Version of the no.：SPEC-20230103
effective date
commencement date：2023-01-03

Shenzhen Binmeda Technology Co., Ltd

ANT520LL45R2400A

Acknowledge the book

customer name：	manufacturer： Shenzhen Binmeda Technology Co., Ltd
Customer Material Number：	product model ： ANT520LL
Part of ：	serial number：BMD20230103 versions：A02

This Specifications is received

SIGN:

DATE:

Drawn by	Checked by	Approved by
Jimmy 2023/01/03	Jony 2023/01/03	Jimmy 2023/01/03

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Comprehensive Building,
Yangmeige Tailong Building,
Bantian, Longgang, Shenzhen
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1. Description

1.1 Specifications

Applications:

WLAN, 802.11b/g, Bluetooth, etc…

Features

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

Part number

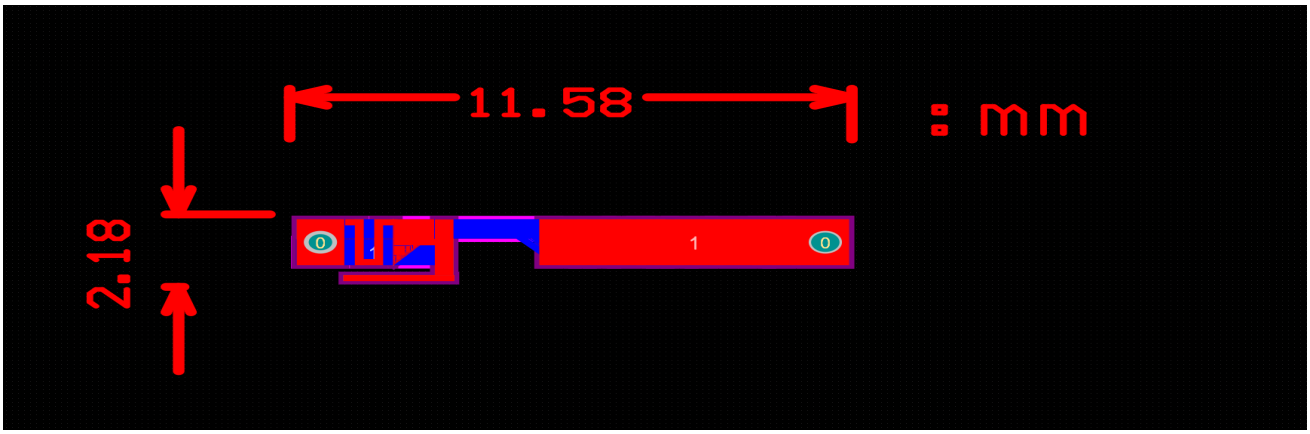
ANT	3216	R	2400	3K	M1
	(1)	(2)	(3)	(4)	(5)

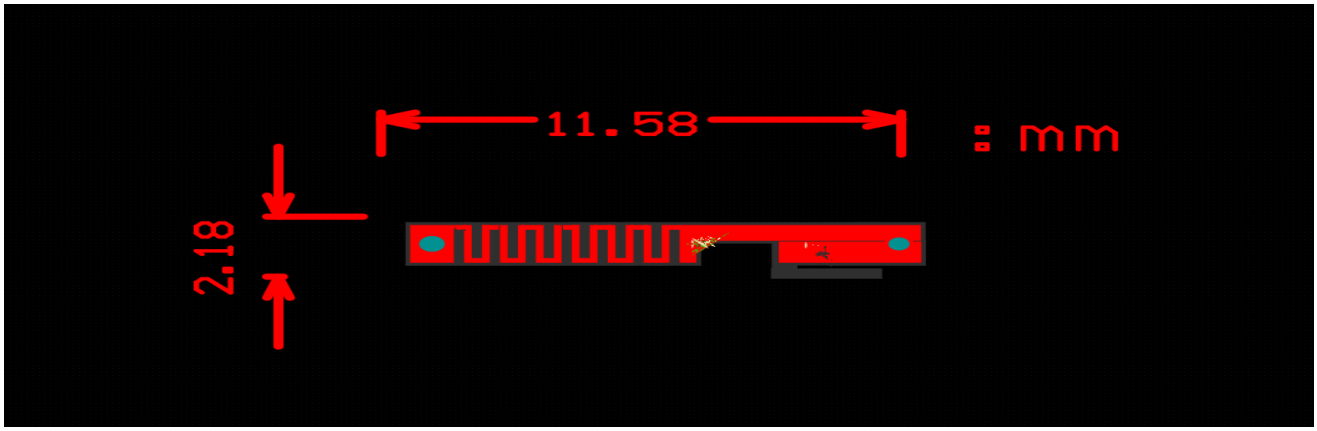
(1) Size Code	11.9x1.0mm
(2) Packing	Tape and reel
(3) Frequency	2.4GHz
(4) Packing Number	3K
(5) Code	M1

Electrical Specification

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

The specification is defined on EVB.

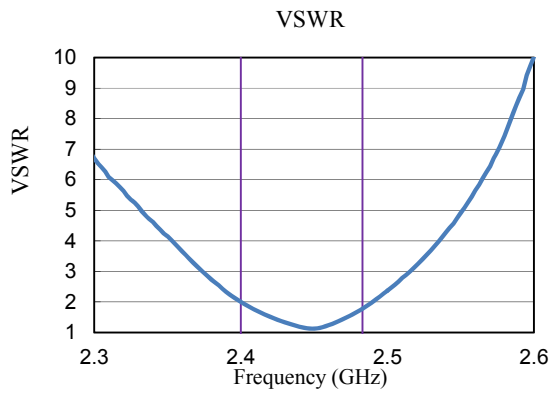


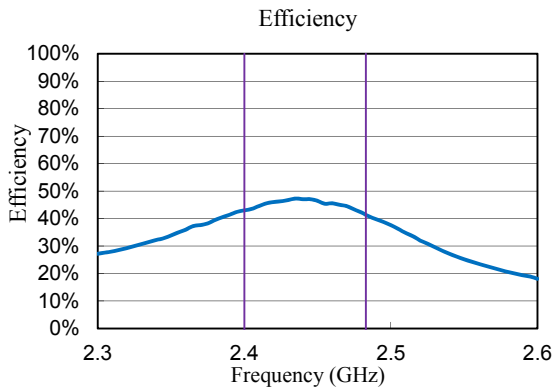


Electrical Characteristics

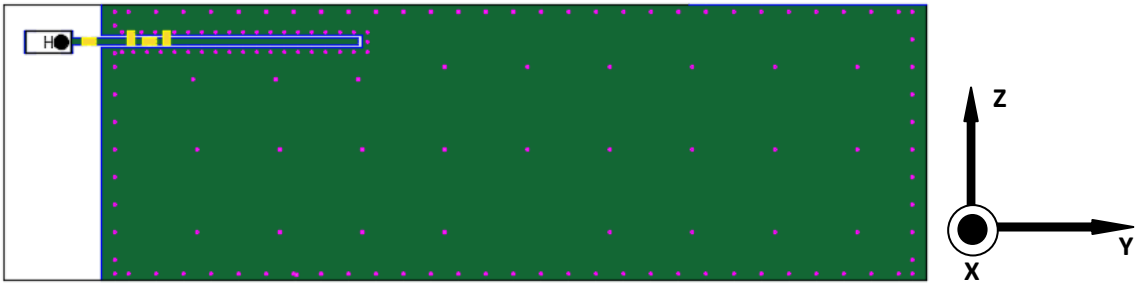
Return Loss & Radiation

VSWR&Efficiency

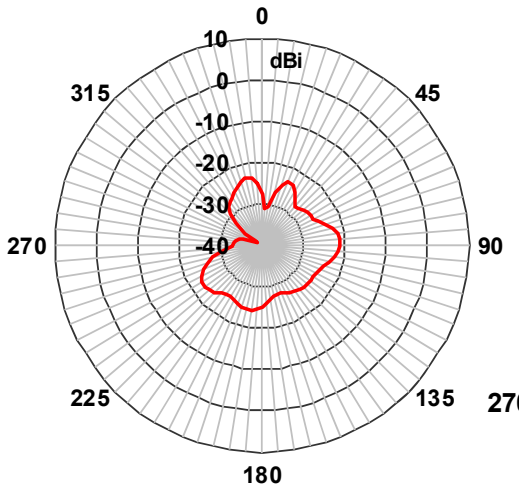




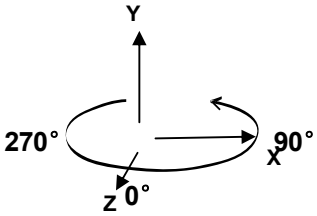
Radiation Pattern

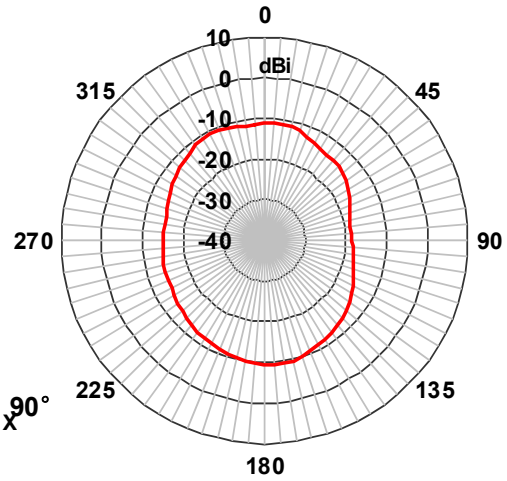


ZX-Plane Free=2440MHz



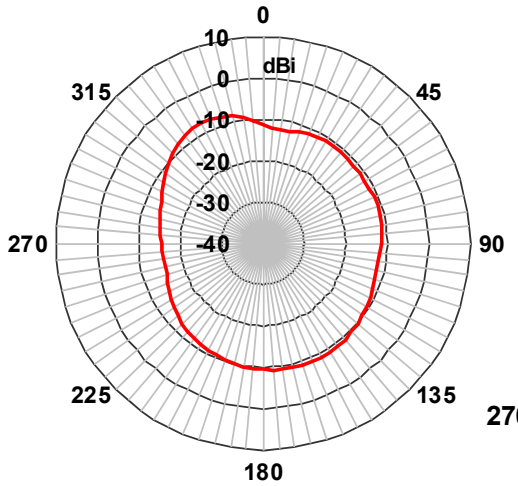
Horizontal Polarization



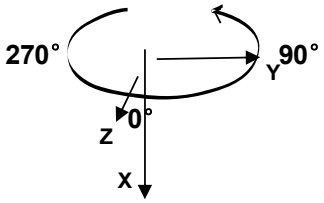


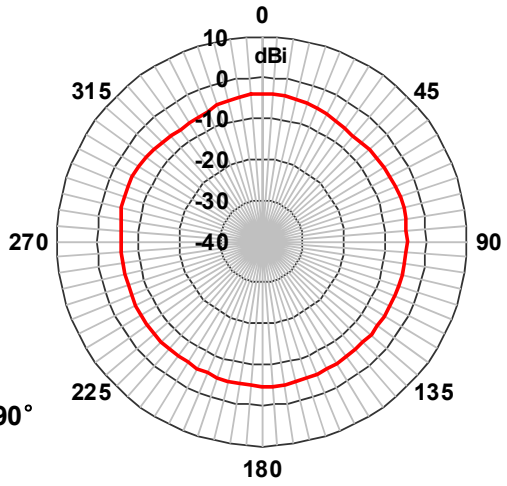
Vertical Polarization

ZY-Plane Free=2440MHz



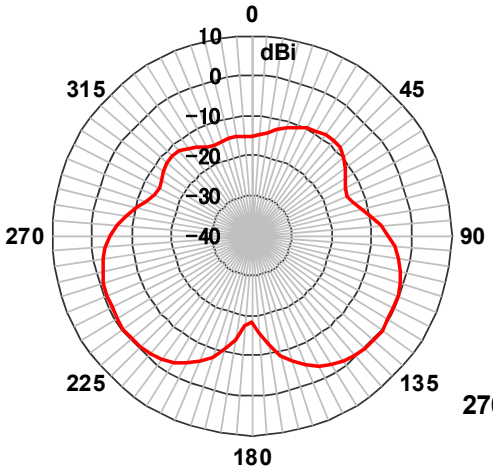
Horizontal Polarization



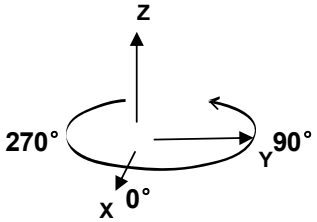


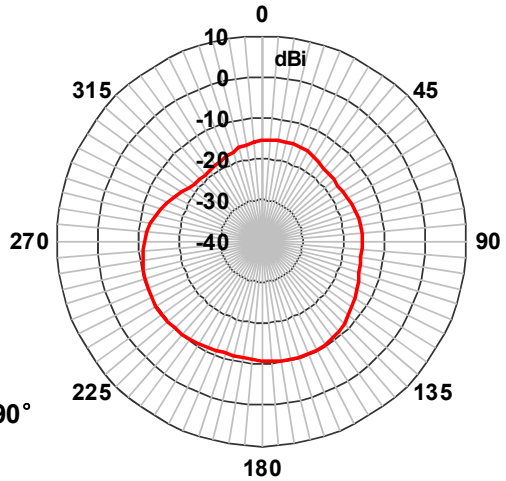
Vertical Polarization

XY-Plane Free=2440MHz



Horizontal Polarization



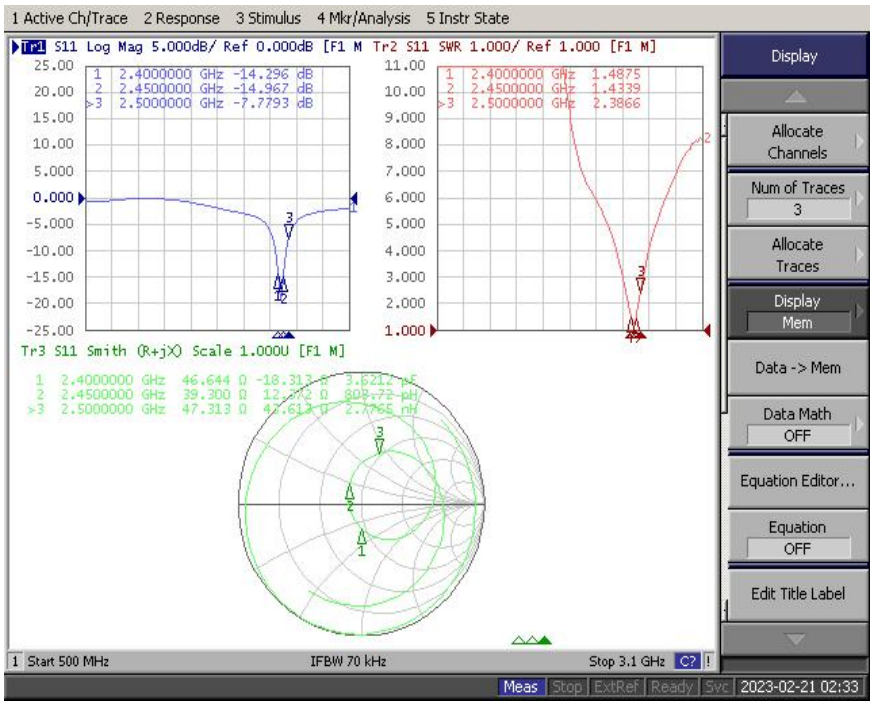


Vertical Polarization

E.Electrical performance test data of the antenna：

E.1.Antenna passive parameter

E.1.1.Antenna echo loss / standing wave ratio / Smith circle plot（RL/VSWR/Smith Chant）



E.1.2.Antenna efficiency / gain（Effeciency/Gain）

free space

Frequency MHz	Efficiency %	MAXGain dB
2400	29.6	1.01
2410	30.29	0.8
2420	31.16	0.86
2430	29.12	0.46
2440	29	0.31
2450	27.78	-0.1
2460	26.82	-0.43
2470	25.49	-0.86
2480	24	-1.37
2490	23.71	-1.61
2500	22.48	-1.88

headform

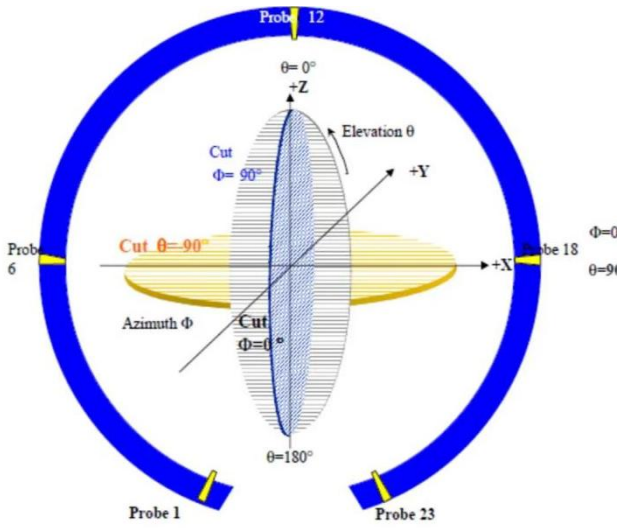
Frequency MHz	Efficiency %	MAXGain dB
2400	10.77	-3.25
2410	9.47	-3.43
2420	9.63	-3.56
2430	8.11	-4.07
2440	8.2	-4.18
2450	7.55	-4.66
2460	7.56	-5.05
2470	7.04	-5.23
2480	6.6	-5.45
2490	6.55	-5.75
2500	5.92	-5.94

E.2Antenna active parameters

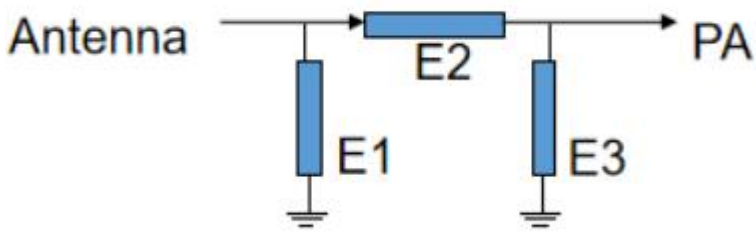
E.2.1 TRP/TIS

					5#	6#	8#
	#	**Type**	**Band**	**Channel**	**Total**	**Total**	**Total**
NQI Head model	1	TRP	BLUETOOTH	0	0.06	1.63	0.63
	2	TRP	BLUETOOTH	39	1.54	2.46	2
	3	TRP	BLUETOOTH	78	1.83	2.3	3.03
	4	TIS(EIRP)	BLUETOOTH	0	-81.3	-84.46	-83.63
	5	TIS(EIRP)	BLUETOOTH	39	-82.54	-84.32	-84.06
	6	TIS(EIRP)	BLUETOOTH	78	-85.48	-85	-86.04
	#	**Type**	**Band**	**Channel**	**Total**	**Total**	**Total**
baseus Head model	1	TRP	BLUETOOTH	0	-3.95	-5.57	-4.39
	2	TRP	BLUETOOTH	39	-2.85	-4.28	-3.51
	3	TRP	BLUETOOTH	78	-3.11	-4.55	-4.55
	4	TIS(EIRP)	BLUETOOTH	0	-80.59	-80.05	-81.67
	5	TIS(EIRP)	BLUETOOTH	39	-81.81	-81.13	-82.54
	6	TIS(EIRP)	BLUETOOTH	78	-82.12	-81.45	-82.51

					5#	6#	8#
	#	Type	Band	Channel	Total	Total	Total
NQI free space	1	TRP	BLUETOOTH	0	5.42	4.94	3.96
	2	TRP	BLUETOOTH	39	7.33	7.19	6.34
	3	TRP	BLUETOOTH	78	8.53	8.15	8.55
	4	TIS(EIRP)	BLUETOOTH	0	-86.77	-87.65	-86.75



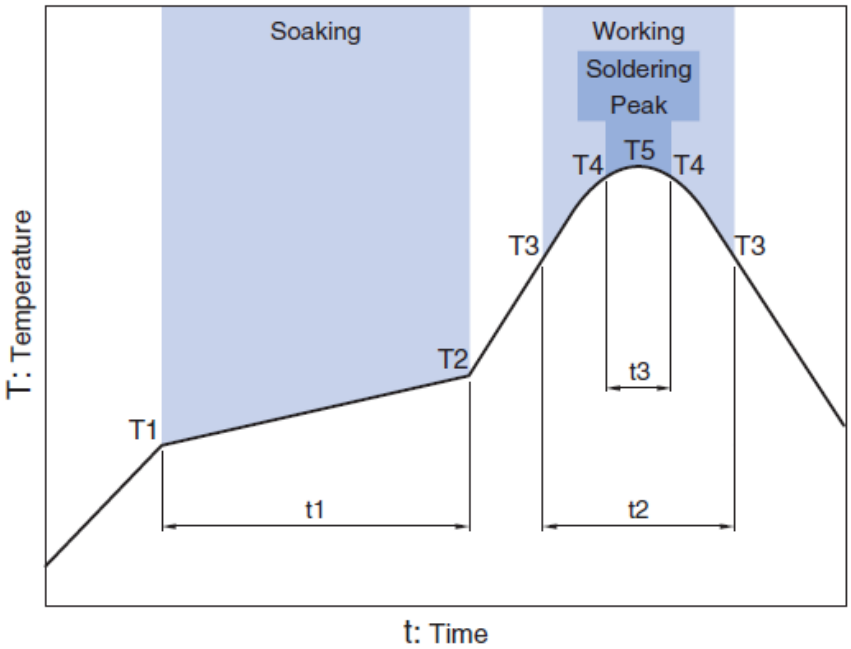
D.Antenna matching network（Antenna matching network）：



	Element	（Value）
R	E1	NC
	E2	3.3NH
	E3	NC

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.