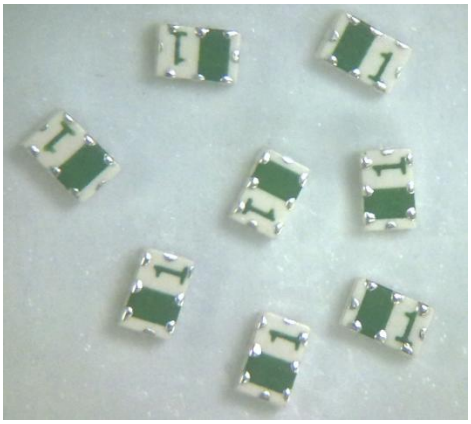
microgate
麦捷科技

Multilayer Chip Balance Filter

FEATURES



- Good performance as small size Band-pass Filter
- Low Insertion Loss at the passband and High supression at the rejection area
- Phase difference 180 degree and amplitude difference 1dB max.
- Compact structure and low material loss

APPLICATIONS

- WLan IEEE 802.11b～g and Bluetooth module.
- RF and Wireless Communication system.

Product Identification

MBF	22	M2450	H132	-	M12
①	②	③	④		⑤

① Series name
② Dimension L×W：【22: 2.5mm×2.0mm;　21: 2.0mm×1.25mm；18: 1.6mm×0.8mm;】
③ Center Frequency: 2450MHz
④ Via Design Series
⑤ Normal Type

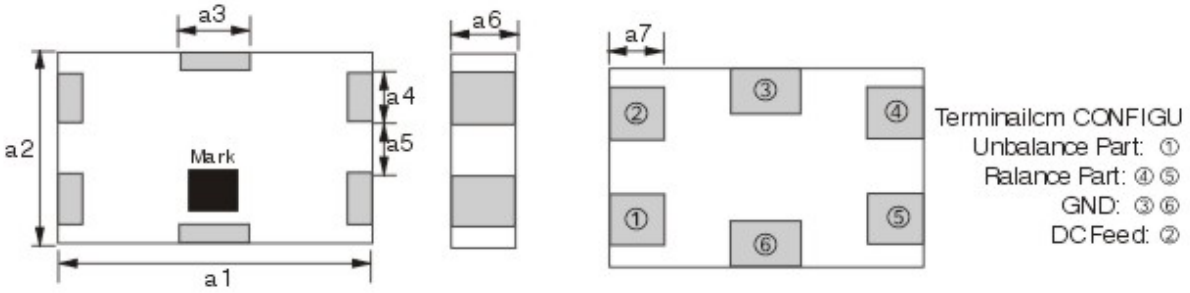
Product Specification

Part No	Dimensions L×W(mm)	Unbalance Port Impedance (Ω)	Balance Port Impedance (Ω)	Center Frequency fo (MHz)	Insertion Loss (dB)
MBF21M2450H155-M12	2.0×1.25	50	55+j50	2450 MHz	2.3max.(@25 ^{o} C)
MBF21M2450H133-M13	2.0×1.25	50	Conjugate to MT6612	2450 MHz	3.5max.(@25 ^{o} C)
MBF21M2450P69-M16	2.0×1.25	50	Conjugate to BC3,BC4,BC6	2450 MHz	3.5max.(@25 ^{o} C)
MBF18M2450H133-M18	1.6×0.8	50	Conjugate to MT6616	2450 MHz	3.5max.(@25 ^{o} C)
MBP21M2450P69-M20	2.0×1.25	50	100（50+50）	2450 MHz	3.0max.(@25 ^{o} C)
MBF21M2450P69-M21	2.0×1.25	50	50（25+25）	2450 MHz	3.0max.(@25 ^{o} C)
MBP21M2450P69-M28	2.0×1.25	50	50（25+25）	2450 MHz	3.0max.(@25 ^{o} C)

Multilayer Chip Balance Filter

Part No：MBF22M2450H155-M12

1. Dimensions（Unit：mm）

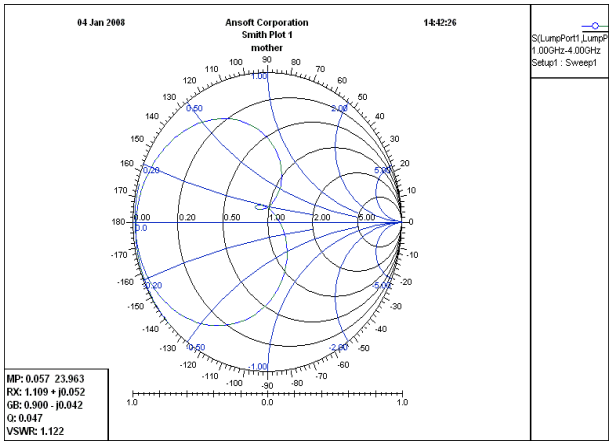


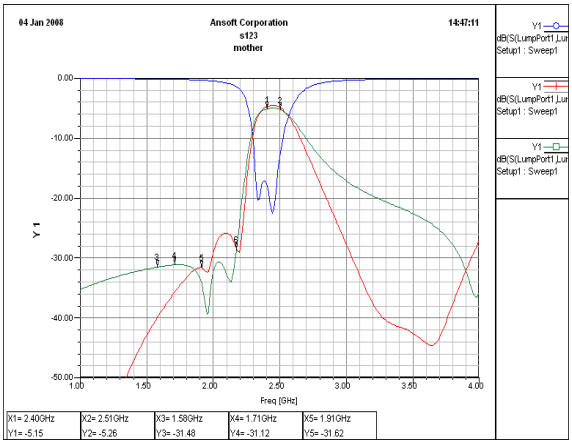
Type 型号	a1	a2	a3	a4	a5	a6	a7
M12	2.0±0.15	1.5±0.15	0.45±0.15	0.4±0.15	0.4±0.15	1.0±0.15	0.35±0.15

2. Electrical Characteristics

No.	Item	Specifications
1	Unbalance Port Impedance	50Ω
2	Balance Port Impedance	55+j50
3	Center Frequency fo	2450.0 MHz
4	Insertion Loss	≤2.3dB (@25℃±5℃)
		≤2.8dB (@-40℃～85℃)
5	Band Width	2400～2500 MHz
6	V.S.W.R at Unbalance Port (in BW)	≤2.0 (2400～2500 MHz)
7	Attenuation	≥35 (DC～960 MHz) ≥31 (1570～1990 MHz) ≥26 (2110～2170 MHz) ≥20 (4800～5000 MHz)
8	Phase difference	180±5 Deg.

3. Characteristic curve

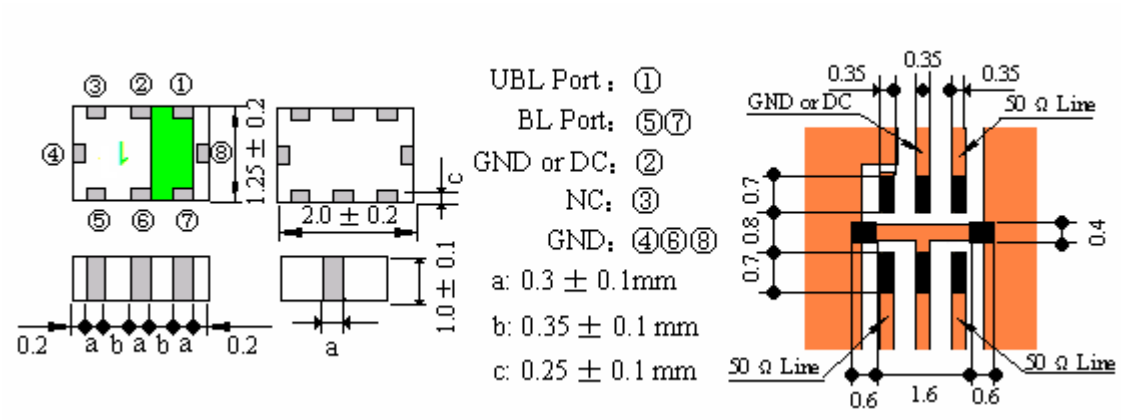




Multilayer Chip Balance Filter

Part No：MBF21M2450H132-M13

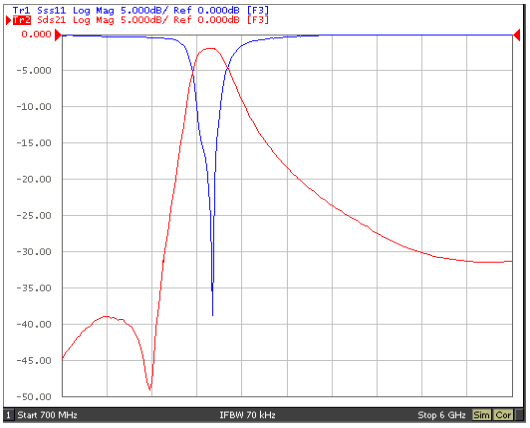
1. Dimensions（Unit：mm）



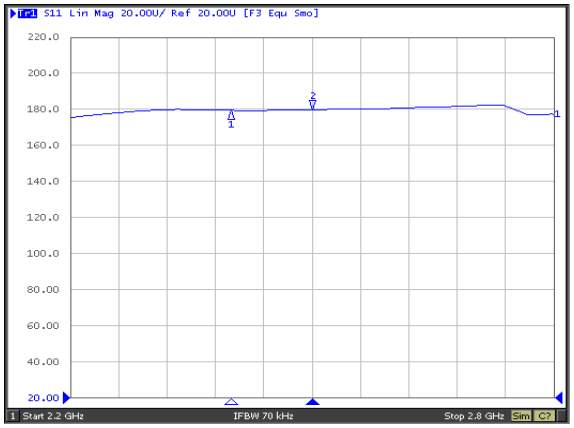
2. Electrical Characteristics

No.	Item ）	Specifications
1	Unbalance Port Impedance	50Ω
2	Balance Port Impedance	Conjugate to MT 6612
3	Center Frequency fo	2450.0 MHz
4	Insertion Loss	≤3.5dB (@ 25℃±5℃)
		≤3.8dB (@-40℃～85℃)
5	Band Width	2400～2500 MHz
6	V.S.W.R at Unbalance Port (in BW)	≤2.0 (2400～2500 MHz)
7	Attenuation	≥30 (880～960 MHz) ≥30 (1710～1990 MHz) ≥25 (4800～5000 MHz)
8	Phase difference	180±10 Deg.

3. Characteristic curve



S-Parameters curve

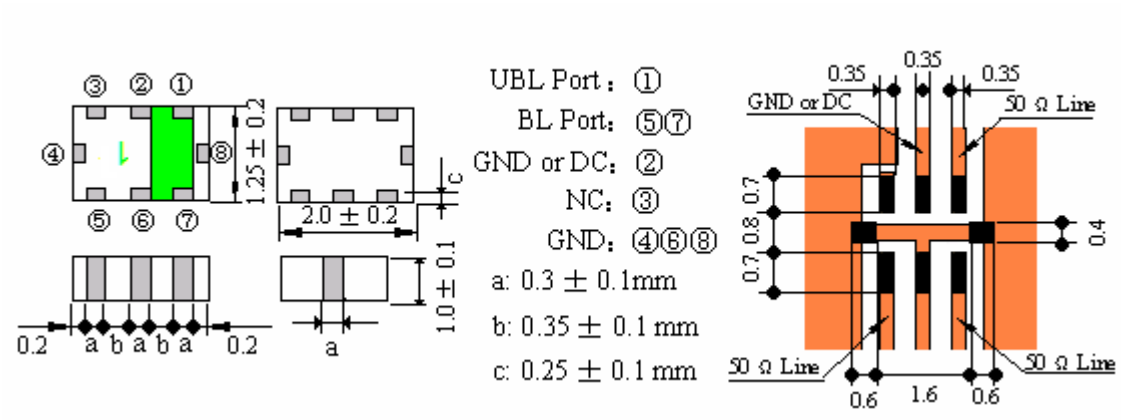


Phase-difference curve

Multilayer Chip Balance Filter

Part No：MBF21M2450P69-M16

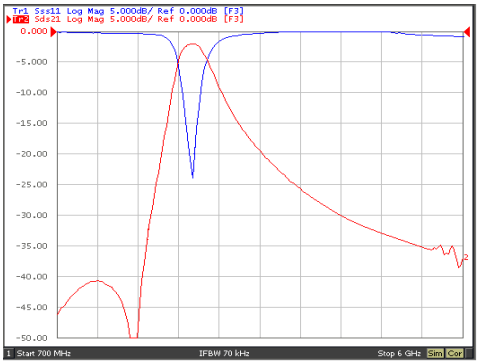
1. Dimensions（Unit：mm）



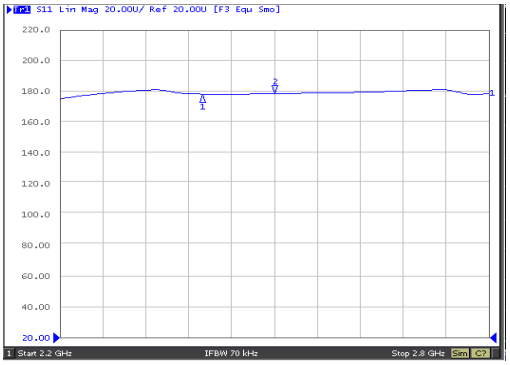
2. Electrical Characteristics

No.	Item	Specifications
1	Unbalance Port Impedance	50Ω
2	Balance Port Impedance	Conjugate to BC3,BC4,BC6
3	Center Frequency fo	2450.0 MHz
4	Insertion Loss	≤3.5dB (@25℃±5℃)
		≤3.8dB (@-40℃～85℃)
5	Band Width	2400～2500 MHz
6	V.S.W.R	≤2.0 (2400～2500 MHz)
7	Attenuation	≥35 (880～960 MHz) ≥20 (1710～1990 MHz) ≥12 (1990～2170 MHz) ≥20 (4800～5000 MHz) ≥20 (7200～7500 MHz)
8	Phase difference	180±10 Deg.

3. Characteristic curve



S-Parameters curve



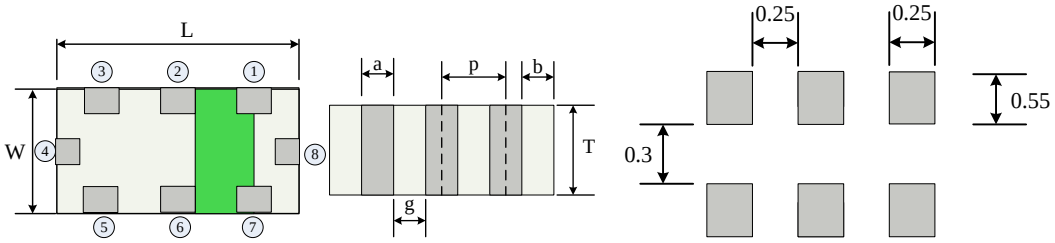
Phase-difference curve

Multilayer Chip Balance Filter

Part No：MBF21M2450H132-M18

1. Dimensions（Unit：mm）

① Unbalance Port ④⑥⑧GND ②GND or DC feed ⑤⑦ Balance Port ③NC

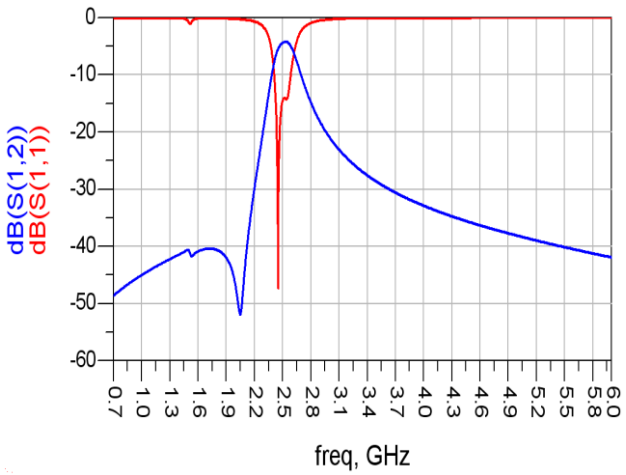


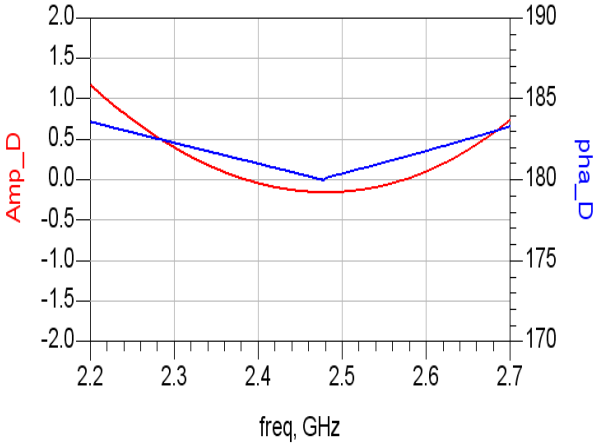
Dimensions and Land Pattern							
Mark	W	L	T	a	b	g	p
Dimensions(mm)	0.8±0.1	1.6±0.1	0.6±0.1	0.2±0.1	0.2±0.1	0.3±0.1	0.5±0.1

2. Electrical Characteristics

No.	Item	Specifications
1	Unbalance Port Impedance	50Ω
2	Balance Port Impedance	Conjugate to MT6616
3	Center Frequency fo	2450.0 MHz
4	Insertion Loss	≤3.5dB (@25℃±5℃) ≤3.8dB (@-40℃～85℃)
5	Band Width	2400～2500 MHz
6	V.S.W.R at Unbalance Port (in BW)	≤2.0 (2400～2500 MHz)
7	Attenuation	≥30 (880～960 MHz) ≥25 (1710～1990 MHz) ≥35 (4800～5000 MHz)
8	Phase difference	180±10 Deg.

3. Characteristic curve

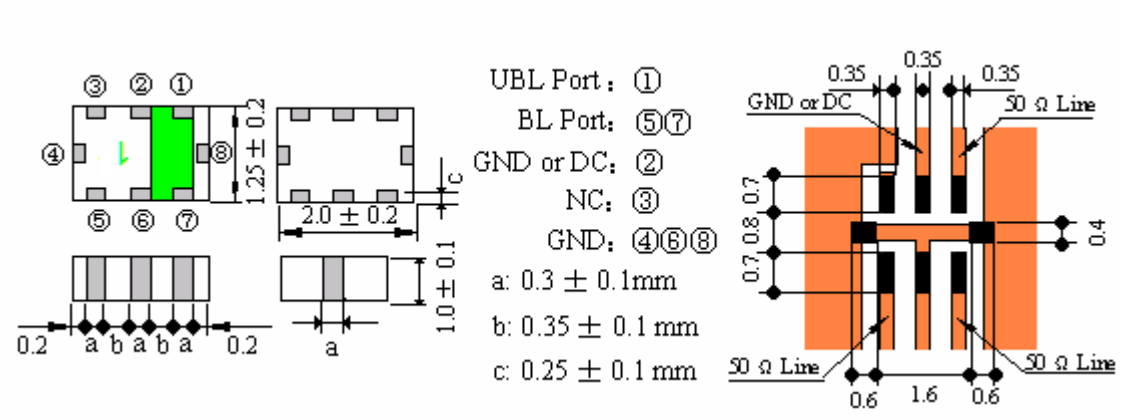




Multilayer Chip Balance Filter

Part No：MBF21M2450P69-M20

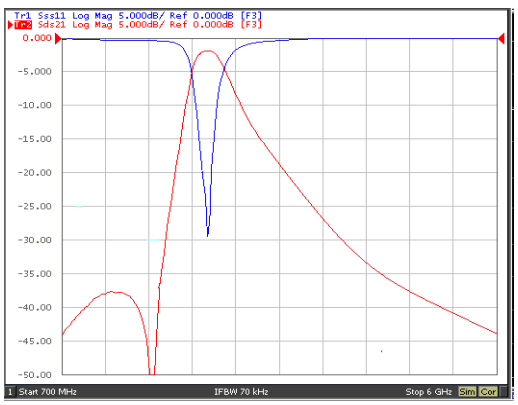
1. Dimensions（Unit：mm）



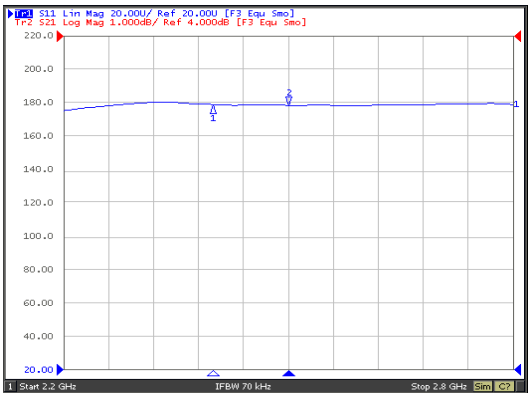
2. Electrical Characteristics

No.	Item	Specifications
1	Unbalance Port Impedance	50Ω
2	Balance Port Impedance	100（50+50）
3	Center Frequency fo	2450.0 MHz
4	Insertion Loss	≤3.0dB (@25℃±5℃)
		≤3.3dB (@ -40℃～85℃)
5	Band Width	2400～2500 MHz
6	V.S.W.R at Unbalance Port (in BW)	≤2.0 (2400～2500 MHz)
7	Attenuation	≥30 (880～960 MHz) ≥30 (1710～1990 MHz) ≥25 (4800～5000 MHz)
8	Phase difference	180±10 Deg.

3. Characteristic curve



S-Parameters curve

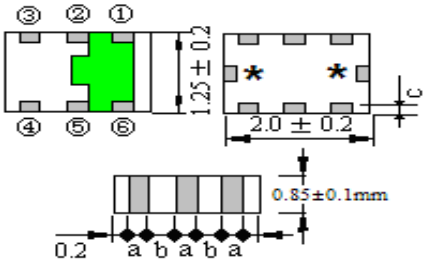


Phase-difference curve

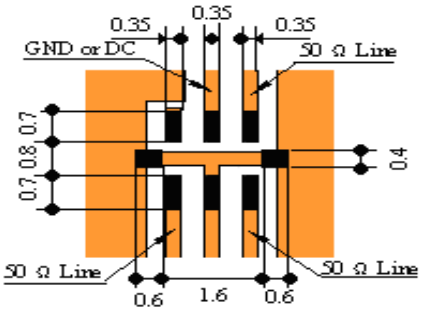
Multilayer Chip Balance Filter

Part No：MBF21M2450P69-M21

1. Dimensions（Unit：mm）



UBL Port：①
BL Port：④⑥
NC or DC：②
NC：③
GND：⑤
a: 0.3 ± 0.1mm
b: 0.35 ± 0.1 mm
c: 0.25 ± 0.1 mm

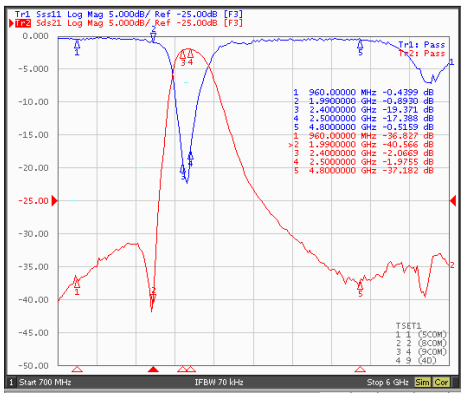


Terminal of "NC" should be fixed to the no connected pattern.

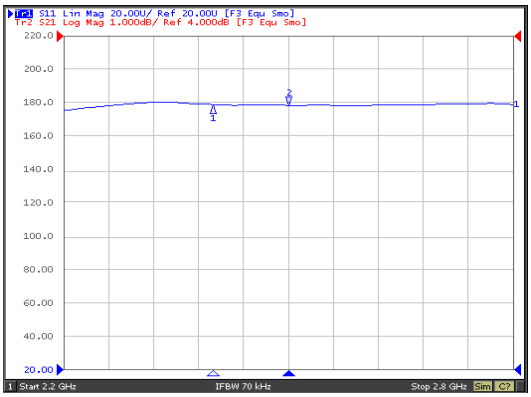
2. Electrical Characteristics

No.	Item	Specifications
1	Unbalance Port Impedance	50Ω
2	Balance Port Impedance	50Ω
3	Center Frequency fo	2450.0 MHz
4	Insertion Loss	≤2.5dB (@25℃±5℃)
		≤2.8dB (@-40℃～85℃)
5	Band Width	2400～2500 MHz
6	V.S.W.R at Unbalance Port (in BW)	≤2.0 (2400～2500 MHz)
7	Attenuation	≥30 (880～960 MHz) ≥30 (1710～1990 MHz) ≥25 (4800～5000 MHz)
8	Phase difference	180±10 Deg.

3. Characteristic curve



S-Parameters curve

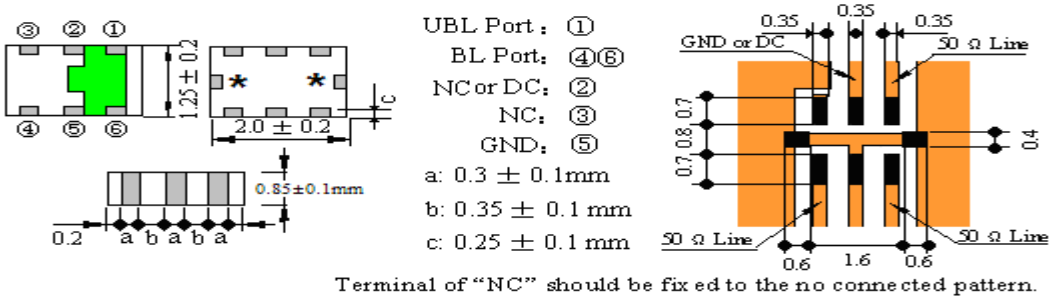


Phase-difference curve

Multilayer Chip Balance Filter

Part No：MBF21M2450P69-M28

1. Dimensions（Unit：mm）

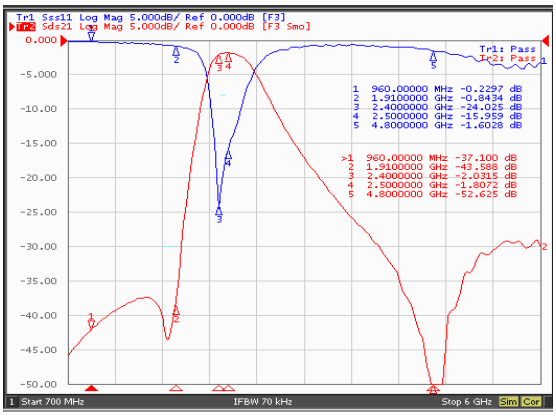


Terminal of "NC" should be fixed to the no connected pattern.

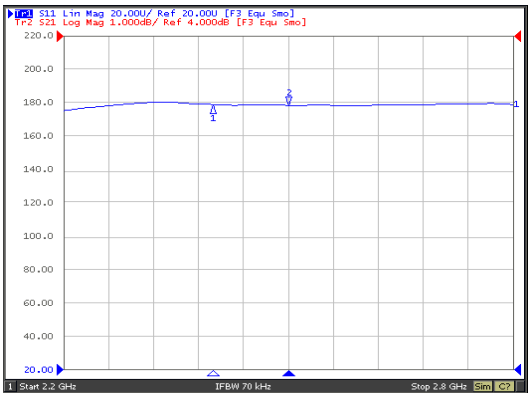
2. Electrical Characteristics

No.	Item	Specifications
1	Unbalance Port Impedance	50Ω
2	Balance Port Impedance	50Ω
3	Center Frequency fo	2450.0 MHz
4	Insertion Loss	≤2.5dB (@25℃±5℃)
		≤2.8dB (@ -40℃～85℃)
5	Band Width	2400～2500 MHz
6	V.S.W.R at Unbalance Port (in BW)	≤2.0 (2400～2500 MHz)
7	Attenuation	≥30 (880～960 MHz) ≥30 (1710～1990 MHz) ≥25 (4800～5000 MHz)
8	Phase difference	180±10 Deg.

3. Characteristic curve



S-Parameters curve



Phase-difference curve