

TEST REPORT

Applicant Name: Dongguan Weisheng Communication Technology Co., Ltd
Address: Room 601, Building 1, No. 8 Qingfeng South Road, Tangxia Town, Dongguan City, Guangdong Province, China
Report Number: 2501R35764E-RF-00
FCC ID: 2BGMW-XPA125B

Test Standard (s)

FCC Part 97

Sample Description

Product Type: Power Amplifier
Model No.: XPA125B
Multiple Model(s) No.: N/A
Trade Mark: XIEGU
Date Received: 2025/05/19
Issue Date: 2025/07/11

Test Result:

Pass▲

▲ In the configuration tested, the EUT complied with the standards above.

Prepared and Checked By:

Jim Cheng

Jim Cheng
RF Engineer

Approved By:

Nancy Wang

Nancy Wang
RF Supervisor

Note: The information marked # is provided by the applicant, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report. Customer model name, addresses, names, trademarks etc. are included.

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This report may contain data that are not covered by the NVLAP accreditation and are marked with an asterisk "▼".

Bay Area Compliance Laboratories Corp. (Shenzhen)

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	2501R35764E-RF-00	Original Report	2025/07/11

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	Power Amplifier
Tested Model	XPA125B
Multiple Model(s)	N/A
Frequency Range	1.8-29.7MHz (TX/RX) 50MHz-54MHz (TX/RX)
Maximum output power:	1.8-29.7MHz: 100W 50MHz-54MHz: 60W
Antenna Specification[#]	13dBi (± 1 dB) (provided by the applicant)
Voltage Range	DC 12V-15V
Sample serial number	3347-1 (Assigned by BACL, Shenzhen)
Sample/EUT Status	Good condition
Adapter Information	N/A

Objective

This test report is in accordance with PART 97 (Amateur Radio Service) of the Federal Communication Commission rules.

Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of federal Regulations Title 47 Part 2, Sub-part J as well as the following individual parts:

Part 97 – Amateur Radio Service

ANSI C63.26-2015

All emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Each test item follows test standards and with no deviation.

Measurement Uncertainty

Parameter		Uncertainty
Occupied Channel Bandwidth		109.2kHz(k=2, 95% level of confidence)
RF output power, conducted		0.86dB(k=2, 95% level of confidence)
Unwanted Emissions, conducted		1.60dB(k=2, 95% level of confidence)
Radiated Emissions	9kHz - 30MHz	3.60dB(k=2, 95% level of confidence)
	30MHz~200MHz (Horizontal)	5.32dB(k=2, 95% level of confidence)
	30MHz~200MHz (Vertical)	5.43dB(k=2, 95% level of confidence)
	200MHz~1000MHz (Horizontal)	5.77dB(k=2, 95% level of confidence)
	200MHz~1000MHz (Vertical)	5.73dB(k=2, 95% level of confidence)
	1GHz - 6GHz	5.34dB(k=2, 95% level of confidence)
	6GHz - 18GHz	5.40dB(k=2, 95% level of confidence)
	18GHz - 40GHz	5.64dB(k=2, 95% level of confidence)
Temperature		±1°C
Humidity		±1%
Supply voltages		±0.4%

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 5F(B-West) , 6F, 7F, the 3rd Phase of Wan Li Industrial Building D, Shihua Rd, FuTian Free Trade Zone, Shenzhen, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 715558, the FCC Designation No. : CN5045.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in an engineering mode.

Mode Type	Emission Designator [#]	Amateur Band [#]	Operation Frequency Range (MHz)	Test Frequency (MHz)
Transmit	F3E F1D A1A A3A A3E J3E J1D J3C J3F	160 m	1.8-2	1.8
		80 m	3.5-3.6	3.55
		60 m	5.3305-5.4064	5.357
		40 m	7-7.3	7.05
		30 m	10.1-10.15	10.1
		20 m	14-14.35	14.267
		17 m	18.068-18.168	18.1
		15 m	21-21.45	21
		12 m	24.89-24.99	24.9
		10 m	28-29.7	28.5
		6 m	50-54	51
		Note: The Emission Designator and Amateur Band were provided by the applicant.		

EUT Exercise Software

No exercise software was used.

Special Accessories

No special accessory.

Equipment Modifications

No modification was made to the EUT tested.

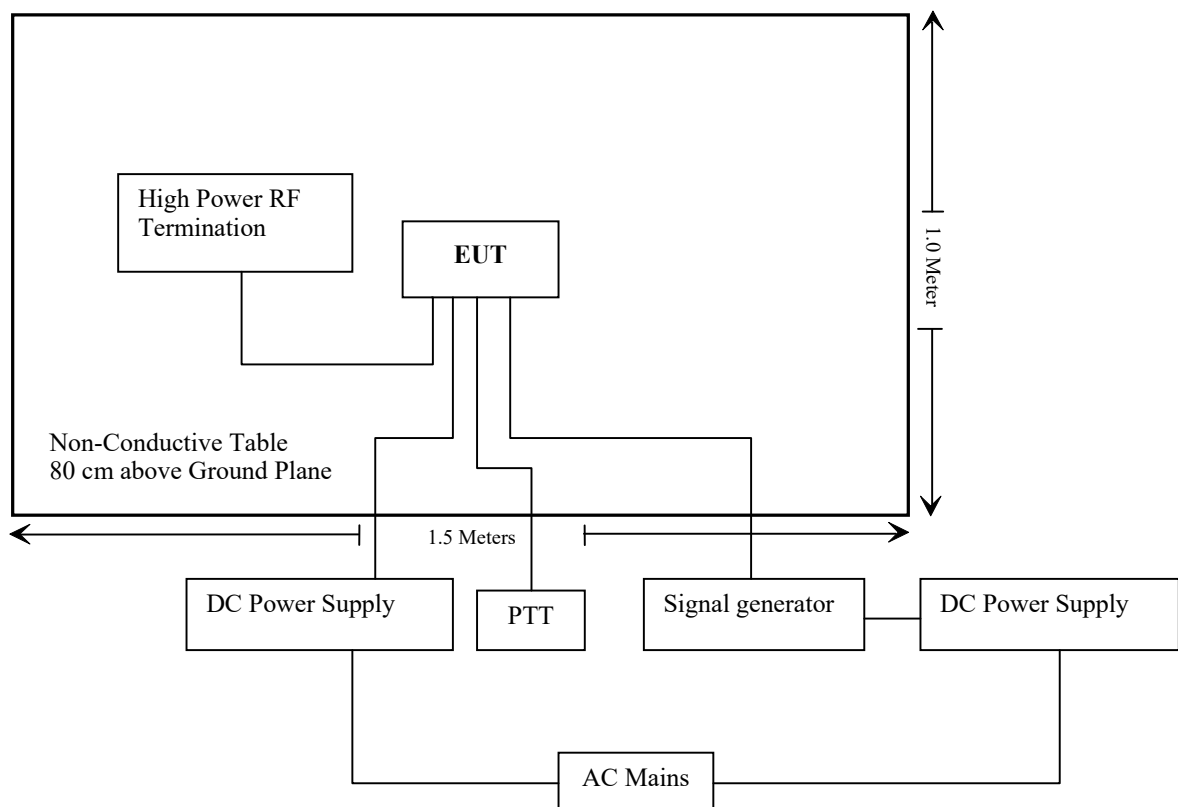
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
XIEGU	Signal generator	X6100	6D122317
Unknown	High Power RF Termination	635R	58B83464R01
Instek	DC Power Supply	GPS-3030DD	EM832096
Chroma	DC Power Supply	62012P	ANM000000742
XIEGU	PTT	E20395	Unknown

External I/O Cable

Cable Description	Length (m)	From Port	To
Un-shielded Detachable AC Cable	1.5	AC Mains	DC Power Supply
Un-shielded Detachable DC Cable	1.0	EUT	DC Power Supply
Un-shielded Detachable SL16-K Cable	2.0	EUT	High Power RF Termination
Un-shielded Detachable ACC Cable	1.2	EUT	PTT
Un-shielded Detachable SL16-K Cable	1.2	Signal generator	EUT

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Results
§1.1310 & §2.1091	Maximum Permissible Exposure (MPE)	Compliant
§97.313&97.317(a)(1)(2)(3)	RF Output Power and Gain	Compliant
§2.1051& §97.307(d)(e) &97.317(a)(1)	Spurious emissions at antenna terminals	Compliant
§2.1053 & §97.307(d)(e) &97.317(a)(1)	Field strength of spurious radiation	Compliant

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test					
Rohde & Schwarz	EMI Test Receiver	ESR3	102455	2024/12/04	2025/12/03
Sonoma instrument	Pre-amplifier	310 N	186238	2025/04/29	2026/04/28
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2023/07/20	2026/07/19
BACL	Active Loop Antenna	1313-1A	4031911	2024/05/14	2027/05/13
Unknown	Cable	Chamber A Cable 1	N/A	2025/04/29	2026/04/28
Unknown	Cable	XH500C	J-10M-A	2025/04/29	2026/04/28
COM-POWER	Dipole Antenna	3121C	9209-860	NCR	NCR
Agilent	Signal Generator	N5183A	MY50140588	2024/09/13	2025/09/12
RF Conducted Test					
Rohde & Schwarz	Spectrum Analyzer	FSU26	200120	2024/12/04	2025/12/03
Rohde&Schwarz	Spectrum Analyzer	FSV40-N	102259	2024/12/04	2025/12/03
Keysight	MXG Vector Signal Generator	N5182B	MY53051503	2024/12/04	2025/12/03
WEINSCHL	Power Splitter	1515	RH476	2024/06/27	2025/06/26
WEINSCHL	Power Splitter	1515	RH476	2025/06/26	2026/06/25
JFW	30dB Attenuator	50FH-030-100 RF	F-03-EM032	2024/06/27	2025/06/26
JFW	30dB Attenuator	50FH-030-100 RF	F-03-EM032	2025/06/26	2026/06/25
WEINSCHL	3dB Attenuator	Unknown	F-03-EM119	2024/06/27	2025/06/26
WEINSCHL	3dB Attenuator	Unknown	F-03-EM119	2025/06/26	2026/06/25
instek	DC Power Supply	GPS-3030DD	EM832096	NCR	NCR
Fluke	Digital Multimeter	287	19000011	2025/04/29	2026/04/28
Micro-Tronics	RF Cable	8082176	W6111	2024/06/27	2025/06/26
Micro-Tronics	RF Cable	8082176	W6111	2025/06/26	2026/06/25

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC §1.1310 & §2.1091 –MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm²)	Averaging Time E , H or S (minutes)
0.3- 3.0	614	1.63	*(100)	6
3.0 - 30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	f/300	6
1500-100,000	/	/	5	6

f = frequency in MHz; * = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

Result

Calculation formula:

Prediction of power density at the distance of the applicable MPE limit

$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm²);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

Calculated Data:

For worst case:

Frequency (MHz)	Antenna Gain[#]		Max Tune-up Power[#] (W)	Evaluation Distance (cm)	Power Density (mW/cm²)	MPE Limit (mW/cm²)
	(dBi)	(numeric)				
1.8-29.7	14.0	25.12	100	450	0.9872	1.0
50-54	14.0	25.12	60	450	0.5923	1.0

Note: The tune up conducted power and antenna gain was declared by the applicant.

To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 4.5m from nearby persons.

Result: Compliant.

FCC §97.313 & 97.317(a)(1) (2) (3)– RF OUTPUT POWER and GAIN

Applicable Standard

FCC §97.313&97.317(a)(1)(2)

According to §97.313(b), No station may transmit with a transmitter power exceeding 1.5 kW PEP.

According to §97.313(c), No station may transmit with a transmitter power output exceeding 200 W PEP:

- (1) On the 10.10-10.15 MHz segment;
- (2) On the 3.525-3.60 MHz, 7.025-7.125 MHz, 21.025-21.20 MHz, and 28.0-28.5 MHz segment when the control operator is a Novice Class operator or a Technician Class operator; or
- (3) The 7.050-7.075 MHz segment when the station is within ITU Regions 1 or 3.

According to §97.313(c), No station may transmit with an effective radiated power (ERP) exceeding 100 W PEP on the 60 m band. For the purpose of computing ERP, the transmitter PEP will be multiplied by the antenna gain relative to a half-wave dipole antenna. A half-wave dipole antenna will be presumed to have a gain of 1 (0 dBd). Licensees using other antennas must maintain in their station records either the antenna manufacturer's data on the antenna gain or calculations of the antenna gain.

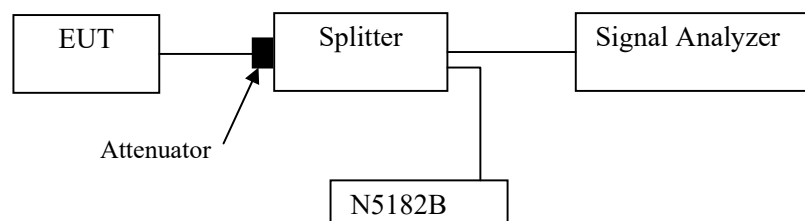
According to §97.317(a)(1), Satisfy the spurious emission standards of § 97.307 (d) or (e) of this part, as applicable, when the amplifier is operated at the lesser of 1.5 kW PEP or its full output power and when the amplifier is placed in the “standby” or “off” positions while connected to the transmitter.

According to §97.317(a)(2), Not be capable of amplifying the input RF power (driving signal) by more than 15 dB gain. Gain is defined as the ratio of the input RF power to the output RF power of the amplifier where both power measurements are expressed in peak envelope power or mean power.

According to §97.317(a)(3), Exhibit no amplification (0 dB gain) between 26 MHz and 28 MHz.

Test Procedure

According to ANSI C63.26-2015.



Test Data**Environmental Conditions**

Temperature:	25.4~26.1 °C
Relative Humidity:	48 ~55%
ATM Pressure:	100.5~100.8 kPa

The testing was performed by Cheeb Huang from 2025-06-04 to 2025-07-09.

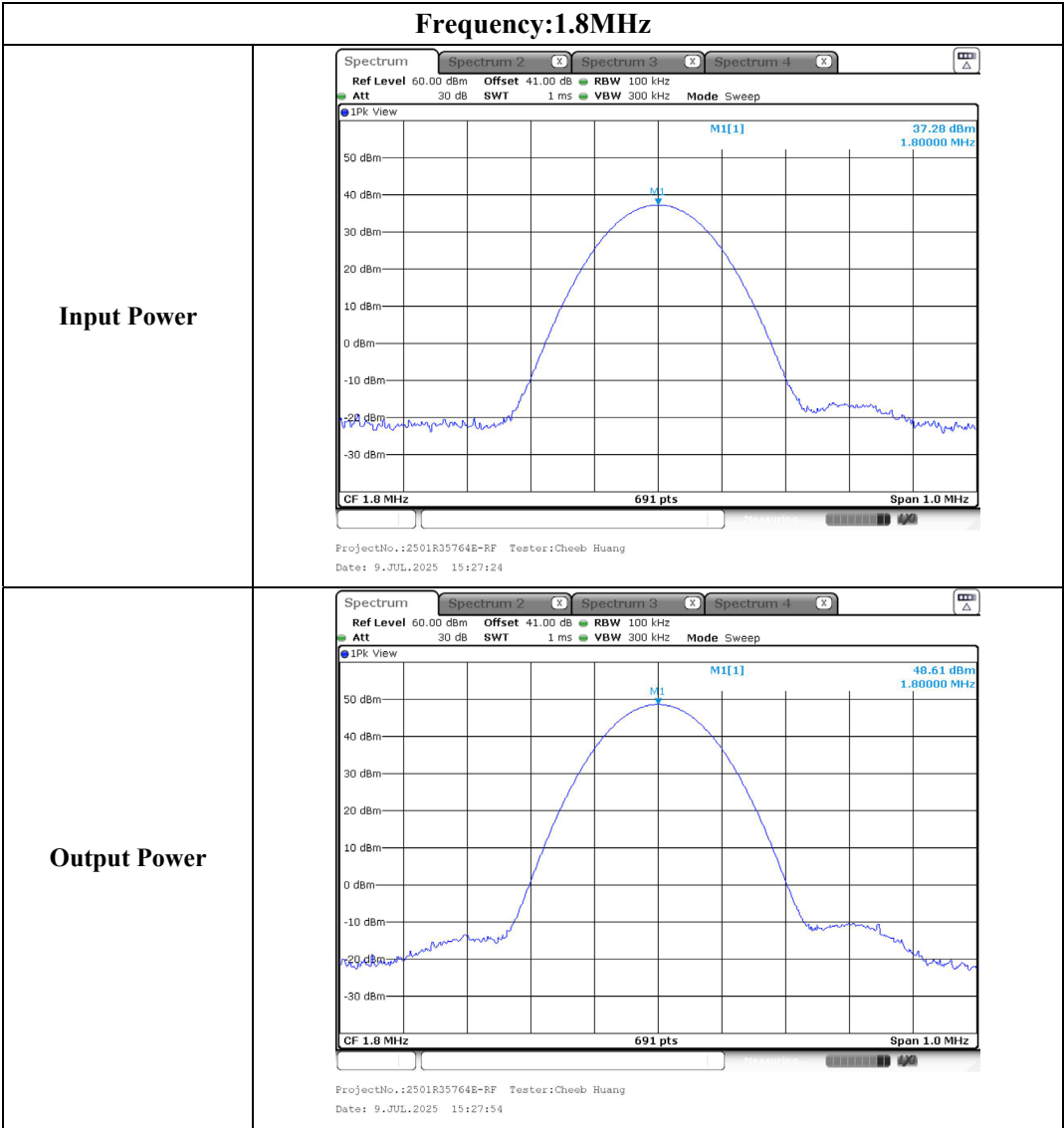
EUT operation mode: Transmitting

Test Result: Compliant.

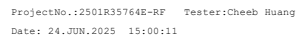
Frequency (MHz)	Power Input (dBm)	Power Output (dBm)	Gain (dB)	Limit (dB)
1.8	37.28	48.61	11.33	<15
3.55	35.44	48.93	13.49	<15
5.357	35.78	49.34	13.56	<15
7.05	37.32	49.51	12.19	<15
10.1	37.41	49.16	11.75	<15
14.267	37.33	48.75	11.42	<15
18.1	37.25	48.74	11.49	<15
21	37.16	48.50	11.34	<15
24.9	37.08	48.18	11.10	<15
28.5	37.08	47.89	10.81	<15
51	37.09	46.55	9.46	<15

Note 1: $\text{Gain(dB)} = \text{Power Output (dBm)} - \text{Power Input (dBm)}$

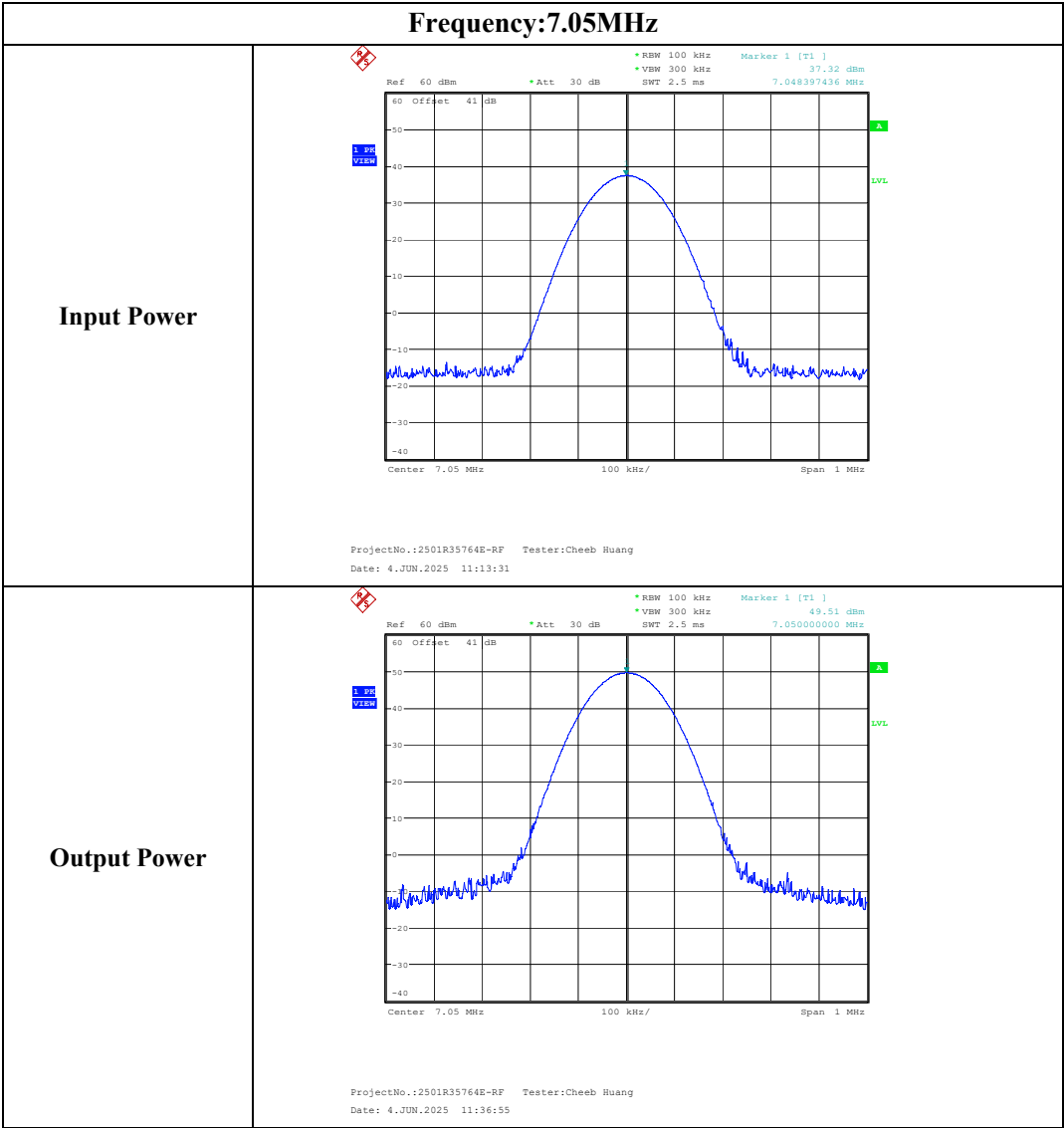
Note 2: The amplifier cannot operate on 26-28MHz.



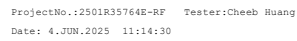
Input Power



ProjectNo.:2501R35764E-RF Tester:Cheeb Huang
Date: 24.JUN.2025 16:02:16

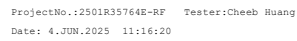


Input Power



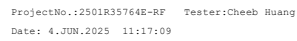
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Date: 4.JUN.2025 11:38:00

Input Power



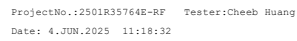
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Date: 4.JUN.2025 11:39:05

Input Power



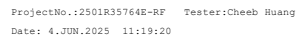
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Input Power



ProjectNo.:2501R35764E-RF Tester:Cheeb Huang
Date: 4.JUN.2025 11:41:55

Input Power



ProjectNo.:2501R35764E-RF Tester:Cheeb Huang
Date: 4.JUN.2025 11:42:52



FCC §2.1051&97.307(d)(e) - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Applicable Standard

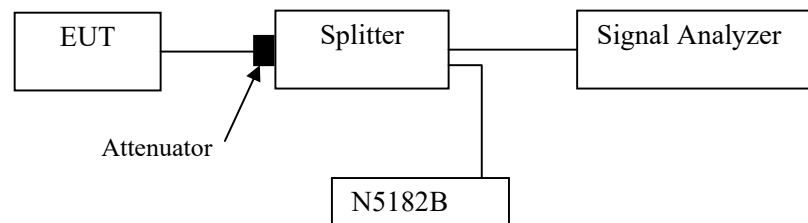
FCC §2.1053&97.307(d)(e)

According to §97.307(d), The mean power of any spurious emission from a station transmitter or external RF power amplifier transmitting on a frequency below 30 MHz must be at least 43 dB below the mean power of the fundamental emission.

According to §97.307(e), The mean power of any spurious emission from a station transmitter or external RF power amplifier transmitting on a frequency between 30-225 MHz must be at least 60 dB below the mean power of the fundamental. For a transmitter having a mean power of 25 W or less, the mean power of any spurious emission supplied to the antenna transmission line must not exceed 25 μ W and must be at least 40 dB below the mean power of the fundamental emission, but need not be reduced below the power of 10 μ W.

Test Procedure

According to ANSI C63.26-2015.



Test Data

Environmental Conditions

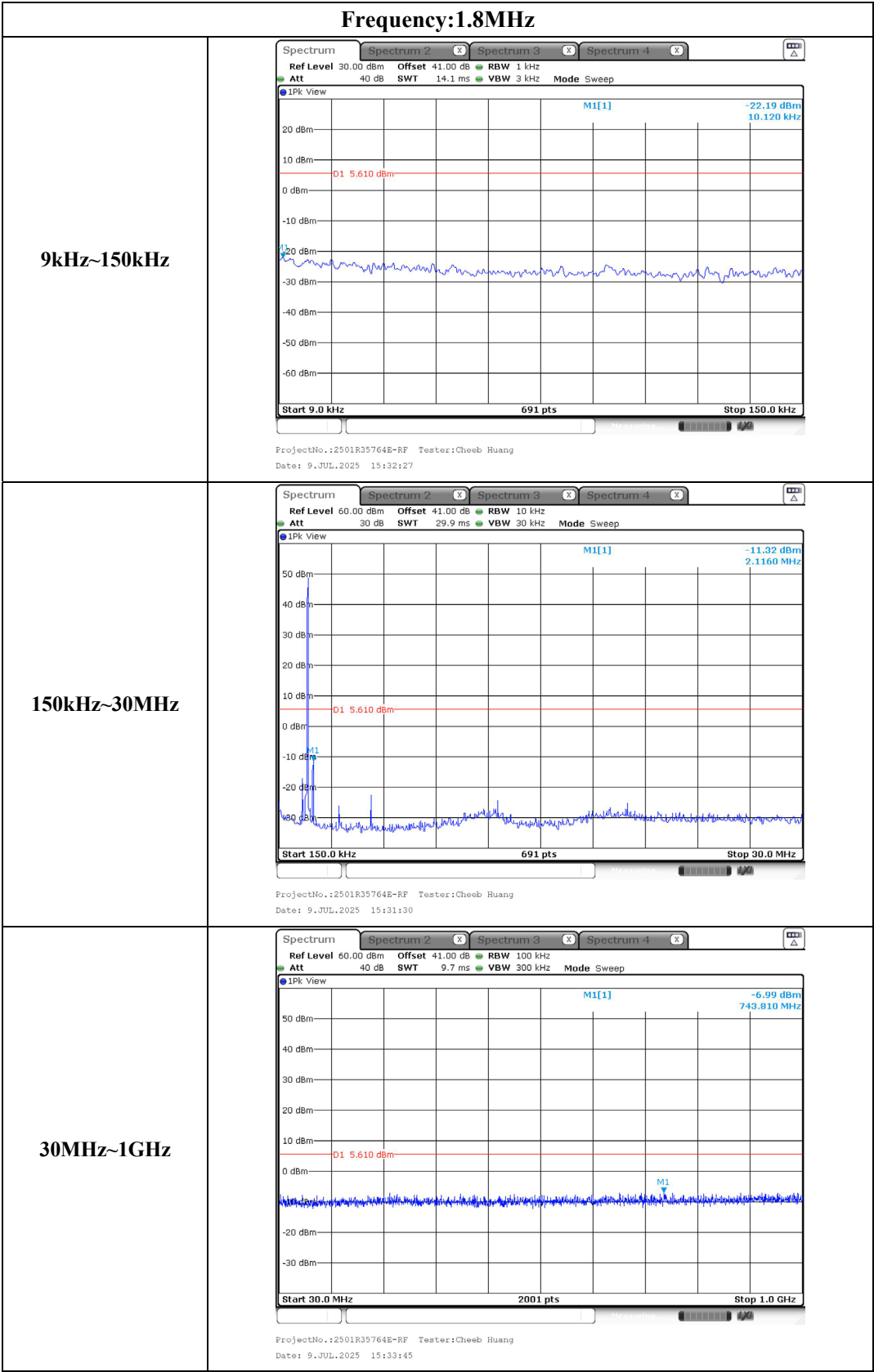
Temperature:	24.2~26.1°C
Relative Humidity:	52~55 %
ATM Pressure:	100.5 kPa

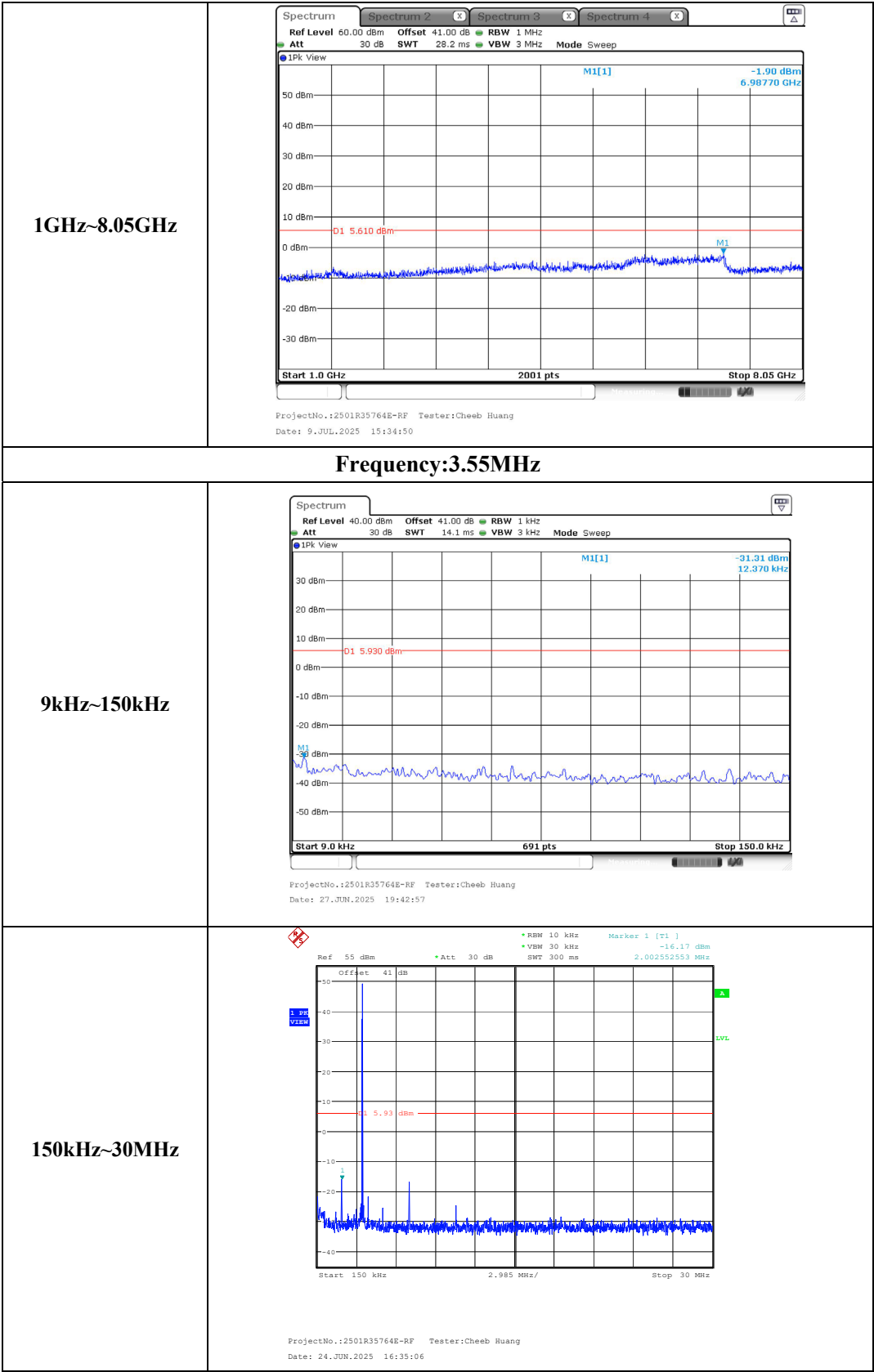
The testing was performed by Cheeb Huang from 2025-06-24 to 2025-07-09.

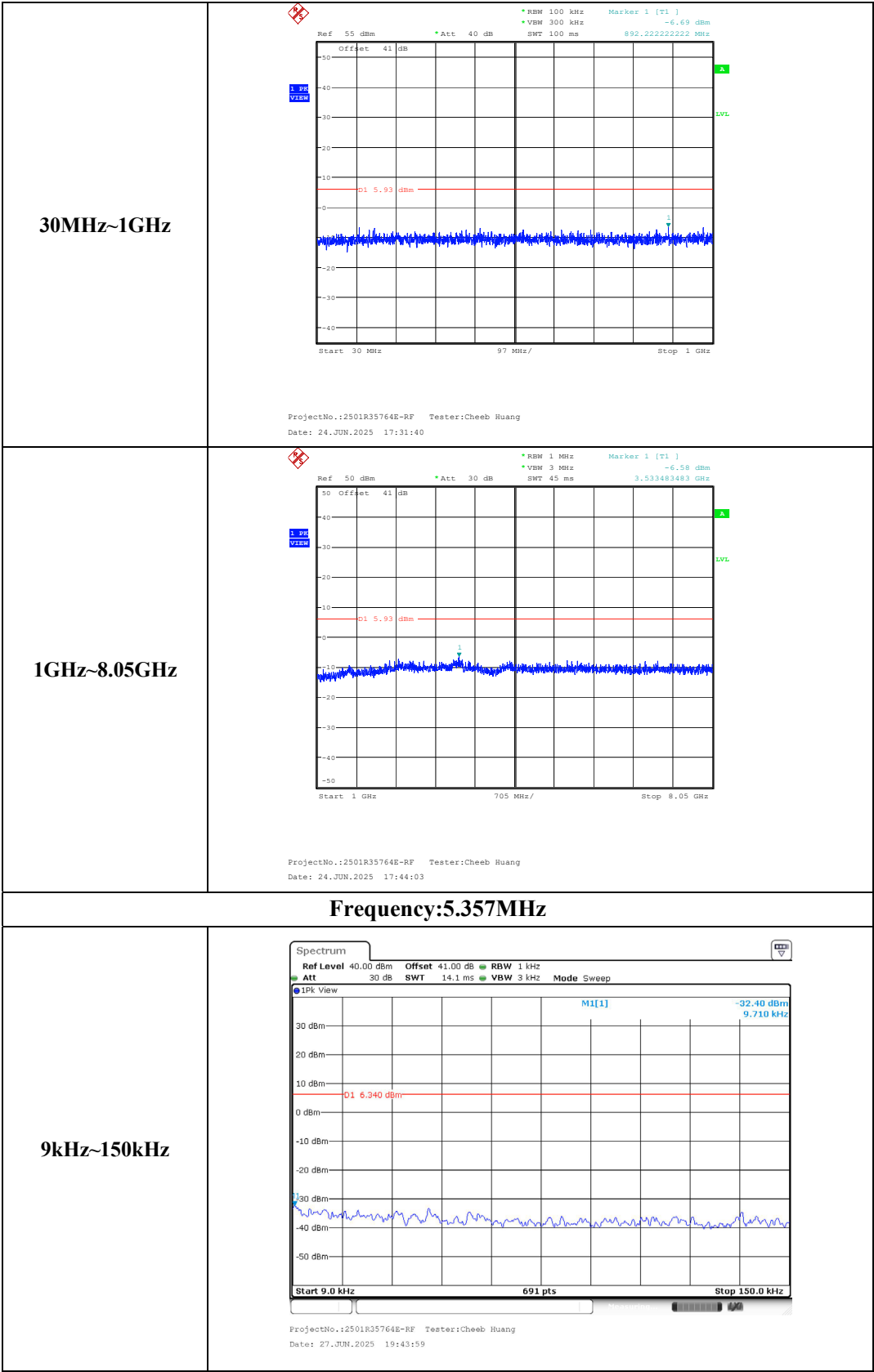
EUT operation mode: Transmitting

Test Result: Compliant.

Note: For 1.8-29.7MHz, Limit = (Power Output -43) dBm
For 50-54MHz, Limit = (Power Output -60) dBm
Power Output refer to the “RF Output Power and Gain”.







* RBW 10 kHz
 * VBW 30 kHz
 Marker 1 [F1]
 -14.72 dBm
 5.991516517 MHz

Ref 55 dBm
 * Att 30 dB
 SWT 300 ms

Offset 41 dB

41 dBm

6.4 dBm

PE VIEW

Center 15.075 MHz
 2.985 MHz/
 Span 29.85 MHz

The screenshot shows a Spectrum Analyzer interface. At the top, there is a red 'X' icon. The main display area is a grid with a vertical axis labeled 'dB' ranging from -40 to -50 and a horizontal axis labeled 'MHz' ranging from 30 to 100. A red horizontal line is drawn across the grid at the -10 dB level, with the label 'D1 6.34 dBm' on the left. A green vertical line is drawn at the 97 MHz position, with a green marker labeled '1' at the intersection. The signal trace is a noisy blue line centered around -10 dB. The top status bar displays the following information: 'Ref 55 dBm', '* Att 40 dB', 'SWT 100 ms', 'Marker 1 [T1]', '535.390390390 MHz', 'RBW 100 kHz', 'VBW 300 kHz', and '-7.25 dBm'. The bottom status bar displays: 'Start 30 MHz', '97 MHz/', and 'Stop 1 GHz'. On the left side, there is a blue button labeled '1 dB VIEW'. On the right side, there is a green button labeled 'A' and a green label '1W1'.

Ref 50 dBm *Att 30 dB SWT 45 ms Marker 1 [T1] -7.46 dBm 3.522897898 GHz

50 Offset 41 dB

40

30

20

10

0

-10

-20

-30

-40

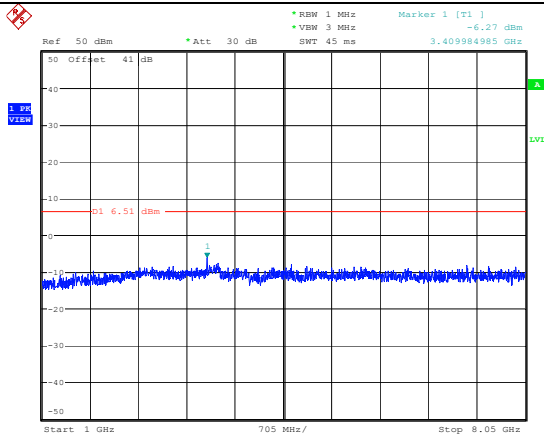
-50

Start 1 GHz 705 MHz/ Stop 8.05 GHz

Version 3.0

9kHz~150kHz	Frequency:7.05MHz Spectrum Ref Level 40.00 dBm Offset 41.00 dB RBW 1 kHz Att 30 dB SWT 14.1 ms VBW 3 kHz Mode Sweep 1Pk View MI[1] -33.61 dBm 12.160 kHz 01 6.510 dBm Start 9.0 kHz 691 pts Stop 150.0 kHz ProjectNo.:2501R35764E-RF Tester:Cheeb Huang Date: 27.JUN.2025 19:44:40
150kHz~30MHz	RBW 10 kHz Marker 1 [T1] -16.90 dBm VBW 30 kHz 14.103903904 MHz SWT 300 ms Ref 55 dBm Offset 41 dB Att 30 dB 1 Pk View 01 6.51 dBm Start 150 kHz 2.985 MHz/ Stop 30 MHz ProjectNo.:2501R35764E-RF Tester:Cheeb Huang Date: 24.JUN.2025 16:44:32
30MHz~1GHz	RBW 100 kHz Marker 1 [T1] -6.92 dBm VBW 300 kHz 782.987987988 MHz SWT 100 ms Ref 55 dBm Offset 41 dB Att 40 dB 1 Pk View 01 6.51 dBm Start 30 MHz 97 MHz/ Stop 1 GHz ProjectNo.:2501R35764E-RF Tester:Cheeb Huang Date: 24.JUN.2025 17:33:00

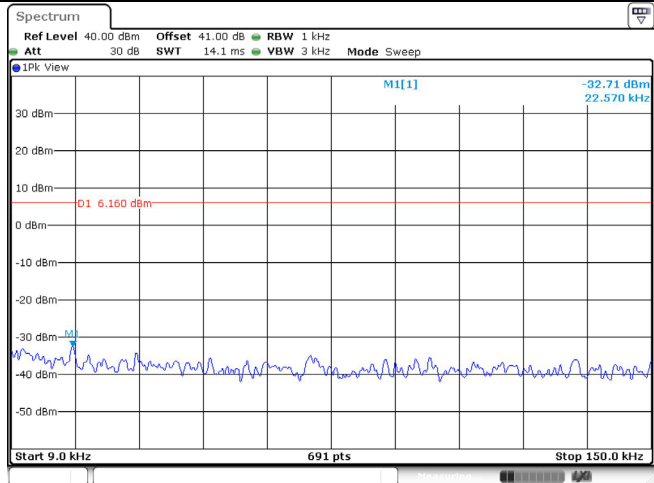
1GHz~8.05GHz



ProjectNo.:2501R35764E-RF Tester:Cheeb Huang
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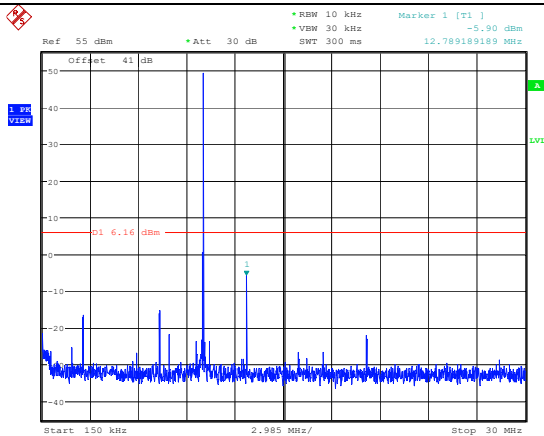
Frequency:10.1MHz

9kHz~150kHz



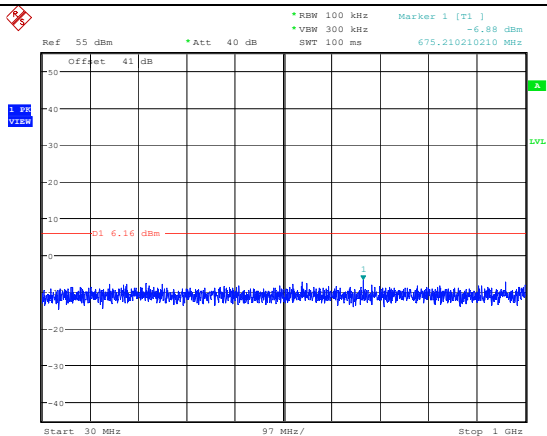
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150kHz~30MHz



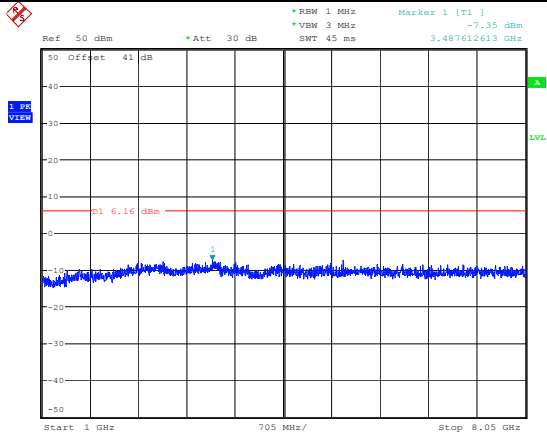
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Date: 24.JUN.2025 16:47:05

30MHz~1GHz

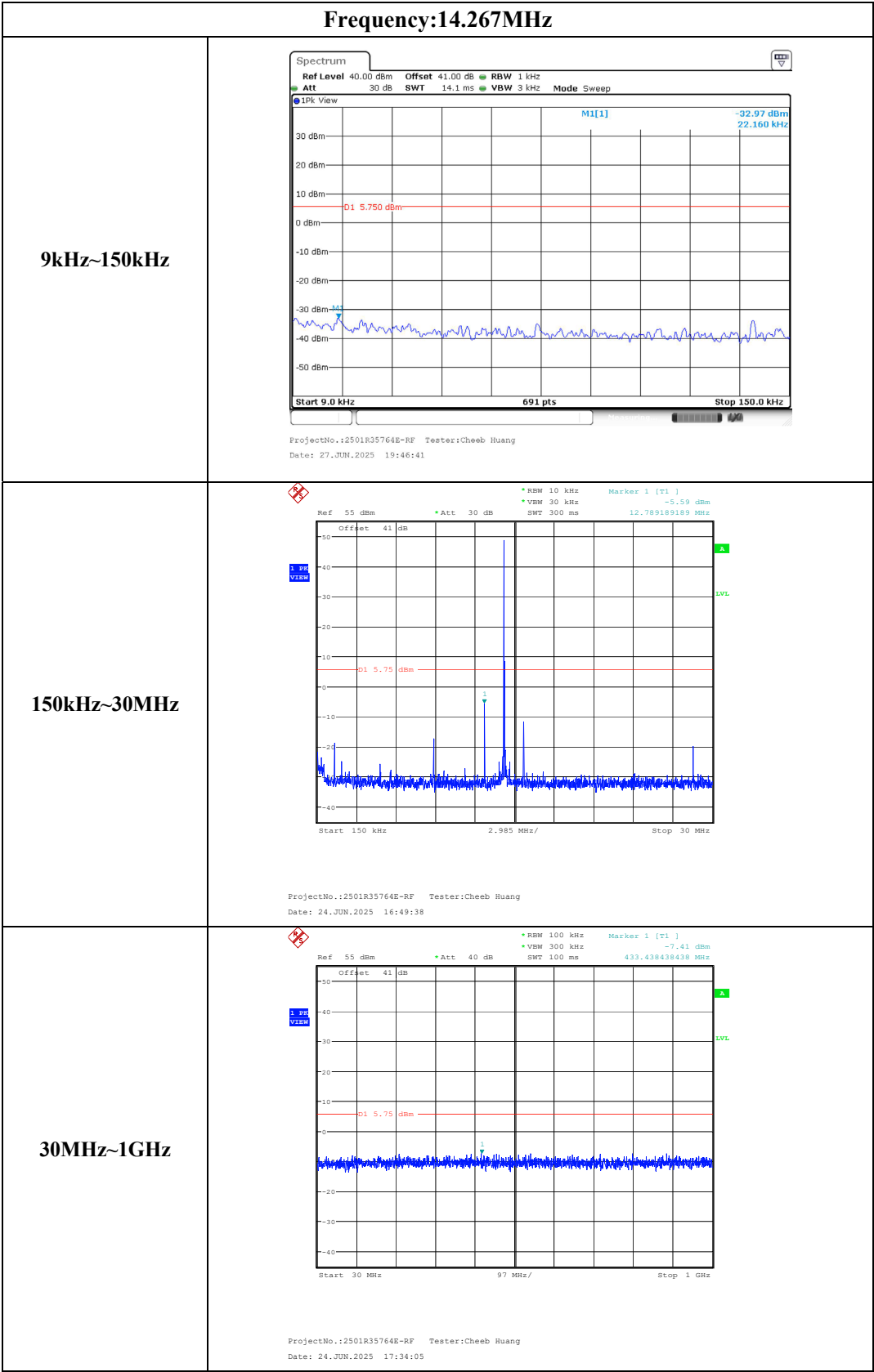


ProjectNo.:2501R35764E-RF Tester:Cheeb Huang
Date: 24.JUN.2025 17:33:29

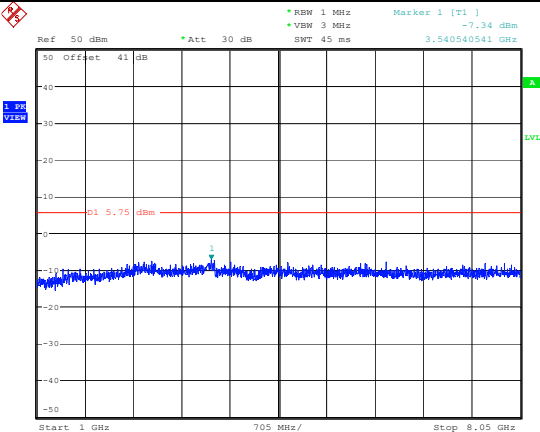
1GHz~8.05GHz



ProjectNo.:2501R35764E-RF Tester:Cheeb Huang
Date: 24.JUN.2025 17:42:47



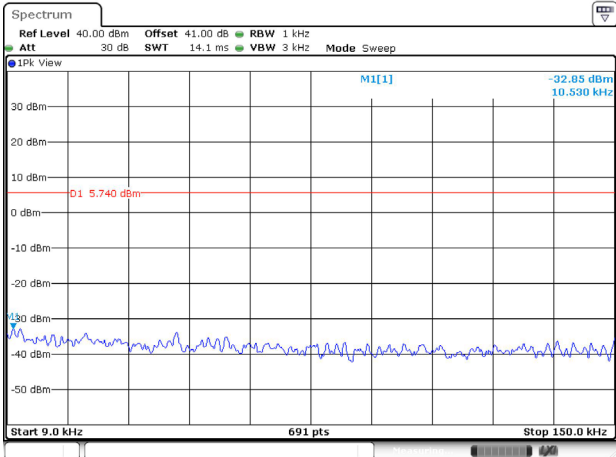
1GHz~8.05GHz



ProjectNo.:2501R35764E-RF Tester:Cheeb Huang
Date: 24.JUN.2025 17:42:09

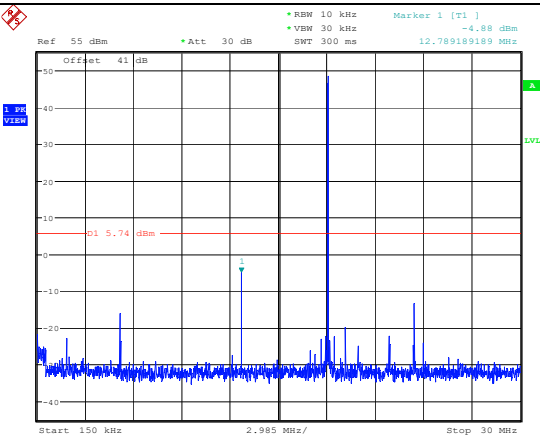
Frequency:18.1MHz

9kHz~150kHz



ProjectNo.:2501R35764E-RF Tester:Cheeb Huang
Date: 27.JUN.2025 19:47:47

150kHz~30MHz



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Date: 24.JUN.2025 16:51:47

Ref 55 dBm * Att 40 dB SWT 100 ms 268.37373373 MHz

Offet 41 dB

50
40
30
20
10
0
-10
-20
-30
-40

01 5.74 dBm

1

Start 30 MHz 97 MHz/ Stop 1 GHz

1 dB VIEW

Marker 1 [T1] -7.11 dBm

VEN 300 kHz

RSM 100 kHz

W1

Ref 50 dBm *Att 30 dB *RBN 1 MHz Marker 1 [T1] -6.50 dBm
 *VEN 3 MHz SWT 45 ms 3.596996997 GHz

50 Offset 41 dB
 40
 30
 20
 10
 0
 -10
 -20
 -30
 -40
 -50

P1 5.74 dBm

1

Start 1 GHz 705 MHz/ Stop 8.05 GHz

Spectrum

Ref Level 40.00 dBm Offset 41.00 dB RBW 1 kHz
 Att 30 dB SWT 14.1 ms VBW 3 kHz Mode Sweep

1PK View

M1[1]

-32.25 dBm
9.100 kHz

01 5.500 dBm

30 dBm
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm

Start 9.0 kHz 691 pts Stop 150.0 kHz

Version 3.0

Ref 55 dBm *Att 30 dB BW 10 kHz VEM 30 kHz SWT 300 ms Marker 1 [T1] -3.94 dBm 12.789189189 MHz

Offset 41 dB

D1 5.5 dBm

Start 150 kHz 2.985 MHz/ Stop 30 MHz

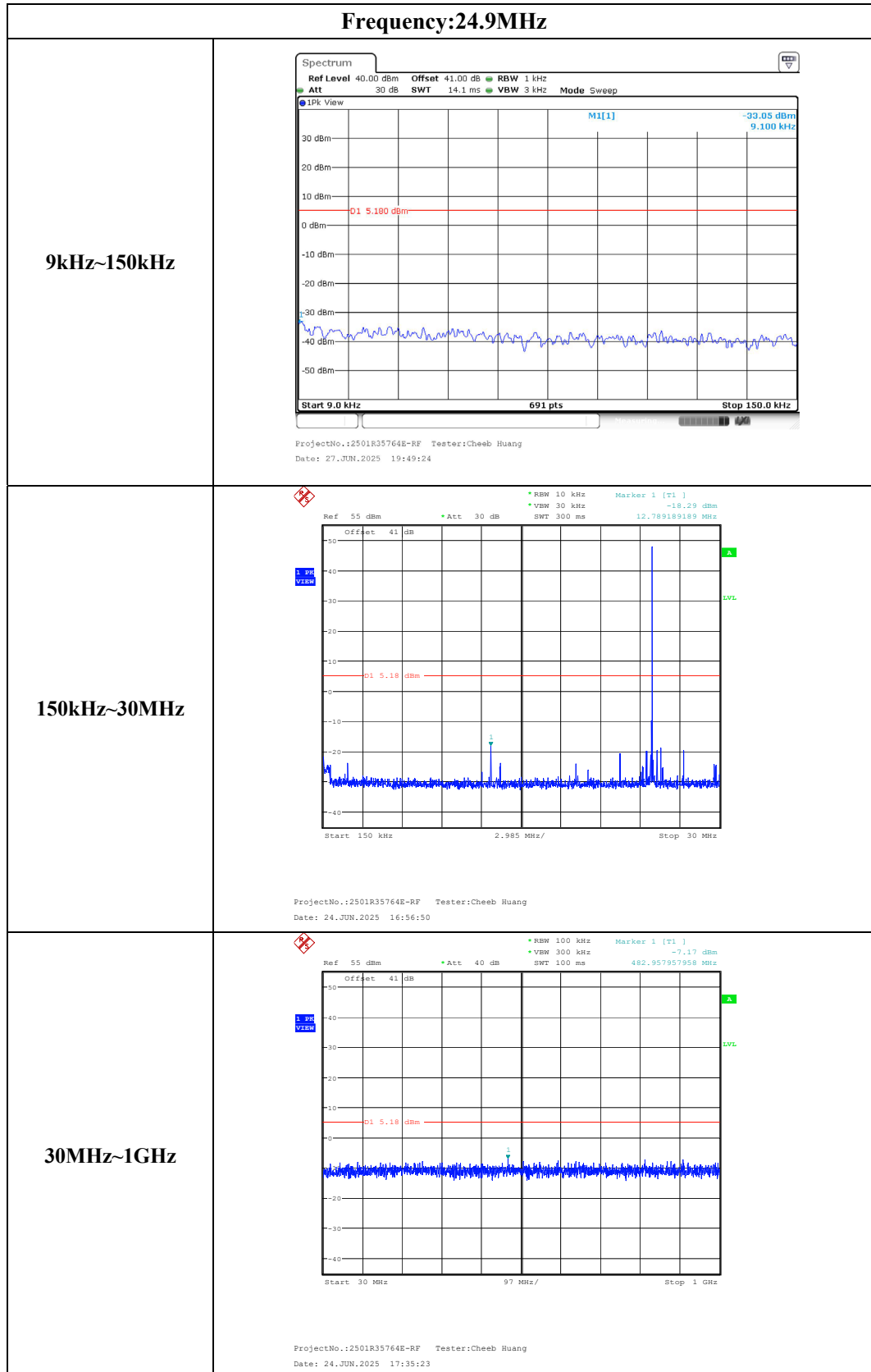
*RBN 100 kHz
 *VHM 300 kHz
 Marker 1 [T1]
 -6.61 dBm
 Ref 55 dBm
 *Att 40 dB
 SWT 100 ms
 299.44444444 MHz

Offset 41 dB
 d1 5.5 dBm
 Start 30 MHz
 97 MHz/
 Stop 1 GHz

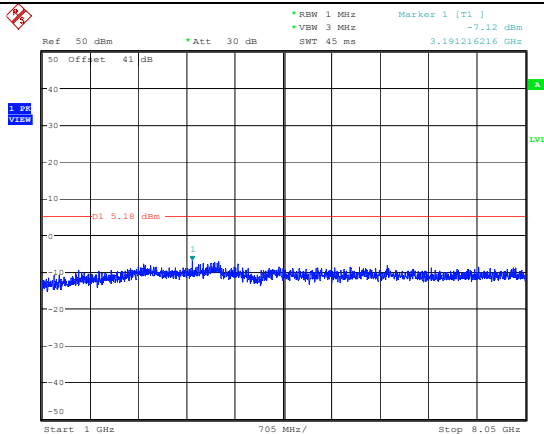
The screenshot shows a Spectrum Analyzer interface with the following details:

- Top Bar:**
 - Left: A red square icon with a white 'X' and a blue square icon with a white 'Y'.
 - Center: A green asterisk icon.
 - Right: A green 'Marker 1 [T1]' label.
- Parameters:**
 - Ref: 50 dBm
 - Att: 30 dB
 - SWT: 45 ms
 - Frequency: 2.573723724 GHz
 - Offset: 41 dB
 - Marker 1 [T1]: -7.73 dBm
 - YBW: 3 MHz
- Grid and Trace:**
 - The grid has a vertical center line and horizontal lines at 10 dB intervals from -50 to 30.
 - A blue trace shows a noisy signal centered around -10 dBm.
 - A red horizontal line is drawn at -10 dBm, labeled '01 5.5 GHz'.
 - A green arrow points to the signal trace at the 5.5 GHz mark.
- Bottom Bar:**
 - Start: 1 GHz
 - Center: 705 MHz/
 - Stop: 8.05 GHz

Version 3.0



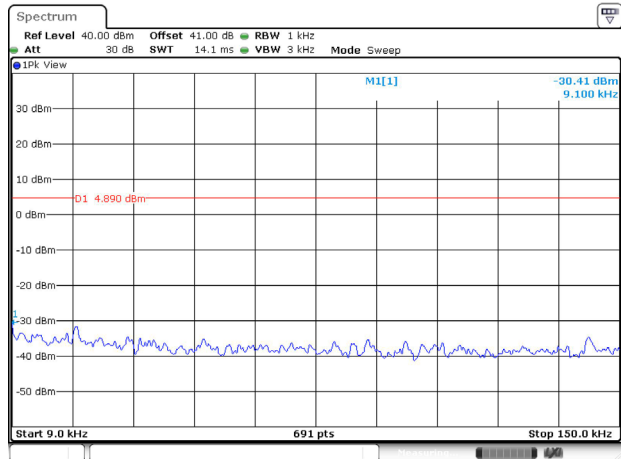
1GHz~8.05GHz



ProjectNo.:2501R35764E-RF Tester:Cheeb Huang
Date: 24.JUN.2025 17:40:41

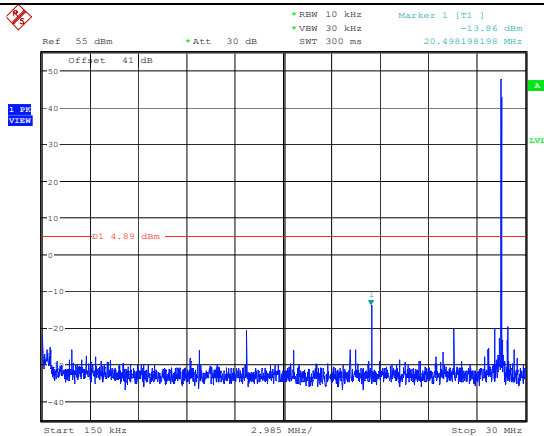
Frequency:28.5MHz

9kHz~150kHz

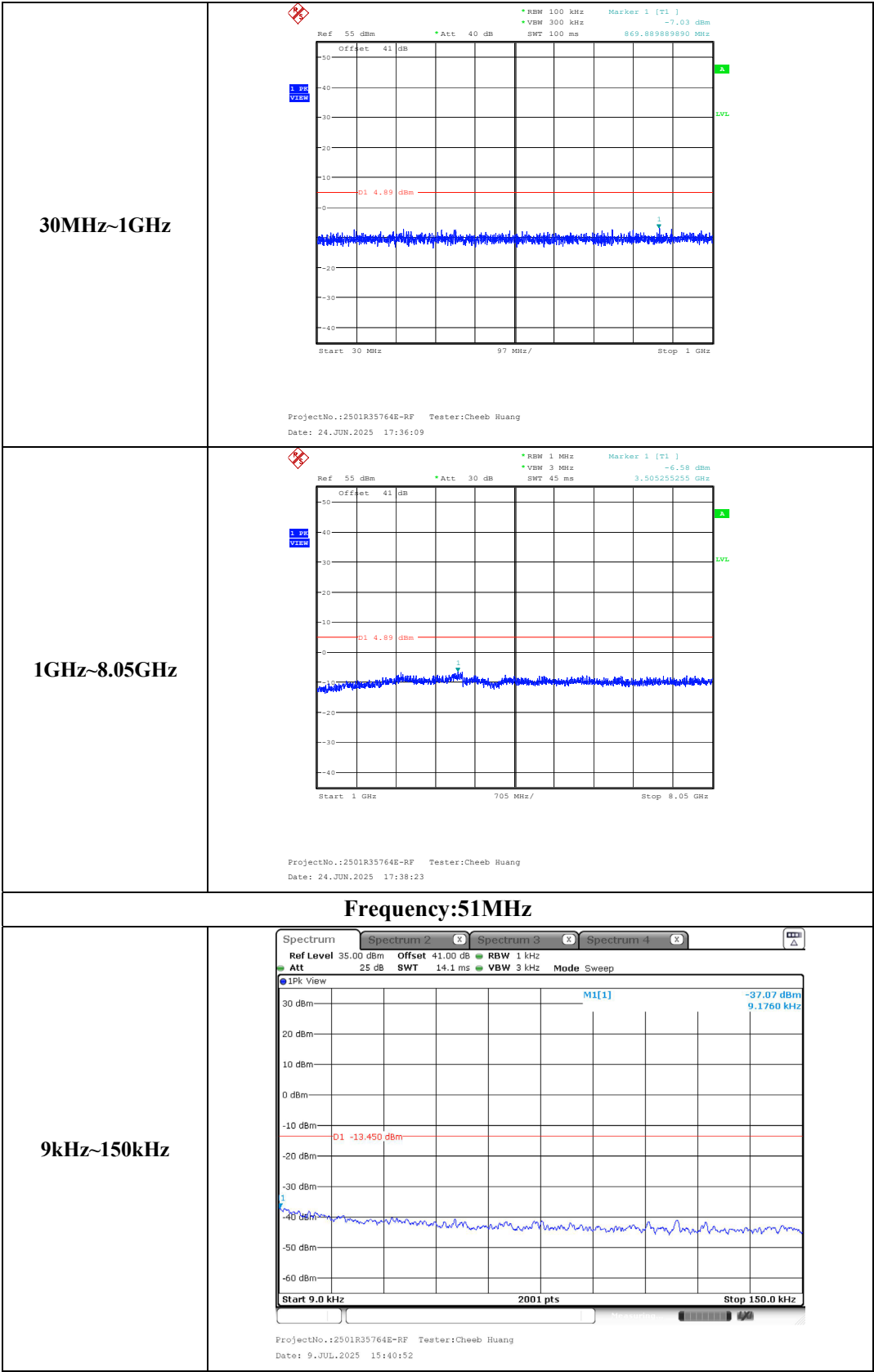


ProjectNo.:2501R35764E-RF Tester:Cheeb Huang
Date: 27.JUN.2025 19:50:19

150kHz~30MHz



ProjectNo.:2501R35764E-RF Tester:Cheeb Huang
Date: 24.JUN.2025 16:58:55



150kHz~30MHz	Spectrum Spectrum 2 Spectrum 3 Spectrum 4 Ref Level 51.00 dBm Offset 41.00 dB RBW 10 kHz Att 25 dB SWT 29.9 ms VBW 30 kHz Mode Sweep 1Pk View M1[1] -20.81 dBm 12.8970 MHz -10 dBm -20 dBm -30 dBm -40 dBm 01 -13.450 dBm M1 Start 150.0 kHz 2001 pts Stop 30.0 MHz ProjectNo.:2501R35764E-RF Tester:Cheeb Huang Date: 9.JUL.2025 15:39:30
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FCC §2.1053 & §97.307(d)(e) - RADIATED SPURIOUS EMISSION**Applicable Standard**

FCC §2.1053 & §97.307(d)(e)

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load, which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to teeth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB = 10 lg (TXpwr in Watts/0.001)-the absolute level

Test Data**Environmental Conditions**

Temperature:	24.7 °C
Relative Humidity:	49 %
ATM Pressure:	100.0 kPa

The testing was performed by Anson Su on 2025-06-10.

Test mode: Transmitting

Worst case as below:

Below 30MHz:

Frequency (MHz)	Reading (dBμV)	Detector	Factor (dB/m)	Corrected Amplitude (dBμV/m@3m)	ERP (dBm)	Limit (dBm)	Margin (dB)
1.8 MHz							
3.60	33.24	Peak	-2.48	30.76	-66.65	5.61	72.26
5.40	33.87	Peak	-2.84	31.03	-66.38	5.61	71.99
7.20	32.97	Peak	-2.96	30.01	-67.4	5.61	73.01
3.55 MHz							
7.10	33.51	Peak	-2.95	30.56	-66.85	5.93	72.78
10.65	33.04	Peak	-2.80	30.24	-67.17	5.93	73.10
14.20	34.14	Peak	-2.66	31.48	-65.93	5.93	71.86
5.357 MHz							
10.714	33.37	Peak	-2.80	30.57	-66.84	6.34	73.18
16.071	34.25	Peak	-2.32	31.93	-65.48	6.34	71.82
21.428	33.82	Peak	-3.10	30.72	-66.69	6.34	73.03
7.05 MHz							
14.10	43.08	Peak	-2.68	40.40	-57.01	6.51	63.52
21.15	34.85	Peak	-3.10	31.75	-65.66	6.51	72.17
28.20	33.73	Peak	-2.89	30.84	-66.57	6.51	73.08
10.1 MHz							
20.2	33.85	Peak	-3.05	30.80	-66.61	6.16	72.77
14.267 MHz							
28.534	33.25	Peak	-2.86	30.39	-67.02	5.75	72.77

Note:

Factor = Antenna factor (RX) + Cable Loss–Amplifier Factor

Corrected Amplitude = Factor + Receiver Reading

ERP=EIRP (dBm)-2.15, EIRP (dBm) = E (dBμV/m) + 20log(D) – 104.8, where D is 3m.

Margin = Limit- ERP

For the radiated spurious emission below 30MHz, only the worst case (Parallel) was recorded.

For 1.8-29.7MHz, Limit = (Power Output -43) dBm

Power Output refer to the “RF Output Power and Gain”.

Above 30MHz:

Frequency (MHz)	Receiver Reading (dBμV)	Polar (H/V)	Substituted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
10.1 MHz								
30.3	34.15	H	-49.2	0.75	0.0	-49.95	6.16	56.11
30.3	34.65	V	-42.8	0.75	0.0	-43.55	6.16	49.71
40.4	32.85	H	-50.5	0.75	0.0	-51.25	6.16	57.41
40.4	33.07	V	-44.3	0.75	0.0	-45.05	6.16	51.21
14.267 MHz								
42.801	33.86	H	-49.5	0.75	0.0	-50.25	5.75	56.00
42.801	34.21	V	-43.2	0.75	0.0	-43.95	5.75	49.70
57.068	33.52	H	-49.9	0.75	0.0	-50.65	5.75	56.40
57.068	34.01	V	-43.4	0.75	0.0	-44.15	5.75	49.90
18.1 MHz								
36.2	54.60	H	-59.8	0.75	0.0	-60.55	5.74	66.29
36.2	60.02	V	-48.4	0.75	0.0	-49.15	5.74	54.89
54.3	34.56	H	-79.8	0.75	0.0	-80.55	5.74	86.29
54.3	35.17	V	-73.2	0.75	0.0	-73.95	5.74	79.69
72.4	33.25	H	-81.1	0.75	0.0	-81.85	5.74	87.59
72.4	34.08	V	-74.3	0.75	0.0	-75.05	5.74	80.79
21 MHz								
42.0	42.56	H	-71.8	0.75	0.0	-72.55	5.50	78.05
42.0	50.02	V	-58.4	0.75	0.0	-59.15	5.50	64.65
63.0	45.65	H	-68.7	0.75	0.0	-69.45	5.50	74.95
63.0	50.47	V	-57.9	0.75	0.0	-58.65	5.50	64.15
84.0	40.03	H	-74.4	0.75	0.0	-75.15	5.50	80.65
84.0	46.85	V	-61.6	0.75	0.0	-62.35	5.50	67.85
24.9 MHz								
49.8	38.56	H	-75.8	0.75	0.0	-76.55	5.18	81.73
49.8	50.26	V	-58.1	0.75	0.0	-58.85	5.18	64.03
74.7	48.75	H	-65.6	0.75	0.0	-66.35	5.18	71.53
74.7	64.25	V	-44.2	0.75	0.0	-44.95	5.18	50.13
99.6	44.25	H	-70.1	0.75	0.0	-70.85	5.18	76.03
99.6	56.14	V	-52.3	0.75	0.0	-53.05	5.18	58.23
28.5 MHz								
57.0	42.56	H	-71.8	0.75	0.0	-72.55	4.89	77.44
57.0	46.36	V	-62.0	0.75	0.0	-62.75	4.89	67.64
85.5	65.52	H	-48.9	0.75	0.0	-49.65	4.89	54.54
85.5	72.63	V	-35.8	0.75	0.0	-36.55	4.89	41.44
114.0	59.61	H	-54.8	0.75	0.0	-55.55	4.89	60.44
114.0	68.87	V	-39.5	0.75	0.0	-40.25	4.89	45.14

Frequency (MHz)	Receiver Reading (dBμV)	Polar (H/V)	Substituted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
51 MHz								
102.0	72.03	H	-42.4	0.75	0.0	-43.15	-13.45	29.70
102.0	75.26	V	-33.1	0.75	0.0	-33.85	-13.45	20.40
153.0	76.85	H	-37.5	0.75	0.0	-38.25	-13.45	24.80
153.0	80.03	V	-28.4	0.75	0.0	-29.15	-13.45	15.70
204.0	68.54	H	-45.9	0.75	0.0	-46.65	-13.45	33.20
204.0	70.25	V	-38.2	0.75	0.0	-38.95	-13.45	25.50

Note:

Absolute Level = Substituted Level - Cable loss + Antenna Gain

Margin = Limit- Absolute Level

For 1.8-29.7MHz, Limit = (Power Output -43) dBm

For 50-54MHz, Limit = (Power Output -60) dBm

Power Output refer to the "RF Output Power and Gain".

EUT PHOTOGRAPHS

Please refer to the attachment 2501R35764E-EM External photo and 2501R35764E-EM Internal photo.

TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2501R35764E-RF Test Setup photo.

******* END OF REPORT *******