

PSS911 DVT-2 Antenna Report

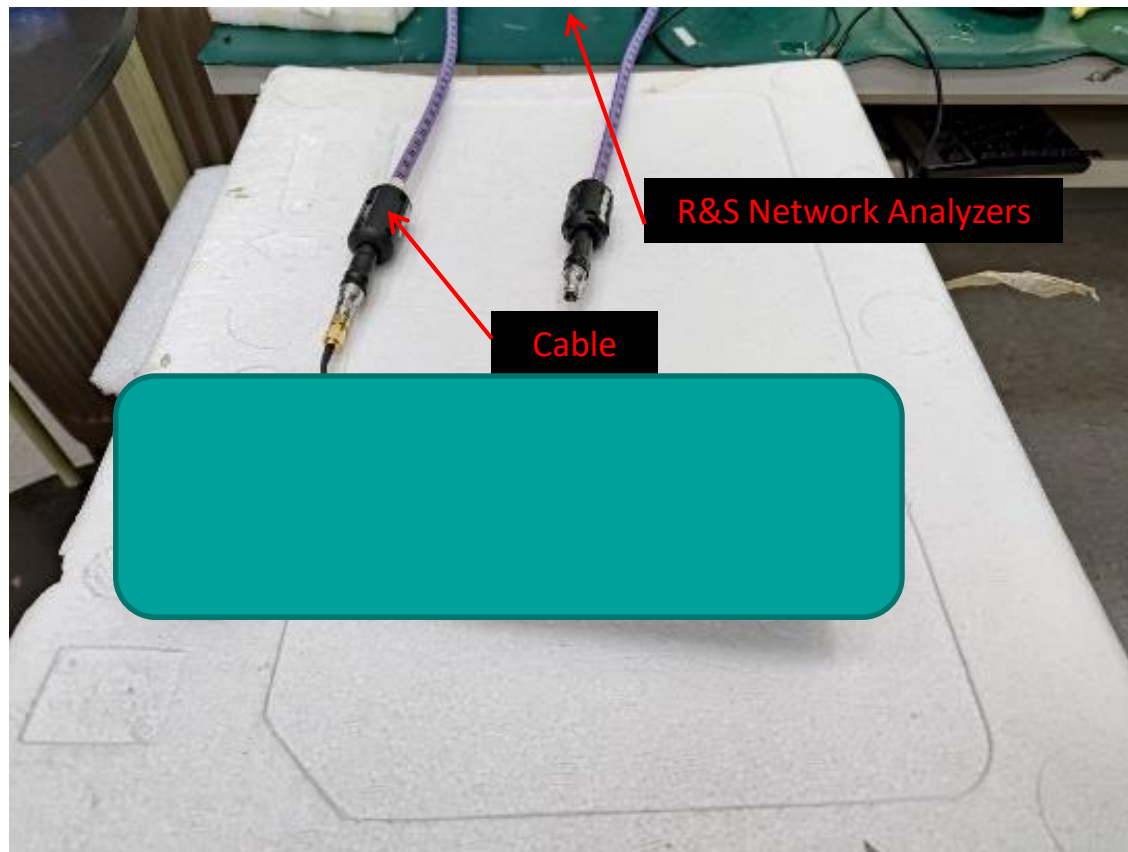
MERRY Sounds Excellent

*Presented by : Merry Team
Date : 2023.03.31*

Outline

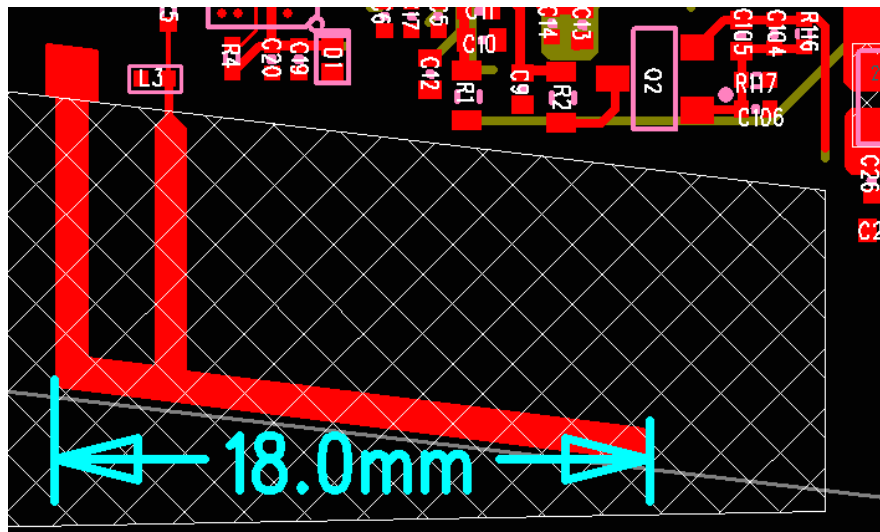
- Antenna Return Loss Measurement Setup (Free Space)
- Antenna Size
- Antenna Matching Network
- Antenna Passive Performance
- Antenna Efficiency Measurement Setup
- Test Equipment
- Test Procedure
- Antenna Efficiency
- Field Test & Result (Indoor)
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Antenna Return Loss Measurement Setup (Free Space)



Antenna Size

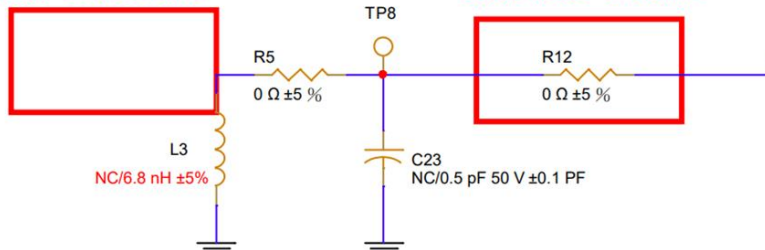
8.8mm



Antenna Matching Network

20220310

Remove the ANT1 and ANT2

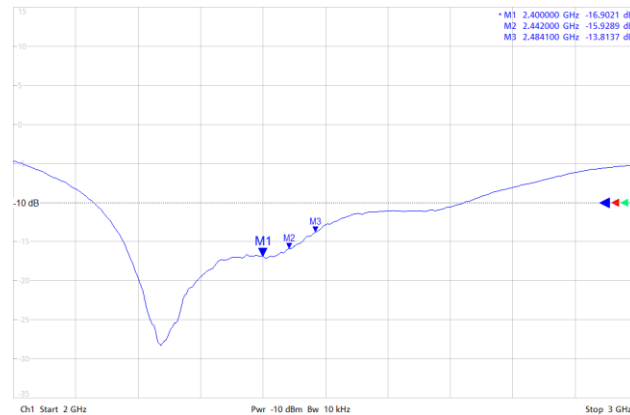
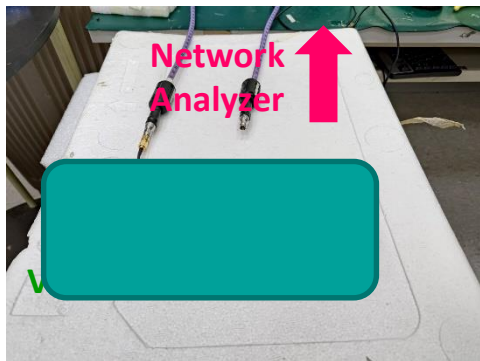


Matching Network

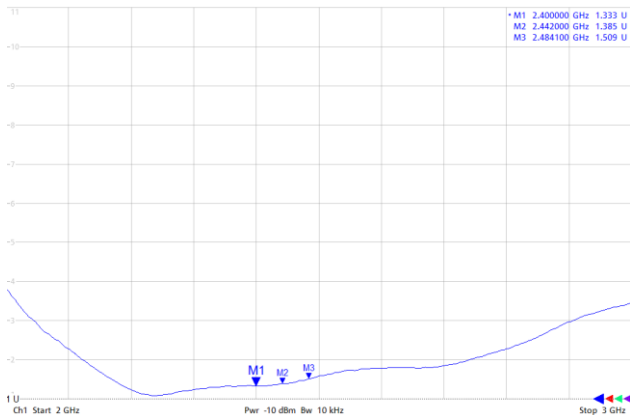
Location	DVT-2
L3	0.5pF (GJM1555C1HR50WB01)
R5	3nH (LQG15HS3N0S02)
C23	NC
R12	0 Ω

Antenna Passive Performance

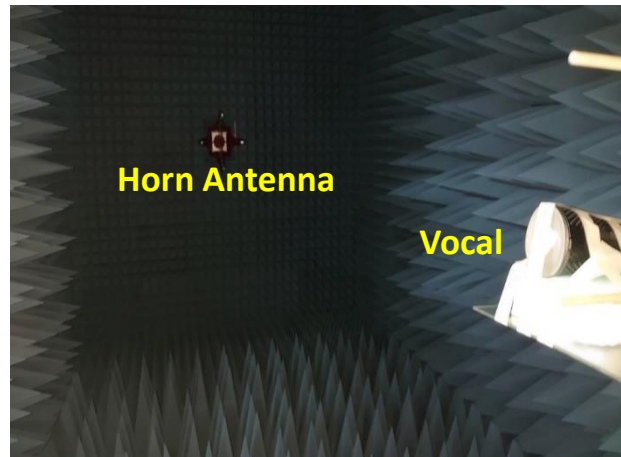
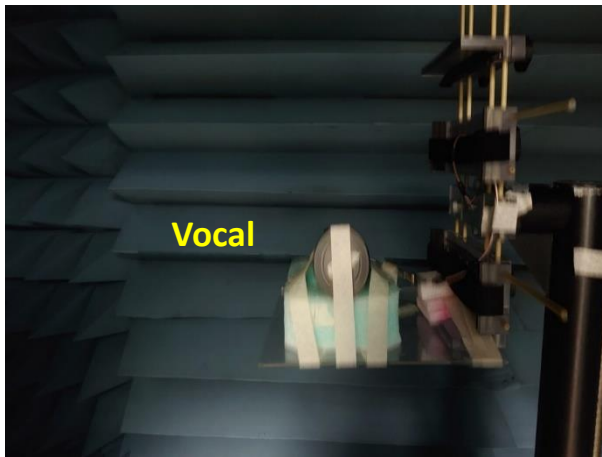
Return Loss S_{11}



VSWR



Antenna Efficiency Measurement Setup

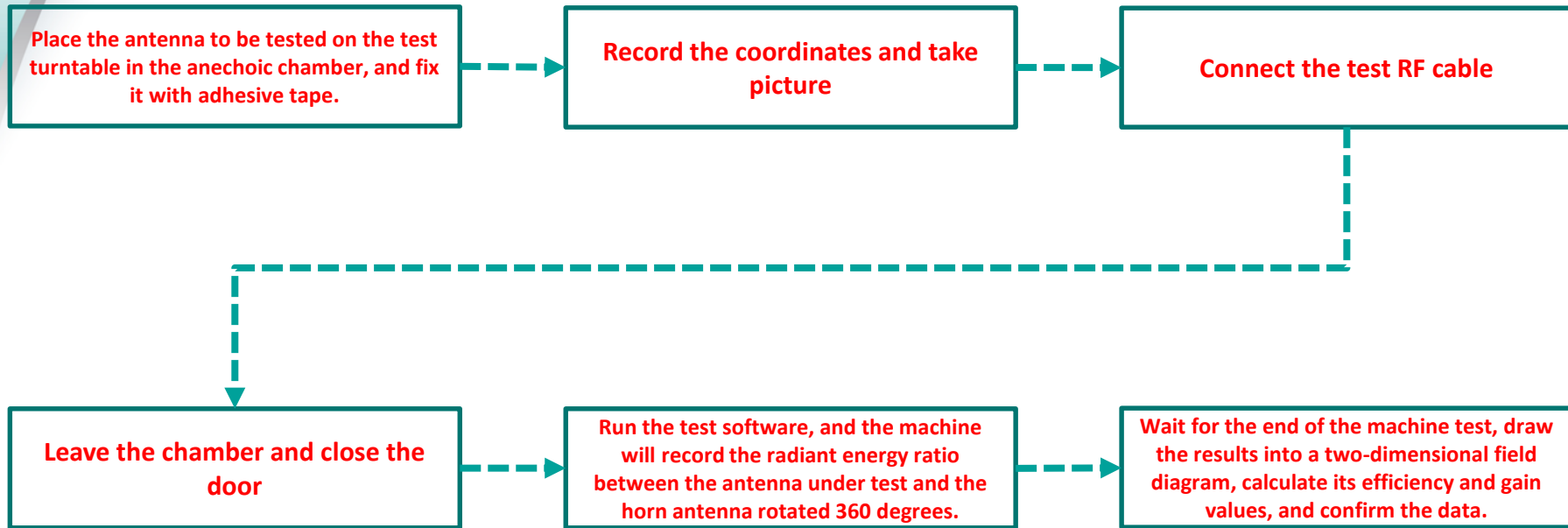


Measurement Setup

Test Equipment

Passive	
Test Equipment	E5071C ENA Vector Network Analyzer – Keysight / Calibration Date: 2022/05/30
Test chamber	ETS-lindgren_AMS-8500 Antenna Measurement System/Calibration Date: 2022/04/15
Testers	Oscar Chu 朱恩凱
Test Software	ETS-Lindgren EMQuest

Test Procedure



Antenna Efficiency

Test date: 2022/2/10

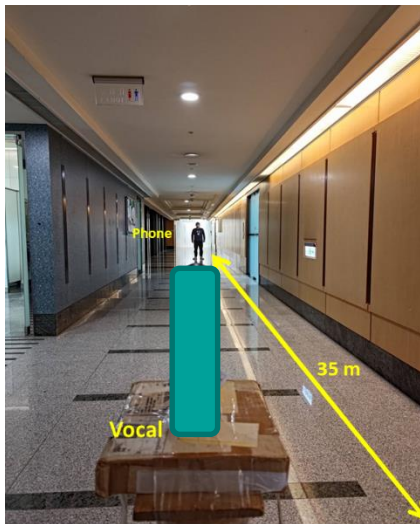
Merry PSS911_DVT-2_Gain_FS_2300~2500MHz									
Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480
Point Values									
Ant. Port Input Pwr. (dBm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot. Rad. Pwr. (dBm)	-1.97	-1.92	-1.88	-1.85	-1.82	-1.83	-1.77	-1.75	-1.77
Peak EIRP (dBm)	4.99	5.04	5.01	4.98	4.91	4.84	4.79	4.71	4.59
Directivity (dBi)	6.96	6.95	6.89	6.84	6.73	6.68	6.56	6.47	6.36
Efficiency (dB)	-1.97	-1.92	-1.88	-1.85	-1.82	-1.83	-1.77	-1.75	-1.77
Efficiency (%)	63.50	64.32	64.92	65.24	65.80	65.58	66.59	66.77	66.58
Gain (dBi)	4.99	5.04	5.01	4.98	4.91	4.84	4.79	4.71	4.59
NHPRP $\pm\pi/4$ (dBm)	-3.01	-2.95	-2.91	-2.88	-2.84	-2.85	-2.79	-2.77	-2.80
NHPRP $\pm\pi/6$ (dBm)	-4.43	-4.37	-4.32	-4.29	-4.24	-4.24	-4.17	-4.16	-4.19
NHPRP $\pm\pi/8$ (dBm)	-5.56	-5.50	-5.45	-5.42	-5.37	-5.38	-5.31	-5.31	-5.34
Upper Hem. PRP (dBm)	-3.50	-3.43	-3.38	-3.36	-3.32	-3.35	-3.30	-3.30	-3.32
Lower Hem. PRP (dBm)	-7.26	-7.23	-7.20	-7.19	-7.15	-7.14	-7.03	-7.00	-6.99

Field Test & Result (Indoor)

Test Condition

Test date	2023/1/17	Device	IPEVO PSS911
Weather	Sunny	Smart phone	Apple Iphone 11 / ASUS Zenfone 9
Tester	Tim	Reference Document	Version : Ios 12 / Android 13
Test place	Corridor outside the company		

Test Environment



RF Range (LOS)		
Phone	Music Mode	Talking Mode
Apple I-phone11	>30 m	>30 m
ASUS Zenfone 9	>30 m	>30 m

Summary

1. The FS average antenna efficiency are 65.48%.
2. RF range test : Transmission distance is better than 30m.

Thank You

Delivering Fidelity Sound to Enrich Human's Life



MERRY