Antenna test report for BTA1

PRODUCT NAME:	BTA1 TV Transmitter
MODEL NO:	MX338 Antenna
BRAND NAME:	SENNHEISER
MANUFACTURER:	Plotech Technology (Kunshan) Co.,Ltd
ADDRESS:	28, Zhuzhu Road, Eastern Industrial Zone, Kunshan Economic and Technological Development Zone, Kunshan, Jiangsu Province, China
ISSUED DATE:	2025.05.26

Contents

- **Antenna Measurement Vector Network Analyzer**
  - Antenna Return Loss Measurement Setup
  - Antenna Pattern
  - Antenna Matching Network
  - Antenna Return Loss
- **The Antenna Anechoic Chamber Measurement**
  - Antenna Efficiency Measurement Setup
  - Test Equipment
  - Antenna Efficiency
  - Radiation Pattern
  - Measurements description

Antenna Measurement
Vector Network Analyzer

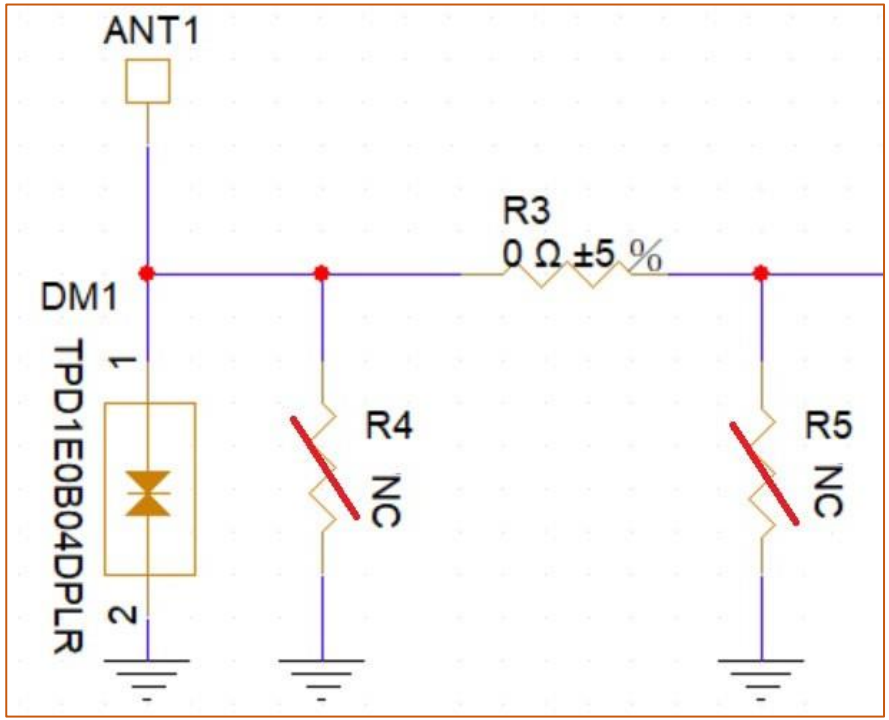
Antenna Return Loss Measurement Setup

Antenna Pattern

Specification	
Antenna type	PIFA
Model no.	MX338 Antenna
Operating frequency Band	2402~2480MHz
Antenna gain	1.69 dBi (Max)

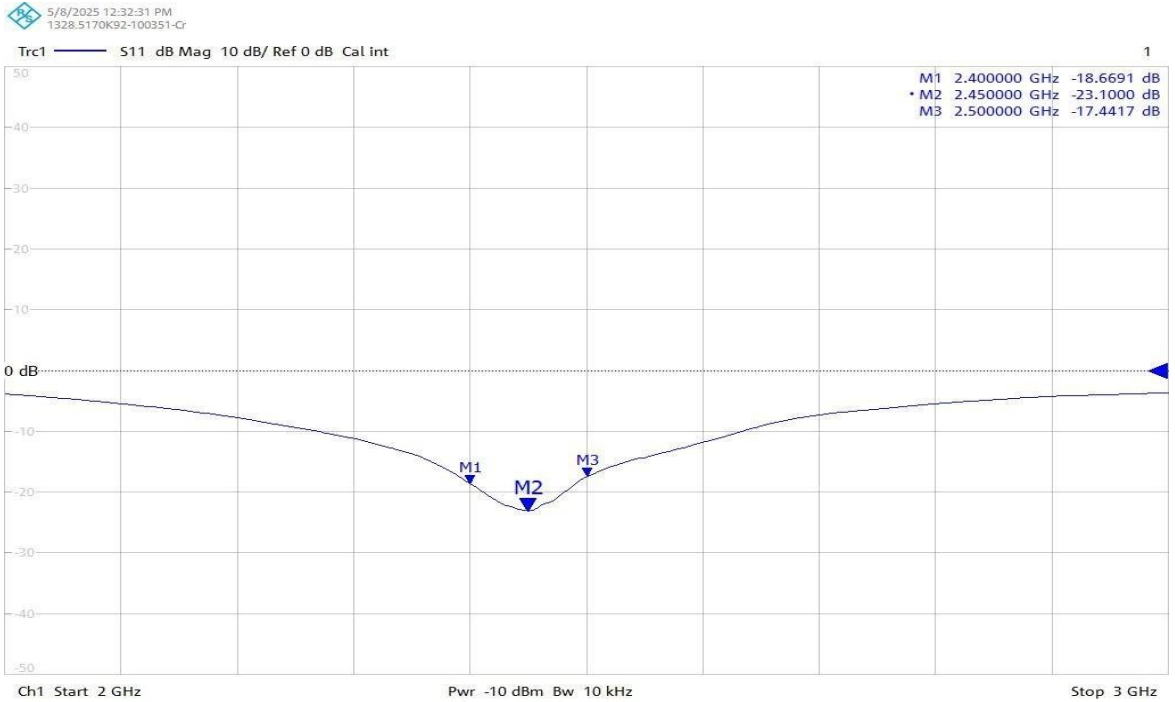
MX338 Antenna Pattern

Antenna Matching Network



Matching Network	
Component	**Value**
R3	0 Ω
R4	NA
R5	NA

Antenna Return Loss



Frequency (MHz)	2400	2450	2500
S11(dB)	-18.66	-23.10	-17.44

The Antenna Anechoic Chamber Measurement

Antenna Efficiency Measurement Setup

Test Equipment

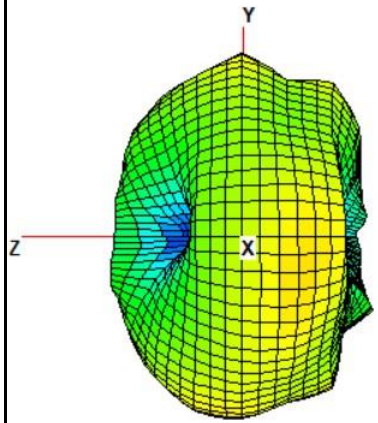
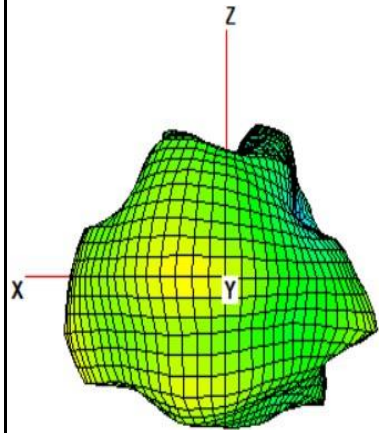
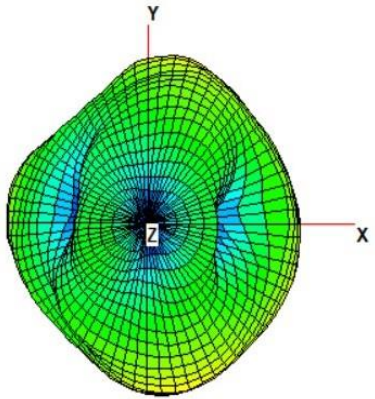
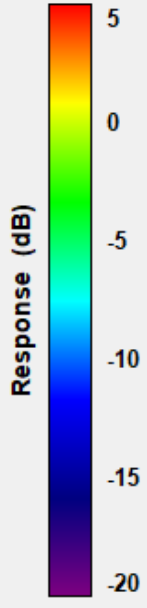
Passive Measurement	
Test Model	MX338 Antenna
Test Date	2025/05/13
Test Equipment	E5071C ENA Vector Network Analyzer – Keysight Calibration Date: 2024/05/31
Test Chamber	ETS-lindgren_AMS-8500 Antenna Measurement System Calibration Date: 2024/06/25
Testers	Leo Chen 陳偉信
Test Software	ETS-Lindgren EMQuest

Antenna Efficiency

Sonova TV transmitter (PP2)	Unit	Frequency (MHz)								
		2400	**2410**	**2420**	**2430**	**2440**	**2450**	**2460**	**2470**	**2480**
Efficiency	dB	**-2.16**	**-2.20**	**-2.25**	**-2.35**	**-2.39**	**-2.45**	**-2.58**	**-2.70**	**-2.81**
	%	**60.77**	**60.20**	**59.51**	**58.24**	**57.70**	**56.94**	**55.24**	**53.66**	**52.40**
Peak gain	dBi	**1.69**	**1.68**	**1.66**	**1.60**	**1.55**	**1.49**	**1.35**	**1.29**	**1.18**

	Unit	Average
Efficiency	dB	**-2.51**
	%	**56.23**

Radiation Pattern

Frequency 2.45GHz			Scale
Y-Z Cut	X-Z Cut	X-Y Cut	
			

Measurements description

Conducted Measurements

Conducted measurements was done using Network Analyzer – Keysight, the Return Loss of the Antenna was obtained to ensure the efficiency over the operation frequency.

Antenna Radiation Patten Measurements

Radiation Pattern measurements was done in the ETS-lindgren anechoic chamber through radiation, the device was set to the DUT mode and the AMS-8500 receive the RF power in 360degree angel with rotation of EUT

Antenna Gain Calculation

The antenna gain was calculated as the difference between the measured Peak EIRP(dBm) and Ant. port input pwr(dBm) in previous page.