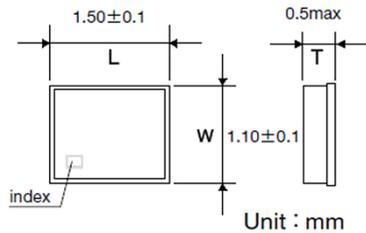


FBAR/SAW Devices (SAW Dual Type)

G6QE1G960N2EE



■ Features

- Item Summary
SAW, Rx Dual Type, 1.5x1.1x0.5mm
1900 / 1800
- Lifecycle Stage
Non-preferred
- Standard packaging quantity (minimum)
Taping Embossed 5000 , 15000pcs

■ Products characteristics table

System	GSM
Type	SAW
Function	Rx Dual Type
band (f1)	1900
Insertion Loss (typ)	2.2 dB
Attenuation (typ)	31 dB
band (f2)	1800
Insertion Loss (f2)(typ)	2.2 dB
Attenuation (f2)(typ)	14 dB
Operating Temp. Range	-30 to +85 °C
RoHS2 Compliance (10 subst.)	Yes
REACH Compliance (173 subst.)	Yes
Halogen Free	Yes
Soldering	Reflow

■ External Dimensions

Dimension L	1.5 ± 0.10 mm
Dimension W	1.1 ± 0.10 mm
Dimension T	Max 0.5 mm

2017.09.12

The data is reference only. Electrical characteristics vary depending on environment or measurement condition.
 TAIYO YUDEN reserves the right to make change to the data at any time without notice.
 Before making final selection, please check product specification.



MSL1

*Pb Free part

Customer Name	Standard specification	TAIYO YUDEN Mobile Technology Co.,Ltd.	
System	GSM1900/GSM1800 Rx (50/150ohms)	DATE	Jan. 12, 2012
Part Number	G6QE1G960N2EE	Version 2.0bb	Final

Table 1. Electrical specifications (Filter1)

Passband: 1930 ~ 1990 MHz						
Item	Condition (MHz)	Specification			Unit	Remarks
		Min.	Typ.	Max.		
Insertion Loss	1930~1990	-	2.2	2.8	dB(*1)	-30~+85 °C
		-	-	2.6	dB(*1)	25±2 °C
Ripple	1930~1990	-	0.5	1.3	dB	
Absolute attenuation	DC~1510	39	46	-	dB	
	1510~1830	33	40	-	dB	
	1830~1850	33	40	-	dB	
	1850~1890	23	31	-	dB	
	1890~1910	10	16	-	dB	-30~+85 °C
		13	-	-	dB	25±2 °C
	2010~2070	5	17	-	dB	-30~+85 °C
		6	-	-	dB	-20~+85 °C
		12	-	-	dB	25±2 °C
	2070~2400	19	24	-	dB	
2400~6000	20	30	-	dB		
VSWR (Input)	1930~1990	-	1.6	2.0	-	
VSWR (Output)	1930~1990	-	1.8	2.1	-	
Amplitude Balance S21 / S31	1930~1990	-1.1	-0.5/+0.5	+1.1	dB	
Phase Balance (ΦS21-ΦS31)+180	1930~1990	-10	-5/+2	+10	deg.	
Input Impedance	Unbalanced	50			ohm	
Output Impedance	Balanced	150//6.8nH			ohm	
Operating Temperature		-30 ~ +85			°C	

(*1) Specification of insertion loss includes loss that comes from the test board. (0.15dB)



MSL1

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Table 2. Electrical specifications (Filter2)

Passband: 1805 ~ 1880 MHz						
Item	Condition (MHz)	Specification			Unit	Remarks
		Min.	Typ.	Max.		
Insertion Loss	1805~1880	-	2.2	2.8	dB ^(*1)	-30~+85 °C
		-	-	2.5	dB ^(*1)	25±2 °C
Ripple	1805~1880	-	0.5	1.4	dB	
Absolute attenuation	DC ~902	45	59	-	dB	
	902 ~ 940	45	58	-	dB	
	940 ~1705	29	33	-	dB	
	1705~1785	11	14	-	dB	-30~+85 °C
		12	-	-	dB	25±2 °C
	1920~1980	30	34	-	dB	
	1980~2030	30	35	-	dB	
	2030~2400	30	35	-	dB	
2400~6000	20	30	-	dB		
VSWR (Input)	1805~1880	-	1.9	2.2	-	
VSWR (Output)	1805~1880	-	1.9	2.2	-	
Amplitude Balance S21 / S31	1805~1880	-1.2	-0.6/+0.6	+1.2	dB	
Phase Balance (Φ S21- Φ S31)+180	1805~1880	-12	-7/+3	+12	deg.	
Input Impedance	Unbalanced	50			ohm	
Output Impedance	Balanced	150//6.8nH			ohm	
Operating Temperature		-30 ~ +85			°C	

(*1) Specification of insertion loss includes loss that comes from the test board. (0.15dB)



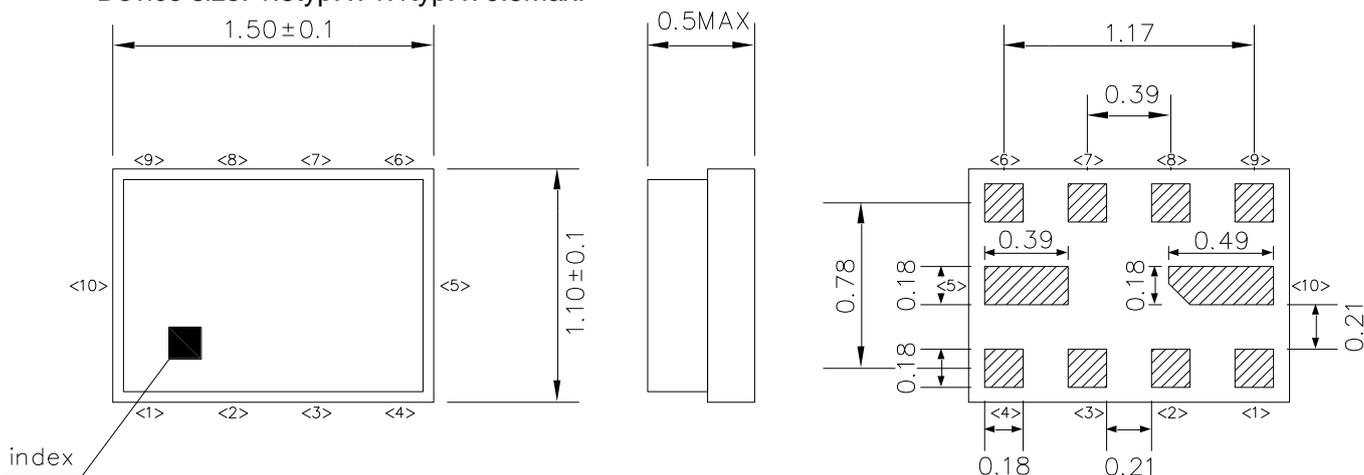
MSL1

*Pb Free part

Customer Name	Standard specification	TAIYO YUDEN Mobile Technology Co.,Ltd.	
System	GSM1900/GSM1800 Rx (50/150ohms)	DATE	Jan. 12, 2012
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Dimensions

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



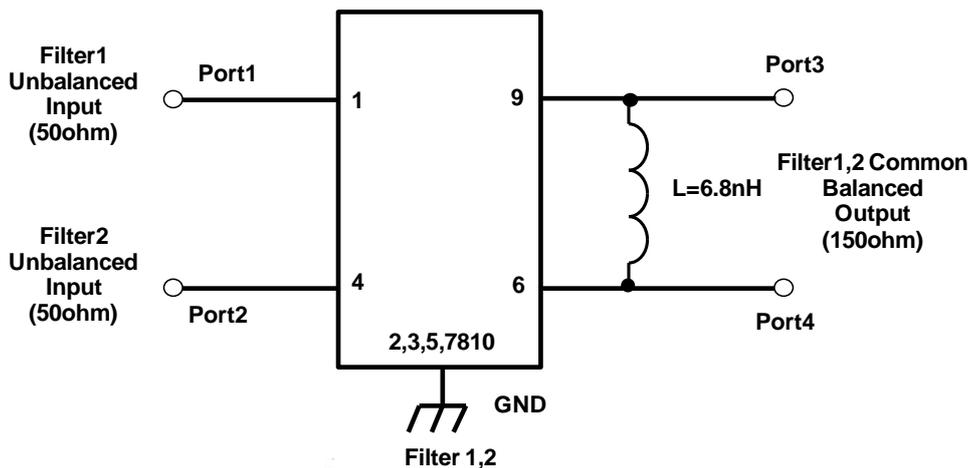
Unit: mm

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	Filter1/Filter2 balanced output pin
7	GND	Ground
8	GND	Ground
9	OUT	Filter1/Filter2 balanced output pin
10	GND	Ground

Filter No.	Pass band (MHz)	System
1	1930 ~ 1990	GSM1900-Rx
2	1805 ~ 1880	GSM1800-Rx

Evaluation Circuit



TAIYO YUDEN



MSL1

*Pb Free part

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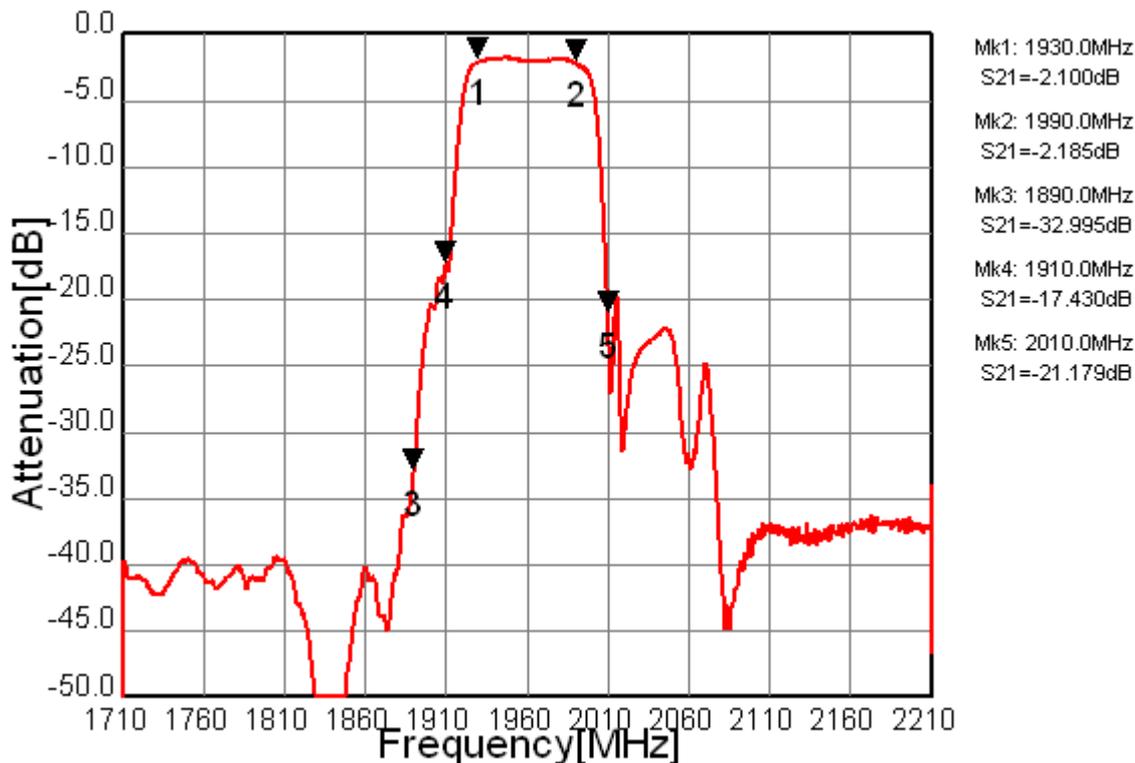


Fig.1 Pass-band Characteristics (Filter1)

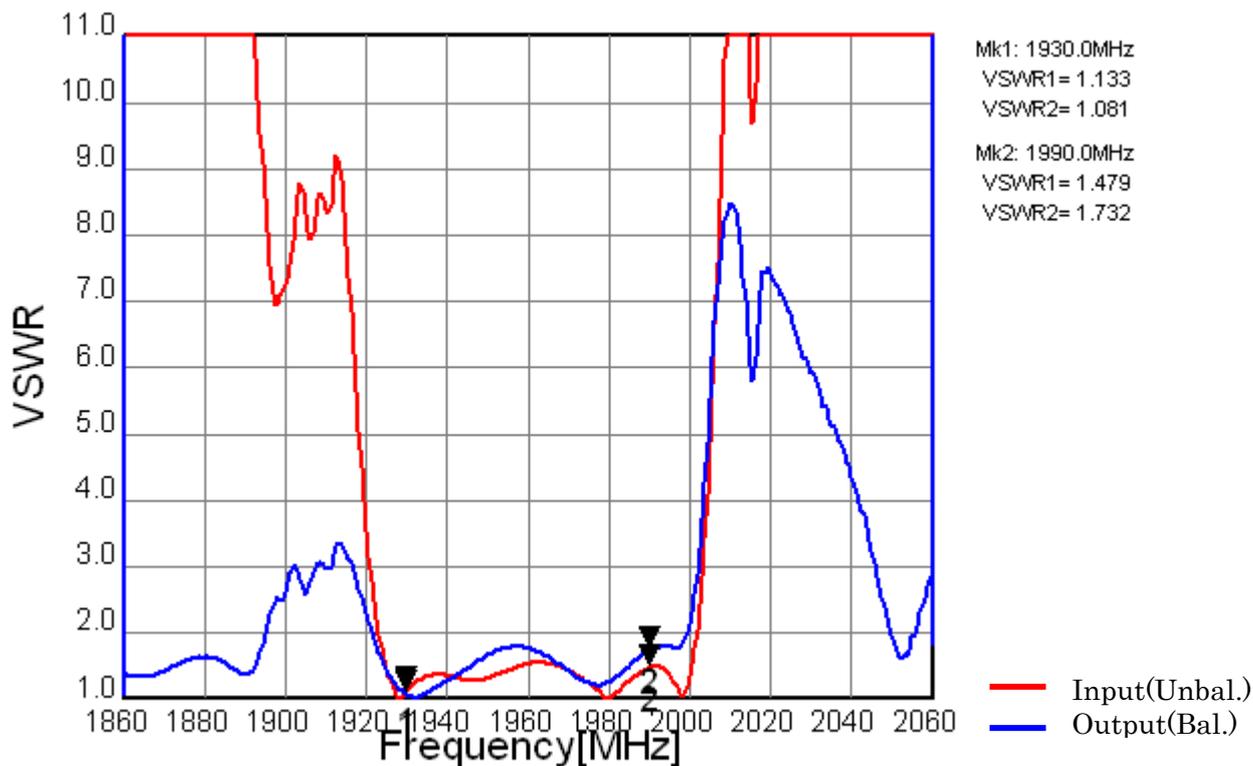


Fig.2 VSWR (Filter1)



MSL1

*Pb Free part

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System	GSM1900/GSM1800 Rx (50/150ohms)	DATE	Jan. 12, 2012
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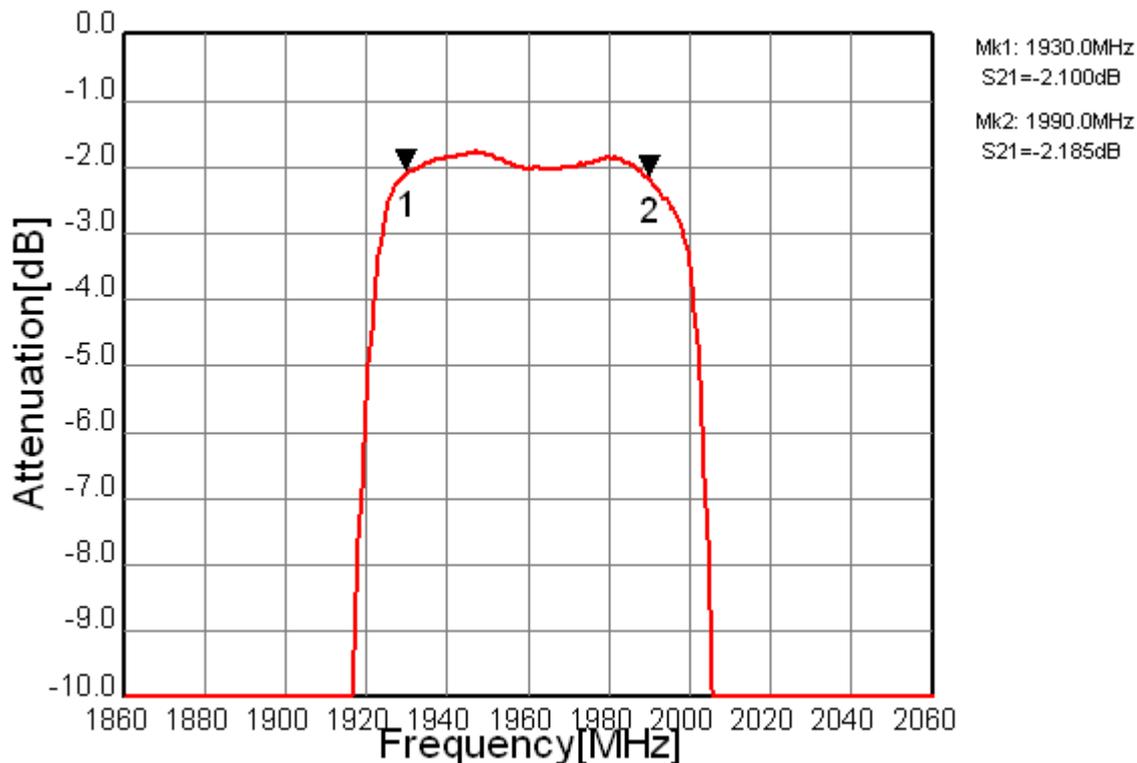


Fig.3 In-band Characteristics (Filter1)

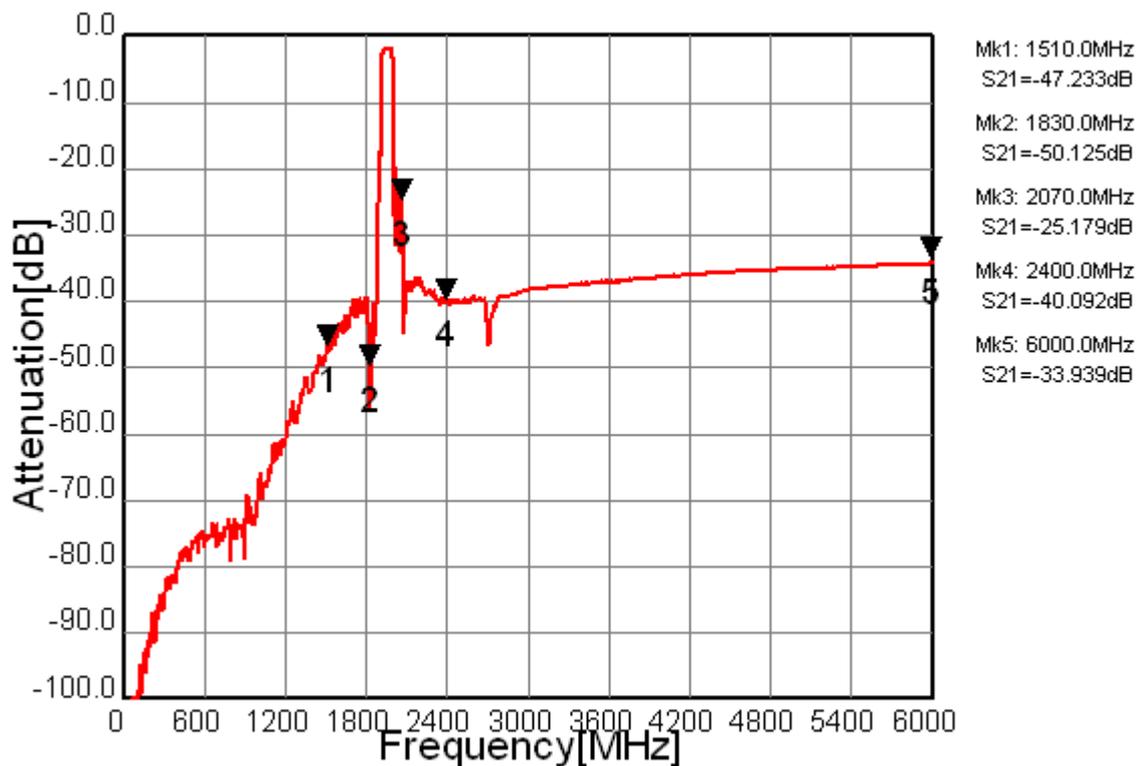


Fig. 4 Wide-band Characteristics (Filter1)



MSL1

*Pb Free part

Customer Name	Standard specification	TAIYO YUDEN Mobile Technology Co.,Ltd.	
System	GSM1900/GSM1800 Rx (50/150ohms)	DATE	Jan. 12, 2012
Part Number	G6QE1G960N2EE	Version 2.0bb	Final

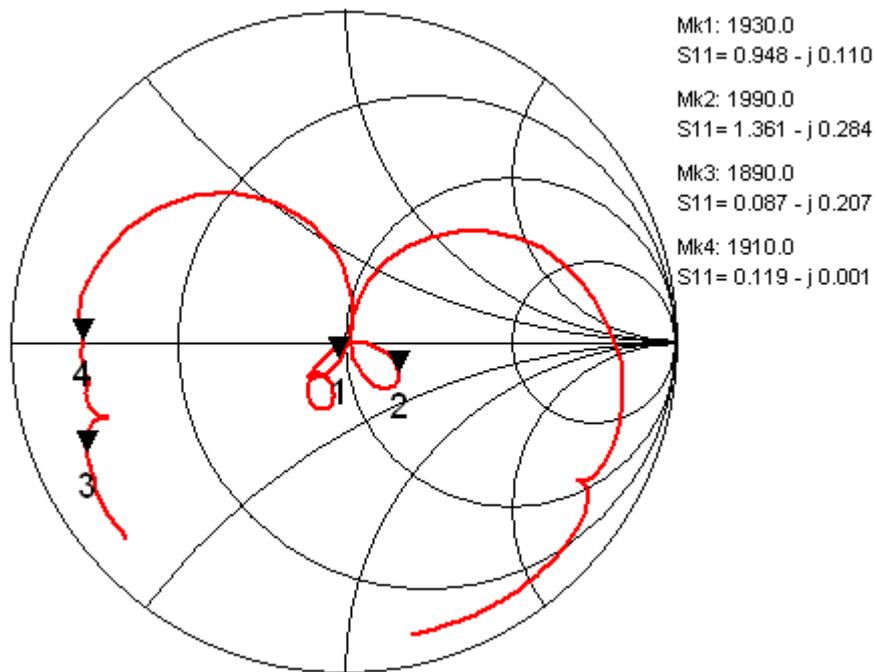


Fig. 5 Input Impedance (Unbalanced) (Filter1)

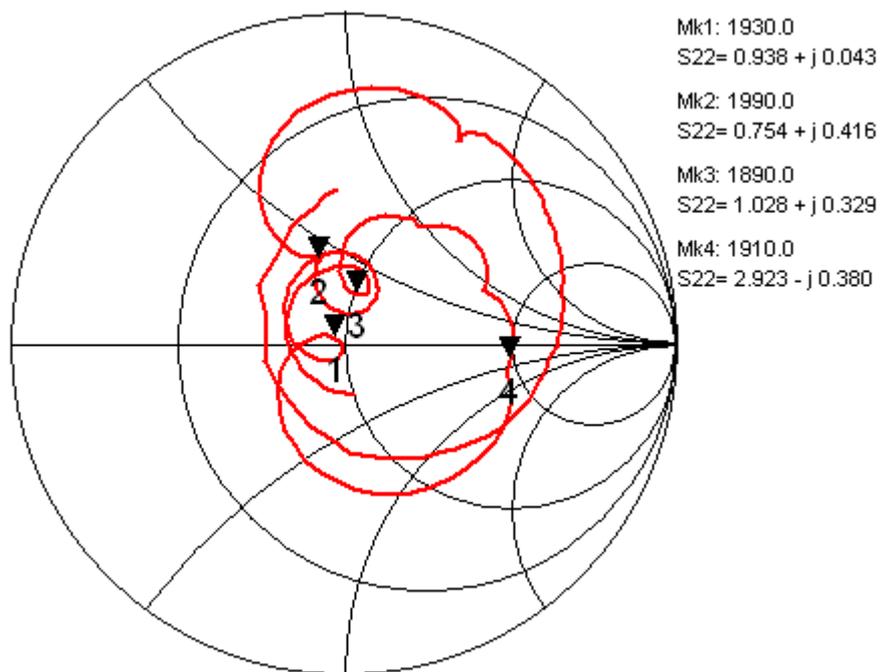


Fig. 6 Output Impedance (Balanced) (Filter1)



MSL1

*Pb Free part

Customer Name	Standard specification	TAIYO YUDEN Mobile Technology Co.,Ltd.	
System	GSM1900/GSM1800 Rx (50/150ohms)	DATE	Jan. 12, 2012
Part Number	G6QE1G960N2EE	Version 2.0bb	Final



Fig. 7 Amplitude Balanced (Filter1)

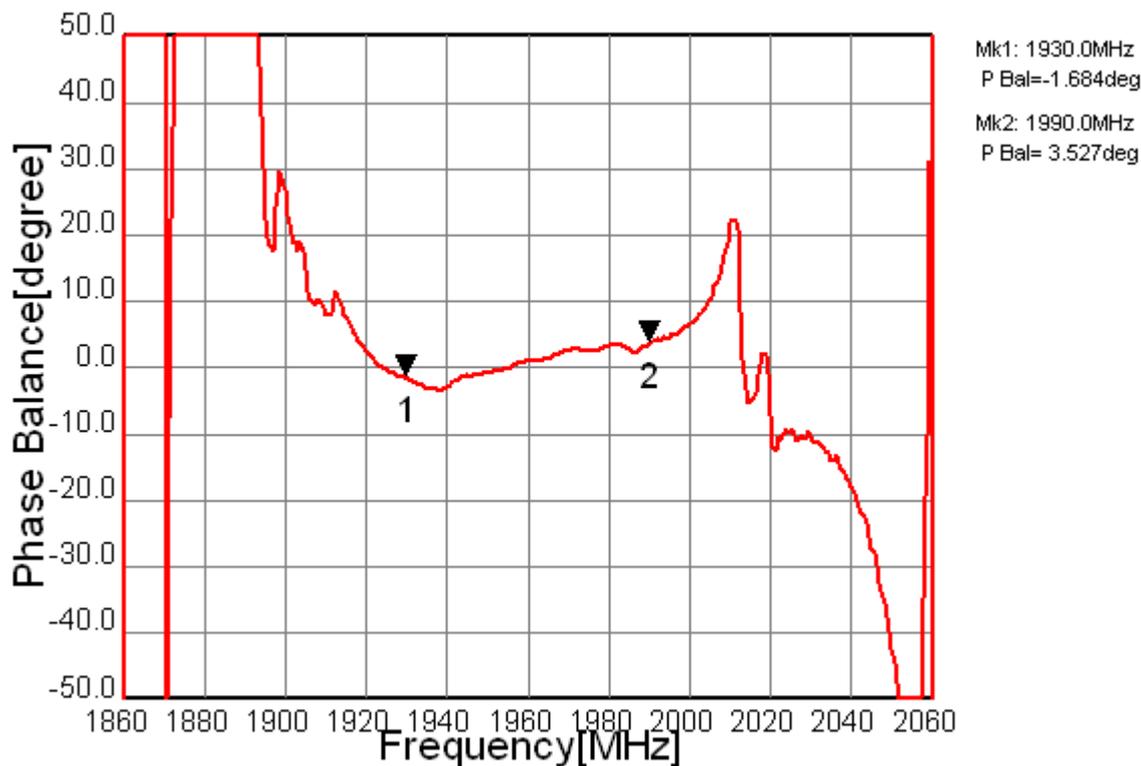


Fig.8 Phase Balanced (Filter1)



MSL1

*Pb Free part

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Part Number	G6QE1G960N2EE	Version 2.0bb	Final

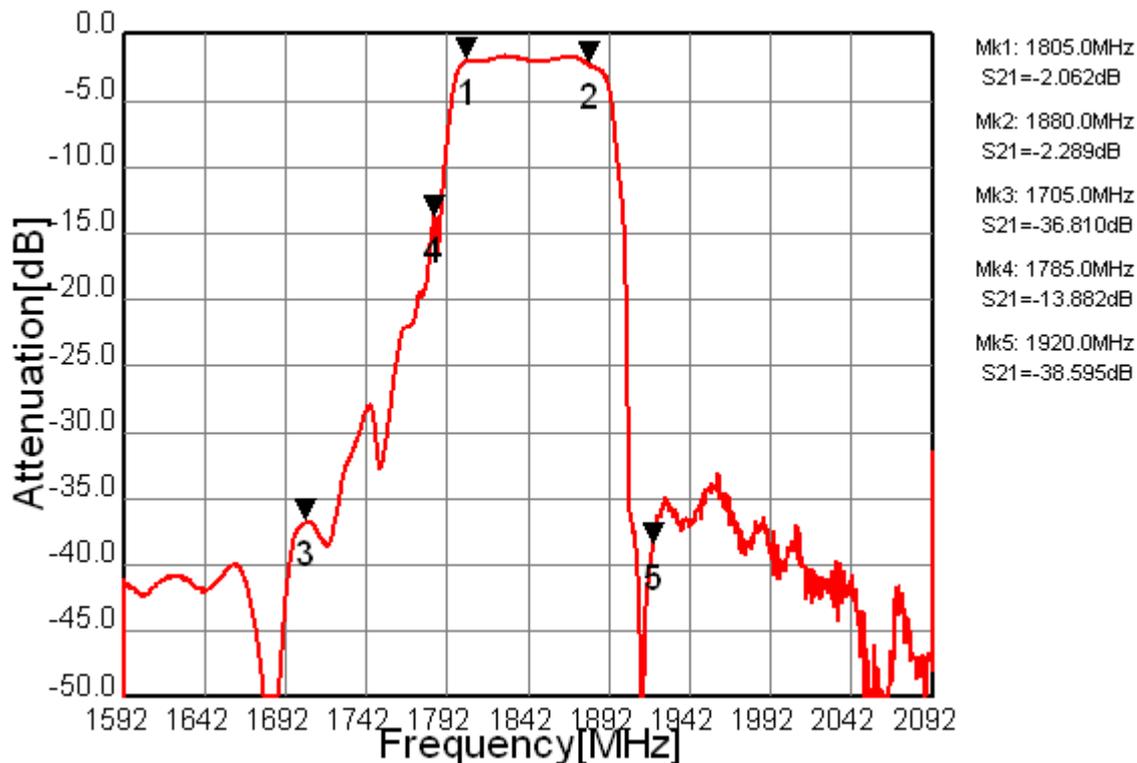


Fig.9 Pass-band Characteristics (Filter2)

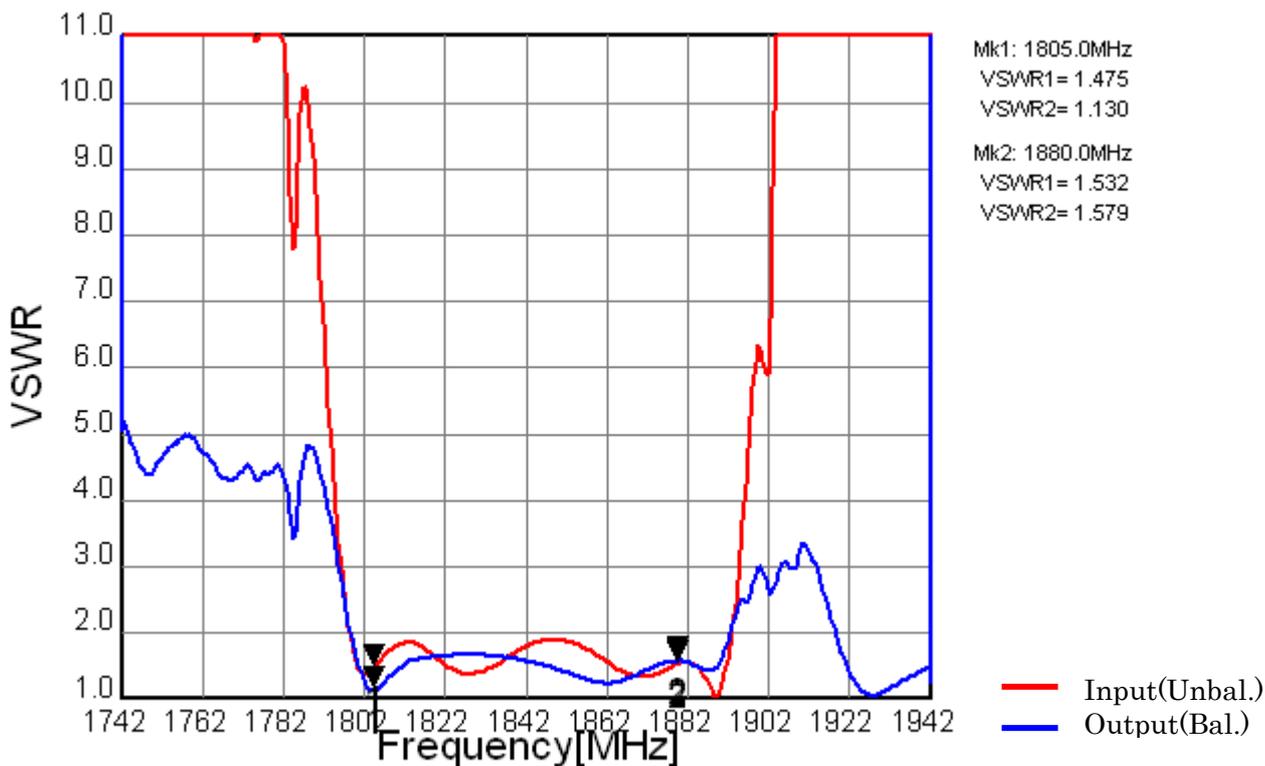


Fig.10 VSWR (Filter2)



MSL1

*Pb Free part

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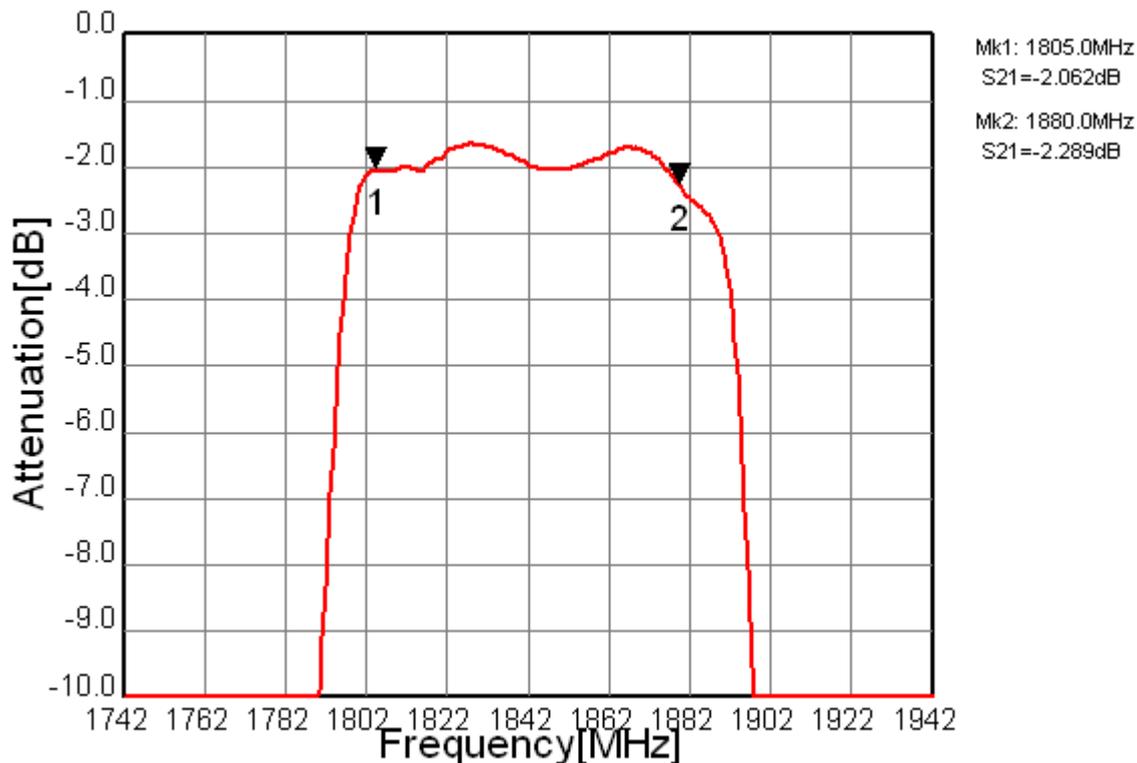


Fig.11 In-band Characteristics (Filter2)

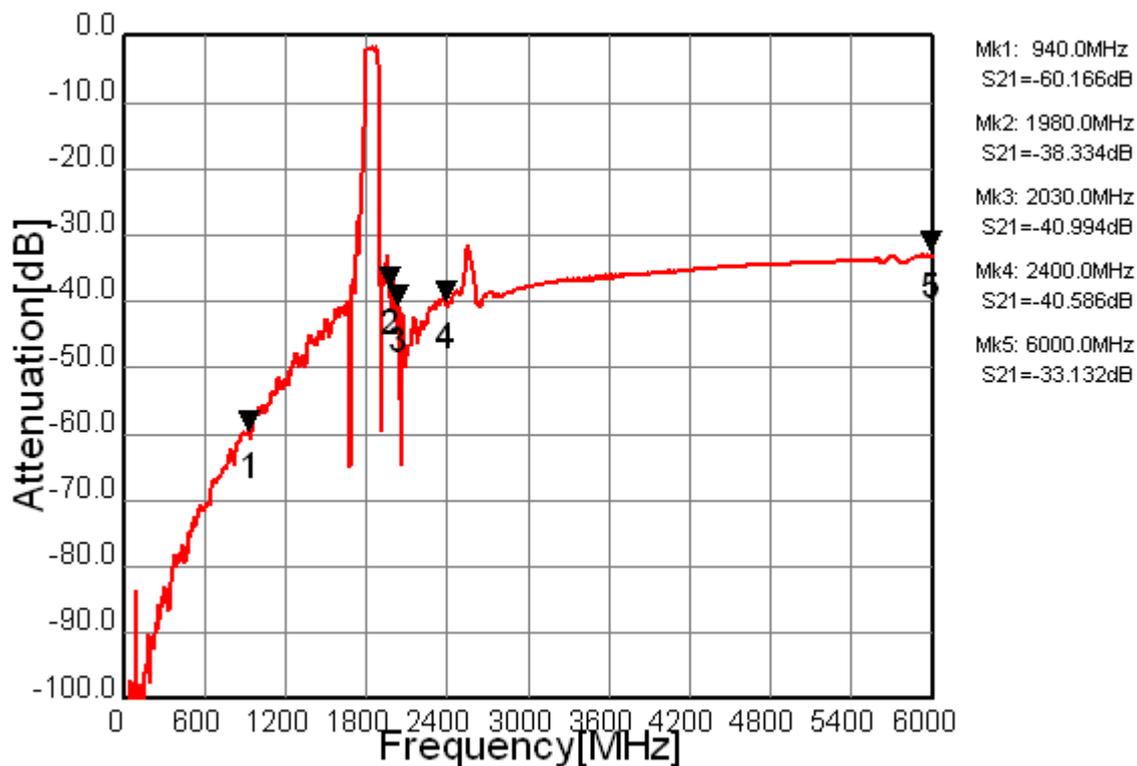


Fig.12 Wide-band Characteristics (Filter2)



MSL1

*Pb Free part

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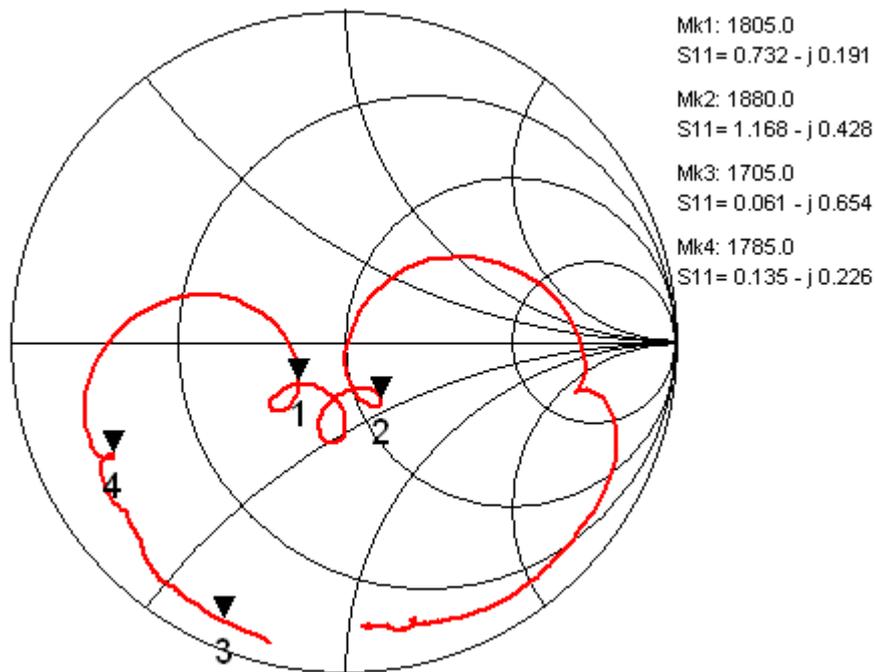


Fig.13 Input Impedance (Unbalanced) (Filter2)

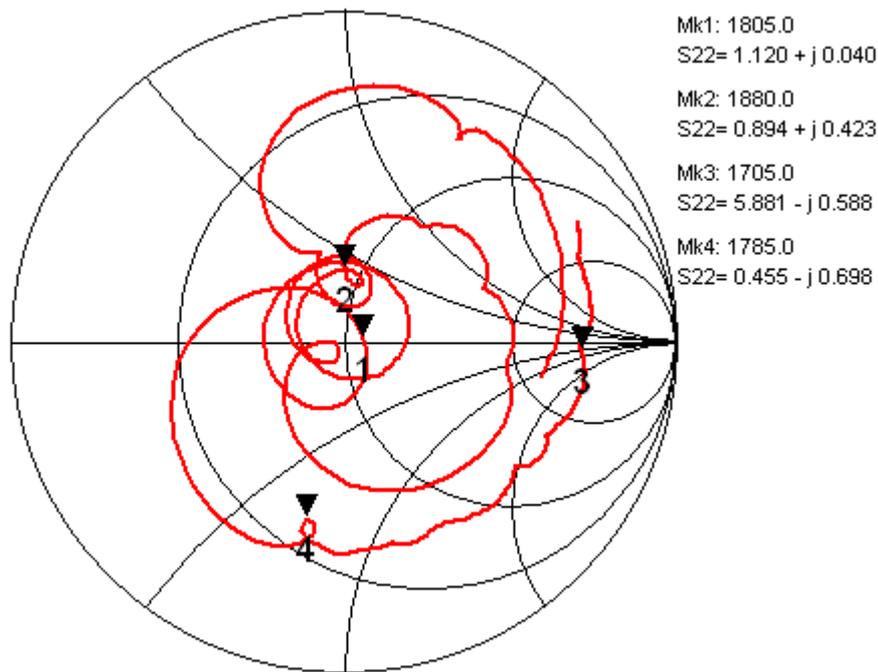


Fig.14 Output Impedance (Balanced) (Filter2)



MSL1

*Pb Free part

Customer Name	Standard specification	TAIYO YUDEN Mobile Technology Co.,Ltd.	
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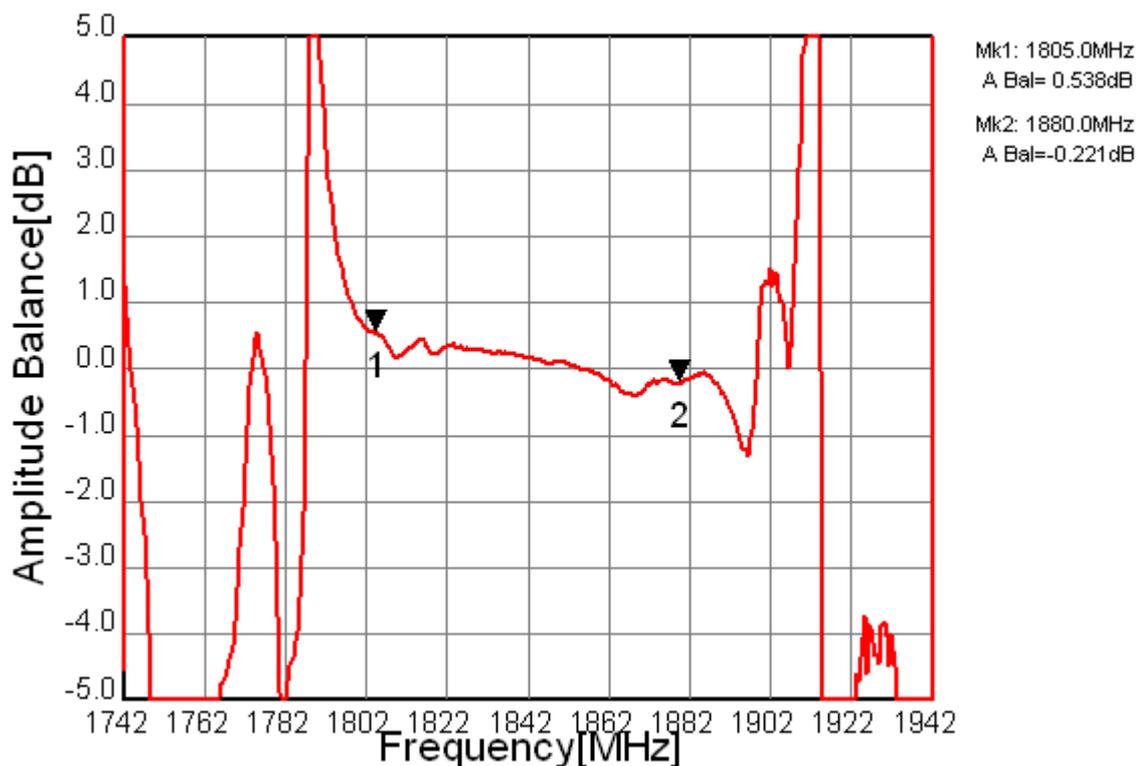


Fig.15 Amplitude Balanced (Filter2)

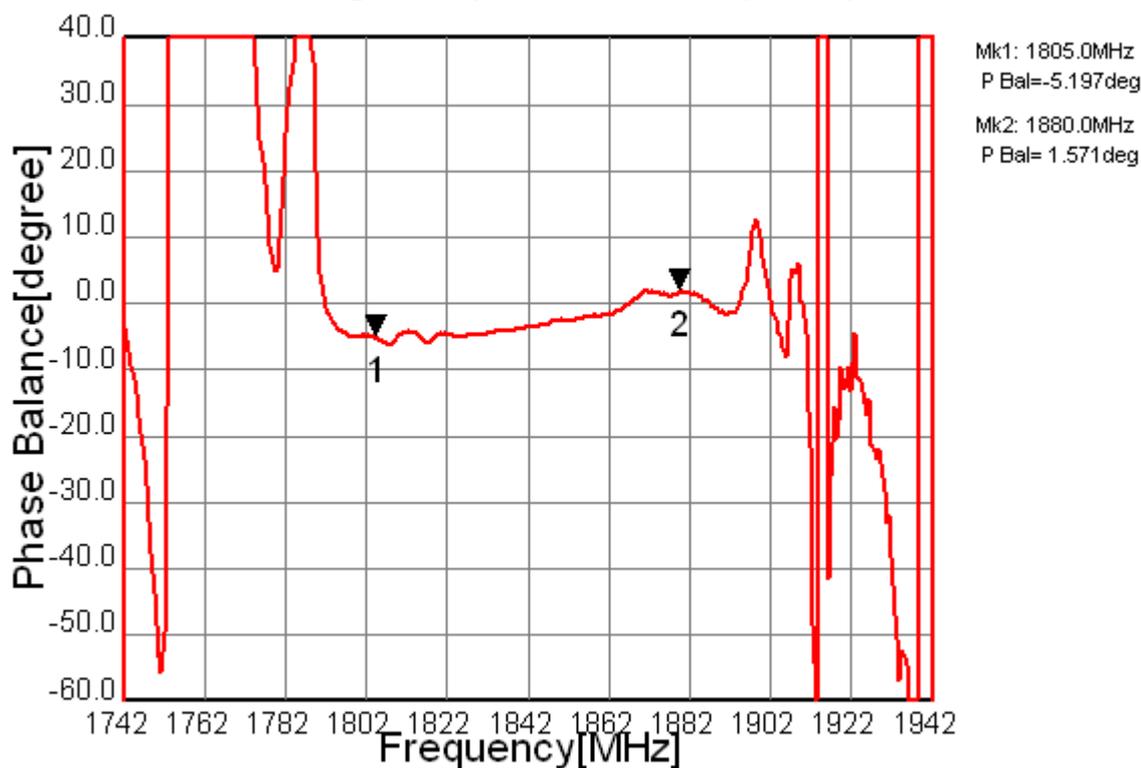


Fig.16 Phase Balanced (Filter2)



MSL1

*Pb Free part

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Part Number	G6QE1G960N2EE	Version 2.0bb	Final

Ordering Code

Ordering Code	Packing	Reel size	Status
G6QE1G960N2EE-J	Tape & Reel	5,000 pcs.	MP
G6QE1G960N2EE-JA	Tape & Reel	less than 5,000 pcs.	MP
G6QE1G960N2EE-Q	Bulk	few pcs.	MP

*Minimum order quantity (MOQ) is assigned for each inquiry, Please contact to Sales Representatives..

*MP : Mass Production

Notice

All of the contents specified herein are subject to change without notice due to technical improvements, etc.

Please contact TAIYO YUDEN Co., Ltd. for further details of product specifications.

Please conduct validation and verification of products in actual condition of mounting and operating environment before commercial shipment of the equipment.