



\* Pb Free Part



MSL1

|               |                        |   |                |
|---------------|------------------------|---|----------------|
| Customer Name | Standard specification | TAIYO YUDEN Mobile Technology Co., Ltd. |                |
| System        | W-CDMA I(2G) Rx        | Date                                    | March 31, 2010 |
| Part Number   | FAR-F6KB-2G1400-B4GC   | Version 3.1d                            |                |

Table 1 Electrical Specification

| Passband : 2110~ 2170 MHz                                    |                    |                             |           |      |      |        |
|--|--------------------|-----------------------------|-----------|------|------|--------|
| Item   | Condition<br>(MHz) | Specification               |           |      | Unit | Remark |
|  |                    | Min.                        | Typ.      | Max. |      |        |
| Insertion Loss   | 2110 ~ 2170        | -                           | 1.7       | 2.6  | dB   |        |
| Ripple   | 2110 ~ 2170        | -                           | 0.3       | 1.4  | dB   |        |
| Absolute attenuation   | DC ~ 190           | 40                          | 85        | -    | dB   |        |
|  | 1730 ~ 1790        | 30                          | 46        | -    | dB   |        |
|  | 1920 ~ 1980        | 32                          | 39        | -    | dB   |        |
|  | 2300 ~ 2360        | 20                          | 28        | -    | dB   |        |
|  | 4030 ~ 4150        | 30                          | 50        | -    | dB   |        |
|  | 5950~ 6130         | 20                          | 45        | -    | dB   |        |
|  | 6140 ~ 6320        | 20                          | 45        | -    | dB   |        |
| VSWR(input unbal)  | 2110 ~ 2170        | -                           | 1.7       | 2.7  | -    |        |
| VSWR(output bal)   | 2110 ~ 2170        | -                           | 1.7       | 2.7  | -    |        |
| Amplitude balance<br>( S <sub>21</sub> /S <sub>31</sub>  )   | 2110 ~ 2170        | -2                          | -0.3/+0.9 | +2   | dB   |        |
| Phase balance<br>((∠S <sub>21</sub> -∠S <sub>31</sub> )+180) | 2110 ~ 2170        | -10                         | -3.5/+3.1 | +10  | deg. |        |
| Input Impedance  | Unbalanced         | 50                          |           |      | ohm  |        |
| Output Impedance   | Balanced           | 100//10nH                   |           |      | ohm  |        |
| Operating temperature  |                    | -30~ +85                    |           |      | °C   |        |
| Device size  |                    | 1.4typ. x 1.0typ. x 0.5max. |           |      | mm   |        |



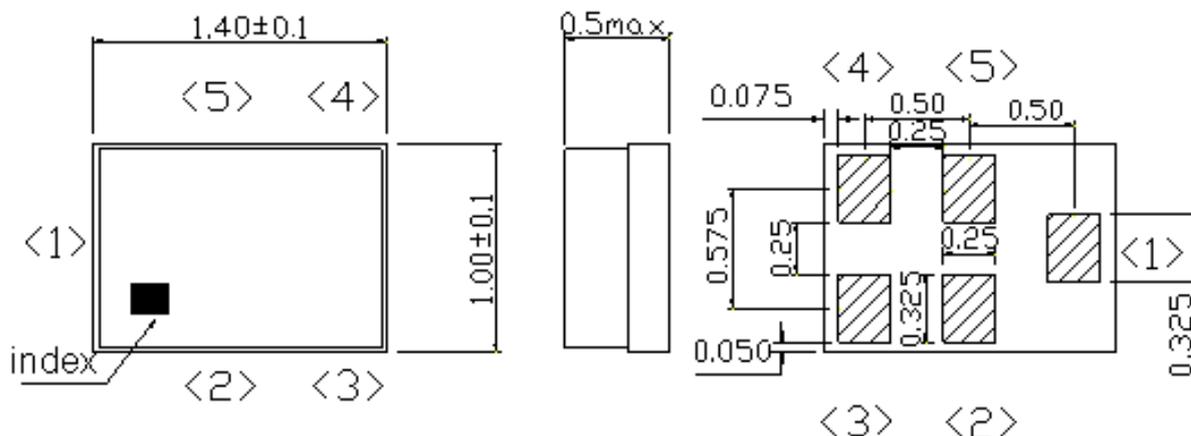
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### Dimensions

Device size: 1.4mmtyp. x 1.0mmtyp. x 0.5mmmax.

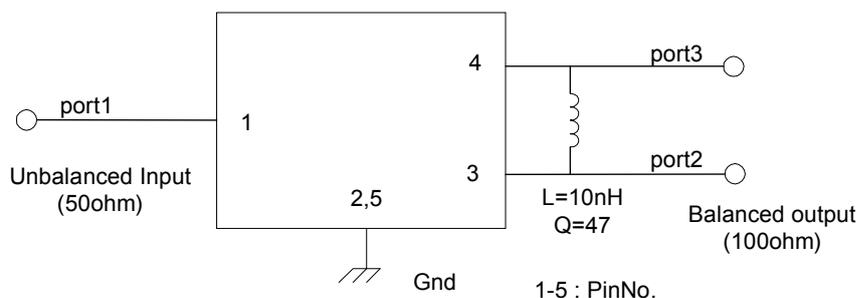


Unit : mm

### Pin Configuration

| Pin No. | Pin name | Description    |
|---------|----------|----------------|
| 1       | IN       | Unbalanced pin |
| 2       | GND      | Ground         |
| 3       | OUT      | Balanced pin   |
| 4       | OUT      | Balanced pin   |
| 5       | GND      | Ground         |

### Evaluation Circuit



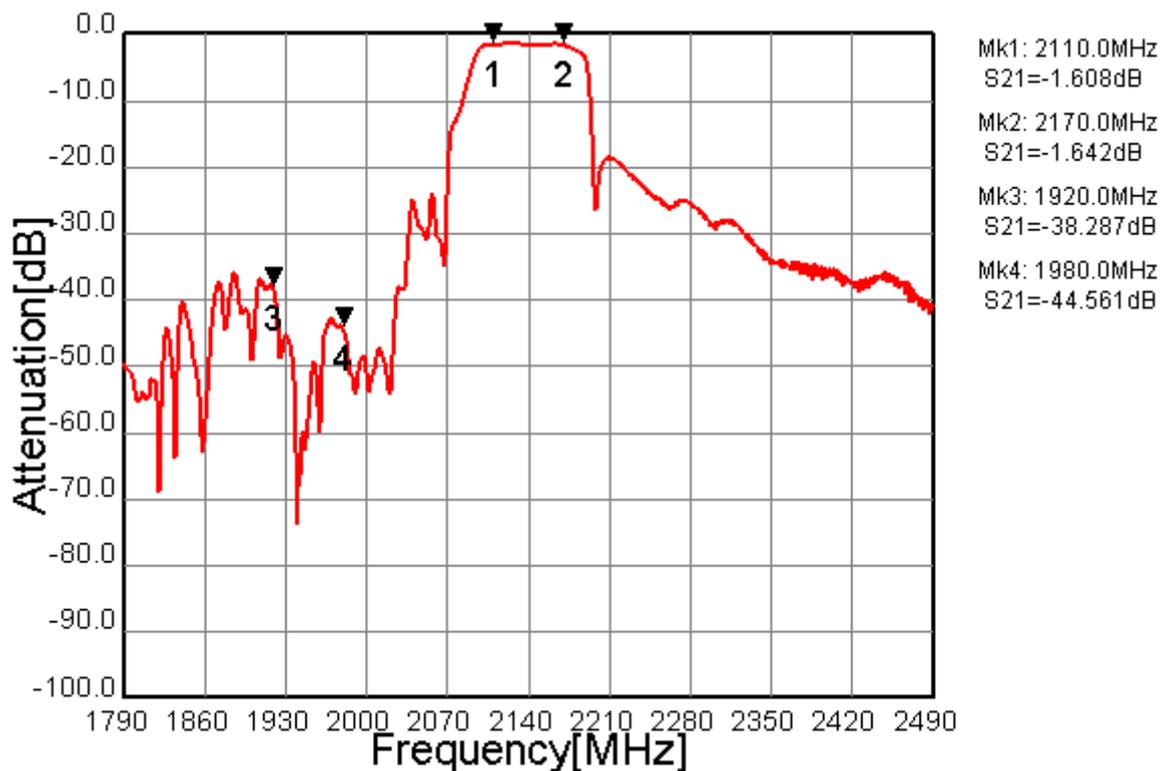


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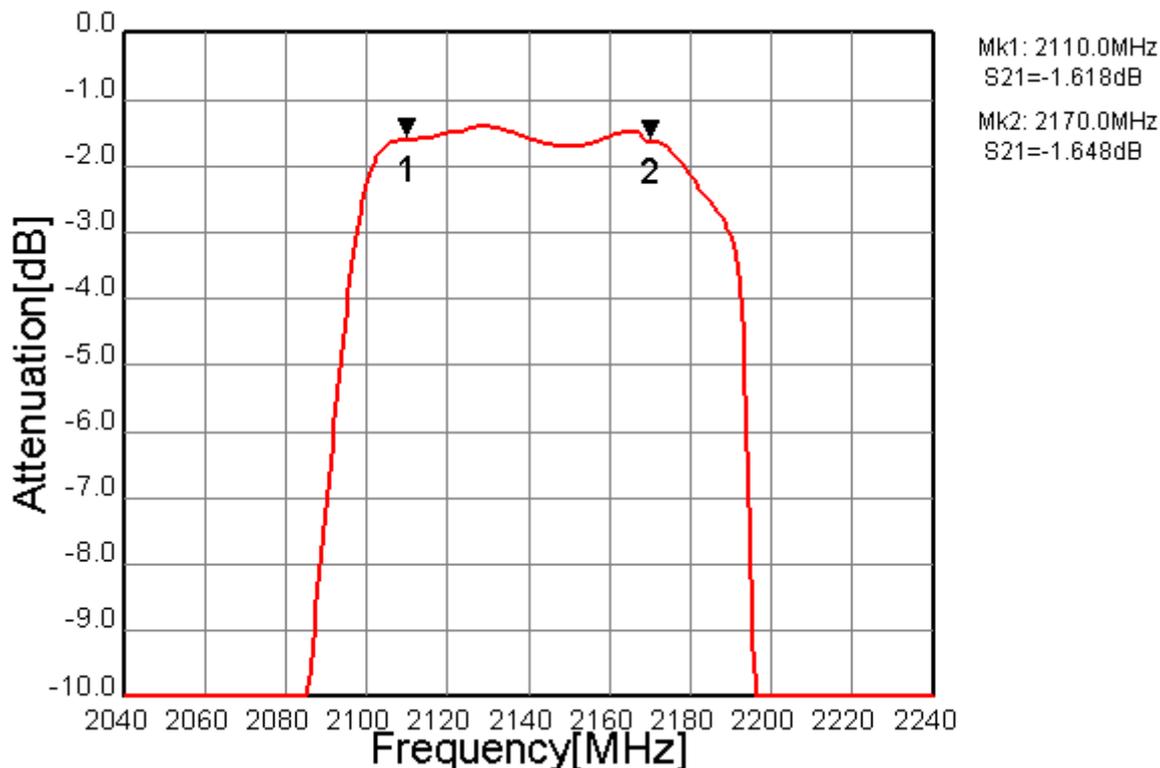


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**Fig.1 Pass-band Characteristics**



**Fig.2 In-band Characteristics**

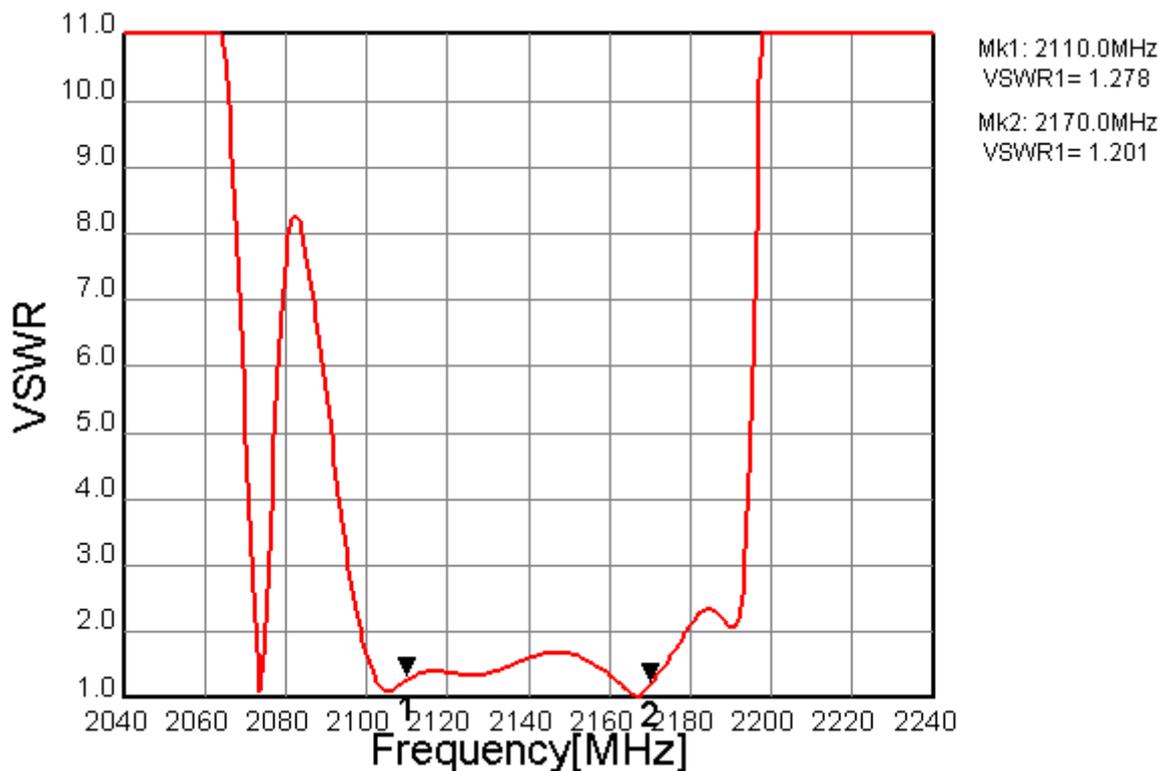


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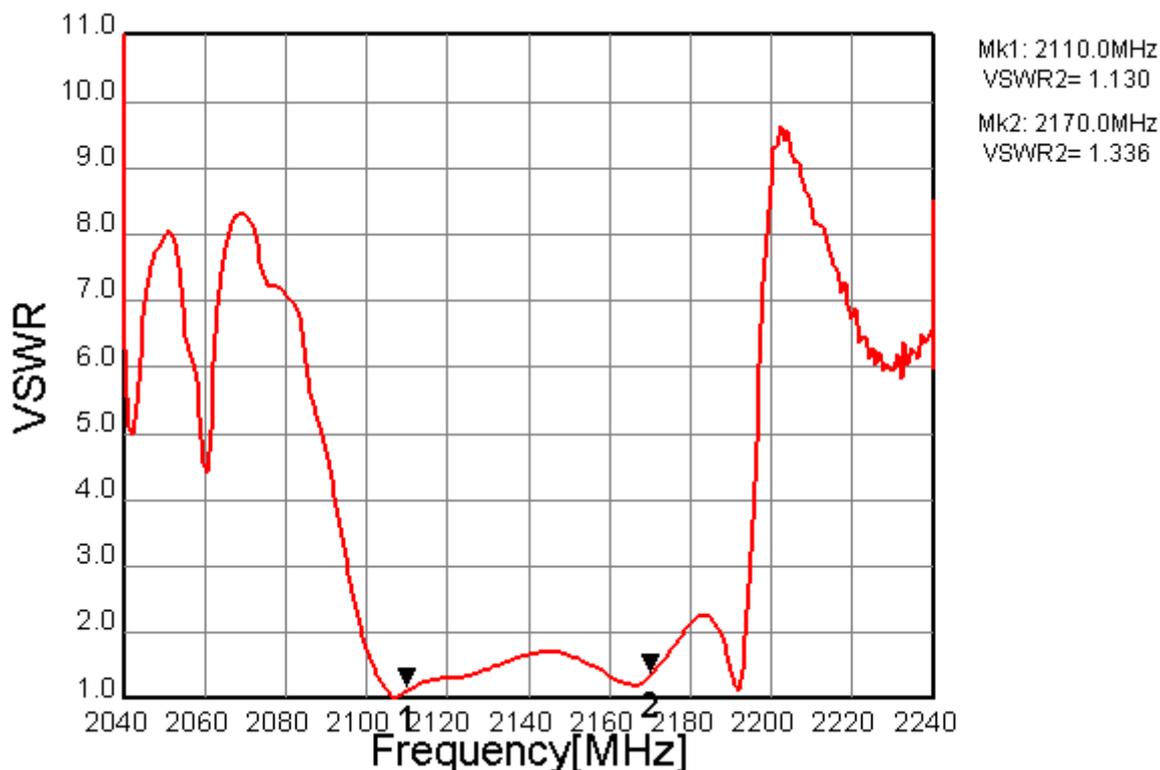


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**Fig.3 VSWR (unbal)**



**Fig.4 VSWR(bal)**

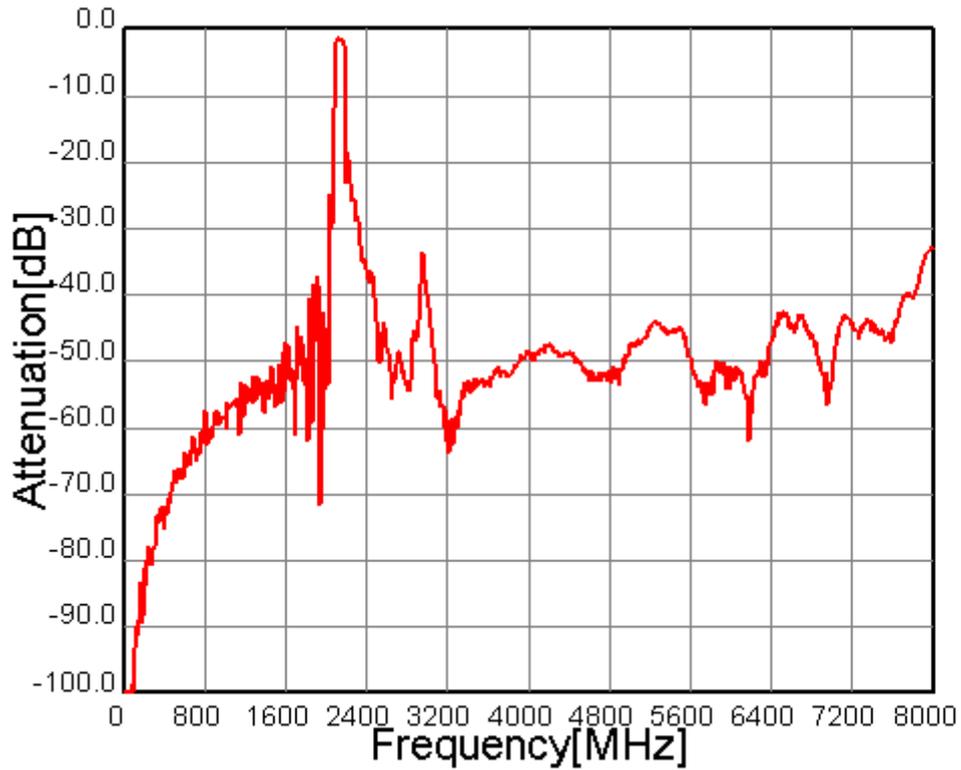


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**Fig.5 Wide-band Characteristics**

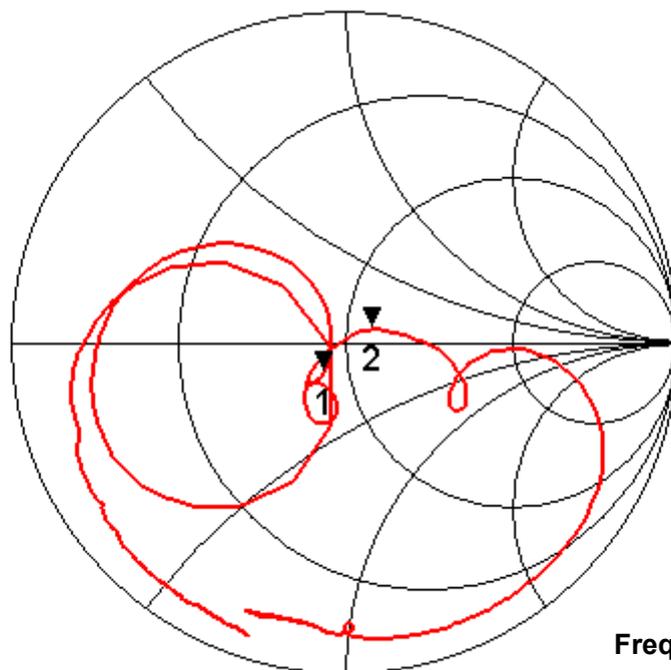


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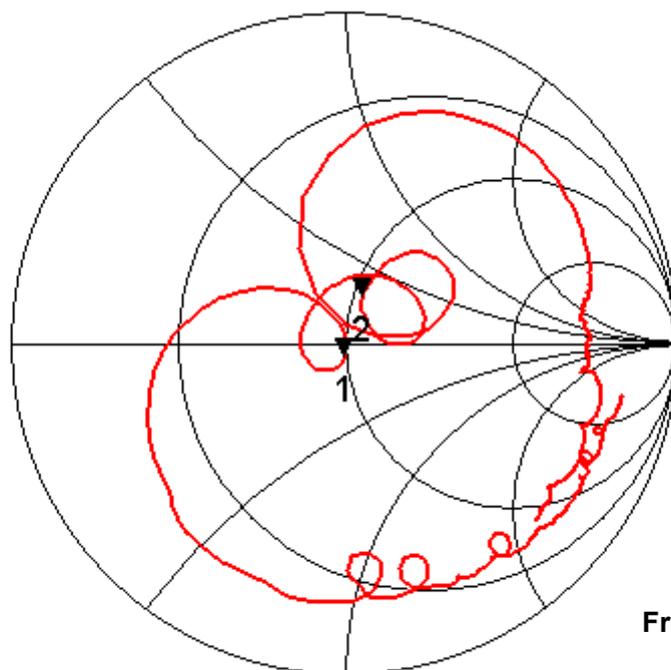
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Mk1: 2110.0  
 $S_{11} = 0.854 - j 0.160$   
 Mk2: 2170.0  
 $S_{11} = 1.167 + j 0.107$

Frequency 1790-2490MHz

**Fig.6 Impedance (unbal)**



Mk1: 2110.0  
 $S_{22} = 0.976 - j 0.105$   
 Mk2: 2170.0  
 $S_{22} = 1.072 + j 0.292$

Frequency 1790-2490MHz

**Fig.7 Impedance (bal)**

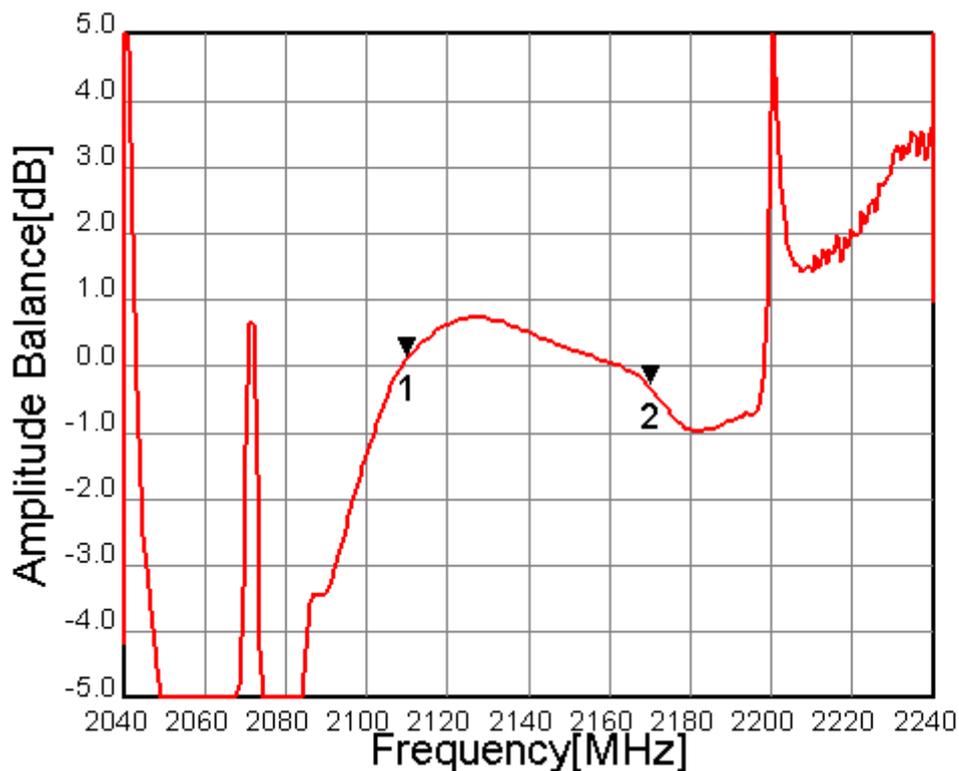


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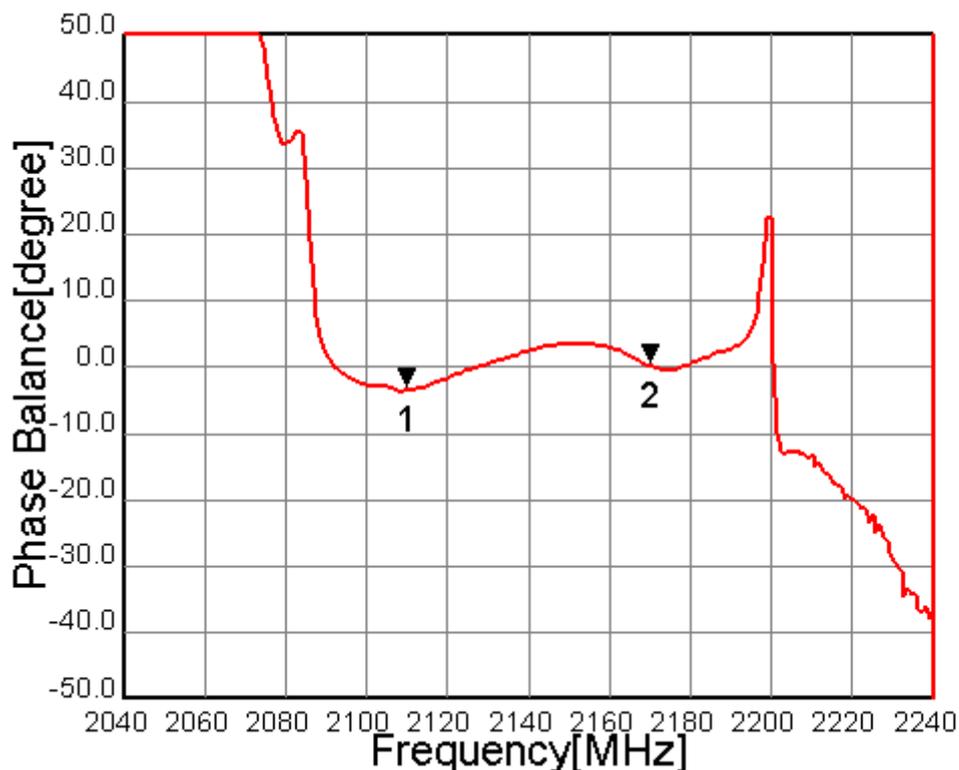


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**Fig.8 Amplitude Balance**



**Fig.9 Phase Balance**