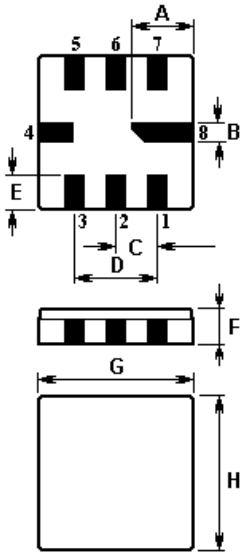
The **NDF4010** is a compact and economical surface-acoustic-wave (SAW) IF filter in a surface-mount ceramic **QCC8C** case for DBS receivers with constant group delay.

1. Package Dimension (QCC8C)



Pin	Connection
2	Input
1	Input Ground
6	Output
5	Output Ground
3, 7	To be Grounded
4, 8	Case Ground

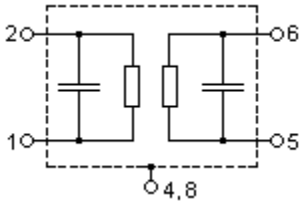
Sign	Data (unit: mm)	Sign	Data (unit: mm)
A	2.08	E	1.20
B	0.60	F	1.35
C	1.27	G	5.00
D	2.54	H	5.00

2. Marking

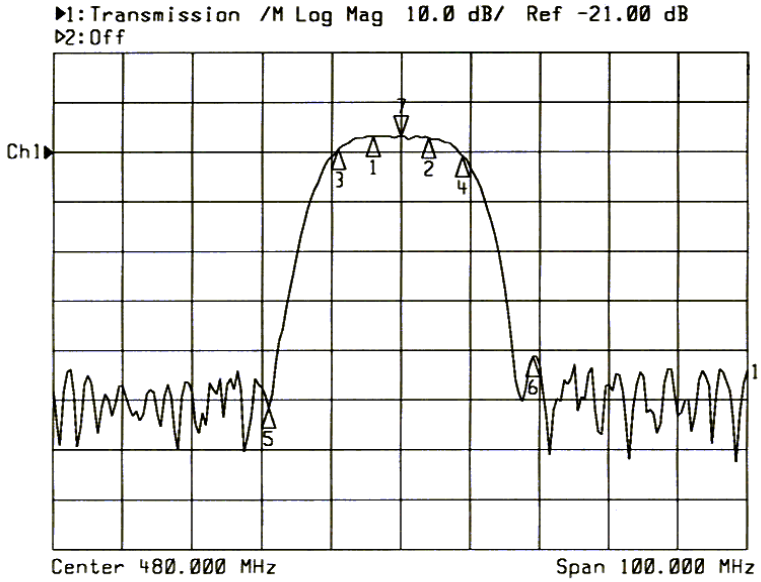
NDF4010

Laser Marking

3. Equivalent LC Model



4. Typical Frequency Response



1:Mkr (MHz)	dB	2:Mkr (MHz)	dB
1: 476.00	-17.96		
2: 484.00	-18.12		
3: 471.00	-20.23		
4: 489.00	-21.84		
5: 461.00	-72.67		
6: 499.00	-62.24		
7: 480.00	-17.78		

5. Performance

5-1. Maximum Ratings

Rating		Value	Unit
AC Voltage Between Any Two Pins	V_{PP}	5	V
DC Voltage Between Any Two Pins	V_{DC}	0	V
Storage temperature range	T_{stg}	-40 to +85	℃
Operable temperature range	T_A	-25 to +85	℃

5-2. Electronic Characteristics

Reference temperature: T_A = 25 ℃
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

Characteristic			Min.	Typ.	Max.	Unit
Center Frequency		f_C	479.00	480.00	481.00	MHz
Insertion attenuation (Reference level for the following data)	480.00 MHz	α	--	21	23.0	dB
Pass bandwidth	α_{rel}≤3dB	B_{3dB}	16.60	17.80	18.60	MHz
Relative attenuation		α_{rel}				
	471.00 MHz		--	3.4	5.4	dB
	489.00 MHz		--	3.0	5.4	dB
Lower sidelobe	430.00 ….461.00 MHz		38.0	50.0	--	dB
Upper sidelobe	499.00 … 530.00 MHz		38.0	45.0	--	dB
Reflected wave signal suppression 0.13μs … 2.0μs after main pulse			40.0	46.0	--	dB
Amplitude ripple (p-p)	476.00 … 484.00 MHz	$\Delta\alpha$	--	0.6	1.0	dB
Group delay (aperture 0.25MHz)	480.00 MHz	τ	--	281.0	--	ns
Group delay ripple (p-p)	471.50 … 488.50 MHz	$\Delta\tau$	--	11.5	18.0	ns
Temperature coefficient of frequency		TC_f	--	-94	--	ppm/K

ⓘCAUTION: Electrostatic Sensitive Device. Observe precautions for handling!

1. Unless noted otherwise, all measurements are made with the filter installed in the specified test fixture that is connected to a 50Ω test system with VSWR≤1.2:1. The test fixture L and C are adjusted for minimum insertion loss at the filter center frequency, f_C. Note that insertion loss, bandwidth, and passband shape are dependent on the impedance matching component values and quality.
2. Unless noted otherwise, specifications apply over the entire specified operating temperature range.
3. The specifications of this device are based on the test circuit shown above and subject to change or obsolescence without notice.
4. All equipment designs utilizing this product must be approved by the appropriate government agency prior to manufacture or sale.
5. Our liability is only assumed for the Surface Acoustic Wave (SAW) component(s) per se, not for applications, processes and circuits implemented within components or assemblies.
6. For questions on technology, prices and delivery, please contact our sales offices or e-mail sales@neditek.com.