq[MHz]	S21
440.86	-9.09

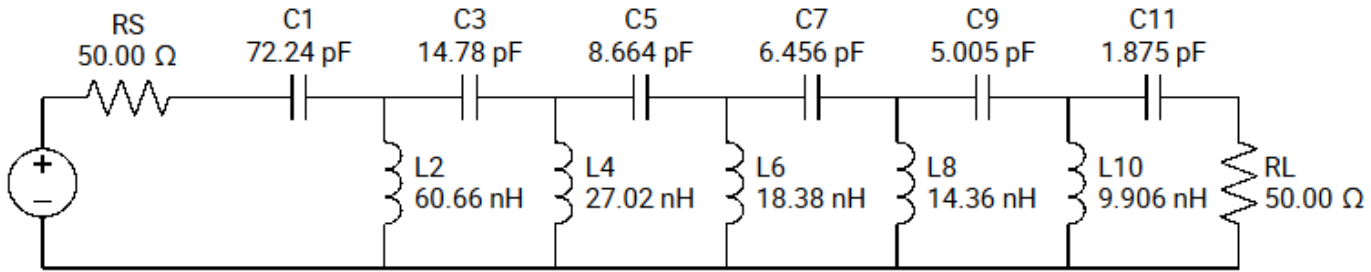


Bessel 11次 fcを振ってみる

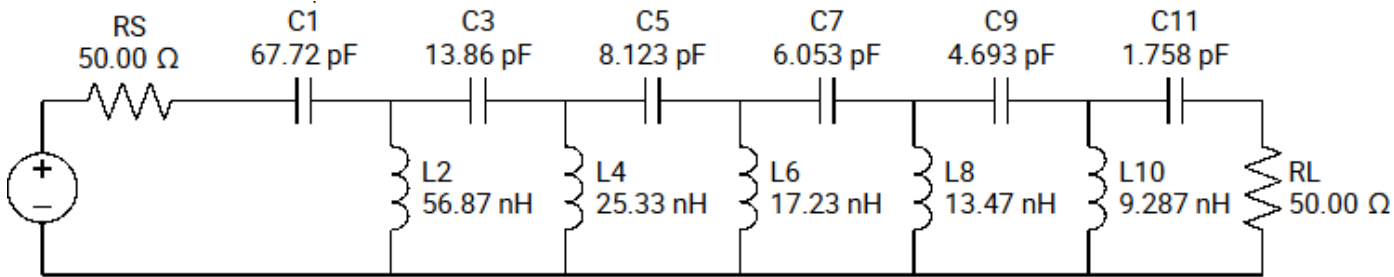
fc = 700MHz



fc = 750MHz

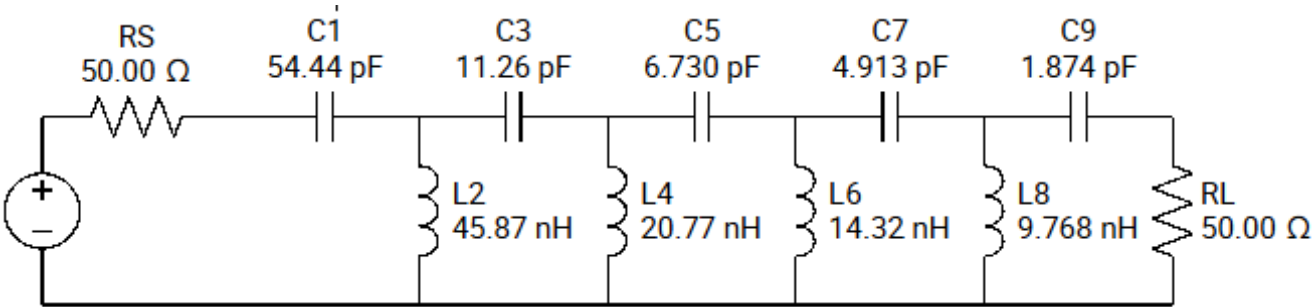


fc = 800MHz

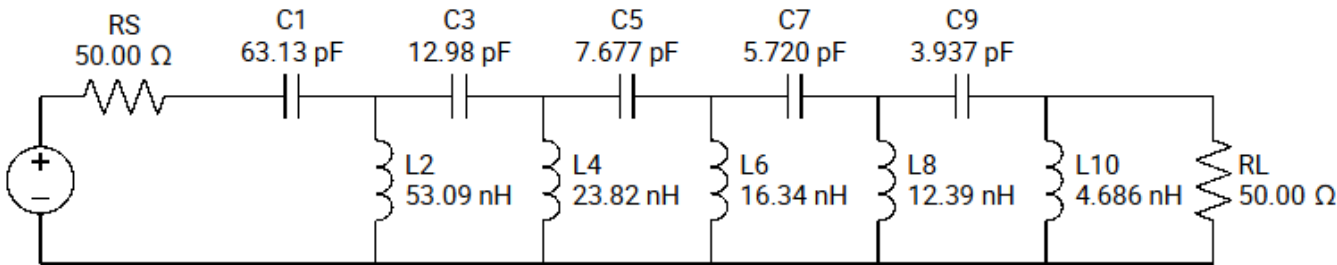


Bessel 次数を振ってみる @ fc 750MHz

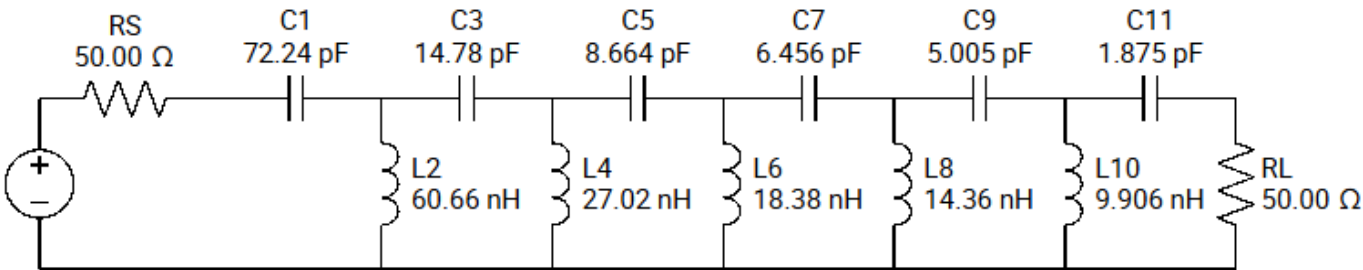
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11次



Inverse Chebyshev

Inverse Chebyshev 11次

Response

Highpass

Type

Inverse Chebyshev

Topology

Series First

Order

11

Cutoff Frequency

750

MHz

Stopband Atten.
(dB)

50

Input
Impedance (Ω)

50

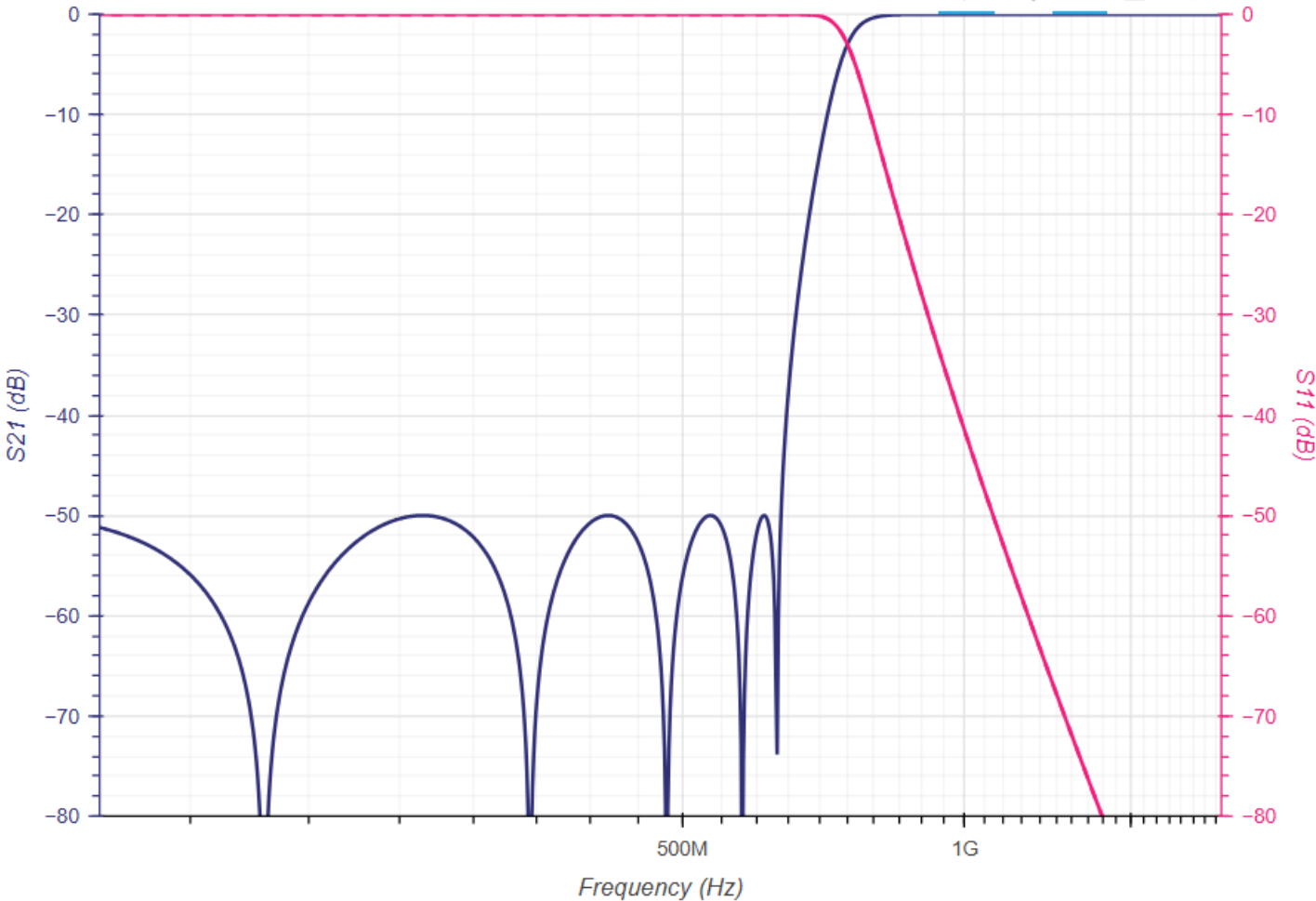
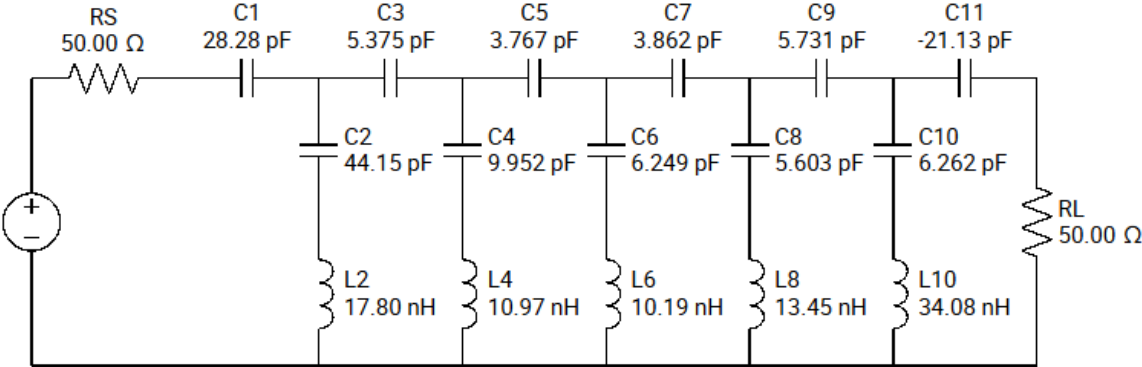
Output
Impedance (Ω)

50

Additional Settings

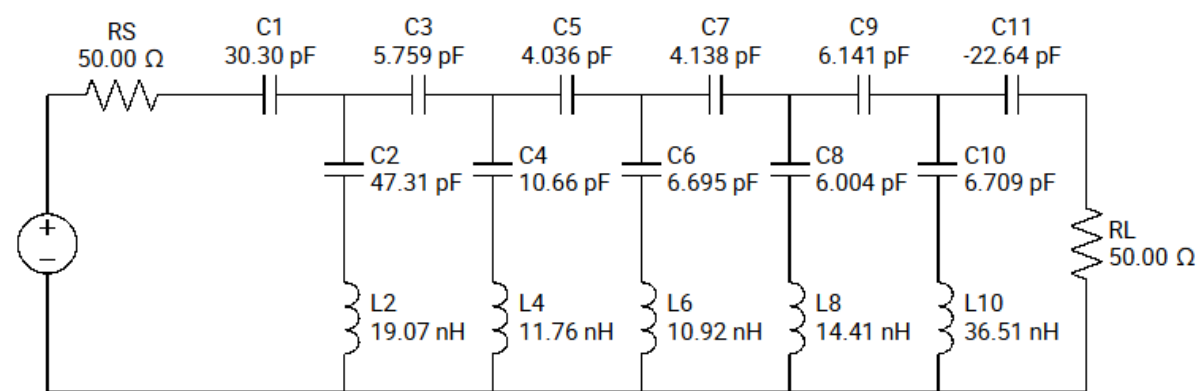
Component Values

Exact

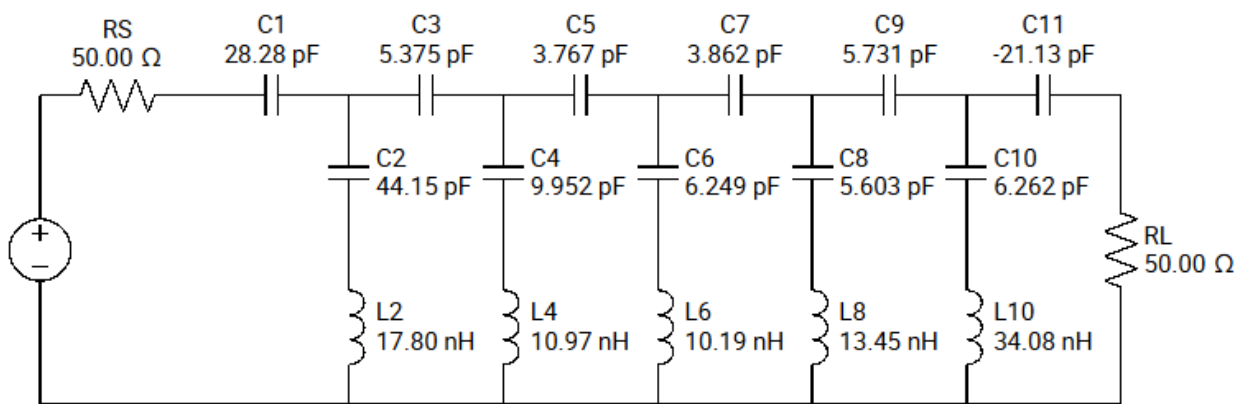


Inverse Chebyshev 11次 fcを振ってみる @ Stop Band Att 50dB

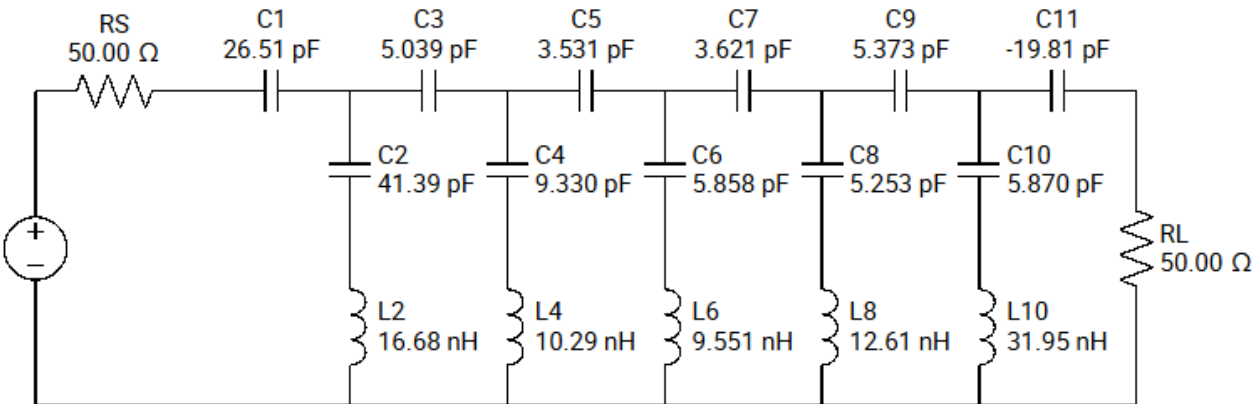
fc = 700MHz



fc = 750MHz

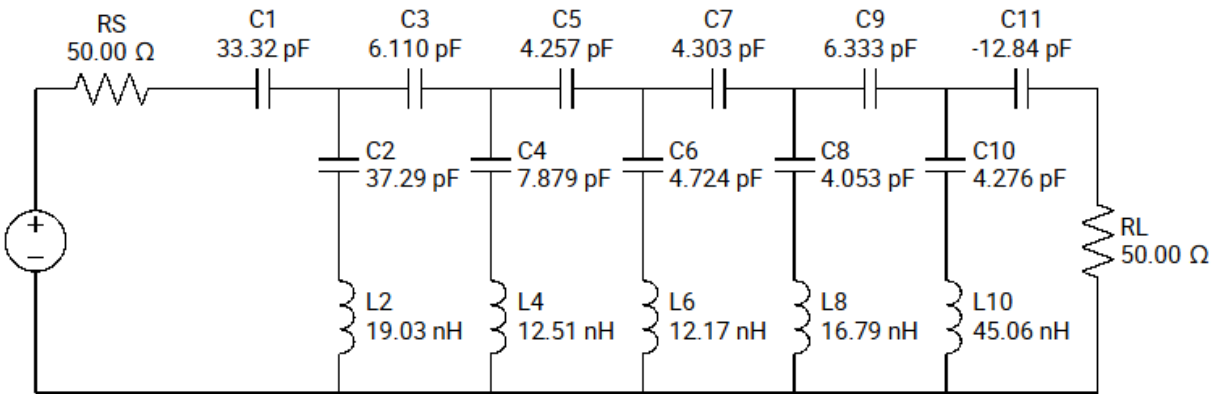


fc = 800MHz

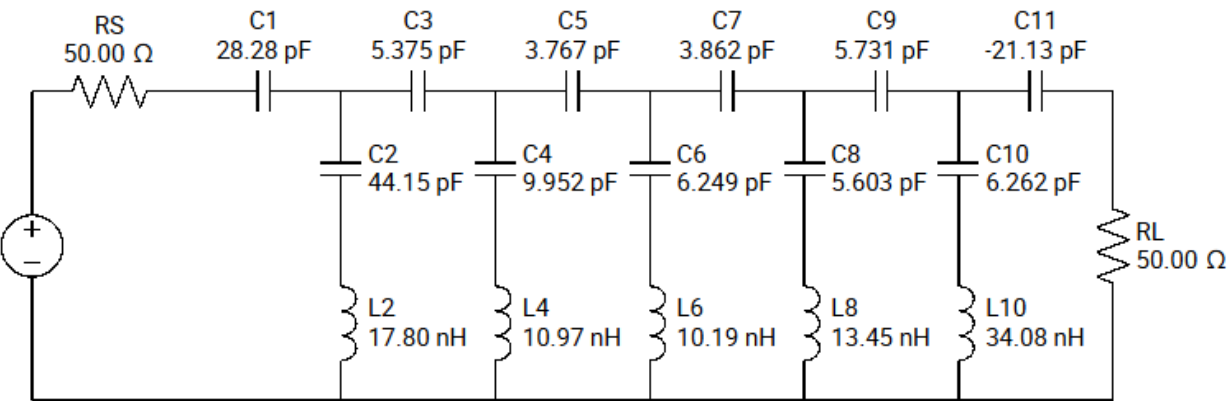


Inverse Chebyshev 11次 Stop Band Attを振ってみる @ fc 750MHz

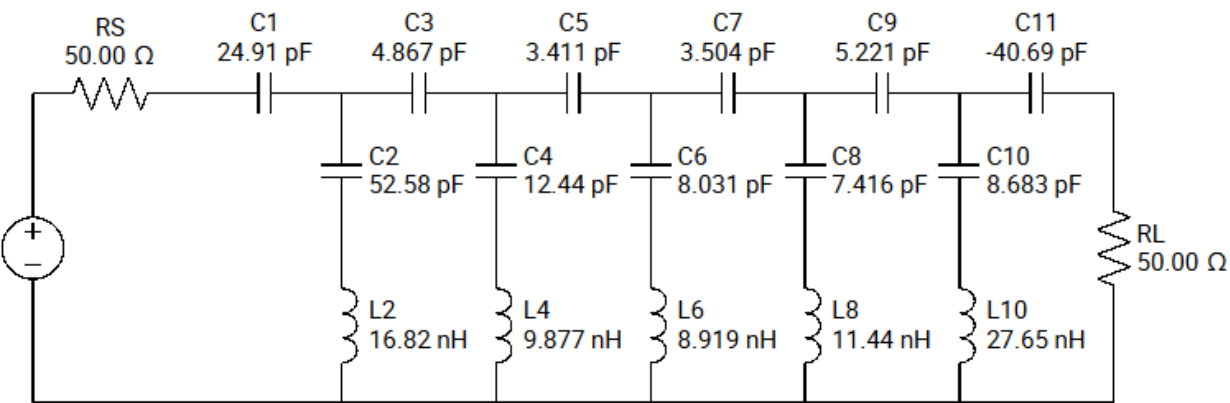
Stop Band ATT 40dB



Stop Band ATT 50dB

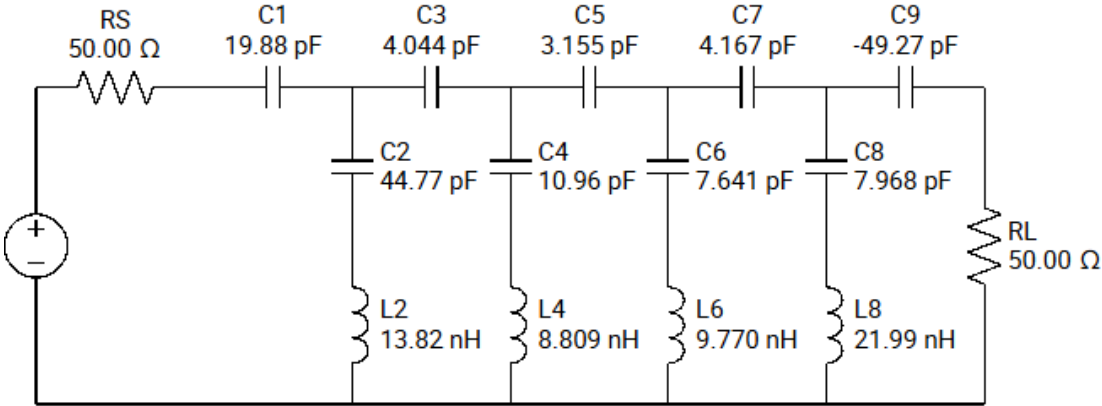


Stop Band ATT 60dB

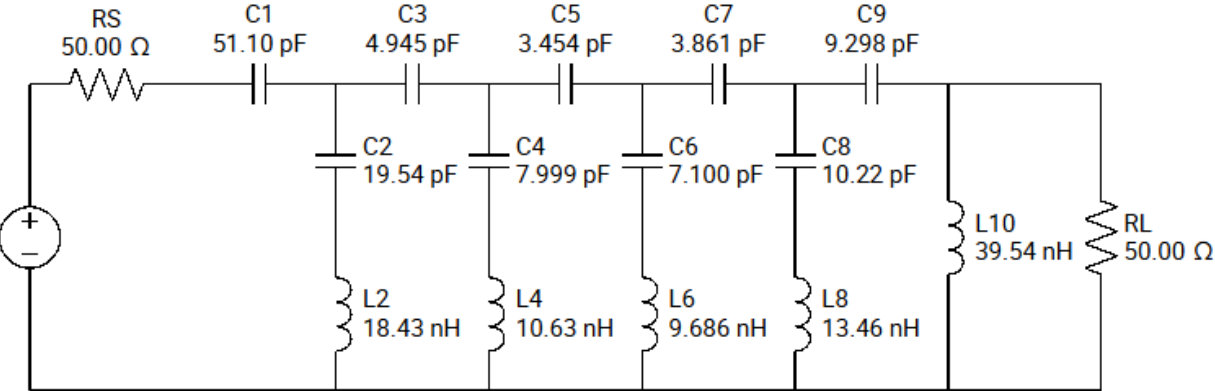


Inverse Chebyshev 次数 を振ってみる @ fc 750MHz、Stop Band Att 50dB

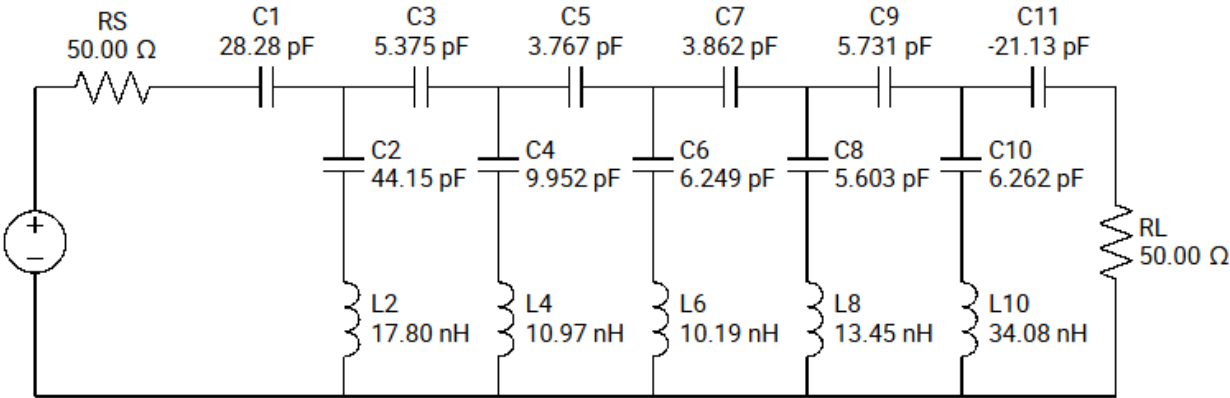
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11次



Legendre

Legendre 11次

Response

Highpass

Type

Legendre

Topology

Series First

Order

11

Cutoff Frequency

750

MHz

Input Impedance (Ω)

50

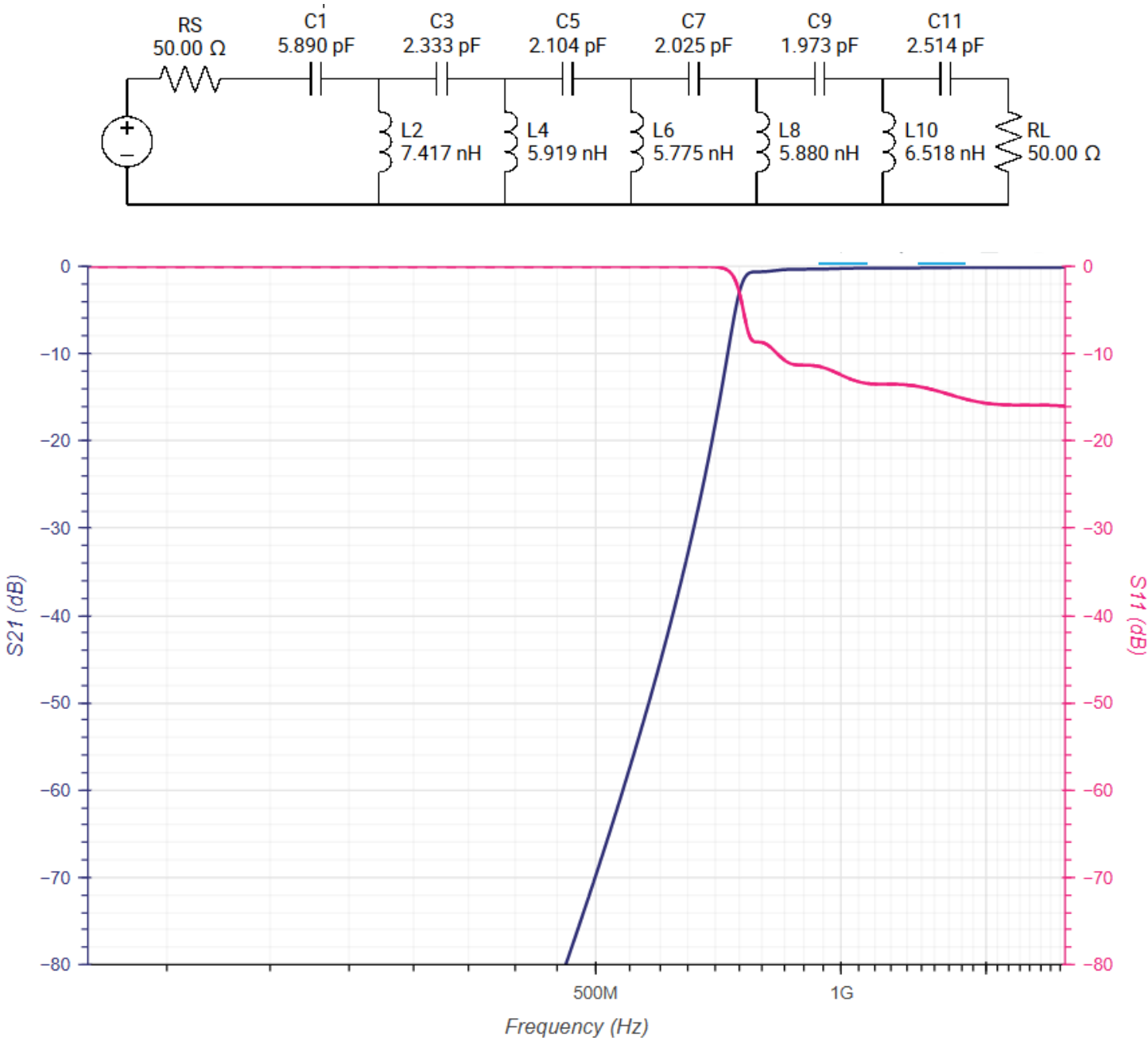
Output Impedance (Ω)

50

Additional Settings

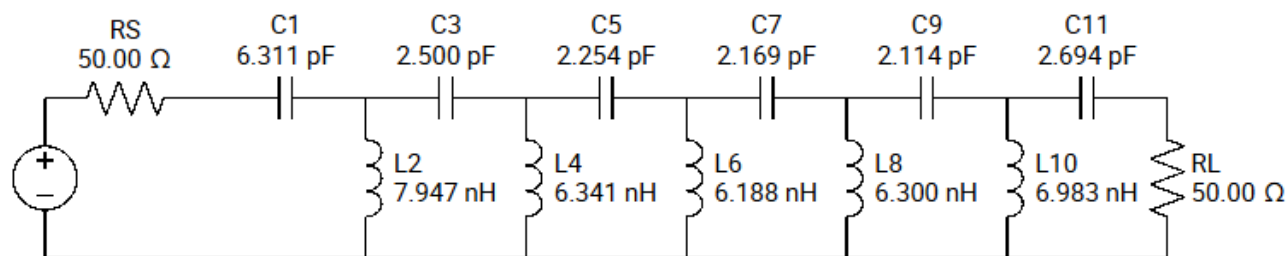
Component Values

Exact

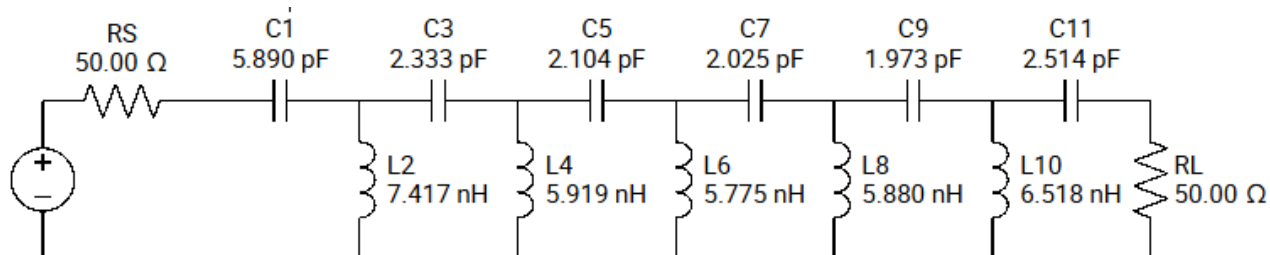


Legendre 11次 f_c を振ってみる @ Stop Band Att 50dB

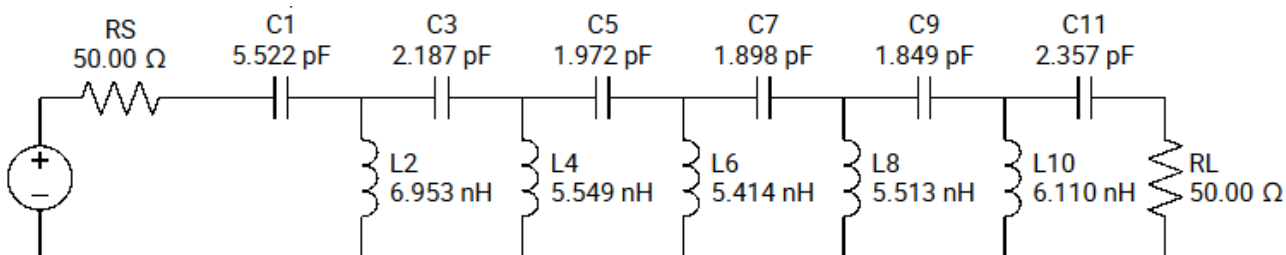
$f_c = 700\text{MHz}$



$f_c = 750\text{MHz}$

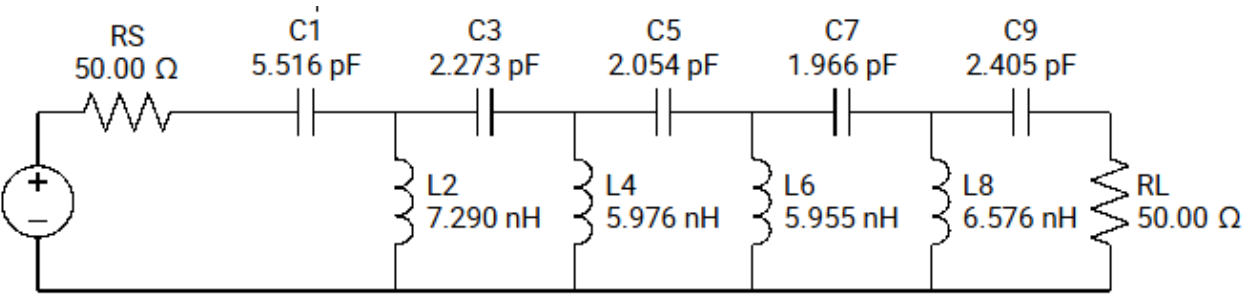


$f_c = 800\text{MHz}$

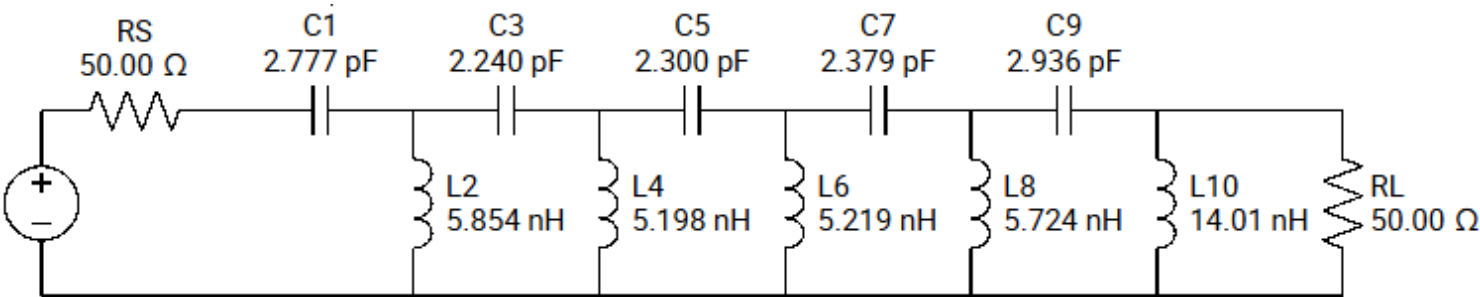


Legendre 次数を振ってみる @ fs 750MHz、Stop Band Att 50dB

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11次

