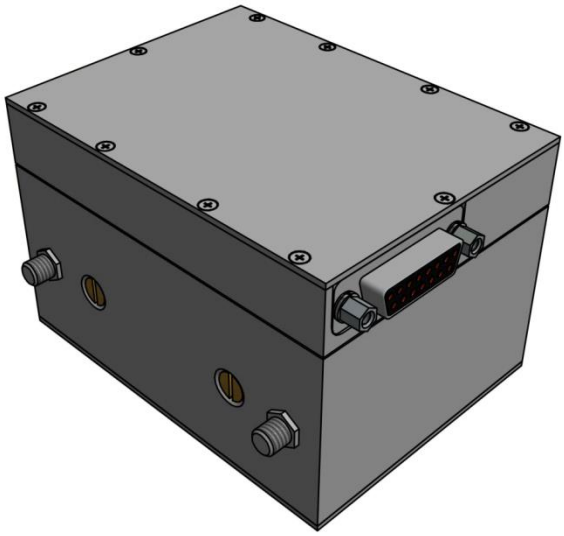


PS30-88
Specification:

Frequency Coverage	30 to 88 MHz
Input/Output Impedance:	50 Ω
In-band Input/Output VSWR	2:1
In-band RF Power Handling	20 Watt (input)
Out-band RF Power Handling	Up to 50 Watt
In-band Second Order Intercept Point	+100 dBm (input)
In-band Third Order Intercept Point	+50 dBm (input)
Center Frequency Drift:	±80 PPM/ºC
Tuning Control	Parallel
Tuning Speed	25 µS
DC Power Consumption (Static)	5V @ 2A
Shape Factor (30 dB/ 3 dB)	7 typical
Operating TemperatureRange	-40°C to +65°C
Size:	102x76x65 mm
Weight:	460 g
RF Connection	SMA

The PS30-88 is digitally tunable filter operating from 30 MHz to 88MHz. Parallel interface is used for tuning. The module can be installed either in receiving or transmitting tract. PS30-88 has low insertion losses, high RF power handling, wide operating temperature range and fast tuning speed. The module can work in frequency-hopping spread spectrum mode.

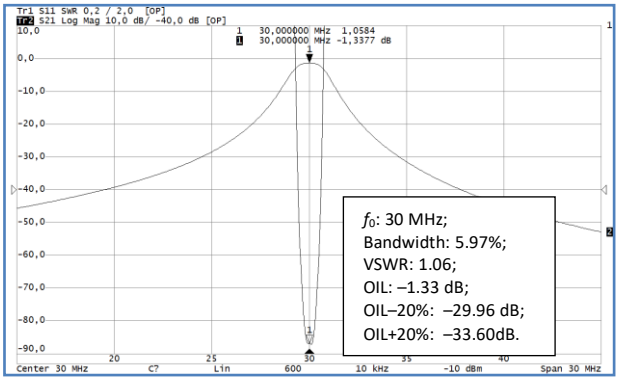
PS30-88 specification

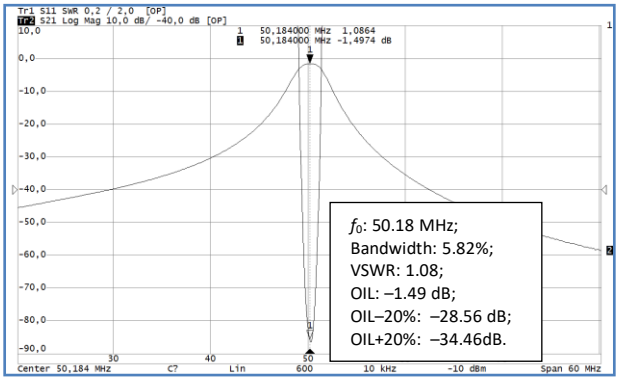
#	Bandwidth (3 dB), %	Insertion Loss, dB	Shape factor (30 dB)		
			Overall	Low Side	High Side
4	3.5/4.5	2.9/3.6	6.1/6.5	6.8/7.2	5.1/5.6
6	5.5/6.5	1.4/1.7	6.5/6.8	7.25/7.65	5.35/5.8

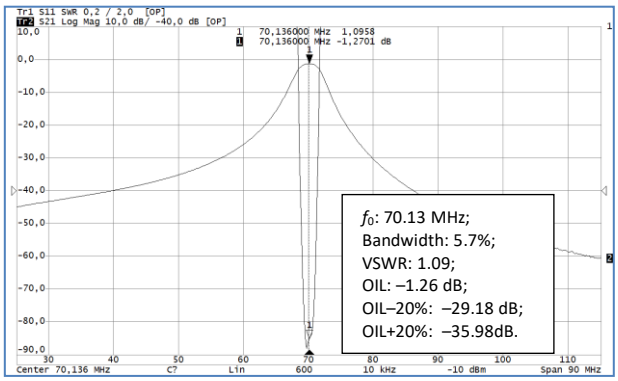
Note: table values are shown as average/maximum.

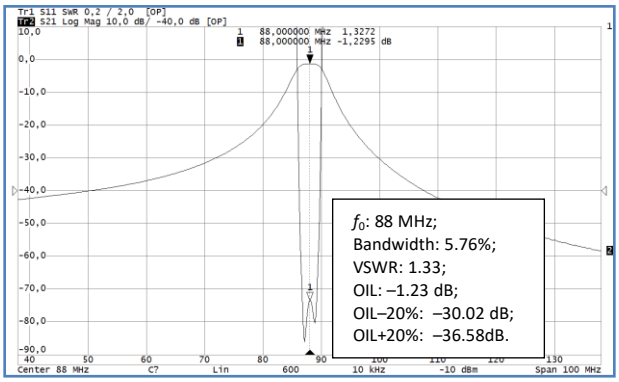
Frequency response functions and VSWR functions

Some frequency response functions and VSWR functions are shown below:





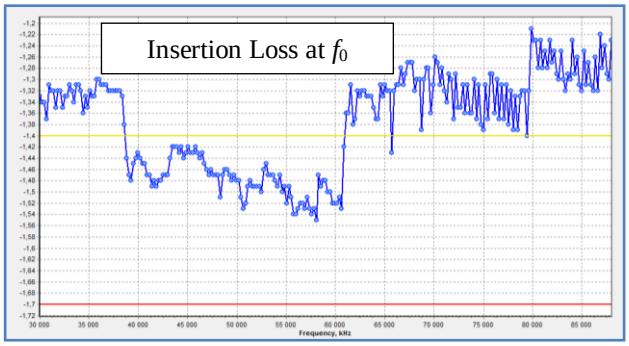


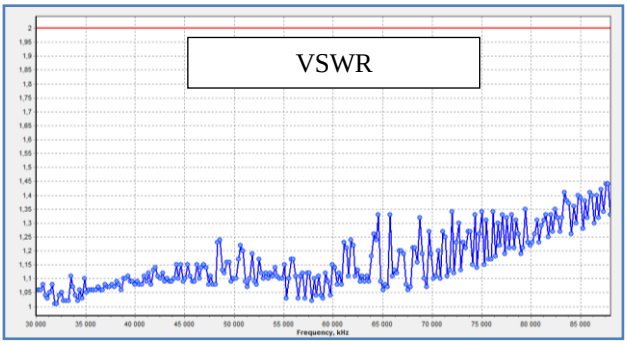


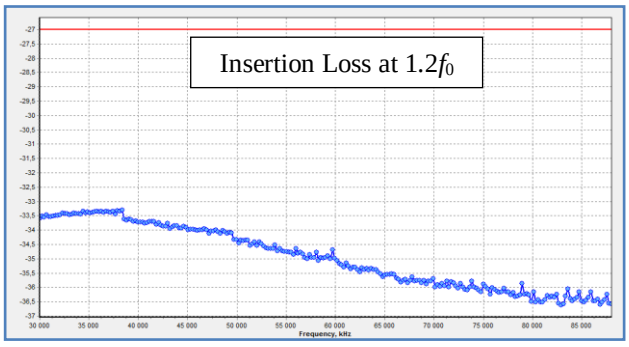
Note: f_0 — tuning frequency;VSWR — VSWR at f_0 frequency;OIL — insertion loss at f_0; OIL–20% — insertion loss at $0{,}8f_0$;OIL+20% — insertion loss at $1{,}2f_0$.

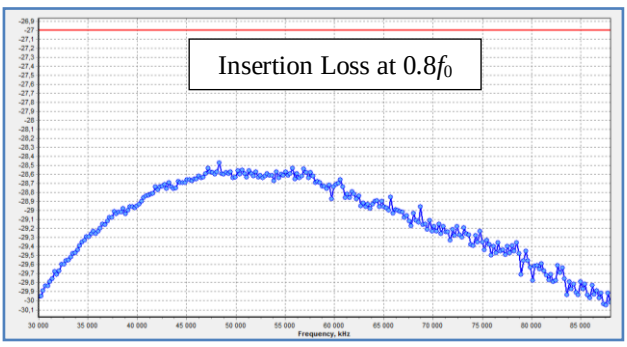
PS30-88 performance

The following diagrams show value of Insertion Loss at f_0, Insertion Loss at $0.8f_0$, Insertion Loss at $1.2f_0$ and VSWR at each tuning frequency.









Pinout & Ratings

PIN #	Reference designator	Description	Notes
1	A2	Tune Bit 2	Active: 5V; Inactive: 0V
2	A3	Tune Bit 3	Active: 5V; Inactive: 0V
3	A4	Tune Bit 4	Active: 5V; Inactive: 0V
4	A5	Tune Bit 5	Active: 5V; Inactive: 0V
5	A6	Tune Bit 6	Active: 5V; Inactive: 0V
6	A7	Tune Bit 7	Active: 5V; Inactive: 0V
7, 9, 11, 12	GND	Digital/RF Ground	—
8	VCC	+5V Power Supply Input	4.75 to 5.25V @ 800mA
10	N/C	No Connect	—
13	STB	Strobe	Active: 0V; Inactive: +5V
14	A0	Tune Bit 0	Active: 5V; Inactive: 0V
15	A1	Tune Bit 1	Active: 5V; Inactive: 0V

Parallel interface description

Serial interface consists of 9 signals: A0-A7 (tuning frequency code) and STB (strobe). Tuning frequency code is calculated by X_{10} conversion into binary code. X_{10} is calculated by the formula:

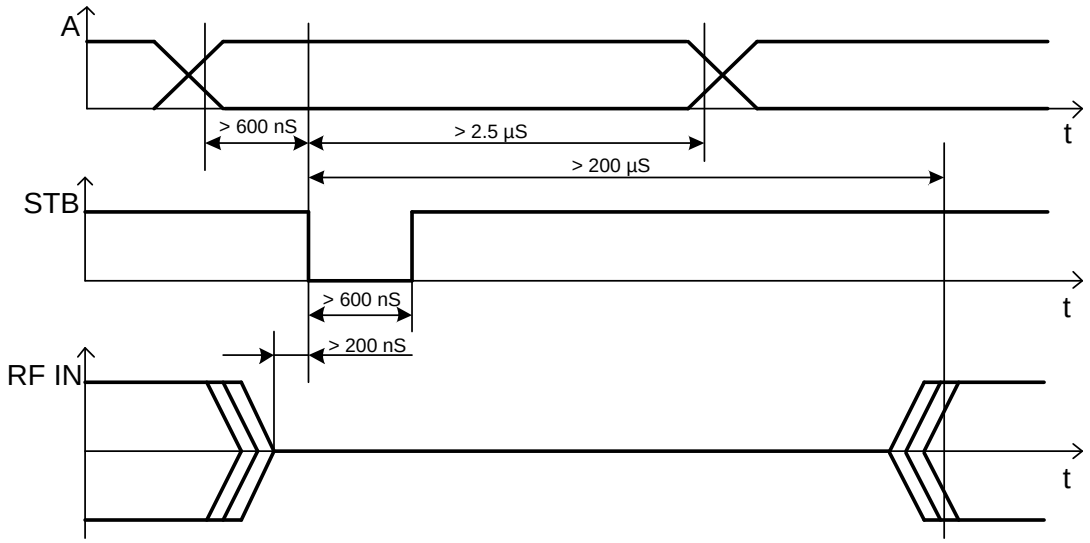
$$X_{10} = \left(\frac{f_0 - f_l}{f_h - f_l}\right) \times 250\,,$$

f_0 — tuning frequency; f_l — low frequency of the band; f_h — high frequency of the band.If you wish to tune to 62.48 MHz, the tune word is:

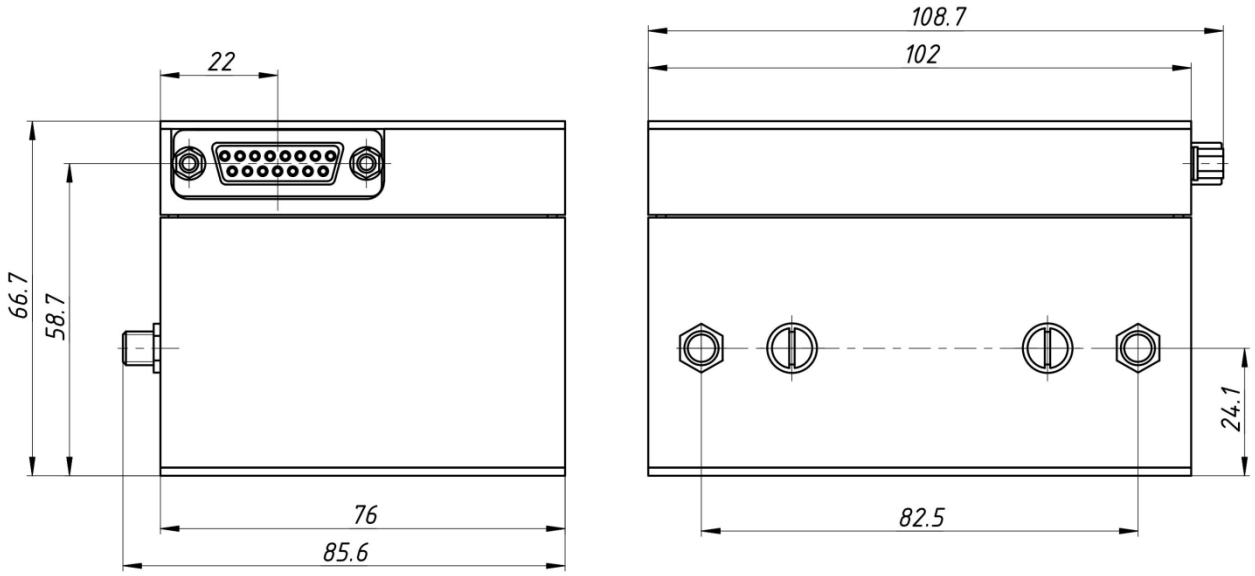
$$X_{10} = \left(\frac{62.48 - 30}{88 - 30}\right) \times 250 = 140;$$

$$140_2 = 10\ 00\ 11\ 00.$$

Time carts are shown below.



Mechanical Outline



Note:sizes are shown in millimeters.