



MSL1

Customer Name	Standard specification	TAIYO YUDEN Mobile	Technology Co.,Ltd.
System	GSM900/GSM850 Rx (50/150ohms)	Date	March 31, 2010
Part Number	FAR-G5QC-942M50-N2FB	Version 1.0 cb	

**Table 1.Electrical specifications(Filter 1)** 

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Pass Band (869-894MHz)						
Item	Condition	Specification		Unit	Remark	
	(MHz)	Min.	Тур.	Max.		
Insertion Loss	869-894	-	1.5	2.1	dB	
			! ! ! !		(*1)	
Ripple	869-894	-	0.4	1.1	dB	
Input VSWR	869-894	-	1.5	2.0	-	
Output VSWR	869-894	-	1.5	2.0	-	
Absolute attenuation	DC-824	45	55	-	dB	
	824-849	40	50	-	dB	
	914-960	25	35	-	dB	
	960-2000	33	44	-	dB	
	2000-6000	25	37	-	dB	
Amplitude balance ( S21/S31 )	869-894	-1.0	-0.2/+0.0	+1.0	dB	
Phase balance ((ΦS21-ΦS31)+180)	869-894	-10	-2/+0	+10	deg	
Input impedance (	Unbalanced)	50		Ohm		
Output impedance	e (Balanced)	150		Ohm		
Operating tem	perature		-30to +85		°C	

<sup>(\*1)</sup> These data include loss that comes from the test board.





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**Table 2.Electrical specifications(Filter 2)** 

Pass Band (925-960MHz)						
Item	Condition	Specification		Unit	Remark	
	(MHz)	Min.	Тур.	Max.		
Insertion Loss	925-960	_	1.8	2.4	dB	
			i		(*1)	
Ripple	925-960	-	0.6	1.4	dB	
Input VSWR	925-960	-	2.0	2.2	-	
Output VSWR	925-960	-	1.9	2.2	-	
Absolute attenuation	DC-880	40	53	-	dB	
	880-905	30	43	-	dB	
	905-915	20	29	-	dB	
	980-1025	25	32	-	dB	
	1025-2880	33	41	-	dB	
	2880-6000	25	33	-	dB	
Amplitude balance ( S21/S31 )	925-960	-1.0	-0.3/+0.0	+1.0	dB	
Phase balance ((ΦS21-ΦS31)+180)	925-960	-10	-4/+0	+10	deg	
Input impedance (	Unbalanced)	50		Ohm		
Output impedance	e (Balanced)	150//82nH		Ohm		
Operating tem	perature		-30to +85		°C	

<sup>(\*1)</sup> These data include loss that comes from the test board.



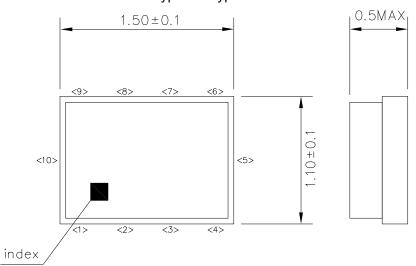


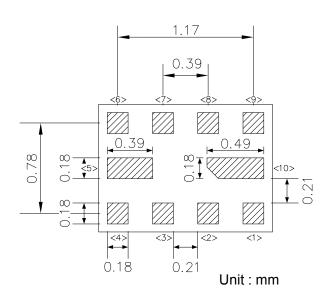
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### **Dimensions**

Device size: 1.5yp. x 1.1typ. x 0.5max.



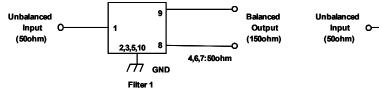


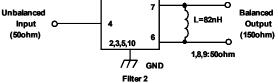
## **Pin Configuration**

Pin No.	Pin name	Description
1	IN	Filter1 input pin
2	GND	Ground
3	GND	Ground
4	IN	Filter2 input pin
5	GND	Ground
6	OUT	Filter2 balanced output pin
7	OUT	Filter2 balanced output pin
8	OUT	Filter1 balanced output pin
9	OUT	Filter1 balanced output pin
10	GND	Ground

Filter No.	Passband(MHz)	System
1	869 ~ 894	GSM850-Rx
2	925 ~ 960	GSM900-Rx

#### **Evaluation Circuit**

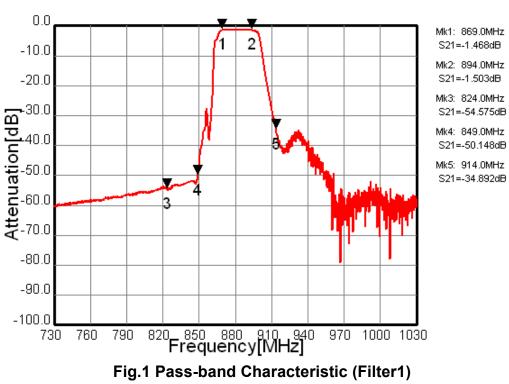




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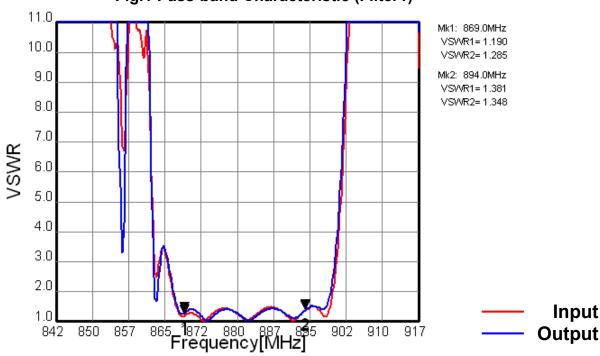
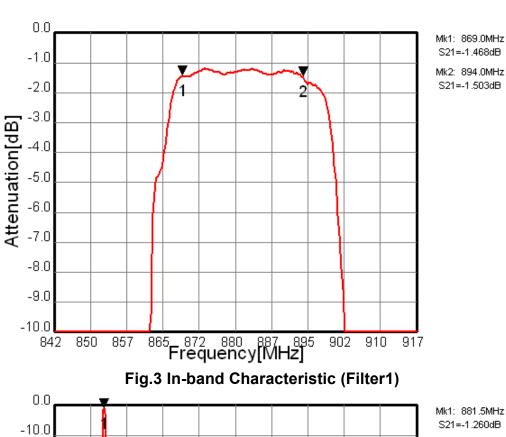


Fig.2 VSWR (Filter1)



Customer Name	Standard specification	TAIYO YUDEN Mobile	Technology Co.,Ltd.
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Mk2: 824.0MHz S21=-55.374dB -20.0 Attennation[dB] 90.00 90.00 90.00 Mk3: 960.0MHz S21=-53.245dB Mk4: 2000.0MHz S21=-44.620dB Mk5: 5999.0MHz S21=-37.071dB -80.0 -90.0 -100.0 1248 1842 2436 3030 3624 4218 4812 5406 6000 Frequency[MHz] 60 654

Fig.4 Wide-band Characteristic (Filter1)

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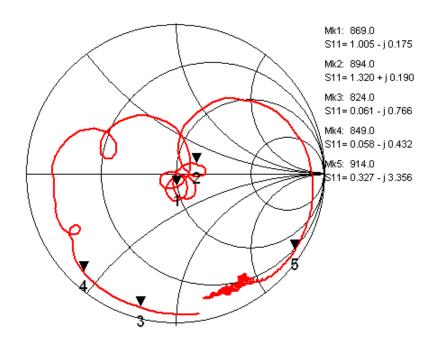


Fig.5 Impedance (S11) (Filter1)

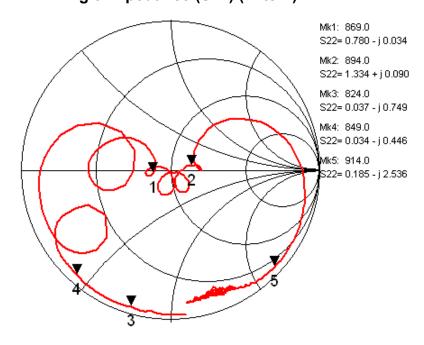


Fig.6 Impedance (S22) (Filter1)





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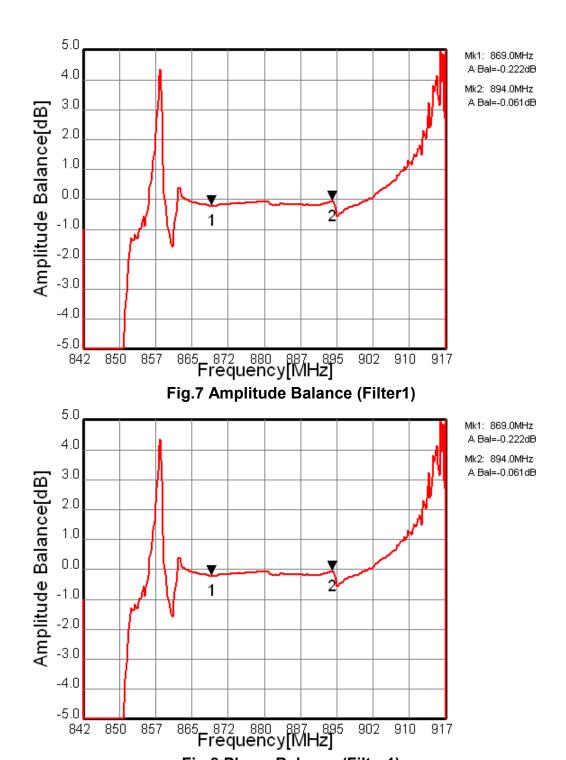
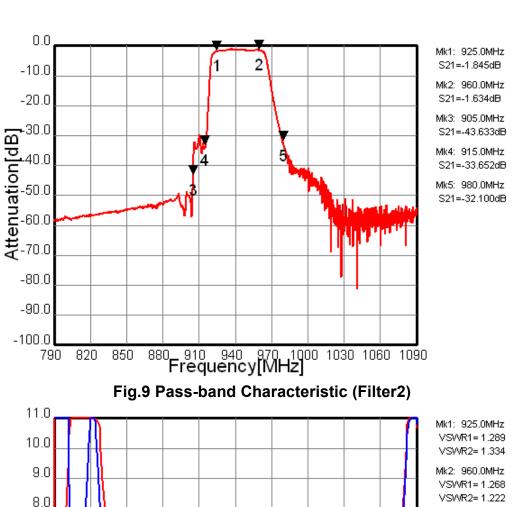


Fig.8 Phase Balance (Filter1)



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8.0 7.0 VSWR 6.0 5.0 4.0 3.0 2.0 Input 1.0 <sup>1</sup>928 934 940 946 952 Frequency[MHz] 922 958**2** 964 916 970 910 **Output** 

Fig.10 VSWR (Filter2)



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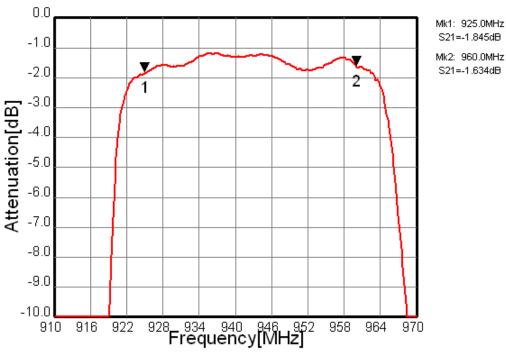


Fig.11 In-band Characteristic (Filter2) 0.0 Mk1: 942.5MHz S21=-1.276dB -10.0 Mk2: 880.0MHz S21=-52.540dB -20.0 Mk3: 1025.0MHz Attennation[dB] 40.0 50.0 70.0 70.0 S21=-55.966dB Mk4: 2880.0MHz S21=-40.982dB 4 Mk5: 5999.0MHz S21=-33.845dB -80.0 -90.0 -100.0 1248 1842 2436 3030 3624 4218 4812 5406 6000 Frequency[MHz] 654 60

Fig.12 Wide-band Characteristic (Filter2)

1 b 1100 f dit					
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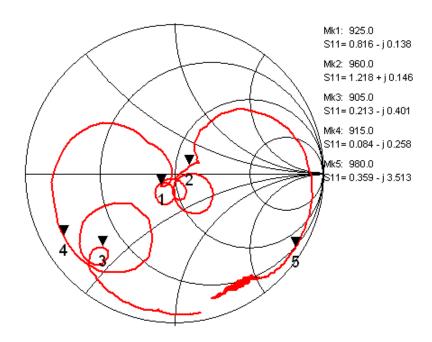


Fig.13 Impedance (S11) (Filter2)

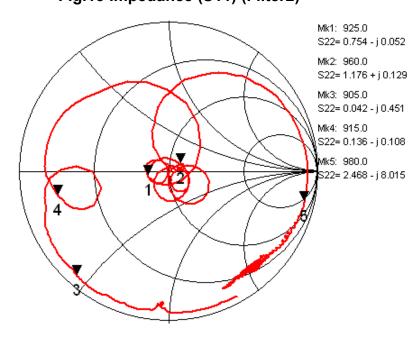


Fig.14 Impedance (S22) (Filter2)





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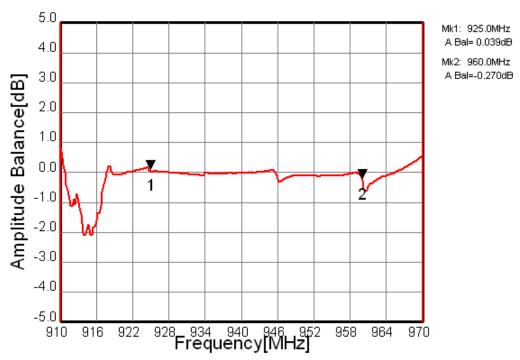


Fig.15 Amplitude Balance (Filter2)

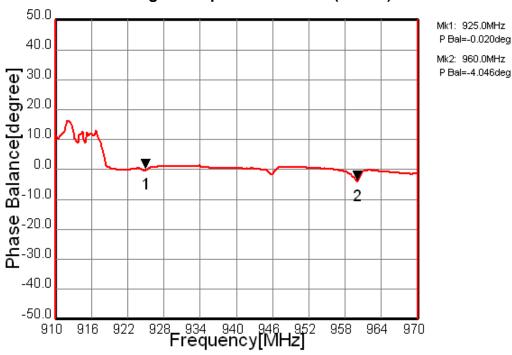


Fig.16 Phase Balance (Filter2)

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