

A. MAXIMUM RATING:

1. Input power : 30dBm (Ta=+50deg C,50000h,CW)
2. Maximum DC Voltage: +/-5 V
3. Operating temperature range: -30 °C to +85 °C
4. Storage temperature range: -30 °C to +85 °C
5. Moisture Sensitivity Level: Level 1 (MSL 1)
6. ESD 100V(MM) 200V(HBM)

RoHS Compliant

Lead-free soldering

Electrostatic Sensitive Device (ESD)

B. ELECTRICAL CHARACTERISTICS:

Terminating impedance(Tx Port): 50 Ω (Single-ended)

Terminating impedance(Rx Port): 50 Ω (Single-ended)

Terminating impedance(Ant Port): 50 //12nH Ω (Single-ended)

Tx to ANT

| Parameters Description | | Unit | Minimum | Typical | Maximum | Note |
|------------------------|---------------|--------|---------|---------|---------|---------------|
| Insertion Loss | 788 ~ 798 MHz | dB(*1) | - | 1.2 | 1.5 | -30 °C~+85 °C |
| | | | | 1.2 | 1.8 | |
| Ripple | 788 ~ 798 MHz | dB | - | 0.3 | 0.7 | -30 °C~+85 °C |
| | | | | 0.3 | 0.9 | |
| VSWR | Tx | - | - | 1.3 | 2.0 | -30 °C~+85 °C |
| | | | | 1.3 | 2.1 | |
| | ANT | | | 1.4 | 2.0 | -30 °C~+85 °C |
| | | | | 1.4 | 2.1 | |

Attenuation:

| | | | | | |
|-----------------|----|-----|-----|---|---------------|
| 758 ~ 768 MHz | dB | 49 | 58 | - | - |
| 769 ~ 775 MHz | dB | 17 | | - | 45 °C~+85 °C |
| | dB | 20 | 36 | - | -30 °C~+45 °C |
| 799 ~ 805 MHz | dB | 0.7 | 1.1 | - | |
| 869 ~ 894 MHz | dB | 40 | 44 | - | |
| 1554 ~ 1565 MHz | dB | 42 | 47 | | |
| 1565 ~ 1606 MHz | dB | 44 | 47 | | |
| 1800 ~ 1880 MHz | dB | 44 | 50 | | |
| 1930 ~ 2000 MHz | dB | 46 | 52 | | |
| 2364 ~ 2394 MHz | dB | 33 | 52 | | |

| | | | | | |
|-----------------|----|----|----|--|--|
| 2400 ~ 2500 MHz | dB | 32 | 50 | | |
| 3152 ~ 3192 MHz | dB | 27 | 42 | | |
| 4900 ~ 5950 MHz | dB | 10 | 17 | | |

ANT to Rx

| Parameters Description | | Unit | Minimum | Typical | Maximum | Note | |
|------------------------|---------------------|---------------|---------|---------|---------|---------------|---------------|
| Insertion Loss | 758.25 ~ 767.75 MHz | dB(*1) | - | 2.2 | 3.2 | -30 °C~+85 °C | |
| | | dB(*1) | | 2.2 | 3.5 | | |
| | 758 ~ 768 MHz | dB | | 2.3 | 3.3 | -30 °C~+85 °C | |
| | | dB | | 2.3 | 3.6 | | |
| Ripple | 758 ~ 768 MHz | dB | - | 0.7 | 2.0 | -30 °C~+85 °C | |
| | | dB | | 0.7 | 2.3 | | |
| VSWR | Tx | 758 ~ 768 MHz | - | - | 1.6 | 2.0 | -30 °C~+85 °C |
| | | | | | 1.6 | 2.2 | |
| | ANT | 758 ~ 768 MHz | | | 1.6 | 2.0 | -30 °C~+85 °C |
| | | | - | - | 1.6 | 2.2 | |

Attenuation:

| | | | | | |
|------------------|----|----|----|---|--------------|
| 10 ~ 698 MHz | dB | 45 | 55 | - | - |
| 698 ~ 716 MHz | dB | 43 | 56 | | |
| 716 ~ 728 MHz | dB | 27 | 39 | | |
| 776~ 777.34 MHz | dB | 22 | | - | -30 °C~ 0 °C |
| | dB | 35 | 41 | - | 0 °C~+85 °C |
| 777.34 ~ 780 MHz | dB | 35 | 40 | - | |
| 780 ~ 787 MHz | dB | 35 | 41 | - | |
| 788 ~ 798 MHz | dB | 50 | 61 | | |
| 798 ~ 6000 MHz | dB | 30 | 36 | | |
| 1546 ~ 1566 MHz | dB | 46 | 53 | | |
| 1710 ~ 1980 MHz | dB | 42 | 52 | | |
| 2334 ~ 2364 MHz | dB | 38 | 50 | | |
| 2400 ~ 2690 MHz | dB | 40 | 50 | | |

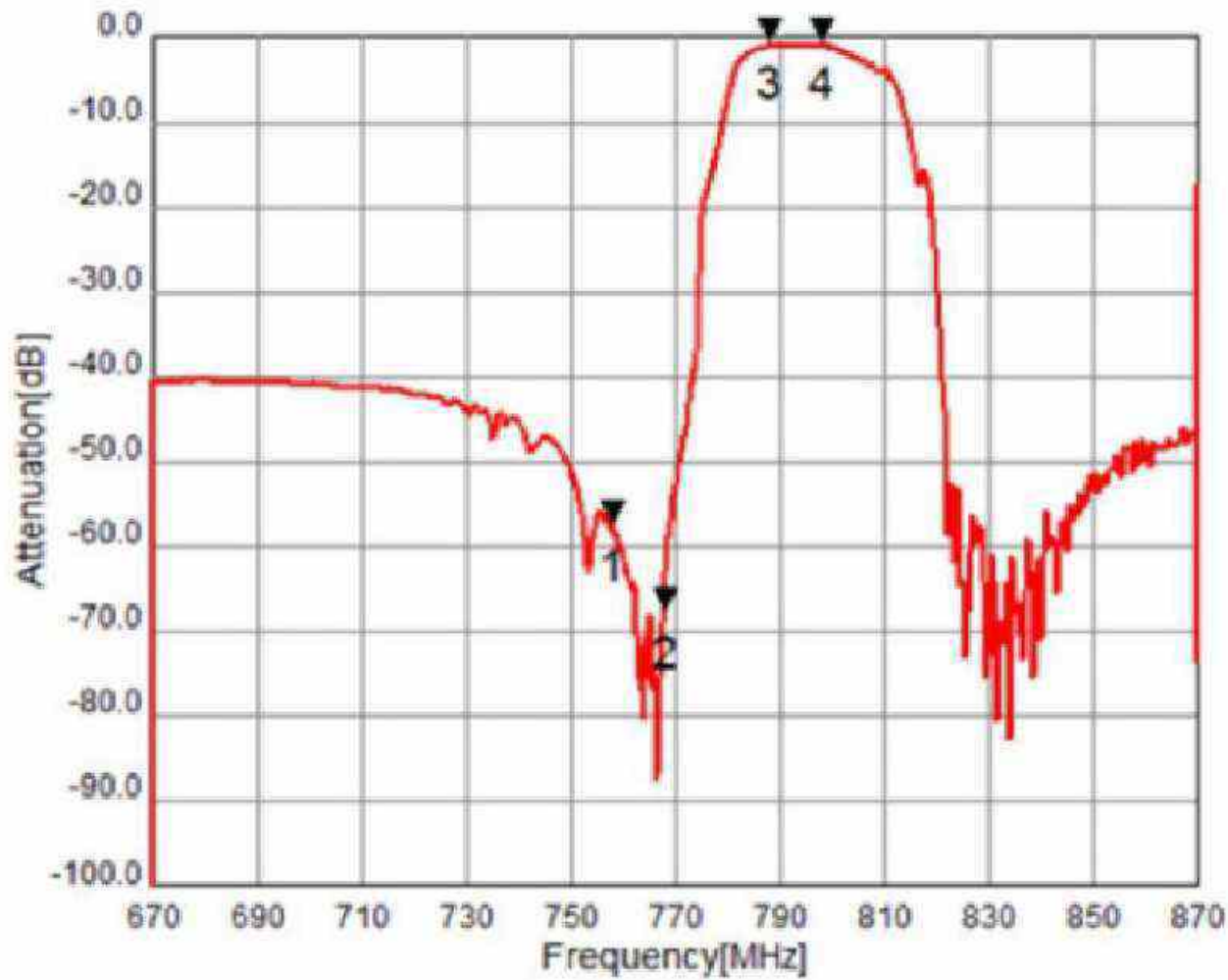
Tx to Rx

| | | | | | | |
|-----------|---------------|----|----|----|---|--|
| Isolation | 788 ~ 798 MHz | dB | 59 | 63 | - | |
| | 758 ~ 768 MHz | dB | 54 | 57 | - | |

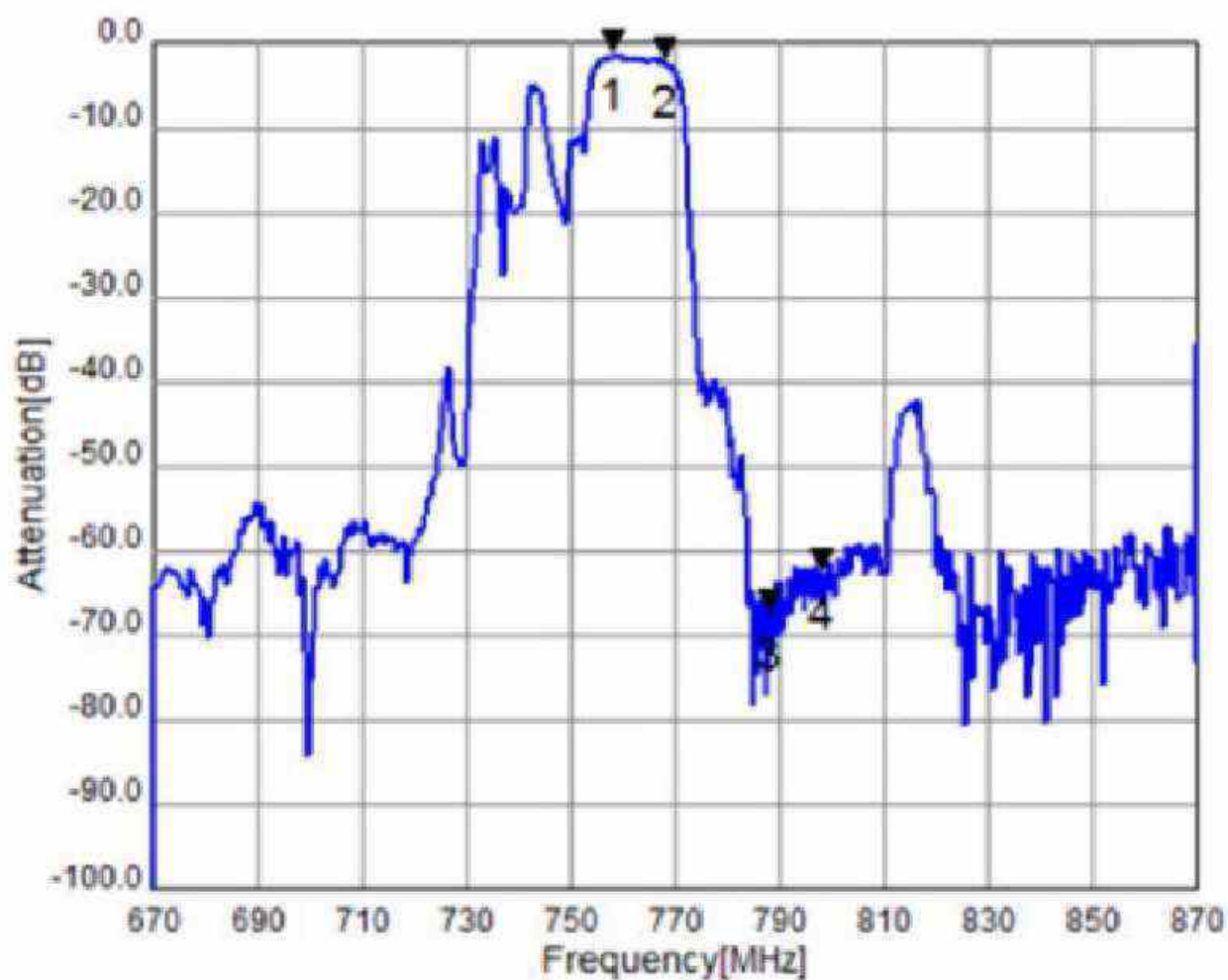
(*1) Specification of insertion loss excludes loss that comes from the test board.

C. Frequency Characteristics:

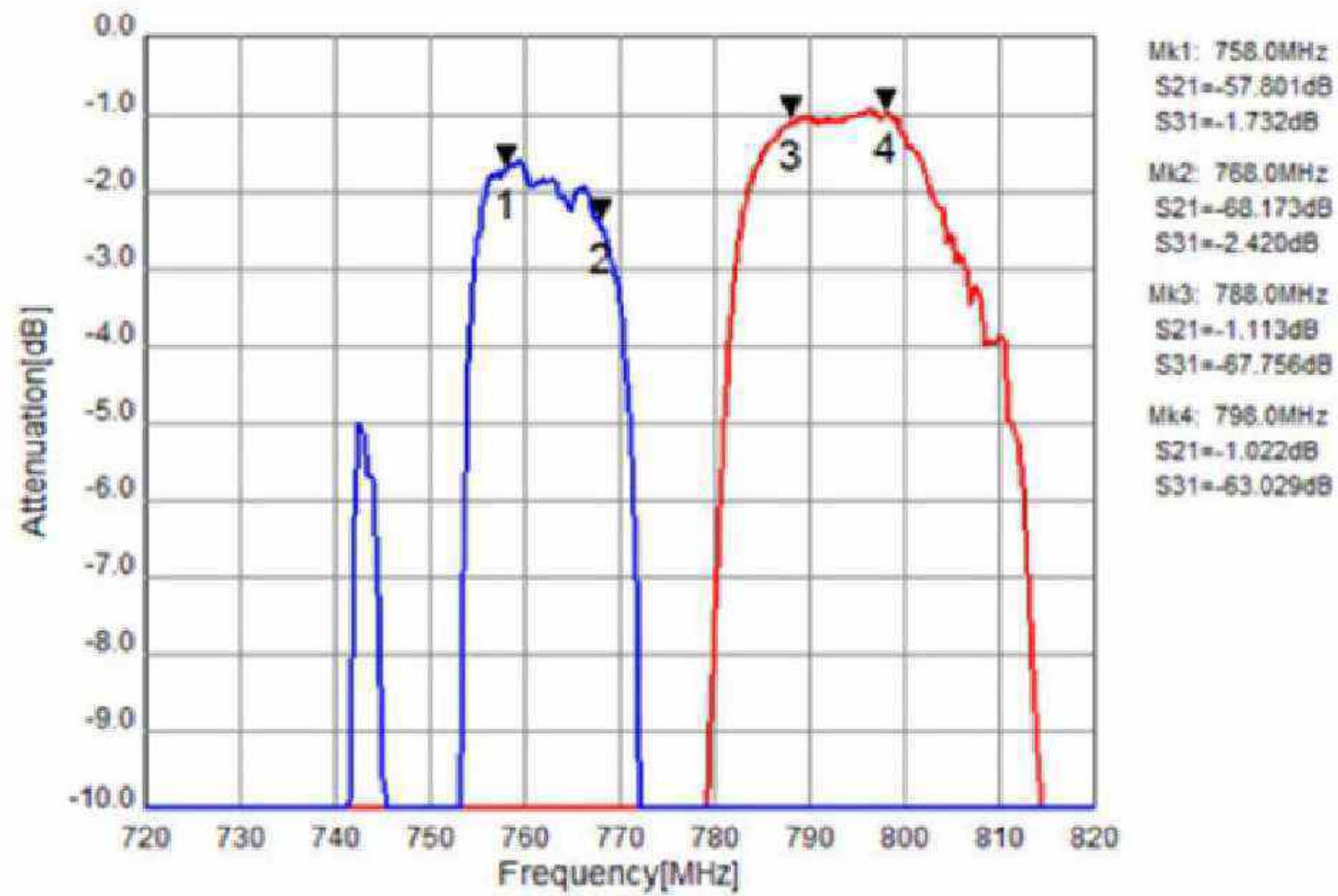
Tx to Ant



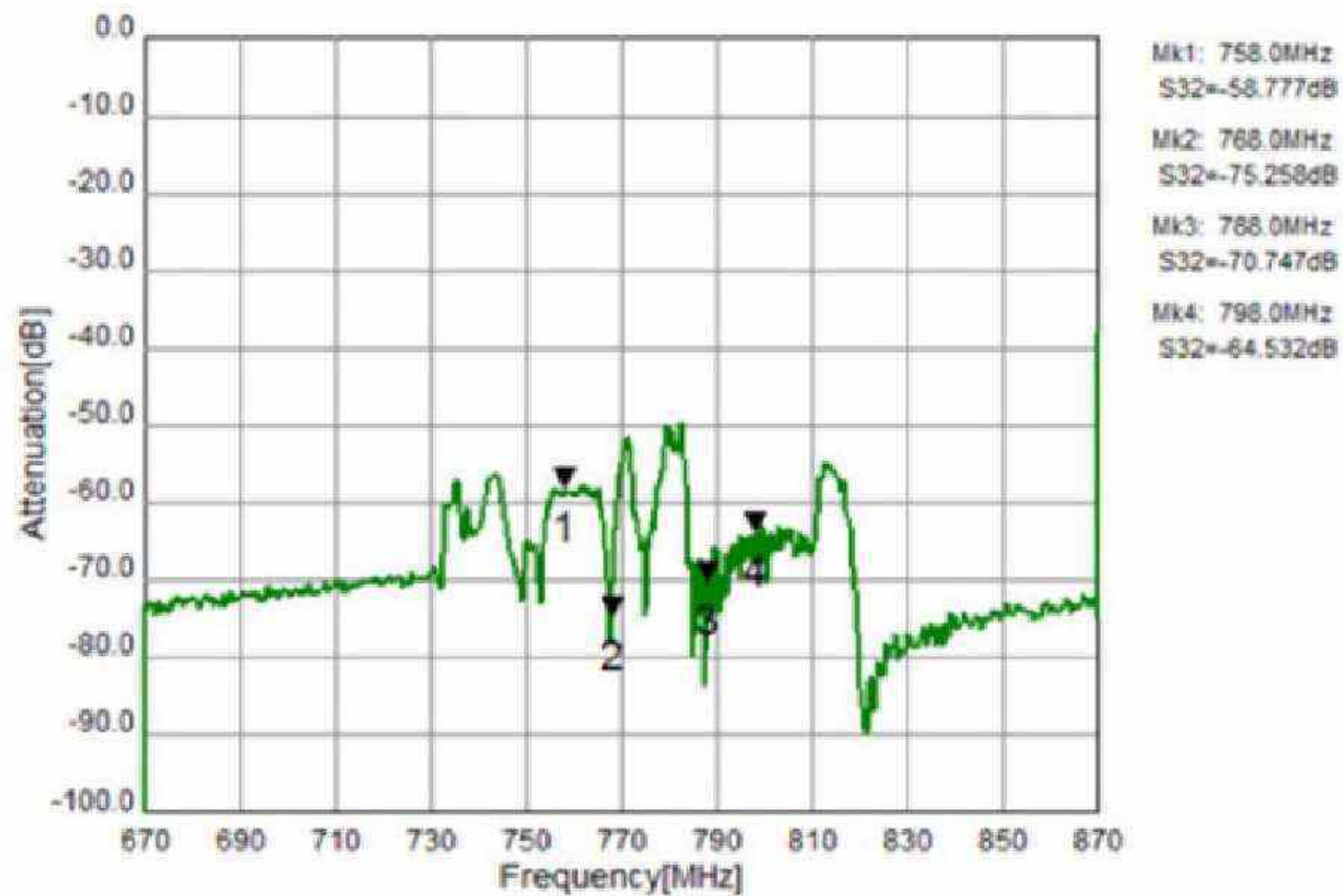
Ant to Rx



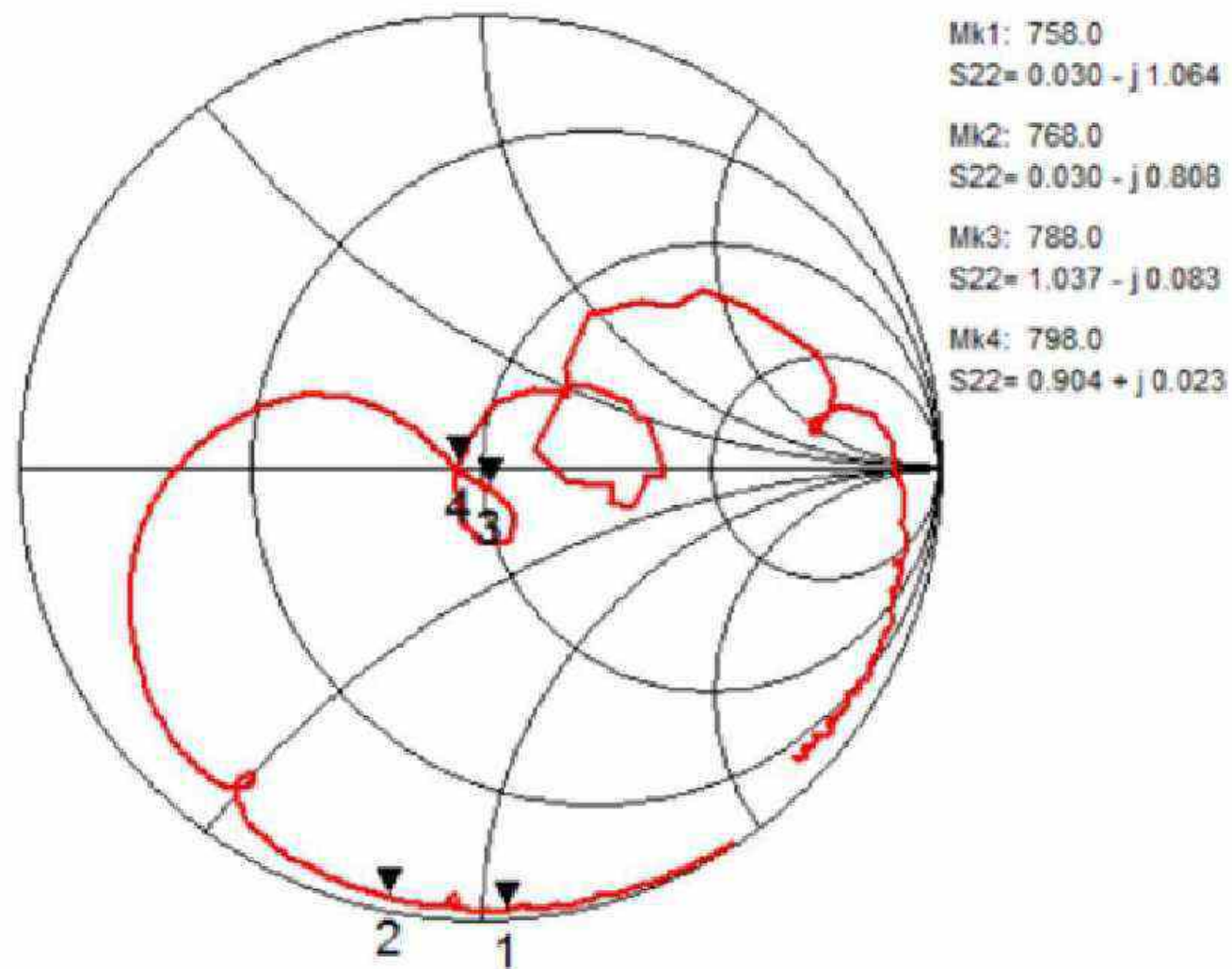
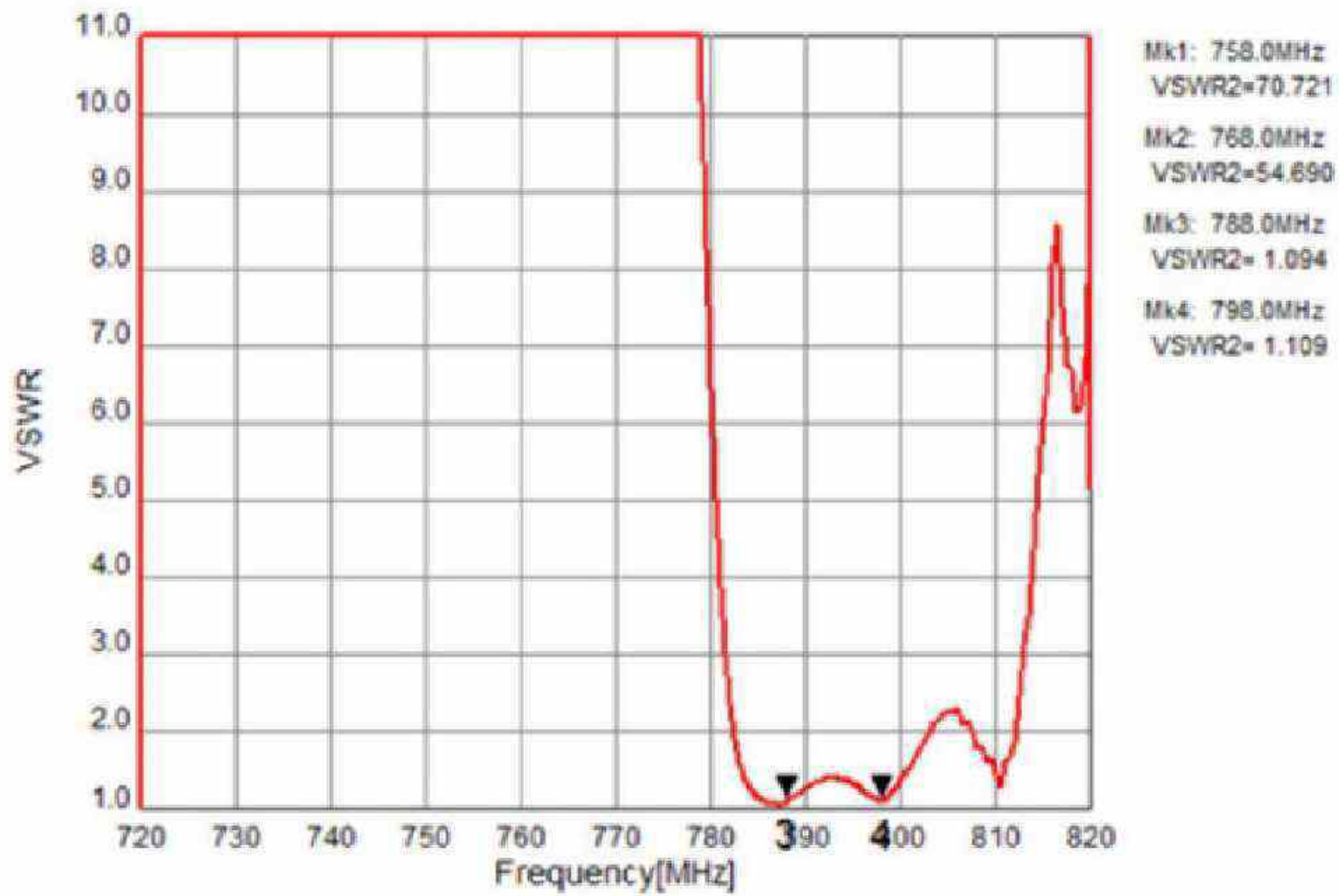
Tx to Ant, Ant to Rx



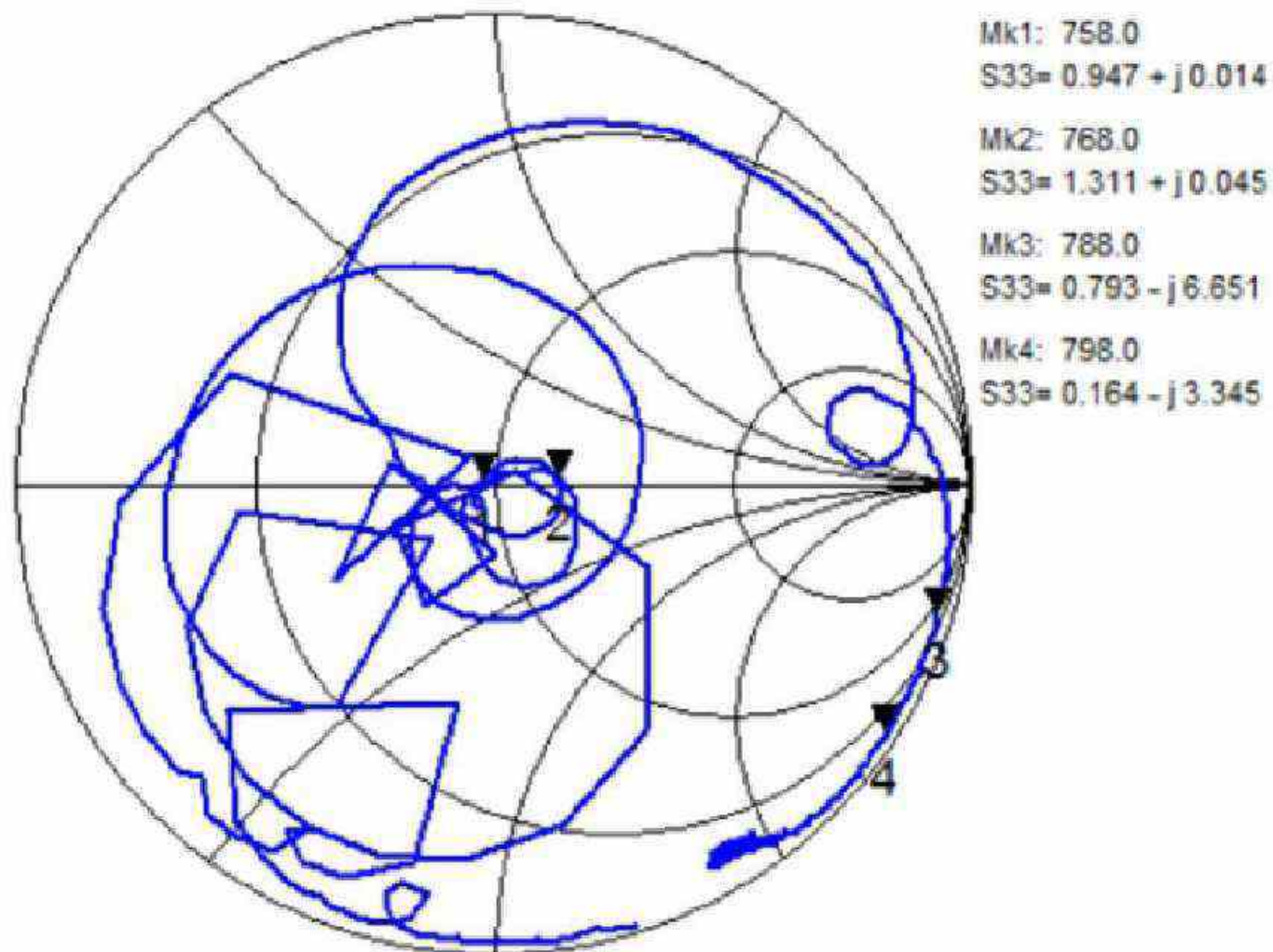
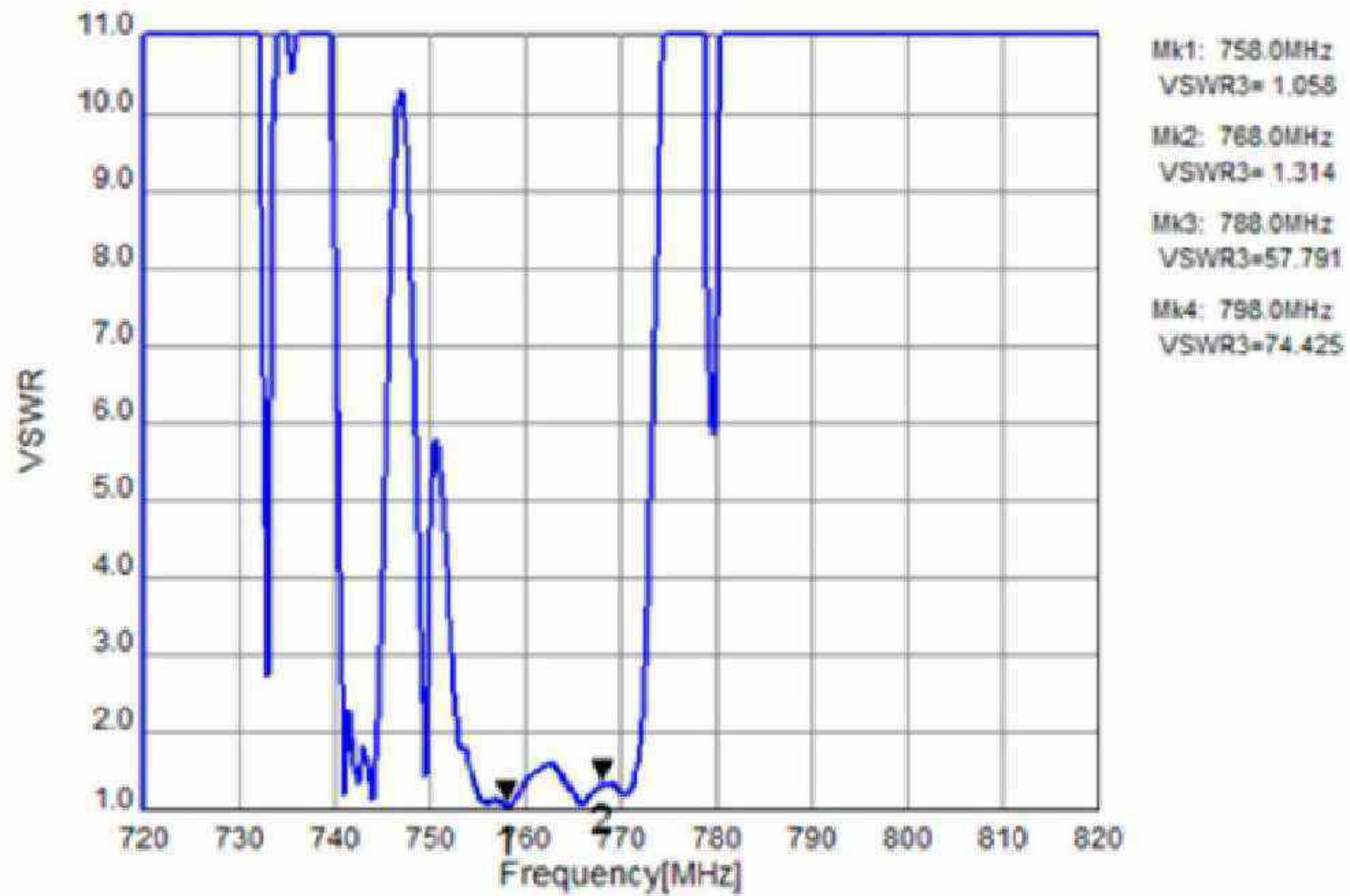
Tx to Rx Isolation



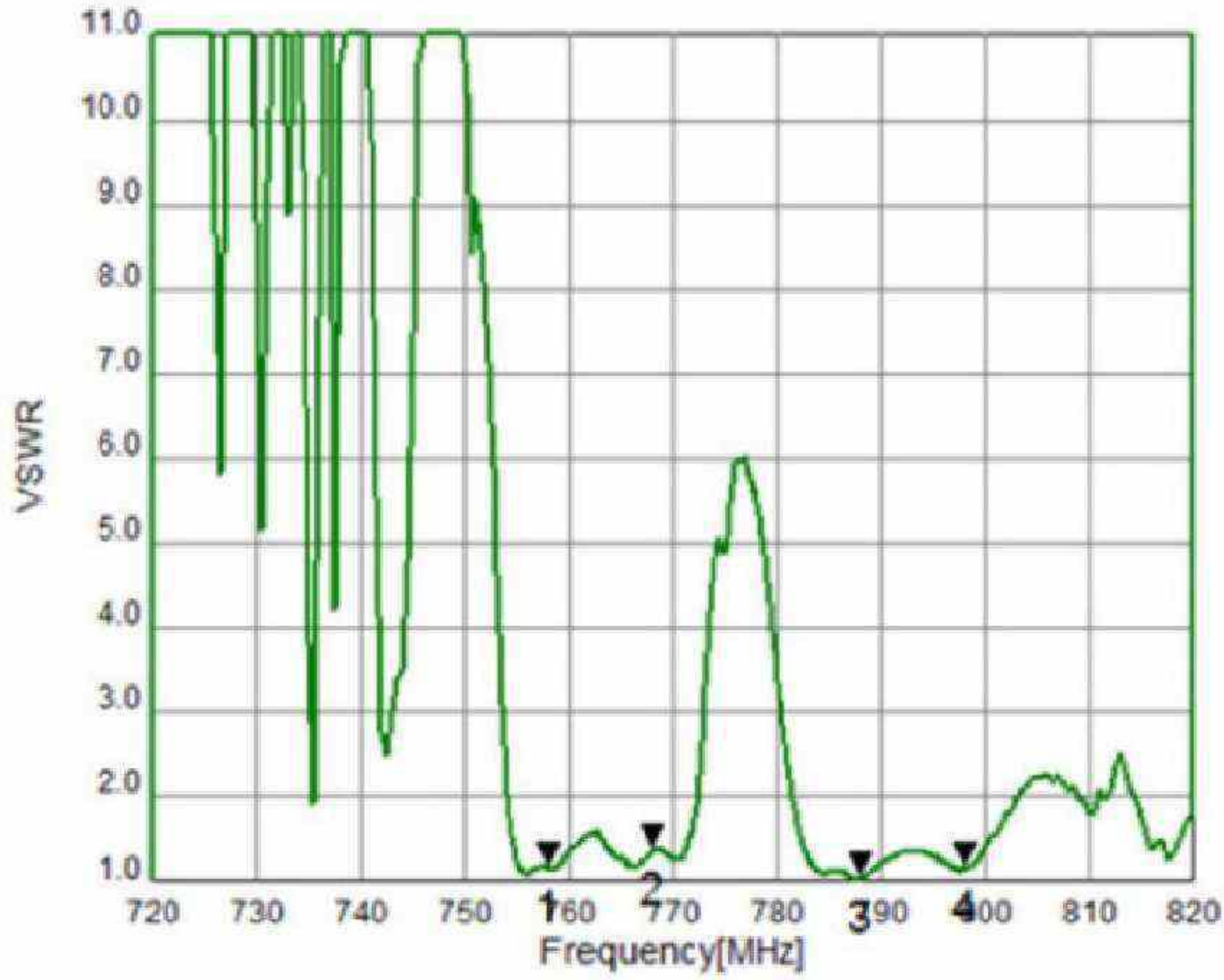
Tx Port



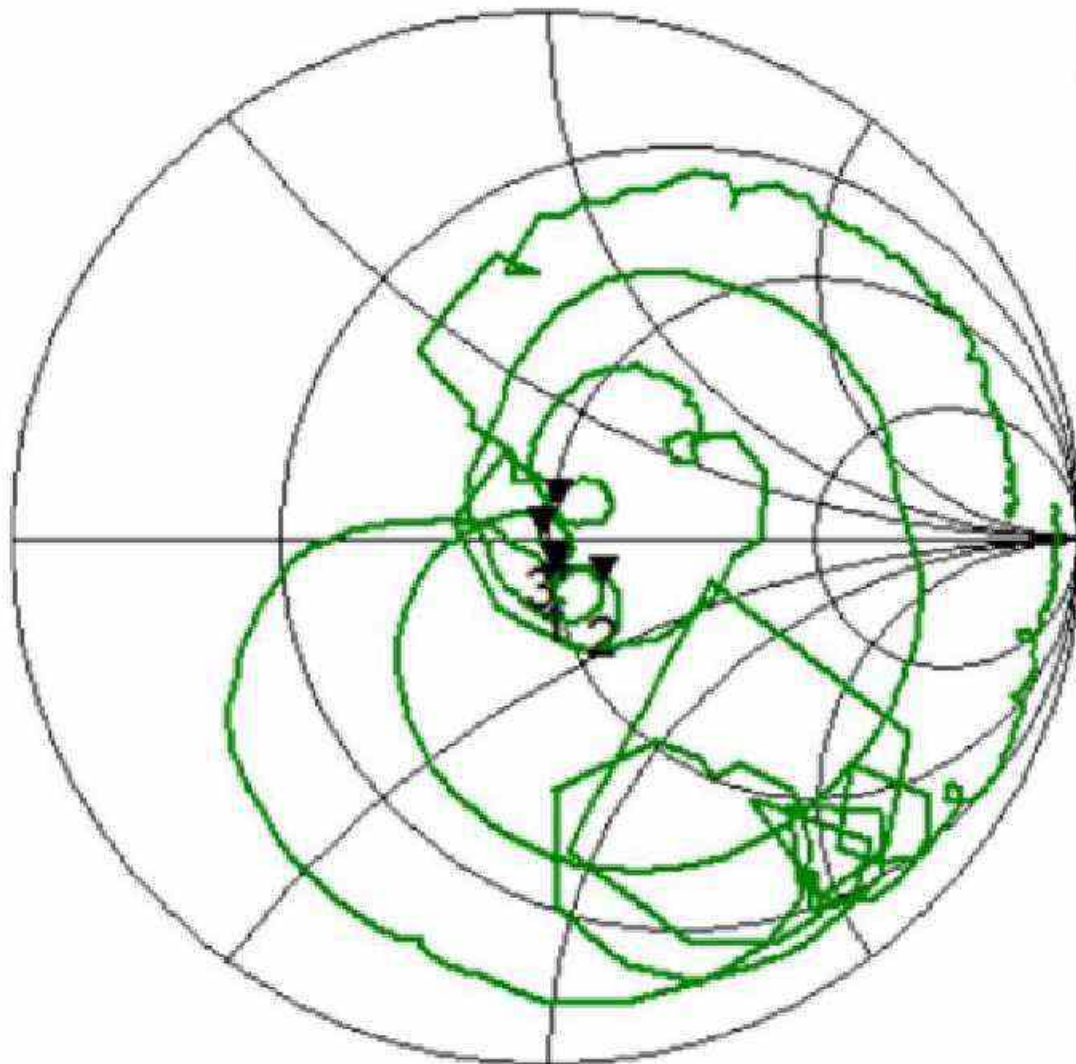
Rx Port



Ant Port

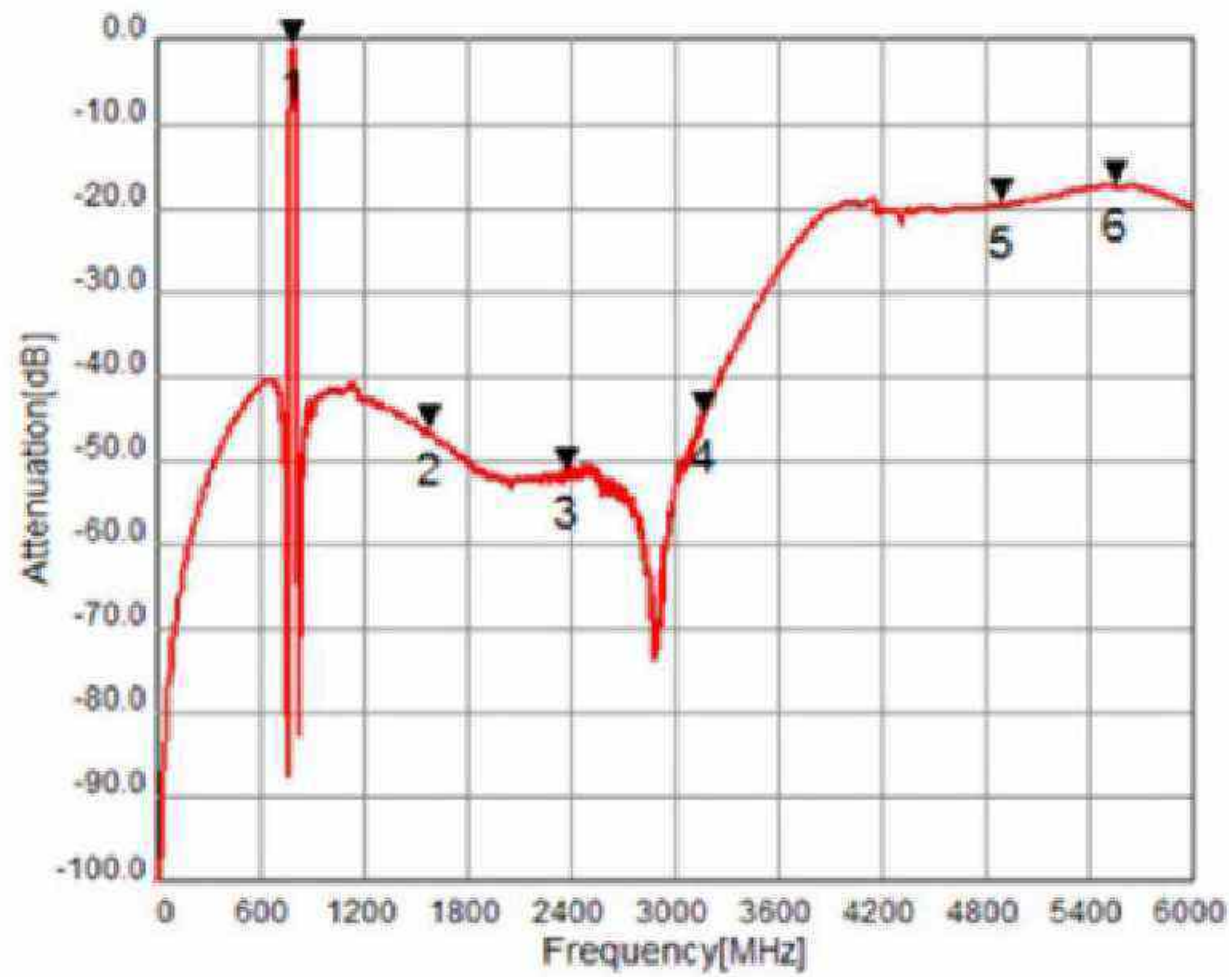


Mk1: 758.0MHz
VSWR1= 1.151
Mk2: 768.0MHz
VSWR1= 1.337
Mk3: 788.0MHz
VSWR1= 1.026
Mk4: 798.0MHz
VSWR1= 1.133

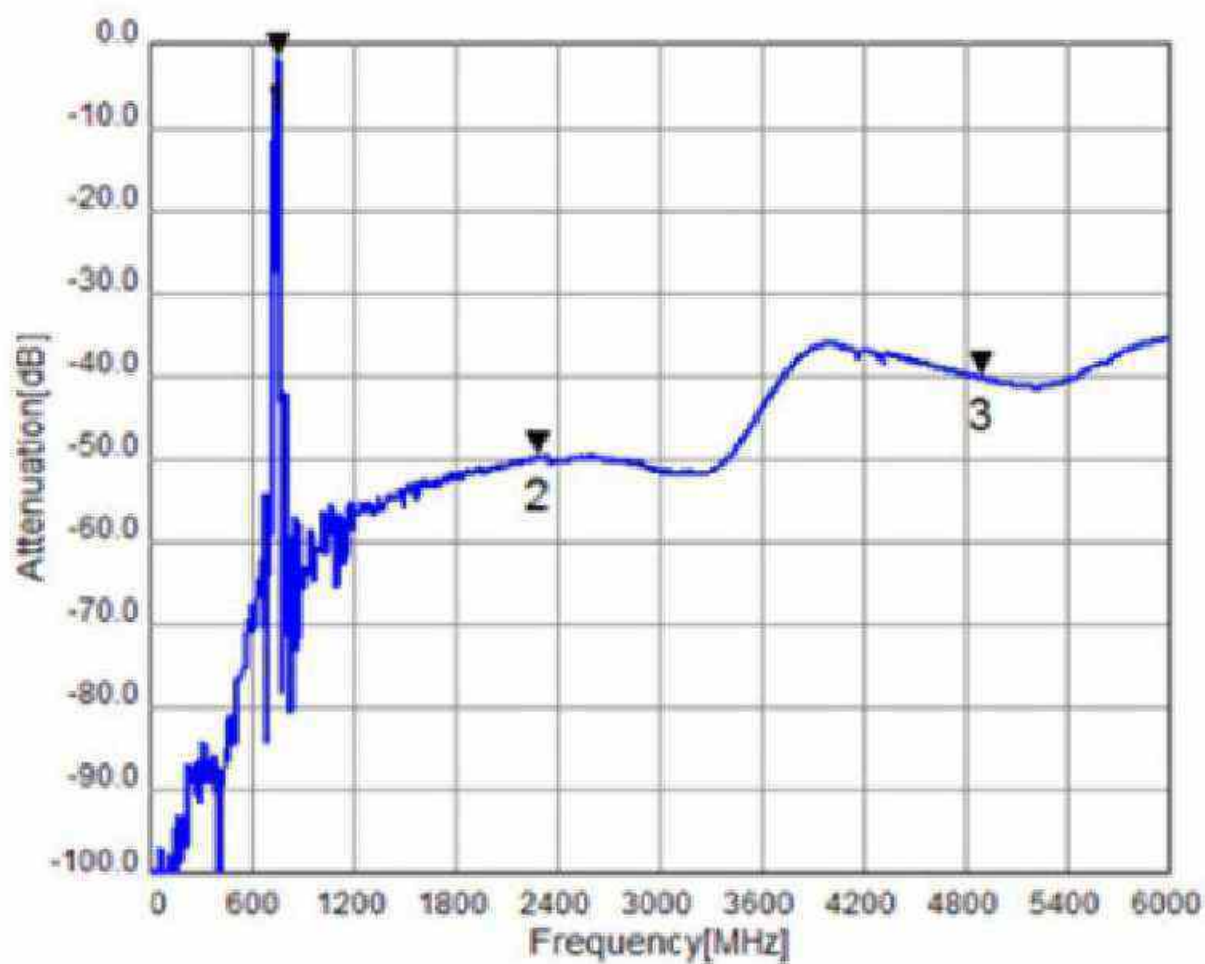


Mk1: 758.0
S11= 1.021 - j0.140
Mk2: 768.0
S11= 1.217 - j0.237
Mk3: 788.0
S11= 0.975 + j0.005
Mk4: 798.0
S11= 1.038 + j0.121

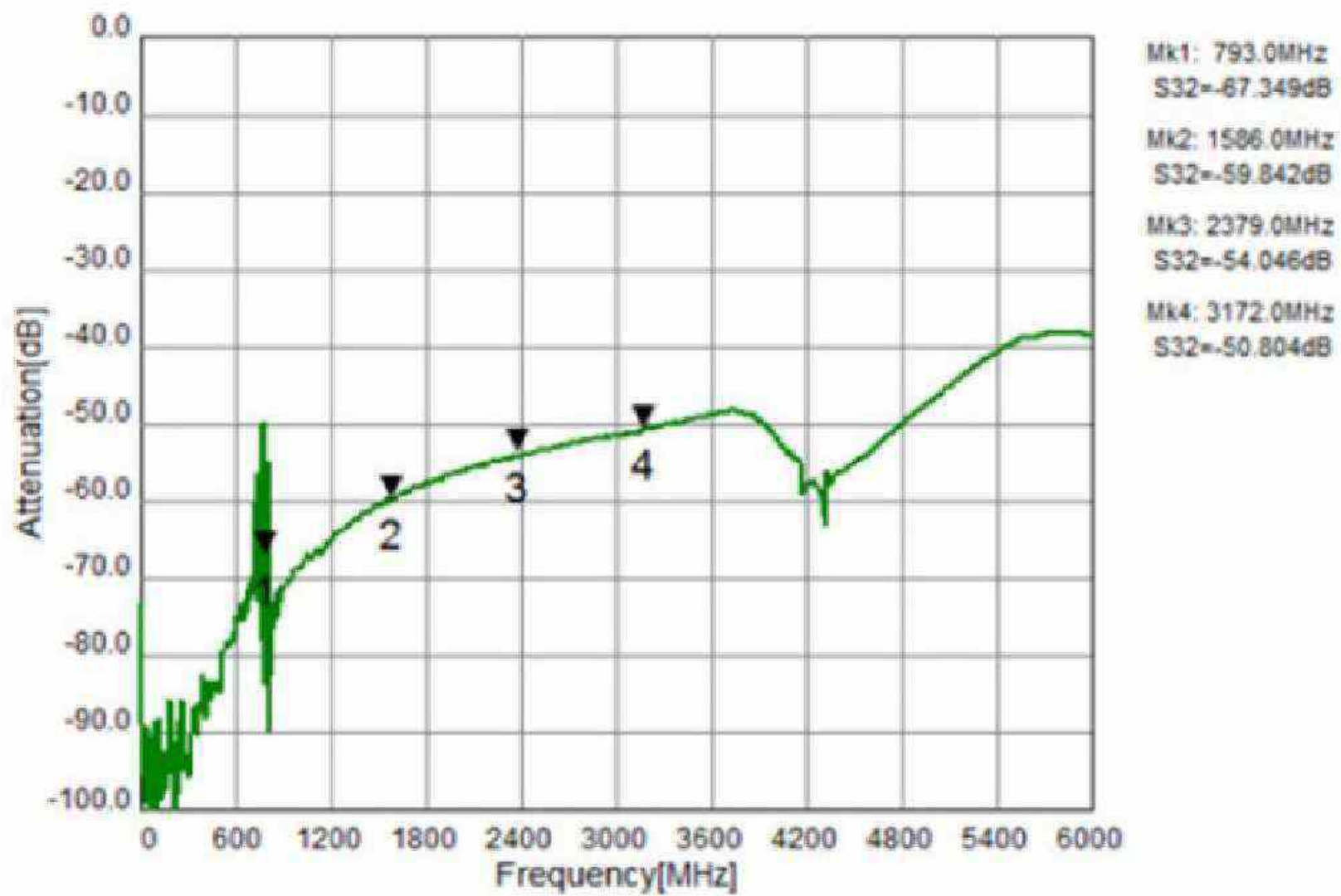
Tx to Ant (Wide span)



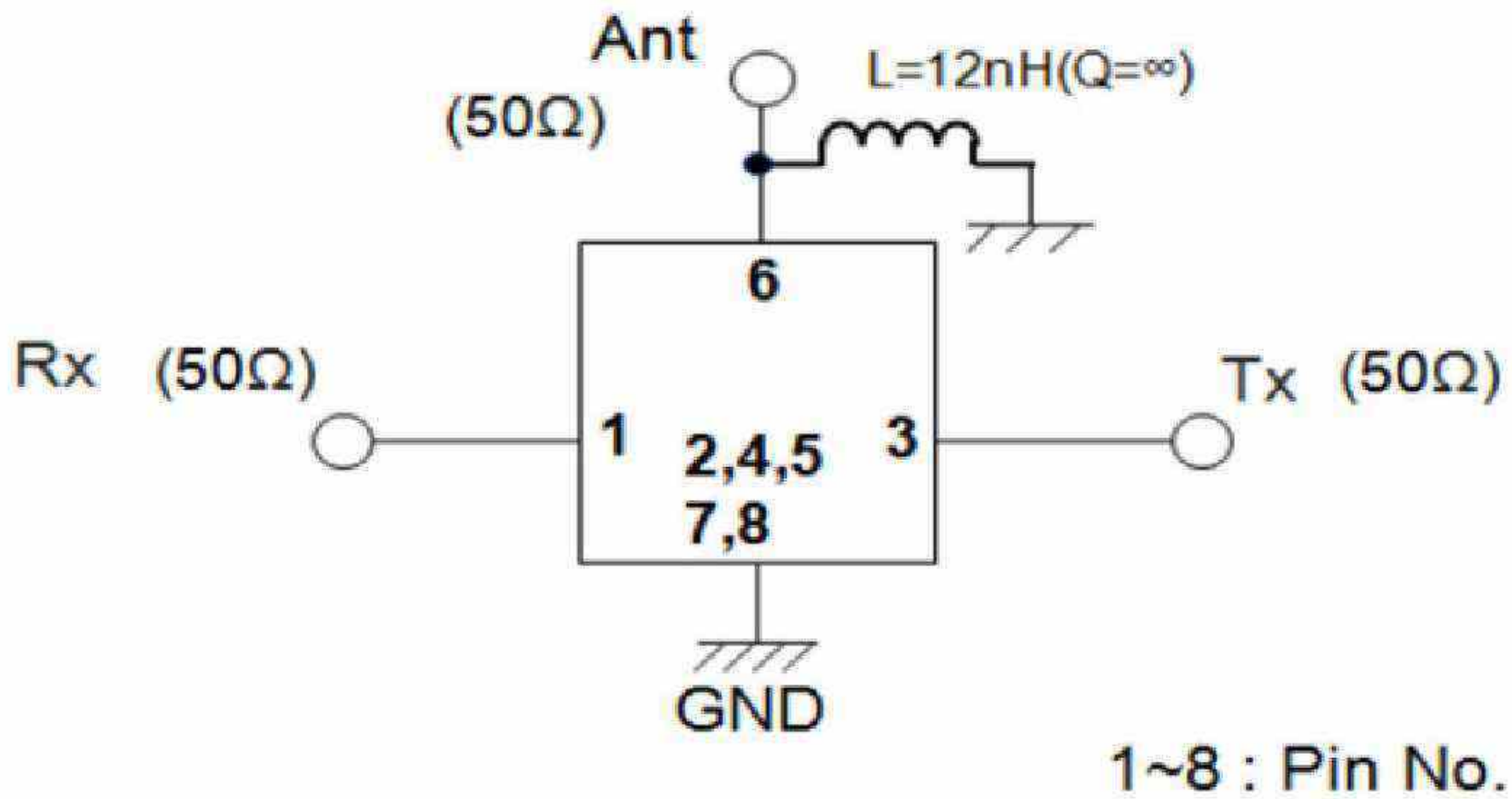
Ant to Rx (Wide span)



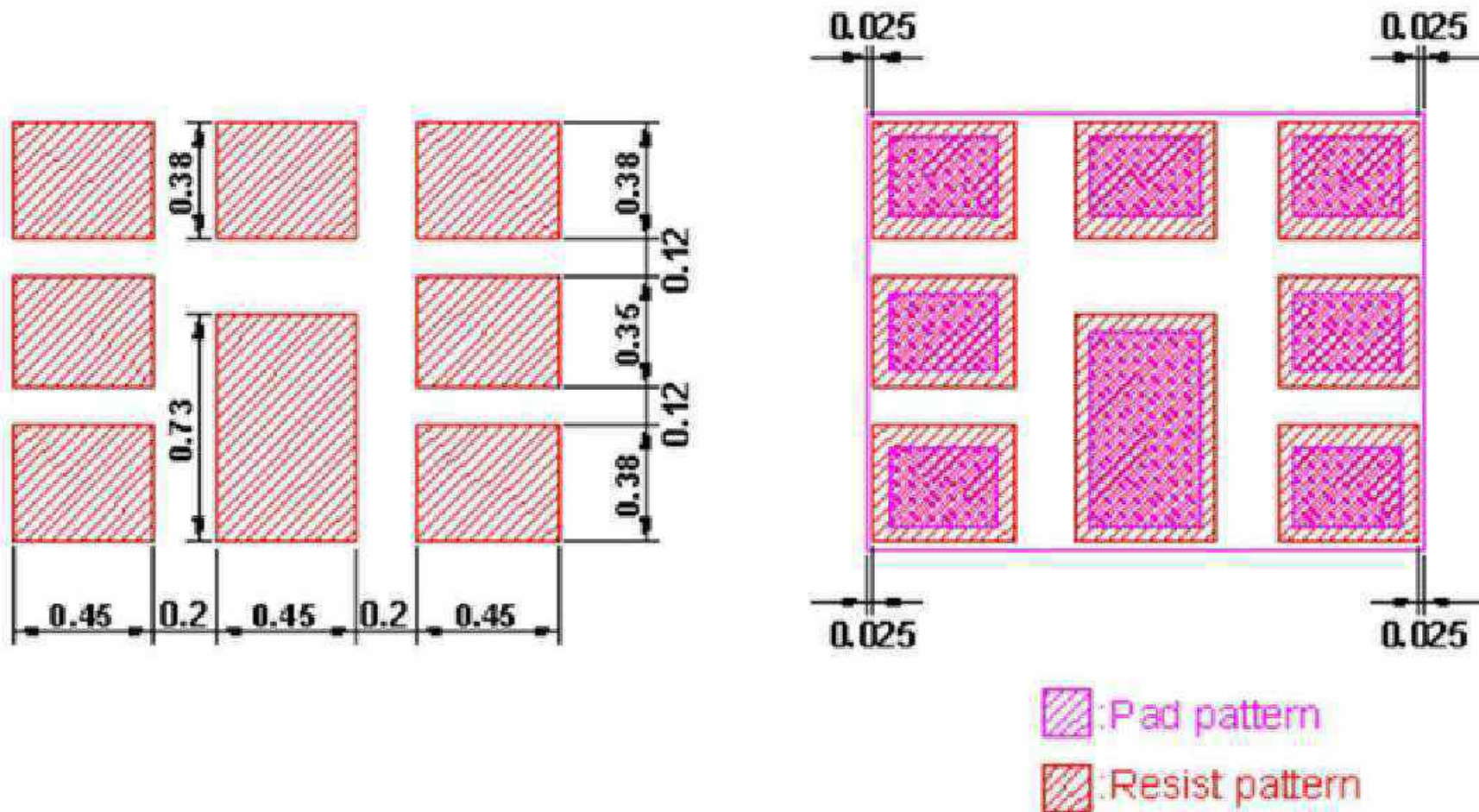
Tx to Rx Isolation (Wide span)



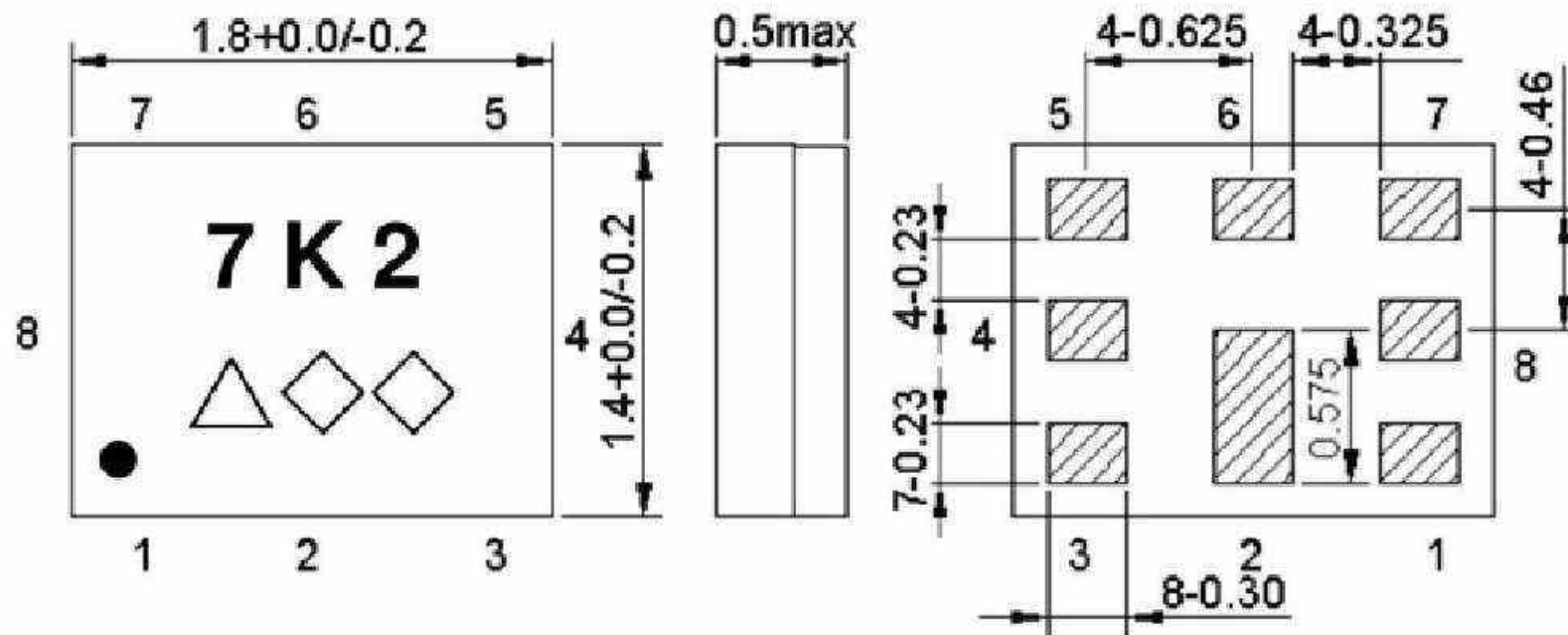
D. MEASUREMENT CIRCUIT:



E. PCB Footprint:



F.OUTLINE DRAWING: (Mass Production)



Marking name : **7K2**

△: Date code(2016 May → s ,....., 2019 Dec→m.)

◇◇: Lot Code.

Product Date Code. Follow below table.

| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2016 | n | p | q | r | s | t | u | v | w | x | y | z |
| 2017 | A | B | C | D | E | F | G | H | J | K | L | M |
| 2018 | N | P | Q | R | S | T | U | V | W | X | Y | Z |
| 2019 | a | b | c | d | e | f | g | h | j | k | l | m |
| 2020 | n | p | q | r | s | t | u | v | w | x | y | z |
| 2021 | A | B | C | D | E | F | G | H | J | K | L | M |

Pin assignment

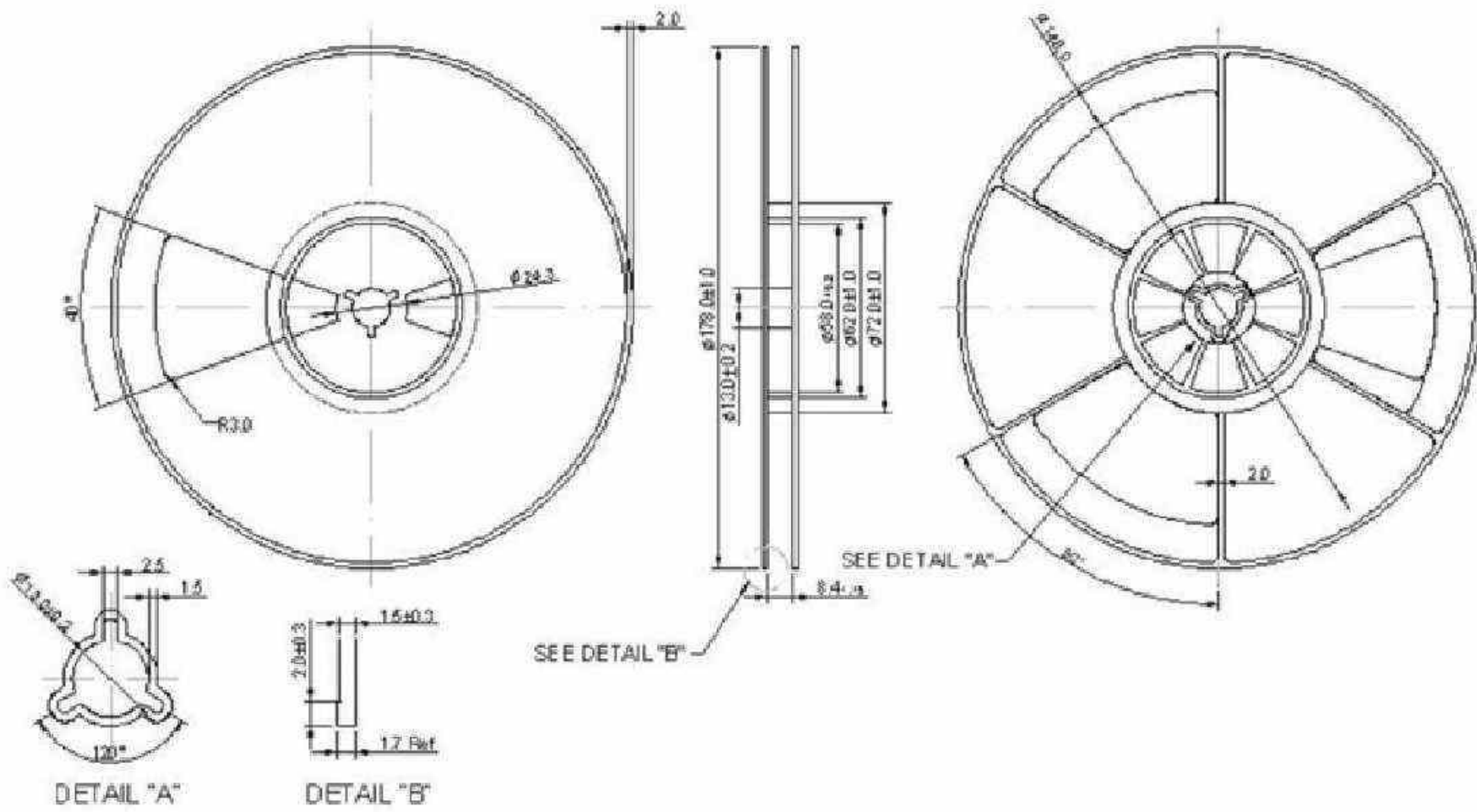
| Pin No. | Pin name | Description |
|---------|----------|-------------|
| 1 | Rx | Receiver |
| 2 | GND | Ground |
| 3 | Tx | Transmitter |
| 4 | GND | Ground |
| 5 | GND | Ground |
| 6 | Ant | Antenna |
| 7 | GND | Ground |
| 8 | GND | Ground |

Figure 1. Dimensions and Pin assignment

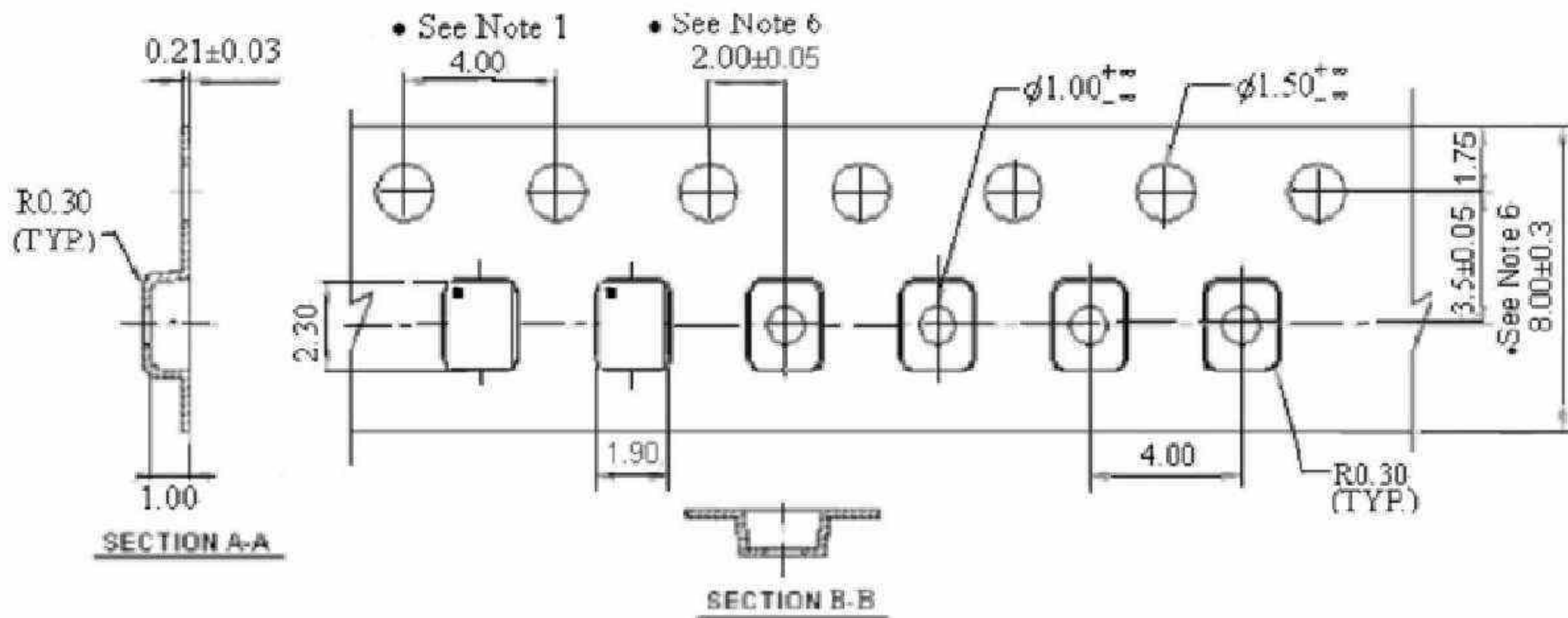
G. PACKING:

1. REEL DIMENSION

(Please refer to FR-75D10 for packing quantity)



2. TAPE DIMENSION



H. RECOMMENDED REFLOW PROFILE:

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C +0/-5°C peak (20~40sec).
4. Time: 2 times.

