September 2016

AEC-Q200 (–40 to 85°C) qualified component family

Multilayer Antenna

For 2400-2484MHz

ANT162442ST-1000AM1

1.6x0.8mm [EIA 0603]*

*** Dimensions Code JIS[EIA]**

Multilayer Antenna

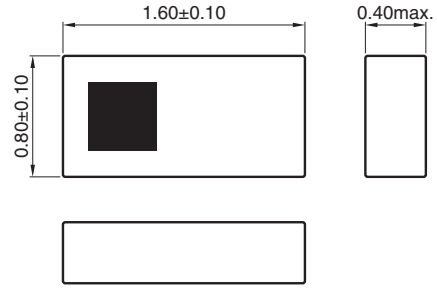
Conformity to RoHS Directive

For 2400-2484MHz

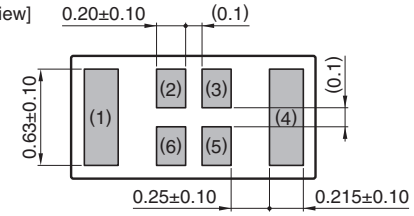
ANT162442ST-1000AM1

SHAPES AND DIMENSIONS

[Top view]



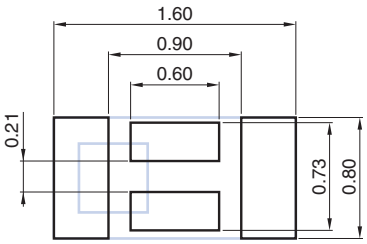
[Bottom view]



Terminal functions	
1	Radiator electrode
2	Dummy pad
3	Dummy pad
4	Feed point
5	Dummy pad
6	Dummy pad

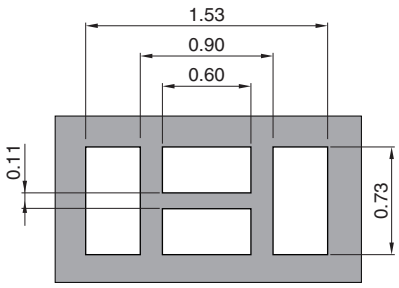
Dimensions in mm

RECOMMENDED LAND PATTERN



Dimensions in mm

SOLDER RESIST PATTERN



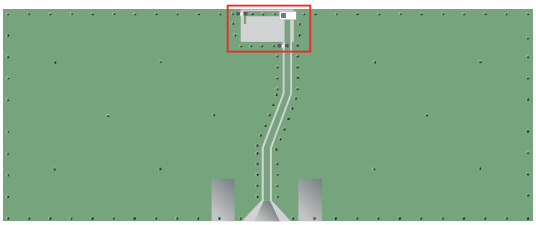
Dimensions in mm

○RoHS Directive Compliant Product: See the following for more details.https://product.tdk.com/info/en/environment/rohs/index.html

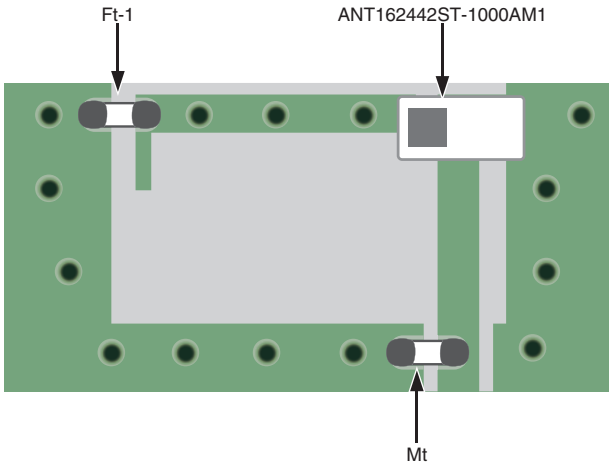
• All specifications are subject to change without notice.
• Before using these products, be sure to request the delivery specifications.

ANT162442ST-1000AM1

EVALUATION BOARD

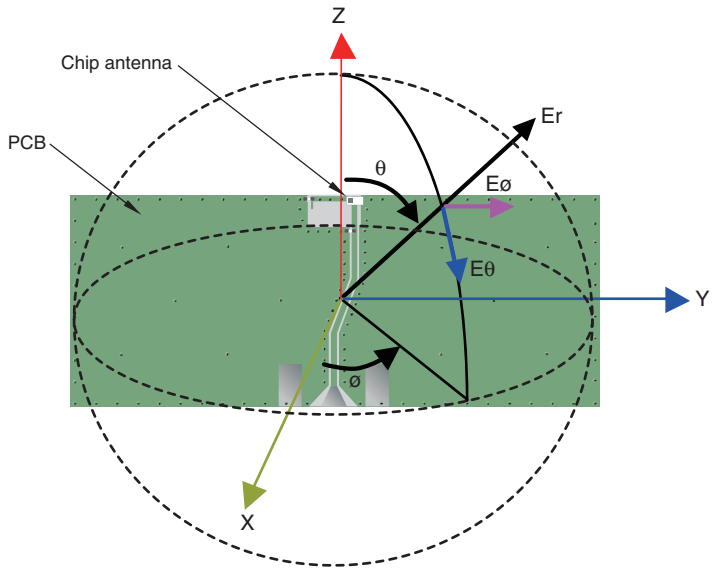


PCB size : 50mm x 20mm x 1mm
Antenna area : 5 x 3 mm



	Component P/N
Ft-1	6.2pF
Mt	0.8pF

☐Measurement condition for Radiation Pattern



ANT162442ST-1000AM1

ELECTRICAL CHARACTERISTICS

Item	Frequency Range (MHz)	Min.	Typ.	Max.
VSWR	2400 to 2484	—	1.60	3.0
Polarization			Linear	
PCB size (mm)			50×20	
Antenna keep-out area (mm)			5×3	
Characteristic Impedance (Ω)			50 (Nominal)	

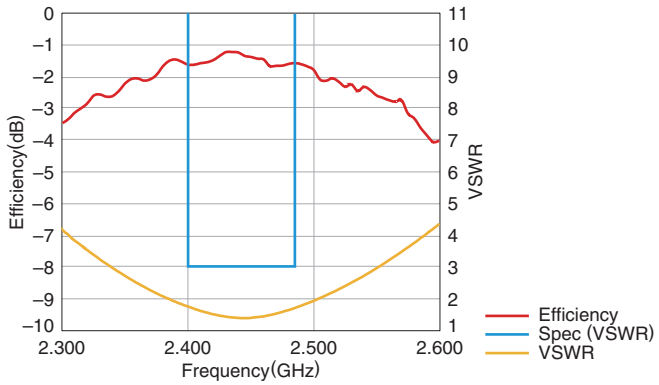
・This is typical antenna performance with the standard PCB.

TEMPERATURE RANGE

Operating temperature (°C)	Storage temperature (°C)
–40 to +85	–40 to +85

FREQUENCY CHARACTERISTICS

EFFICIENCY AND VSWR



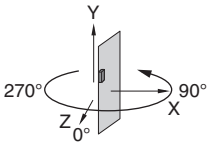
• Tested antenna has been soldered. Evaluation board size is 50x20x1 mm.

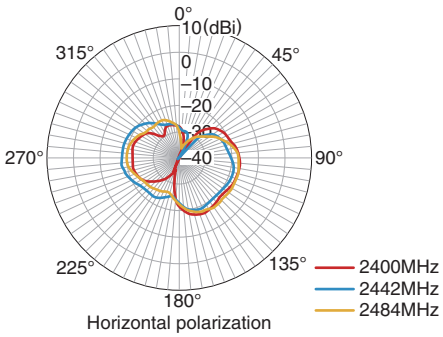
• All specifications are subject to change without notice.
• Before using these products, be sure to request the delivery specifications.

ANT162442ST-1000AM1

■RADIATION PATTERNS

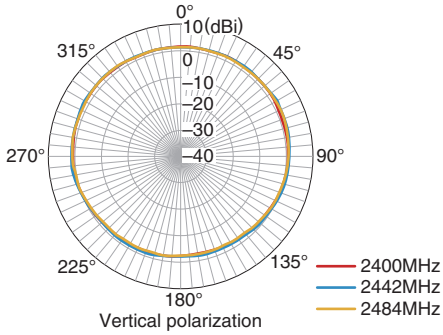
□2.4GHz BAND





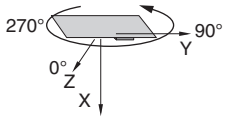
Horizontal polarization

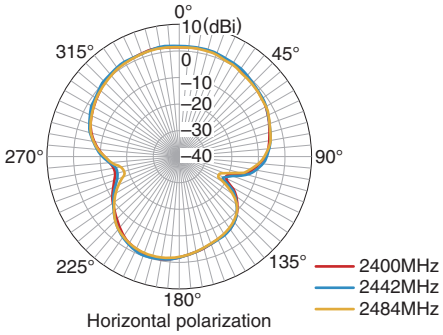
Frequency(MHz)	2400	2442	2484
Average(dBi)	–21.5	–21.5	–21.3
Maximum(dBi)	–16.9	–18.5	–17.2
Minimum(dBi)	–46.0	–40.8	–36.4



Vertical polarization

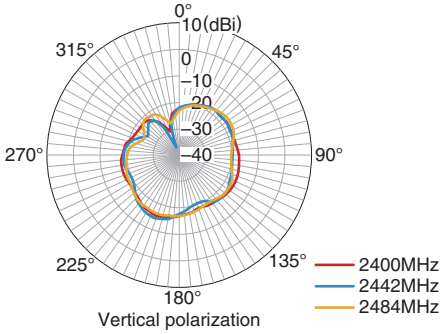
Frequency(MHz)	2400	2442	2484
Average(dBi)	0.0	0.3	–0.2
Maximum(dBi)	1.3	1.6	1.2
Minimum(dBi)	–2.4	–2.2	–3.0





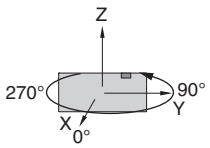
Horizontal polarization

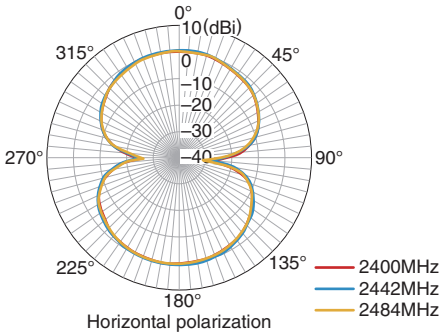
Frequency(MHz)	2400	2442	2484
Average(dBi)	–2.9	–2.6	–3.1
Maximum(dBi)	1.3	1.6	1.2
Minimum(dBi)	–21.5	–21.9	–23.6



Vertical polarization

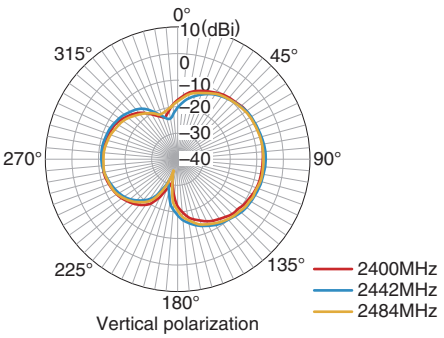
Frequency(MHz)	2400	2442	2484
Average(dBi)	–24.1	–24.7	–24.8
Maximum(dBi)	–20.2	–19.1	–21.5
Minimum(dBi)	–39.2	–46.1	–34.9





Horizontal polarization

Frequency(MHz)	2400	2442	2484
Average(dBi)	–3.1	–2.7	–3.2
Maximum(dBi)	0.2	0.6	0.1
Minimum(dBi)	–29.8	–28.5	–31.3



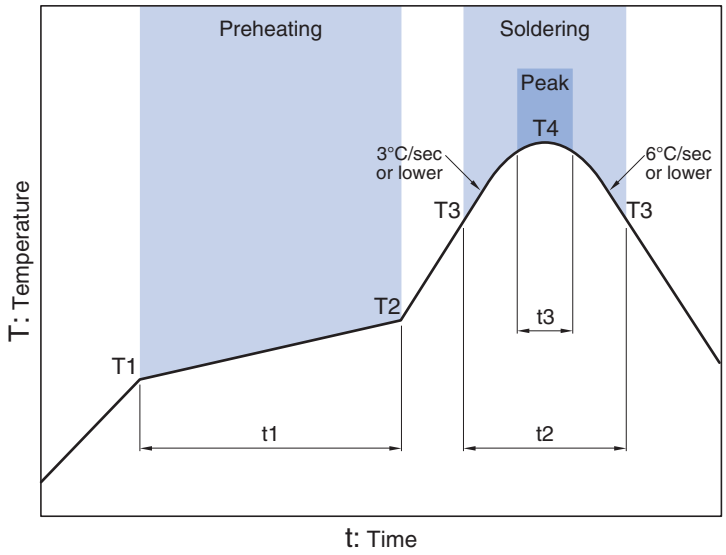
Vertical polarization

Frequency(MHz)	2400	2442	2484
Average(dBi)	–12.2	–11.8	–12.3
Maximum(dBi)	–8.0	–7.5	–8.2
Minimum(dBi)	–31.2	–30.5	–35.8

• Tested antenna has been soldered. Evaluation board size is 50x20x1 mm.

• All specifications are subject to change without notice.
• Before using these products, be sure to request the delivery specifications.

RECOMMENDED REFLOW PROFILE



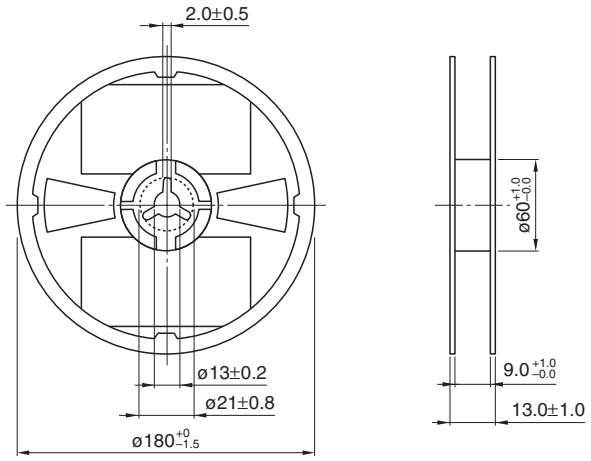
Preheating			Soldering			
			Critical zone (T3 to T4)		Peak	
Temp.		Time	Temp.	Time	Temp.	Time
T1	T2	t1	T3	t2	T4	t3*
150°C	200°C	60 to 120sec	217°C	60 to 120sec	240 to 260°C	30sec max.

* t3 : Time within 5°C of actual peak temperature
The maximum number of reflow is 3.

ANT162442ST-1000AM1

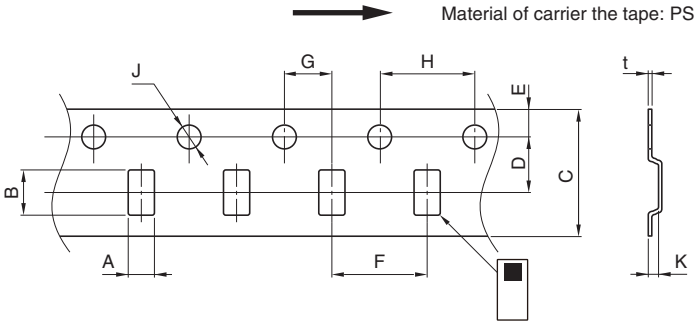
■PACKAGING STYLE

□REEL DIMENSIONS



Dimensions in mm

□TAPE DIMENSIONS



Dimensions in mm

A	B	C	D	E	F	G	H	J	K	t
0.97±0.05	1.8±0.05	8.0±0.2	3.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	1.5+0.1/-0	0.55max.	0.25±0.05

■PACKAGE QUANTITY

Standardpackage quantity (pieces/reel)
4,000

• All specifications are subject to change without notice.
• Before using these products, be sure to request the delivery specifications.

REMINDERS FOR USING THESE PRODUCTS

Before using these products, be sure to request the delivery specifications.

SAFETY REMINDERS

Please pay sufficient attention to the warnings for safe designing when using these products.

⚠ REMINDERS

The products listed on this catalog are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.
The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.
Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below or for any other use exceeding the range or conditions set forth in this catalog.

(1) Aerospace/Aviation equipment
(2) Transportation equipment (cars, electric trains, ships, etc.)
(3) Medical equipment
(4) Power-generation control equipment
(5) Atomic energy-related equipment
(6) Seabed equipment
(7) Transportation control equipment
(8) Public information-processing equipment
(9) Military equipment
(10) Electric heating apparatus, burning equipment
(11) Disaster prevention/crime prevention equipment
(12) Safety equipment
(13) Other applications that are not considered general-purpose applications

When using this product in general-purpose applications, you are kindly requested to take into consideration securing protection circuit/equipment or providing backup circuits, etc., to ensure higher safety.