

Versions: SPEC-HEK

DATE:

东莞市合康电子有限公司

Dongguan Hekang Electronic co., LTD

Chip Antenna

Customer name: FULL TECHNOLOGY LIMITED	Manufacturer: Dongguan hekan electronics co. LTD
Customer Material Number:	PRODUCTS: Bluetooth antenna
Part Name: ANT3216R2400A1M1	Part number : ANT3216R2400A1M1Versions : A01

This Specifications is received

SIGN: 赖勇平

Bill Lai

DATE: 2025/07/1

July 1, 2025

	Checked by	Approved by
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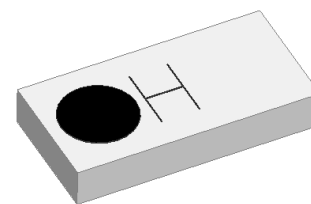
2.4GHz 3216 Chip Antenna: ANT3216R2400A1M1

Applications:

WLAN, 802.11b/g, Bluetooth, etc...

Features

SMD, high reliability, ultra compact, Omni-directional...



Part number

ANT 3216 R 2400 A1 M1
(1) (2) (3) (4) (5) (6)

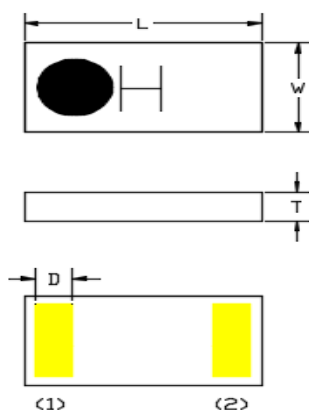
(1) Product Code	Chip
(2) Size Code	3.2x1.6mm
(3) Packing	Tape and reel
(4) Frequency	2.4GHz
(5) Series	A1
(6) Type	M1

Electrical Specification

Working Frequency Range	2400 ~2484 MHz
Peak Gain	2.24 dBi
Impedance	50 Ohm
VSWR	2.5 (Max)
Polarization	Linear
Azimuth Beamwidth	Omni-directional
Operation Temperature(°C)	40~85°C

The specification is defined on EVB.

Dimension and Terminal Configuration

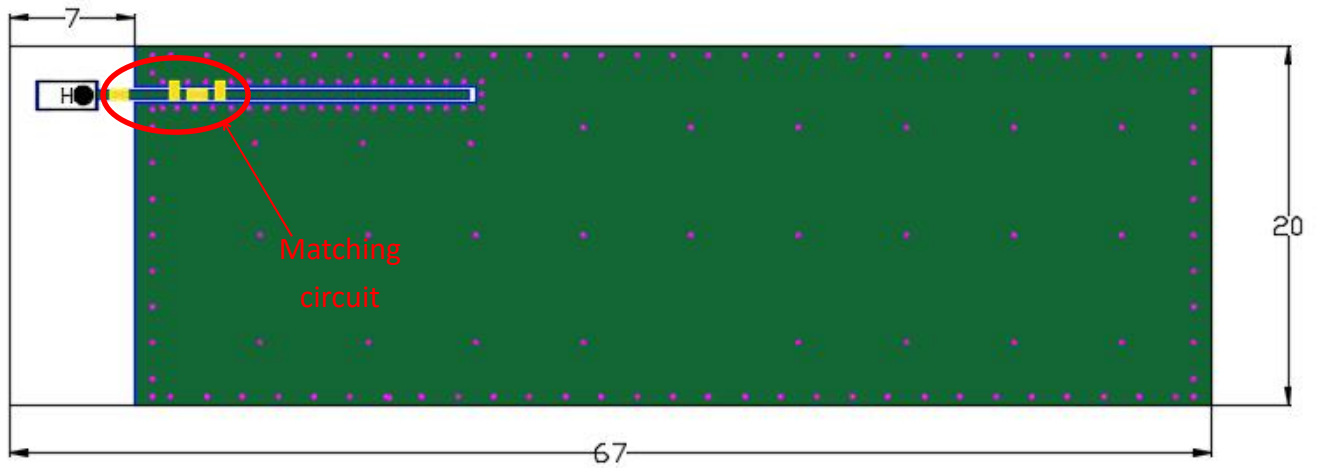


Dimension (mm)	
L	3.20±0.15
W	1.60±0.15
T	0.55±0.10
D	0.50±0.15

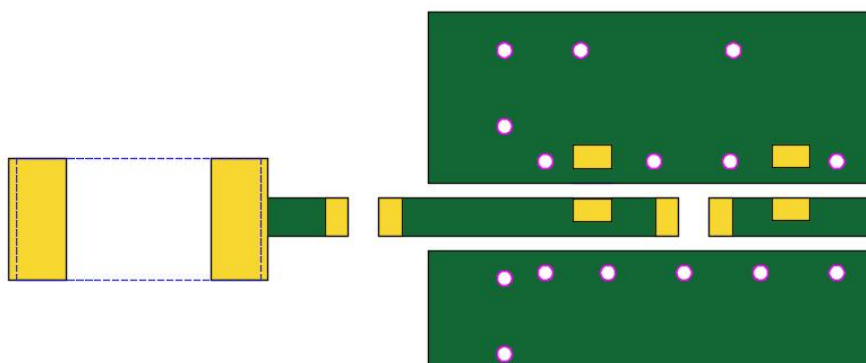
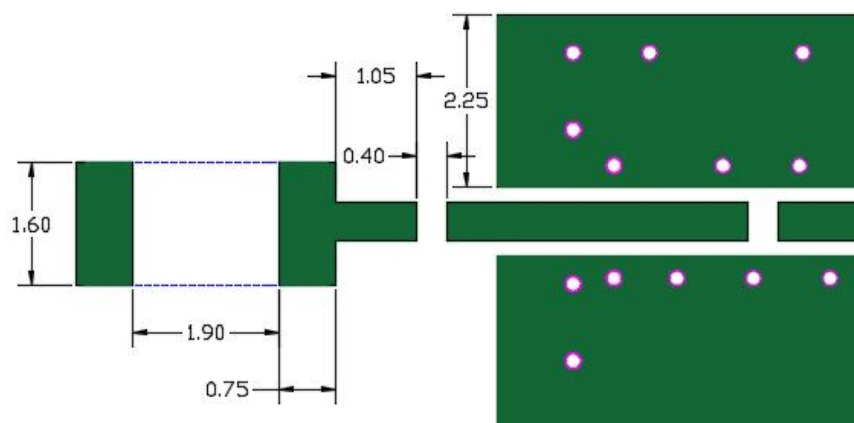
No.	Terminal Name
1	Feeding
2	Soldering

Evaluation Board Reference

PCB Dimension



Antenna Layout Reference



Unit : mm

 : Chip Antenna

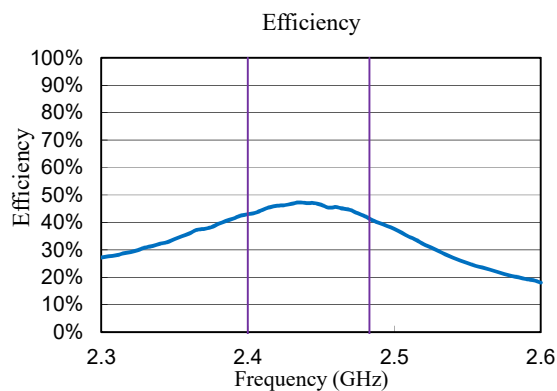
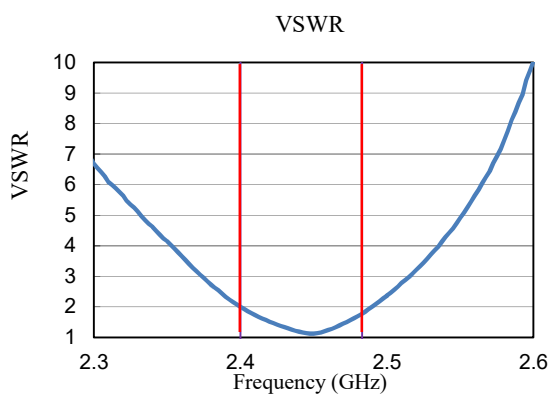
 : Land Pattern

2.4GHz 3216 Chip Antenna: ANT3216R2400A1M1

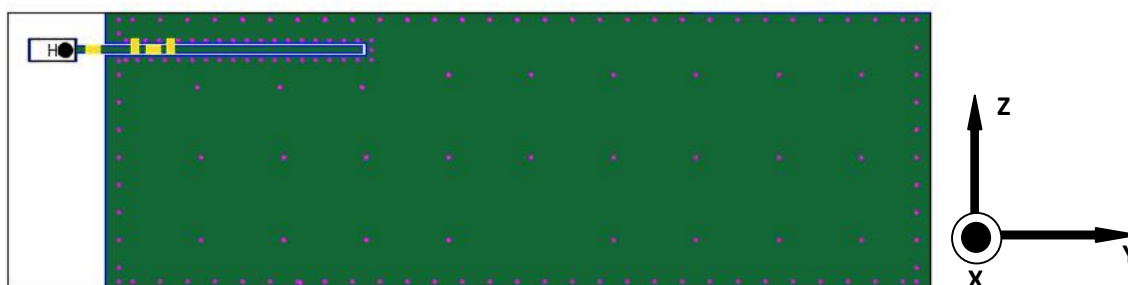
Electrical Characteristics

VSWR & Radiation

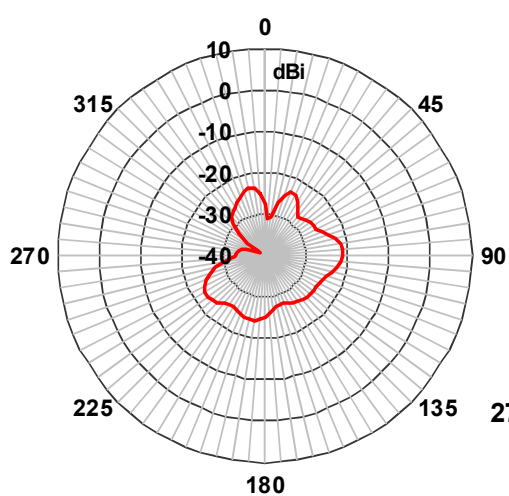
VSWR&Efficiency



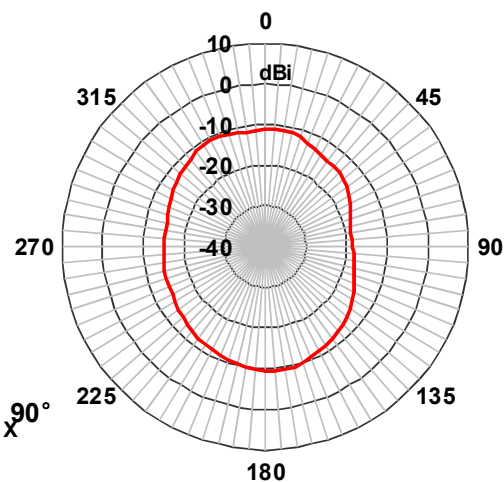
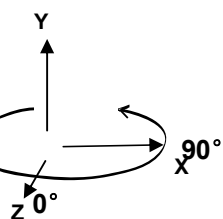
Radiation Pattern



ZX-Plane

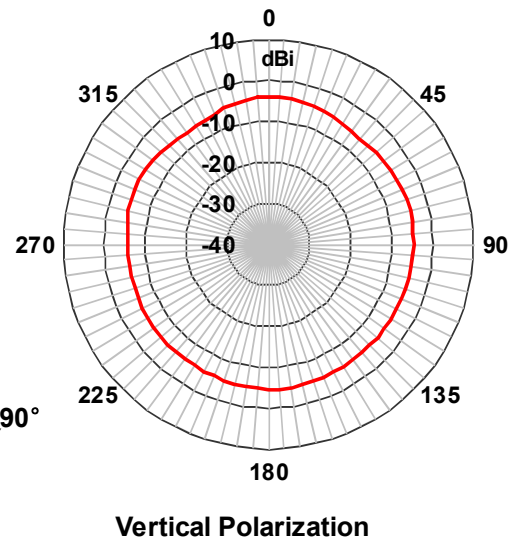
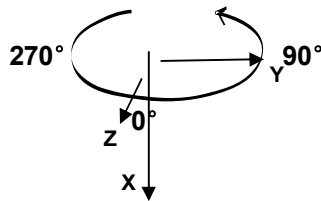
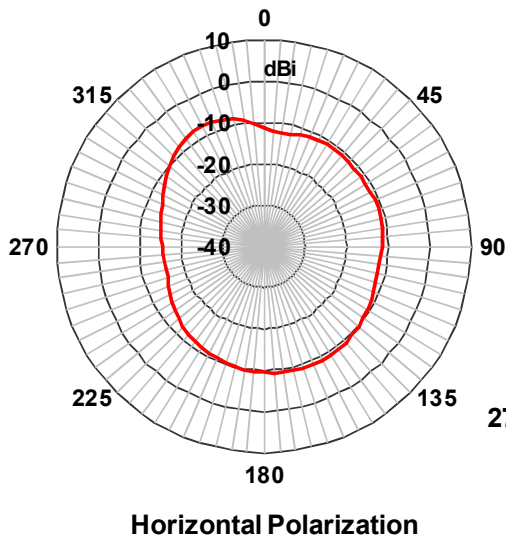


Horizontal Polarization

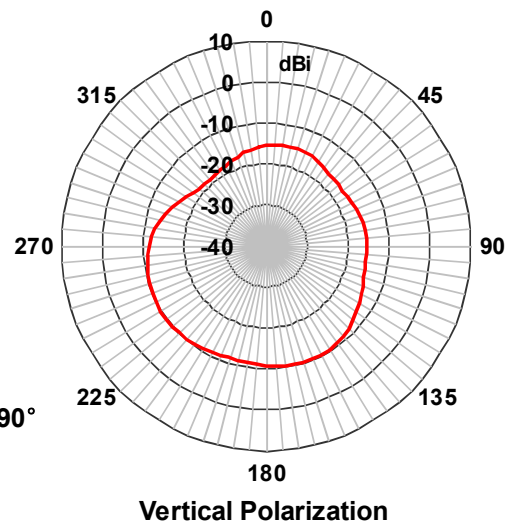
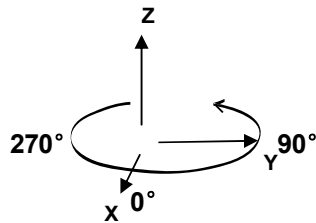
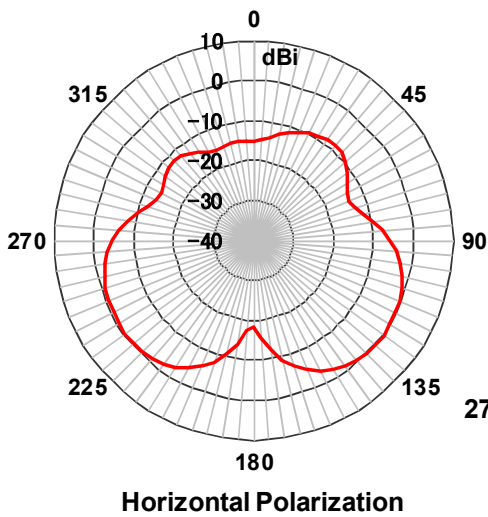


Vertical Polarization

ZY-Plane

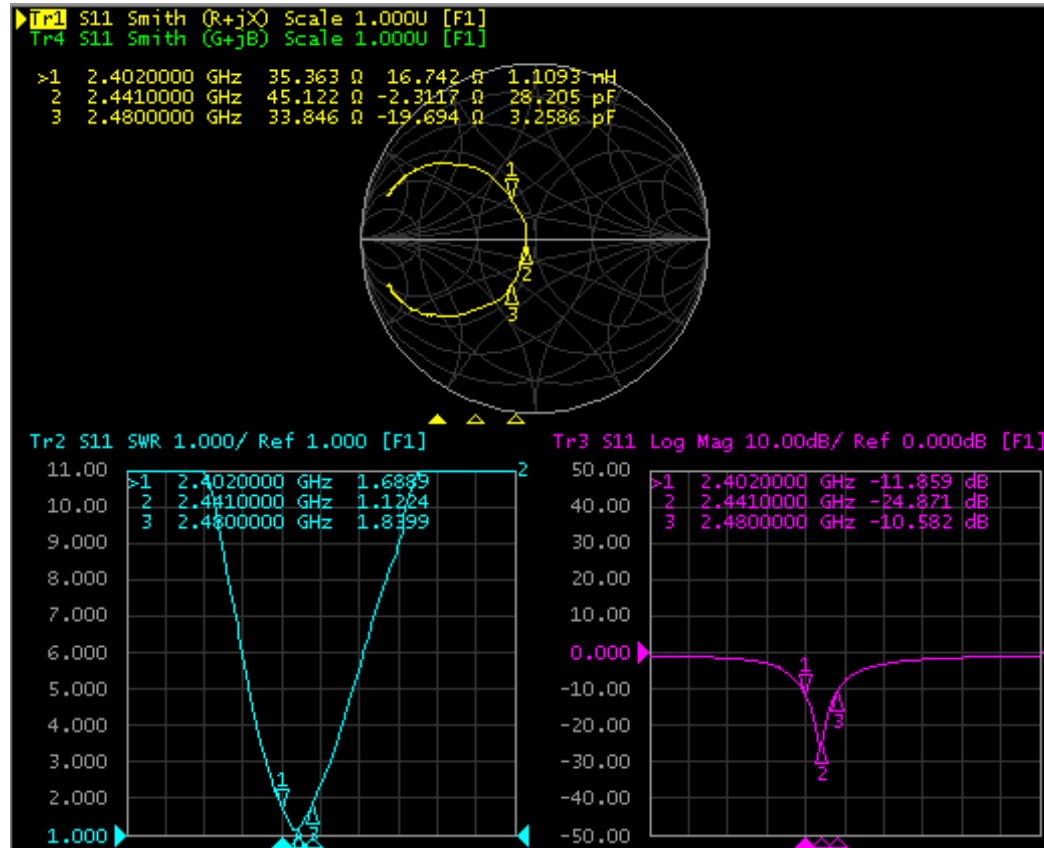


XY-Plane





Antenna S parameters



Item	Value		
	2402 (MHz)	2441(MHz)	2480(MHz)
Return loss(dB)	-11.85	-24.87	-10.58
Smith chart	35.36	45.12	33.84
VSWR	1.68	1.12	1.83





Antenna Passive parameter

Frequency (MHz)	Efficiency (%)	Mean gain (dBi)	Peak Gain (dBi)
2400	38.53	-4.14	1.35
2410	40.04	-3.97	1.64
2420	41.11	-3.86	1.83
2430	40.98	-3.87	1.76
2440	42.46	-3.72	2
2450	42.98	-3.67	2.24
2460	42.58	-3.71	2.23
2470	42.04	-3.76	2.09
2480	41.68	-3.8	2.22

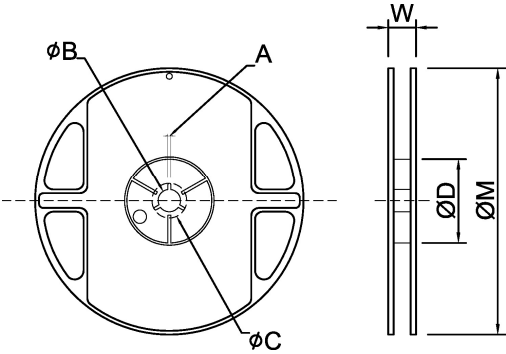


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Taping Specifications

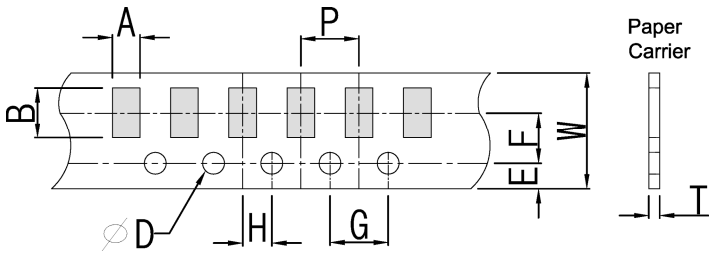
Reel and Taping Specification

Reel Specification



TYPE	SIZE		A	ψB	ψC	ψD	W	ψM
3216	7"	3K/Reel	2.0±0.5	13.5±1.0	21±1.0	60±1.0	11.5±2.0	178±2.0

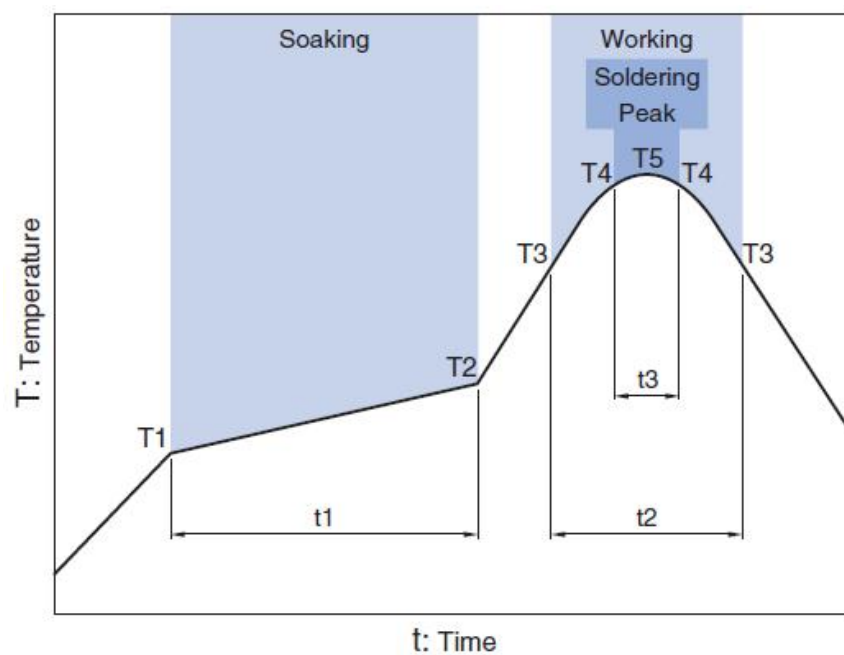
Taping Specification



Packaging	Type	A	B	W	E	F	G	H	T	ψD	P
Paper Type	3216	1.90±0.20	3.50±0.20	8.0±0.20	1.75±0.10	3.5±0.05	4.0±0.10	2.0±0.05	0.75±0.10	1.50±0.10	4.0±0.1

Recommended Reflow Profile

Pb free solder



Soaking			Working		Soldering		Peak
Temp.		Time	Temp.	Time	Temp.	Time	Temp.
T1	T2	t1	T3	t2	T4	t3	T5
150°C	180°C	60 to 120sec	230°C	more than 30sec	247 to 253°C	within 10sec	260°C Max.

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