

## ASSP Mobile Communication Systems

# Piezoelectric SAW BPF (1000 MHz to 2500 MHz)

## F6 Series (L2 type)

### ■ DESCRIPTION

The F6 series of SAW band pass filters apply to the frequency range 1000 MHz to 2500 MHz.

The SAW filters are fabricated on a lithium tantalate (LiTaO<sub>3</sub>) substrate, producing filters with a wide frequency bandwidth, low insertion loss in pass-band and superior stability due to the high electromechanical coupling coefficient of the material.

Fujitsu's leading techniques for making filter pattern designs realized this high frequency filter.

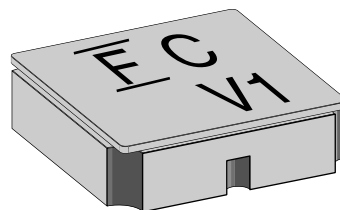
The F6 series filters are housed in a small surface mount package. Moreover, the impedance in the pass-band is 50 Ω, and so applications require no external matching circuits.

The F6 series SAW filters are suitable for interstage RF filter in mobile communications systems in the sub microwave frequency band. Standard devices are available for PCS, DCS1800, and 2.4 GHz wireless LAN systems.

### ■ FEATURES

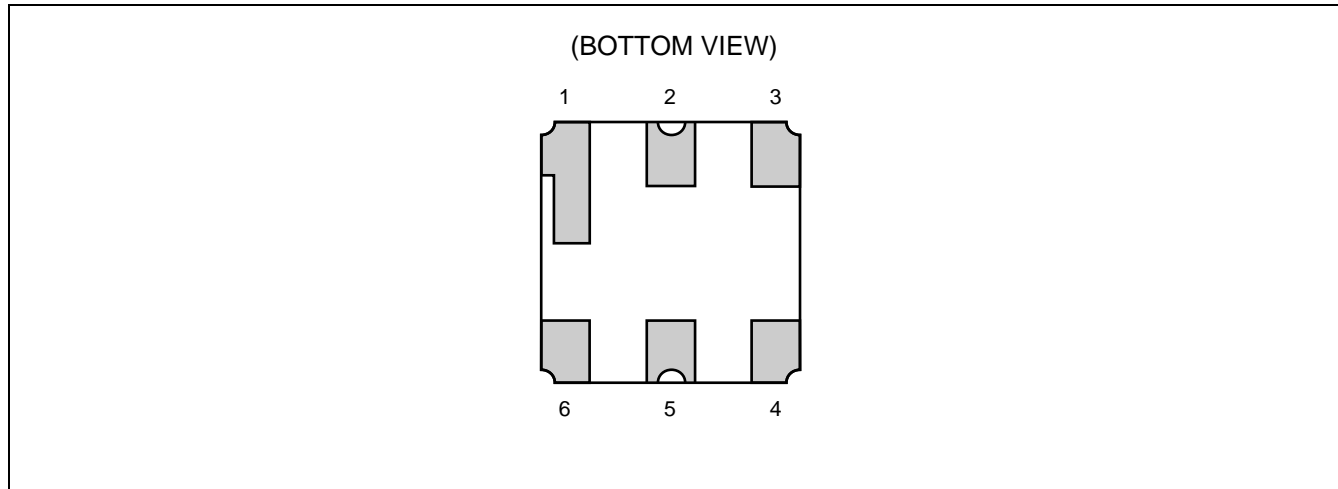
- High frequency filters
- Low insertion loss
- Ultra compact and light package (3.0 mm × 3.0 mm)
- External matching circuits are not required.
- Surface mount package (SMT)
- Wide variety of standard devices for worldwide mobile communication systems

### ■ PACKAGE



# F6 Series (L2 type)

## ■ PIN ASSIGNMENT



## ■ PIN DESCRIPTION

Pin No.	Pin name	Description
1	GND	Ground Pin
2	IN	Input Pin
3	GND	Ground Pin
4	GND	Ground Pin
5	OUT	Output Pin
6	GND	Ground Pin

## ■ ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value		Unit
		Min.	Max.	
Operating temperature	Ta	-30	+85	°C
Storage temperature	Tstg	-40	+100	°C
Input level	P <sub>IN</sub>	Refer to "■ELECTRICAL CHARACTERISTICS".		
Input DC voltage	—	-5	+5	V

WARNING: Piezoelectric devices can be permanently damaged by application of stress (voltage, current, temperature, etc.) in excess of absolute maximum ratings. Do not exceed these ratings.

# F6 Series (L2 type)

## RECOMMENDED OPERATING CONDITIONS

Parameter	Symbol	Value		Unit
		Min.	Max.	
Operating temperature *	Ta	-30	+85	°C

\* : Standard Rating for Wireless LAN Systems is 0 °C to +60 °C.

**WARNING:** The recommended operating conditions are required in order to ensure the normal operation of the piezoelectric device. All of the device's electrical characteristics are warranted when the device is operated within these ranges.

Always use piezoelectric devices within their recommended operating condition ranges. Operation outside these ranges may adversely affect reliability and could result in device failure.

No warranty is made with respect to uses, operating conditions, or combinations not represented on the data sheet. Users considering application outside the listed conditions are advised to contact their FUJITSU representatives beforehand.

## STANDARD DEVICES

System	Center frequency (MHz)	Band width (MHz)	Part symbol	Part number	Remarks	
GPS	1575.42	2	6	FAR-F6CE-1G5754-L2UA		
PCN	Tx	1747.5	75	A	FAR-F6CE-1G7475-L2YA	
	Rx	1842.5	75	B	FAR-F6CE-1G8425-L2YB	
		1842.5	75	YE	FAR-F6CE-1G8425-L2YE	Low insertion loss type
US-PCS	Tx	1880.0	60	C	FAR-F6CE-1G8800-L2XA	
		1880.0	60	c	FAR-F6CE-1G8800-L2XZ	High Att. type
		1880.0	60	g	FAR-F6CE-1G8800-L2XJ	High Att. at Rx band
	Rx	1960.0	60	D	FAR-F6CE-1G9600-L2XB	
		1960.0	60	d	FAR-F6CE-1G9600-L2XY	High Att. type
	1960.0	60	v	FAR-F6CE-1G9600-L2XK	High Att. at Rx band	
K-PCS	Tx	1765.0	30	S	FAR-F6CE-1G7650-L2TA	
	Rx	1855.0	30	T	FAR-F6CE-1G8550-L2TB	
Wireless LAN		2448.5	97	E	FAR-F6CE-2G4500-L2WA	
		2484.0	26	P	FAR-F6CE-2G4840-L2WC	For Japan
		2441.8	83	L	FAR-F6CE-2G4418-L2WD	For Europe, USA
W-CDMA	Tx	1950.0	60	j	FAR-F6CE-1G9500-L2ZP	
	Rx	2140.0	60	k	FAR-F6CE-2G1400-L2ZQ	
Bluetooth	2441.8	83.5	RB	FAR-F6CE-2G4418-L2RB		

# F6 Series (L2 type)

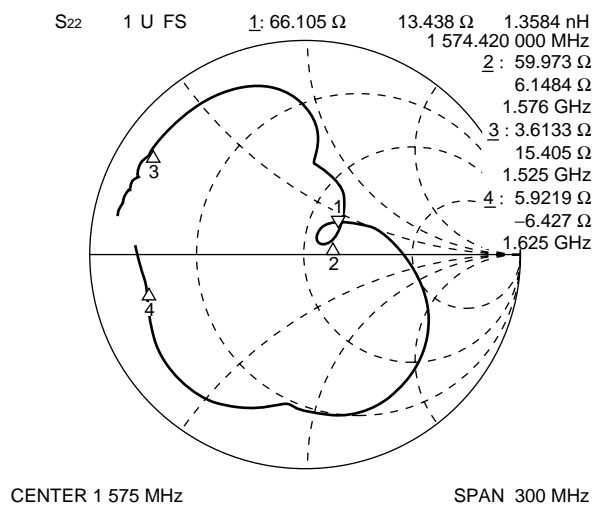
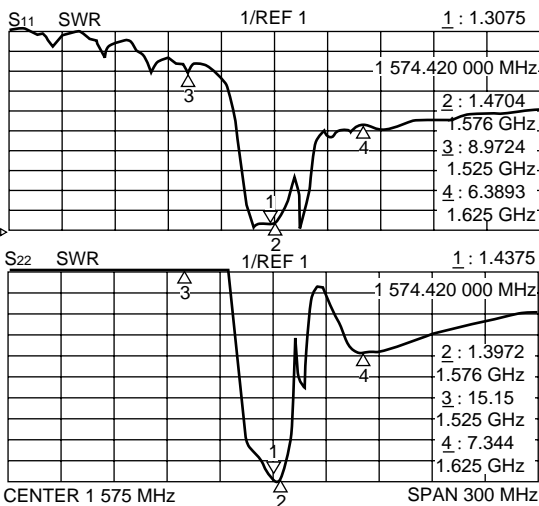
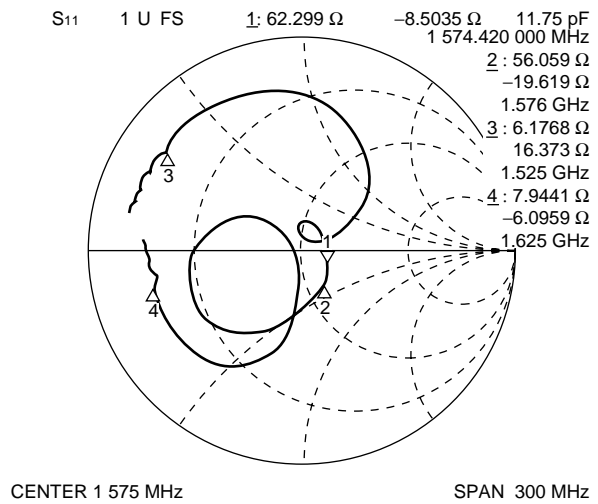
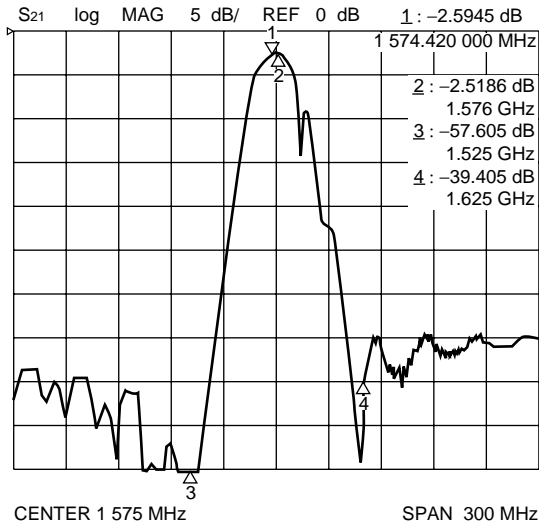
## ELECTRICAL CHARACTERISTICS AND TYPICAL FREQUENCY RESPONSE

### 1. GPS

Part number : FAR-F6CE-1G5754-L2UA

(Ta = -30 °C to +85 °C)

Parameter	Conditions	Value			Unit	Remarks
		Min.	Typ.	Max.		
Insertion loss	1574.42 MHz to 1576.42 MHz	—	2.7	3.5	dB	
Pass-band ripple	1574.42 MHz to 1576.42 MHz	—	0.2	1.0	dB	
Absolute stop-band attenuation	1475.42 MHz	35	37	—	dB	
	1525.42 MHz	35	50	—	dB	
	1625.42 MHz	30	38	—	dB	
	1675.42 MHz	30	35	—	dB	
Pass-band VSWR (Return loss)	1574.42 MHz to 1576.42 MHz	— (9.5)	1.4 (15.6)	2.0	— (dB)	
Input power	1574.42 MHz to 1576.42 MHz	—	—	10	dBm	



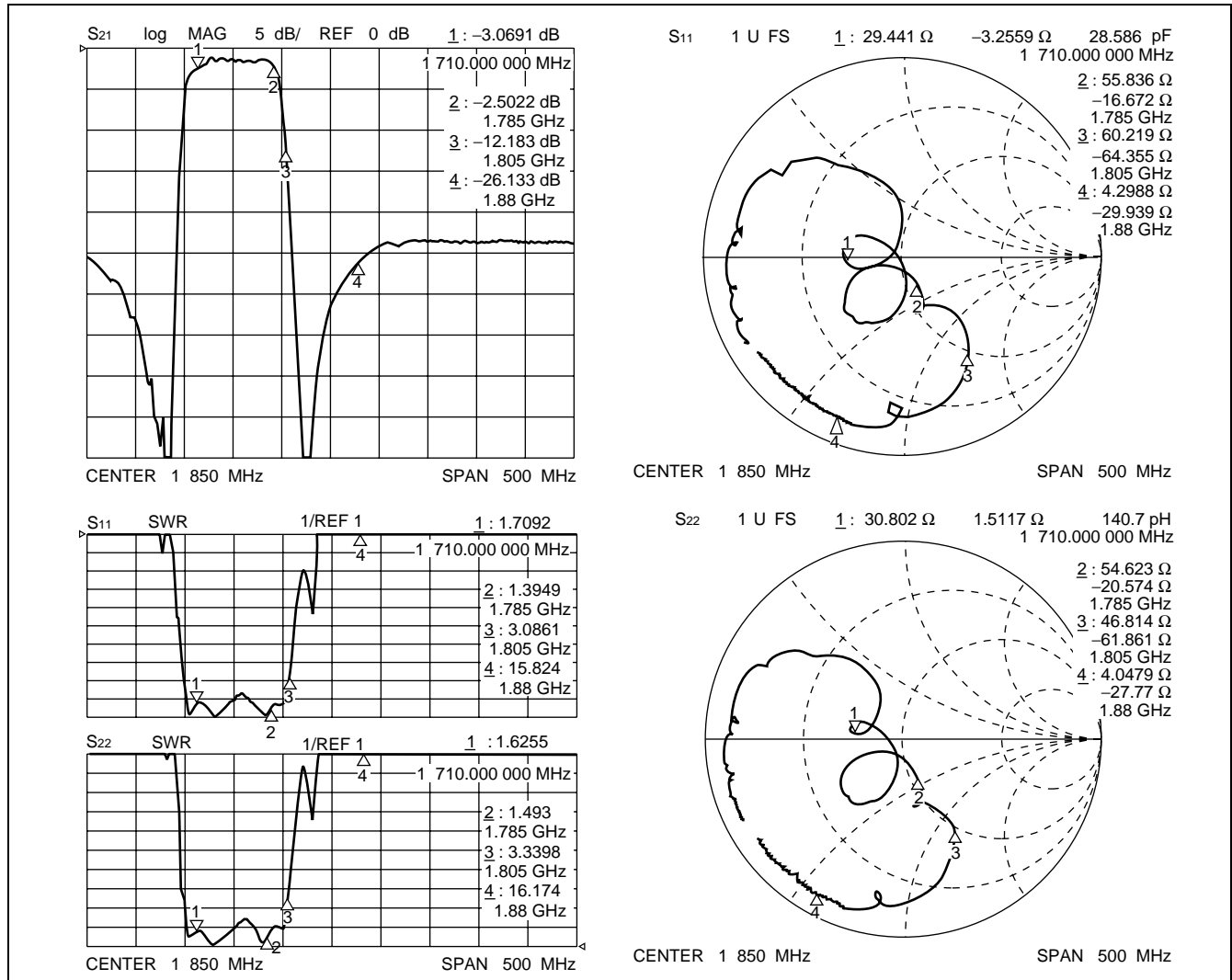
# F6 Series (L2 type)

## 2. PCN (Tx)

Part number : FAR-F6CE-1G7475-L2YA

(Ta = -30 °C to +85 °C)

Parameter	Conditions	Value			Unit	Remarks
		Min.	Typ.	Max.		
Insertion loss	1710 MHz to 1785 MHz	—	3.0	4.2	dB	
Pass-band ripple	1710 MHz to 1785 MHz	—	1.8	2.7	dB	
Absolute stop-band attenuation	DC to 1500 MHz	17	19	—	dB	
	1500 MHz to 1670 MHz	20	22	—	dB	
	1805 MHz to 1880 MHz	7	12	—	dB	
	1880 MHz to 2200 MHz	20	23	—	dB	
	3420 MHz to 3570 MHz	25	31	—	dB	
Pass-band VSWR (Return loss)	1710 MHz to 1785 MHz	—	2.5	3.0	—	
		(6.0)	(7.4)	—	(dB)	
Input power	1710 MHz to 1785 MHz	—	—	13	dBm	



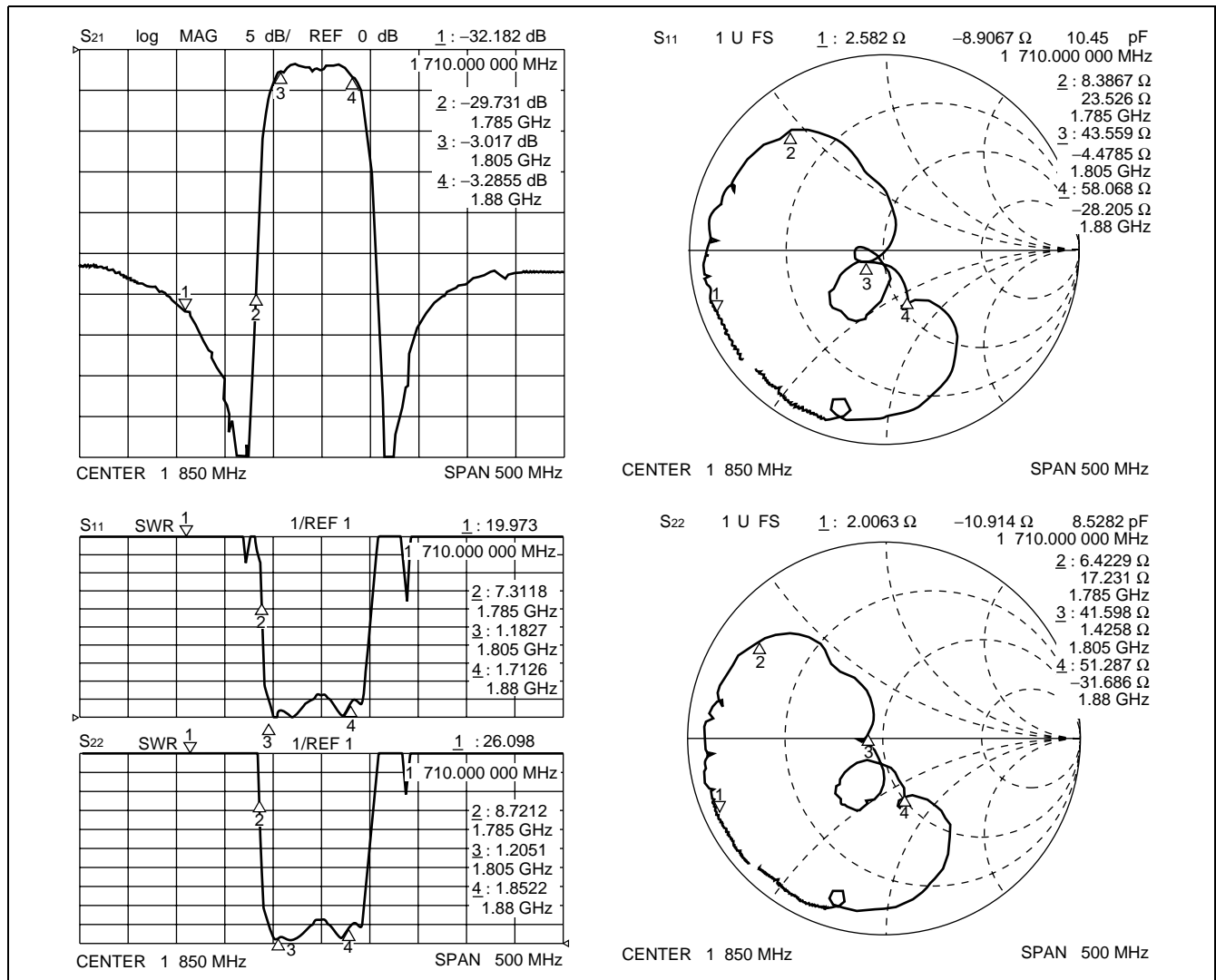
# F6 Series (L2 type)

## 3. PCN (Rx)

Part number : FAR-F6CE-1G8425-L2YB

(Ta = -30 °C to +85 °C)

Parameter	Conditions	Value			Unit	Remarks
		Min.	Typ.	Max.		
Insertion loss	1805 MHz to 1880 MHz	—	3.3	4.5	dB	
Pass-band ripple	1805 MHz to 1880 MHz	—	1.5	2.5	dB	
Absolute stop-band attenuation	DC to 1500 MHz	20	22	—	dB	
	1600 MHz to 1710 MHz	22	24	—	dB	
	1710 MHz to 1785 MHz	10	29	—	dB	
	1920 MHz to 2400 MHz	25	27	—	dB	
	3610 MHz to 3760 MHz	25	35	—	dB	
Pass-band VSWR (Return loss)	1805 MHz to 1880 MHz	— (6.0)	2.5 (7.4)	3.0 —	— (dB)	
Input power	1805 MHz to 1880 MHz	—	—	13	dBm	



# F6 Series (L2 type)

## 4. PCN (Rx) Low insertion loss type Part number : FAR-F6CE-1G8425-L2YE

(Ta = -30 °C to +85 °C)

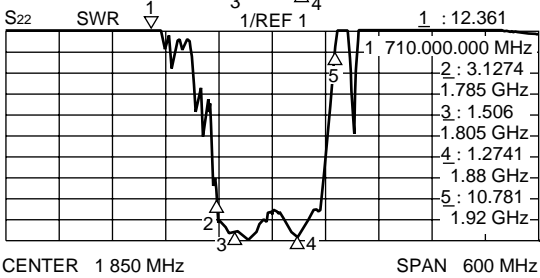
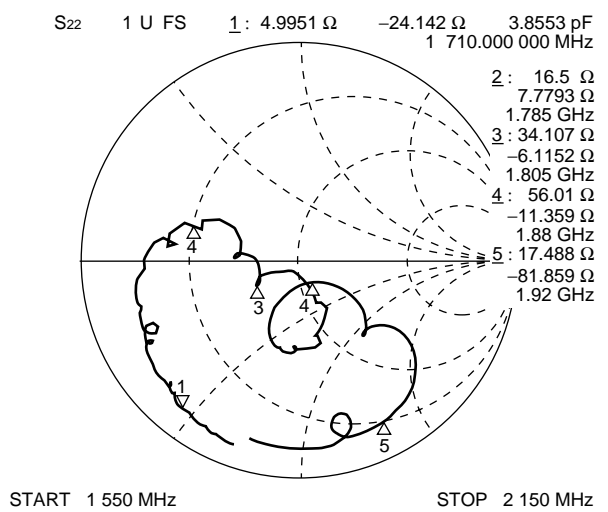
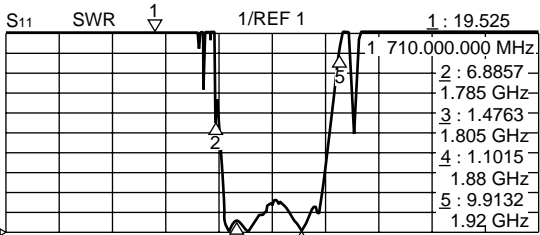
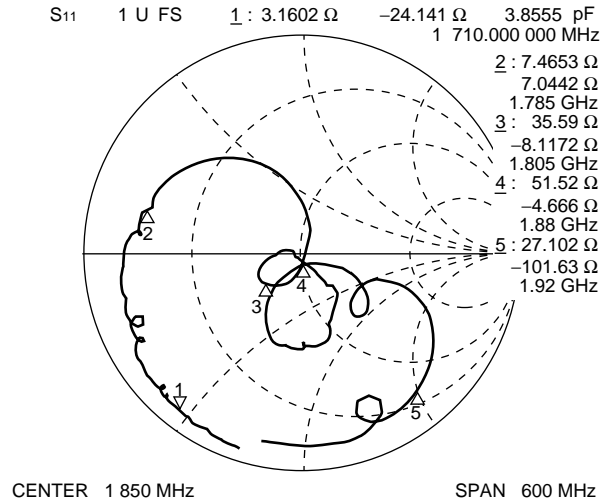
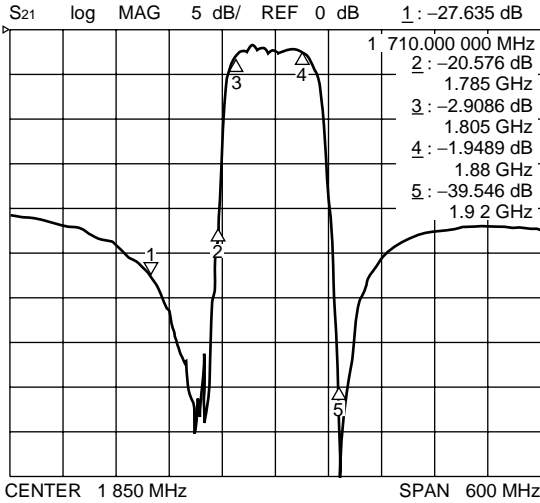
Parameter	Conditions	Value			Unit	Remarks
		Min.	Typ.	Max.		
Insertion loss	1805 MHz to 1880 MHz	—	2.6	3.7	dB	
Pass-band ripple	1805 MHz to 1880 MHz	—	1.0	2.1	dB	
Absolute stop-band attenuation	DC to 1720 MHz	15	17	—	dB	
	1720 MHz to 1765 MHz	25	28	—	dB	
	1765 MHz to 1785 MHz	8	20	—	dB	
	1920 MHz to 1980 MHz	15	23	—	dB	
	1980 MHz to 2400 MHz	17	21	—	dB	
	2400 MHz to 3500 MHz	20	23	—	dB	
	3500 MHz to 4000 MHz	15	24	—	dB	
Pass-band VSWR (Return loss)	1805 MHz to 1880 MHz	—	2.6	3.0	— (dB)	
		(6.0)	(7.0)	—		
Input power	1805 MHz to 1880 MHz	—	—	13	dBm	

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# F6 Series (L2 type)

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Part number : FAR-F6CE-1G8425-L2YE





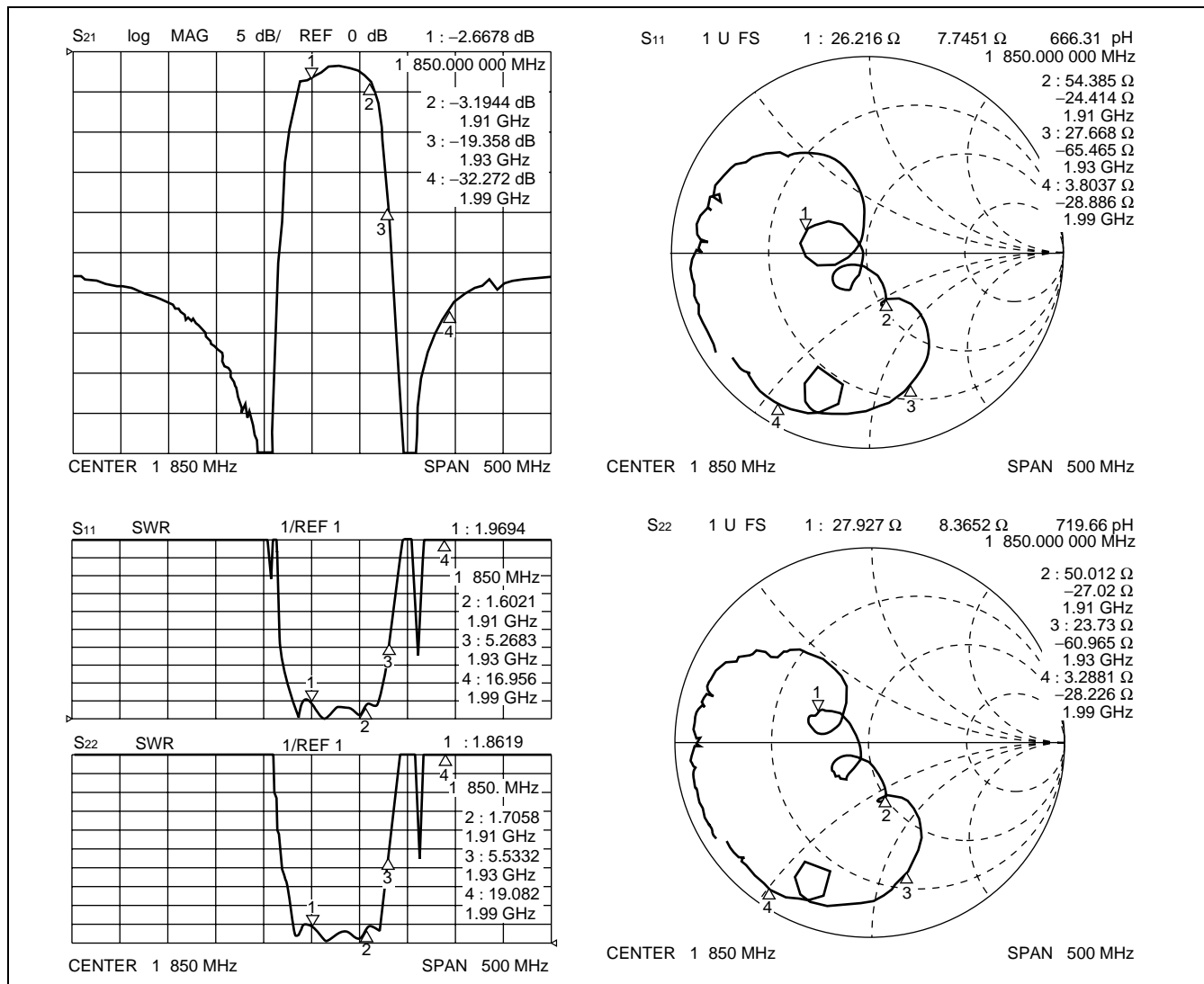
# F6 Series (L2 type)

## 5. US-PCS (Tx)

Part number : FAR-F6CE-1G8800-L2XA

(Ta = -30 °C to +85 °C)

Parameter	Conditions	Value			Unit	Remarks
		Min.	Typ.	Max.		
Insertion loss	1850 MHz to 1910 MHz	—	3.2	4.2	dB	
Pass-band ripple	1850 MHz to 1910 MHz	—	2.0	2.5	dB	
Absolute stop-band attenuation	DC to 1500 MHz	20	22	—	dB	
	1500 MHz to 1800 MHz	23	25	—	dB	
	1930 MHz to 1990 MHz	7	18	—	dB	
	3700 MHz to 3820 MHz	25	32	—	dB	
	5550 MHz to 5730 MHz	15	21	—	dB	
Pass-band VSWR (Return loss)	1850 MHz to 1910 MHz	— (7.4)	2.0 (9.5)	2.5 —	— (dB)	
Input power	1850 MHz to 1910 MHz	—	—	13	dBm	



# F6 Series (L2 type)

## 6. US-PCS (Tx) High Attenuation type Part number : FAR-F6CE-1G8800-L2XZ

(Ta = -30 °C to +85 °C)

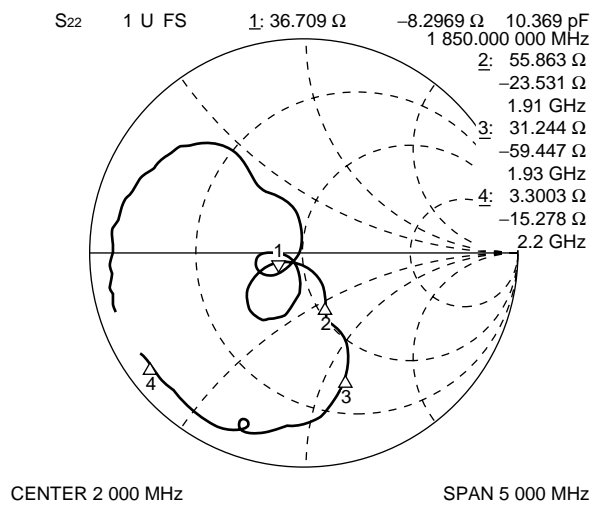
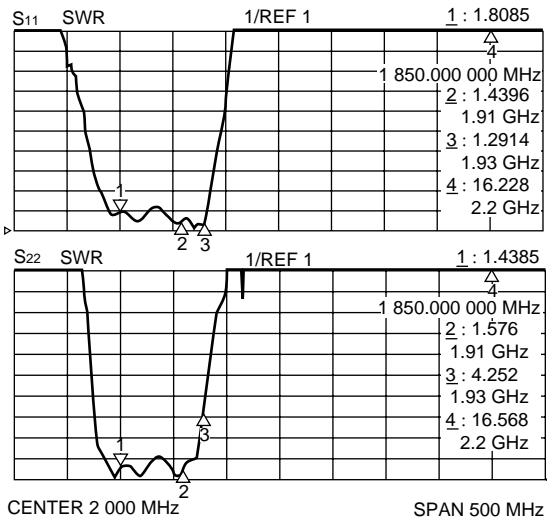
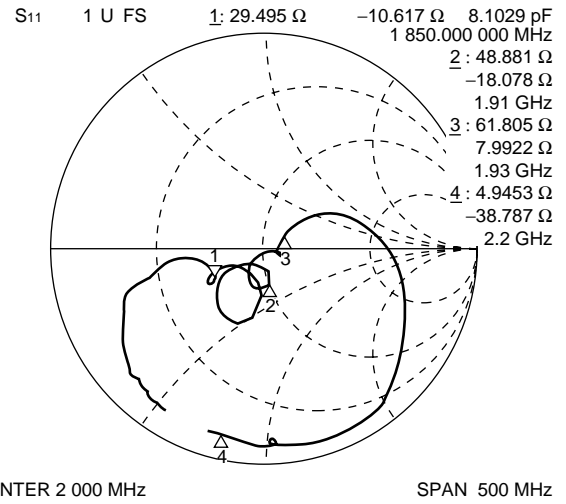
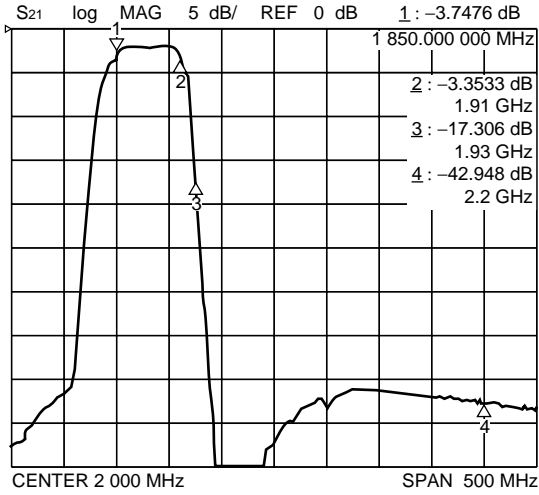
Parameter	Conditions	Value			Unit	Remarks
		Min.	Typ.	Max.		
Insertion loss	1850 MHz to 1910 MHz	—	3.7	5.0	dB	
Pass-band ripple	1850 MHz to 1910 MHz	—	1.7	3.0	dB	
Absolute stop-band attenuation	DC to 120 MHz	40	47	—	dB	
	120 MHz to 200 MHz	38	42	—	dB	
	200 MHz to 1500 MHz	32	34	—	dB	
	1500 MHz to 1800 MHz	35	38	—	dB	
	1930 MHz to 1990 MHz	7	17	—	dB	
	1990 MHz to 2200 MHz	35	41	—	dB	
	2200 MHz to 2350 MHz	40	43	—	dB	
	2350 MHz to 4000 MHz	20	32	—	dB	
Pass-band VSWR (Return loss)	1850 MHz to 1910 MHz	—	2.3	2.8	—	
		(6.5)	(8.1)	—	(dB)	
Input power	1850 MHz to 1910 MHz	—	—	13	dBm	

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# F6 Series (L2 type)

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Part number : FAR-F6CE-1G8800-L2XZ

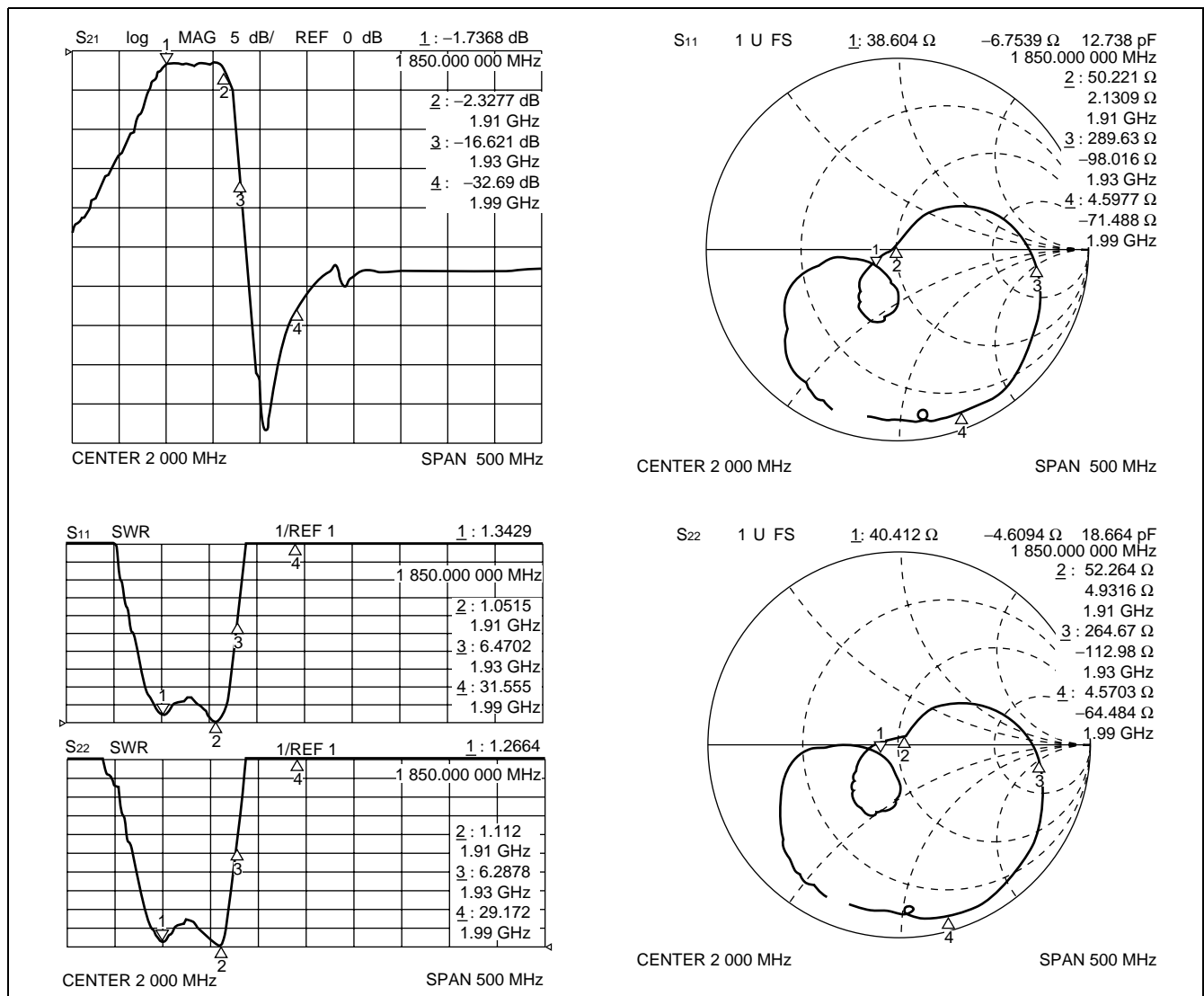


# F6 Series (L2 type)

## 7. US-PCS (Tx) High Attenuation at Rx band type Part number : FAR-F6CE-1G8800-L2XJ

(Ta = -30 °C to +85 °C)

Parameter	Conditions	Value			Unit	Remarks
		Min.	Typ.	Max.		
Insertion loss	1850 MHz to 1910 MHz	—	2.7	4.2	dB	
Pass-band ripple	1850 MHz to 1910 MHz	—	1.2	2.6	dB	
Absolute stop-band attenuation	DC to 1500 MHz	15	20	—	dB	
	1500 MHz to 1750 MHz	20	22	—	dB	
	1930 MHz to 1990 MHz	9	15	—	dB	
	1990 MHz to 2300 MHz	20	25	—	dB	
Pass-band VSWR (Return loss)	1850 MHz to 1910 MHz	—	2.2	2.5	—	
		(7.4)	(8.5)	—	(dB)	
Input power	1850 MHz to 1910 MHz	—	—	13	dBm	



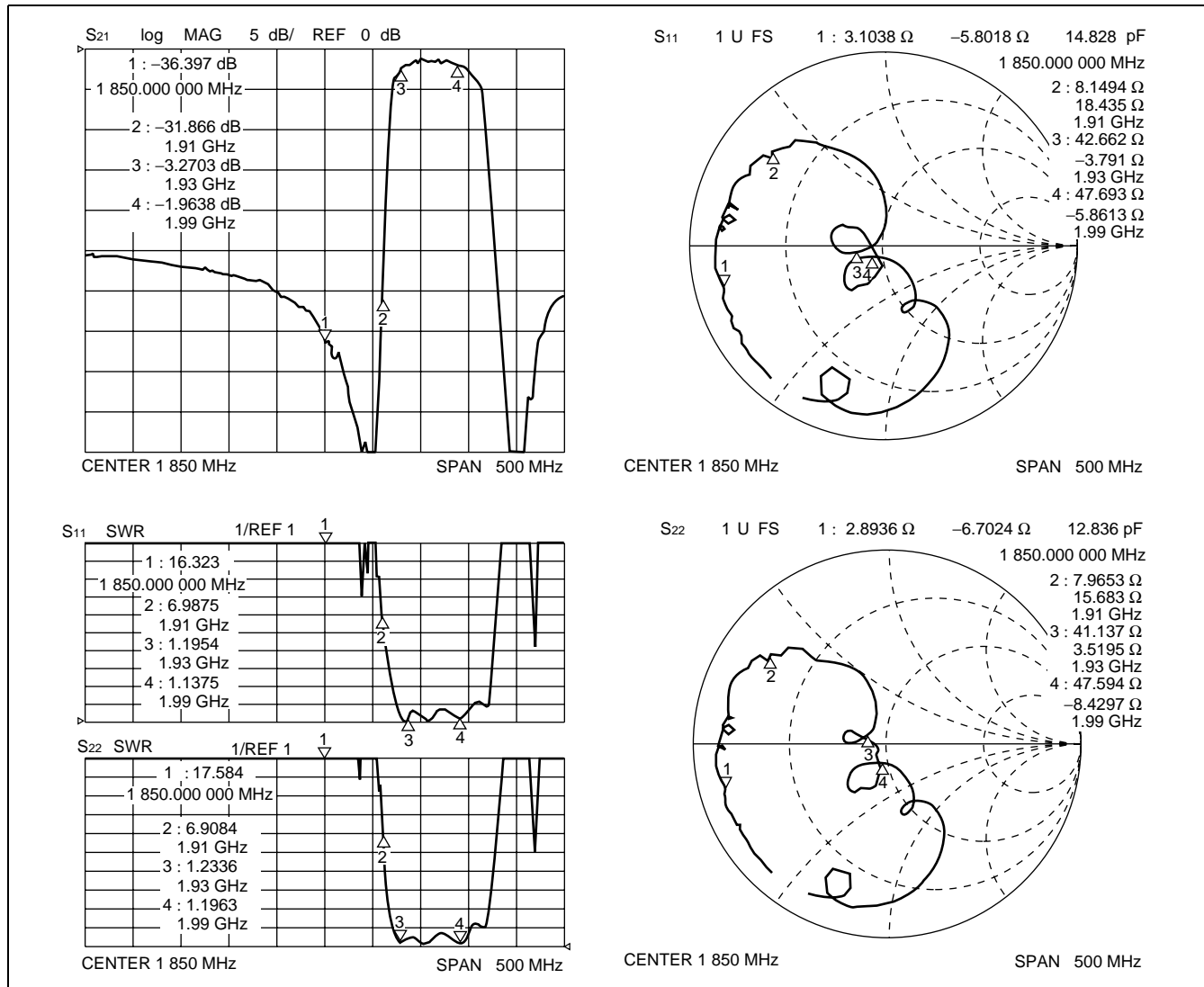
# F6 Series (L2 type)

## 8. US-PCS (Rx)

Part number : FAR-F6CE-1G9600-L2XB

(Ta = -30 °C to +85 °C)

Parameter	Conditions	Value			Unit	Remarks
		Min.	Typ.	Max.		
Insertion loss	1930 MHz to 1990 MHz	—	3.3	4.5	dB	
Pass-band ripple	1930 MHz to 1990 MHz	—	2.0	2.8	dB	
Absolute stop-band attenuation	DC to 1500 MHz	21	23	—	dB	
	1500 MHz to 1850 MHz	23	25	—	dB	
	1850 MHz to 1910 MHz	10	30	—	dB	
	3860 MHz to 3980 MHz	25	32	—	dB	
	5790 MHz to 5970 MHz	15	23	—	dB	
Pass-band VSWR (Return loss)	1930 MHz to 1990 MHz	— (7.4)	1.8 (10.9)	2.5 —	— (dB)	
Input power	1930 MHz to 1990 MHz	—	—	13	dBm	



# F6 Series (L2 type)

## 9. US-PCS (Rx) High Attenuation type Part number : FAR-F6CE-1G9600-L2XY

(Ta = -30 °C to +85 °C)

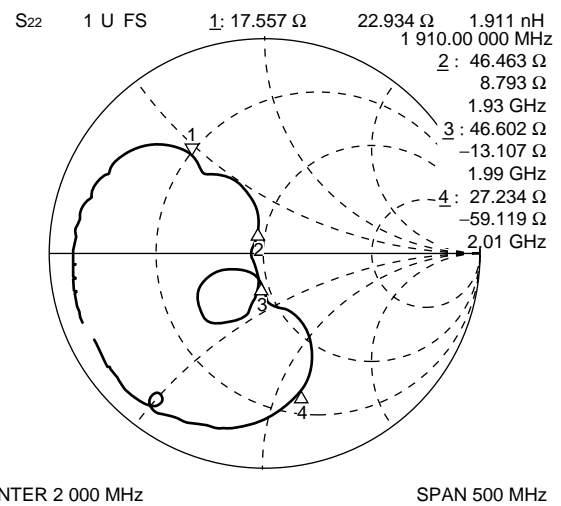
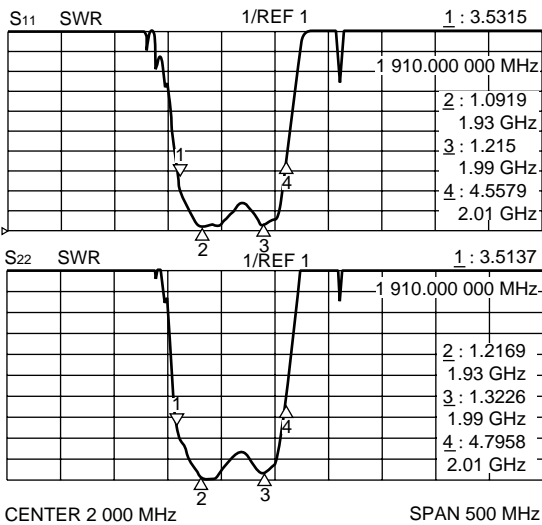
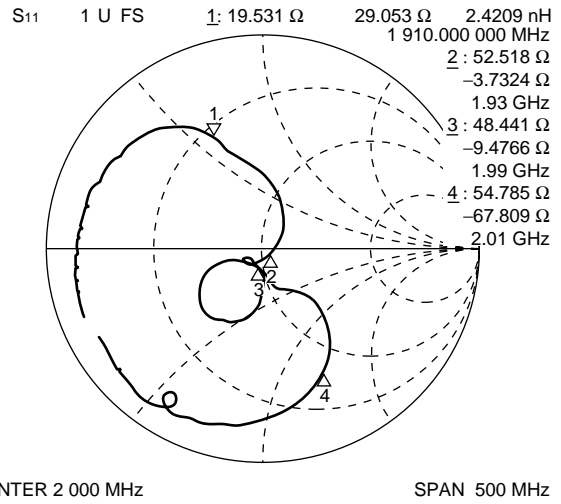
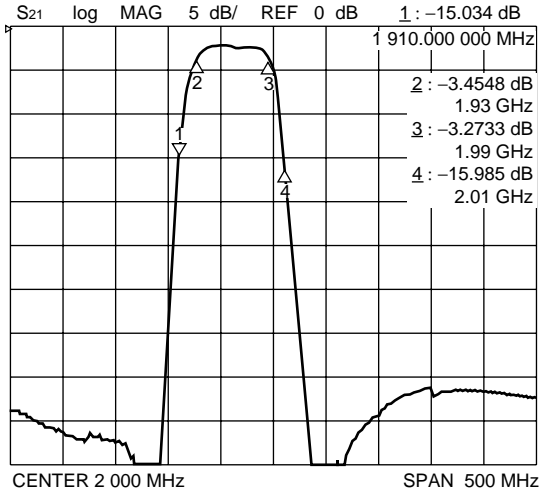
Parameter	Conditions	Value			Unit	Remarks
		Min.	Typ.	Max.		
Insertion loss	1930 MHz to 1990 MHz	—	3.5	5.0	dB	
Pass-band ripple	1930 MHz to 1990 MHz	—	1.0	2.5	dB	
Absolute stop-band attenuation	DC to 100 MHz	40	42	—	dB	
	100 MHz to 200 MHz	35	36	—	dB	
	200 MHz to 1100 MHz	25	30	—	dB	
	1100 MHz to 1190 MHz	29	31	—	dB	
	1190 MHz to 1700 MHz	30	32	—	dB	
	1700 MHz to 1850 MHz	35	41	—	dB	
	1850 MHz to 1880 MHz	25	47	—	dB	
	1880 MHz to 1910 MHz	8	12	—	dB	
	2010 MHz to 2040 MHz	8	15	—	dB	
	2040 MHz to 2070 MHz	25	48	—	dB	
	2070 MHz to 2300 MHz	40	41	—	dB	
	2300 MHz to 3100 MHz	35	37	—	dB	
	3100 MHz to 3700 MHz	33	36	—	dB	
3700 MHz to 4800 MHz	25	35	—	dB		
4800 MHz to 6000 MHz	10	14	—	dB		
Pass-band VSWR (Return loss)	1930 MHz to 1990 MHz	— (7.0)	2.3 (8.1)	2.6 —	— (dB)	
Input power	1930 MHz to 1990 MHz	—	—	13	dBm	

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# F6 Series (L2 type)

(Continued)

Part number : FAR-F6CE-1G9600-L2XY



# F6 Series (L2 type)

## 10. US-PCS (Rx) Low insertion loss type Part number : FAR-F6CE-1G9600-L2XK

(Ta = -30 °C to +85 °C)

Parameter	Conditions	Value			Unit	Remarks
		Min.	Typ.	Max.		
Insertion loss	1930 MHz to 1990 MHz	—	3.2	4.5	dB	Ta = -30 °C to -15 °C
				4.2		Ta = -15 °C to +85 °C
Pass-band ripple	1930 MHz to 1990 MHz	—	1.7	3.0	dB	
Absolute stop-band attenuation	DC to 1500 MHz	18	21	—	dB	
	1500 MHz to 1850 MHz	20	25	—	dB	
	1850 MHz to 1910 MHz	15	21	—	dB	Ta = -30 °C to +65 °C
		13			dB	Ta = +65 °C to +85 °C
	2010 MHz to 2020 MHz	4	9	—	dB	
	2020 MHz to 2040 MHz	10	21	—	dB	
	2040 MHz to 2295 MHz	20	29	—	dB	
	2295 MHz to 2500 MHz	30	31	—	dB	
	2500 MHz to 4000 MHz	10	16	—	dB	
4000 MHz to 6000 MHz	4	6	—	dB		
Pass-band VSWR (Return loss)	1930 MHz to 1990 MHz	— (8.1)	1.7 (11.7)	2.3 —	— (dB)	
Input power	1930 MHz to 1990 MHz	—	—	13	dBm	

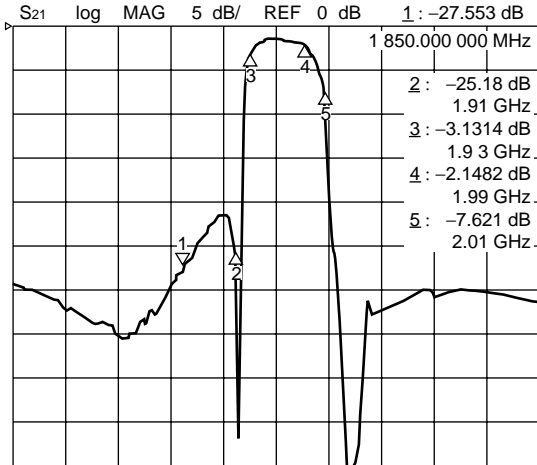
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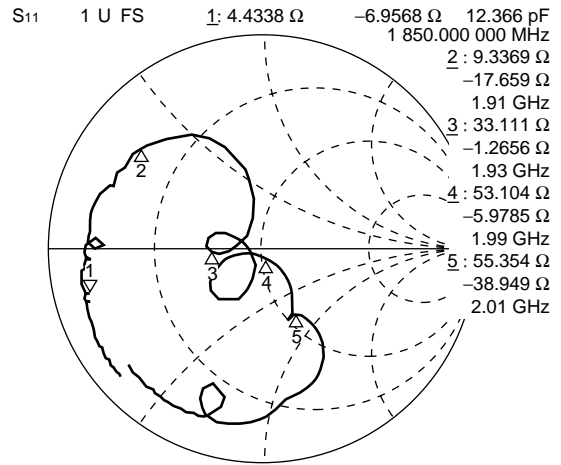
# F6 Series (L2 type)

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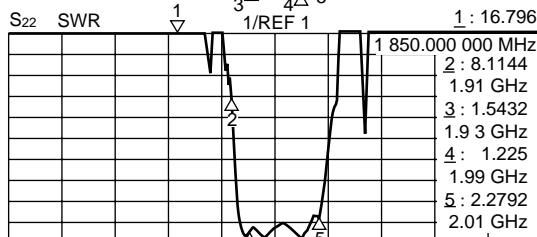
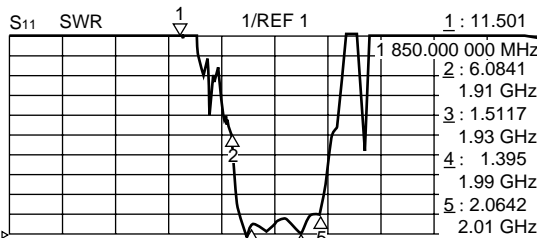
Part number : FAR-F6CE-1G9600-L2XK



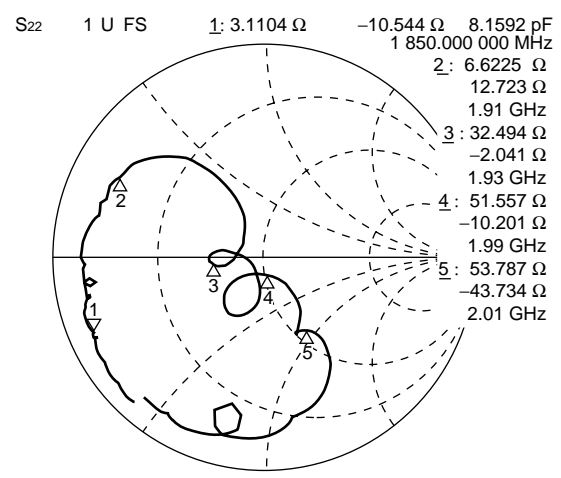
CENTER 1 960 MHz SPAN 600 MHz



CENTER 1 960 MHz SPAN 600 MHz



CENTER 1 960 MHz SPAN 600 MHz



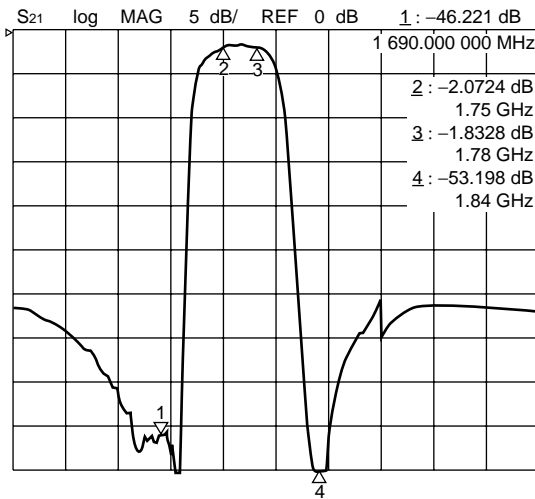
START 1 660 MHz SPAN 2 260 MHz

# F6 Series (L2 type)

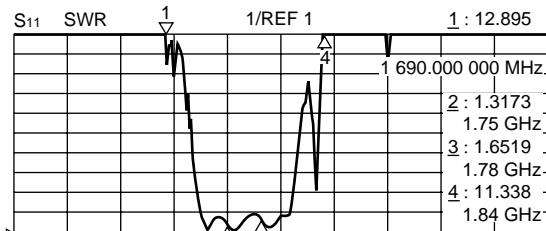
## 11. Korea-PCS (Tx) Upper 30 MHz Band Width Part number : FAR-F6CE-1G7650-L2TA

(Ta = -30 °C to +85 °C)

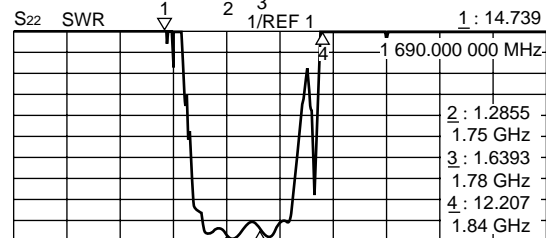
Parameter	Conditions	Value			Unit	Remarks
		Min.	Typ.	Max.		
Insertion loss	1750 MHz to 1780 MHz	—	2.2	2.5	dB	Ta = +25 °C
				3.0		Ta = -30 °C to +85 °C
Pass-band ripple	1750 MHz to 1780 MHz	—	1.2	1.5	dB	
Absolute stop-band attenuation	1350 MHz to 1380 MHz	25	27	—	dB	
	1660 MHz to 1690 MHz	30	40	—	dB	
	1840 MHz to 1870 MHz	30	35	—	dB	
	2150 MHz to 2180 MHz	30	33	—	dB	
Pass-band VSWR (Return loss)	1750 MHz to 1780 MHz	— (9.5)	1.8 (10.9)	2.0 —	— (dB)	
Input power	1750 MHz to 1780 MHz	—	—	13	dBm	



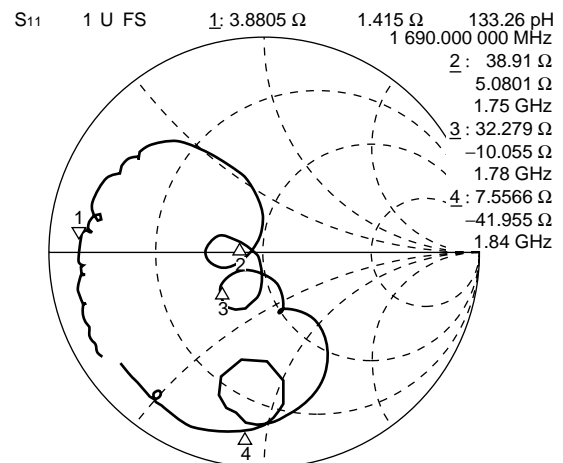
CENTER 1 800 MHz SPAN 500 MHz



CENTER 1 800 MHz SPAN 500 MHz

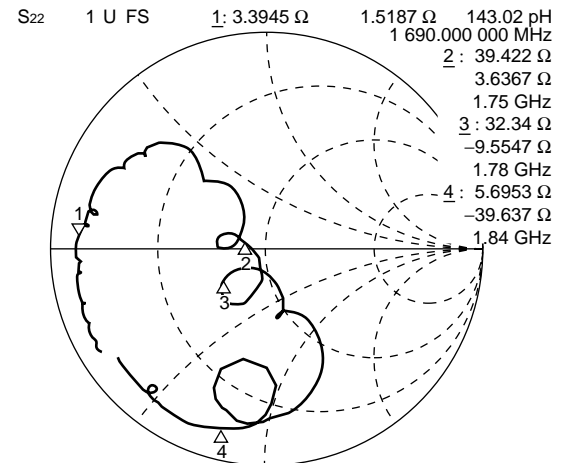


CENTER 1 800 MHz SPAN 500 MHz



CENTER 1 800 MHz

SPAN 500 MHz



CENTER 1 800 MHz

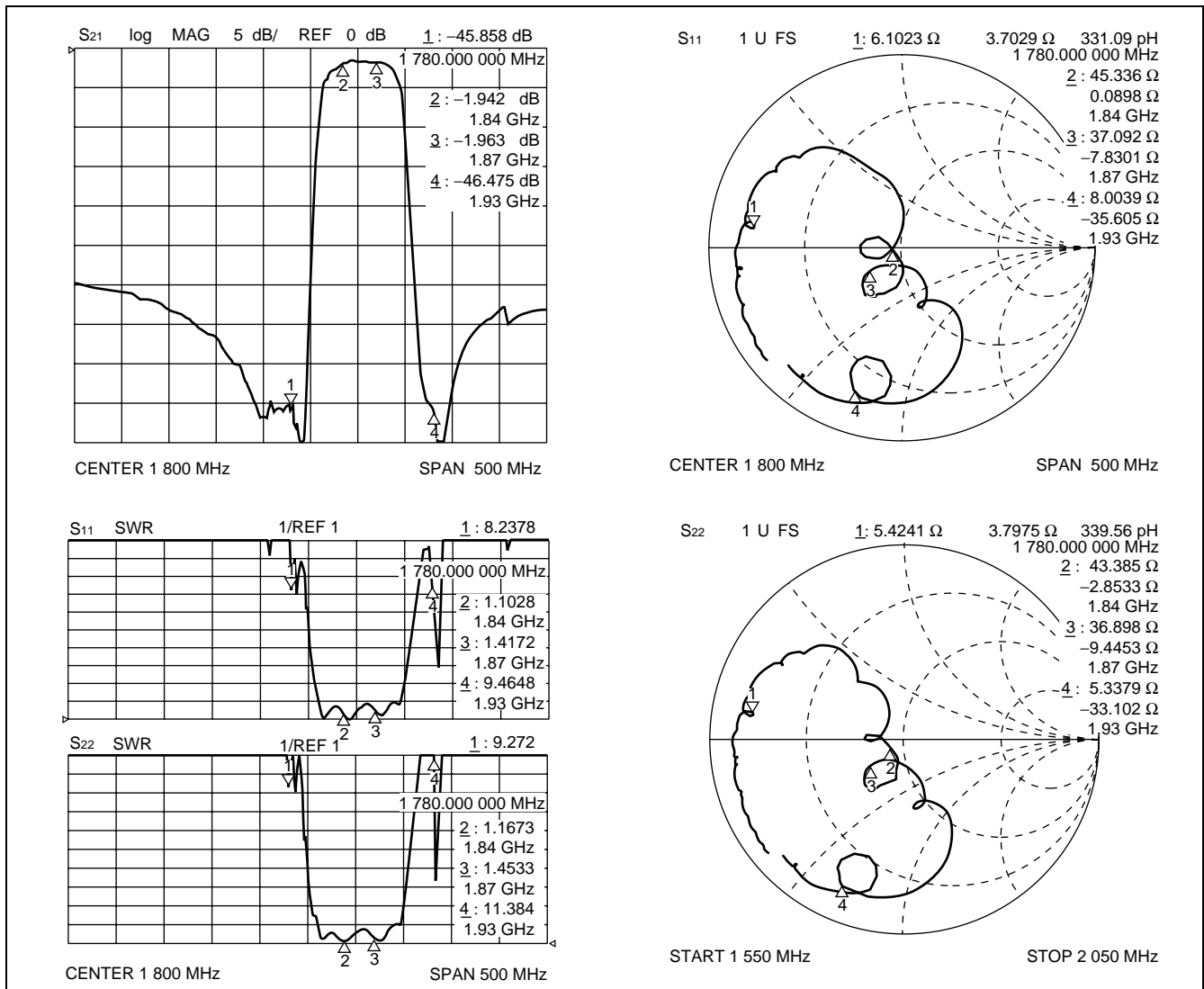
SPAN 500 MHz

# F6 Series (L2 type)

## 12. K-PCS (Rx) Upper 30 MHz Band Width Part number : FAR-F6CE-1G8550-L2TB

(Ta = -30 °C to +85 °C)

Parameter	Conditions	Value			Unit	Remarks
		Min.	Typ.	Max.		
Insertion loss	1840 MHz to 1870 MHz	—	2.2	2.5	dB	Ta = +25 °C
				3.0		Ta = -30 °C to +85 °C
Pass-band ripple	1840 MHz to 1870 MHz	—	1.1	1.5	dB	
Absolute stop-band attenuation	1440 MHz to 1470 MHz	25	28	—	dB	
	1750 MHz to 1780 MHz	30	40	—	dB	
	1930 MHz to 1960 MHz	30	40	—	dB	
	2240 MHz to 2270 MHz	30	34	—	dB	
Pass-band VSWR (Return loss)	1840 MHz to 1870 MHz	— (9.5)	1.7 (11.7)	2.0	— (dB)	
Input power	1840 MHz to 1870 MHz	—	—	13	dBm	

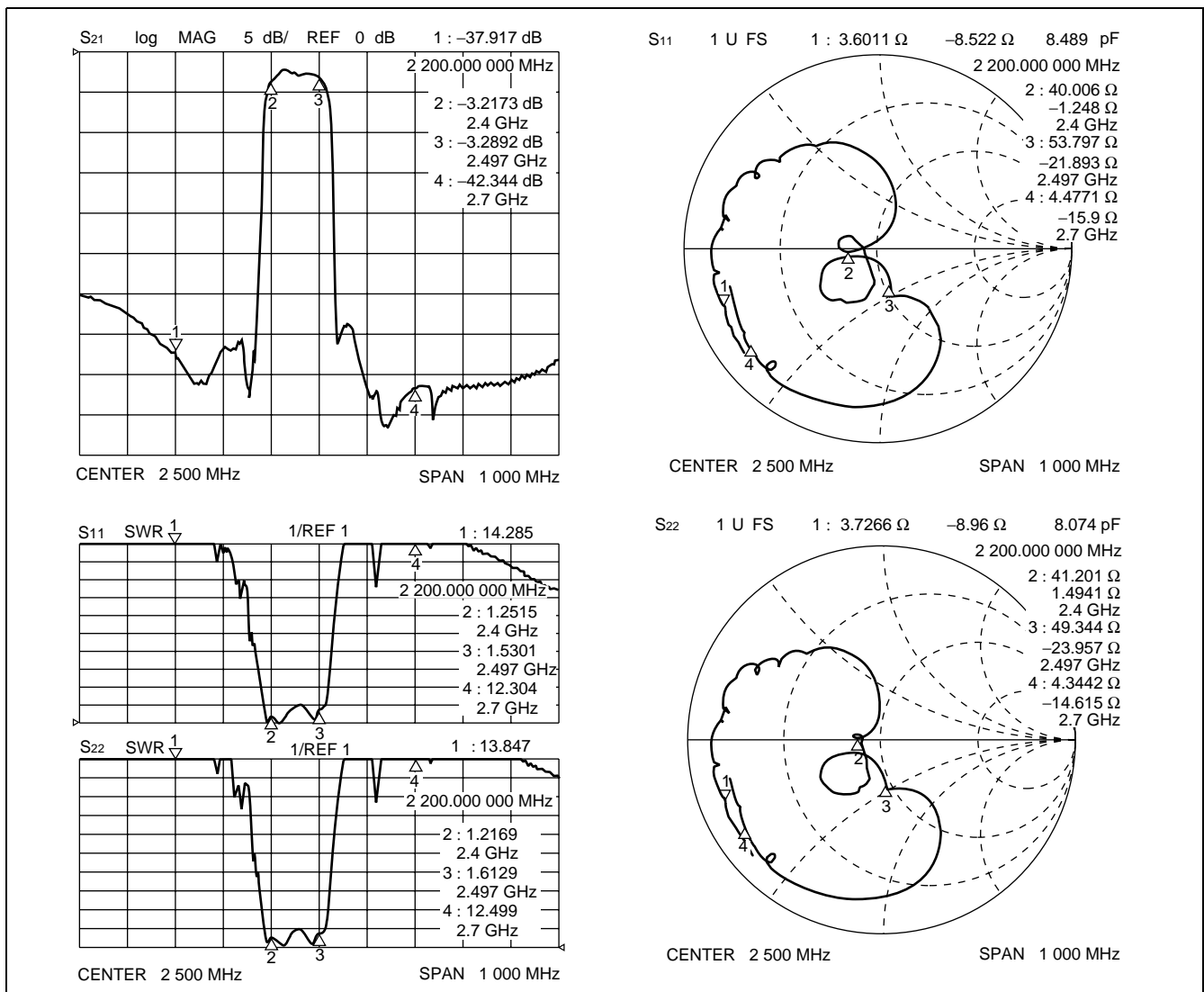


# F6 Series (L2 type)

## 13. Wireless-LAN 97 MHz Band Width Part number : FAR-F6CE-2G4500-L2WA

(Ta = 0 °C to +60 °C)

Parameter	Conditions	Value			Unit	Remarks
		Min.	Typ.	Max.		
Insertion loss	2400 MHz to 2497 MHz	—	4.0	5.0	dB	
Pass-band ripple	2400 MHz to 2497 MHz	—	2.0	3.0	dB	
Absolute stop-band attenuation	DC to 1700 MHz	20	22	—	dB	
	1800 MHz to 2200 MHz	25	27	—	dB	
	2700 MHz to 3100 MHz	30	33	—	dB	
	4800 MHz to 5000 MHz	10	16	—	dB	
Pass-band VSWR (Return loss)	2400 MHz to 2497 MHz	— (7.0)	2.2 (8.5)	2.6 —	— (dB)	
Input power	2400 MHz to 2497 MHz	—	—	10	dBm	

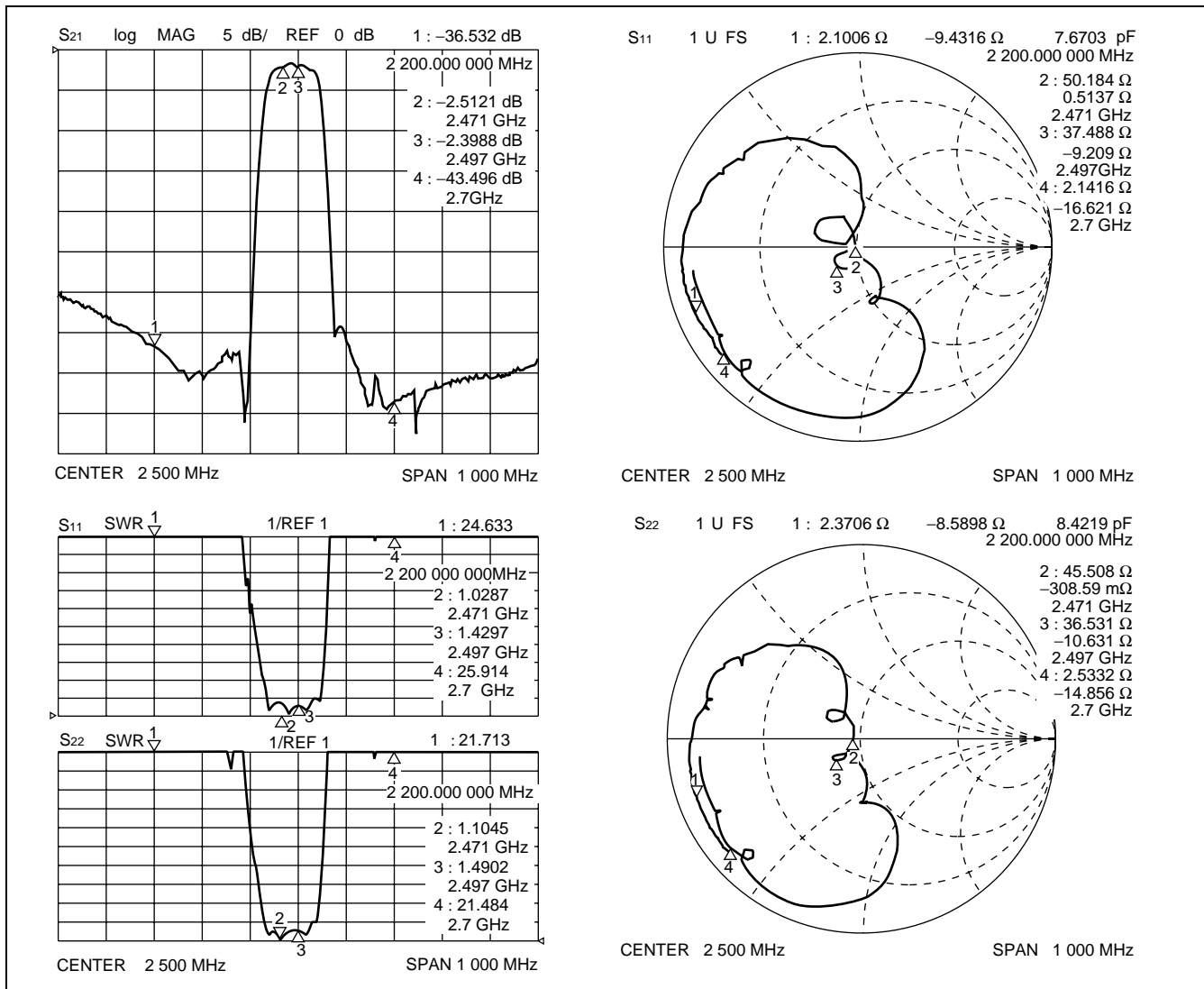


# F6 Series (L2 type)

## 14. Wireless-LAN 26 MHz Band Width (For Japan) Part number : FAR-F6CE-2G4840-L2WC

(Ta = 0 °C to +60 °C)

Parameter	Conditions	Value			Unit	Remarks
		Min.	Typ.	Max.		
Insertion loss	2471 MHz to 2497 MHz	—	2.5	3.5	dB	
Pass-band ripple	2471 MHz to 2497 MHz	—	1.0	1.5	dB	
Absolute stop-band attenuation	DC to 1700 MHz	20	23	—	dB	
	1800 MHz to 2200 MHz	25	27	—	dB	
	2700 MHz to 3100 MHz	30	33	—	dB	
	4800 MHz to 5000 MHz	10	16	—	dB	
Pass-band VSWR (Return loss)	2471 MHz to 2497 MHz	— (9.5)	1.5 (14.0)	2.0 —	— (dB)	
Input power	2471 MHz to 2497 MHz	—	—	10	dBm	



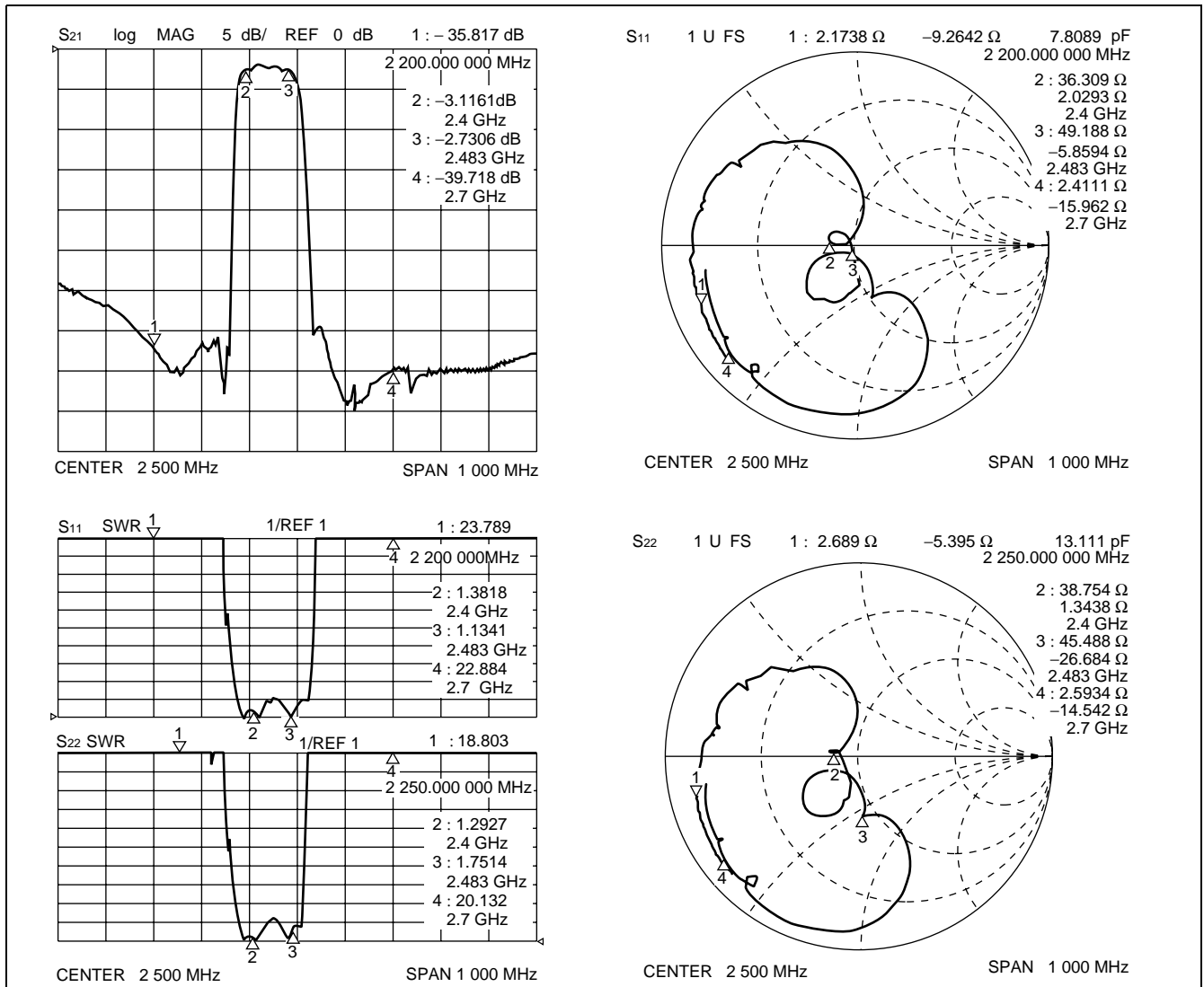
# F6 Series (L2 type)

## 15. Wireless-LAN 83.5 MHz Band Width (For Europe, USA)

Part number : FAR-F6CE-2G4418-L2WD

(Ta = 0 °C to +60 °C)

Parameter	Conditions	Value			Unit	Remarks
		Min.	Typ.	Max.		
Insertion loss	2400 MHz to 2483.5 MHz	—	3.2	4.5	dB	
Pass-band ripple	2400 MHz to 2483.5 MHz	—	1.3	2.5	dB	
Absolute stop-band attenuation	DC to 1700 MHz	20	22	—	dB	
	1800 MHz to 2200 MHz	25	27	—	dB	
	2700 MHz to 3100 MHz	30	33	—	dB	
	4800 MHz to 5000 MHz	10	16	—	dB	
Pass-band VSWR (Return loss)	2400 MHz to 2483.5 MHz	— (7.0)	2.2 (8.5)	2.6 —	— (dB)	
Input power	2400 MHz to 2483.5 MHz	—	—	10	dBm	



# F6 Series (L2 type)

## 16. W-CDMA (Tx)

Part number : FAR-F6CE-1G9500-L2ZP

(Ta = -30 °C to +85 °C)

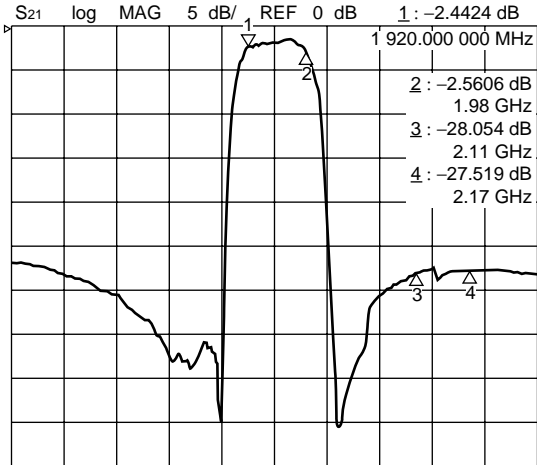
Parameter	Conditions	Value			Unit	Remarks
		Min.	Typ.	Max.		
Insertion loss	1920 MHz to 1980 MHz	—	3.2	4.0	dB	
Pass-band ripple	1920 MHz to 1980 MHz	—	1.2	2.0	dB	
Absolute stop-band attenuation	DC to 1600 MHz	20	21	—	dB	
	1600 MHz to 1800 MHz	23	25	—	dB	
	1800 MHz to 1875 MHz	25	31	—	dB	
	2025 MHz to 2050 MHz	30	31	—	dB	
	2050 MHz to 3500 MHz	25	26	—	dB	
	3500 MHz to 4000 MHz	20	30	—	dB	
Pass-band VSWR (Return loss)	1920 MHz to 1980 MHz	—	2.0	2.2	— (dB)	
		(8.5)	(9.5)	—		
Input power	1920 MHz to 1980 MHz	—	—	13	dBm	

(Continued)

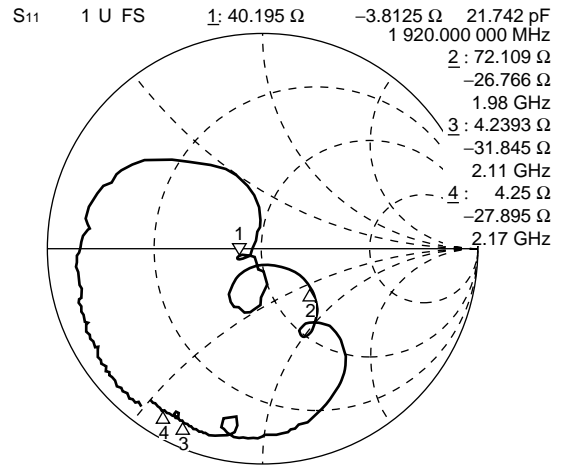
# F6 Series (L2 type)

(Continued)

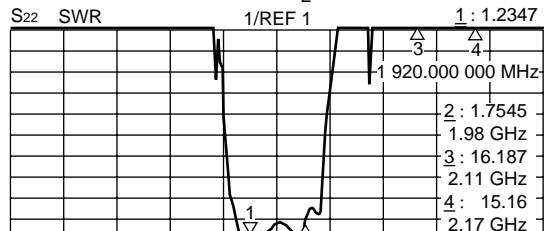
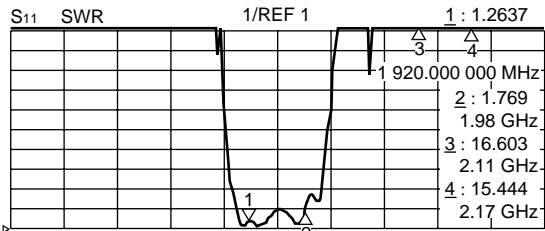
Part number : FAR-F6CE-1G9500-L2ZP



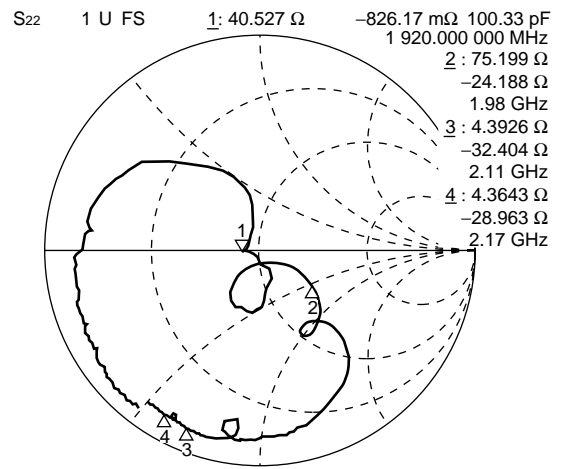
CENTER 1 950 MHz SPAN 600 MHz



CENTER 1 950 MHz SPAN 600 MHz



CENTER 1 950 MHz SPAN 600 MHz



CENTER 1 950 MHz SPAN 600 MHz



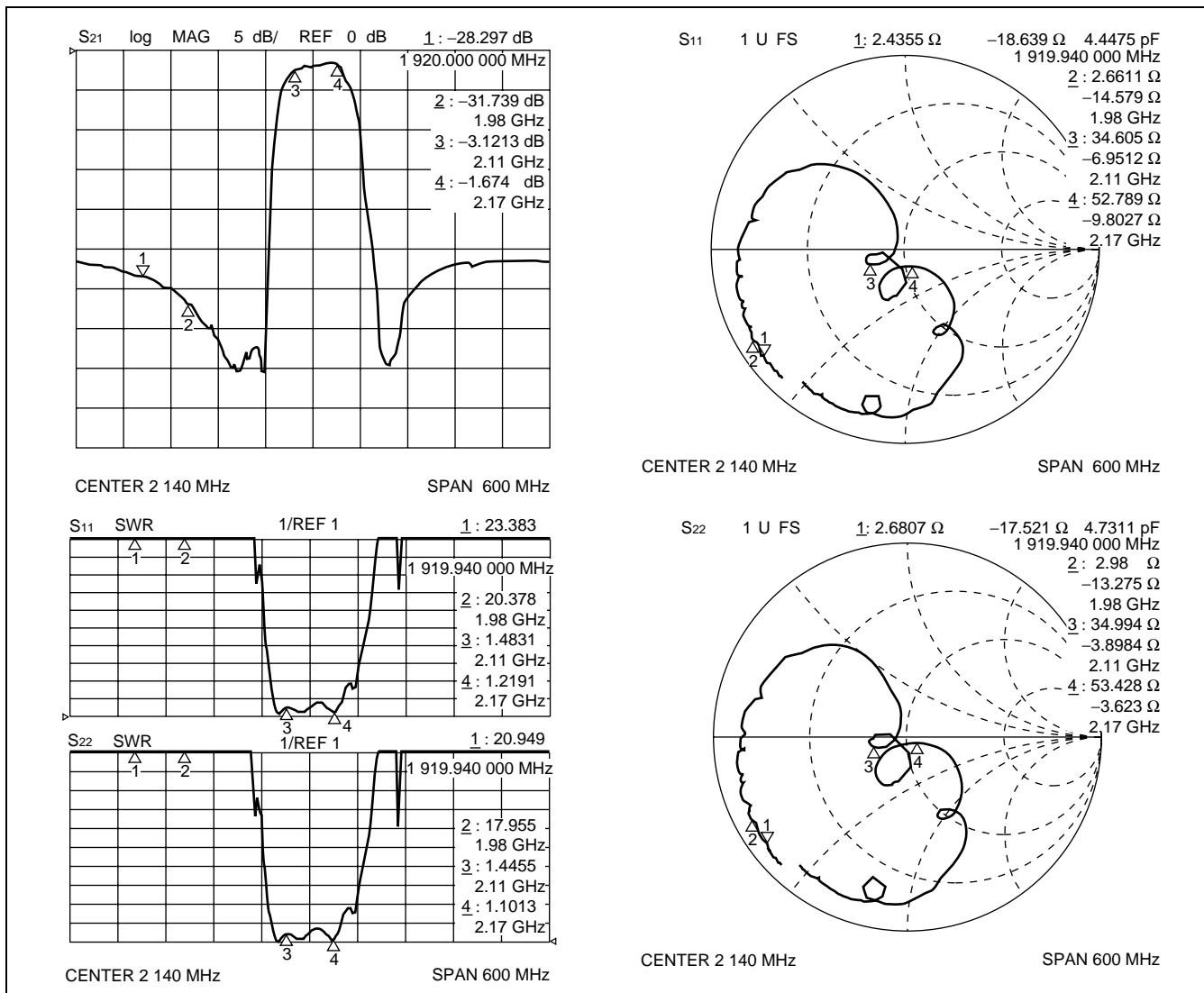
# F6 Series (L2 type)

## 17. W-CDMA (Rx)

Part number : FAR-F6CE-2G1400-L2ZQ

(Ta = -30 °C to +85 °C)

Parameter	Conditions	Value			Unit	Remarks
		Min.	Typ.	Max.		
Insertion loss	2110 MHz to 2170 MHz	—	3.2	4.0	dB	
Pass-band ripple	2110 MHz to 2170 MHz	—	1.2	2.0	dB	
Absolute stop-band attenuation	DC to 500 MHz	21	23	—	dB	
	500 MHz to 1900 MHz	20	21	—	dB	
	1900 MHz to 2050 MHz	25	28	—	dB	
	2215 MHz to 2300 MHz	20	30	—	dB	
Pass-band VSWR (Return loss)	2110 MHz to 2170 MHz	—	2.0	2.2	—	
		(8.5)	(9.5)	—	(dB)	
Input power	2110 MHz to 2170 MHz	—	—	13	dBm	



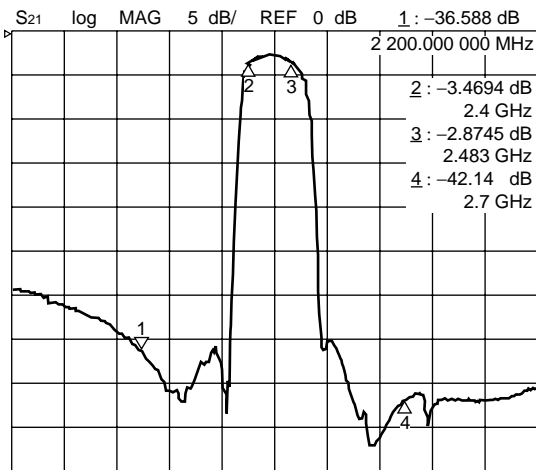
# F6 Series (L2 type)

## 18. Bluetooth

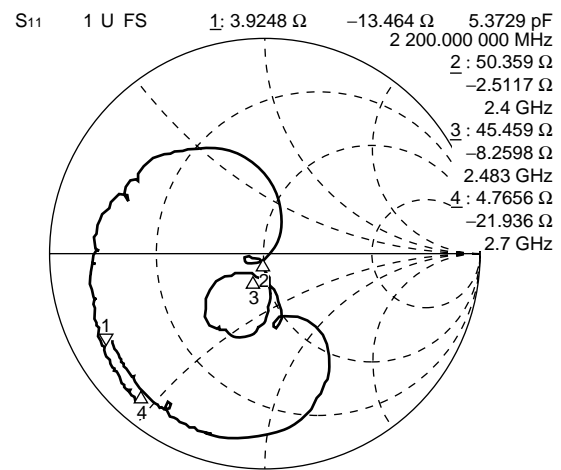
Part number : FAR-F6CE-2G4418-L2RB

(Ta = 0 °C to +60 °C)

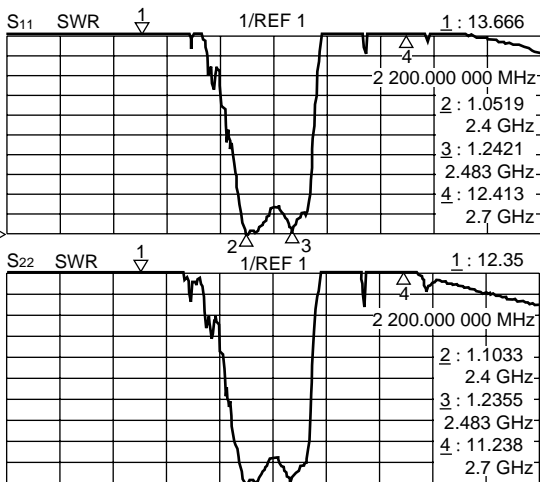
Parameter	Conditions	Value			Unit	Remarks
		Min.	Typ.	Max.		
Insertion loss	2400 MHz to 2483.5 MHz	—	3.2	5.0	dB	
Pass-band ripple	2400 MHz to 2483.5 MHz	—	1.2	3.0	dB	
Absolute stop-band attenuation	DC to 1700 MHz	20	22	—	dB	
	1700 MHz to 2200 MHz	25	27	—	dB	
	2700 MHz to 3100 MHz	30	33	—	dB	
	3100 MHz to 4000 MHz	20	27	—	dB	
	4000 MHz to 5000 MHz	10	16	—	dB	
Pass-band VSWR (Return loss)	2400 MHz to 2483.5 MHz	— (7.0)	2.2 (8.5)	2.6 —	— (dB)	
Input power	2400 MHz to 2483.5 MHz	—	—	10	dBm	



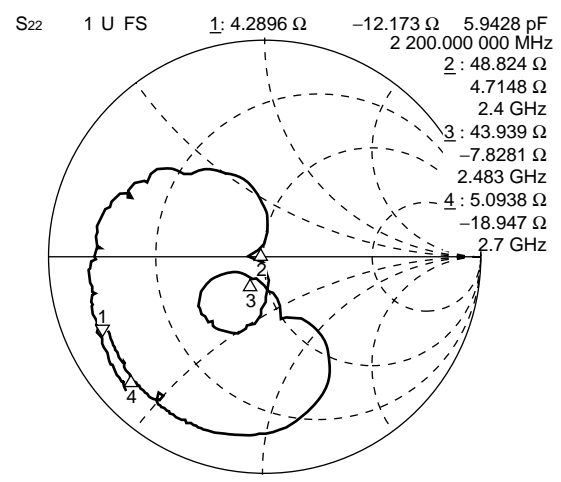
CENTER 2 450 MHz SPAN 1 000 MHz



CENTER 2 450 MHz SPAN 1 000 MHz

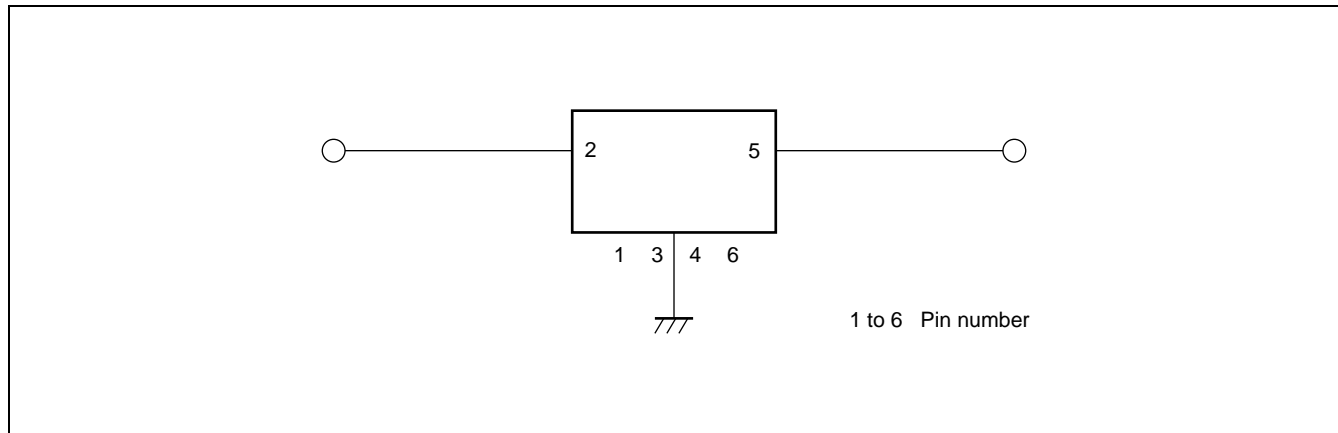


CENTER 2 450 MHz SPAN 1 000 MHz



CENTER 2 450 MHz SPAN 1 000 MHz

## ■ MEASUREMENT CIRCUIT



## ■ PART NUMBER DESIGNATION

[Designation example]

FAR-F6CE-  -L2  -   
(1) (2) (3) (4)

(1) Package designation : E : 3.0 mm × 3.0 mm × 1.2 mm (height)

(2) Frequency designation : Specify the nominal frequency in six alphanumeric characters.  
Enter G (for GHz) at the decimal point.  
Refer to "■STANDARD DEVICES".

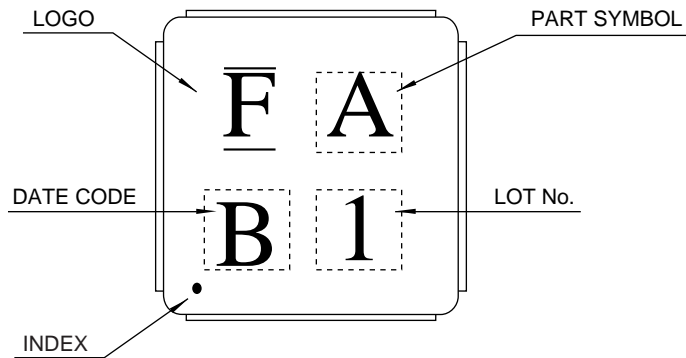
[Example] 1.8800 GHz ⇒ 1G8800

(3) Serial number : Specify a characters from WA to ZZ.  
Refer to "■STANDARD DEVICES".

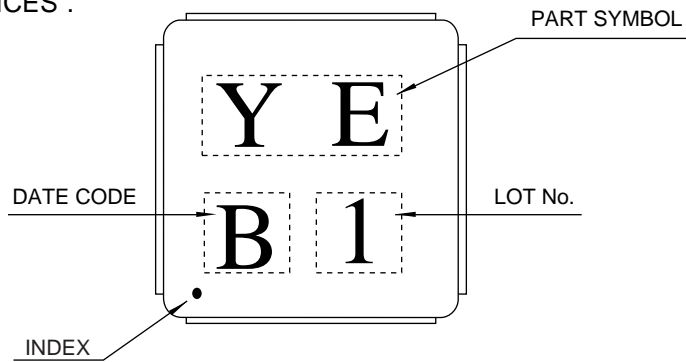
(4) Packing (Reeled tape) : Y : 1000 pcs/reel  
X : 5000 pcs/reel

# F6 Series (L2 type)

## ■ MARKING

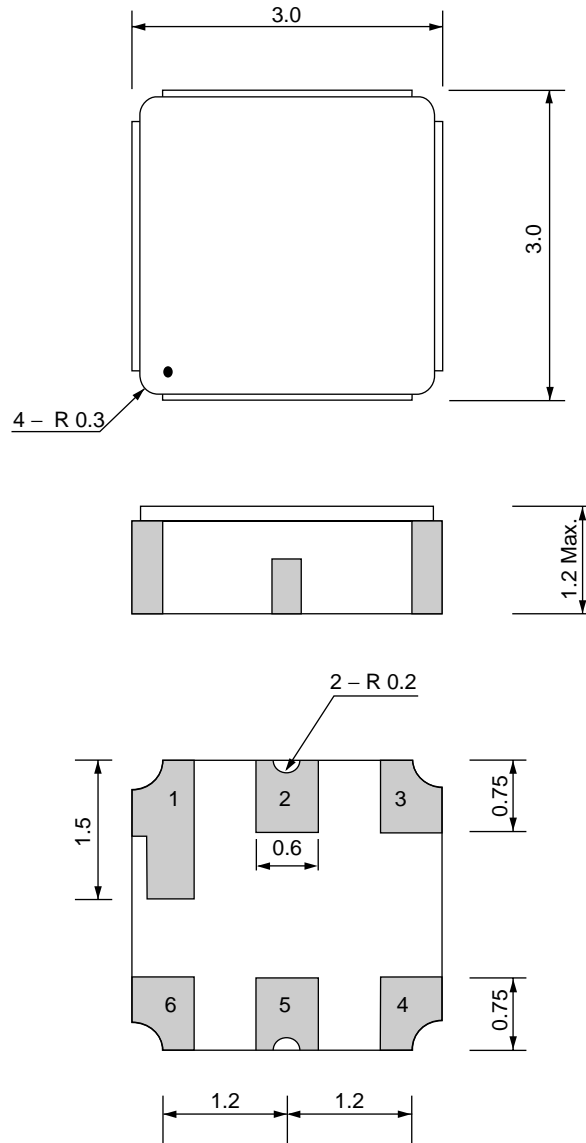


- In case that part symbol consists of two characters according to the part symbol specified in "■STANDARD DEVICES".



# F6 Series (L2 type)

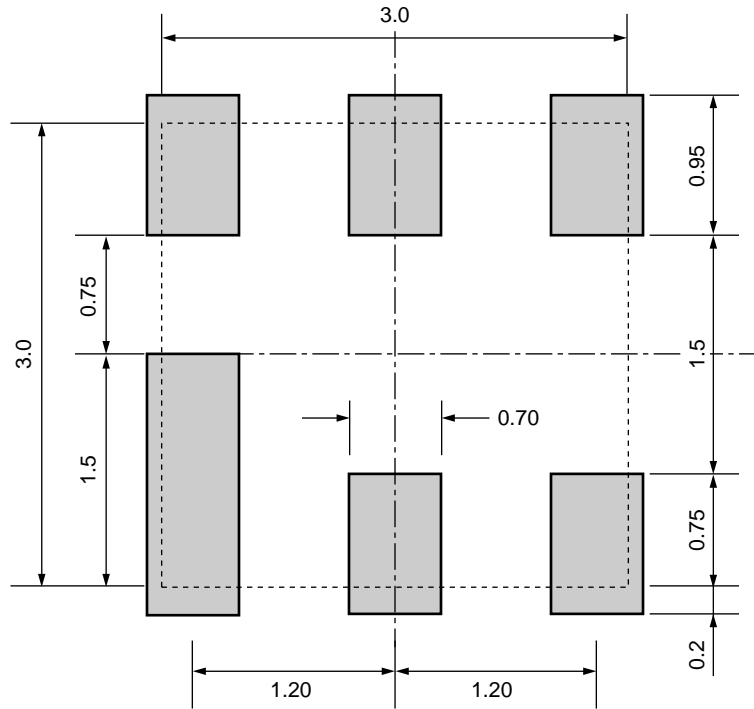
## ■ PACKAGE DIMENSIONS



Dimensions in mm.

# F6 Series (L2 type)

## RECOMMENDED LAND PATTERN

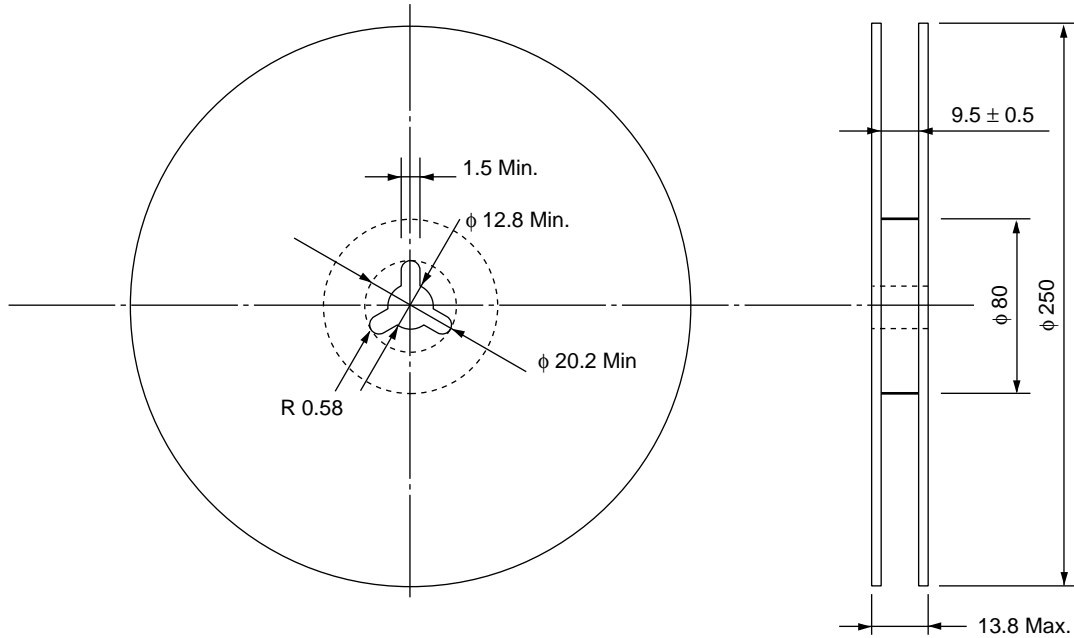


Dimensions in mm.

# F6 Series (L2 type)

## ■ PACKING

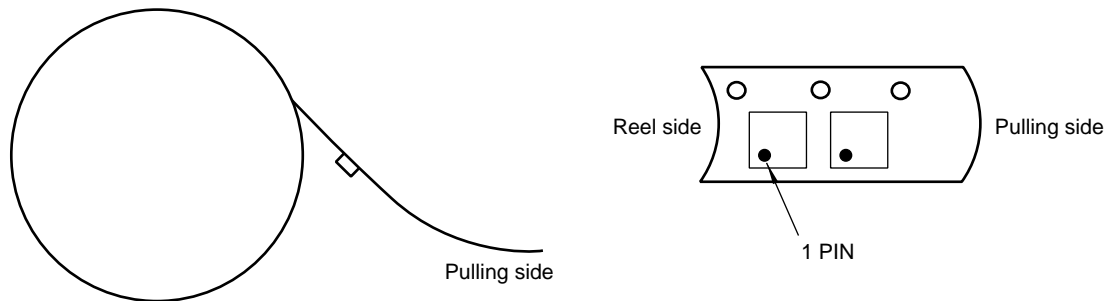
### (1) Reel dimensions



Type	Volume
Y	1 k pcs
X	5 k pcs

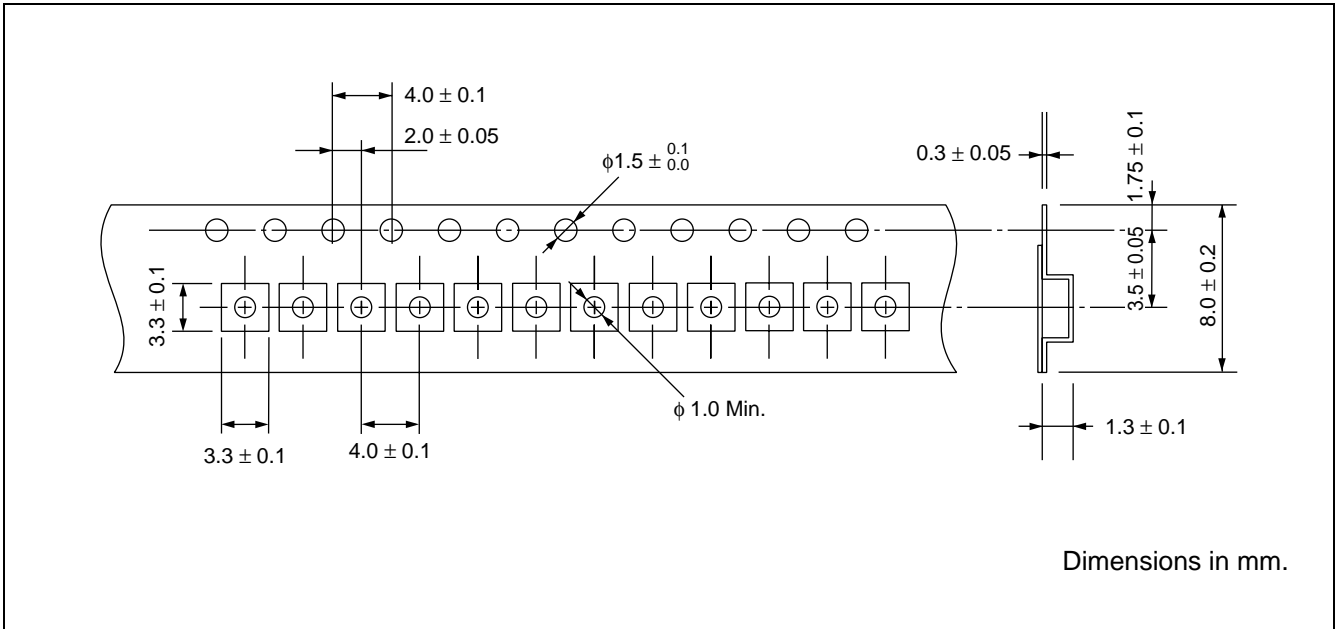
Dimensions in mm.

### (2) Packing style



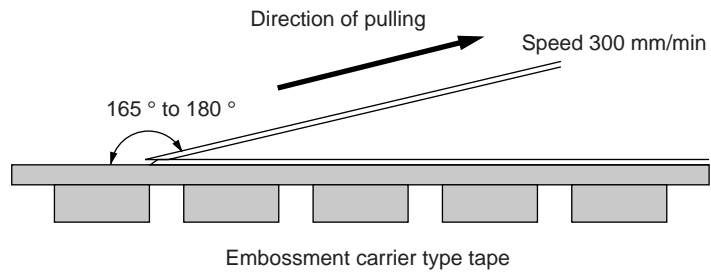
# F6 Series (L2 type)

## (3) Tape dimensions



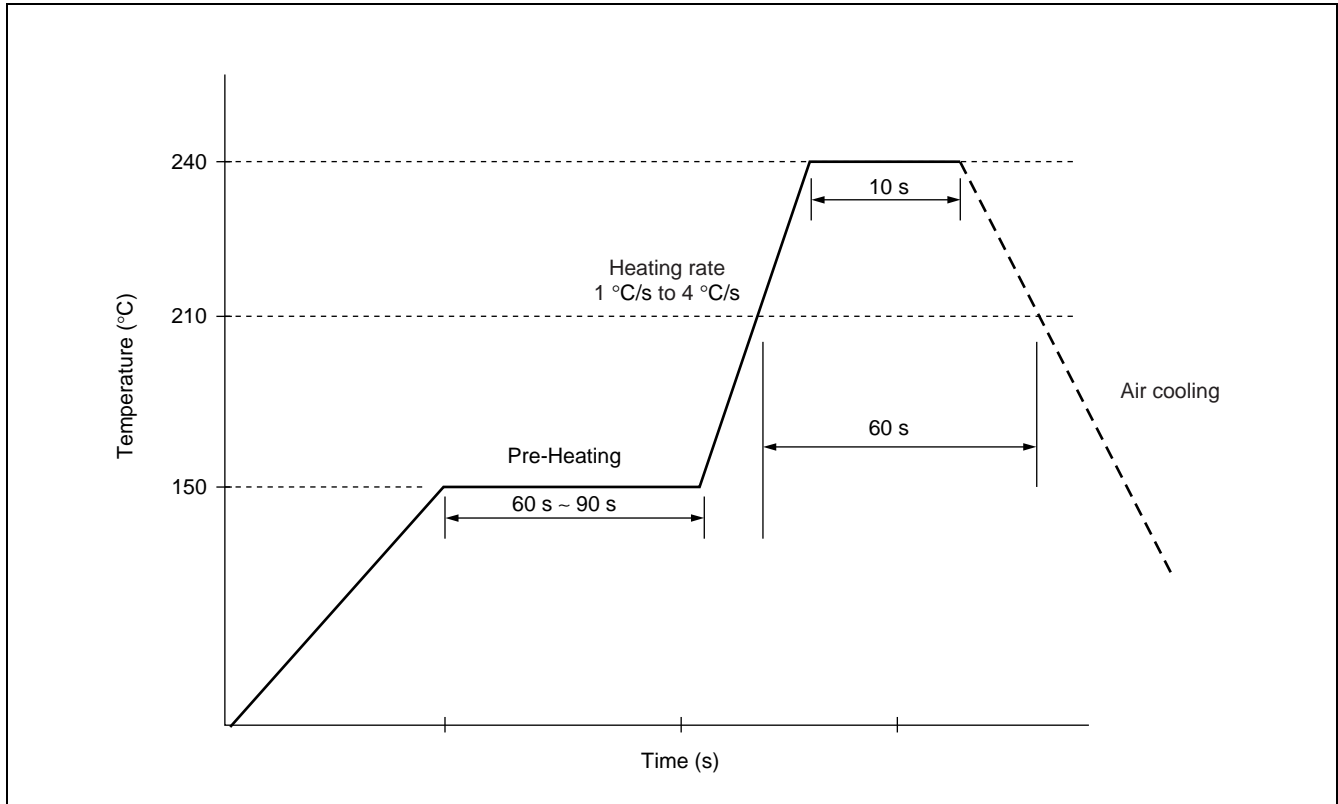
## (4) Peel strength of top cover tape

Peel off by the force of 0.1 N to 1.0 N under the condition at the right.  
(Conforms to EIA.)





## RECOMMENDED REFLOW PROFILE



## NOTE

Mass-produced product order is accepted by a unit of 1000.

# F6 Series (L2 type)

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