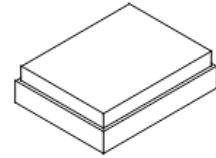


SF2592N

**897.5/942.5 MHz
Filter Duplexer**



SM1814

MAXIMUM RATING:

- Operating temperature range: -20 °C to +85 °C
- Storage temperature range: -40 °C to +85 °C
- Tx Input power : 29dBm (Ta=+50°C,10000h,CW)
- 3.1Rx Input power : 15dBm
- Maximum DC Voltage: 0 V
- Moisture Sensitivity Level: Level 3 (MSL 3)
- ESD 100V(MM) 200V(HBM)

ELECTRICAL CHARACTERISTICS:

- Terminating impedance (Tx Port): 50 Ω(unbalanced)
- Terminating impedance (Rx Port): 100Ω//56nH (balanced)
- Terminating impedance (Ant Port): 50 Ω//8.2nH (unbalanced)

Tx to ANT (f_{T0}=897.5 MHz)

| Parameters Description | | Unit | Min | Typ | Max | Remarks |
|------------------------|-------------------|---------------|-----|-----|-----|---------|
| Insertion Loss | 880.0 ~ 915.0 MHz | dB | - | 2.2 | 3.4 | |
| | 882.4 ~ 912.5 MHz | dB | | 1.9 | 2.6 | |
| Amplitude ripple | 880 ~ 915 MHz | dBp-p | - | 1.3 | 2.5 | |
| VSWR | ANT | 880 ~ 915 MHz | - | 1.7 | 2.2 | |
| | Tx | 880 ~ 915 MHz | - | 1.7 | 2.3 | |
| Attenuation: | | | | | | |
| 927.4 ~ 957.6 MHz | | dB | 42 | 46 | | |
| 1573.3 ~ 1605.89 MHz | | dB | 40 | 43 | | |
| 1710.0 ~ 1785.0 MHz | | dB | 40 | 45 | | |
| 1920.0 ~ 1980.0 MHz | | dB | 35 | 41 | | |
| 2110.0 ~ 2170.0 MHz | | dB | 30 | 37 | | |
| 2400.0 ~ 2500.0 MHz | | dB | 27 | 33 | | |
| 2620.0 ~ 2745.0 MHz | | dB | 25 | 31 | | |
| 4900.0 ~ 5950.0 MHz | | dB | 15 | 27 | | |



CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

ANT to Rx (f_{T0}=942.5 MHz)

| Parameters Description | | Unit | Min | Typ | Max | Remarks |
|------------------------|---------------|-------------------|------|-----------|------|---------|
| Insertion Loss | 925.0 ~ 960.0 | dB | - | 2.2 | 3.1 | |
| | 927.4 ~ 957.6 | dB | - | 1.9 | 2.4 | |
| Amplitude ripple | 925 ~ 960 MHz | dB _{p-p} | | 0.9 | 2.2 | |
| Phase Balance | 925 ~ 960 MHz | deg | -10 | +0.3/+3.0 | +10 | |
| Amplitude Balance | 925 ~ 960 MHz | dB | -1.5 | -0.2/+0.2 | +1.5 | |
| VSWR | ANT | 925 ~ 960 MHz | | 1.6 | 2.3 | |
| | Rx | | - | 1.7 | 2.4 | |
| Attenuation: | | | | | | |
| 882.4 ~ 912.6 MHz | | dB | 45 | 53 | | |
| 1710.0 ~ 1785.0 MHz | | dB | 40 | 51 | | |
| 1805.0 ~ 1920.0 MHz | | dB | 40 | 50 | | |
| 1920.0 ~ 1980.0 MHz | | dB | 40 | 50 | | |
| 2400.0 ~ 2500.0 MHz | | dB | 40 | 48 | | |
| 2500.0 ~ 2570.0 MHz | | dB | 40 | 48 | | |
| 4900.0 ~ 5950.0 MHz | | dB | 35 | 42 | | |

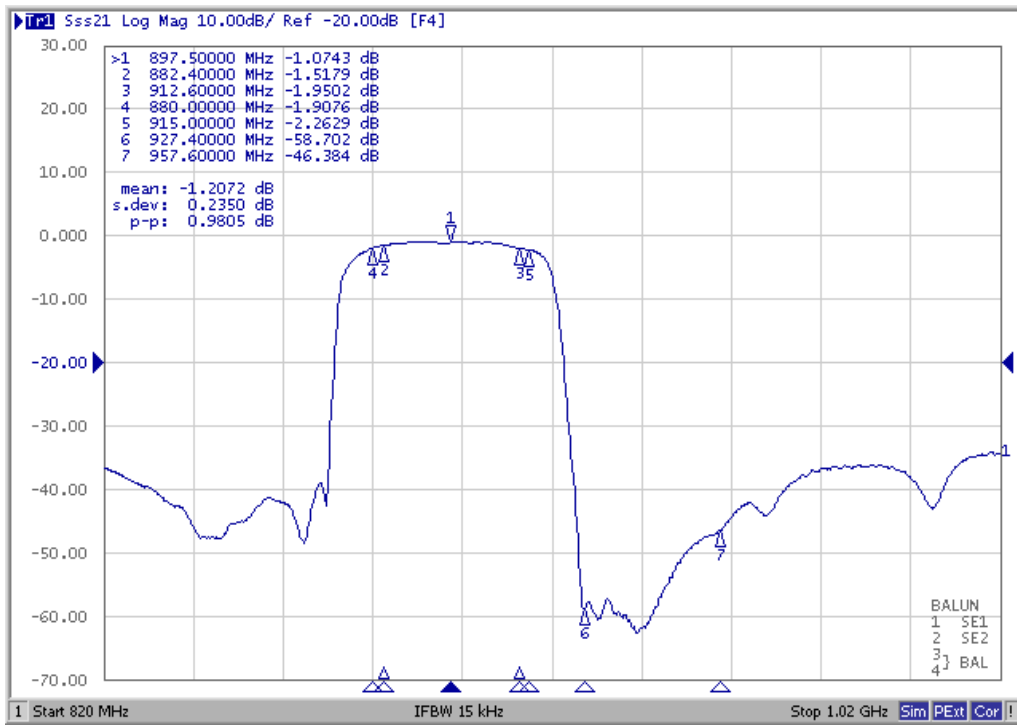
Tx to Rx

| | | | | | | |
|-----------|-------------------|----|----|----|---|--|
| Isolation | 882.4 ~ 912.6 MHz | dB | 52 | 56 | - | |
| | 927.4 ~ 957.6 MHz | dB | 46 | 49 | - | |

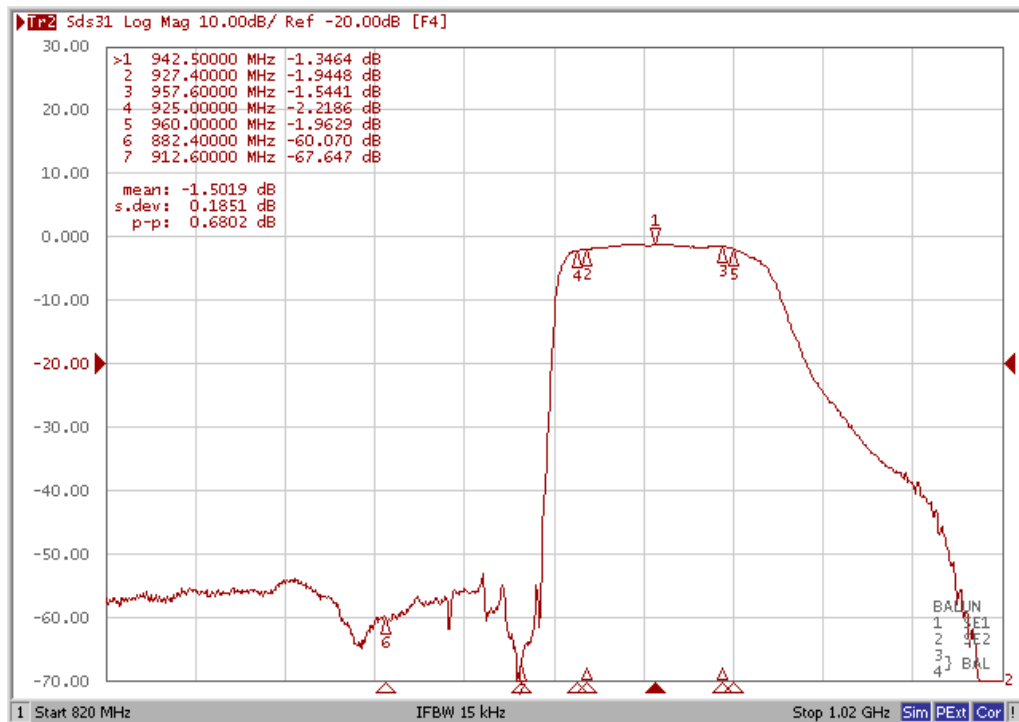
Notes : (1) With Matching Network

FREQUENCY CHARACTERISTICS:

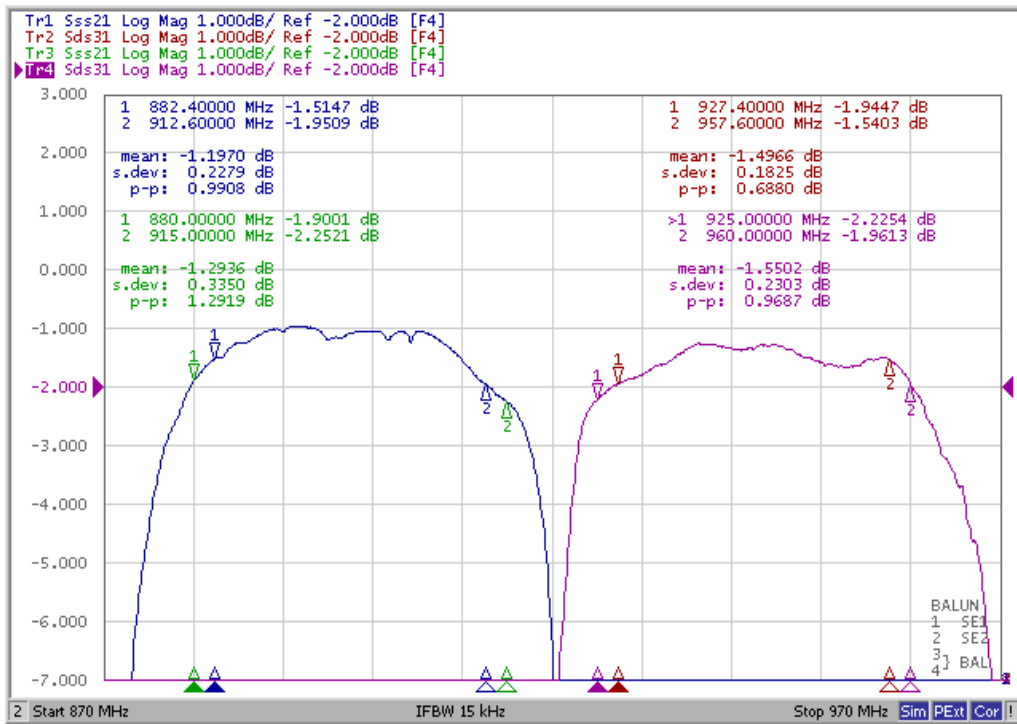
Tx to Ant



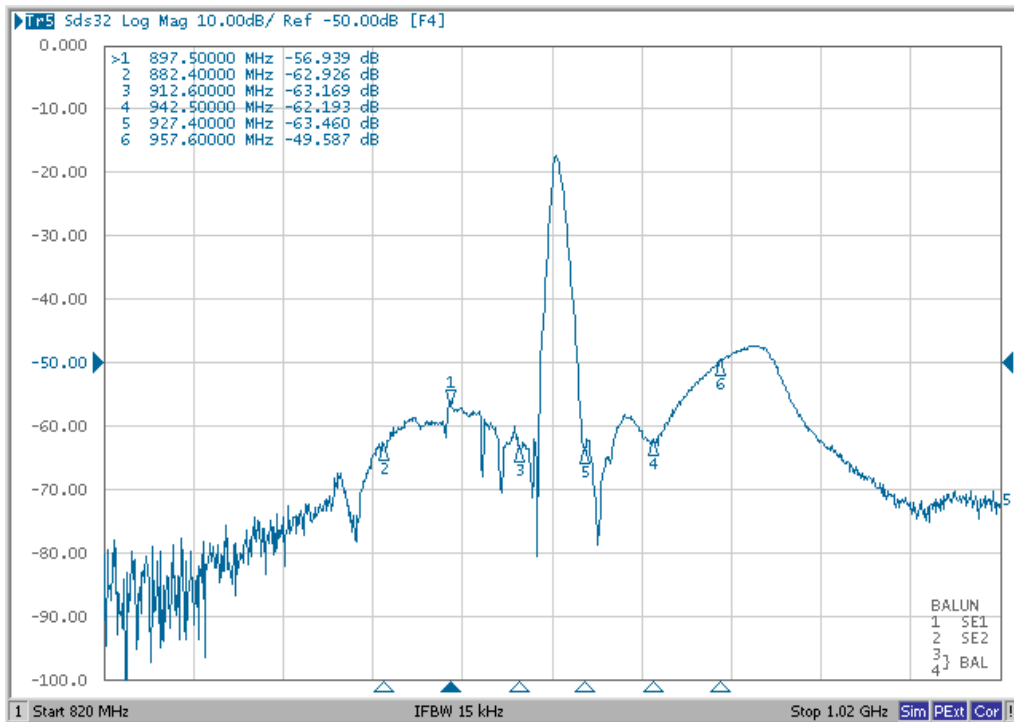
Ant to Rx



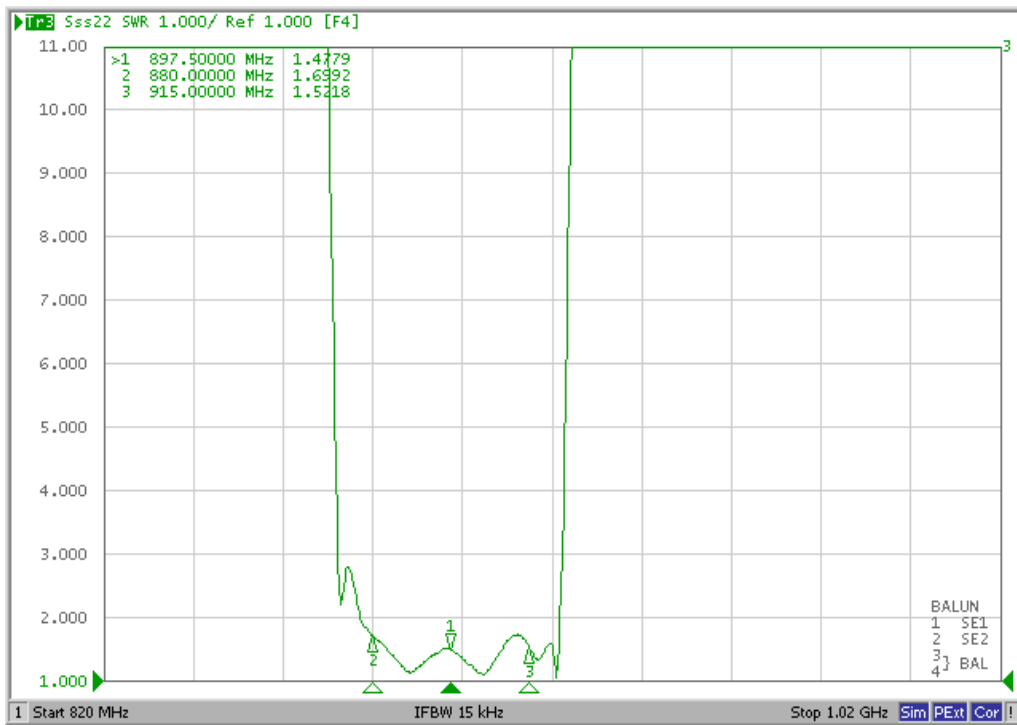
Ripple



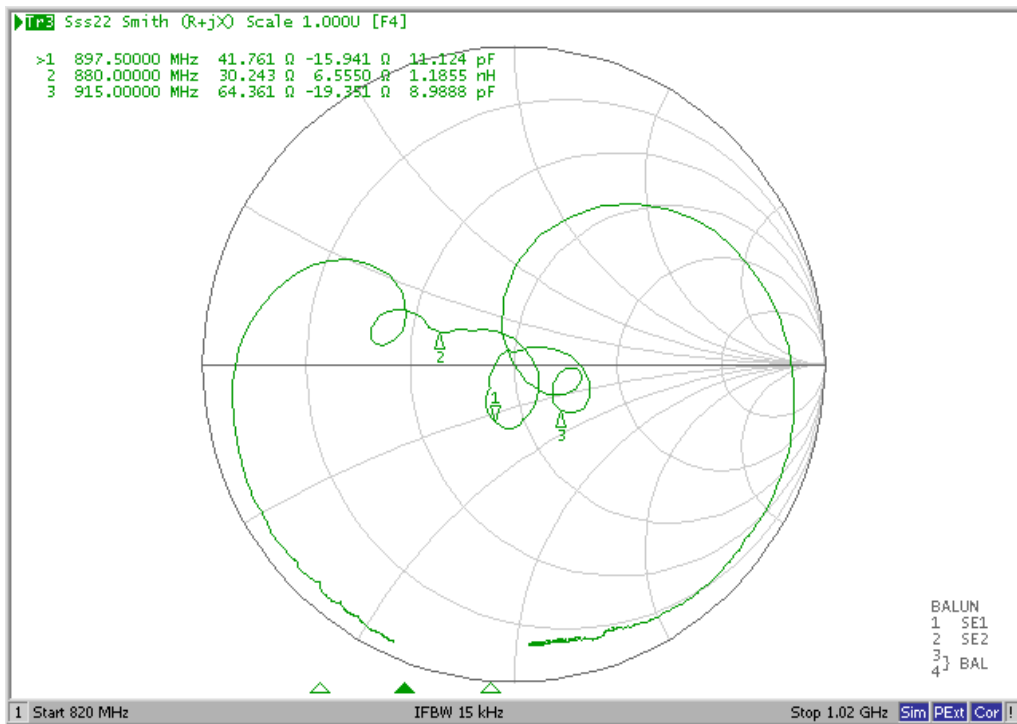
Isolation



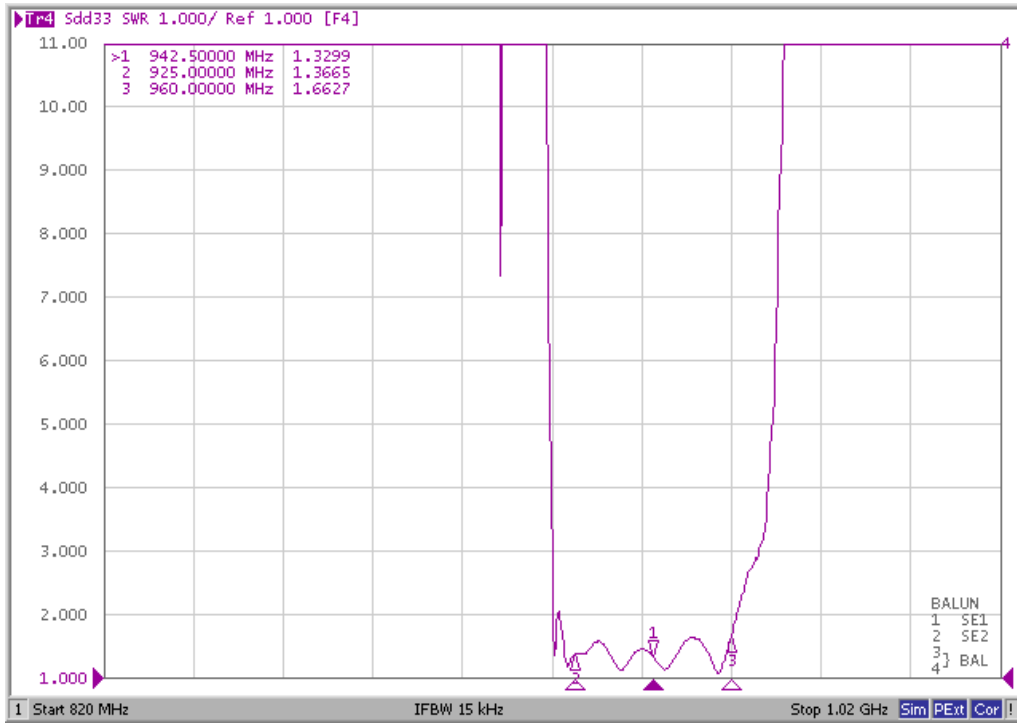
VSWR (Tx Port)



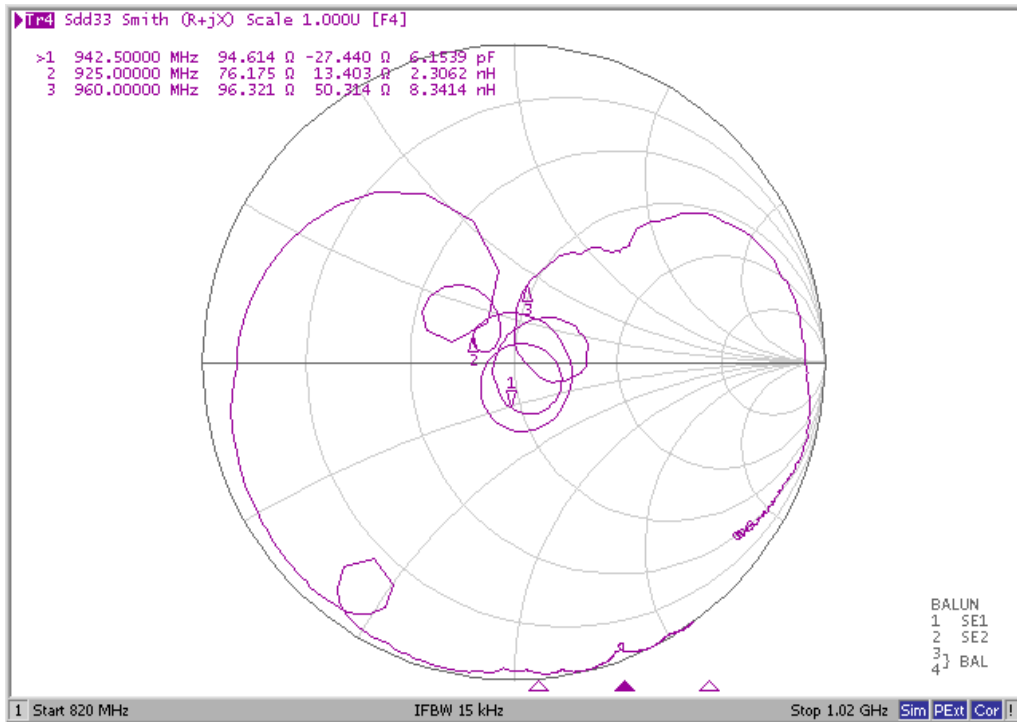
Smith Chart (Tx Port)



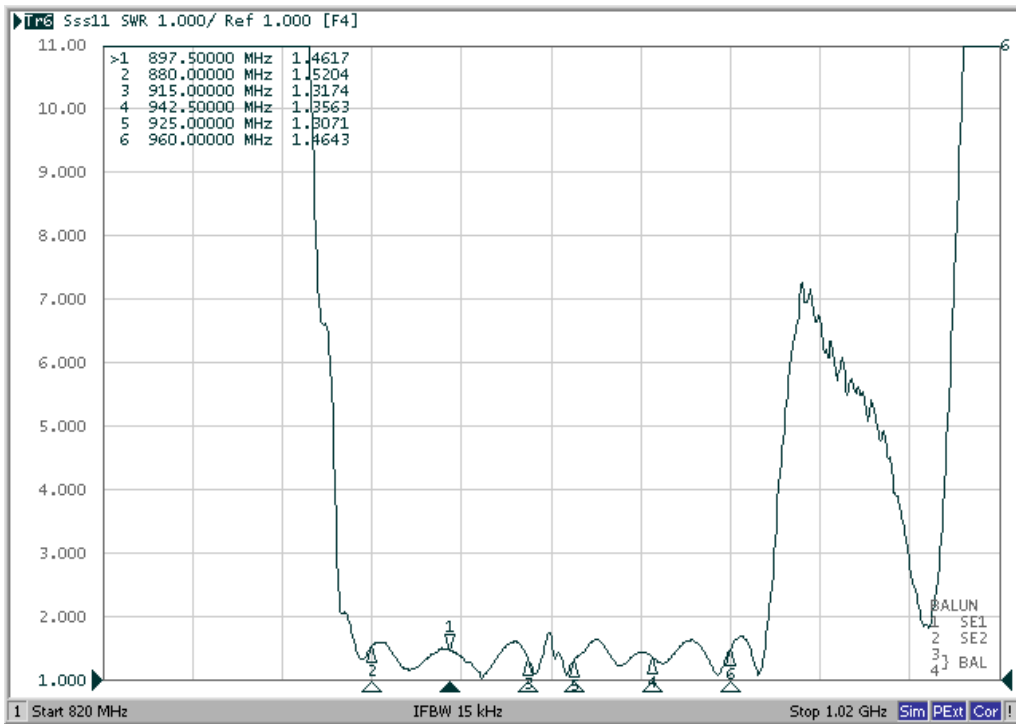
VSWR (Rx Port)



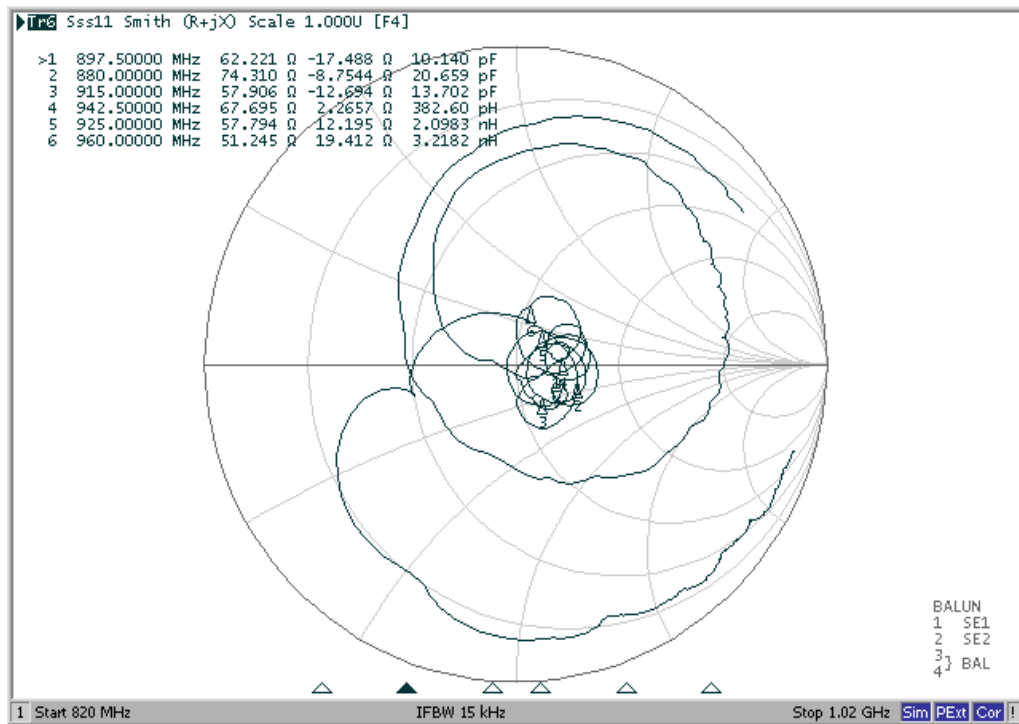
Smith Chart (Rx Port)



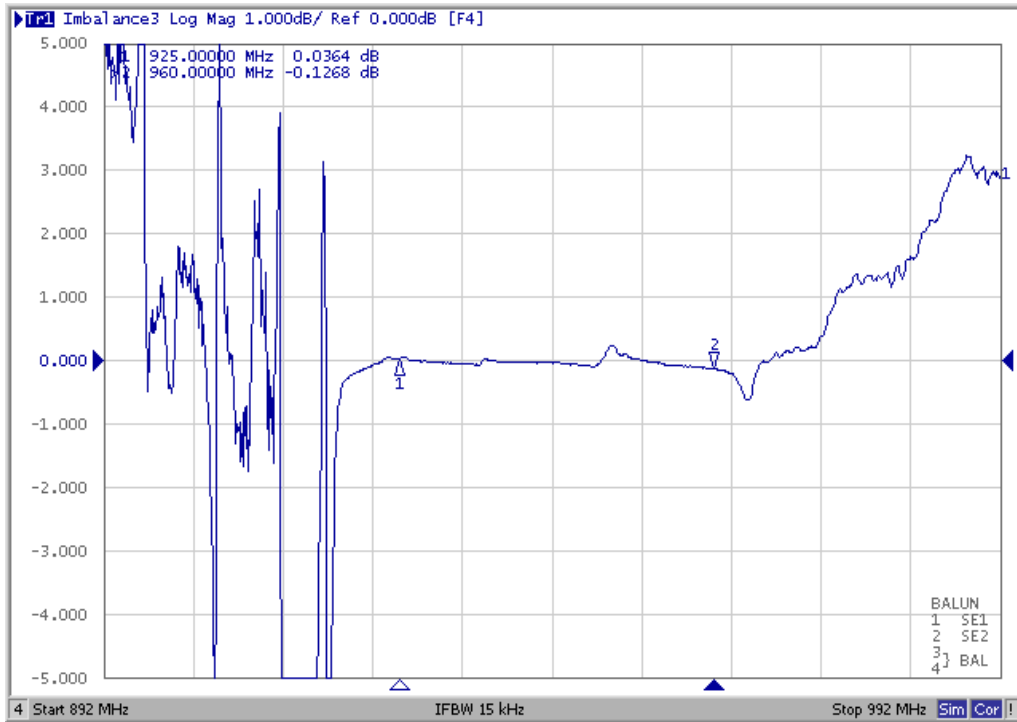
VSWR (ANT Port)



Smith Chart (ANT Port)



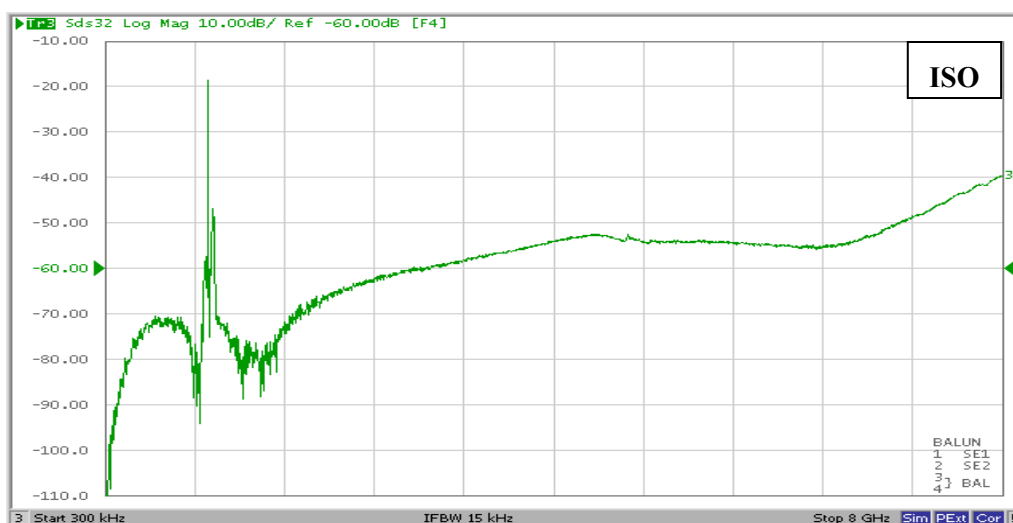
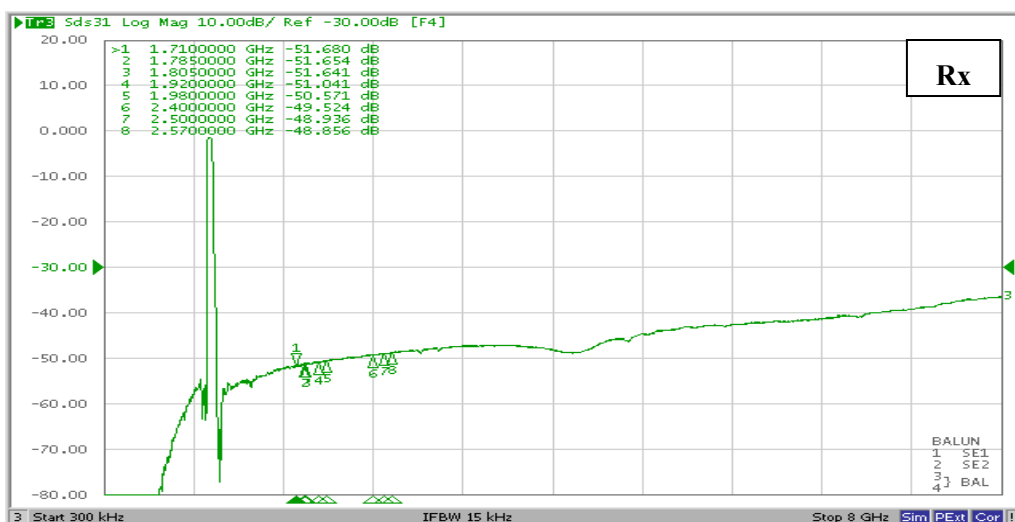
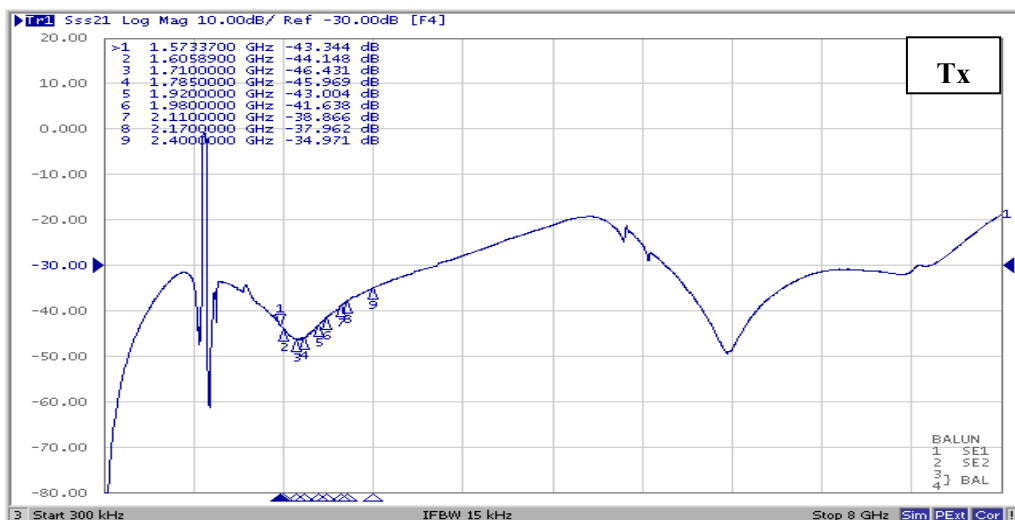
Phase Balance



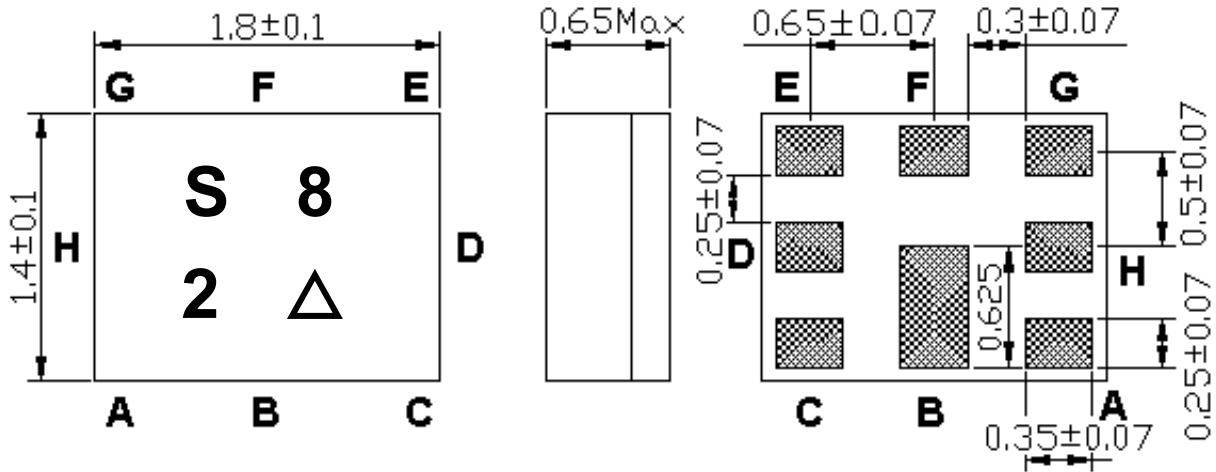
Amplitude Balance



Wide Span



OUTLINE DRAWING:



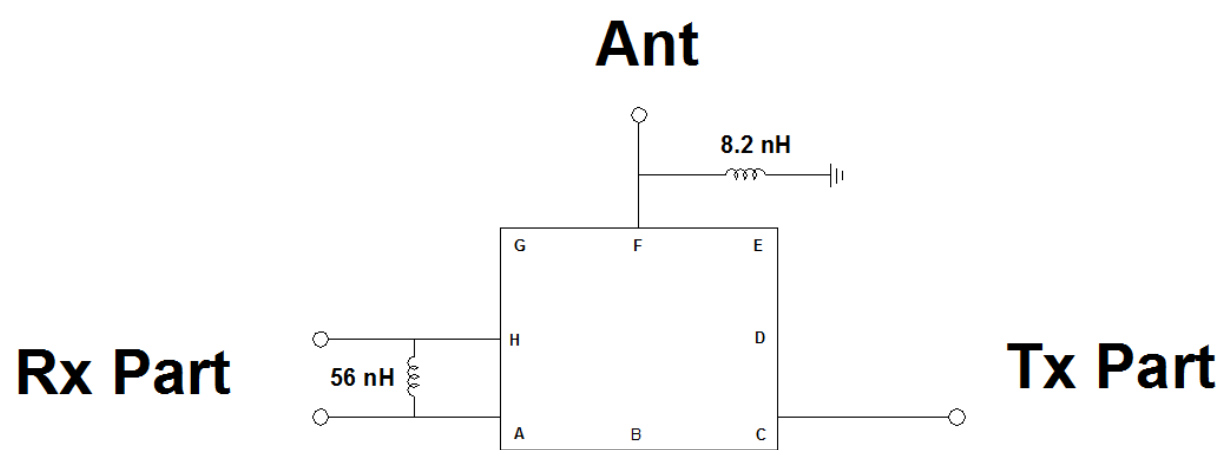
| Marking Descriptions | |
|----------------------|-----------------------|
| S | Marking name |
| 8 | Band Class |
| 2 | Series Number |
| △ | Date Code(Year+Month) |

| Pin Description | |
|-----------------|---------------|
| B,D,E,G | Ground |
| F | Ant |
| C | Tx (897.5MHz) |
| A,H | Rx (942.5MHz) |

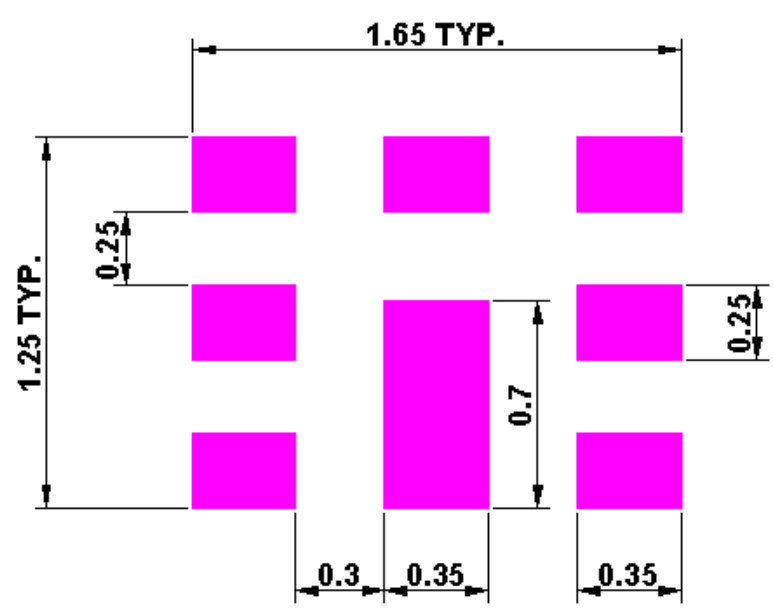
Date Code (year+month)

| Year | Jan. | Feb. | Mar. | Apr. | May. | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 2013 | A | B | C | D | E | F | G | H | J | K | L | M |
| 2014 | N | P | Q | R | S | T | U | V | W | X | Y | Z |
| 2015 | a | b | c | d | e | f | g | h | j | k | l | m |
| 2016 | n | p | q | r | s | t | u | v | w | x | y | z |
| 2017 | <u>A</u> | <u>B</u> | <u>C</u> | <u>D</u> | <u>E</u> | <u>F</u> | <u>G</u> | <u>H</u> | <u>J</u> | <u>K</u> | <u>L</u> | <u>M</u> |
| 2018 | <u>N</u> | <u>P</u> | <u>Q</u> | <u>R</u> | <u>S</u> | <u>T</u> | <u>U</u> | <u>V</u> | <u>W</u> | <u>X</u> | <u>Y</u> | <u>Z</u> |
| 2019 | <u>a</u> | <u>b</u> | <u>c</u> | <u>d</u> | <u>e</u> | <u>f</u> | <u>g</u> | <u>h</u> | <u>i</u> | <u>k</u> | <u>l</u> | <u>m</u> |
| 2020 | <u>n</u> | <u>p</u> | <u>q</u> | <u>r</u> | <u>s</u> | <u>t</u> | <u>u</u> | <u>v</u> | <u>w</u> | <u>x</u> | <u>y</u> | <u>z</u> |

Evaluation Circuit

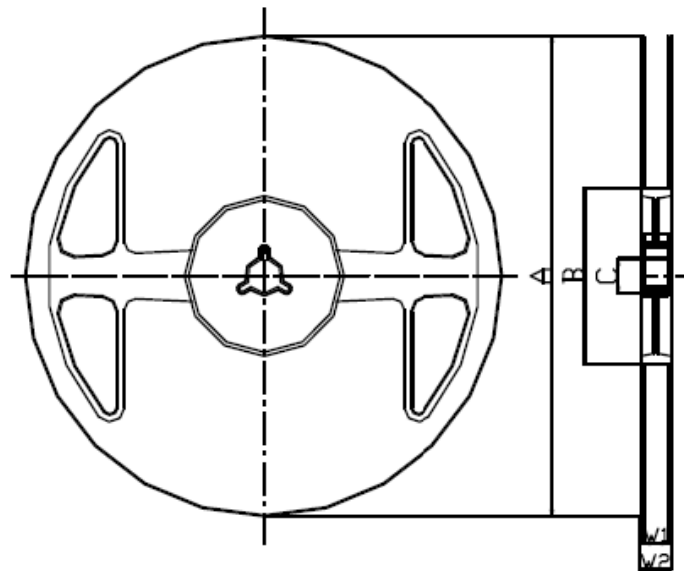


FOOTPRINT:



PACKING:
REEL DIMENSION

Reel Count:
7" = 3000
13" = 10,000



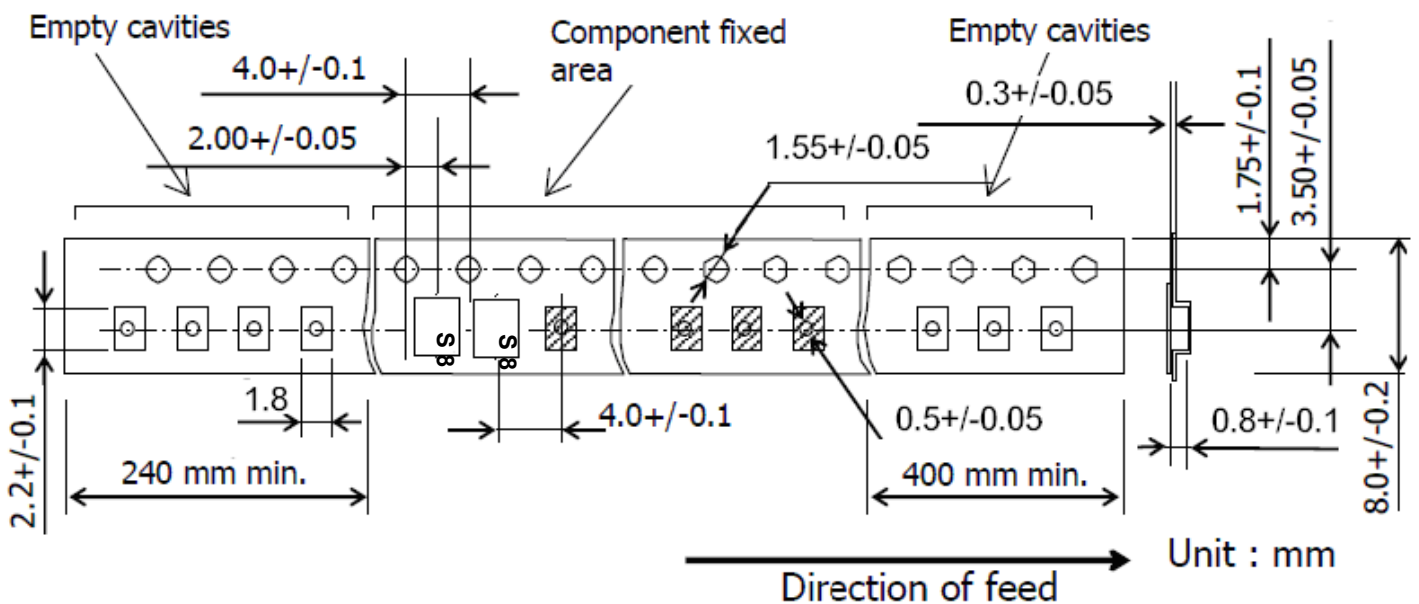
Materials of Reel

Material : Polystyrene + Carbon
 Characteristics : Conforms to EIAJ-ET-7200A
 Color : Black
 Surface resistance (reference value) : $10^9\Omega/\text{sq}$ Max.

Unit : mm

| Code | Quantity | A | B | C | W1 | W2 |
|------|-----------|------------------------|--------------------|--------------------|---------------|-------------|
| Z | 3,000 pcs | ϕ 180.0 +0.0/-1.5 | ϕ 66.0 +/-0.5 | ϕ 13.0 +/-0.2 | 9.0 +1.0/-0.0 | 11.4 +/-1.0 |

TAPE DIMENSION



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 245~260°C peak (min. 10sec).
4. Time : 2 times.

