Pulse A YAGEO Company | LARSEN Antennas

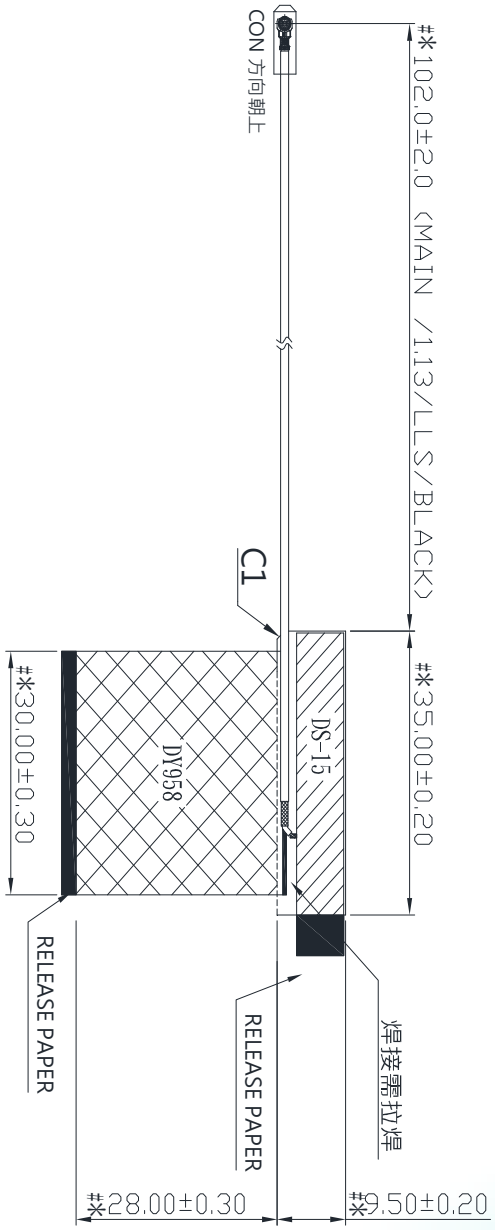
TECHNICAL DATA SHEET

Description: BR1402 MAIN ANT

Series: BR1402 MAIN

ASUS P/N : 14008-05650200

PULSE P/N : TZ2486D



All dimensions are in mm / inches

Features:

- •WLAN Antenna
- •Printed Circuit Board
- •Adheres to plastic surface
- •1.13mm cable with NGFF
- •RoHS Compliant

Applications:

- •Notebook computer

Issue: 2032 DRAFT RALFYE

RoHS COMPLIANT

For more information:

Pulse Worldwide Headquarters
15255 Innovation Drive #100
San Diego, CA 92128
USA
Tel:1-858-674-8100

Pulse/Larsen Antennas
18110 SE 34th St Bldg 2 Suite 250
Vancouver, WA 98683
USA
Tel: 1-360-944-7551

Europe Headquarters
Pulse GmbH & Do, KG
Zeppelinstrasse 15
Herrenberg, Germany
Tel: 49 7032 7806 0

Pulse (Suzhou) Wireless Products Co, Inc.
99 Huo Ju Road(#29 Bldg,4th Phase
Suzhou New District
Jiangsu Province, Suzhou 215009 PR China
Tel: 86 512 6807 9998

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ELECTRICAL SPECIFICATIONS

Antenna Type	PCB PIFA
Frequency	2.4-2.5GHz,5.15-5.875GHz
Nominal Impedance	50 Ω
VSWR	3:1
Radiation Pattern	Omni
Gain	Refer to gain table
Polarization	Linear
Power Withstanding	1W

MECHANICAL SPECIFICATIONS

Overall Length	35x9.5 mm
Antenna Color / Material	Black/ PCB
Connector type	See table, P3
Cable type	See table, P3
Cable length	See table, P3
Adhesive tape	HF DS15

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40 ~ +85°C
Storage Temperature	-40 ~ +85°C
RoHS Compliant	Yes

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MECHANICAL DRAWING

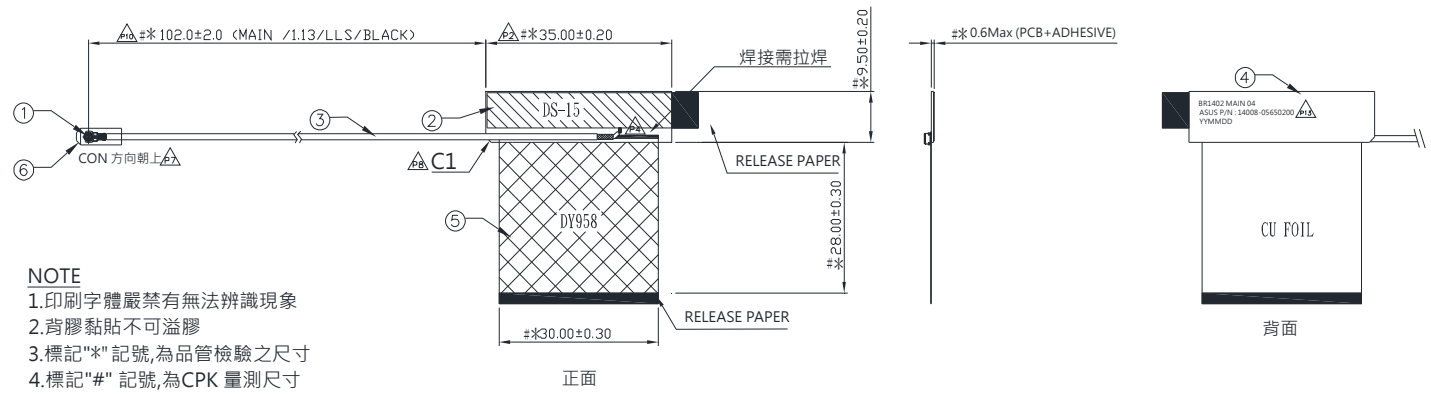
MOD	REVISION DESCRIPTION	DATE / EDITOR
P4	PCB PATTERN & CABLE WIRE OUTER CONDUCTOR CHANGE	2022.09.23 / RJ
P5	ADD P/N	2022.10.05 / RJ
P6	CABLE CHANGE	2022.10.17 / RJ
P7	CON 方向變更	2022.11.10 / RJ
P8	PCB ADD C1 & PRINTING CHANGE	2022.11.14 / RJ
P9	PATTERN CHANGE	2022.11.15 / RJ
P10	PATTERN & CABLE CHANGE	2022.11.16 / RJ
P11	PATTERN & PRINTING CHANGE	2022.12.14 / RJ
P12	PATTERN & PRINTING CHANGE	2023.02.07 / RJ
P13	PCB PRINTING ADD ASUS PN	2023.02.10 / RJ

Please follow Pulse Limits for the hazardous substances (RoHS, halogens) in the document "Pulse Hazardous Substances (HS) Limits (RPGE002-03)" and "Vendor Survey Questionnaire, Material Composition (LOM-SAF-L0040)".

Reliability Test Spec accorinding to WIHS7.5.33 (Reliability Test Working Instruction) Default test standard is Test Standard A if no definition

-TOLERANCES-
UNLESS OTHERWISE SPECIFIED
公差參考表

0–30	±0.2
30–50	±0.2
50–100	±0.2
100–200	±0.25
200–300	±0.3



NOTE
1.印刷字體嚴禁有無法辨識現象
2.背膠黏貼不可溢膠
3.標記"*"記號,為品管檢驗之尺寸
4.標記"#" 記號,為CPK 量測尺寸

	Item	Description	QTY
6	PE保護套管	PE套管 , 規格?1.5	1
5	Cu Foil	30.0*30.0*0.13mm	1
4	PCB	35.0*9.5*0.4mm	1
3	Cable MAIN	~~L=100.0~~ / 1.13 / Low Loss / BLACK (L=102.0mm)	1
2	Twin Adhesive	DS-15 , T=0.15mm	1
1	Connector	I PEX 4代接頭	1

△P2 △P8 △P9 △P10 △P11 △P12 △P13
△P2 △P3 △P4 △P6 △P10

△P5 ASUS P/N : 14008-05650200

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Functional Characteristics Key :(Cpk requirement : Cpk≥)
◇ Process Capability Studies required(total pcs)
◆ Ongoing Statistical Process Control Required (total pcs)
* Critical dimension need to be measured, no CPK requirement (total pcs)

Pulse (Suzhou) Wireless Products Co., Ltd
99 HUOJU RD,SUZHOU NEW DISTRICT SUZHOU 215009 P.R.CHINA
WWW.PULSEELECTRONICS.COM/ANTENNAS

SCALE	1:1	DESIGNED	RJ
		CHECKED	CHENG
		APPROVED	YEN

PRODUCT(S): TZ2486D
ITEM NAME: BR1402 MAIN ANT
DOCUMENT NUMBER: TZ2486D
PART REVESION: P05
DOCUMENT VERSION: P13

P13	20230210	RJ
P12	20230207	RJ
P11	20221214	RJ
P10	20221116	RJ
P9	20221115	RJ
P8	20221114	RJ
P7	20221110	RJ
P6	20221017	RJ
P5	20221005	RJ
MOD	DATE	NAME

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

Description: BR1402 MAIN ANT

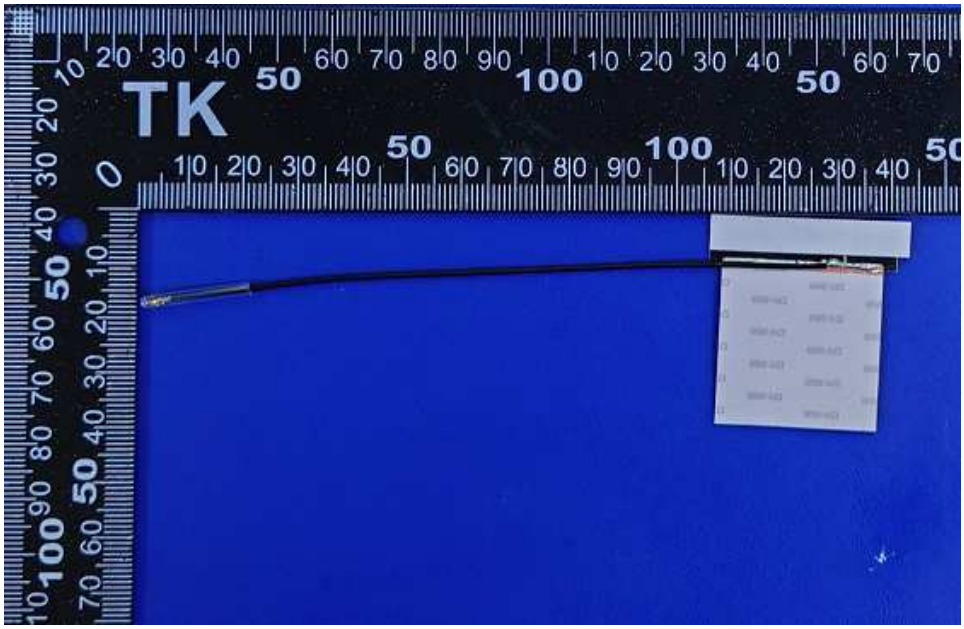
C

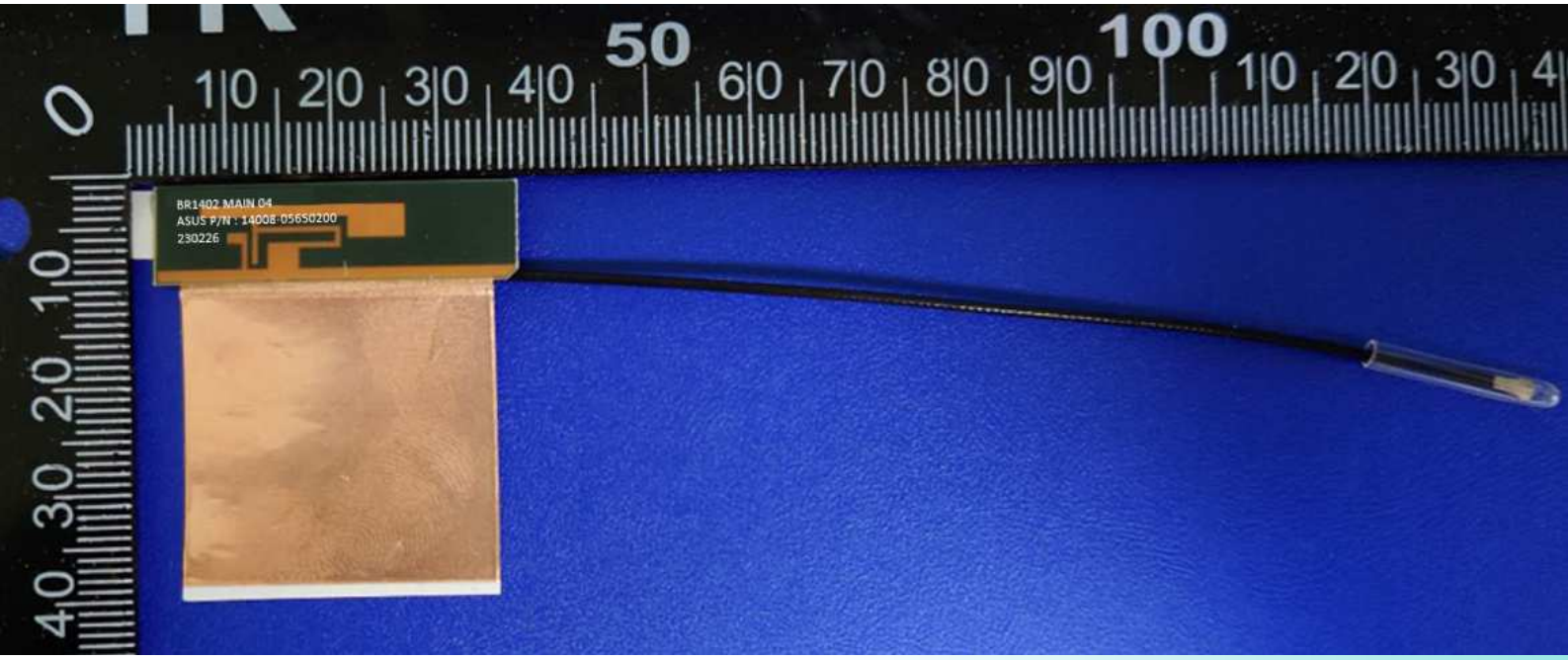
Series: BR1402 MAIN

ASUS P/N : 14008-05650200

PULSE P/N : TZ2486D

ANTENNA DRAWING





RoHS COMPLIANT

Description: BR1402 MAIN ANT

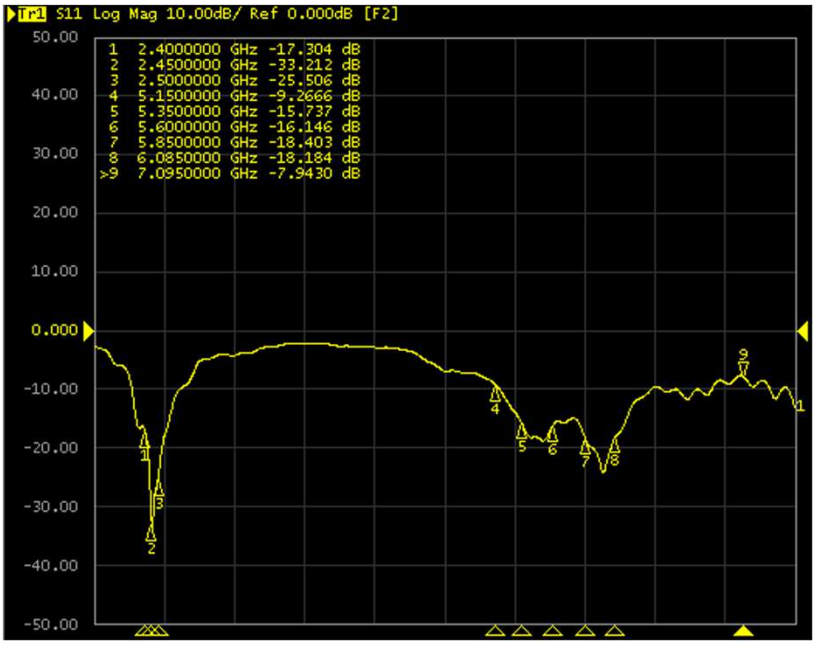
Series: BR1402 MAIN

ASUS P/N : 14008-05650200

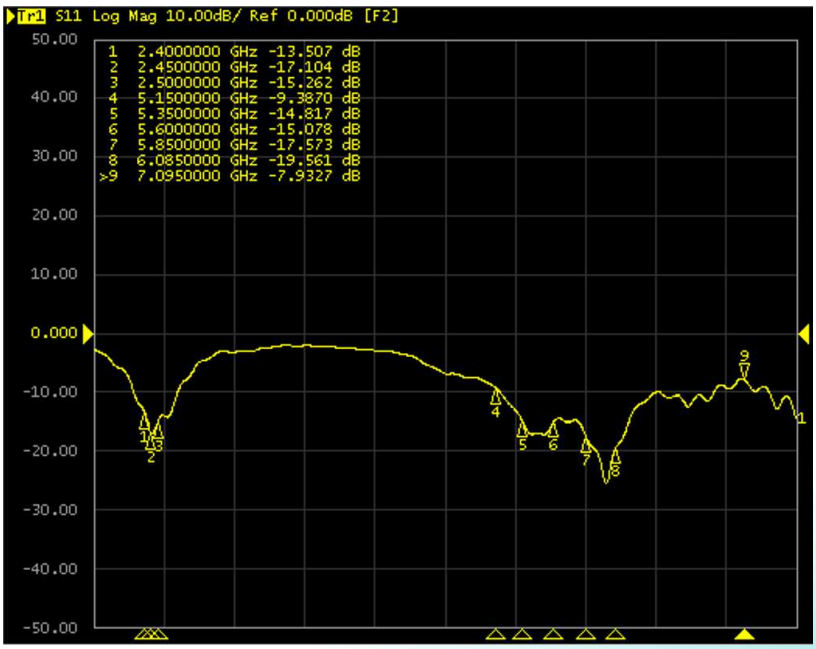
PULSE P/N : TZ2486D

TEST SETUP

NB Mode



TB Mode



Description: BR1402 MAIN ANT

Series: BR1402 MAIN

ASUS P/N : 14008-05650200

PULSE P/N : TZ2486D

EFFICIENCY

NB Mode

main	Frequency	Efficiency	Gain
	2400	-3.81	2.73
	2412	-3.64	2.71
	2437	-3.34	2.69
	2462	-3.27	2.67
	2500	-2.91	2.71
	5150	-3.32	3.43
	5250	-3.46	3.43
	5350	-3.26	3.42
	5470	-3.29	4.25
	5600	-3.78	4.22
	5725	-3.09	4.25
	5785	-3.44	4.42
	5850	-3.73	4.21
	5895	-3.73	4.12
	5925	-4.25	3.64
	6125	-5.31	2.51
	6425	-5.36	2.08
	6525	-5.94	1.68
	6725	-5.70	2.15
	6875	-6.12	1.41
	6925	-6.03	1.75
	7125	-6.34	1.93

TB Mode

main	Frequency	Efficiency	Gain
	2400	-4.10	2.68
	2412	-4.09	2.69
	2437	-4.24	2.70
	2462	-4.41	2.71
	2500	-4.07	2.70
	5150	-3.67	3.41
	5250	-4.03	3.34
	5350	-3.70	3.45
	5470	-3.65	4.24
	5600	-3.83	4.23
	5725	-3.96	4.49
	5785	-4.04	4.18
	5850	-3.98	4.15
	5895	-4.21	4.06
	5925	-4.78	3.50
	6125	-4.86	3.28
	6425	-6.11	2.60
	6525	-5.70	2.64
	6725	-5.80	3.24
	6875	-6.62	3.49
	6925	-6.91	3.23
	7125	-7.04	2.78

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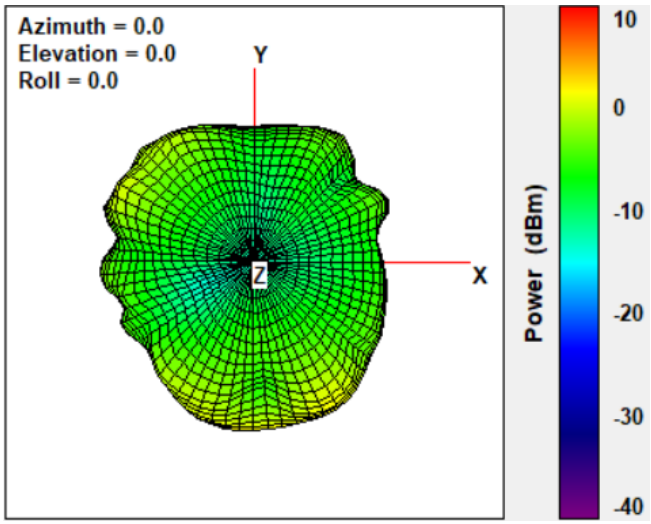
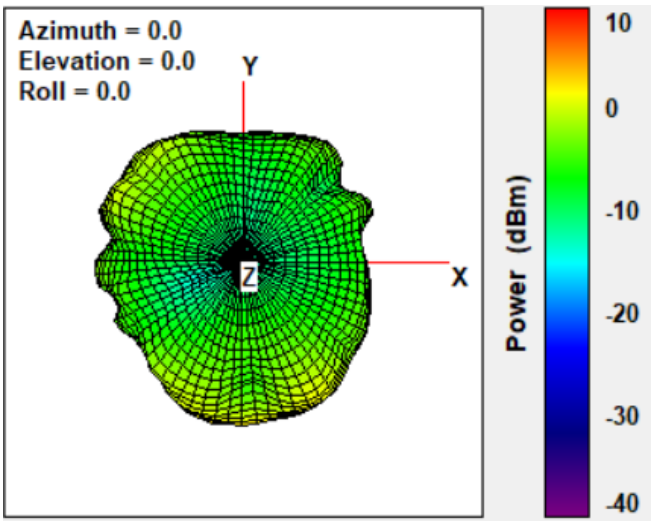
CHARTS

NB Mode

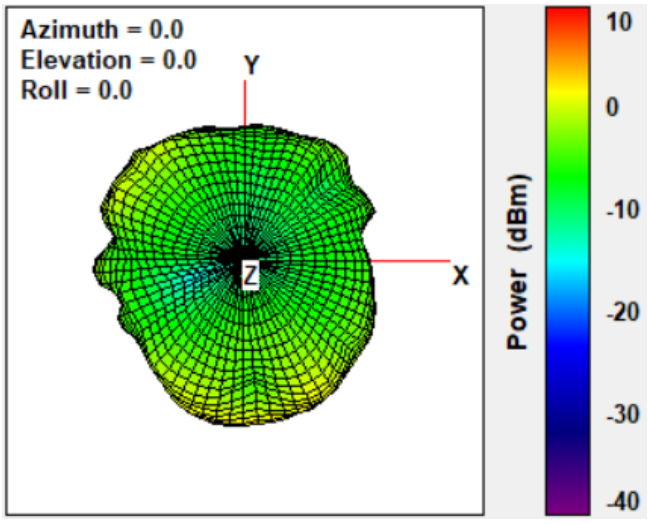
Radiation Pattern of WLAN Antenna (2400MHz)



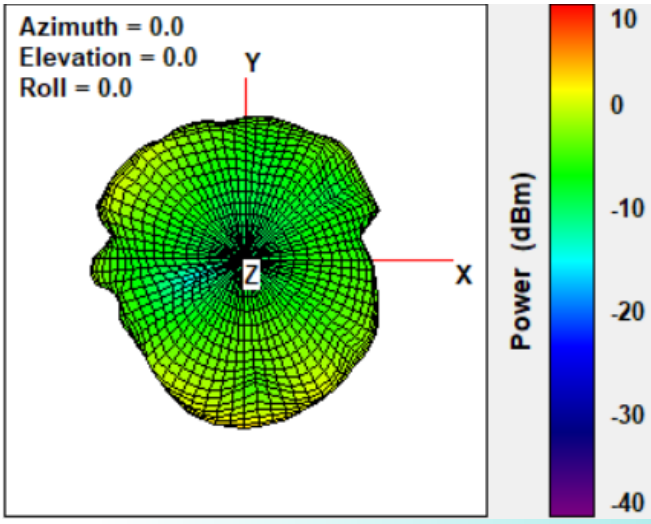
Radiation Pattern of WLAN Antenna (2412MHz)



Radiation Pattern of WLAN Antenna (2437MHz)



Radiation Pattern of WLAN Antenna (2462MHz)



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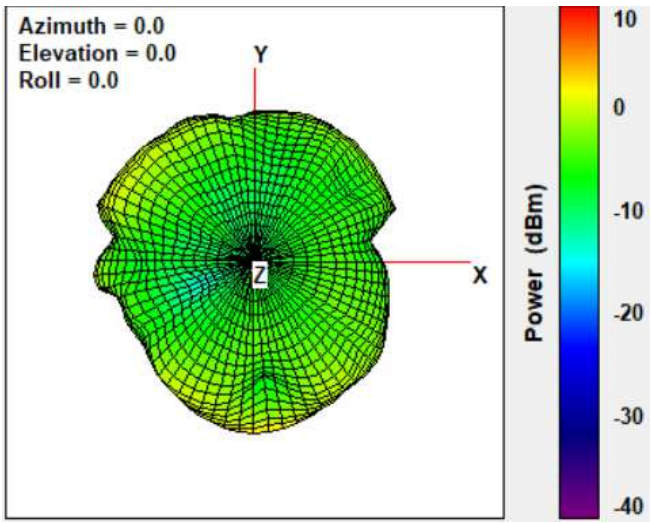
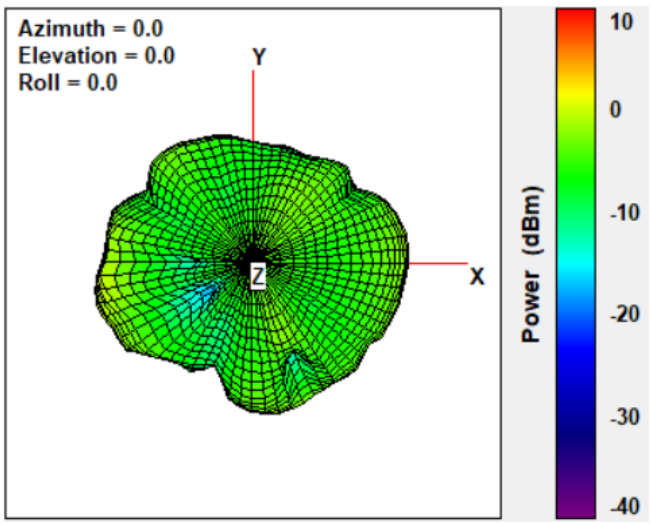
CHARTS

NB Mode

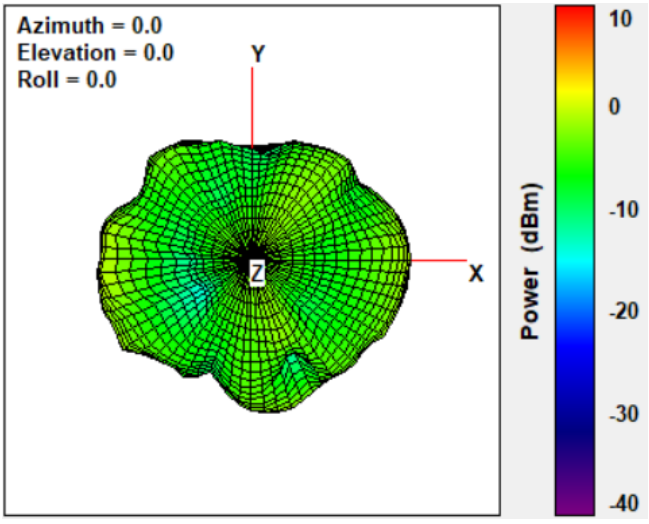
Radiation Pattern of WLAN Antenna (2500MHz)



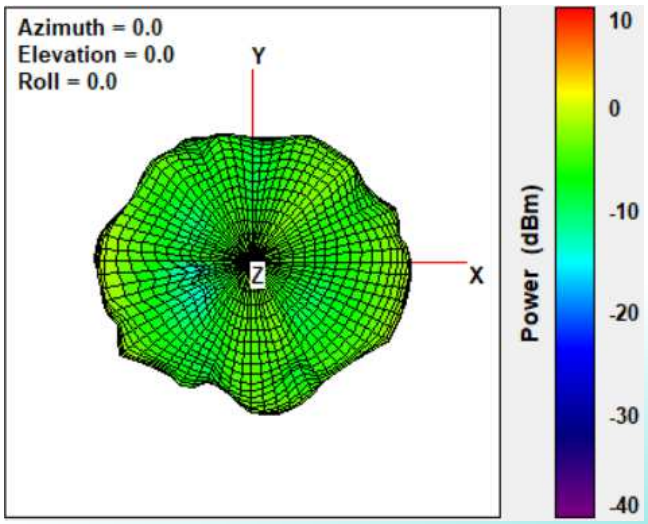
Radiation Pattern of WLAN Antenna (5150MHz)



Radiation Pattern of WLAN Antenna (5250MHz)



Radiation Pattern of WLAN Antenna (5350MHz)



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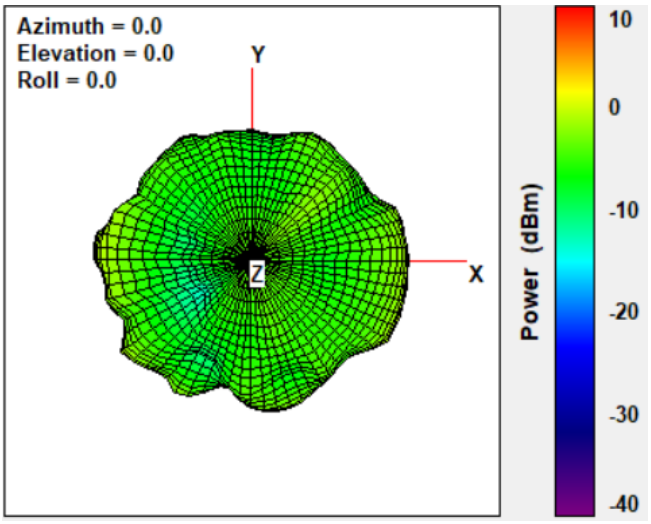
PULSE P/N : TZ2486D

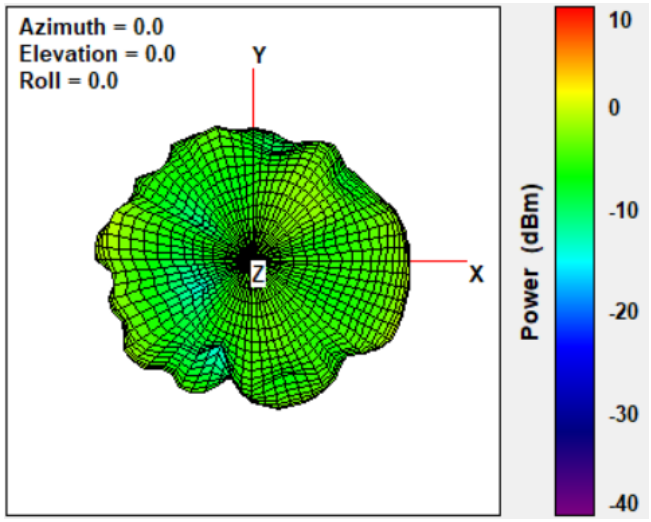
CHARTS

NB Mode

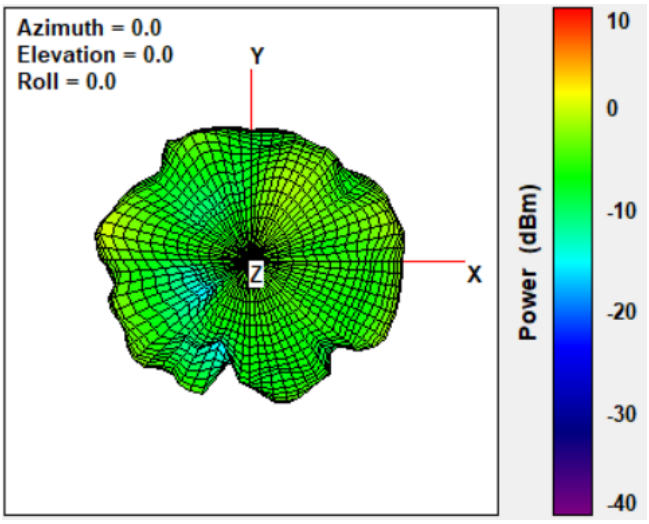
Radiation Pattern of WLAN Antenna (5470MHz)



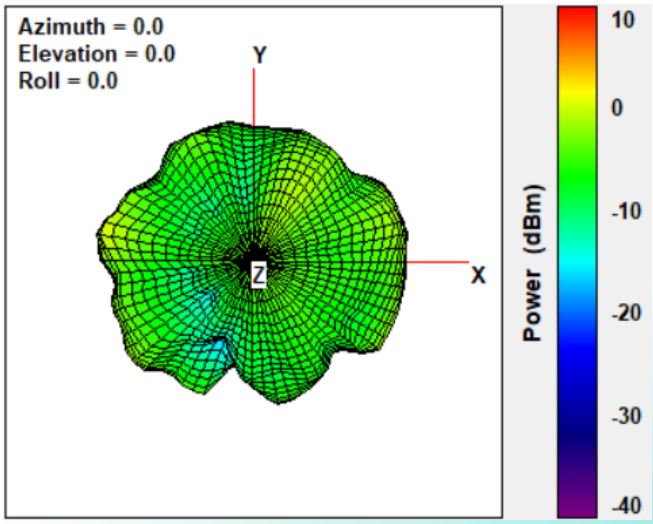
Radiation Pattern of WLAN Antenna (5600MHz)



Radiation Pattern of WLAN Antenna (5725MHz)



Radiation Pattern of WLAN Antenna (5785MHz)



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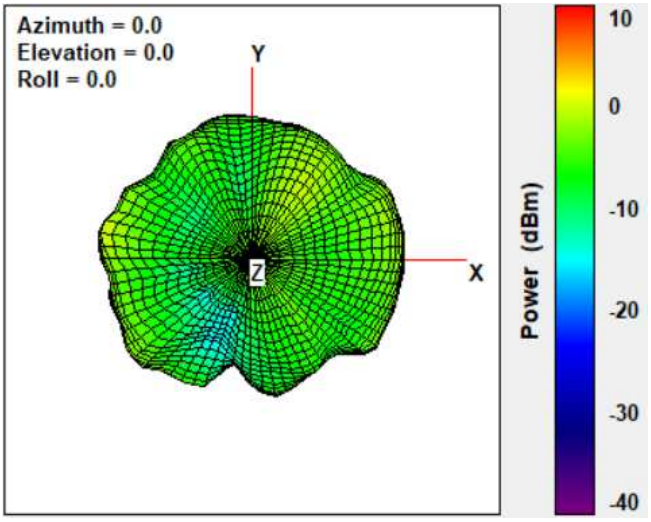
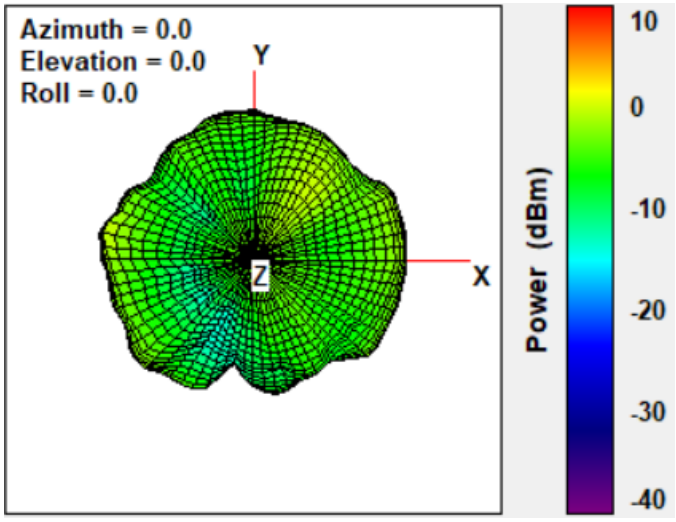
CHARTS

NB Mode

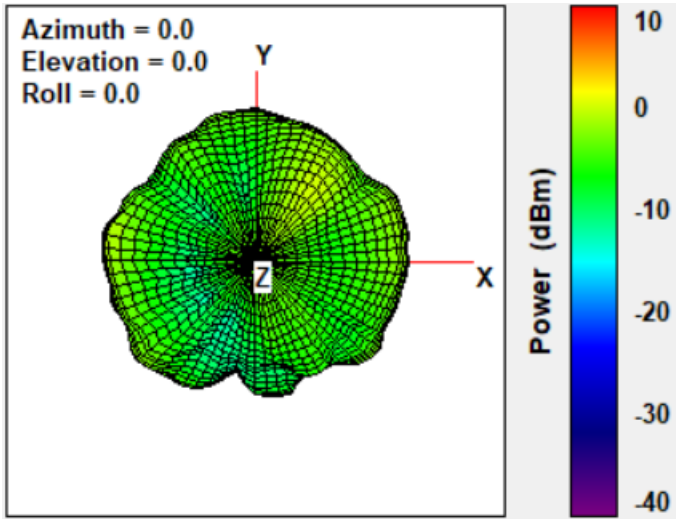
Radiation Pattern of WLAN Antenna (5850MHz)



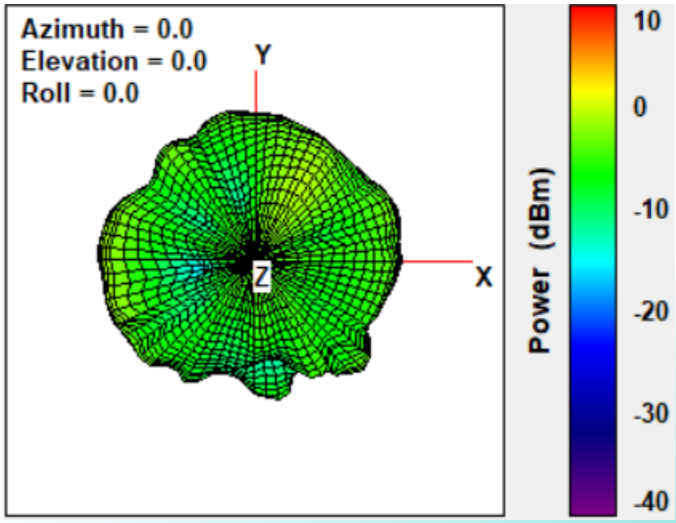
Radiation Pattern of WLAN Antenna (5895MHz)



Radiation Pattern of WLAN Antenna (5925MHz)



Radiation Pattern of WLAN Antenna (6125MHz)



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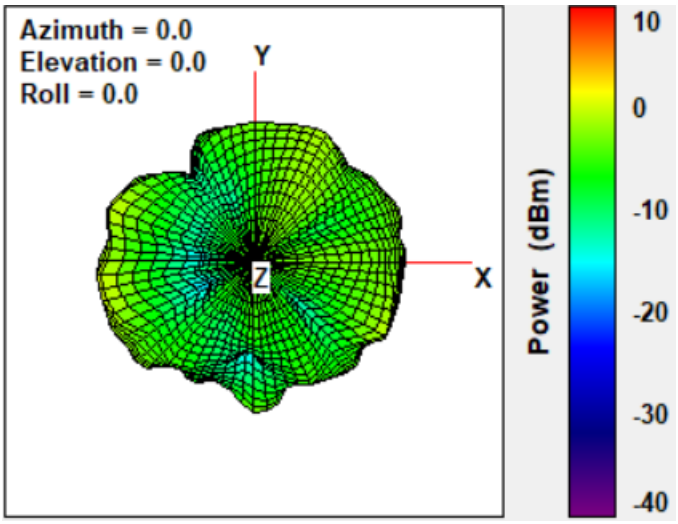
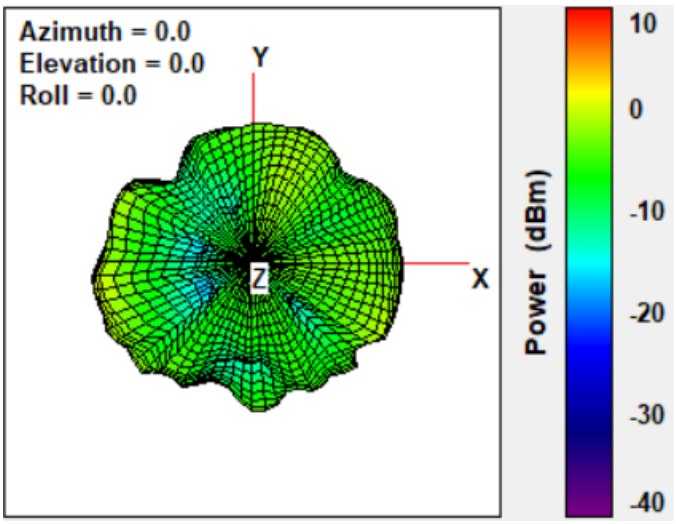
CHARTS

NB Mode

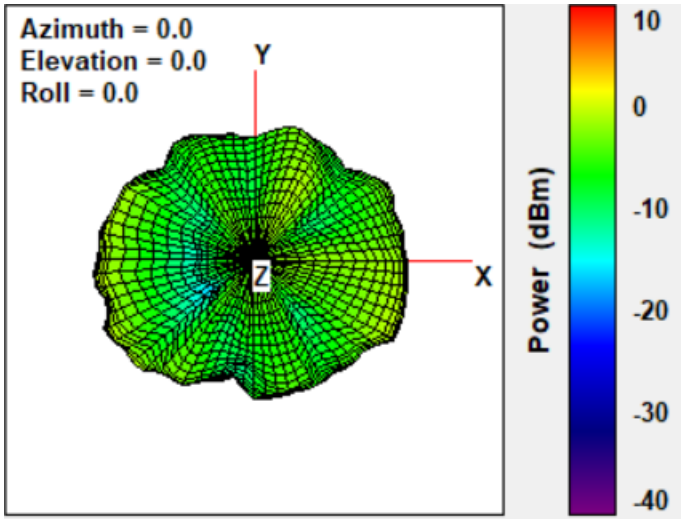
Radiation Pattern of WLAN Antenna (6425MHz)



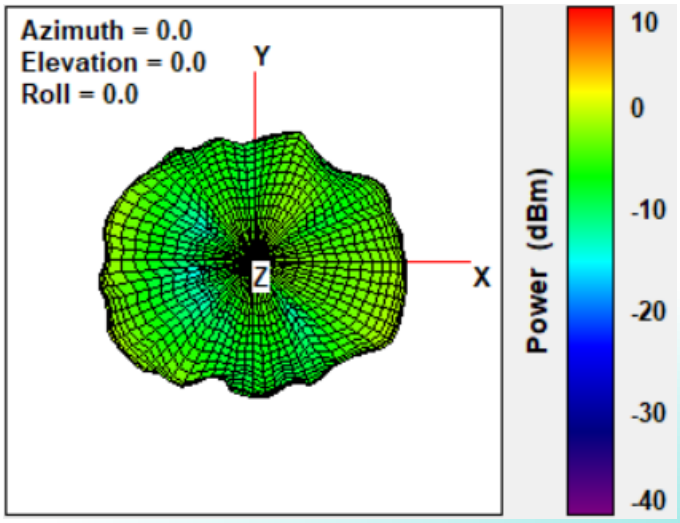
Radiation Pattern of WLAN Antenna (6525MHz)



Radiation Pattern of WLAN Antenna (6725MHz)



Radiation Pattern of WLAN Antenna (6875MHz)



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Series: BR1402 MAIN

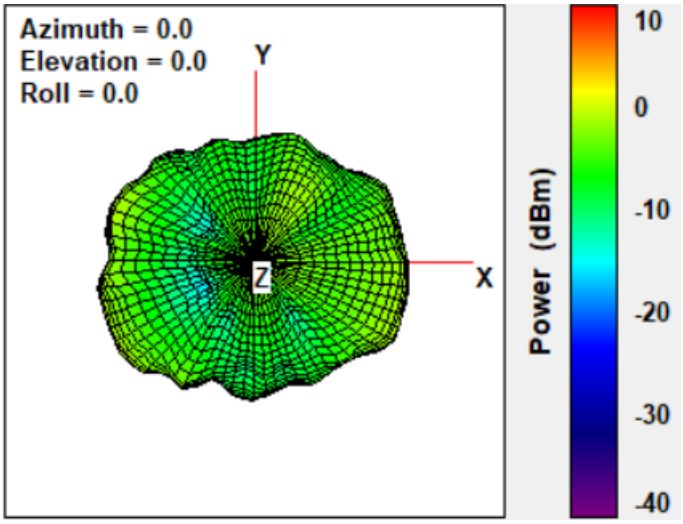
ASUS P/N : 14008-05650200

PULSE P/N : TZ2486D

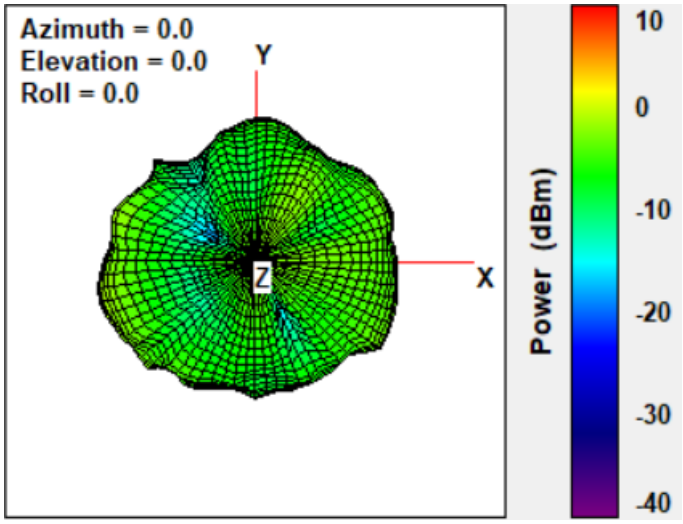
CHARTS

NB Mode

Radiation Pattern of WLAN Antenna (6925MHz)



Radiation Pattern of WLAN Antenna (7125MHz)



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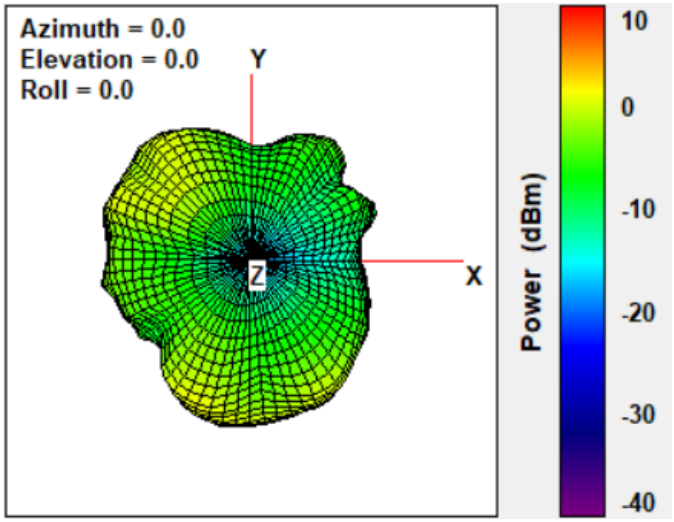
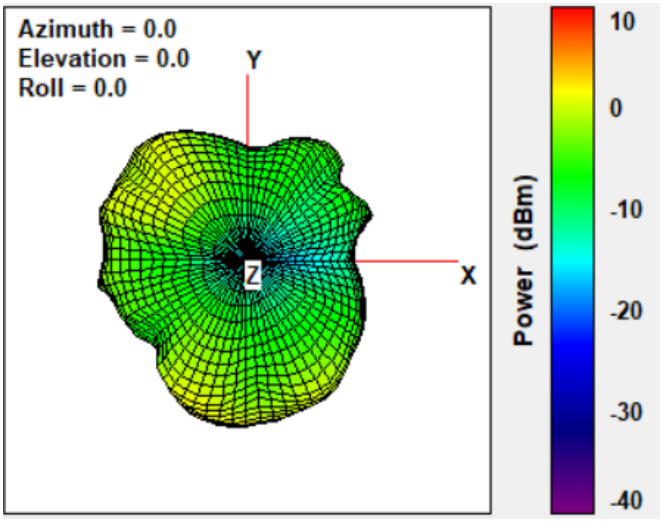
CHARTS

TB Mode

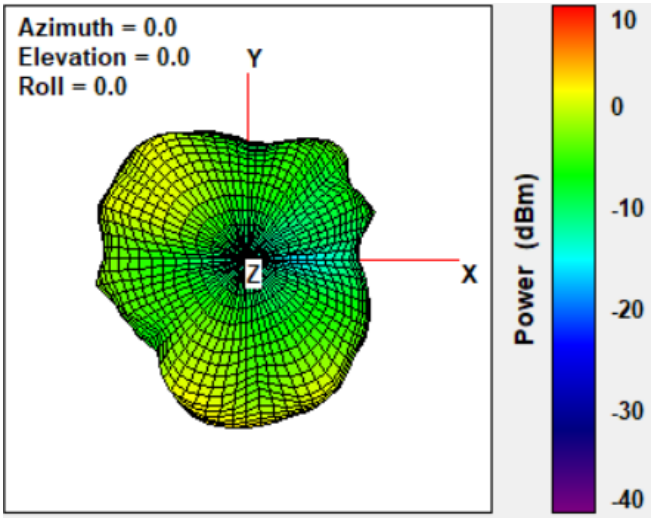
Radiation Pattern of WLAN Antenna (2400MHz)



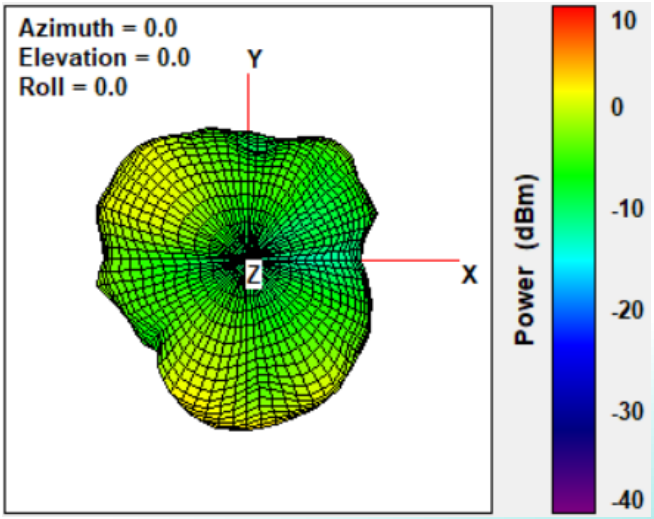
Radiation Pattern of WLAN Antenna (2412MHz)



Radiation Pattern of WLAN Antenna (2437MHz)



Radiation Pattern of WLAN Antenna (2462MHz)



Description: BR1402 MAIN ANT

C

Series: BR1402 MAIN

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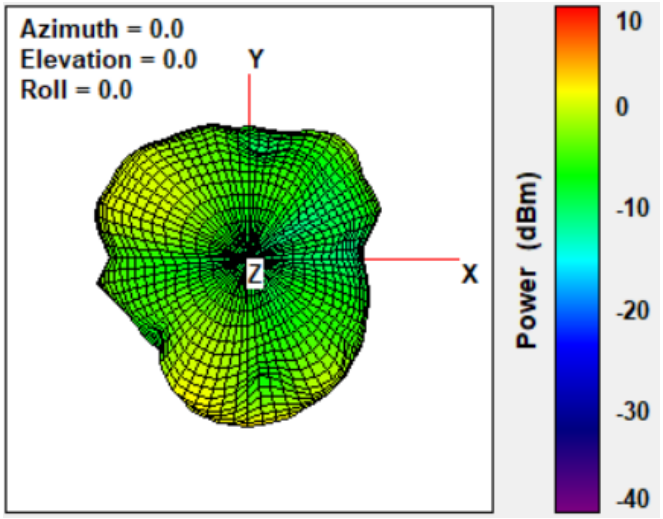
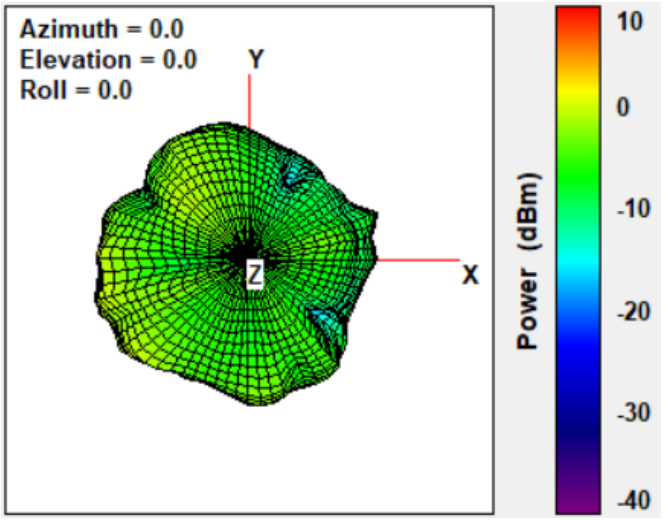
CHARTS

TB Mode

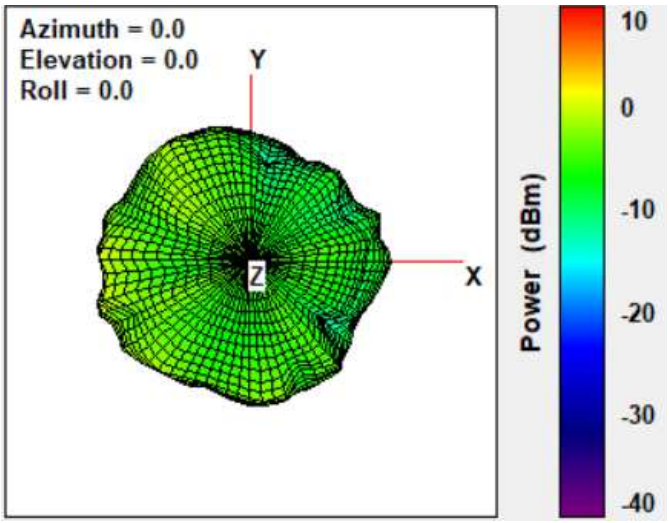
Radiation Pattern of WLAN Antenna (2500MHz)



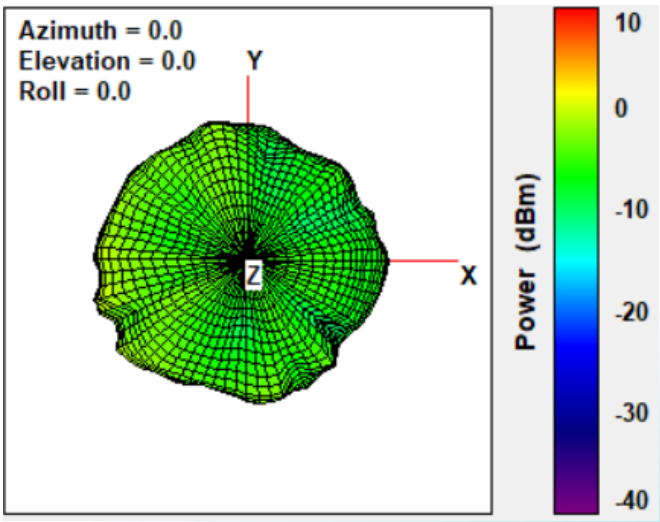
Radiation Pattern of WLAN Antenna (5150MHz)



Radiation Pattern of WLAN Antenna (5250MHz)



Radiation Pattern of WLAN Antenna (5350MHz)



Description: BR1402 MAIN ANT

Series: BR1402 MAIN

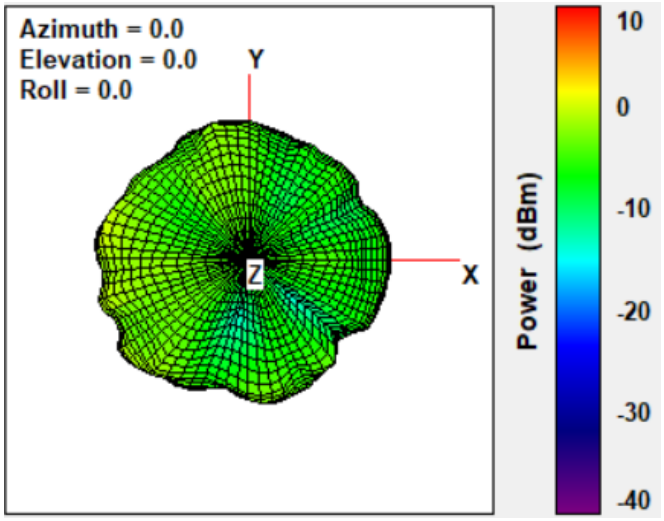
ASUS P/N : 14008-05650200

PULSE P/N : TZ2486D

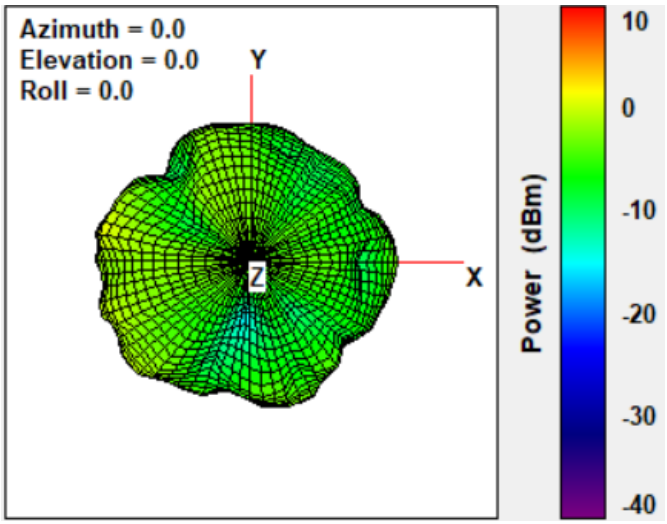
CHARTS

TB Mode

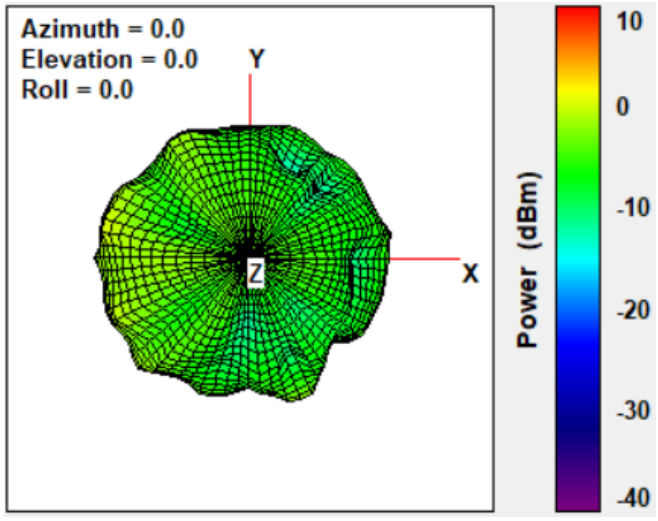
Radiation Pattern of WLAN Antenna (5470MHz)



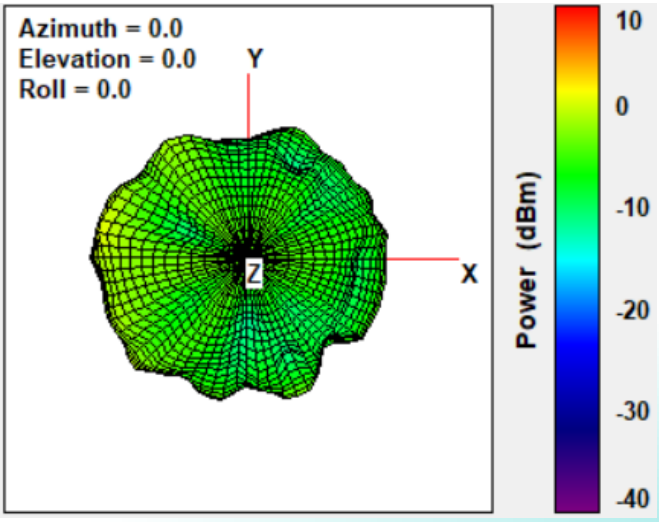
Radiation Pattern of WLAN Antenna (5600MHz)



Radiation Pattern of WLAN Antenna (5725MHz)



Radiation Pattern of WLAN Antenna (5785MHz)



Description: BR1402 MAIN ANT

Series: BR1402 MAIN

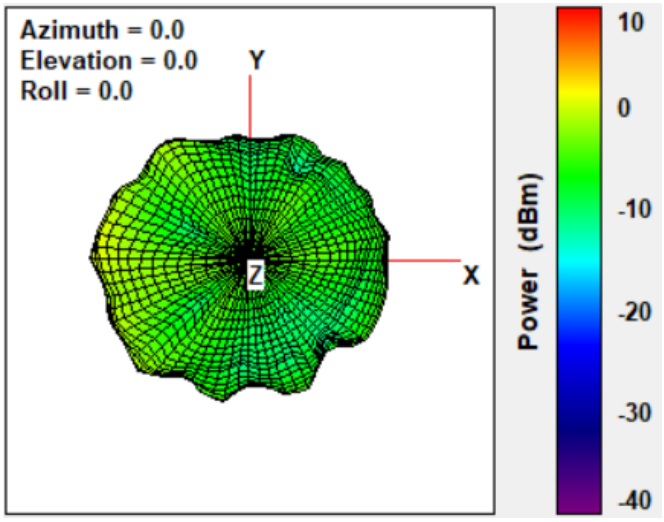
ASUS P/N : 14008-05650200

PULSE P/N : TZ2486D

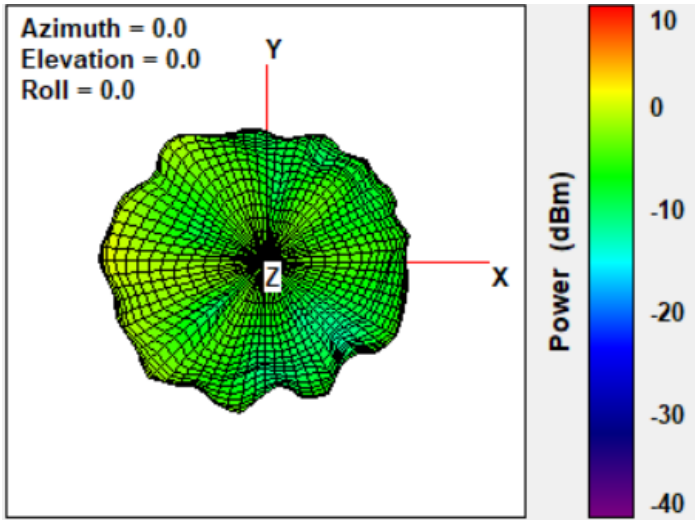
CHARTS

TB Mode

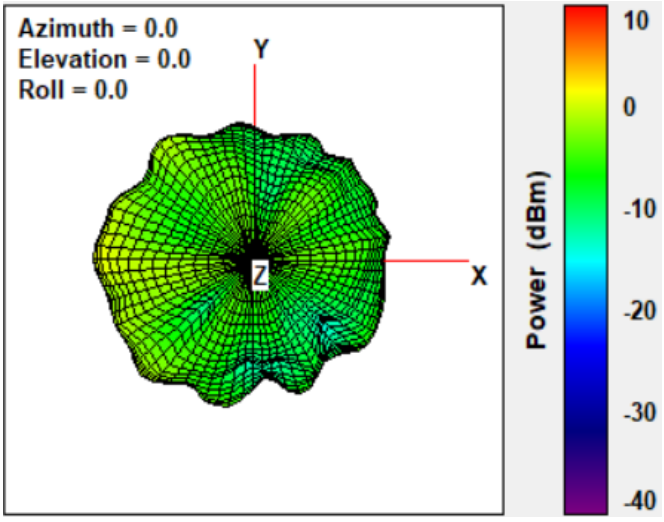
Radiation Pattern of WLAN Antenna (5850MHz)



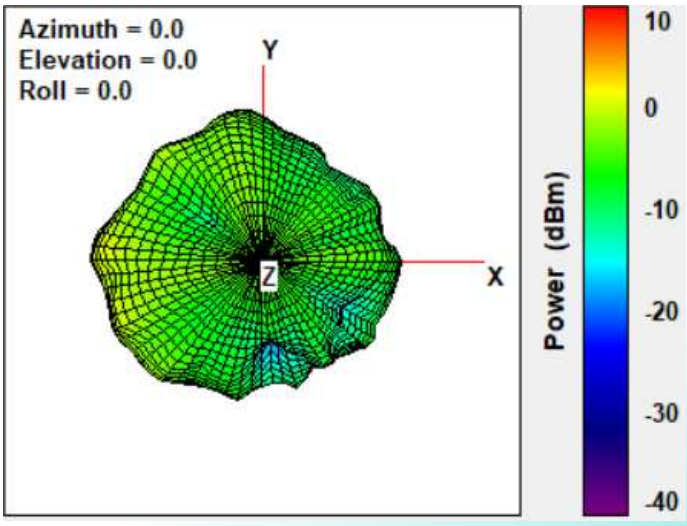
Radiation Pattern of WLAN Antenna (5895MHz)



Radiation Pattern of WLAN Antenna (5925MHz)



Radiation Pattern of WLAN Antenna (6125MHz)



Description: BR1402 MAIN ANT

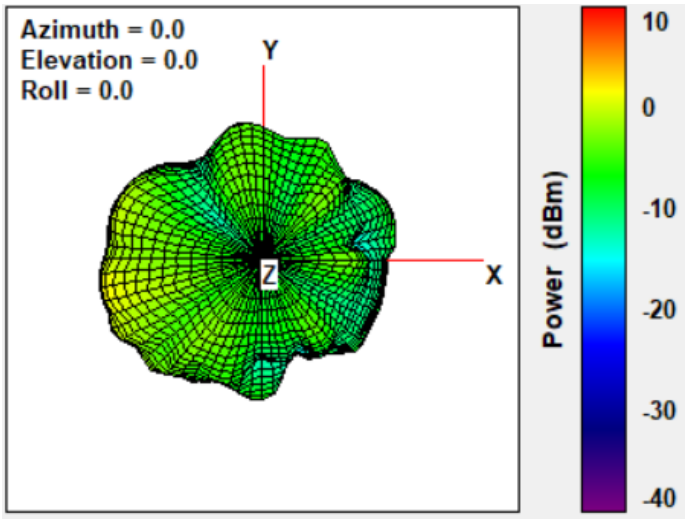
Series: BR1402 MAIN

ASUS P/N : 14008-05650200
PULSE P/N : TZ2486D

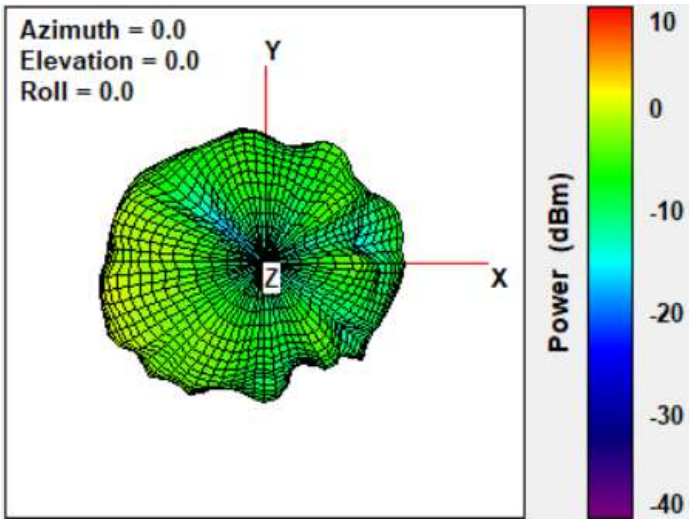
CHARTS

NB Mode

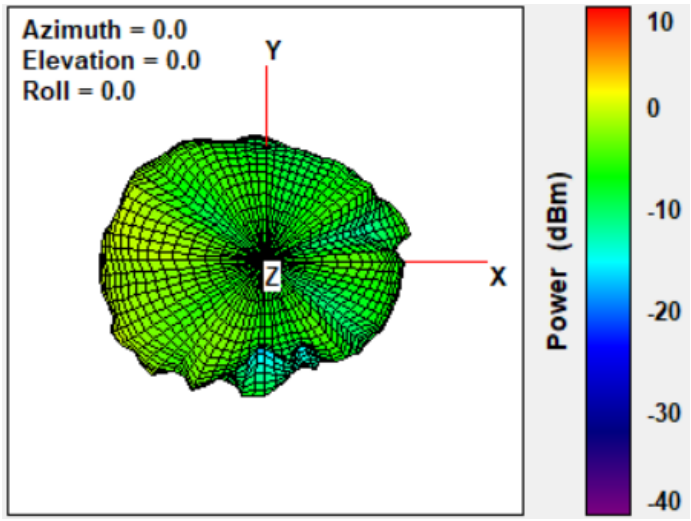
Radiation Pattern of WLAN Antenna (6425MHz)



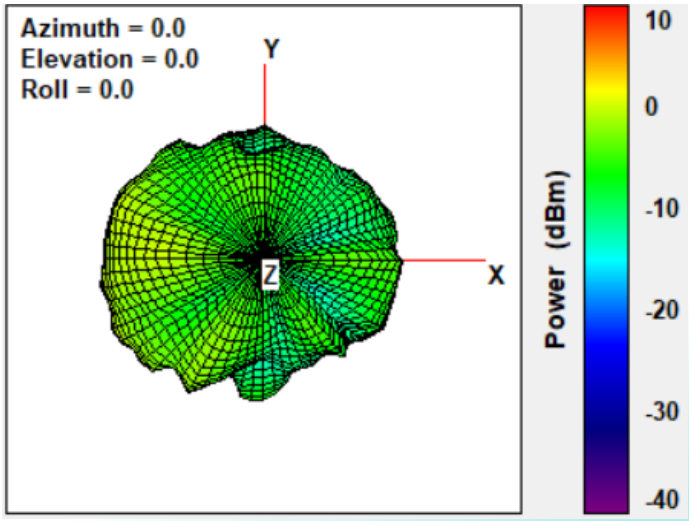
Radiation Pattern of WLAN Antenna (6525MHz)



Radiation Pattern of WLAN Antenna (6725MHz)



Radiation Pattern of WLAN Antenna (6875MHz)



Description: BR1402 MAIN ANT

Series: BR1402 MAIN

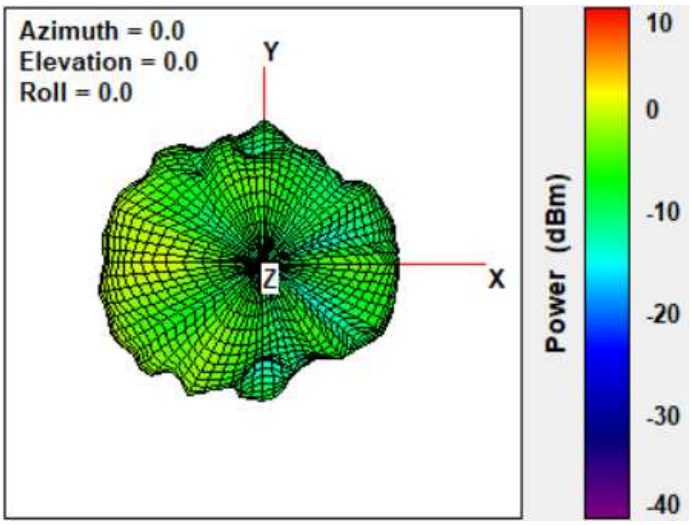
ASUS P/N : 14008-05650200

PULSE P/N : TZ2486D

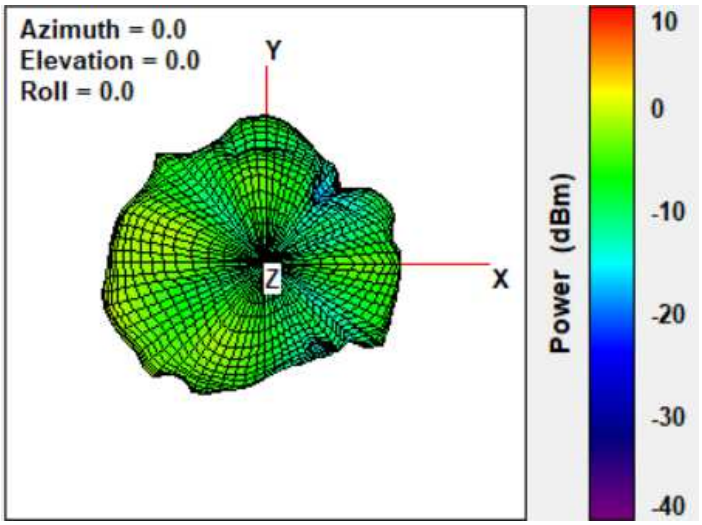
CHARTS

NB Mode

Radiation Pattern of WLAN Antenna (6925MHz)



Radiation Pattern of WLAN Antenna (7125MHz)



UL Product iQ™

ZPMV2.E520266 - Wiring, Printed - Component

Wiring, Printed - Component

Anhui Yongda Electronic Technology Co.,Ltd
Buliding 13 PCB Industrial Park Pengju Road
Guangde, 242200 China

E520266

Type	Cond Width Min mm(in)	Min Edge mm(in)	Cond Thk mic(mil)	SS/ DS/ DSO	Max Area Diam mm(in)	Solder Limits °C	sec	Assembly Solder Process (IPC) °C	Cycles	Max Oper Temp °C	Flame Class	Meets UL796 DSR	C T I
Multilayer printed wiring boards													
YD-2	0.1 (0.004)	0.1 (0.004)	17 (0.67)	DS	25.4 (1)	288	20	-	-	130	V-0	All	*
Single layer metal base printed wiring boards, employing metal base laminate													
YD-3	0.138 (0.005)	0.414 (0.016)	18 (0.71)	SS	50.8 (2)	288	20	-	-	130	V-0	All	*
Single layer printed wiring boards													
YD-1	0.1 (0.004)	0.1 (0.004)	17 (0.67)	DS	25.4 (1)	288	20	-	-	130	V-0	All	*

* - CTI marking is optional and may be marked on the printed wiring board.

Marking: Company name, type designation. May be followed by a suffix to denote factory identification or burning test classification.

Last Updated on 2021-04-07

ONLINE CERTIFICATIONS DIRECTORY

AVLV2.E318898
Appliance Wiring Material - Component

Page Bottom

Appliance Wiring Material - Component

See General Information for Appliance Wiring Material - Component

SHENYU COMMUNICATION TECHNOLOGY INC E318898
275 E Waihuan Rd
Jiangyin, Jiangsu 214400 CHINA

Table of Recognized Styles							
Single-conductor, thermoplastic insulation.							
1007	1333	1589	1723	1858	1901	10111	
1226	1354	1591	1726	1859	1927	10248	
1227	1371	1592	1727	1860	10005	10362	
1330	1538	1708	1766	1882	10011	10518	
1331	1571	1709	1847	1886	10064	11149	
1332	1577	1710	1857	1887	10072		
Multiple-conductor, thermoplastic insulation.							
2464	2725	20276	21100				

Marking: Company name, voltage rating, temperature rating, conductor size, conductor material if other than copper, and use.

Last Updated on 2016-06-13

Questions? Print this page Terms of Use Page Top

Click here to go to UL's iQ™ for Appliance Wiring Materials Database

UNDERWRITERS LABORATORIES APPLIANCE WIRING MATERIAL

Subj.758 Section 1 Page 1354 Issued:1964-02-19

Revised:2009-04-30

Style 1354 Coaxial Cable.

Rating	60, 80 deg C, 30 Vac, Horizontal flame.
Conductor	44 AWG min., material not specified.
Insulation	2 mils minimum at any point, 125 mils maximum. The insulation may be: Extruded solid or cellular PE, FRPE, PP, PFA, FEP, ECTFE, PTFE, ETFE, or combination thereof with or without irradiation; or tape wrapped solid or cellular PTFE, PFA, or FEP. Applied as a spiral wrapped thread (5 mils minimum, 40 mils maximum) and enclosed in a tube of insulation.
Assembly	Insulated conductor with optional inner covering, optional inner shield, optional middle covering, required outer shield and required outer covering.
Shield	Optional. Outer Shield required.
Covering	Optional Inner Covering - Extruded PVC, PFA, Polyamide, Polyester, PVDF, FEP, PTFE, ECTFE, ETFE, PE, XLPE, XLFRPE or FRPE; lacquered braids; heat sealed PTFE, PFA or FEP tape; Polyester or Polyester-Polyethylene film. Thicknesses not specified. Optional Middle Covering - Extruded PVC, PFA, PP, Polyamide, Polyester, PVDF, FEP, PTFE, ECTFE, ETFE, PE, XLPE, XLFRPE or FRPE; lacquered braids; heat sealed PTFE, PFA or FEP tape; Polyester or Polyester-Polyethylene film. Thicknesses not specified. Required Outer Covering - Extruded Irradiated PE, Irradiated PVC, Polyurethane, PVC, PFA, PP, Polyamide, Polyester, PVDF, FEP, PTFE, ECTFE, ETFE, PE, XLPE, XLFRPE or FRPE; lacquered braids; heat sealed PTFE, PVC, PFA or FEP tape; Polyester or Polyester-Polyethylene film. Thicknesses not specified.

Standard	Appliance Wiring Material UL 758.
Marking	General.
Use	Internal wiring of Class 2 circuits of electronic equipment or as insulated single in jacketed multiconductor cables.

UL Product iQ™

ZPFW2.E491030 - Wiring Harnesses - Component

Note: We are enhancing our systems and you may notice duplicate entries/missing/outdated data. During this interim period, please contact our Customer Service at https://www.ul.com/about/locations.

Wiring Harnesses - Component

Pulse (Suzhou) Wireless Products Co Ltd E491030
No.99 Huo Ju Road, Suzhou New District
Suzhou, Jiangsu 215009 China

Marking: Company name and model designation.
Note: For additional marking information, refer to the Guide Information Page.

Model(s): Wiring Harnesses

Last Updated on 2021-11-02

Issue Date: September 1, 2021

I-PEX Inc.
Electronic Components & Devices Div,
Quality Assurance Department

Approved by	Prepared by
K. Narita	A. Watanabe

Certificate of Compliance with RoHS Directive and REACH Regulation

I-PEX Inc. warrants that the product complies with EU RoHS Directive and REACH Regulation.

MHF_4L

Certified Part Number

20565-001R-083	20565-001R-13	20565-001R-13A	20565-001R-13L	20572-001R-08	20572-002R-08
20579-001E	20579-001E-01	20632-001R-37			

- **EU RoHS Directive (2011/65/EU, (EU)2015/863)**

Cadmium (Cd)	<100ppm
Lead (Pb)	<1000ppm
Mercury (Hg)	<1000ppm
Hexavalent Chromium (Cr+6)	<1000ppm
Polybrominated biphenyls (PBB)	<1000ppm
Polybrominated diphenyl ethers (PBDE)	<1000ppm
Bis(2-ethylhexyl) phthalate (DEHP)	<1000ppm
Butyl benzyl phthalate (BBP)	<1000ppm
Dibutyl phthalate (DBP)	<1000ppm
Diisobutyl phthalate (DIBP)	<1000ppm

- **EU REACH Regulation**

REACH SVHC (as of the date of inclusion: 08 July 2021) are not contained over 1000ppm in the product.

Please refer to ECHA website below for the detail of SVHC.

https://echa.europa.eu/candidate-list-table

塑膠材料保證書
CERTIFICATE OF COMPLIANCE OF PLASTIC MATERIAL

供應商
VENDER I-PEX INC.

料號
PART NUMBER 20565-001R-13*

品名
PART DESCRIPTION MHF PLUG ASS'Y

數量/訂單號碼
QUANTITY/P.O. NO.

出貨日期
SHIPPING DATE

原料製造商
MATERIAL SUPPLIER POLYPLASTICS CO LTD

原料品名/規格
MATERIAL DESCREPTION/SPEC XFR 4840 GF10 (w), 310NF (w)

原料 UL 號碼
MATERIAL UL FILE NUMBER

E213445

原料防火等級
MATERIAL FLAMMABILITY CLASS

UL94, V-0

供應商保證 VENDER GUARANTY

1. 本批產品使用之原料確實依上述規格供應，若有變更冒替，本公司願負賠償之責。
   IF THERE IS ANY DEVIATION TO THE LIST ABOVE, WE WILL BE RESPONSIBLE FOR THE COST INCURRED.
2. 本批產品所使用的回收料(次料)不可超過 50% .
   THE REPROCESSED MATERIAL USED IN THIS SHIPMENT DOES NOT EXCEED 50

供應商簽章及蓋公司章

VENDER SIGNATURE & COMPANY SEAL

XFR 4840 GF10 (w), 310NF (w) - Plastics - Component

Plastics - Component

File Number: E213445

Yellow Card®

COMPANY

POLYPLASTICS CO LTD
18-1 KONAN 2-CHOME
MINATO-KU, TOKYO 108-8280 Japan

MODEL INFO

Duranex: XFR 4840 GF10 (w), 310NF (w)
Polybutylene Terephthalate (PBT) , furnished as pellets
--(w) Virgin and regrind up to 50% by weight inclusive, have the same flame characteristics only.

FLAMMABILITY PROPERTIES	NOMINAL VALUE	TEST METHOD
Flammability		ANSI/UL 94
0.75 mm, Color: ALL	V-0	
1.5 mm, Color: ALL	V-0	
3.0 mm, Color: ALL	5VA V-0	

ISO/IEC FLAMMABILITY PROPERTIES	NOMINAL VALUE	TEST METHOD
Flammability		IEC 60695-11-10
0.75 mm, Color: ALL	V-0	
1.5 mm, Color: ALL	V-0	
3.0 mm, Color: ALL	V-0	
Flammability (3.0 mm, Color: ALL)	5VA	IEC 60695-11-20

ELECTRICAL PROPERTIES	NOMINAL VALUE		TEST METHOD
Hot-wire Ignition (HWI)			UL 746A
0.75 mm	1 PLC		
1.5 mm	1 PLC		
3.0 mm	1 PLC		
High Amp Arc Ignition (HAI)			UL 746A
0.75 mm	0 PLC		
1.5 mm	0 PLC		
3.0 mm	0 PLC		
Comparative Tracking Index (CTI)	1 PLC		UL 746
Dielectric Strength	24	kV/mm	ASTM D149
High Voltage Arc Tracking Rate (HVTR)	0 PLC		
Volume Resistivity	1.0E+14	ohms·cm	ASTM D257/IEC 60093
High Voltage, Low Current Arc Resistance	5 PLC		

THERMAL PROPERTIES	NOMINAL VALUE		TEST METHOD
Relative Thermal Index - Electrical Strength			UL 746B
0.75 mm	130	°C	
1.5 mm	130	°C	
3.0 mm	130	°C	
Relative Thermal Index - Mechanical Impact			UL 746B
0.75 mm	125	°C	
1.5 mm	125	°C	
3.0 mm	125	°C	
Relative Thermal Index - Mechanical Strength			UL 746B
0.75 mm	125	°C	
1.5 mm	125	°C	
3.0 mm	125	°C	