

Global United Technology Services Co., Ltd.

Report No.: GTS2024080075F01

TEST REPORT

Applicant:	NAYAX LTD
Address of Applicant:	3 Arik Einstein st. 4659071,Herzliya, Israel
Manufacturer:	NAYAX LTD
Address of	3 Arik Einstein st. 4659071,Herzliya, Israel
Manufacturer:	
Equipment Under Test (E	EUT)
Product Name:	UNO-Mini
Model No.:	UNO-Mini
FCC ID:	2AK6L-UNOMINI
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.225
Date of sample receipt:	August 07, 2024
Date of Test:	August 08-20, 2024
Date of report issued:	August 21, 2024
Test Result :	PASS

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Laboratory Manager



This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.





2 Version

Version No.	Date	Description
00	August 21, 2024	Original

Prepared By:

brantly

Date:

Date:

August 21, 2024

Project Engineer

oppinsong lund

Reviewer

August 21, 2024

Check By:





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4 Test Summary

Test Item	Section in CFR 47	Result
Antenna Requirement	15.203	Pass
AC Power Line Conducted Emission	15.207	Pass
Field Strength of Fundamental Emissions and Mask Measurement	15.225(a)(b)(c)	Pass
Radiated Emission	15.225(d)&15.209	Pass
20dB Emission Bandwidth	15.225&15.215	Pass
Frequency Stability Measurement	15.225(e)	Pass

Remark:

1. Pass: The EUT complies with the essential requirements in the standard.

4.1 Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	30MHz-200MHz	3.8039dB	(1)
Radiated Emission	200MHz-1GHz	3.9679dB	(1)
Radiated Emission	1GHz-18GHz	4.29dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	3.44dB	(1)
Note (1): The measurement unce	ertainty is for coverage factor of k	=2 and a level of confidence of 9	95%.





General Information 5

5.1 General Description of EUT

Product Name:	UNO-Mini
Model No.:	UNO-Mini
S/N:	4207001624123456
Test sample(s) ID:	GTS2024080075-1
Sample(s) Status	Engineered sample
Operation Frequency:	13.56MHz
Channel Number:	1
Modulation:	ASK
Antenna type:	PCB Antenna
Antenna gain:	0dBi(Declared by applicant)
Power supply:	DC 12V

Remark:

 Antenna gain information provided by the customer
 The relevant information of the sample is provided by the entrusting company, and the laboratory is not responsible for its authenticity.





5.2 Test mode

Transmitter mode Keep the EUT in continuously transmitting.							
Pre-test mode.							
GTS has verified the construction and function in typical operation, The EUT was placed on three different polar directions; i.e. X axis, Y axis, Z axis. which was shown in this test report and defined as follows:							
Axis	Х	Y	Z				
Field Strength(dBuV/m)	51.85	52.03	52.0				
Final Test Mode:							
According to ANSI C63.4 sta	andards, the test results are	both the "worst case" and "w	vorst setup": Y axis				
(see the test setup photo)							
5.3 Test Facility							
FCC —Registration Designation Number: Global United Technol described in a report from the FCC is main ISED —Registration CAB identifier: CN00 The 3m Semi-anechor Certification and Eng NVLAP (LAB COD	on No.: 381383 CN5029 blogy Services Co., Ltd., Sh filed with the (FCC) Federal tained in files. On No.: 9079A 91 bic chamber of Global United ineering Bureau of ISED for E:600179-0) blogy Services Co., Ltd., is a	lited by the following organiza enzhen EMC Laboratory has I Communications Commission d Technology Services Co., L radio equipment testing.	been registered and fully on. The acceptance letter .td. has been registered by				

5.4 Test Location

	All tests were performed at:
	Global United Technology Services Co., Ltd. Address: No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102 Tel: 0755-27798480 Fax: 0755-27798960
1. 1. 1. 1.	

5.5 Description of Support Units

Manufacturer Description		Model	Serial Number	
Lenovo	Notebook PC	E40-80	N/A	
MEAN WELL	Adaptor	GST25E12	N/A	
YISHE	YISHE KEYBOARD		N/A	
YISHE	YISHE MOUSE		N/A	
Canon Printer		IP1600	GTS222	





6 Test Instruments list

Radia	Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)	
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	June 22, 2024	June 21, 2027	
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A	
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	April 11, 2024	April 10, 2025	
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	GTS640	March 19, 2023	March 18, 2025	
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	April 17, 2023	April 16, 2025	
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A	
7	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	April 11, 2024	April 10, 2025	
8	Loop Antenna	ZHINAN	ZN30900A	GTS534	Nov. 13, 2023	Nov.12, 2024	
9	Broadband Preamplifier	SCHWARZBECK	BBV9718	GTS535	April 11, 2024	April 10, 2025	
10	Amplifier(1GHz-26.5GHz)	HP	8449B	GTS601	April 11, 2024	April 10, 2025	
11	Horn Antenna (18- 26.5GHz)	1	UG-598A/U	GTS664	Oct. 29, 2023	Oct. 28, 2024	
12	Horn Antenna (26.5-40GHz)	A.H Systems	SAS-573	GTS665	Oct. 29, 2023	Oct. 28, 2024	
13	FSV-Signal Analyzer (10Hz-40GHz)	Keysight	FSV-40-N	GTS666	March 12, 2024	March 11, 2025	
14	Amplifier	/	LNA-1000-30S	GTS650	April 11, 2024	April 10, 2025	
15	CDNE M2+M3-16A	НСТ	30MHz-300MHz	GTS692	Nov. 08, 2023	Nov.07, 2024	
16	Wideband Amplifier	1	WDA-01004000-15P35	GTS602	April 11, 2024	April 10, 2025	
17	Thermo meter	JINCHUANG	GSP-8A	GTS643	April 18, 2024	April 17, 2025	
18	RE cable 1	GTS	N/A	GTS675	July 02. 2024	July 01. 2025	
19	RE cable 2	GTS	N/A	GTS676	July 02. 2024	July 01. 2025	
20	RE cable 3	GTS	N/A	GTS677	July 02. 2024	July 01. 2025	
21	RE cable 4	GTS	N/A	GTS678	July 02. 2024	July 01. 2025	
22	RE cable 5	GTS	N/A	GTS679	July 02. 2024	July 01. 2025	
23	RE cable 6	GTS	N/A	GTS680	July 02. 2024	July 01. 2025	
24	RE cable 7	GTS	N/A	GTS681	July 05. 2024	July 04. 2025	
25	RE cable 8	GTS	N/A	GTS682	July 05. 2024	July 04. 2025	



Cond	Conducted Emission							
Item	Test Equipment	Manufacturer Model No. Inventor No.		Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)		
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	July 12, 2022	July 11, 2027		
2	EMI Test Receiver	R&S	ESCI 7	GTS552	April 11, 2024	April 10, 2025		
3	LISN	ROHDE & SCHWARZ	ENV216	GTS226	April 11, 2024	April 10, 2025		
4	Coaxial Cable	GTS	N/A GTS227		N/A	N/A		
5	EMI Test Software	EMI Test Software AUDIX		N/A	N/A	N/A		
6	Thermo meter	JINCHUANG	GSP-8A	GTS642	April 18, 2024	April 17, 2025		
7 Absorbing clamp		Elektronik- Feinmechanik	MDS21	GTS229	April 11, 2024	April 10, 2025		
8	ISN	SCHWARZBECK	NTFM 8158	GTS565	April 11, 2024	April 10, 2025		
9	High voltage probe	SCHWARZBECK	TK9420	GTS537	April 11, 2024	April 10, 2025		
10	Antenna end assembly	Weinschel	1870A	GTS560	April 11, 2024	April 10, 2025		

RF Co	RF Conducted Test:							
Item	Item Test Equipment Manufact		Model No.	Serial No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)		
1	MXA Signal Analyzer	Agilent	N9020A	GTS566	April 11, 2024	April 10, 2025		
2	EMI Test Receiver	R&S	ESCI 7	GTS552	April 11, 2024	April 10, 2025		
3	PSA Series Spectrum Analyzer	Agilent	E4440A	GTS536	April 11, 2024	April 10, 2025		
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	April 11, 2024	April 10, 2025		
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	April 11, 2024	April 10, 2025		
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	April 11, 2024	April 10, 2025		
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	April 11, 2024	April 10, 2025		
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	April 11, 2024	April 10, 2025		
9	Thermo meter	JINCHUANG	GSP-8A	GTS641	April 18, 2024	April 17, 2025		

Gen	General used equipment:							
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)		
1	Barometer	KUMAO	SF132	GTS647	April 18, 2024	April 17, 2025		





7 Test results and Measurement Data

7.1 Antenna requirement:

15.203 requirement:						
An intentional radiator shall h						
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.						
EUT Antenna:						

The antenna is PCB antenna, reference to the appendix II for details





7.2 Conducted Emissions

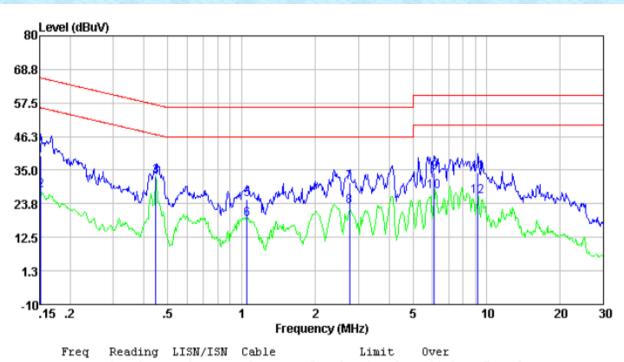
Test Requirement:	FCC Part15 C Section 15.207			
Test Method:	ANSI C63.10:2013			
Test Frequency Range:	150KHz to 30MHz			
Receiver setup:	RBW=9KHz, VBW=30KHz, S	weep time=auto		
Limit:	Frequency range (MHz)	Limit (dBuV)	
		Quasi-peak	Average	
	0.15-0.5	66 to 56*	56 to 46*	
	0.5-5	46		
	5-30	60	50	
	* Decreases with the logarithm	n of the frequency.		
Test setup:	Reference Plane	9		
	 40cm 40cm 40cm 40cm 40cm 40cm 40cm 40cm			
Test procedure:				
Test Instruments:	Refer to section 6.0 for details	6	and the second second	
Test mode:	Refer to section 5.2 for details	6		
Test environment:	Temp.: 25 °C Hun	nid.: 52%	Press.: 1012mbar	
Test voltage:	AC 240V, 60Hz			
Test results:	Pass		2.02.22.22.22.22	
a second s				





Measurement data:

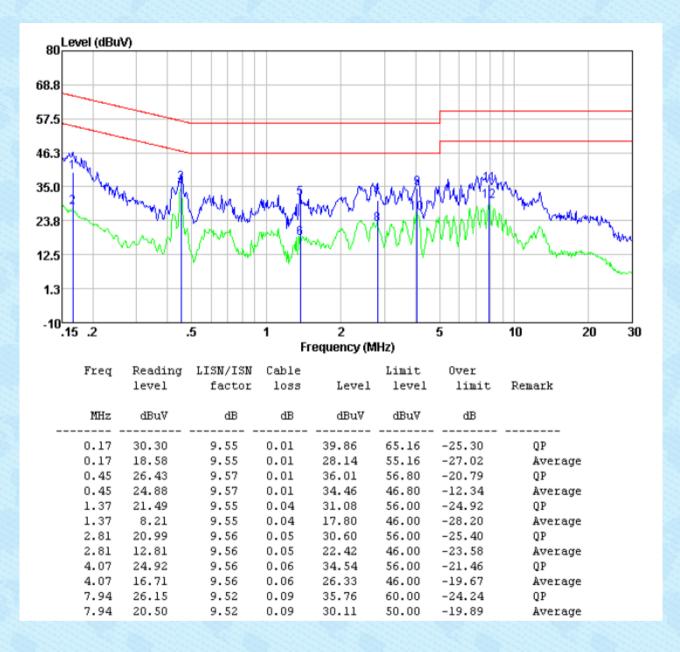
Line:



	level	factor	loss	Level	level	limit	Remark
MHz	dBuV	dB	dB	dBuV	dBuV	dB	
0.15	30.18	9.56	0.01	39.75	65.91	-26.16	QP
0.15	18.48	9.56	0.01	28.05	55.91	-27.86	Average
0.45	23.40	9.49	0.01	32.90	56.93	-24.03	QP
0.45	22.86	9.49	0.01	32.36	46.93	-14.57	Average
1.05	15.75	9.50	0.03	25.28	56.00	-30.72	QP
1.05	9.13	9.50	0.03	18.66	46.00	-27.34	Average
2.76	21.21	9.55	0.05	30.81	56.00	-25.19	QP
2.76	13.40	9.55	0.05	23.00	46.00	-23.00	Average
6.12	24.79	9.38	0.08	34.25	60.00	-25.75	QP
6.12	18.42	9.38	0.08	27.88	50.00	-22.12	Average
9.20	24.75	9.31	0.10	34.16	60.00	-25.84	QP
9.20	16.81	9.31	0.10	26.22	50.00	-23.78	Average



Neutral:



Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.

2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission. Final Level =Receiver Read level + LISN Factor + Cable Loss



7.3 Field Strength of Fundamental Emissions and Mask Measurement

Test Requirement:	FCC Part15 C Section 15.225(a)(b)(c)					
Test Method:	ANSI C63.10:2013 & AN	ISI C63.4: 2014				
Test site:	Measurement Distance:	3m				
Receiver setup:	RBW=9KHz, VBW=30KH	RBW=9KHz, VBW=30KHz, Sweep time=Auto				
limit:	FCC Part 15.225 & 15.209					
	Frequencies(MHz)	Frequencies(MHz) Limit at 30m(dBuV/m) Limit at 3m(dBuV/m				
	13.110-13.41040.5080.5013.410-13.55350.5090.50					
	13.553-13.567	84.00	124.00			
	13.567-13.710	50.50	90.50			
	13.710-14.010	40.50	80.50			
Test setup:						
	< S0cm >+ < S0cm >+ < Receivery Receivery					
Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for c	letails				
Test results:	Pass					

Measurement data:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Remark
13.56	30.95	20.57	0.51	52.03	124.00	-71.97	PK





7.4 Radiated Emission

7.4 Raulaleu Ellission		and the second second		3. 3. 1. S. 3. 3.		
Test Requirement:	FCC Part15 C Section 15.225(d) and 15.209					
Test Method:	ANSI C63.10: 2013 & ANSI C63.4: 2014					
Test Frequency Range:	9KHz to 1000M	Hz				
Test site:	Measurement Distance: 3m					
Receiver setup:	Frequency	Detector	RBW	VBW	Remark	
	9kHz-150kHz	9kHz-150kHz Quasi-peak 200Hz			Quasi-peak Value	
	150kHz-30MHz	z Quasi-peak	9kHz	10kHz	Quasi-peak Value	
	30MHz-1GHz	30MHz-1GHz Quasi-peak 120KHz			Quasi-peak Value	
FCC Limit:	Frequency (MHz)Field strength (microvolts/meter)Measurement distance (meters)0.009-0.4902400/F(kHz)3000.490-1.70524000/F(kHz)301.705-30.0303030-88100**388-216150**3216-960200**3Above 9605003The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.					
Test setup:	Below 30MHz					
	< 80cm >	< 3m >	<pre></pre>	mplifier		
Test Instruments:	Refer to section	6.0 for details				





Test mode:	Refer to section 5.2 for details					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar
Test voltage:	AC 120V					
Test results:	Pass					

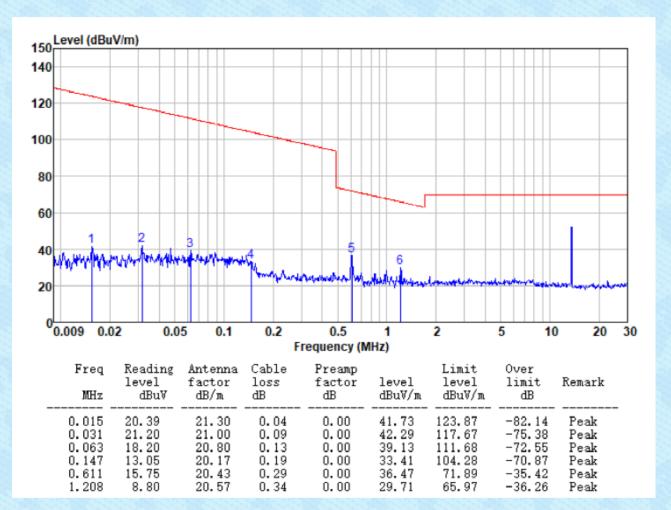




Measurement data:

■ 9kHz~30MHz

the radiation emission more than 20dB below the limit.

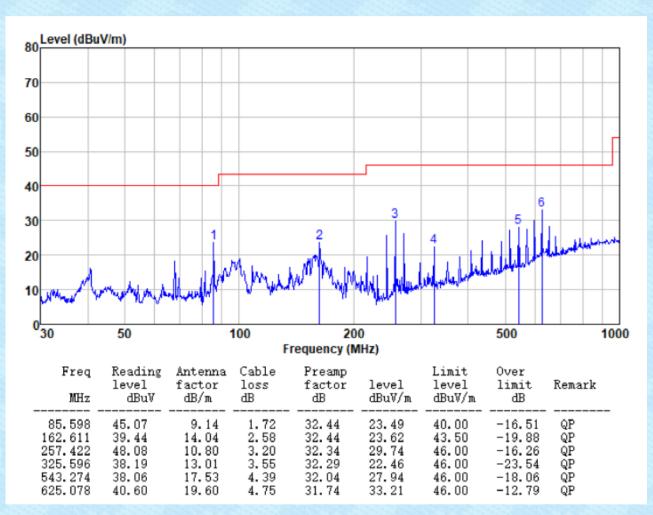






■ 30MHz~1GHz

Horizontal:

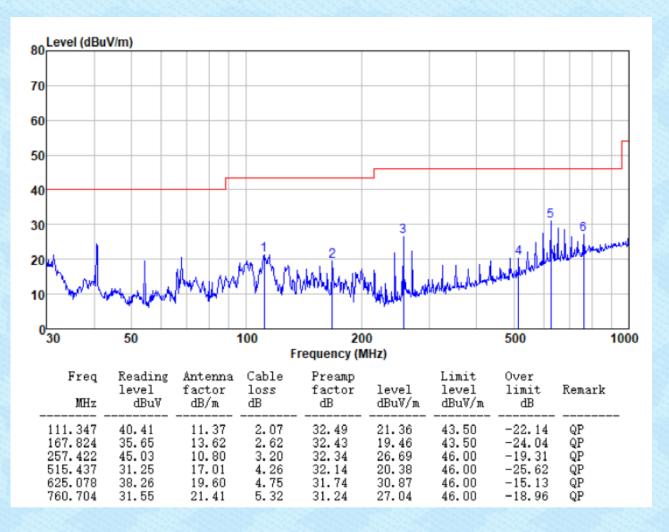




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Vertical:



Remarks:

1. Final Level =Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor





7.5 Channel Bandwidth

Test Requirement:	FCC Part15 C Section 15.225 and 15.215		
Test Method:	ANSI C63.10:2013		
Limit:	N/A		
Test Procedure:	 According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT. Set the EUT to proper test channel. Max hold the radiated emissions, mark the peak power frequency point and the -20dB upper and lower frequency points. Read 20dB bandwidth & 99%bandwidth. 		
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane		
Test Instruments:	Refer to section 6.0 for details		
Test mode:	Refer to section 5.2 for details		
Test results:	Pass		

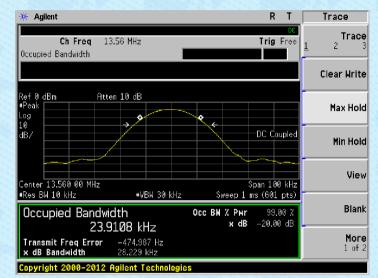




Measurement Data

Test frequency (MHz)	20dB bandwidth(KHz)	Result
13.56	28.229	Pass

Test plot as follows:







Test Requirement:	FCC Part15 C Section 15.225 (e)				
Test Method:	ANSI C63.10: 2013				
Receiver setup:	RBW=1KHz, VBW=1KHz, Sweep time=Auto				
Limit:	The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency				
	over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage,				
	for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.				
	For battery operated equipment, the equipment tests shall be perform using a new battery.				
Test setup:	Spectrum Analyzer				
Test Instruments:	Refer to section 6.0 for details				
Test mode:	Refer to section 5.2 for details				
Test results:	Pass				

7.6 Frequency Stability Measurement





Measurement data:

Reference Frequency: 13.56MHz							
	Temperature (℃)	Frequency error		Limit	Desult		
Power supplied (Vac)		Hz	%	Linnit	Result		
	-20	90	0.0003				
	-10	81	0.0003	+/- 0.01%	Pass		
	0	80	0.0005				
100	10	58	0.0005				
120	20	48	0.0004				
	30	55	0.0005				
	40	45	0.0002				
	50	79	0.0005				

Reference Frequency: 13.56MHz					
Temperature (℃)	Power supplied (Vac)	Frequency error		Limit	Result
		Hz	Ppm	Linin	Result
20	90	183	0.0011	+/- 0.01%	Pass
	110	120	0.0007		





8 Test Setup Photo

Reference to the **appendix I** for details.

9 EUT Constructional Details

Reference to the appendix II for details.

----- End -----