Prüfbericht-Nr.: *Test report no.*:	**CN23F1Q4 001**	**Auftrags-Nr.:** *Order no.*:	**168438536**	Seite 1 von 33 *Page 1 of 33*
Kunden-Referenz-Nr.: *Client reference no.*:	N/A	**Auftragsdatum:** *Order date:*	2023-08-08	
Auftraggeber: *Client*:	**Fujian Newland Auto-ID Tech. Co., Ltd.** Newland Science & Technology Park, No.1 Rujiang West Rd, Mawei, Fuzhou, P.R.China			
Prüfgegenstand: *Test item*:	Fixed Mount Barcode Scanner			
Bezeichnung / Typ-Nr.: *Identification / Type no.*:	NLS-FM32, NLS-FM3280, NLS-FM3270, NLS-FM25, NLS-FM3281			
Auftrags-Inhalt: *Order content*:	Test Report			
Prüfgrundlage: *Test specification*:	FCC 47 CFR Part 15.225			
Wareneingangsdatum: *Date of sample receipt*:	2023-10-09	Please refer to Photo Document		
Prüfmuster-Nr.: *Test sample no:*	A003560811 001			
Prüfzeitraum: *Testing period*:	2023-10-10 - 2023-10-31			
Ort der Prüfung: *Place of testing*:	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: *Test result**:	Pass			

geprüft von:
tested by:

x Bell Hu

Signed by: Bell Hu

Datum:
Date: 2023-12-27

Stellung / Position: Sachverständige(r)/Expert

genehmigt von:
authorized by:

X Jonathan Li

Signed by: Jonathan Li

Ausstellungsdatum:
Issue date: 2023-12-27

Stellung / Position: Sachverständige(r)/Expert

Sonstiges / *Other*: FCC ID: SL9NLS-FM32

Zustand des Prüfgegenstandes bei Anlieferung: *Condition of the test item at delivery*: Prüfmuster vollständig und unbeschädigt *Test item complete and undamaged*

* Legende:	P(ass) = entspricht o.g. Prüfgrundlage(n)	F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
* *Legend:*	*P(ass) = passed a.m. test specification(s)*	*F(ail) = failed a.m. test specification(s)*	*N/A = not applicable*	*N/T = not tested*

Anmerkungen
Remarks

1	Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben. Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden. *The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system.* *Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.*
2	Wie vertraglich vereinbart, wurde dieses Dokument nur digital unterzeichnet. Der TÜV Rheinland hat nicht überprüft, welche rechtlichen oder sonstigen diesbezüglichen Anforderungen für dieses Dokument gelten. Diese Überprüfung liegt in der Verantwortung des Benutzers dieses Dokuments. Auf Verlangen des Kunden kann der TÜV Rheinland die Gültigkeit der digitalen Signatur durch ein gesondertes Dokument bestätigen. Diese Anfrage ist an unseren Vertrieb zu richten. Eine Umweltgebühr für einen solchen zusätzlichen Service wird erhoben. *As contractually agreed, this document has been signed digitally only. TUV Rheinland has not verified and unable to verify which legal or other pertaining requirements are applicable for this document. Such verification is within the responsibility of the user of this document. Upon request by its client, TUV Rheinland can confirm the validity of the digital signature by a separate document. Such request shall be addressed to our Sales department. An environmental fee for such additional service will be charged.*
3	Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt. *Test clauses with remark of * are subcontracted to qualified subcontractors and descripted under the respective test clause in the report.* *Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.*
4	Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnisen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2021, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezueglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019. The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the “Zero Guard Band Rule” and “Simple Acceptance” in accordance with ILAC G8:2019 and IEC Guide 115:2021, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.

Test Summary

5.1.1 ANTENNA REQUIREMENT
RESULT: Pass

5.1.2 20DB BANDWIDTH & 99% BANDWIDTH
RESULT: Pass

5.1.3 FREQUENCY STABILITY
RESULT: Pass

5.1.4 RADIATED SPURIOUS EMISSION (IN-BAND & OUT-BAND EMISSIONS)
RESULT: Pass

5.1.5 CONDUCTED EMISSIONS ON AC MAINS
RESULT: Pass

Contents

1 General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Photographs of the Test Set-up

Appendix B: Test Results.

2 Test Sites

2.1 Test Facilities

TÜV Rheinland (Shenzhen) Co., Ltd.
No. 362 Huanguan Road Middle, Longhua District, Shenzhen 518110, People's Republic of China

FCC Accreditation Designation No.: CN1260
ISED Wireless Device Testing Laboratory: 25069

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Unwanted Emission Testing (TS9975)				
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
EMI Test Receiver	R&S	ESR 7	102021	25.07.2024
Signal Analyzer	R&S	FSV 40	101439	25.07.2024
System Controller Interface	R&S	SCI-100	S10010038	N/A
Filterbank	R&S	Wlan	100759	25.07.2024
OSP	R&S	OSP 120	102040	N/A
Pre-amplifier	R&S	SCU08F1	08320031	25.07.2024
Amplifier	R&S	SCU-18F	180070	25.07.2024
Amplifier	R&S	SCU40A	100475	25.07.2024
Trilog Broadband Antenna (30 MHz - 7 GHz)	Schwarzbeck	VULB 9162	193	06.08.2024
Double-Ridged Antenna (1 -18 GHz)	ETS-LINDGREN	3117	00218717	06.08.2024
Wideband Ridged Horn Antenna (18-40 GHz)	Steatite	QMS-00880	19067	27.08.2024
Active Loop Antenna	Schwarzbeck	FMZB 1513	302	06.08.2024
Test software	R&S	EMC32 (V10.60.10)	N/A	N/A
Control PC	Dell	OptiPlex 7050	36NV9P2	N/A
3m Semi-Anechoic Chamber	Albatross	SAC-3m	APC17151-SAC	22.06.2024
Conducted Emissions				
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
EMI Test Receiver	R&S	ESR3	102428	2024-09-13
Artificial Mains Network	R&S	ENV216	102333	2024-07-31
EMC32 test software	R&S	EMC32(Ver.10.50.00)	N/A	N/A

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basics using in house standards or comparisons.

2.5 Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	±1 x 10-7
Conducted Emission, (9kHz to 150kHz)/(150kHz to 30MHz)	± 3.70 dB / ± 3.30 dB
Radiated Emission (3m SAC), 30MHz to 1000MHz	± 4.52 NLS-FM32dB
Radiated Emission (3m SAC), above 1000MHz	± 4.37 dB
All emissions, radiated	± 4.17 dB

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A & B of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) Co., Ltd. file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd. Test facility located at No. 362 Huanguan Road Middle, Longhua District, Shenzhen 518110, People's Republic of China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3 General Product Information

3.1 Product Function and Intended Use

The Product is Fixed Mount Barcode Scanner with NFC technology.

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment	Fixed Mount Barcode Scanner
Type Designation	NLS-FM32, NLS-FM3280, NLS-FM3270, NLS-FM25, NLS-FM3281(All models are identical except for different type designation.)
FCC ID	SL9NLS-FM32
Operating Temperature Range	0 °C ~ +40 °C
Operating Voltage	5V DC Via PC USB port
Testing Voltage	5V DC Via PC USB port
Technical Specification of RFID	
Operating Frequency	13.56 MHz
Type of Modulation	ASK
Channel Number	1 channel
Antenna Type	Integral Antenna

3.3 Independent Operation Modes

The basic operation modes are:

A. On, RFID transmitting mode

B. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- Application Form
- User Manual

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All tests were performed according to the procedures in ANSI C63.10: 2013.

According to clause 3.1, all tests were performed on model NLS-FM32 in this report.

4.3 Special Accessories and Auxiliary Equipment

Table 3: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	Remark
Portable Laptop	Lenovo	ThinkPad T480	SN:10Q67059
Signal cable	Newland	/	1.8 meters

4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

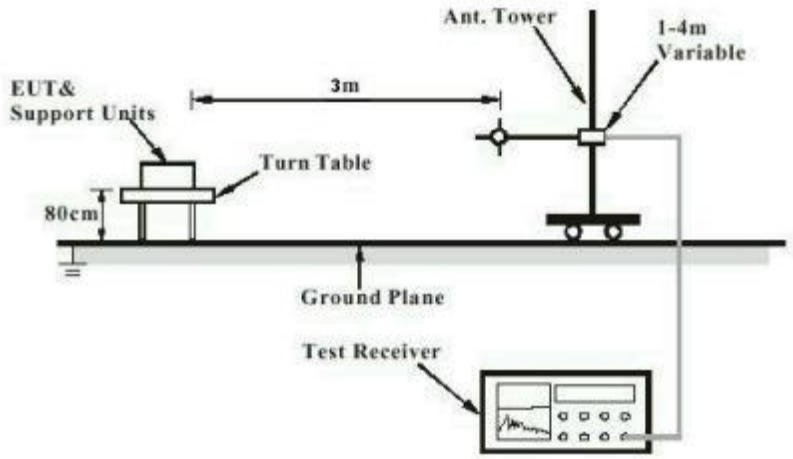


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

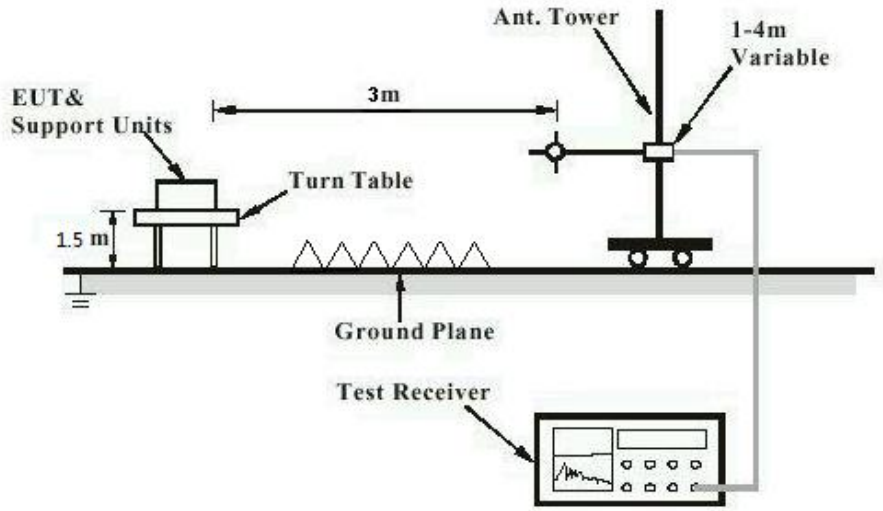


Diagram of Measurement Configuration for Conducted Transmitter Measurement

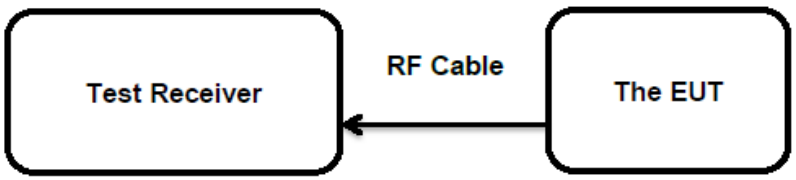
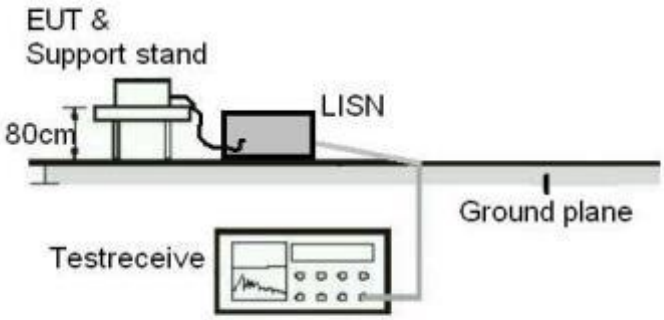


Diagram of Measurement Equipment Configuration for Mains Conduction Measurement



5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT: **Pass**

Test Specification
Test standard : FCC Part 15.203

The EUT has an Integral Antenna, the directional gain of antenna of RFID is 0 dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement.

Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

5.1.2 20dB Bandwidth & 99% Bandwidth

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.215 (c)
Basic standard	:	ANSI C63.10: 2013
Limits	:	N/A
Kind of test site	:	Shielded Room

Test Setup

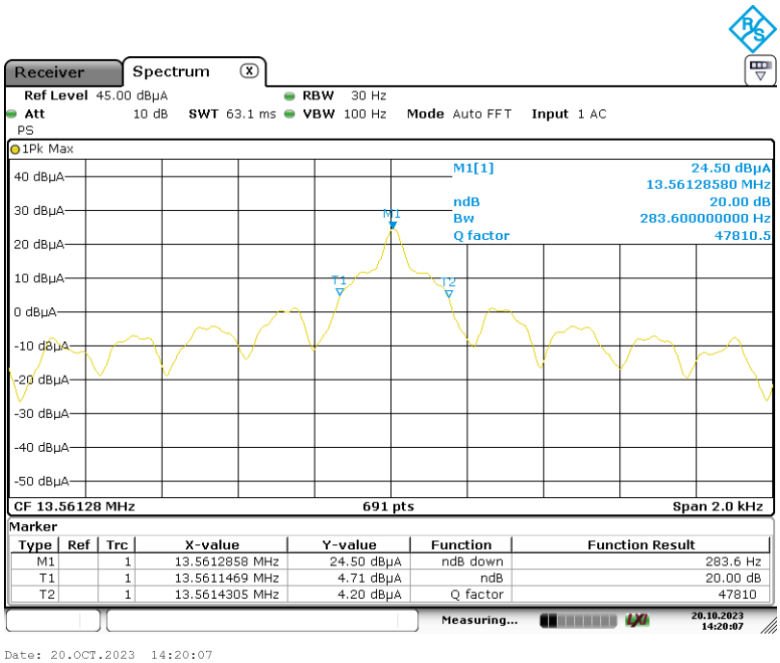
Date of testing	:	2023-10-20
Input voltage	:	DC 5V
Operation mode	:	A
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

For details refer to following test result.

Table 4: Test Result of 20dB Bandwidth

Test Frequency (MHz)	20dB Bandwidth (KHz)	Limit (MHz)	Result
13.56	0.284	13.553-13.567	Pass

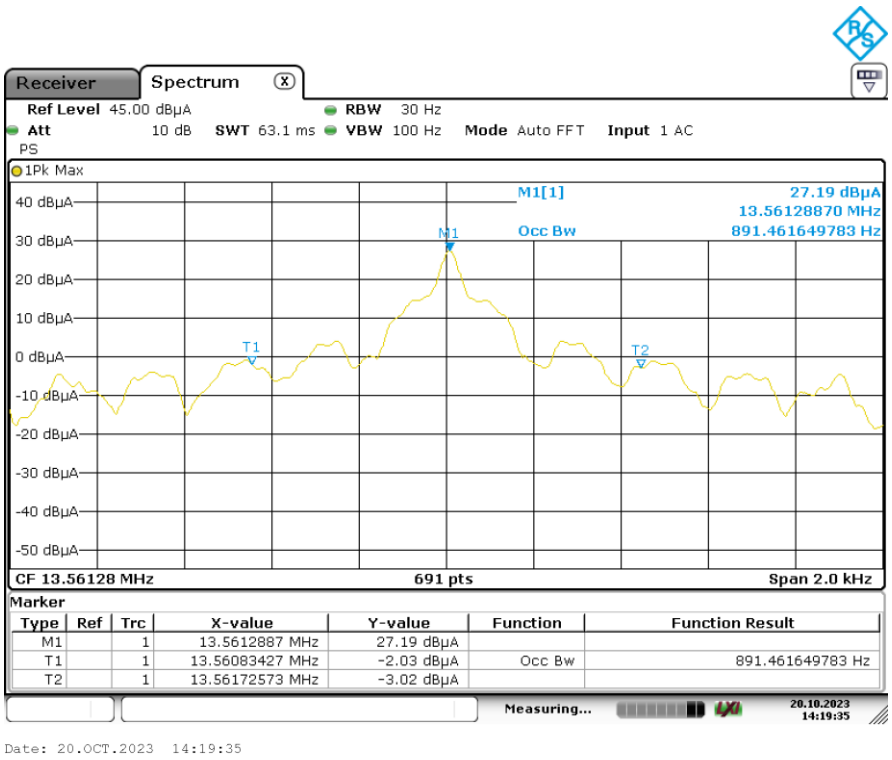
20dB bandwidth



99% bandwidth

Table 5: Test Result of 99% Bandwidth

Test Frequency (MHz)	99% Bandwidth (KHz)	Limit (MHz)	Result
13.56	0.891	13.553-13.567	Pass



Date: 20.OCT.2023 14:19:35

5.1.3 Frequency Stability

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.225 (e)
Basic standard	:	ANSI C63.10: 2013
Limits	:	±0.01% of Operating Frequency (1.356 KHz)
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2023-10-21
Input voltage	:	DC 5V
Operation mode	:	A
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

For details refer to following test result.

Table 6: Test Result of Frequency Tolerance

Test Frequency (MHz)	Test Conditions		Test Results (KHz)	Deviation (KHz)	Limit (KHz)	Result
	Temp(°C)	Volt(V DC)				
13.56	-20	5	13560.125	0.125	±0.01% (1.356 KHz)	Pass
	-10	5	13560.108	0.108		Pass
	0	5	13559.873	0.127		Pass
	10	5	13559.775	0.225		Pass
	20	5	13559.840	0.160		Pass
	30	5	13559.746	0.254		Pass
	40	5	13559.845	0.155		Pass
	50	5	13559.973	0.027		Pass
	20	4.25	13559.901	0.099		Pass
		5.75	13559.947	0.053		Pass
Note: Deviation (kHz) = (Test Result-13.56MHz)*1000						

5.1.4 Radiated Spurious Emission (In-Band & Out-Band Emissions)

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.225 (a)(b)(c)(d)
		FCC Part 15.209 & 15.205
Basic standard	:	ANSI C63.10: 2013
Limits	:	Refer to FCC Part 15.209(a)
Kind of test site	:	3m Semi-anechoic Chamber

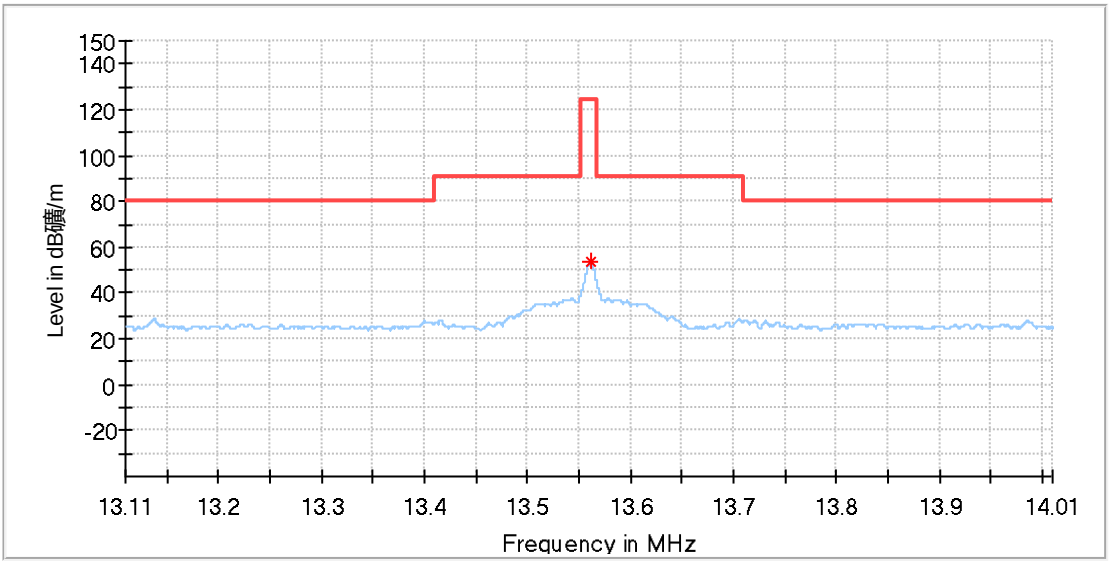
Test Setup

Date of testing	:	2023-10-21
Input voltage	:	DC 5V
Operation mode	:	A
Ambient temperature	:	22 ℃
Relative humidity	:	52 %
Atmospheric pressure	:	101 kPa

Operation within the band 13.110-14.010 MHz

EUT Information

EUT Name:	Fixed Mount Barcode Scanner
Model:	NLS-FM32
Test Mode:	NFC
Order No/Sample No:	168438536/A003560811-001
Test Voltage::	DC 5V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
13.561191	53.47	124.00	70.53	100.0	X	309.0	20.0

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
---	---	---	---	---		---	---	

EUT Information

EUT Name:	Fixed Mount Barcode Scanner
Model:	NLS-FM32
Test Mode:	NFC
Order No/Sample No:	168438536/A003560811-001
Test Voltage::	DC 5V
Remark:	Temp 23 Humi:56%
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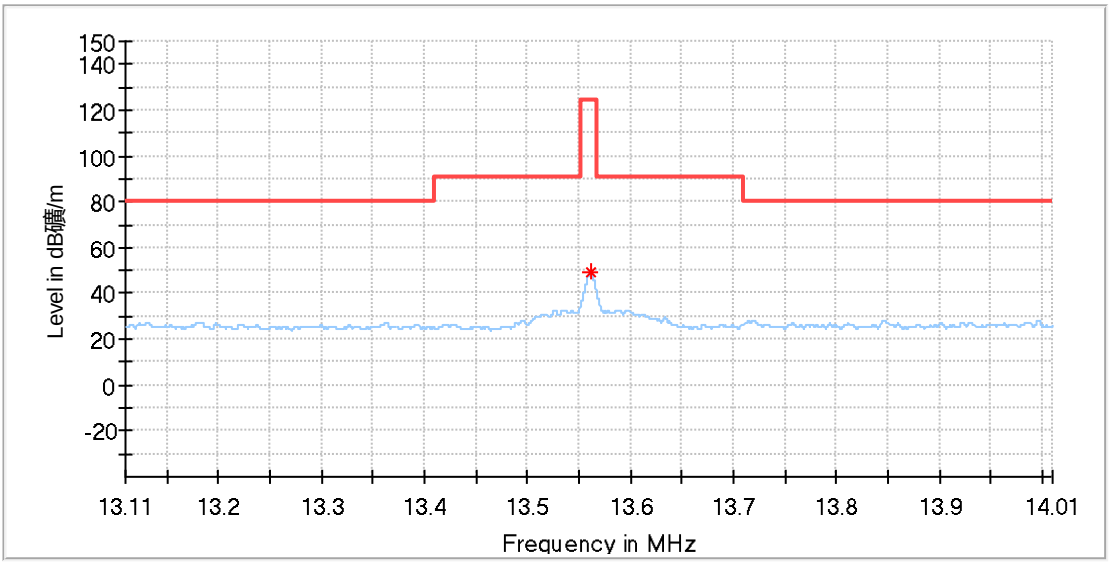


Critical_Freqs

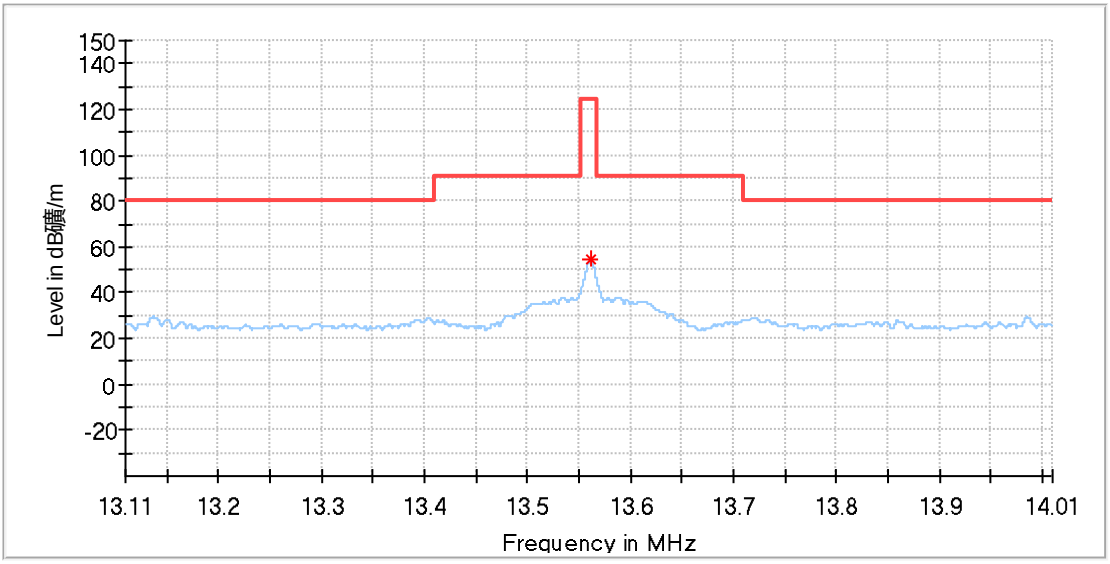
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
13.561324	49.27	124.00	74.73	100.0	Y	216.0	20.0

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
---	---	---	---	---		---	---	

EUT Information

EUT Name:	Fixed Mount Barcode Scanner
Model:	NLS-FM32
Test Mode:	NFC
Order No/Sample No:	168438536/A003560811-001
Test Voltage::	DC 5V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
13.561324	54.37	124.00	69.63	100.0	Z	329.0	20.0

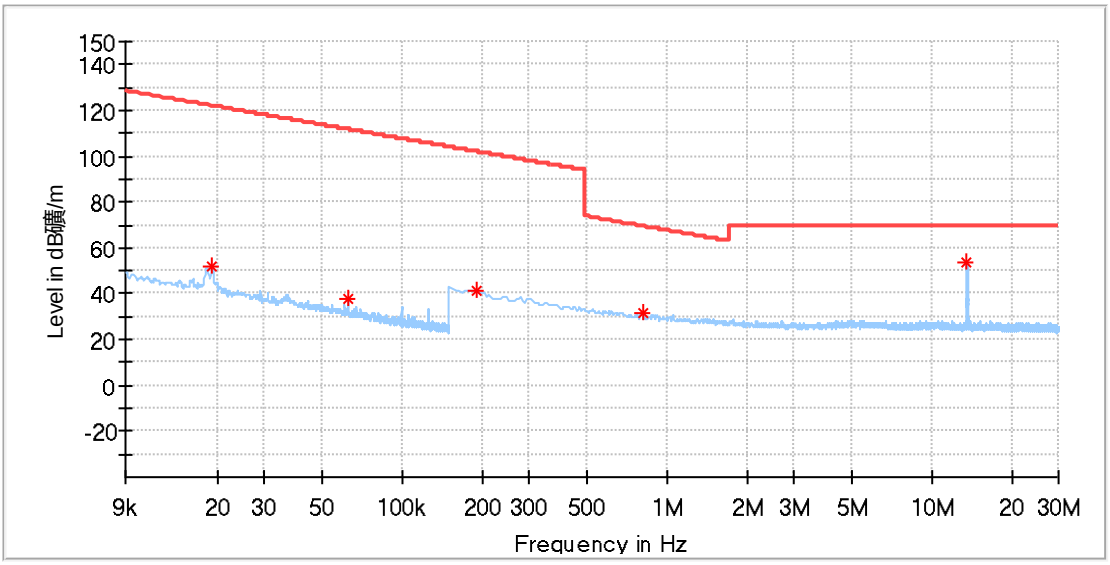
Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
---	---	---	---	---		---	---	

9KHz-30MHz:

EUT Information

EUT Name:	Fixed Mount Barcode Scanner
Model:	NLS-FM32
Test Mode:	NFC
Order No/Sample No:	168438536/A003560811-001
Test Voltage::	DC 5V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

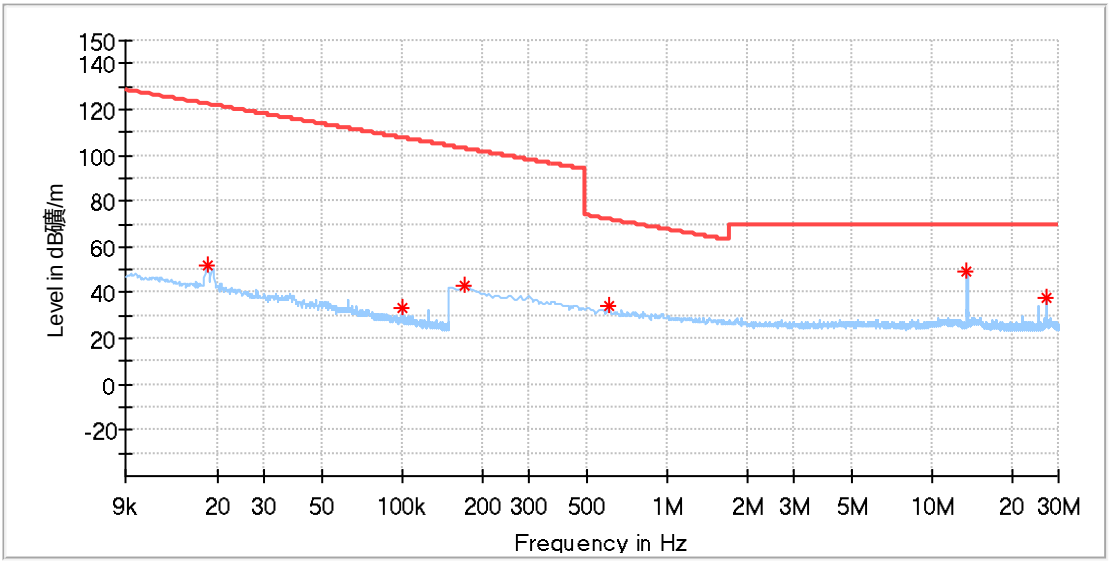
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
0.019172	51.60	121.94	70.34	100.0	X	322.0	20.1
0.062379	37.62	111.69	74.07	100.0	X	176.0	20.1
0.189508	41.28	102.05	60.77	100.0	X	226.0	20.1
0.804066	31.30	69.51	38.21	100.0	X	201.0	20.1
13.560552	53.81	69.50	15.69	100.0	X	298.0	20.5

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Fixed Mount Barcode Scanner
Model:	NLS-FM32
Test Mode:	NFC
Order No/Sample No:	168438536/A003560811-001
Test Voltage::	DC 5V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
0.018266	51.68	122.36	70.67	100.0	Y	149.0	20.1
0.099240	33.72	107.66	73.94	100.0	Y	219.0	20.1
0.171949	42.94	102.89	59.95	100.0	Y	64.0	20.1
0.597750	33.85	72.08	38.23	100.0	Y	132.0	20.1
13.560552	49.45	69.50	20.05	100.0	Y	192.0	20.5
27.124743	37.87	69.50	31.63	100.0	Y	31.0	20.7

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

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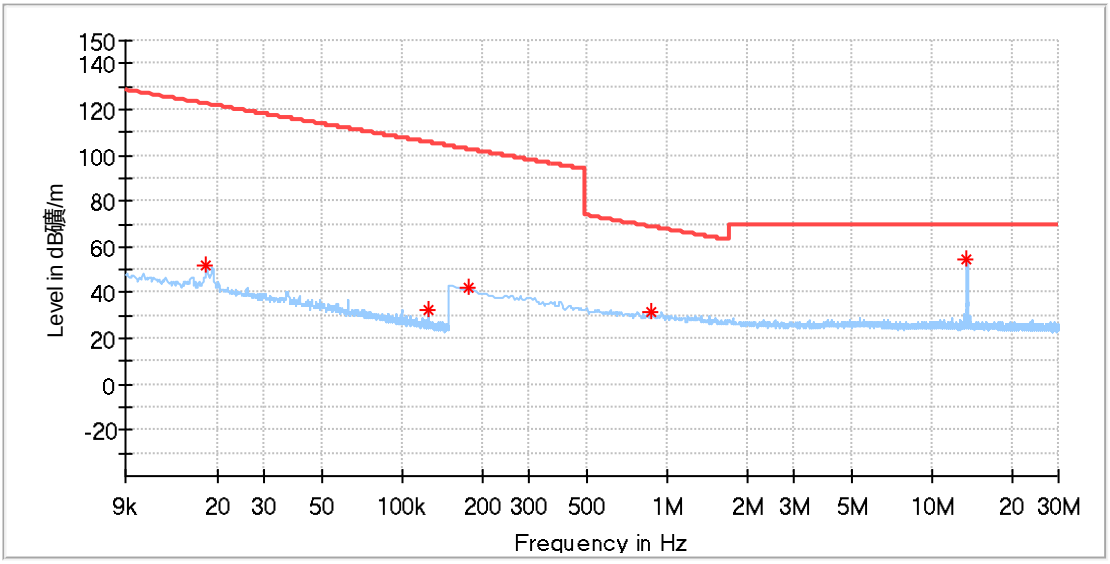


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
0.018165	51.73	122.40	70.68	100.0	Z	298.0	20.1
0.124922	32.38	105.67	73.29	100.0	Z	120.0	20.1
0.176338	42.32	102.67	60.35	100.0	Z	229.0	20.1
0.869912	31.98	68.83	36.85	100.0	Z	247.0	20.1
13.560552	54.88	69.50	14.62	100.0	Z	322.0	20.5

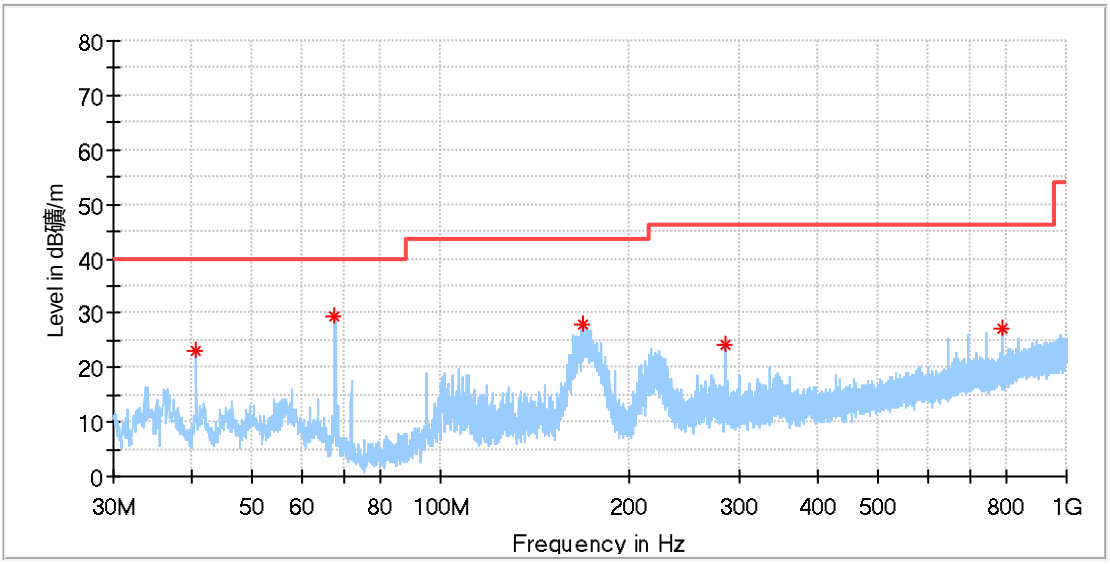
Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

30MHz-1000MHz:

EUT Information

EUT Name:	Fixed Mount Barcode Scanner
Model:	NLS-FM32
Test Mode:	NFC
Order No/Sample No:	168438536/A003560811-001
Test Voltage::	DC 5V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

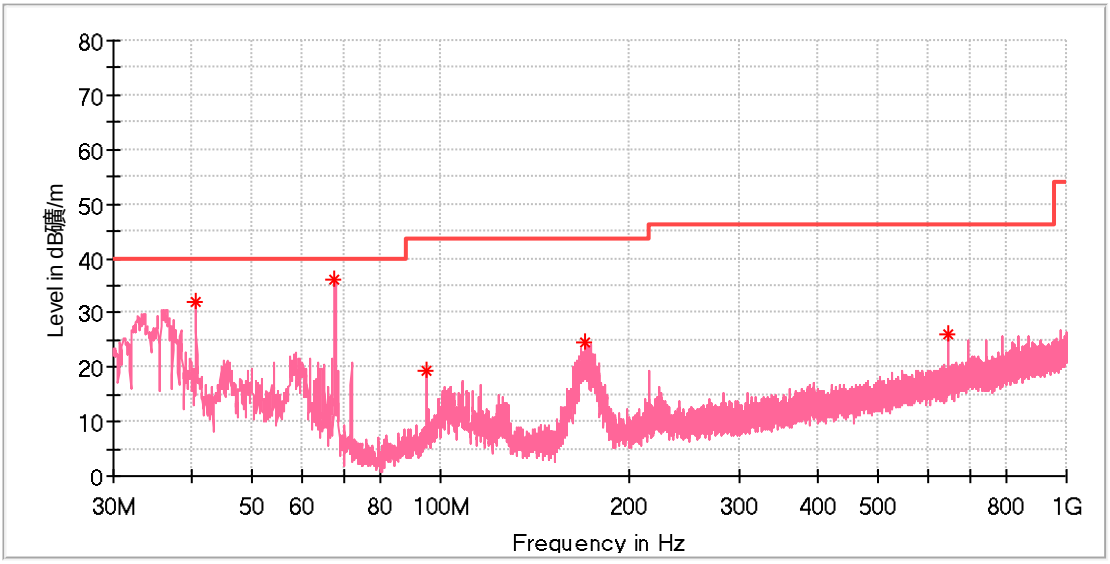
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
40.670000	23.24	40.00	16.76	100.0	H	22.0	-20.2
67.792692	29.32	40.00	10.68	100.0	H	112.0	-21.4
168.187692	27.96	43.50	15.54	100.0	H	22.0	-21.7
284.811539	24.05	46.00	21.95	100.0	H	0.0	-17.0
792.009615	27.07	46.00	18.93	100.0	H	72.0	-6.9

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Fixed Mount Barcode Scanner
Model:	NLS-FM32
Test Mode:	NFC
Order No/Sample No:	168438536/A003560811-001
Test Voltage::	DC 5V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
40.670000	31.85	40.00	8.15	100.0	V	282.0	-20.2
67.792692	36.25	40.00	3.75	100.0	V	112.0	-21.4
94.915385	19.17	43.50	24.33	100.0	V	128.0	-20.1
169.568077	24.44	43.50	19.06	100.0	V	154.0	-21.6
648.001923	26.18	46.00	19.82	100.0	V	54.0	-9.4

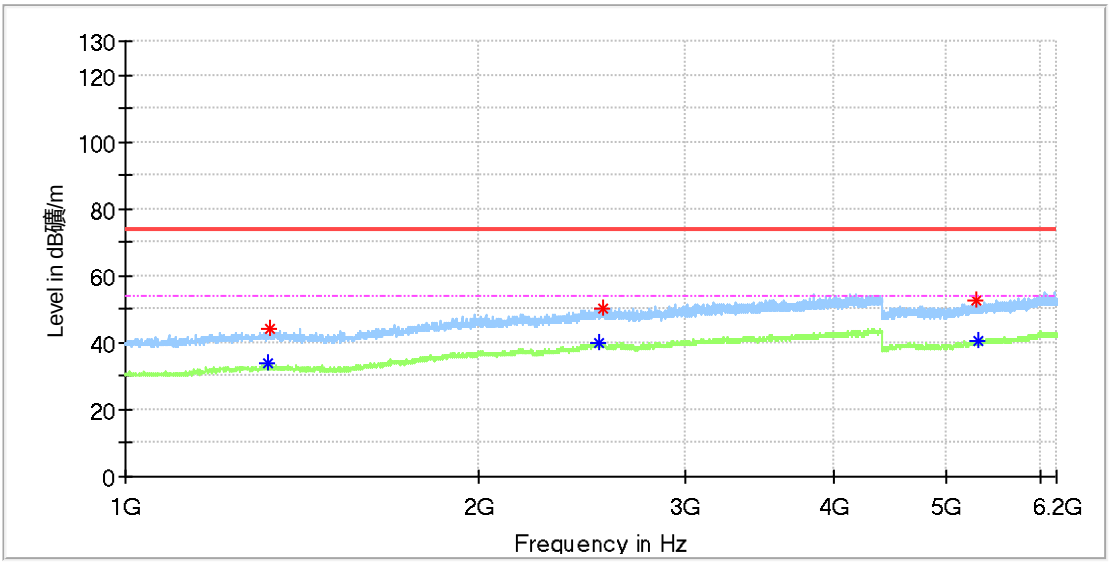
Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Above 1GHz:

EUT Information

EUT Name:	Fixed Mount Barcode Scanner
Model:	NLS-FM32
Test Mode:	NFC
Order No/Sample No:	168438536/A003560811-001
Test Voltage::	DC 5V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

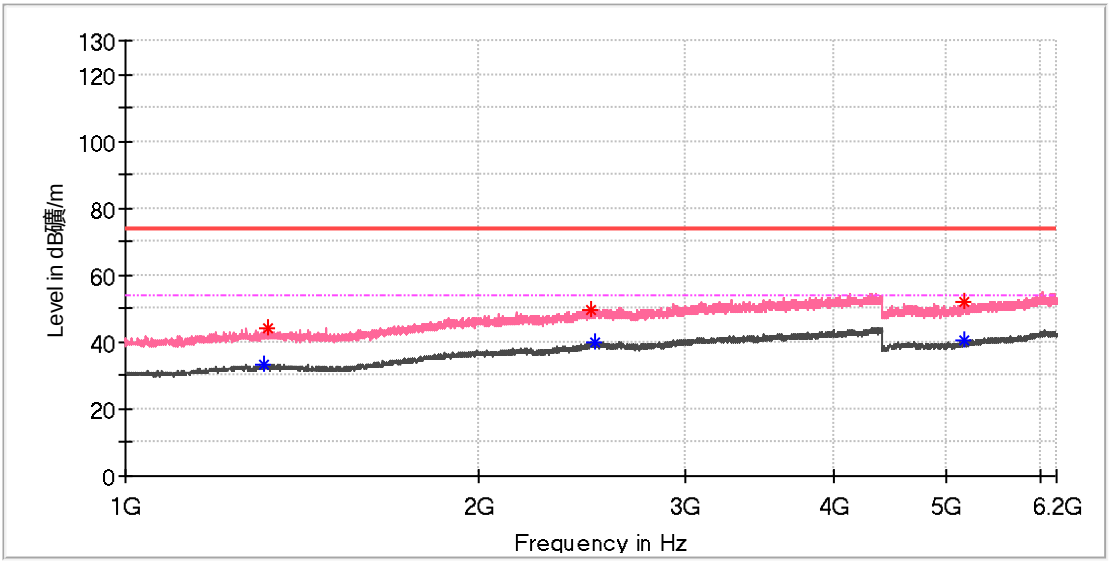
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1319.500000	---	33.58	54.00	20.42	150.0	H	275.0	2.0
1325.500000	43.95	---	74.00	30.05	150.0	H	0.0	2.0
2533.000000	---	39.79	54.00	14.21	150.0	H	169.0	7.5
2550.500000	50.28	---	74.00	23.72	150.0	H	289.0	7.6
5292.500000	52.49	---	74.00	21.51	150.0	H	181.0	13.0
5322.500000	---	40.78	54.00	13.22	150.0	H	226.0	13.1

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Fixed Mount Barcode Scanner
Model:	NLS-FM32
Test Mode:	NFC
Order No/Sample No:	168438536/A003560811-001
Test Voltage::	DC 5V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

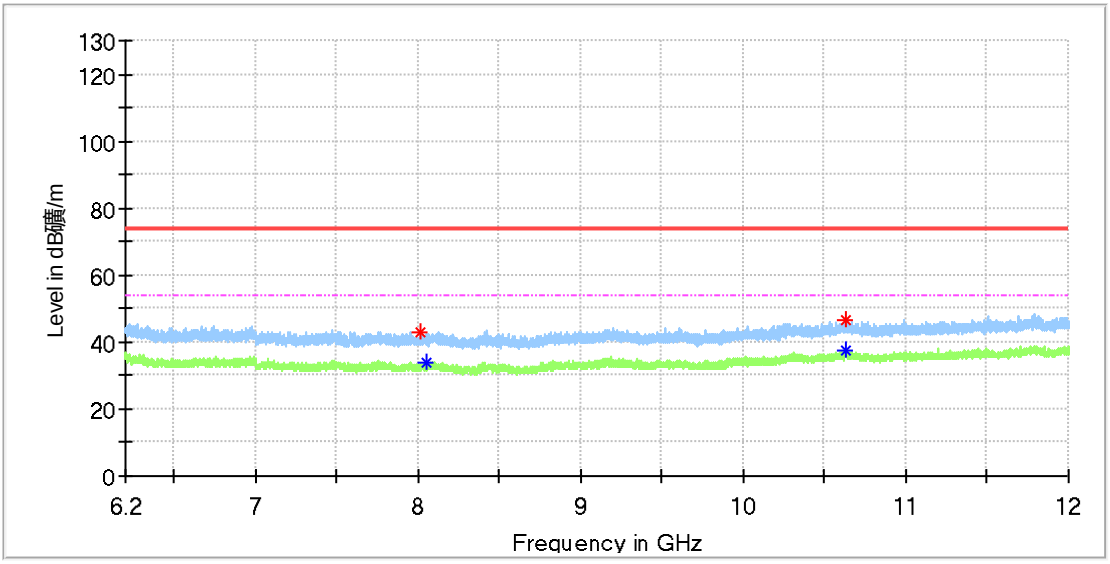
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1312.500000	---	33.13	54.00	20.87	150.0	V	289.0	2.0
1319.500000	44.27	---	74.00	29.73	150.0	V	227.0	2.0
2491.000000	49.69	---	74.00	24.31	150.0	V	163.0	7.4
2509.000000	---	39.62	54.00	14.38	150.0	V	323.0	7.4
5175.000000	---	40.27	54.00	13.73	150.0	V	76.0	12.5
5175.500000	52.17	---	74.00	21.83	150.0	V	44.0	12.5

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Fixed Mount Barcode Scanner
Model:	NLS-FM32
Test Mode:	NFC
Order No/Sample No:	168438536/A003560811-001
Test Voltage::	DC 5V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

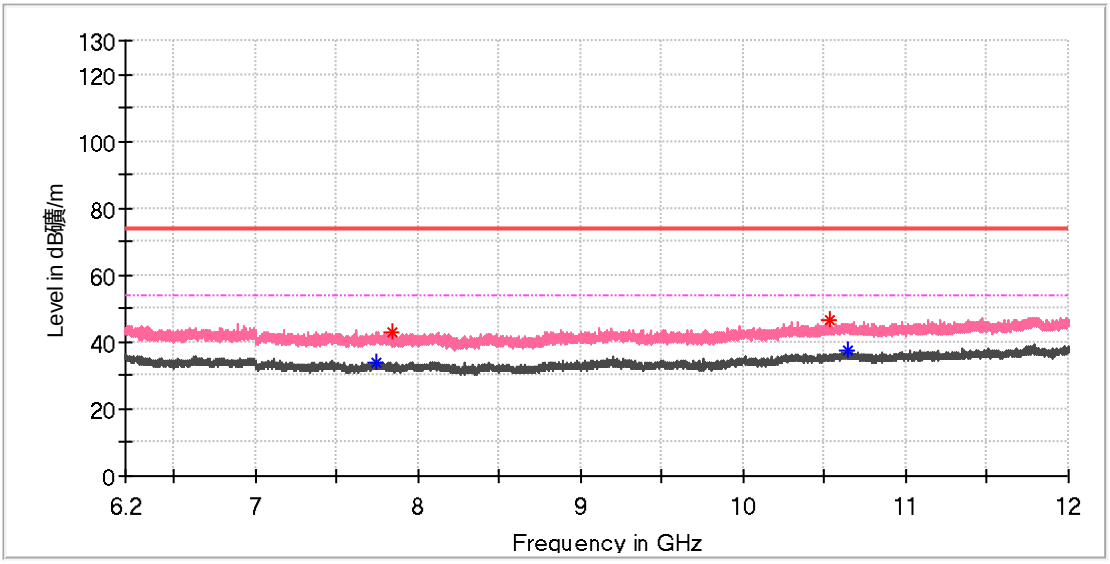
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
8009.825000	43.00	---	74.00	31.00	150.0	H	298.0	8.8
8046.208333	---	34.08	54.00	19.92	150.0	H	0.0	8.9
10631.883333	---	37.54	54.00	16.46	150.0	H	237.0	12.0
10635.325000	46.30	---	74.00	27.70	150.0	H	175.0	12.0

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Fixed Mount Barcode Scanner
Model:	NLS-FM32
Test Mode:	NFC
Order No/Sample No:	168438536/A003560811-001
Test Voltage::	DC 5V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7738.425000	---	33.60	54.00	20.40	150.0	V	170.0	8.8
7843.150000	43.21	---	74.00	30.79	150.0	V	63.0	8.7
10526.666667	46.55	---	74.00	27.45	150.0	V	86.0	12.0
10645.158333	---	37.25	54.00	16.75	150.0	V	15.0	12.0

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

5.1.5 Conducted Emissions on AC Mains

RESULT: **Pass**

Test Specification

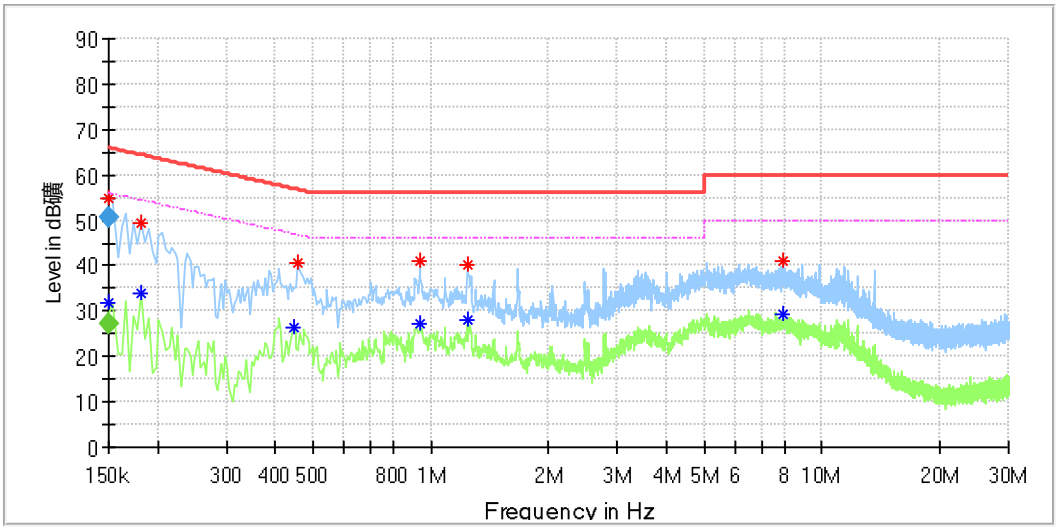
Test standard	:	FCC Part 15.207(a)
Basic standard	:	ANSI C63.10: 2013
Limits	:	FCC Part 15.207(a)
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2023-10-19
Input voltage	:	DC 5V (Powered via PC USB port)
Operation mode	:	A
Ambient temperature	:	22 ℃
Relative humidity	:	52 %
Atmospheric pressure	:	101 kPa

EUT Information

EUT Name:	Fixed Mount Barcode Scanner
Order Number:	168438536 60
Model:	NLS-FM32
Test Mode:	Normal working (i.e. Scanning) with NFC active
Test Voltage:	DC 5V By PC
Test By:/Review By:	Soloman Wu/ Gary Chen
Tem./Hum./Pressure:	24.6°C/49.6%/101kPa
Remark:	SR1



Critical_Freqs

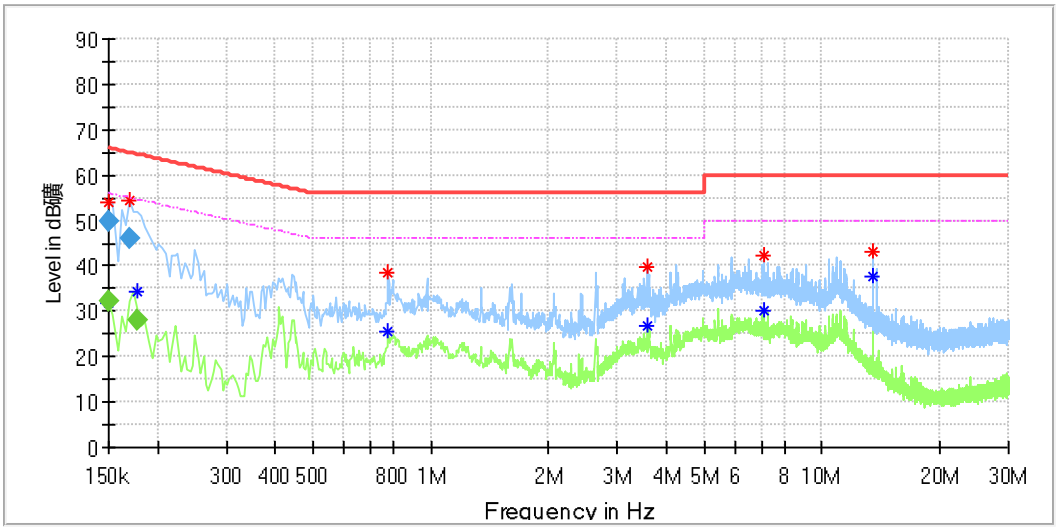
Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.150000	54.81	---	66.00	11.19	L1	9.9
0.150000	---	31.71	55.78	24.07	L1	9.9
0.182000	49.40	---	64.39	14.99	L1	9.9
0.182000	---	33.94	54.39	20.45	L1	9.9
0.446000	---	26.57	46.95	20.38	L1	9.9
0.458000	40.44	---	56.73	16.29	L1	10.0
0.938000	41.21	---	56.00	14.79	L1	10.0
0.938000	---	27.15	46.00	18.85	L1	10.0
1.238000	---	27.96	46.00	18.04	L1	10.1
1.238000	40.22	---	56.00	15.78	L1	10.1
7.918000	---	29.11	50.00	20.89	L1	10.3
7.986000	41.15	---	60.00	18.85	L1	10.3

Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.150000	---	27.14	56.00	28.86	1000.0	9.000	L1	9.9
0.150000	50.54	---	66.00	15.46	1000.0	9.000	L1	9.9

EUT Information

EUT Name:	Fixed Mount Barcode Scanner
Order Number:	168438536 60
Model:	NLS-FM32
Test Mode:	Normal working (i.e. Scanning) with NFC active
Test Voltage:	DC 5V By PC
Test By:/Review By:	Soloman Wu/ Gary Chen
Tem./Hum./Pressure:	24.6°C/49.6%/101kPa
Remark:	SR1



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.150000	54.00	---	65.78	11.78	N	9.8
0.150000	---	31.65	56.00	24.35	N	9.8
0.169500	54.39	---	64.96	10.57	N	9.8
0.178500	---	34.47	54.77	20.30	N	9.8
0.778000	38.55	---	56.00	17.45	N	9.8
0.778000	---	25.33	46.00	20.67	N	9.8
3.590000	---	26.86	46.00	19.14	N	9.9
3.590000	39.66	---	56.00	16.34	N	9.9
7.074000	---	30.09	50.00	19.91	N	10.0
7.078000	42.12	---	60.00	17.88	N	10.0
13.554000	---	37.70	50.00	12.30	N	10.1
13.554000	43.29	---	60.00	16.71	N	10.1

Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.150000	49.93	---	66.00	16.07	1000.0	9.000	N	9.8
0.150000	---	32.18	56.00	23.82	1000.0	9.000	N	9.8
0.169500	46.12	---	64.99	18.87	1000.0	9.000	N	9.8
0.178500	---	28.23	54.56	26.33	1000.0	9.000	N	9.8

6 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the appendix A.

7 List of Tables