SK3530FS

MSL 3 Device

GPS L1+L2+L5 SAW Filter, 1 in 2 out
Unbalanced / 10pin / 1511
Rev 4.0

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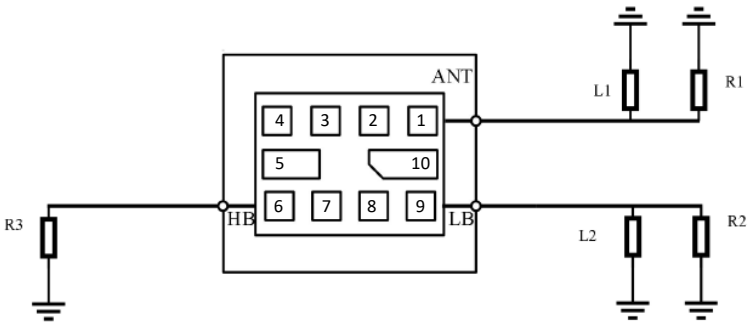
FEATURES

- RF SAW Filter
- Low Insertion Loss
- Support GPS L5 + Glonass G3 + GPS L2
- Support GPS L1+Beidou B2+Glonass G1
- Moisture Sensitivity: MSL3
- RoHS compliant
- CSP (10-pin, 1.5mm x 1.1mm x 0.6mm) package

APPLICATIONS

- GPS SAW RX filter for L1, L2, L5
- Low-loss, pre-LNA comb filter for GNSS

TYPICAL APPLICATION CIRCUIT



Source & Load Impedance: 50 Ω

Recommended component value

Component	Value	Units	Component	Value	Units
R1	50.0	Ohm	L1	5.1	nH
R2	50.0	Ohm	L2	10	nH
R3	50.0	Ohm			

PIN CONFIGURATION

Pin Number	Pin Name	Pin Description
1	Input	SAW filter input
2/3/4/5/7/8/10	GND	Analog VSS
6	Output	Output GPS L1 (HB port)
9	Output	Output GPS L2/L5 (LB port)

ABSOLUTE MAXIMUM RATINGS

Parameters Description		Unit	Minimum	Typical	Maximum
Operating Temperature Range		°C	-30	-	+85
Storage Temperature Range		°C	-40	-	+85
Maximum ESD Voltage	Human body model	V	-	100	-
	Charged device model	V	-	100	-
Maximum Input Power: 3000h, 85℃		dBm	-	-	15
Source Impedance (Single ended)		Ω	-	50	-
Load Impedance (Single ended)		Ω	-	50	-
Length x Width		mm	-	1.5 x 1.1	-
Height		mm	-	-	0.60

ELECTRICAL CHARACTERISTICS

GPS(L1)+BEIDOU(B1)+GLONASS(G1)		Specifications				Remark
Parameters Description		Unit	Characteristics			
			Min	Typ*	Max	
Frequency Range		MHz	1559.05	/	1605.89	
Insertion Loss (Note 1)	1559.05 ~ 1563.15 MHz	dB	/	1.6	2.4	
	1574.39 ~ 1576.45 MHz	dB	/	1.3	2.0	
	1597.55 ~ 1605.89 MHz	dB	/	1.9	2.4	
Amplitude Ripple	1559.05 ~ 1563.15 MHz	dB	/	0.3	1.0	
	1574.39 ~ 1576.45 MHz	dB	/	0.3	1.0	
	1597.55 ~ 1605.89 MHz	dB	/	0.6	1.0	
Input VSWR	1559.05 ~1563.15 MHz	/	/	1.7	2.2	
	1574.39 ~ 1576.45 MHz	/	/	1.6	2.0	
	1597.55 ~ 1605.89 MHz	/	/	1.4	2.2	
Output VSWR	1574.39 ~ 1576.45 MHz	/	/	1.4	2.0	
	1559.05 ~1563.15 MHz	/	/	1.6	2.1	
	1597.55 ~ 1605.89 MHz	/	/	1.6	2.2	
Attenuation	638 ~ 698 MHz	dB	39	44	/	
	698 ~ 748 MHz	dB	38	43	/	
	777 ~ 798 MHz	dB	35	42	/	
	807 ~ 915 MHz	dB	34	39	/	
	10 ~ 925 MHz	dB	33	37	/	
	925 ~ 960 MHz	dB	33	36	/	
	1427 ~ 1463 MHz	dB	32	36	/	
	1710 ~ 1785 MHz	dB	39	43	/	
	1786 ~ 1797 MHz	dB	39	43	/	
	1850 ~ 1910 MHz	dB	37	42	/	
	1910 ~ 1980 MHz	dB	36	41	/	
	2010 ~ 2025 MHz	dB	37	42	/	
	2300 ~ 2315 MHz	dB	41	46	/	
	2401 ~ 2483 MHz	dB	42	47	/	
	2496 ~ 2690 MHz	dB	40	49	/	
	5150 ~ 5925 MHz	dB	23	35	/	

Note (1): PCB loss is de-embedded.

*Typical value at 25±2deg.C

ELECTRICAL CHARACTERISTICS

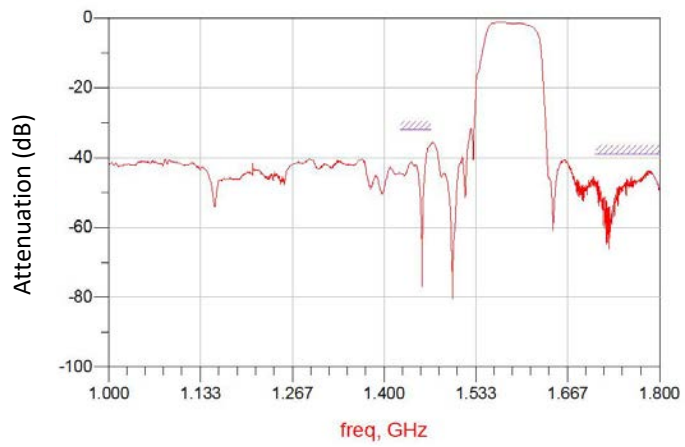
GPS(L5)+GPS(L2)+GLONASS(G3)		Specifications				Remark
Parameters Description		Unit	Characteristics			
			Min	Typ*	Max	
Frequency Range		MHz	1166.62	/	1228.62	/
Insertion Loss (Note 1)	1166.62 ~ 1186.68 MHz	dB	/	1.6	1.9	/
	1205.09 ~ 1209.19 MHz	dB	/	1.6	1.8	/
	1226.58 ~ 1228.62 MHz	dB	/	1.6	2.0	/
Amplitude Ripple	1166.62 ~ 1228.62 MHz	dB	/	0.5	1.5	/
Input VSWR	1166.62 ~ 1228.62 MHz	/	/	1.6	2.0	/
Output VSWR	1166.62 ~ 1228.62 MHz	/	/	1.7	2.0	/
Attenuation	638 ~ 698 MHz	dB	33	40	/	/
	698 ~ 748 MHz	dB	33	40	/	/
	777 ~ 798 MHz	dB	30	40	/	/
	807 ~ 915 MHz	dB	25	37	/	/
	925 ~ 960 MHz	dB	23	33	/	/
	1427 ~ 1463 MHz	dB	25	33	/	/
	1626.5 ~ 1660.5 MHz	dB	25	29	/	/
	1695 ~ 1785 MHz	dB	28	30	/	/
	1850 ~ 2025 MHz	dB	35	43	/	/
	2300 ~ 2400 MHz	dB	35	45	/	/
	2400 ~ 2483 MHz	dB	36	47	/	/
	2496 ~ 2690 MHz	dB	35	45	/	/
	3400 ~ 3800 MHz	dB	29	37	/	/
	4400 ~ 4900 MHz	dB	26	35	/	/
	5150 ~ 5925 MHz	dB	26	30	/	/

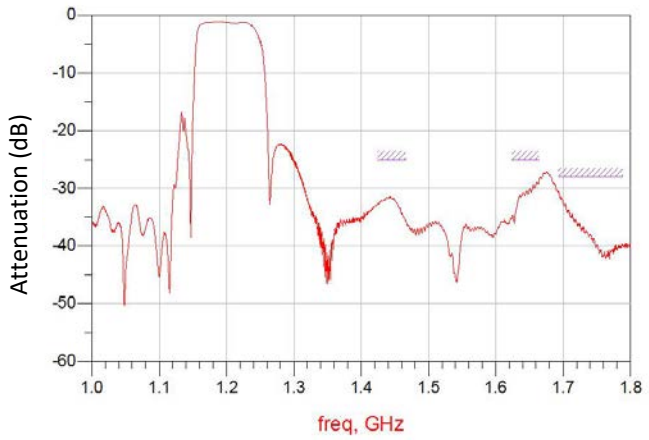
Note (1): PCB loss is de-embedded.

*Typical value at 25±2deg.C

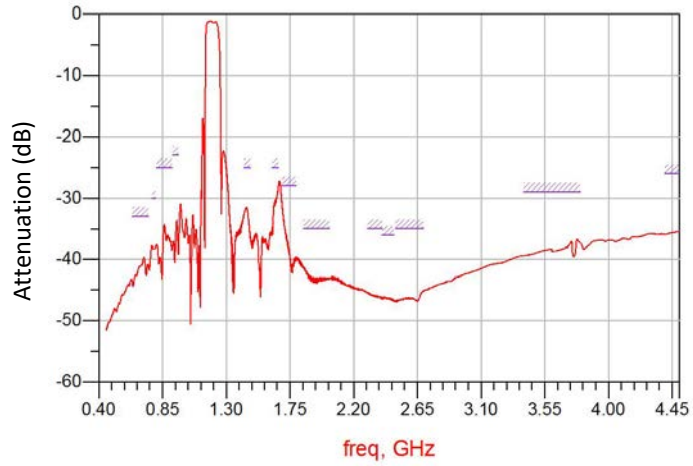
TYPICAL PERFORMANCE CHARACTERISTICS

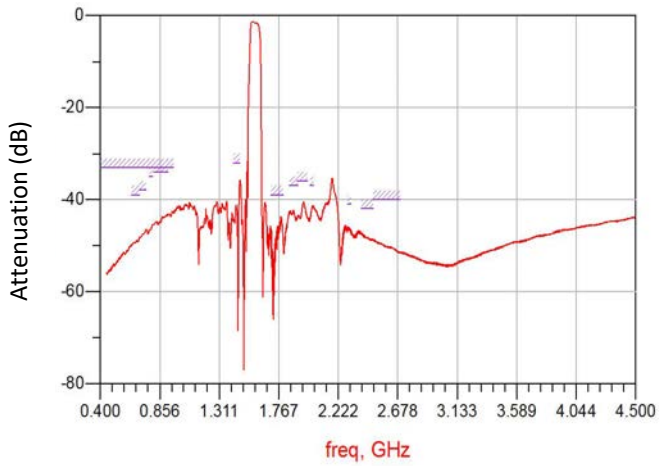
Frequency Response



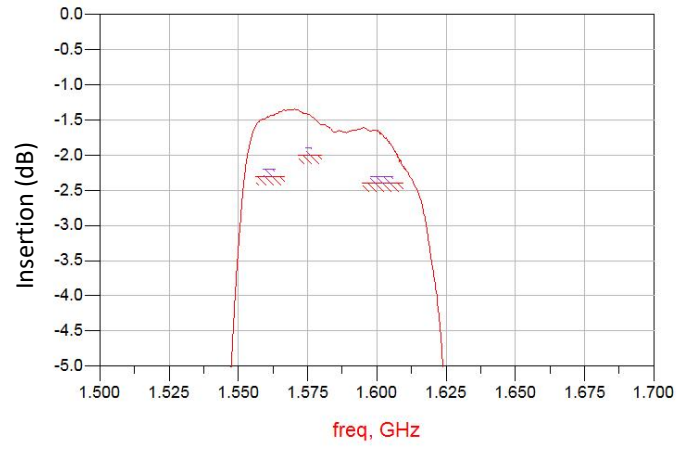


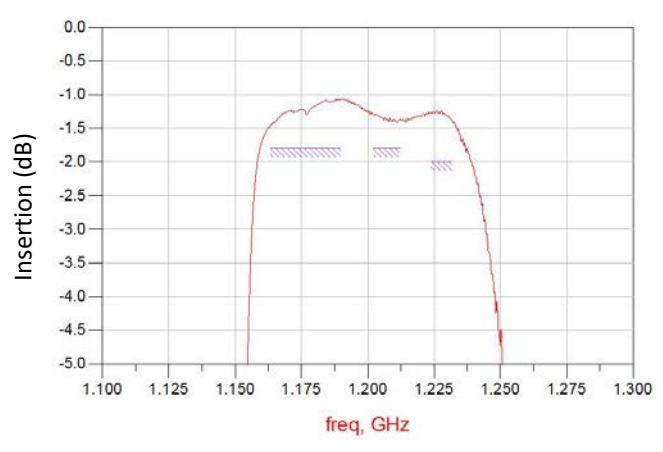
Frequency Response（wide band）





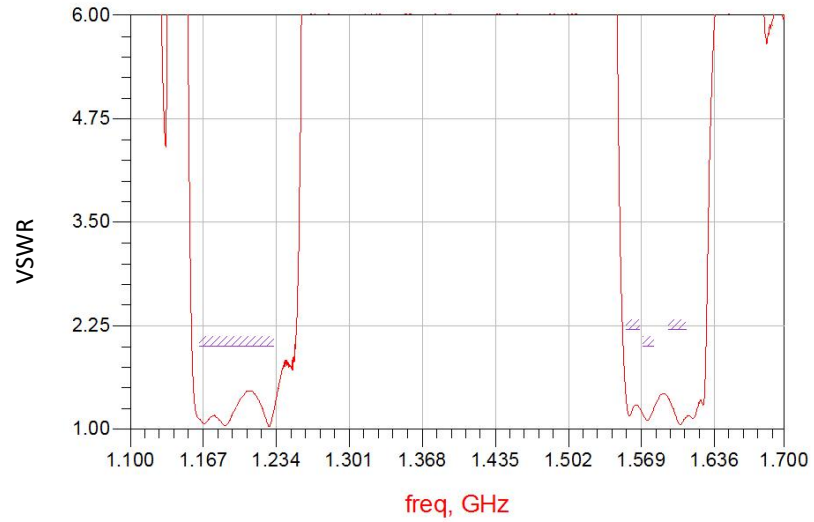
Passbamd Response

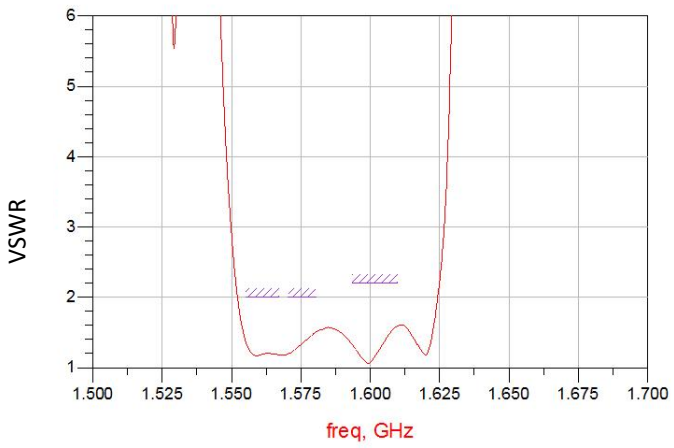


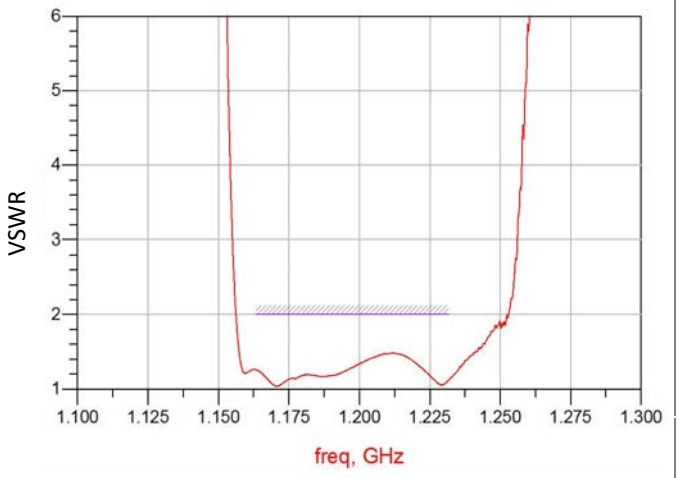


TYPICAL PERFORMANCE CHARACTERISTICS

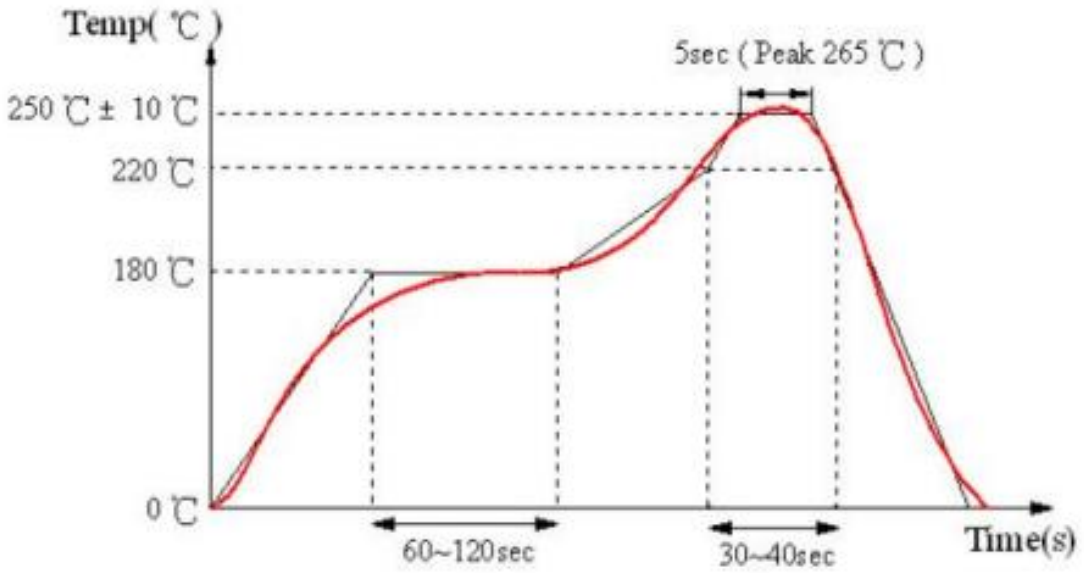
VSWR





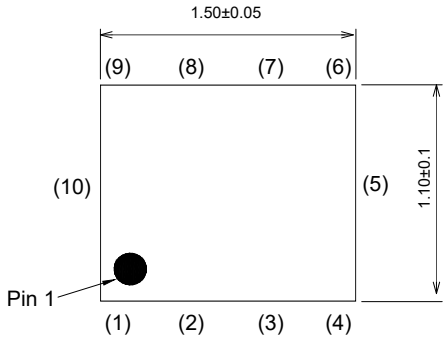


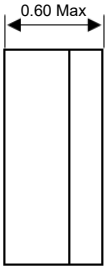
RECOMMANDED REFLOW PROFILE

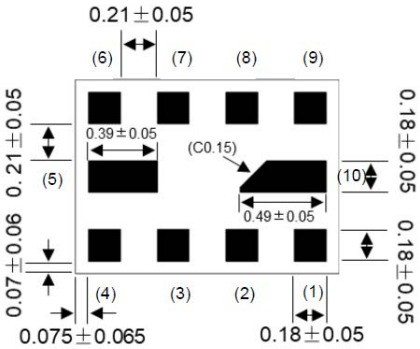


The reflow profile shown above should not be exceeded, since excessive temperatures or transport times during reflow can damage the chip.

PACKAGE DIMENSIONS







Unit: mm

TOP VIEW **FRONT VIEW** **BOTTOM VIEW**