STUDY | PCB DIMENSION (Length)

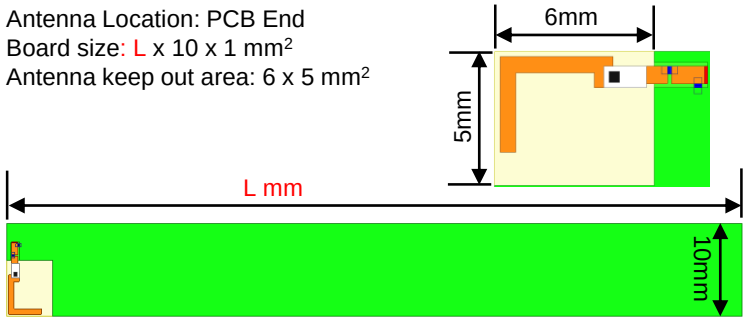
ANT161575ST-1202A1

Dimensions (mm)

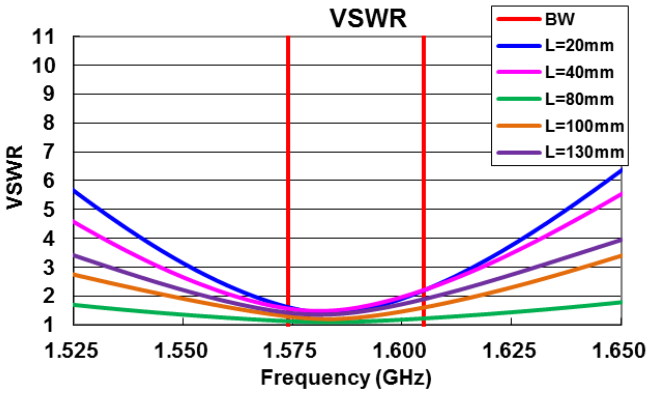
L	W	T
1.60	0.80	0.40
±0.10	±0.10	Max.

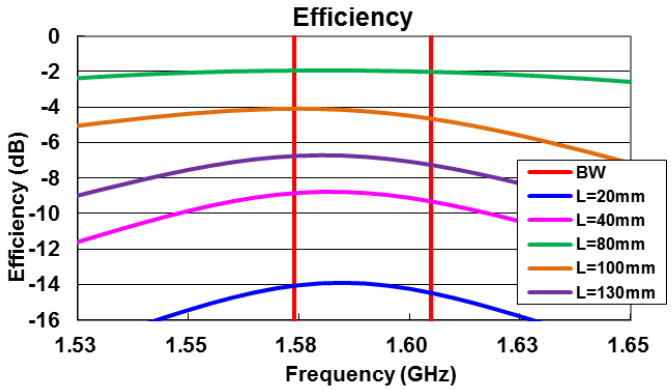
EVALUATION BOARD

Antenna Location: PCB End
Board size: L x 10 x 1 mm²
Antenna keep out area: 6 x 5 mm²



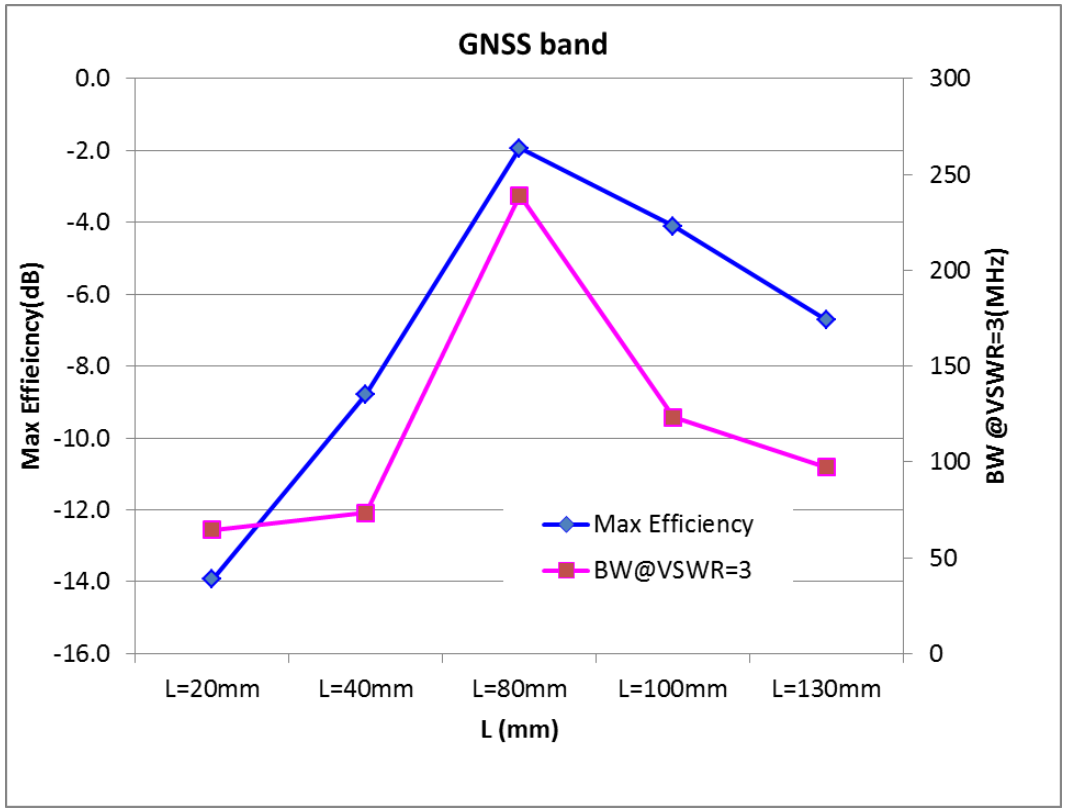
▶VSWR & EFFICIENCY (SIMULATION RESULTS)





	VSWR			Efficiency(dB)		
Frequency(GHz)	1.574	1.590	1.605	1.574	1.590	1.605
L=20mm	1.6	1.5	2.2	−14.1	−13.9	−14.5
L=40mm	1.6	1.6	2.2	−8.9	−8.8	−9.3
L=80mm	1.1	1.1	1.2	−1.9	−1.9	−2.0
L=100mm	1.3	1.3	1.6	−4.1	−4.2	−4.7
L=130mm	1.4	1.4	1.9	−6.8	−6.8	−7.3

MAX EFFICIENCY & BANDWIDTH (SIMULATION RESULTS)



		L=20mm	L=40mm	L=80mm	L=100mm	L=130mm
GNSS band	Max Efficiency(dB)	−13.9	−8.8	−1.9	−4.1	−6.7
	BW@VSWR=3(MHz)	64	73	239	123	97

STUDY | GND CLEARANCE (Corner of PCB)

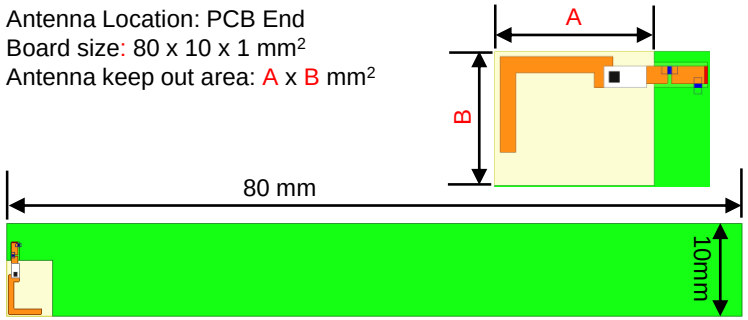
ANT161575ST-1202A1

Dimensions (mm)

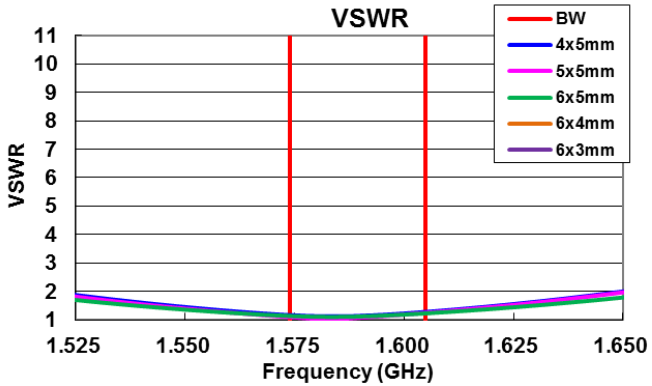
L	W	T
1.60	0.80	0.40
±0.10	±0.10	Max.

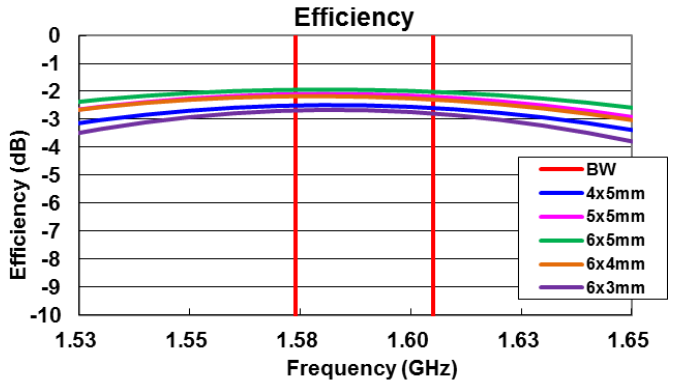
EVALUATION BOARD

Antenna Location: PCB End
Board size: 80 x 10 x 1 mm²
Antenna keep out area: A x B mm²



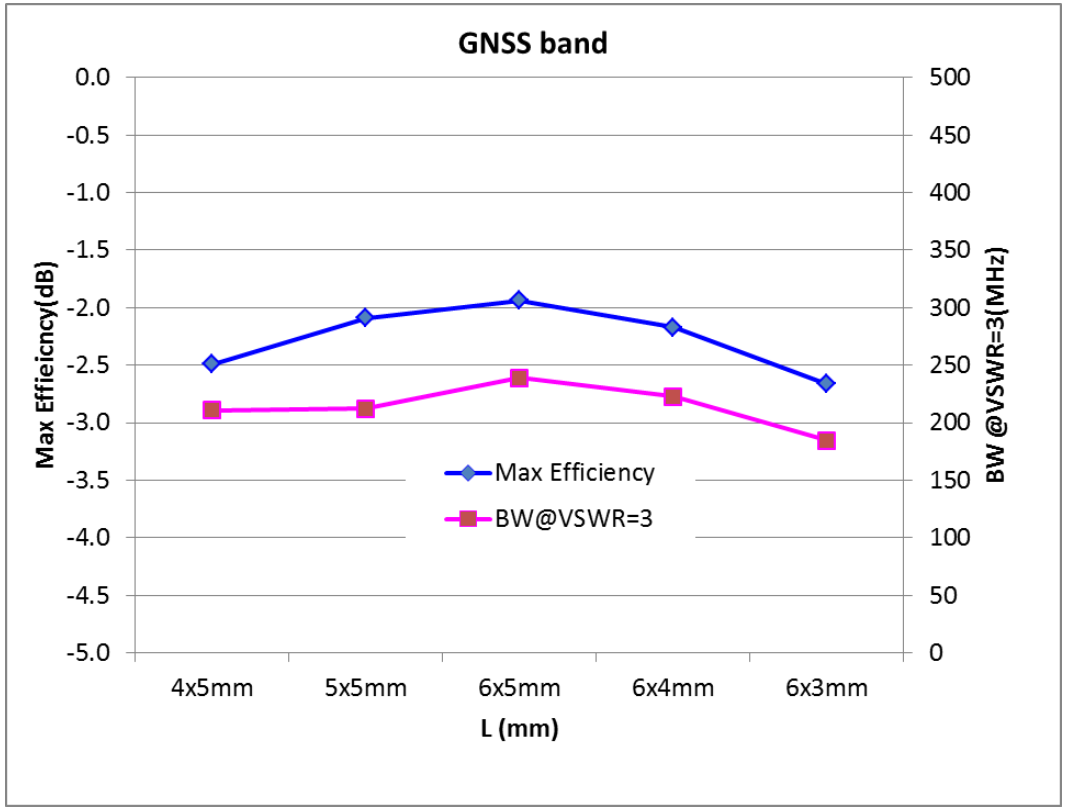
▶VSWR & EFFICIENCY (SIMULATION RESULTS)





	VSWR			Efficiency(dB)		
Frequency(GHz)	1.574	1.590	1.605	1.574	1.590	1.605
4x5mm	1.2	1.1	1.3	−2.5	−2.5	−2.6
5x5mm	1.1	1.1	1.2	−2.1	−2.1	−2.2
6x5mm	1.1	1.1	1.2	−1.9	−1.9	−2.0
6x4mm	1.1	1.1	1.3	−2.2	−2.2	−2.3
6x3mm	1.1	1.1	1.3	−2.7	−2.7	−2.8

MAX EFFICIENCY & BANDWIDTH (SIMULATION RESULTS)



	4x5mm	5x5mm	6x5mm	6x4mm	6x3mm
Max Efficiency(dB)	−2.5	−2.1	−1.9	−2.2	−2.7
BW@VSWR=3(MHz)	211	212	239	223	184

STUDY | ANTENNA LOCATION

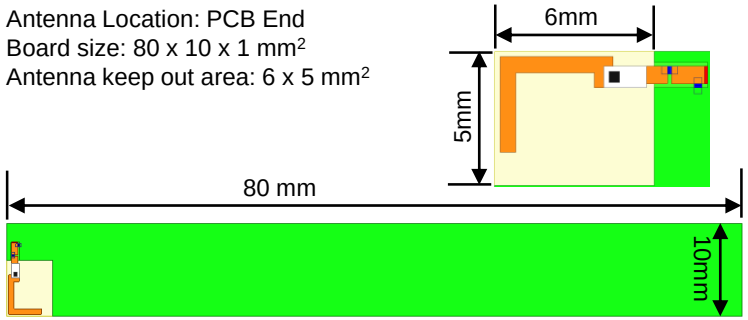
ANT161575ST-1202A1

Dimensions (mm)

L	W	T
1.60	0.80	0.40
±0.10	±0.10	Max.

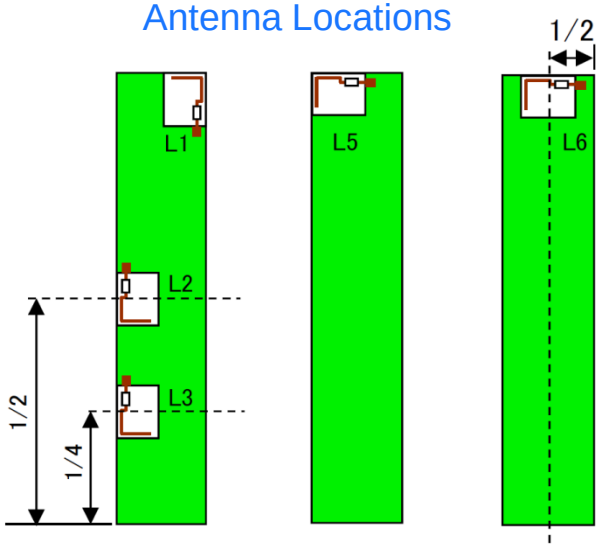
EVALUATION BOARD

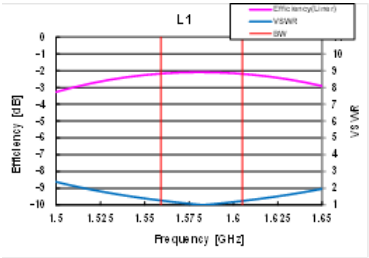
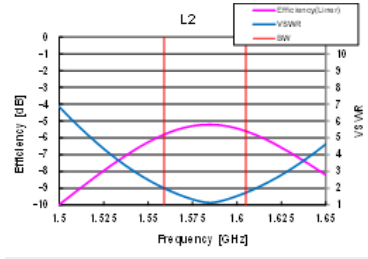
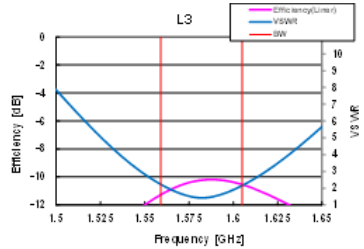
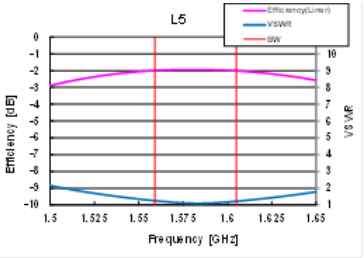
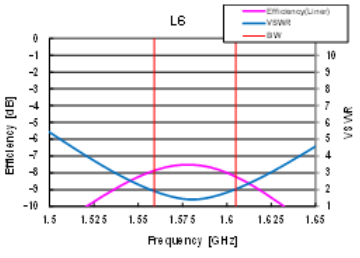
Antenna Location: PCB End
Board size: 80 x 10 x 1 mm²
Antenna keep out area: 6 x 5 mm²



▶SIMULATION RESULTS

Antenna Locations



L1 (Recommended)	L2	L3
 Matching Circuit Ft: 2.4nH Mt: 15nH	 Matching Circuit Ft: 0.5pF Mt: 7.5nH	 Matching Circuit Ft: 0.5pF Mt: 7.5nH
L4	**L5 (Recommended)**	**L6**
	 Matching Circuit Ft: 2.0nH Mt: 15nH	 Matching Circuit Ft: 0.5pF Mt: 7.5nH

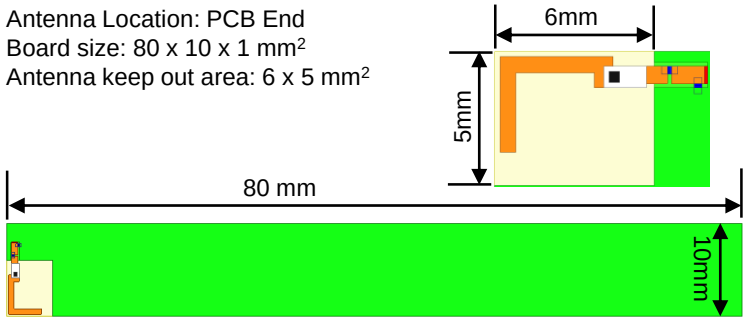
ANT161575ST-1202A1

Dimensions (mm)

L	W	T
1.60	0.80	0.40
±0.10	±0.10	Max.

EVALUATION BOARD

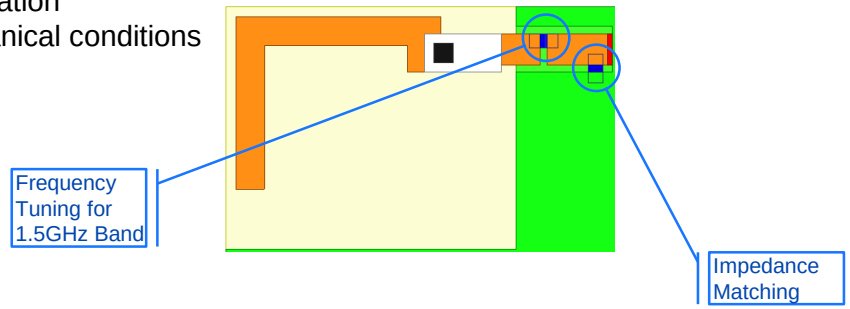
Antenna Location: PCB End
Board size: 80 x 10 x 1 mm²
Antenna keep out area: 6 x 5 mm²



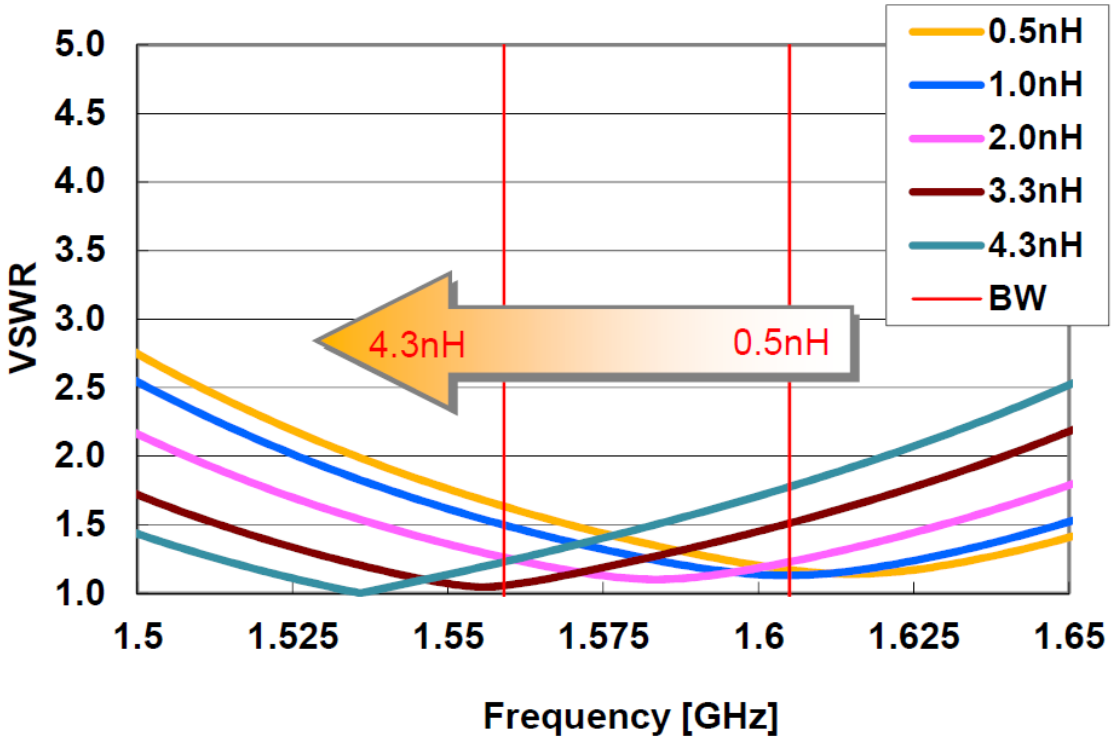
TECHNICAL REMARKS

Value of tuning components depend on:

- PCB Size
- Antenna Location
- Other mechanical conditions



▶FREQUENCY TUNING(SIMULATION RESULTS)



IMPEDANCE MATCHING (SIMULATION RESULTS)