ECE TYPE-APPROVAL CERTIFICATE

E24

Concerning:[2] Approval granted
~~Approval extended~~
~~Approval refused~~
~~Approval withdrawn~~
~~Production definitively discontinued~~

Of a type of ~~vehicle~~/component/~~separate technical unit~~[2] with regard to Regulation No. 10.
Of a type of electrical/electronic sub-assembly[2] with regard to Regulation No.10.

Approval No: ***E24*10R06/03*6965*00***

Reason for extension:		***-N/A***
1.	Make (trade name of manufacturer):	***Musoshi***
2.	Type and general commercial description:	***121-P-410-0034*** *UGODE MULTIMEDIA*
3.	Means of identification of type, if marked on the ~~vehicle~~/ component/~~separate technical unit~~[2]:	***Type Designation***
3.1	Location of that marking:	***Print on the back of the product***
4.	Category of vehicle:	***N/A***
5.	Name and address of manufacturer:	***Shenzhen Youchang Digital Electronics Co Ltd Room316-318, Zhongxi ECO International Building Shuiku Road, Xixiang Street, Baoan District, Shenzhen City***
6.	In the case of components and separate technical units, location and method of affixing of the approval mark:	***Printed on the back of the product***
7.	Address(es) of assembly plant(s):	***Shenzhen Youchang Digital Electronics Co Ltd Room316-318, Zhongxi ECO International Building Shuiku Road, Xixiang Street, Baoan District, Shenzhen City***

NSAI, 1 Swift Square, Northwood, Santry, Dublin 9, Ireland. Telephone: (+353+1) 807 3800, Facsimile: 01-807 3844

Approval No: ***E24*10R06/03*6965*00***

8.	Additional information (where applicable):	***See appendix below***
9.	Technical service responsible for carrying out the tests:	***SGS-TÜV Saar GmbH*** ***Am TÜV 1*** ***D-66280 Sulzbach***
10.	Date of test report:	***13.05.2025***
11.	Number of test report:	***HOM ECN T25/080-00***
12.	Remarks (if any):	***See Appendix below***
13.	Place:	***Dublin***
14.	Date:	***15th July, 2025***
15.	Signature:	

16. The index to the information package lodged with the approval authority, which may be obtained on Request, is attached.

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1. Distinguishing number of the country which issued/extended/refused or withdrawn approval. (see Regulation, provisions on approval).
2. Strike out what does not apply.

NSAI, 1 Swift Square, Northwood, Santry, Dublin 9, Ireland. Telephone: (+353+1) 807 3800, Facsimile: 01-807 3844

Approval No: ***E24*10R06/03*6965*00***

Appendix

To type-approval communication concerning the type approval
of an electrical/electronic sub-assembly under Regulation No.10.

1.	Additional information	
1.1.	Electrical system rated voltage:	***12V DC Negative ground***
1.2.	This ESA can be used on any vehicle type with the following restrictions:	***See manufacturer's specifications.***
1.2.1	Installation conditions, if any:	***See manufacturer's specifications.***
1.3.	This ESA can only be used on the following vehicle types:	***N/A***
1.3.1	Installation conditions, if any:	***N/A***
1.4.	The specific test method(s) used and the frequency ranges covered to determine immunity were:	***Bulk Current Injection Method:*** *Frequency: (20 – 400 MHz)* ***Absorber Chamber Test:*** *Frequency: (400 – 2000 MHz)*
1.5.	Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests:	***SGS-TÜV Saar GmbH***
2.	Remarks:	***N/A***

Appendix to type-approval communication concerning the
type approval of a vehicle under Regulation No.10.

1.	Additional information	
2.	Electrical system rated voltage:	***N/A***
3.	Type of bodywork:	***N/A***
4.	List of electronic systems installed in the tested vehicle(s) not limited to the items in the information document:	***N/A***
4.1.	Vehicle equipped with 24 GHz short-range radar equipment (yes/no/optional)[2]:	***N/A***
5.	Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests:	***N/A***
6.	Remarks:	***N/A***

NSAI, 1 Swift Square, Northwood, Santry, Dublin 9, Ireland. Telephone: (+353+1) 807 3800, Facsimile: 01-807 3844

Approval No: ***E24*10R06/03*6965*00***

Index to the Information Package

Date of issue:	***15th July, 2025***
Date of latest amendment:	***N/A***
Reason for extension/revision:	***N/A***

1. Additional conditions, and advisory notes on legal alternatives.

2. Test report(s)

- numbers(s):	***HOM ECN T25/080-00***
- date of issue:	***13.05.2025***
- date of latest amendment:	***N/A***

3. Information document

- number(s):	***IF_ 121-P-410-0034_R10.06_00***
- date of issue:	***30.04.2025***
- date of latest amendment:	***N/A***
Documentation:	***98 pages***

NSAI, 1 Swift Square, Northwood, Santry, Dublin 9, Ireland. Telephone: (+353+1) 807 3800, Facsimile: 01-807 3844

Approval No: ***E24*10R06/03*6965*00***

Appendix: **Additional conditions, and advisory notes on legal alternatives**

A: Additional conditions:

1. The attached technical report, with any of its attachments, forms part of this Type Approval certificate.
2. Each device from series production shall be to the measurements specified in the attached drawings, and shall be manufactured only from the materials specified in the Approval documents.
3. Changes in the type are permitted only with the explicit permission of NSAI. Breaches of this requirement will lead to a withdrawal of the Type Approval, and in addition may be subject to criminal prosecution.
4. At regular intervals, any tests or associated checks prescribed by the applicable legislation to verify continued conformity with the approved type shall be carried out. The manufacturer shall demonstrate compliance with this by submitting to NSAI evidence of adequate arrangements and documented control plans for each type approved.
5. Any set of samples or test pieces showing evidence of non-conformity shall give rise to further sampling and testing and all steps shall be taken to restore conformity of production.
6. This Type Approval will expire when it is surrendered by the holder, or withdrawn by NSAI, or when the approved type no longer conforms to legal requirements. The recall of the Type Approval can be issued by NSAI when the conditions required for the issuing or continuation of the Type Approval are no longer current, or when the Approval holder is in breach of the duties attached to the Type Approval, or when it is established that the approved type no longer meets the requirements of traffic safety.
7. Changes in the company name, address or manufacturing site, as well as in any of the sales or other agents specified in the issuing of the approval must immediately be notified to NSAI.
8. The duties imposed by the issuing of this certificate are not transferable. The legal protection of third parties is not affected by this certificate.
9. When the manufacture or sale of the system, component or separate technical unit has not been started within one year of the date of issue of this certificate, then NSAI is to be informed. This requirement also applies when the manufacture or sale has been halted for more than one year, or when it ought to have been halted for more than one year. The initial commencement of manufacture or sale, or the resumption of manufacture or sale, shall then be notified to NSAI within one month of commencement or resumption.

B: Legal Options:

Any objection to the requirements set out in this certificate shall be made within one month of the date of issue. The objection shall be made, in writing, to NSAI in Dublin.

NSAI, 1 Swift Square, Northwood, Santry, Dublin 9, Ireland. Telephone: (+353+1) 807 3800, Facsimile: 01-807 3844

Technical Report

V00

Test standard:
ECE R10

Level of amendment:
06 Series of amendments, 03 supplement

Title:
Electromagnetic compatibility

Manufacturer:
Shenzhen Youchang Digital Electronics Co Ltd

Type:
121-P-410-0034

Subject of testing:
Component

0	**General:**	
0.1	Make (trade name of manufacturer):	Musoshi
0.2	Type:	121-P-410-0034
0.2.1	Commercial description(s):	UGODE MULTIMEDIA
0.2.2	Variant:	n.a.
0.3	Means of identification of type, if marked on the vehicle / component / technical unit:	refer to information document
0.3.1	Location of that markings:	refer to information document
0.4	Category of vehicle:	n.a.
0.5	Manufacturer's name and address:	Shenzhen Youchang Digital Electronics Co Ltd Room316-318, Zhongxi ECO International Building Shuiku Road,Xixiang Street, Baoan District, Shenzhen City
0.8	Name(s) and address(es) of assembly plant(s):	refer to information document
0.9	Name and address of representative:	n.a.
	Location of the approval mark:	refer to information document

1 Appendices

1.1	Test Record	See appendix A
1.2	List of modifications	See appendix B

2 Attachments:

2.1	Information folder:	No.: IF_ 121-P-410-0034_R10.06_00
		Date of issue: 30.04.2025
2.2	Test Report:	No.: SZEM250300274401
		Date of issue: 29.04.2025

3 Statement of conformity:

The information folder as mentioned under no. 2.1 and the object described therein are in compliance with the test standard mentioned above.

The test results relate only to the test specimen, as received.

The test specimen was/were selected as worst case from the information folder of the type acc.to SOP M3780, and on this basis, it is/they are representative for the type to be approved.

The tests were carried out in accordance with the relevant requirements of the

☐ EN ISO/IEC 17025 ☒ EN ISO/IEC 17020

Test Laboratory

SGS-TÜV Saar GmbH

notified by

KBA Kraftfahrt-Bundesamt, Germany	NSAI National Standards Authority of Ireland	RDW Rijksdienst voor het Wegverkeer, The Netherlands	TRANSPORT STYRELSEN, Sweden
No. KBA-P 00084-10	**No. 101**	**No. 99050064 00**	**No. TT 0015**

Formal review (Conformity Check) by: Authorized by expert:

Cinney Zhang

Powell Bao

Shanghai, 13.05.2025

To assess the conformity, the laboratory refers to the "scope classification" of the Kraftfahrt-Bundesamt (KBA) – Federal Motor Transport Authority (in its valid version at the time of testing) and the specified consideration of the measurement uncertainty for the related test procedure.
In case the measurement uncertainty does not need to be considered according to the scope classification, the laboratory considers the result conform if its measured value is within the specification.
In case the measurement uncertainty does need to be considered according to the scope classification, the laboratory considers the result conform if its value incl. its measurement uncertainty is within the specification.

	Test record	UN-R10.06, supplement 3, ESA
1	**Test conditions**	
1.1	Test component	
1.1.1	Function description	The 7-Inch Linux T113 In-Car Multimedia System is a cutting-edge automotive entertainment solution designed to enhance your driving experience. Featuring a vibrant 7-inch display and running on a stable Linux system, this device seamlessly integrates wireless CarPlay connectivity, Bluetooth functionality, and multimedia playback capabilities for superior in-vehicle entertainment.
1.1.2	Type	121-P-410-0034
1.1.3	ESA(s) / Variant(s)	n.a
	Software version and checksum (if applicable)	n.a
	Hardware	n.a
1.1.4	Tested operating mode(s)	See test report of the enclosure.
1.1.5	Tested rated voltage(s)	☒ 12V ☐ 24V ☐ 12V/24V ☐ other:
1.1.6	The approval object is …	
	an ESA that is not related to a connection system for charging a REESS	[X] yes [ ] no
	Have the HV voltages and HV currents been taken into account in the tests and measurements?	[ ] yes [ ] no [X] n.a.
	a complete connection system for charging a REESS	[ ] yes [X] no
	Have the HV voltages and HV currents been taken into account in the tests and measurements?	[ ] yes [ ] no [X] n.a.
	a component of a connection system for charging a REESS	[ ] yes [X] no

	Have the HV voltages and HV currents been taken into account in the tests and measurements?	[ ] yes [ ] no [X] n.a.
	a light source or a part of a light source acc. to item 3.2.10 of the Regulation?	[ ] yes [X] no
	Approval number or number of test report	[X] n.a.
1.1.7	Do the devices of the type have immunity related functions?	[X] yes [ ] no
	Reason if necessary:	[ ] n.a. ESA have immunity related functions according to ECE R10.06, 2.12.
1.1.8	Do the devices of the type have to be in operation during the engine start phase?	[ ] yes [X] no
1.1.9	Photo documentation of the examinee including existing labels	See test report of the enclosure.
1.1.10	Remarks:	[X] n.a.
1.2	Test equipment	
	Parameter of the test area:	The equipment, on which the tests were carried out, fulfilled the requirements of the Regulation.

2 Test Results

2.1	Test results in configurations other than „REESS charging mode coupled of the power grid	[X] fulfilled [ ] not fulfilled [ ] n.a.
	Remarks:	[X] n.a.
2.1.1	Measurement of radiated broadband electro-magnetic emissions from electrical/ electronic subassemblies according to item 6.5 of the Regulation:	[X] fulfilled [ ] not fulfilled [ ] n.a.
2.1.1.1	Measurement procedure:	Quasi-peak-detector
2.1.1.2	Measurement setup:	Anechoic chamber
2.1.1.3	Measurement results:	The measured values, expressed in dB µV/m, are below the reference limits. See test report of the enclosure
2.1.1.4	Photo documentation of the measurement setup (if applicable):	See test report of the enclosure.
2.1.1.5	Remarks:	[X] n.a.
2.1.2	Measurement of radiated narrowband electro-magnetic emissions from electrical/ electronic subassemblies according to item 6.6 of the Regulation:	[X] fulfilled [ ] not fulfilled [ ] n.a.
2.1.2.1	Measurement procedure:	Average-detector
2.1.2.2	Measurement setup:	Anechoic chamber
2.1.2.3	Measurement results:	The measured values, expressed in dB µV/m, are below the reference limits. See test report of the enclosure.
2.1.2.4	Photo documentation of the measurement setup (if applicable):	See test report of the enclosure.
2.1.2.5	Remarks:	[X] n.a.

2.1.3	Testing for emission of transient conducted disturbances of electrical/electronic subassemblies on 12/24 V supply lines according to item 6.7 of the Regulation:	[X] fulfilled [ ] not fulfilled [ ] n.a.
2.1.3.1	Test results:	The limits are kept. See test report of the enclosure.
2.1.3.2	Photo documentation of the measurement setup (if applicable):	See test report of the enclosure.
2.1.3.3	Remarks:	[X] n.a.
2.1.4	Testing for radiated immunity of electrical/ electronic subassemblies to electromagnetic radiation according to item 6.8 of the Regulation:	[X] fulfilled [ ] not fulfilled [ ] n.a.
2.1.4.1	Test procedure:	Bulk current injection (BCI) (20-400 MHz) and Absorber chamber (400-2000 MHz)
2.1.4.2	Test setup:	See test report of the enclosure.
2.1.4.3	Test results:	During the test was no degradation of performance of functions related to immunity (acc. to 2.12).
2.1.4.4	Photo documentation of the measurement setup (if applicable):	See test report of the enclosure
2.1.4.5	Remarks:	[ ] n.a. ESA have immunity related functions according to ECE R10.06, 2.12.
2.1.5	Testing for immunity to transient disturbances conducted along on 12/24 V supply lines of electrical/electronic subassemblies according to item 6.9 of the Regulation:	[X] fulfilled [ ] not fulfilled [ ] n.a.
2.1.5.1	Test results:	During the test was no unacceptable degradation. See test report of the enclosure.
2.1.5.2	Photo documentation of the measurement setup (if applicable):	See test report of the enclosure.

2.1.5.3	Remarks:	[X] n.a.
2.2	Test results in configurations „REESS charging mode coupled of the power grid	[ ] fulfilled [ ] not fulfilled [X] n.a.
	Remarks:	[ ] n.a. Test component not related to REESS

3 Other Information

3.1	Date of test:	2025-04-23 to 2025-04-25
3.2	Place of test:	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch Room 105, Building A, Xinlong Technology Industrial Park, No. 50 Fengtang Road, Xintian Community, Fuyong Street, Bao'an District, Shenzhen, China

4 Remarks: [X] n.a.

List of modifications:

1	Correction of:	n.a.
2	Modification of:	n.a.
3	Addition of:	n.a.
4	Deletion of:	n.a.

- End of Technical Report -

TEST REPORT

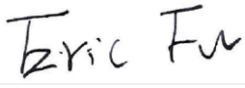
Application No.:	SZEM2503002744AU
Applicant:	Shenzhen Youchang Digital Electronics Co Ltd
Address of Applicant:	Room316-318, Zhongxi ECO International Building Shuiku Road, Xixiang Street, Baoan District, Shenzhen City
Manufacturer:	Shenzhen Youchang Digital Electronics Co Ltd
Address of Manufacturer:	Room316-318, Zhongxi ECO International Building Shuiku Road, Xixiang Street, Baoan District, Shenzhen City
Factory:	Shenzhen Youchang Digital Electronics Co Ltd
Address of Factory:	Room316-318, Zhongxi ECO International Building Shuiku Road, Xixiang Street, Baoan District, Shenzhen City
Equipment Under Test (EUT):	
EUT Name:	UGODE MULTIMEDIA
Model No.:	121-P-410-0034
Trade Mark:	Musoshi
Standard(s) :	ECE R10.06 supplement 03
Date of Receipt:	2025-03-31
Date of Test:	2025-04-23 to 2025-04-25
Date of Issue:	2025-04-29
Test Result:	**Pass***

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

Keny Xu
EMC Laboratory Manager

Room 106, Building A, Xinkong Technology Industrial Park, No. 50 Fengtang Road, Xintian Community, Fuyong Street, Bao'an District, Shenzhen, China 518103 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·宝安区福永街道新田社区凤塘大道50号鑫龙科技工业园A栋105室 邮编：518103 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2025-04-29		Original

Authorized for issue by:				
		 **Luke Wang/Project Engineer**		
		 **Eric Fu/Reviewer**		

2 Test Summary

Emission Part				
Item	**Standard**	**Method**	**Requirement**	**Result**
Radiated Emission(30MHz-1GHz)	ECE R10.06 supplement 03	CISPR 25:2002	Clause 6.5 & 6.6 of R10-06	Pass
Conducted transient disturbances		ISO 7637-2:2004	Clause 6.7 of R10-06	Pass

Immunity Part				
Item	**Standard**	**Method**	**Requirement**	**Result**
Conducted transient immunity	ECE R10.06 supplement 03	ISO 7637-2:2004	Clause 6.9 of R10-06	Pass
Bulk Current Injection(20MHz-400MHz)		ISO 11452-4:2011	Clause 6.8 of R10-06:60mA, 80%, 1kHz. AM(Amplitude Modulation)	Pass
Radiation immunity-ALSE(400MHz-2GHz)		ISO 11452-2:2004	Clause 6.8 of R10-06:400MHz to 800MHz: 30V/m,80%, 1kHz. AM (Amplitude Modulation); 800MHz to 2GHz: 30V/m, Ton=577 µs, period=4600 µs, PM (Pulse Modulation)	Pass

3 Contents

4 General Information

4.1 Details of E.U.T.

Power supply:	DC12V
Test Voltage:	DC13.5V

Remark: The information in this section is provided by the applicant or manufacturer, SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
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The EUT has been tested as an independent unit.			

4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Radiated Emission(30MHz-1GHz)	±4.5dB
Remark: The U_{lab} (lab Uncertainty) is less than $U_{cispr/ETSI}$ (CISPR/ETSI Uncertainty), so the test results – compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit; – non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.	

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

Room 105, Building A, Xinlong Technology Industrial Park, No. 50 Fengtang Road, Xintian Community, Fuyong Street, Bao'an District, Shenzhen, China

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.5 Deviation from Standards

None

4.6 Abnormalities from Standard Conditions

None

4.7 EMS Monitor

Visual: Monitor the EUT display screen through a surveillance camera.

Audio: Monitor the EUT sound through a microphone pickup.

5 Equipment List

Radiated Emission(30MHz-1GHz)					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
764 Anechoic Chamber	CRT	N/A	SEM001-12	2022-10-15	2025-10-14
Measurement Software	Jin Dong	JD-EMI-JGQC V7.6.5.4	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM034-01	2024-05-14	2025-05-13
Biconical Antenna	Schwarzebck	VHBB9124	SEM003-27	2024-09-07	2025-09-06
Log.-Per. Antenna	Schwarzebck	VUSLP9111B	SEM003-28	2024-09-07	2025-09-06
Amplifier	Sonoma Instrument Co	310N	SEM005-03	2025-03-06	2026-03-05
EMI Test Receiver	Rohde & Schwarz	ESW 8	SEM004-28	2024-05-24	2025-05-23
LISN	Schwarzebck	NNBM8124-200	SEM007-20	2024-08-13	2025-08-12
LISN	Schwarzebck	NNBM8124-200	SEM007-21	2024-08-13	2025-08-12

Conducted transient disturbances					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
Switch	EM TEST	BS 200B	SEM018-07	2024-08-13	2025-08-12
LISN	Schwarzebck	NNBM8124-200	SEM007-21	2024-08-13	2025-08-12
Oscilloscope	Tektronix	MSO 4104	SEM022-02	2024-08-13	2025-08-12
Ultra Compact Simulator	EM Test	UCS 200 M	SEM018-08	2025-03-06	2026-03-05
Voltage Drop Generator	EM Test/AG	VDS 200 B2	SEM018-09	2025-03-06	2026-03-05

Conducted transient immunity					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
Ultra Compact Simulator	EM Test	UCS 200 M	SEM018-08	2025-03-06	2026-03-05
Voltage Drop Generator	EM Test/AG	VDS 200 B2	SEM018-09	2025-03-06	2026-03-05
Oscilloscope	Tektronix	MSO 4104	SEM022-02	2024-08-13	2025-08-12
Measurement Software	EM Test/AG	ISMISO V4.21	N/A	N/A	N/A

Bulk Current Injection(20MHz-400MHz)					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
Measurement Software	NEXIO	BAT V3.19.1.9	N/A	N/A	N/A
LISN	Schwarzebck	NNBM8125	SEM007-18	2024-08-13	2025-08-12
LISN	Schwarzebck	NNBM8125	SEM007-19	2024-08-13	2025-08-12

RF generator and power meter	TESEQ	NSG 4070C-0	SEM006-18	2024-08-13	2025-08-12
Bulk Current injection	FCC	F-130A-1	SEM013-05	2024-08-13	2025-08-12
BCI Calibration Fixture	FCC	FCC-BCICF-1	SEM013-06	2024-08-13	2025-08-12
Dual directional coupler	Werlatone	C5339	SEM021-11	2024-08-13	2025-08-12
BCI Cable Output	Huber Suhner	N/A	SEM036-01	2024-05-14	2025-05-13
BCI Cable Input	Huber Suhner	N/A	SEM036-02	2024-05-14	2025-05-13
Solid State Amplifier	TESEQ	CBA 400M-110	SEM005-22	2024-08-13	2025-08-12

Radiation immunity-ALSE(400MHz-2GHz)					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
764 Anechoic Chamber	CRT	N/A	SEM001-12	2022-10-15	2025-10-14
LISN	Schwarzebck	NNBM8124-200	SEM007-20	2024-08-13	2025-08-12
LISN	Schwarzebck	NNBM8124-200	SEM007-21	2024-08-13	2025-08-12
Measurement Software	NEXIO	BAT V3.19.1.20	N/A	N/A	N/A
Solid State Amplifier	TESEQ	CBA 1G-1200B	SEM005-20	2024-08-13	2025-08-12
Solid State Amplifier	TESEQ	CBA 6G-200D	SEM005-21	2025-03-06	2026-03-05
USB Power Sensor	Keysight	U2042XA	SEM009-18	2024-08-13	2025-08-12
USB Power Sensor	Keysight	U2042XA	SEM009-19	2024-08-13	2025-08-12
MXG Analog Signal Generator	Agilent	N5181A	SEM006-16	2024-08-13	2025-08-12
Log.-Per. Antenna	Schwarzbeck	STLP 9128 Esp-7/16	SEM003-29	N/A	N/A
Broadband Horn Antenna	Schwarzbeck	BBHA 9120J	SEM003-30	2024-09-07	2025-09-06
RI Cable	Huber Suhner	N/A	SEM034-02	2024-05-14	2025-05-13
RI Cable	Huber Suhner	N/A	SEM034-03	2024-05-14	2025-05-13

General used equipment					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
Humidity/ Temperature Indicator	deli	8838	SEM002-48	2024-07-24	2025-07-23
Humidity/ Temperature Indicator	deli	8838	SEM002-49	2024-07-24	2025-07-23
Humidity/ Temperature Indicator	deli	8838	SEM002-50	2024-07-24	2025-07-23
Barometer	DUMAI	DYM3	SEM002-24	2024-07-23	2025-07-22

6 Emission Test Results

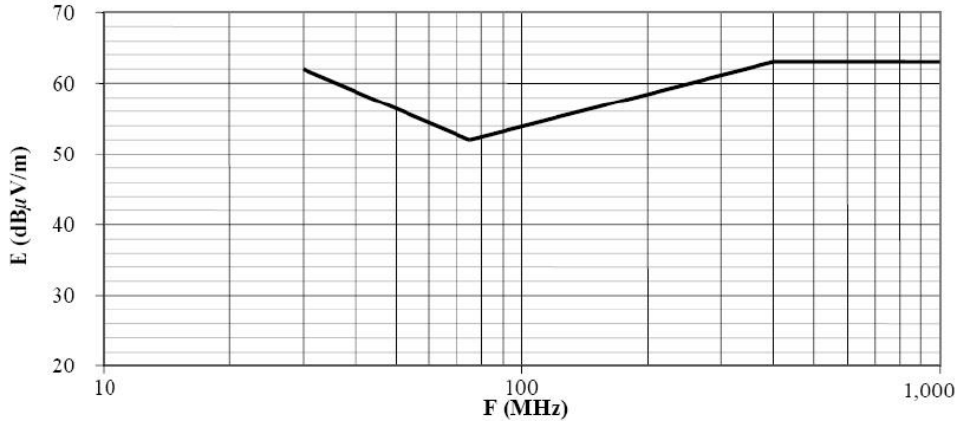
6.1 Radiated Emission(30MHz-1GHz)

Test Requirement: ECE R10.06
Test Method: CISPR 25:2002
Test Distance: 1m

Limit:

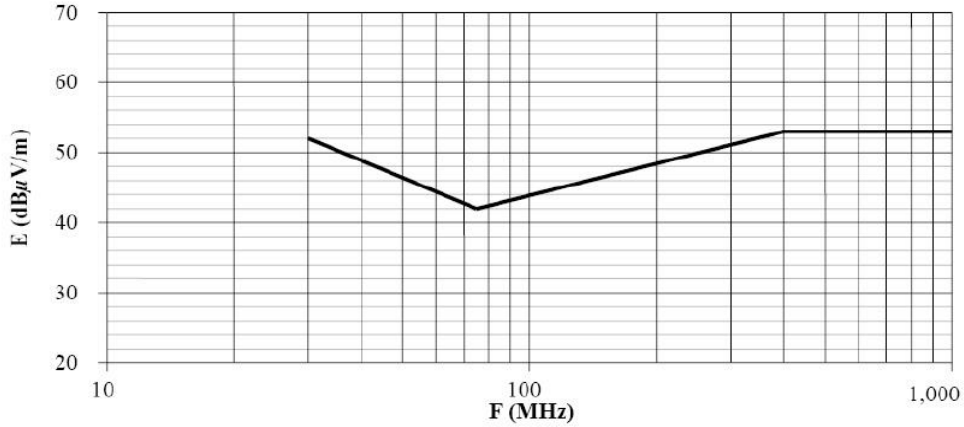
Radiated Emission (Broadband Type) Limit for ESA

Limit E (dBμV/m) at Frequency F (MHz)		
30-75MHz	75-400MHz	400-1,000MHz
E = 62 - 25.13 log (F/30)	E = 52 + 15.13 log (F/75)	E = 63



Radiated Emission (Narrowband Type) Limit for ESA

Limit E (dBμV/m) at Frequency F (MHz)		
30-75MHz	75-400MHz	400-1,000MHz
E = 52 - 25.13 log (F/30)	E = 42 + 15.13 log (F/75)	E = 53



6.1.1 E.U.T. Operation

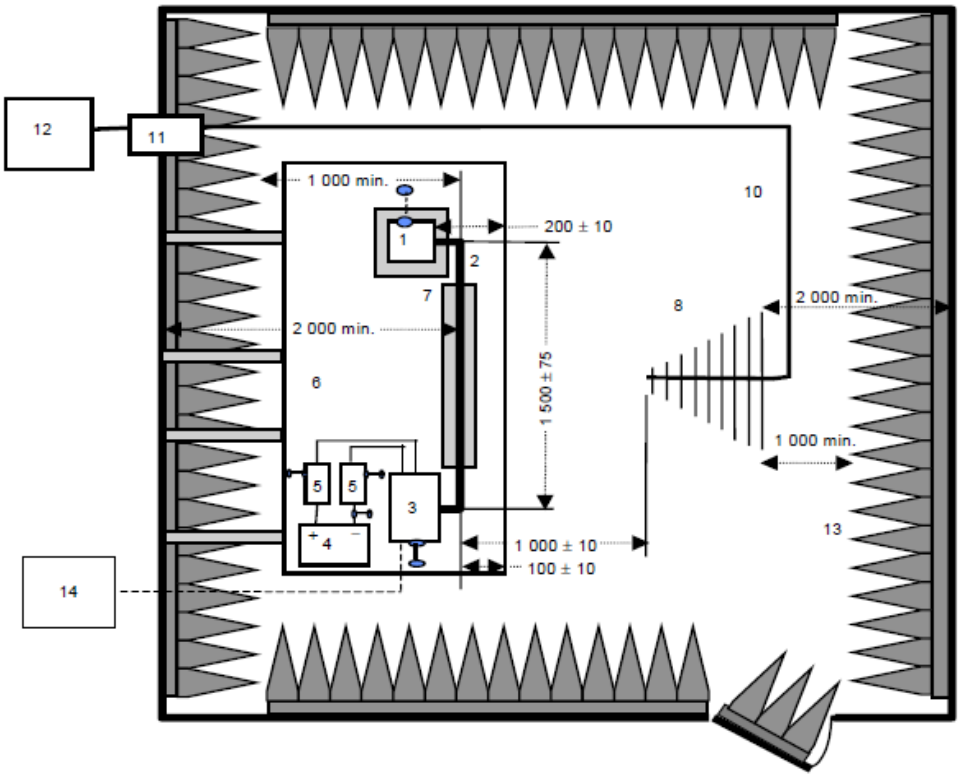
Operating Environment:

Temperature: 22.3 °C Humidity: 53 % RH Atmospheric Pressure: 1020 mbar

6.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	DC13.5V power supply, USB1 connected to a USB flash drive, playing music, adjust the volume to the maximum, keeping EUT working normally.
Pre-scan	01	DC13.5V power supply, USB2 connected to a USB flash drive, playing music, adjust the volume to the maximum, keeping EUT working normally.
Final test	02	DC13.5V power supply, TF card plays music, with the volume set to maximum, keeps EUT working normally.
Final test	03	DC13.5V power supply, connected to phone Phonelink, playing music, volume set to maximum, keeping EUT working normally.
Final test	04	DC13.5V power supply, connected to BT, playing music, volume set to maximum, keeping EUT working normally.

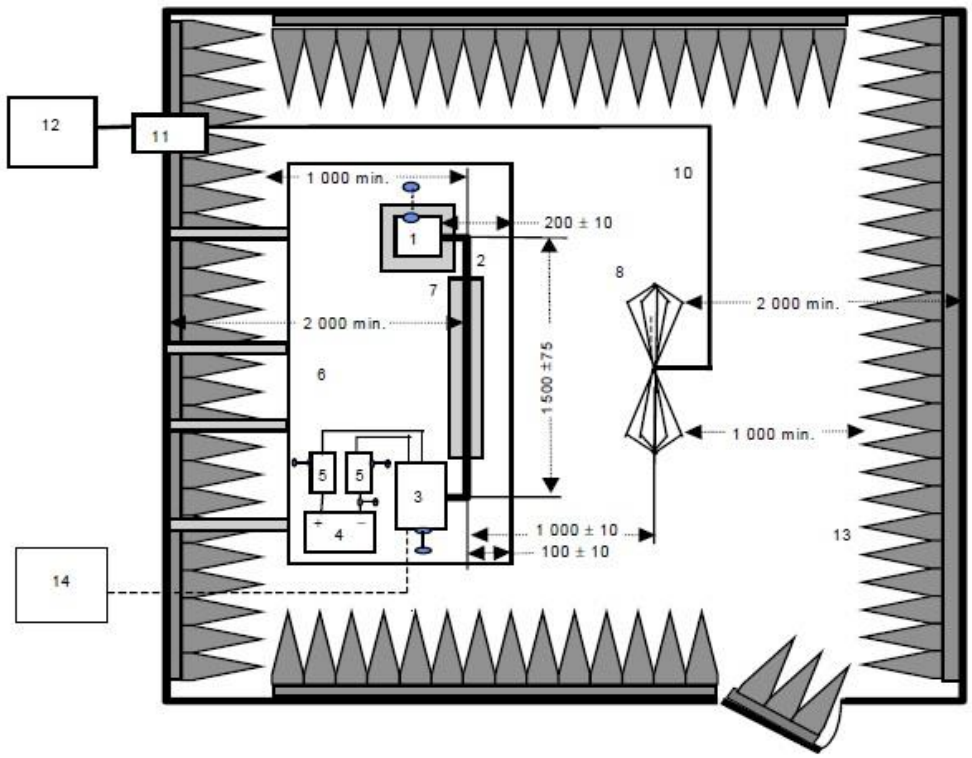
6.1.3 Test Setup Diagram



Key

1. EUT (grounded locally if required in test plan)	8. Log-periodic antenna
2. Test harness	10. High-quality coaxial cable
3. Load simulator	11. Bulkhead connector
4. Power supply (location optional)	12. Measuring instrument
5. Artificial network (AN)	13. RF absorber material
6. Ground plane (bonded to shielded enclosure)	14. Stimulation and monitoring system
7. Low relative permittivity support	

Figure – Example of test set-up – Log-periodic antenna



Key

1. EUT (grounded locally if required in test plan)	8. Biconical antenna
2. Test harness	10. High-quality coaxial cable
3. Load simulator	11. Bulkhead connector
4. Power supply (location optional)	12. Measuring instrument
5. Artificial network (AN)	13. RF absorber material
6. Ground plane (bonded to shielded enclosure)	14. Stimulation and monitoring system
7. Low relative permittivity support	

Figure – Example of test set-up – Biconical antenna

6.1.4 Measurement Procedure and Data

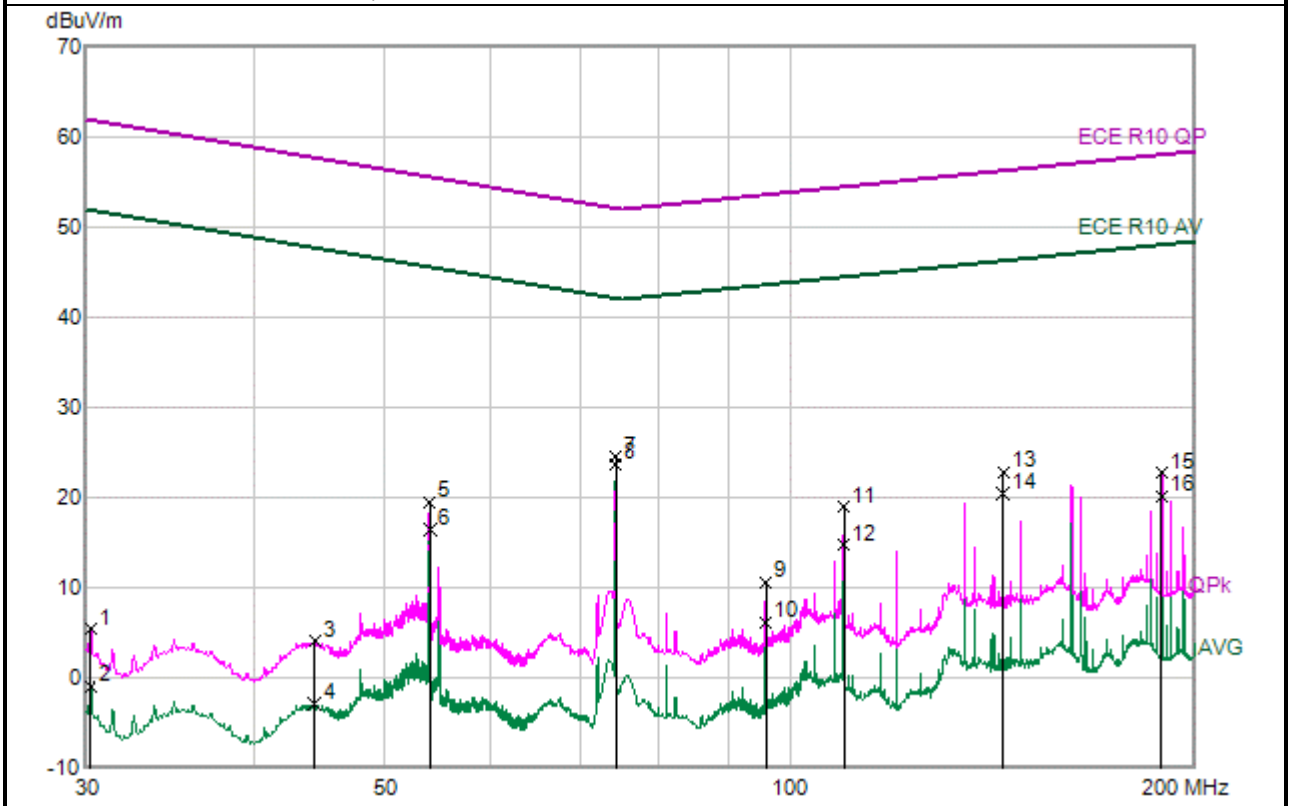
Frequency Range:30MHz-1GHz

Sample No.	Test Frequency (MHz)	Test Mode	Test Position	Margin (dB)	Min Margin Frequency (MHz)	Result	Record No.	Remark
1#	30 - 200	00	Horizontal	18.39	74.25	Pass	1	
1#	30 - 200	00	Vertical	15.74	74.25	Pass	2	
1#	200 - 1000	00	Horizontal	6.76	222.77	Pass	3	
1#	200 - 1000	00	Vertical	4.75	222.77	Pass	4	
1#	30 - 200	02	Horizontal	11.61	54	Pass	5	
1#	30 - 200	02	Vertical	10.82	74.25	Pass	6	
1#	200 - 1000	02	Horizontal	4.71	297.02	Pass	7	
1#	200 - 1000	02	Vertical	5.99	408.41	Pass	8	
1#	30 - 200	03	Horizontal	11.42	54	Pass	9	
1#	30 - 200	03	Vertical	8.95	54	Pass	10	
1#	200 - 1000	03	Horizontal	4.84	297.02	Pass	11	
1#	200 - 1000	03	Vertical	6.07	408.41	Pass	12	
1#	30 - 200	04	Horizontal	19.1	74.25	Pass	13	
1#	30 - 200	04	Vertical	8.2	74.25	Pass	14	
1#	200 - 1000	04	Horizontal	5.84	222.77	Pass	15	
1#	200 - 1000	04	Vertical	2.48	222.77	Pass	16	

Test Result: ■ Pass □ Fail

1) Record No. 1 (30 - 200MHz)

30 - 200MHz: RBW = 120kHz,MT=1000ms

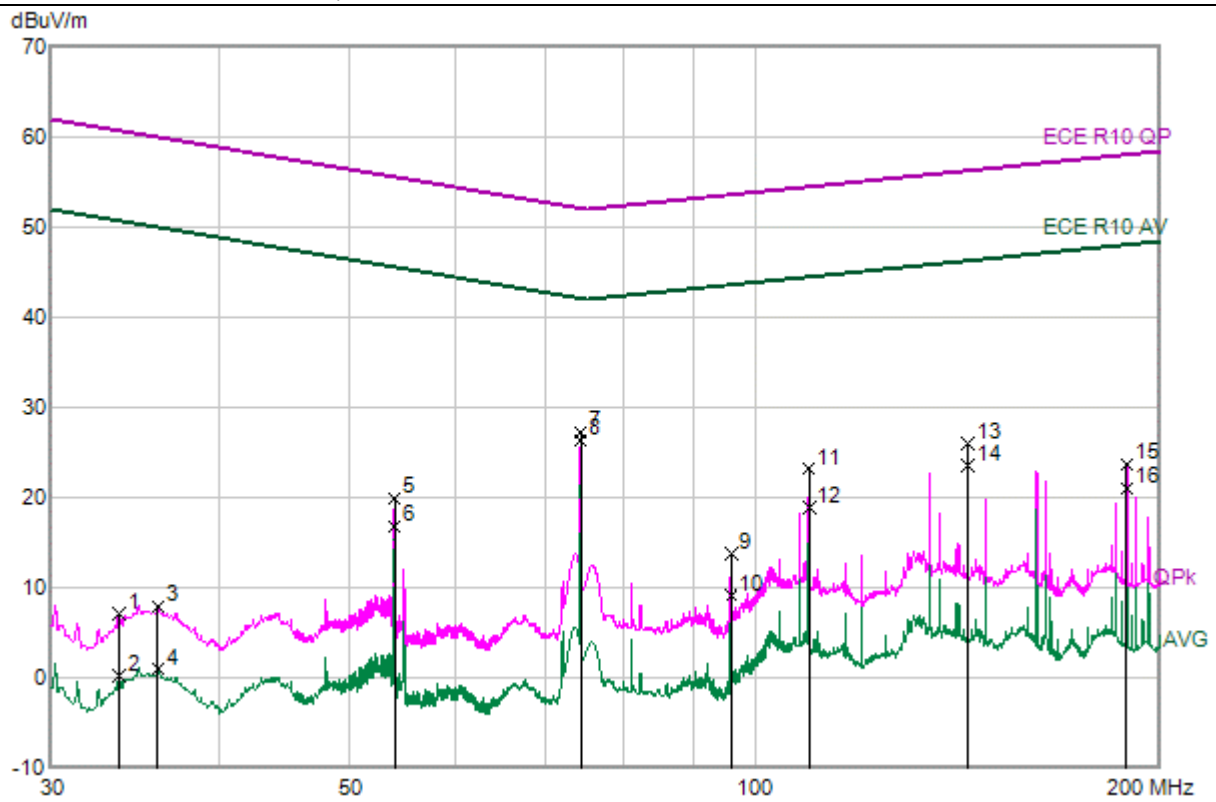


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.24	25.36	-19.95	5.41	61.91	56.5	QP
2	30.24	19.04	-19.95	-0.91	51.91	52.82	AVG
3	44.37	23.81	-19.74	4.07	57.73	53.66	QP
4	44.37	16.85	-19.74	-2.89	47.73	50.62	AVG
5	54	39.9	-20.42	19.48	55.59	36.11	QP
6	54	36.89	-20.42	16.47	45.59	29.12	AVG
7	74.25	45.97	-21.44	24.53	52.11	27.58	QP
8	74.25	45.16	-21.44	23.72	42.11	18.39	AVG
9	96	31.82	-21.19	10.63	53.62	42.99	QP
10	96	27.31	-21.19	6.12	43.62	37.5	AVG
11	109.71	39.79	-20.79	19	54.5	35.5	QP
12	109.71	35.53	-20.79	14.74	44.5	29.76	AVG
13	144	40.9	-18.11	22.79	56.29	33.5	QP
14	144	38.51	-18.11	20.4	46.29	25.89	AVG
15	189	38.82	-16.11	22.71	58.07	35.36	QP
16	189	36.24	-16.11	20.13	48.07	27.94	AVG

Note: Result =Reading + Correct Factor, Margin =Limit-Result

2) Record No. 2 (30 - 200MHz)

30 - 200MHz: RBW = 120kHz,MT=1000ms

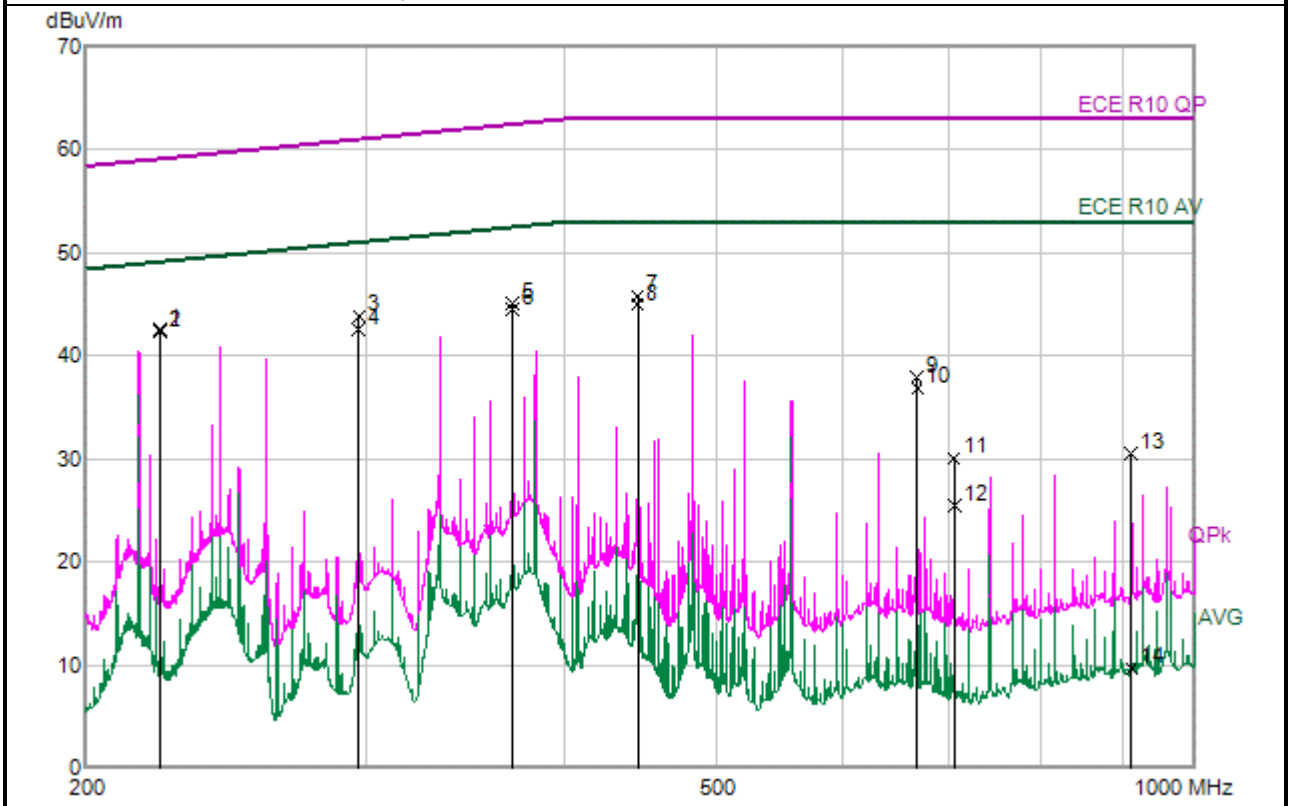


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	33.69	26.67	-19.57	7.1	60.73	53.63	QP
2	33.69	19.79	-19.57	0.22	50.73	50.51	AVG
3	36.03	27.46	-19.49	7.97	60	52.03	QP
4	36.03	20.49	-19.49	1	50	49	AVG
5	54	40.31	-20.42	19.89	55.59	35.7	QP
6	54	37.27	-20.42	16.85	45.59	28.74	AVG
7	74.25	48.69	-21.44	27.25	52.11	24.86	QP
8	74.25	47.81	-21.44	26.37	42.11	15.74	AVG
9	96	34.99	-21.19	13.8	53.62	39.82	QP
10	96	30.35	-21.19	9.16	43.62	34.46	AVG
11	109.71	44.01	-20.79	23.22	54.5	31.28	QP
12	109.71	39.67	-20.79	18.88	44.5	25.62	AVG
13	144	44.07	-18.11	25.96	56.29	30.33	QP
14	144	41.63	-18.11	23.52	46.29	22.77	AVG
15	189	39.83	-16.11	23.72	58.07	34.35	QP
16	189	37.22	-16.11	21.11	48.07	26.96	AVG

Note: Result =Reading + Correct Factor, Margin =Limit-Result

3) Record No. 3 (200 - 1000MHz)

200 - 1000MHz: RBW = 120kHz,MT=1000ms

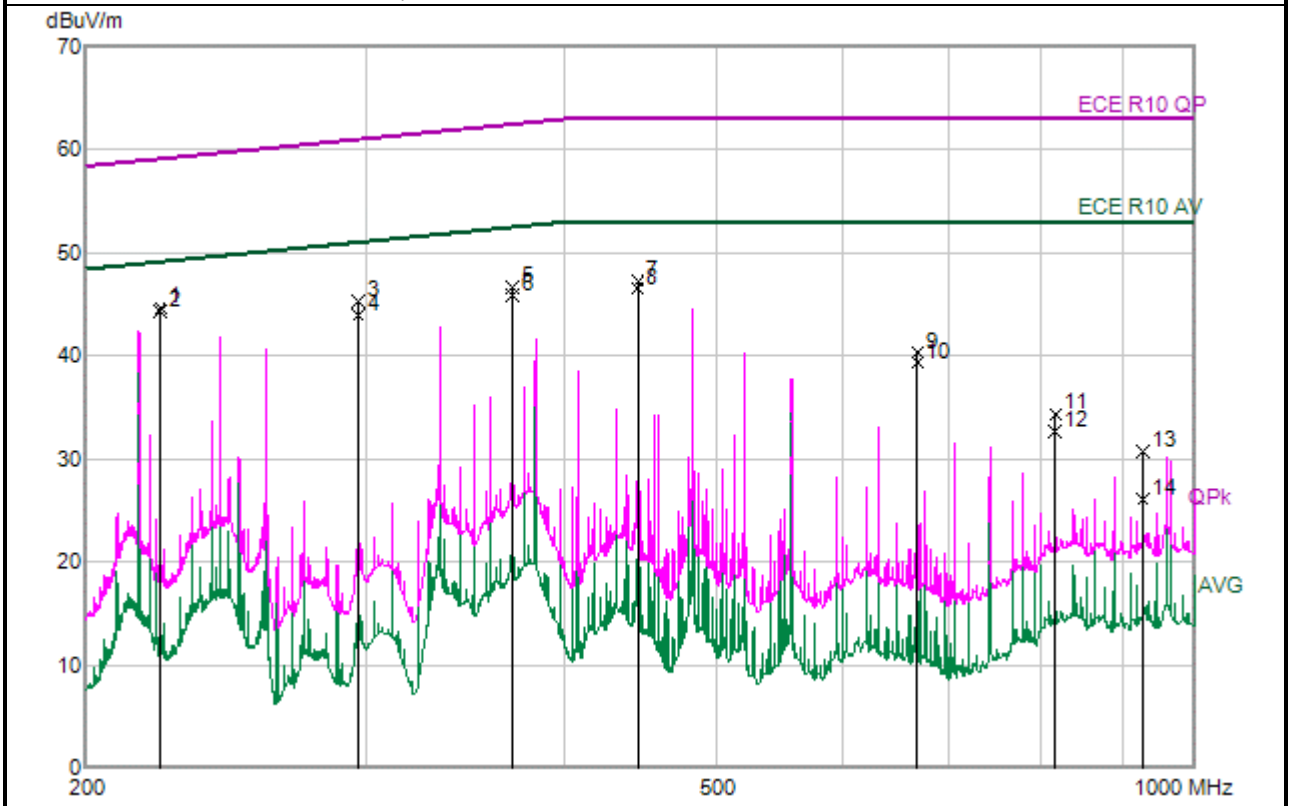


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	222.77	59.12	-16.5	42.62	59.15	16.53	QP
2	222.77	58.89	-16.5	42.39	49.15	6.76	AVG
3	297.02	58.56	-14.7	43.86	61.04	17.18	QP
4	297.02	57.33	-14.7	42.63	51.04	8.41	AVG
5	371.27	58.45	-13.3	45.15	62.51	17.36	QP
6	371.27	57.88	-13.3	44.58	52.51	7.93	AVG
7	445.52	57.93	-12.08	45.85	63	17.15	QP
8	445.52	57.06	-12.08	44.98	53	8.02	AVG
9	668.27	46.78	-8.82	37.96	63	25.04	QP
10	668.27	45.73	-8.82	36.91	53	16.09	AVG
11	705.41	38.59	-8.52	30.07	63	32.93	QP
12	705.41	34.03	-8.52	25.51	53	27.49	AVG
13	911.42	35.33	-4.74	30.59	63	32.41	QP
14	911.42	14.39	-4.74	9.65	53	43.35	AVG

Note: Result =Reading + Correct Factor, Margin =Limit-Result

4) Record No. 4 (200 - 1000MHz)

200 - 1000MHz: RBW = 120kHz,MT=1000ms

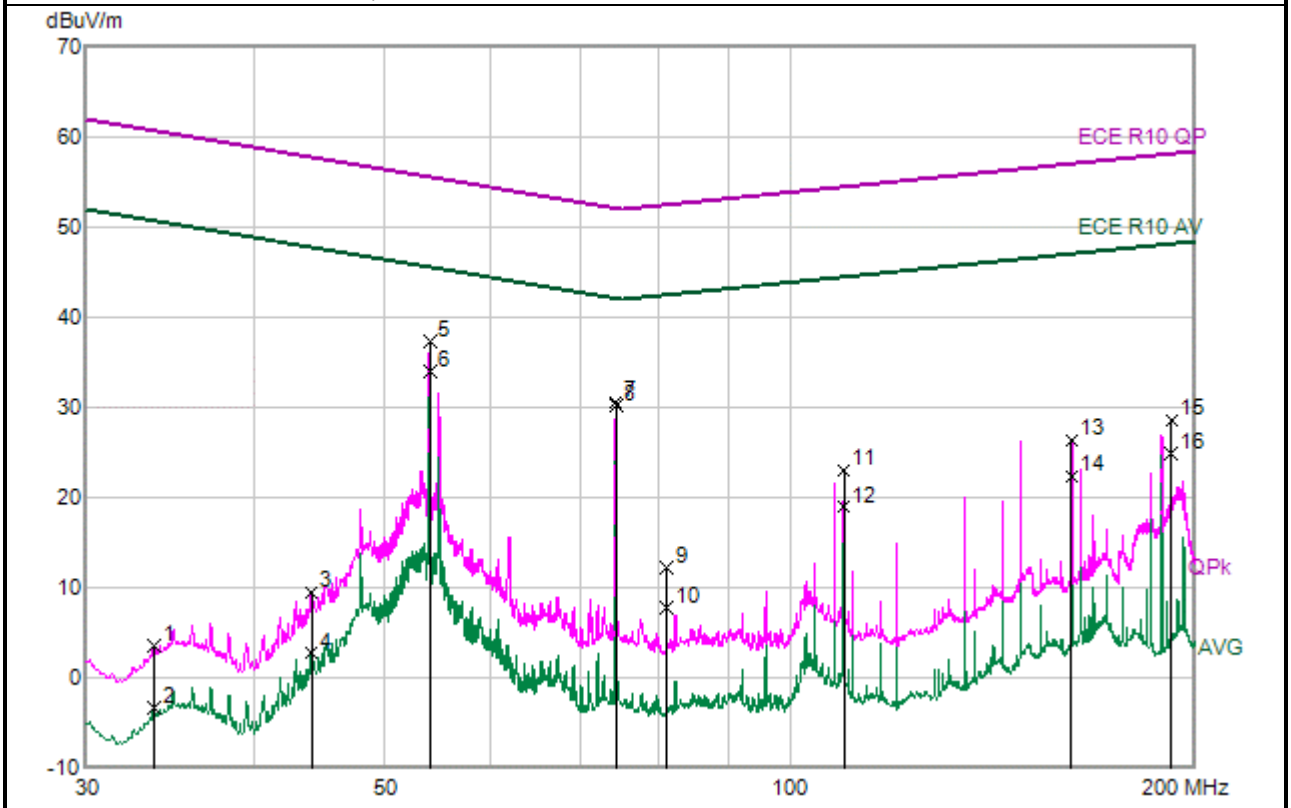


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	222.77	61.16	-16.5	44.66	59.15	14.49	QP
2	222.77	60.9	-16.5	44.4	49.15	4.75	AVG
3	297.02	60.06	-14.7	45.36	61.04	15.68	QP
4	297.02	58.71	-14.7	44.01	51.04	7.03	AVG
5	371.27	59.95	-13.3	46.65	62.51	15.86	QP
6	371.27	59.12	-13.3	45.82	52.51	6.69	AVG
7	445.52	59.39	-12.08	47.31	63	15.69	QP
8	445.52	58.64	-12.08	46.56	53	6.44	AVG
9	668.27	49.13	-8.82	40.31	63	22.69	QP
10	668.27	48.16	-8.82	39.34	53	13.66	AVG
11	816.8	40.85	-6.5	34.35	63	28.65	QP
12	816.8	39.16	-6.5	32.66	53	20.34	AVG
13	928.16	35.22	-4.51	30.71	63	32.29	QP
14	928.16	30.6	-4.51	26.09	53	26.91	AVG

Note: Result =Reading + Correct Factor, Margin =Limit-Result

5) Record No. 5 (30 - 200MHz)

30 - 200MHz: RBW = 120kHz,MT=1000ms

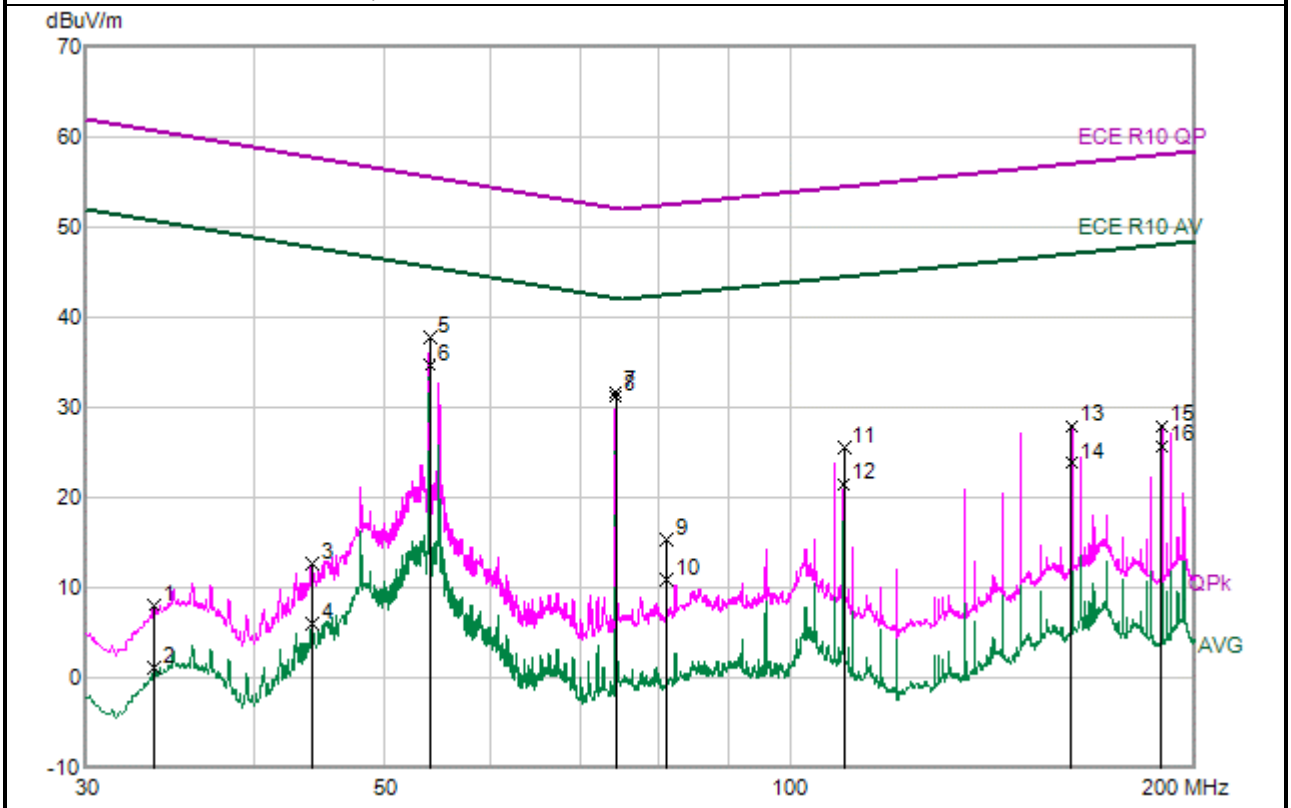


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	33.69	23.12	-19.57	3.55	60.73	57.18	QP
2	33.69	16.17	-19.57	-3.4	50.73	54.13	AVG
3	44.1	29.29	-19.74	9.55	57.8	48.25	QP
4	44.1	22.44	-19.74	2.7	47.8	45.1	AVG
5	54	57.77	-20.42	37.35	55.59	18.24	QP
6	54	54.4	-20.42	33.98	45.59	11.61	AVG
7	74.25	52.03	-21.44	30.59	52.11	21.52	QP
8	74.25	51.64	-21.44	30.2	42.11	11.91	AVG
9	81	33.8	-21.49	12.31	52.51	40.2	QP
10	81	29.33	-21.49	7.84	42.51	34.67	AVG
11	109.71	43.86	-20.79	23.07	54.5	31.43	QP
12	109.71	39.79	-20.79	19	44.5	25.5	AVG
13	162	43.7	-17.3	26.4	57.06	30.66	QP
14	162	39.66	-17.3	22.36	47.06	24.7	AVG
15	192	44.44	-15.86	28.58	58.18	29.6	QP
16	192	40.71	-15.86	24.85	48.18	23.33	AVG

Note: Result =Reading + Correct Factor, Margin =Limit-Result

6) Record No. 6 (30 - 200MHz)

30 - 200MHz: RBW = 120kHz,MT=1000ms

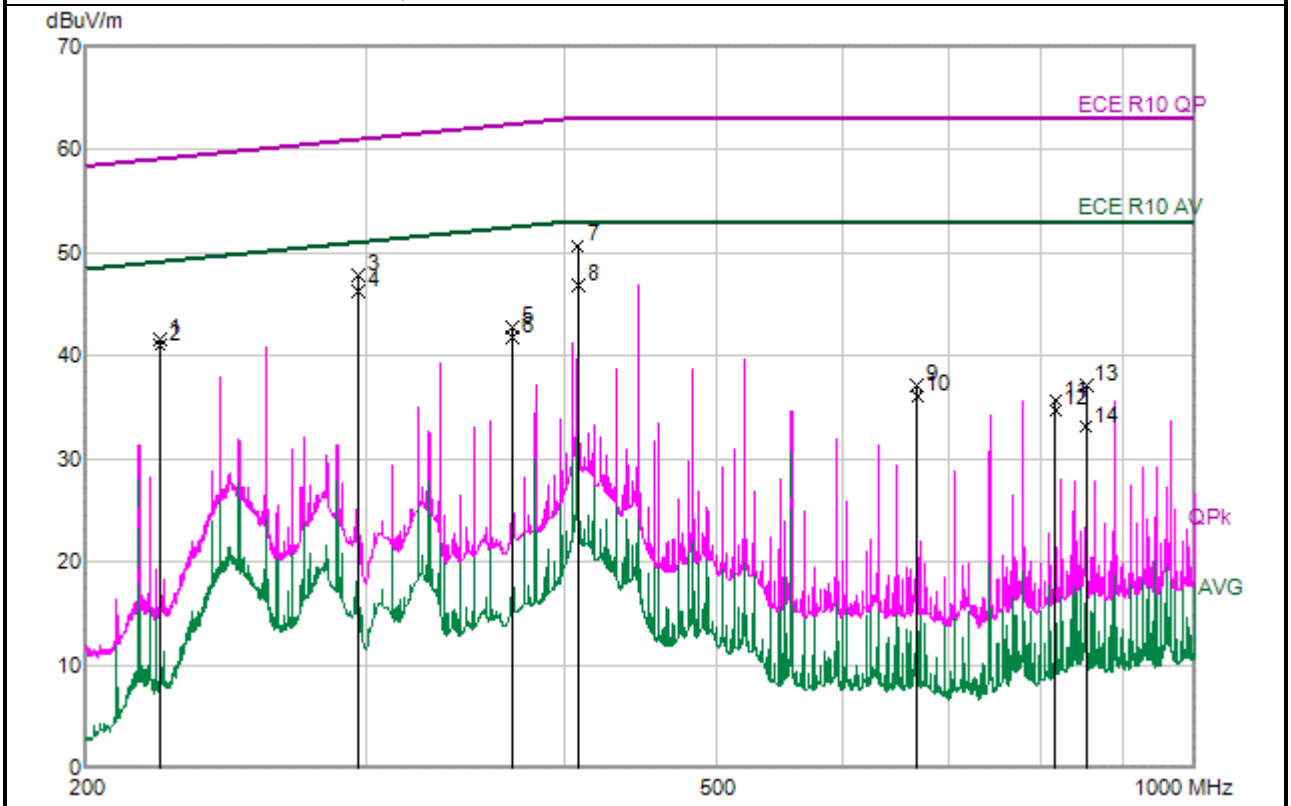


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	33.72	27.63	-19.56	8.07	60.72	52.65	QP
2	33.72	20.64	-19.56	1.08	50.72	49.64	AVG
3	44.16	32.34	-19.74	12.6	57.78	45.18	QP
4	44.16	25.7	-19.74	5.96	47.78	41.82	AVG
5	54	58.2	-20.42	37.78	55.59	17.81	QP
6	54	55.13	-20.42	34.71	45.59	10.88	AVG
7	74.25	53.16	-21.44	31.72	52.11	20.39	QP
8	74.25	52.73	-21.44	31.29	42.11	10.82	AVG
9	81	36.87	-21.49	15.38	52.51	37.13	QP
10	81	32.37	-21.49	10.88	42.51	31.63	AVG
11	109.71	46.35	-20.79	25.56	54.5	28.94	QP
12	109.71	42.27	-20.79	21.48	44.5	23.02	AVG
13	162	45.21	-17.3	27.91	57.06	29.15	QP
14	162	41.16	-17.3	23.86	47.06	23.2	AVG
15	189	44.06	-16.11	27.95	58.07	30.12	QP
16	189	41.88	-16.11	25.77	48.07	22.3	AVG

Note: Result =Reading + Correct Factor, Margin =Limit-Result

7) Record No. 7 (200 - 1000MHz)

200 - 1000MHz: RBW = 120kHz,MT=1000ms

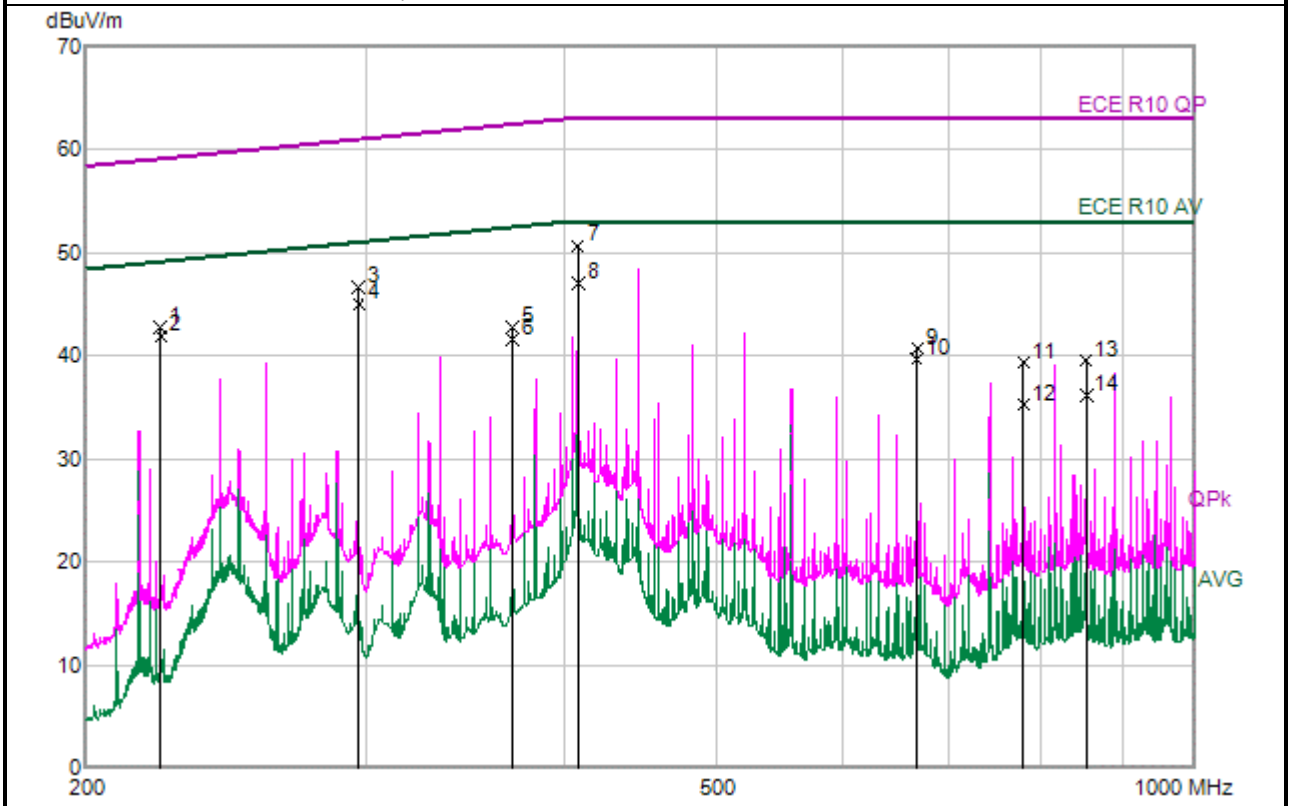


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	222.77	58.09	-16.5	41.59	59.15	17.56	QP
2	222.77	57.61	-16.5	41.11	49.15	8.04	AVG
3	297.02	62.58	-14.7	47.88	61.04	13.16	QP
4	297.02	61.03	-14.7	46.33	51.04	4.71	AVG
5	371.27	56.16	-13.3	42.86	62.51	19.65	QP
6	371.27	55.05	-13.3	41.75	52.51	10.76	AVG
7	408.41	63.38	-12.68	50.7	63	12.3	QP
8	408.41	59.57	-12.68	46.89	53	6.11	AVG
9	668.27	45.95	-8.82	37.13	63	25.87	QP
10	668.27	44.96	-8.82	36.14	53	16.86	AVG
11	816.8	42.16	-6.5	35.66	63	27.34	QP
12	816.8	41.24	-6.5	34.74	53	18.26	AVG
13	853.91	42.97	-5.8	37.17	63	25.83	QP
14	853.91	38.95	-5.8	33.15	53	19.85	AVG

Note: Result =Reading + Correct Factor, Margin =Limit-Result

8) Record No. 8 (200 - 1000MHz)

200 - 1000MHz: RBW = 120kHz,MT=1000ms

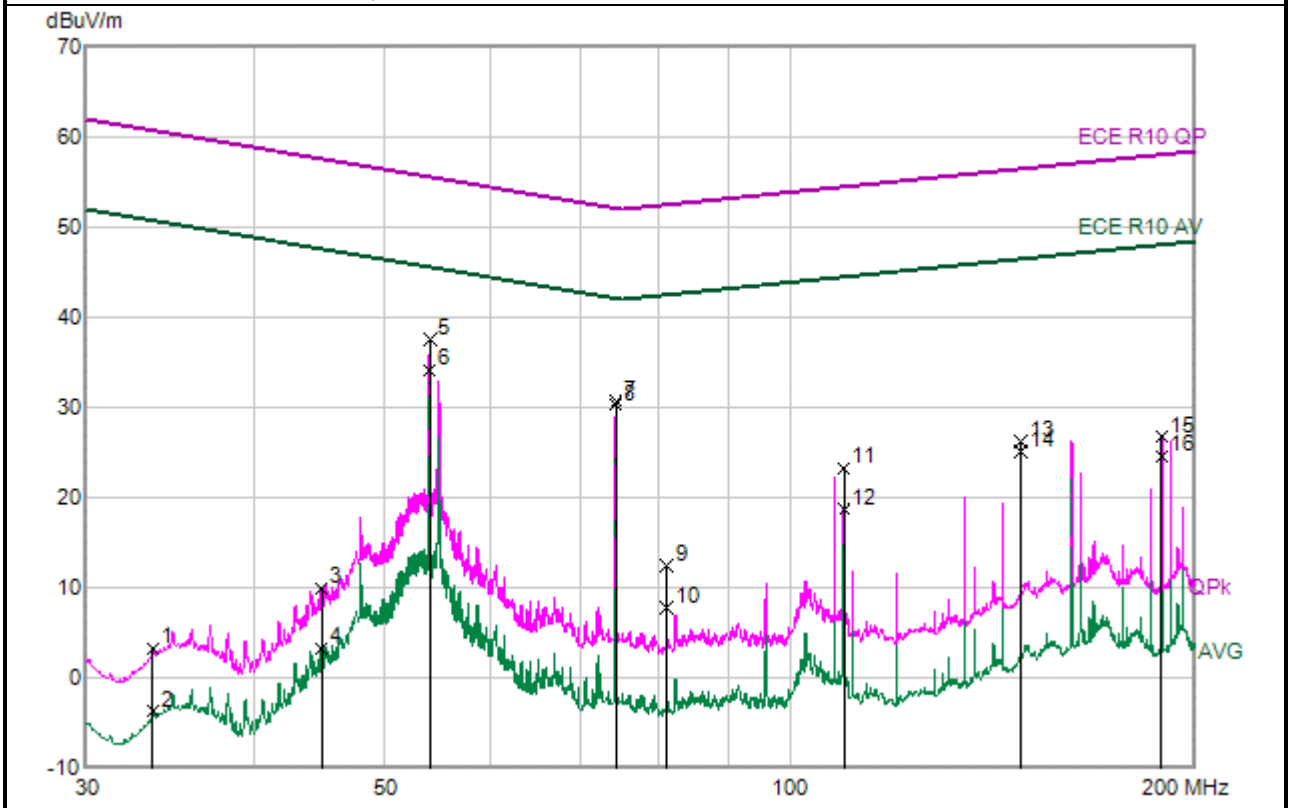


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	222.77	59.26	-16.5	42.76	59.15	16.39	QP
2	222.77	58.41	-16.5	41.91	49.15	7.24	AVG
3	297.02	61.38	-14.7	46.68	61.04	14.36	QP
4	297.02	59.75	-14.7	45.05	51.04	5.99	AVG
5	371.27	56.06	-13.3	42.76	62.51	19.75	QP
6	371.27	54.87	-13.3	41.57	52.51	10.94	AVG
7	408.41	63.34	-12.68	50.66	63	12.34	QP
8	408.41	59.69	-12.68	47.01	53	5.99	AVG
9	668.27	49.52	-8.82	40.7	63	22.3	QP
10	668.27	48.53	-8.82	39.71	53	13.29	AVG
11	779.66	46.63	-7.3	39.33	63	23.67	QP
12	779.66	42.55	-7.3	35.25	53	17.75	AVG
13	853.91	45.34	-5.8	39.54	63	23.46	QP
14	853.91	41.95	-5.8	36.15	53	16.85	AVG

Note: Result =Reading + Correct Factor, Margin =Limit-Result

9) Record No. 9 (30 - 200MHz)

30 - 200MHz: RBW = 120kHz,MT=1000ms

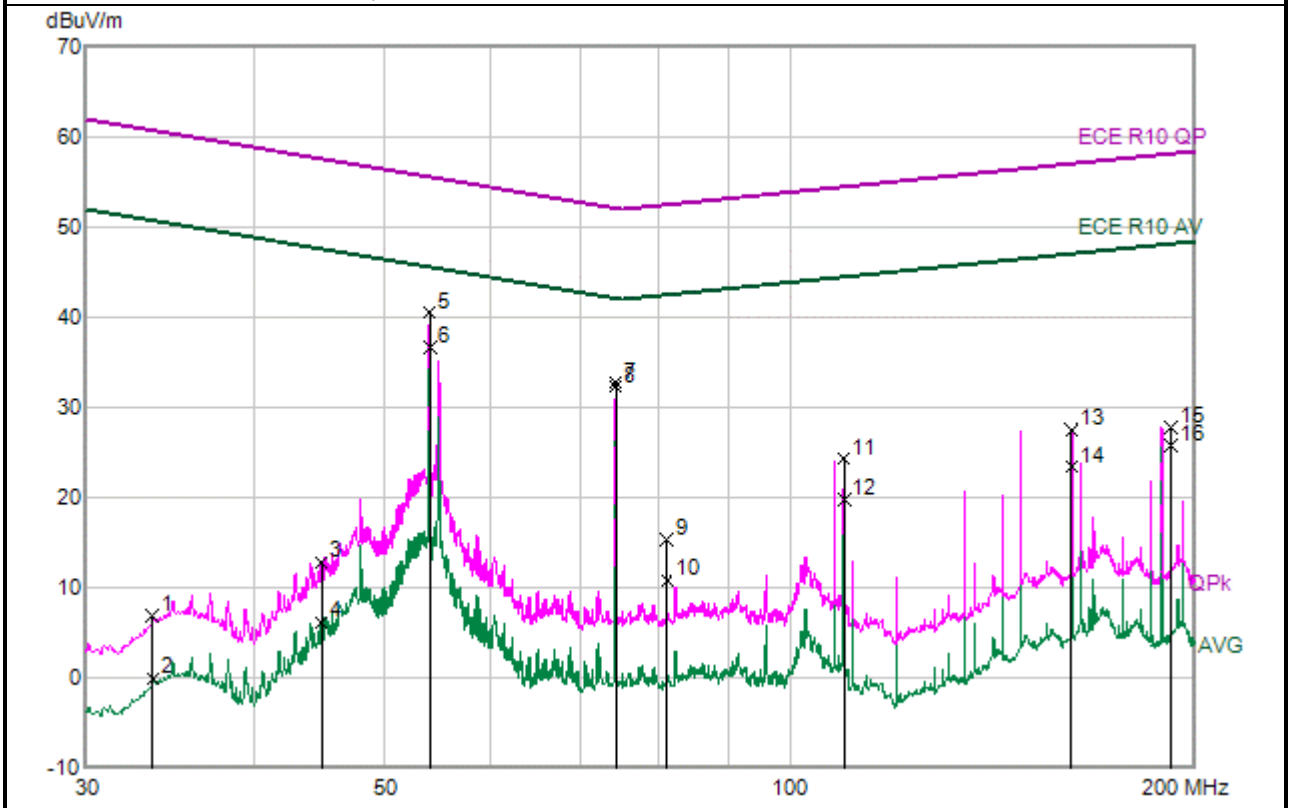


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	33.63	22.85	-19.57	3.28	60.75	57.47	QP
2	33.63	15.89	-19.57	-3.68	50.75	54.43	AVG
3	44.88	29.72	-19.75	9.97	57.6	47.63	QP
4	44.88	23.03	-19.75	3.28	47.6	44.32	AVG
5	54	57.98	-20.42	37.56	55.59	18.03	QP
6	54	54.59	-20.42	34.17	45.59	11.42	AVG
7	74.25	52.16	-21.44	30.72	52.11	21.39	QP
8	74.25	51.72	-21.44	30.28	42.11	11.83	AVG
9	81	33.86	-21.49	12.37	52.51	40.14	QP
10	81	29.29	-21.49	7.8	42.51	34.71	AVG
11	109.71	44.02	-20.79	23.23	54.5	31.27	QP
12	109.71	39.51	-20.79	18.72	44.5	25.78	AVG
13	148.5	43.97	-17.82	26.15	56.49	30.34	QP
14	148.5	43.01	-17.82	25.19	46.49	21.3	AVG
15	189	42.88	-16.11	26.77	58.07	31.3	QP
16	189	40.69	-16.11	24.58	48.07	23.49	AVG

Note: Result =Reading + Correct Factor, Margin =Limit-Result

10) Record No. 10 (30 - 200MHz)

30 - 200MHz: RBW = 120kHz,MT=1000ms

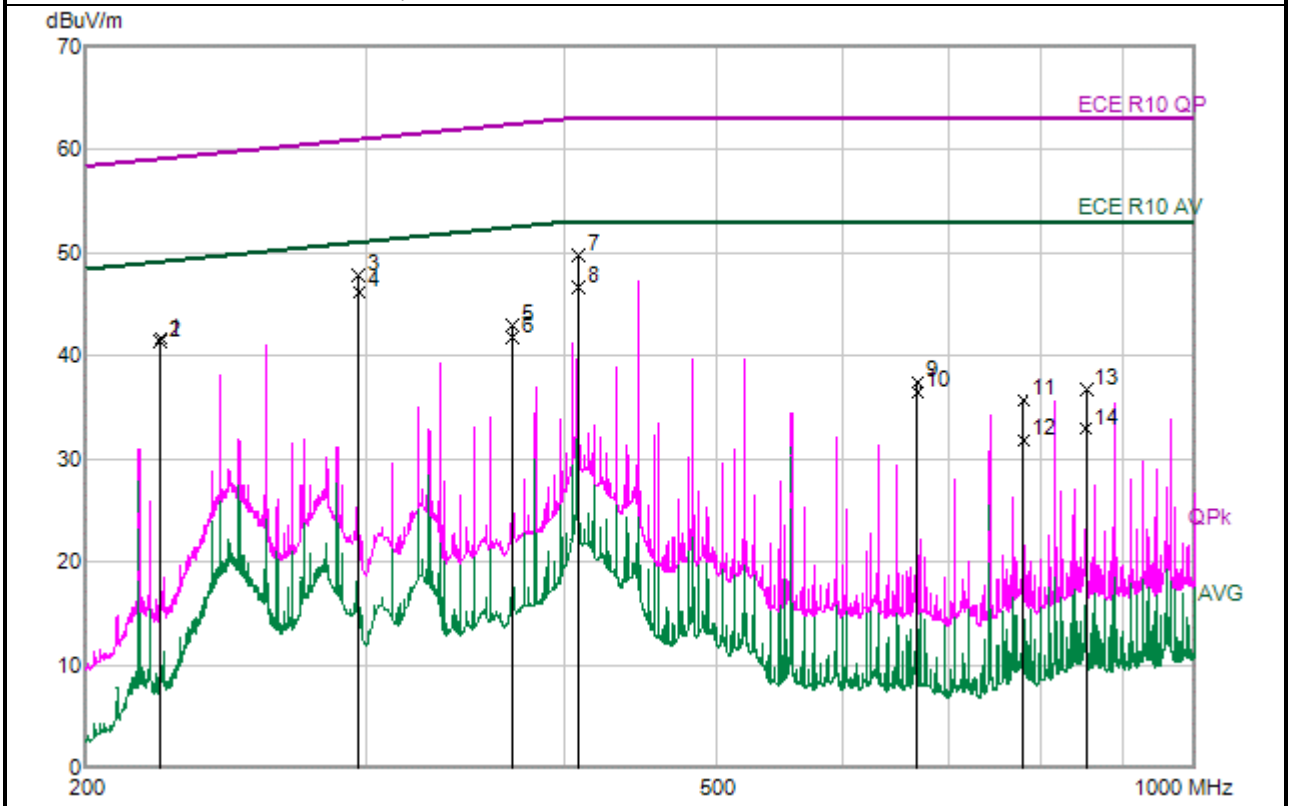


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	33.63	26.48	-19.57	6.91	60.75	53.84	QP
2	33.63	19.54	-19.57	-0.03	50.75	50.78	AVG
3	44.88	32.62	-19.75	12.87	57.6	44.73	QP
4	44.88	25.94	-19.75	6.19	47.6	41.41	AVG
5	54	60.96	-20.42	40.54	55.59	15.05	QP
6	54	57.06	-20.42	36.64	45.59	8.95	AVG
7	74.25	54.18	-21.44	32.74	52.11	19.37	QP
8	74.25	53.73	-21.44	32.29	42.11	9.82	AVG
9	81	36.9	-21.49	15.41	52.51	37.1	QP
10	81	32.29	-21.49	10.8	42.51	31.71	AVG
11	109.71	45.07	-20.79	24.28	54.5	30.22	QP
12	109.71	40.57	-20.79	19.78	44.5	24.72	AVG
13	162	44.86	-17.3	27.56	57.06	29.5	QP
14	162	40.67	-17.3	23.37	47.06	23.69	AVG
15	192	43.69	-15.86	27.83	58.18	30.35	QP
16	192	41.7	-15.86	25.84	48.18	22.34	AVG

Note: Result =Reading + Correct Factor, Margin =Limit-Result

11) Record No. 11 (200 - 1000MHz)

200 - 1000MHz: RBW = 120kHz,MT=1000ms

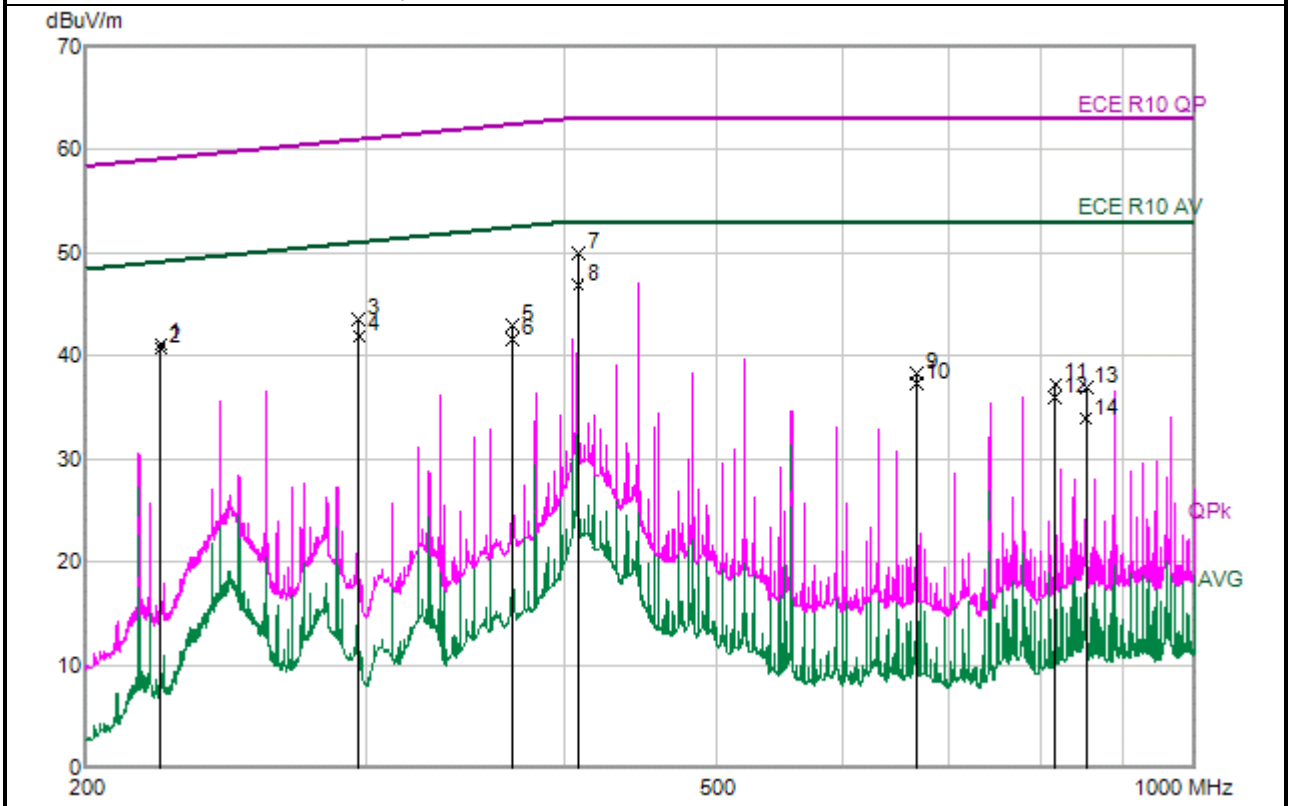


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	222.77	58.2	-16.5	41.7	59.15	17.45	QP
2	222.77	57.93	-16.5	41.43	49.15	7.72	AVG
3	297.02	62.53	-14.7	47.83	61.04	13.21	QP
4	297.02	60.9	-14.7	46.2	51.04	4.84	AVG
5	371.27	56.21	-13.3	42.91	62.51	19.6	QP
6	371.27	55.18	-13.3	41.88	52.51	10.63	AVG
7	408.41	62.45	-12.68	49.77	63	13.23	QP
8	408.41	59.32	-12.68	46.64	53	6.36	AVG
9	668.27	46.31	-8.82	37.49	63	25.51	QP
10	668.27	45.34	-8.82	36.52	53	16.48	AVG
11	779.66	43.06	-7.3	35.76	63	27.24	QP
12	779.66	39.13	-7.3	31.83	53	21.17	AVG
13	853.91	42.55	-5.8	36.75	63	26.25	QP
14	853.91	38.73	-5.8	32.93	53	20.07	AVG

Note: Result =Reading + Correct Factor, Margin =Limit-Result

12) Record No. 12 (200 - 1000MHz)

200 - 1000MHz: RBW = 120kHz,MT=1000ms

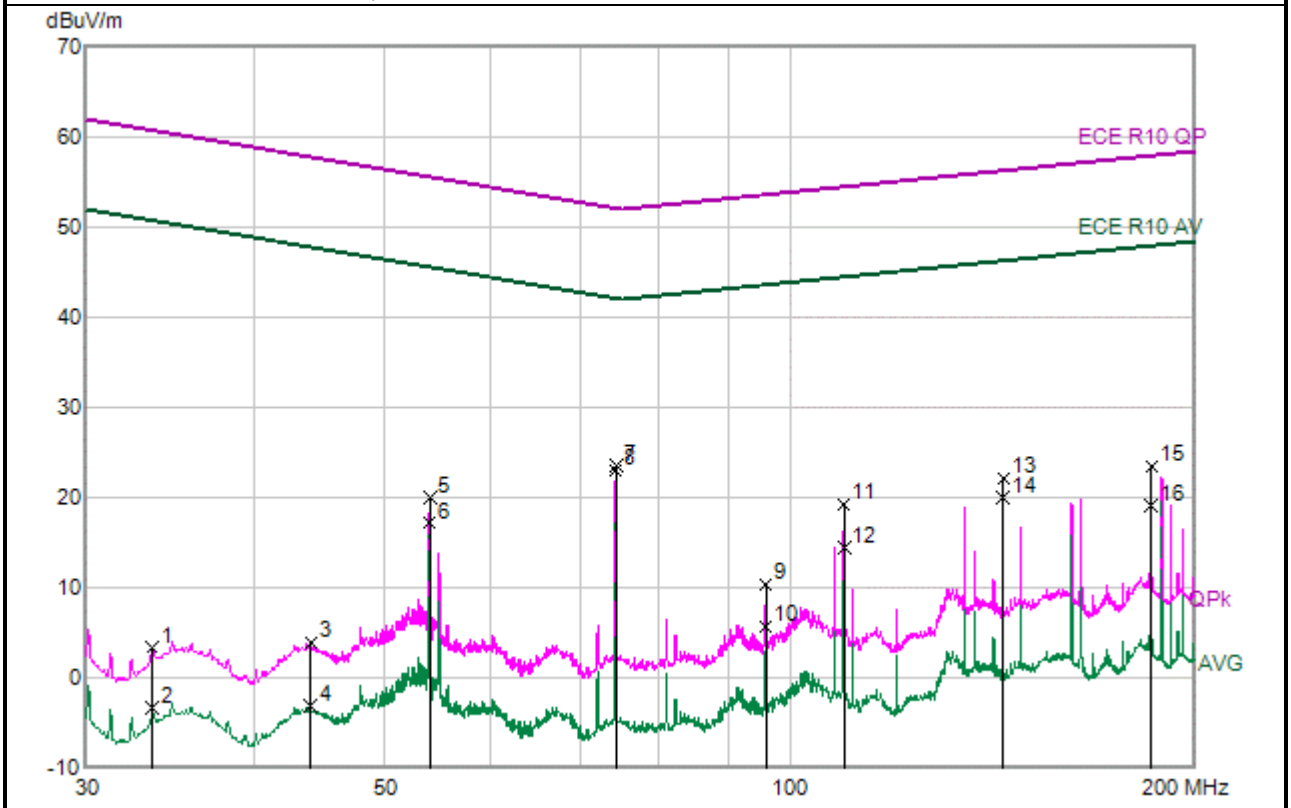


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	222.77	57.64	-16.5	41.14	59.15	18.01	QP
2	222.77	57.27	-16.5	40.77	49.15	8.38	AVG
3	297.02	58.26	-14.7	43.56	61.04	17.48	QP
4	297.02	56.62	-14.7	41.92	51.04	9.12	AVG
5	371.27	56.22	-13.3	42.92	62.51	19.59	QP
6	371.27	54.92	-13.3	41.62	52.51	10.89	AVG
7	408.41	62.71	-12.68	50.03	63	12.97	QP
8	408.41	59.61	-12.68	46.93	53	6.07	AVG
9	668.27	47.14	-8.82	38.32	63	24.68	QP
10	668.27	46.15	-8.82	37.33	53	15.67	AVG
11	816.8	43.74	-6.5	37.24	63	25.76	QP
12	816.8	42.49	-6.5	35.99	53	17.01	AVG
13	853.91	42.75	-5.8	36.95	63	26.05	QP
14	853.91	39.73	-5.8	33.93	53	19.07	AVG

Note: Result =Reading + Correct Factor, Margin =Limit-Result

13) Record No. 13 (30 - 200MHz)

30 - 200MHz: RBW = 120kHz,MT=1000ms

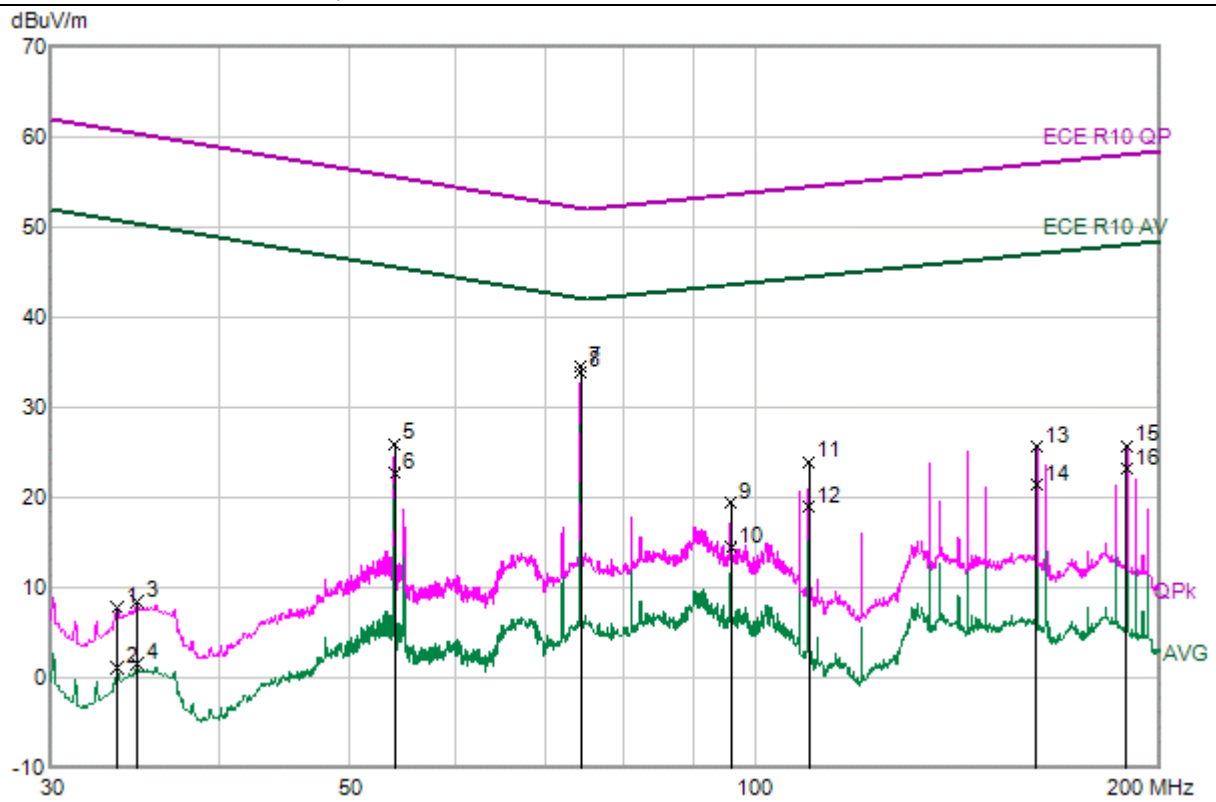


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	33.6	23	-19.58	3.42	60.76	57.34	QP
2	33.6	16.25	-19.58	-3.33	50.76	54.09	AVG
3	44.04	23.65	-19.74	3.91	57.81	53.9	QP
4	44.04	16.71	-19.74	-3.03	47.81	50.84	AVG
5	54	40.4	-20.42	19.98	55.59	35.61	QP
6	54	37.62	-20.42	17.2	45.59	28.39	AVG
7	74.25	44.99	-21.44	23.55	52.11	28.56	QP
8	74.25	44.45	-21.44	23.01	42.11	19.1	AVG
9	96	31.54	-21.19	10.35	53.62	43.27	QP
10	96	26.92	-21.19	5.73	43.62	37.89	AVG
11	109.71	40.05	-20.79	19.26	54.5	35.24	QP
12	109.71	35.23	-20.79	14.44	44.5	30.06	AVG
13	144	40.23	-18.11	22.12	56.29	34.17	QP
14	144	38.08	-18.11	19.97	46.29	26.32	AVG
15	185.64	39.71	-16.26	23.45	57.96	34.51	QP
16	185.64	35.41	-16.26	19.15	47.96	28.81	AVG

Note: Result =Reading + Correct Factor, Margin =Limit-Result

14) Record No. 14 (30 - 200MHz)

30 - 200MHz: RBW = 120kHz,MT=1000ms

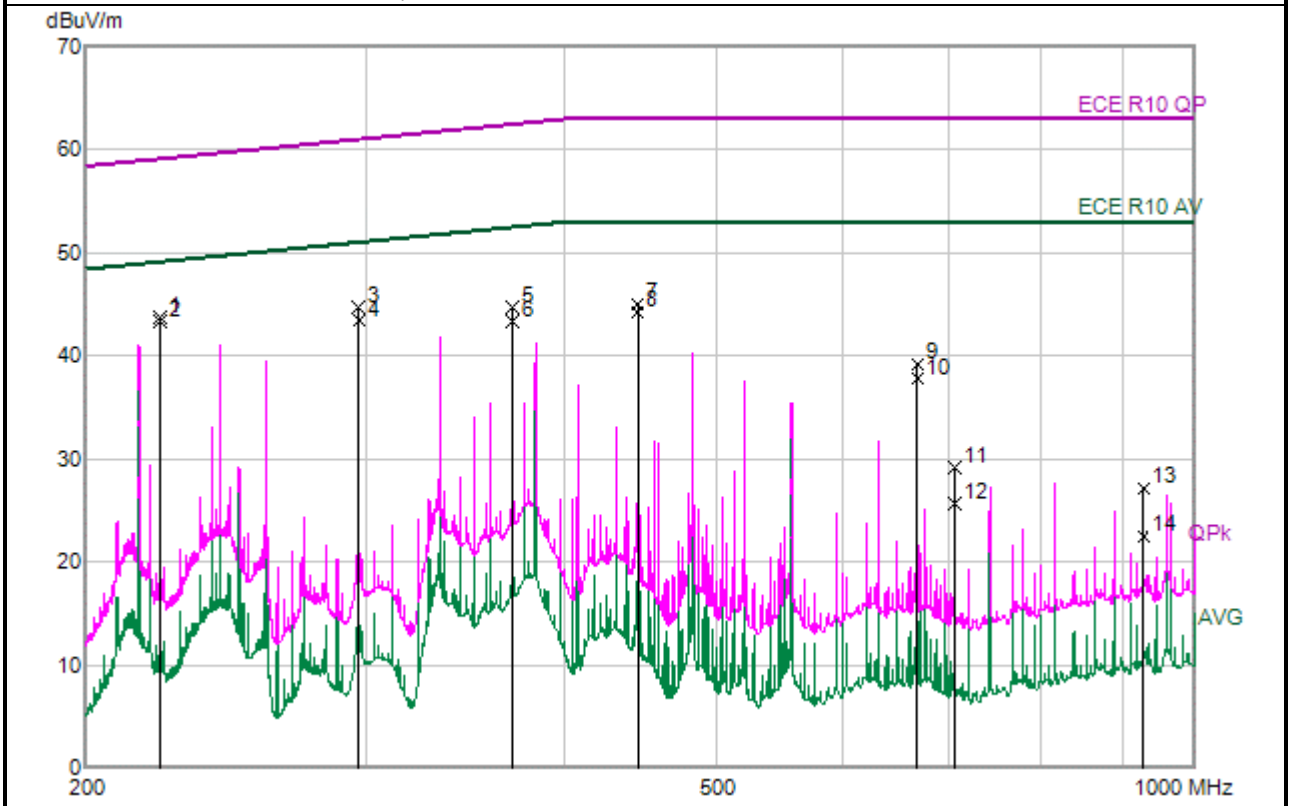


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	33.6	27.45	-19.58	7.87	60.76	52.89	QP
2	33.6	20.71	-19.58	1.13	50.76	49.63	AVG
3	34.77	27.89	-19.46	8.43	60.39	51.96	QP
4	34.77	21.03	-19.46	1.57	50.39	48.82	AVG
5	54	46.31	-20.42	25.89	55.59	29.7	QP
6	54	43.14	-20.42	22.72	45.59	22.87	AVG
7	74.25	55.98	-21.44	34.54	52.11	17.57	QP
8	74.25	55.35	-21.44	33.91	42.11	8.2	AVG
9	96	40.6	-21.19	19.41	53.62	34.21	QP
10	96	35.68	-21.19	14.49	43.62	29.13	AVG
11	109.71	44.72	-20.79	23.93	54.5	30.57	QP
12	109.71	39.76	-20.79	18.97	44.5	25.53	AVG
13	162	42.92	-17.3	25.62	57.06	31.44	QP
14	162	38.65	-17.3	21.35	47.06	25.71	AVG
15	189	41.82	-16.11	25.71	58.07	32.36	QP
16	189	39.24	-16.11	23.13	48.07	24.94	AVG

Note: Result =Reading + Correct Factor, Margin =Limit-Result

15) Record No. 15 (200 - 1000MHz)

200 - 1000MHz: RBW = 120kHz,MT=1000ms

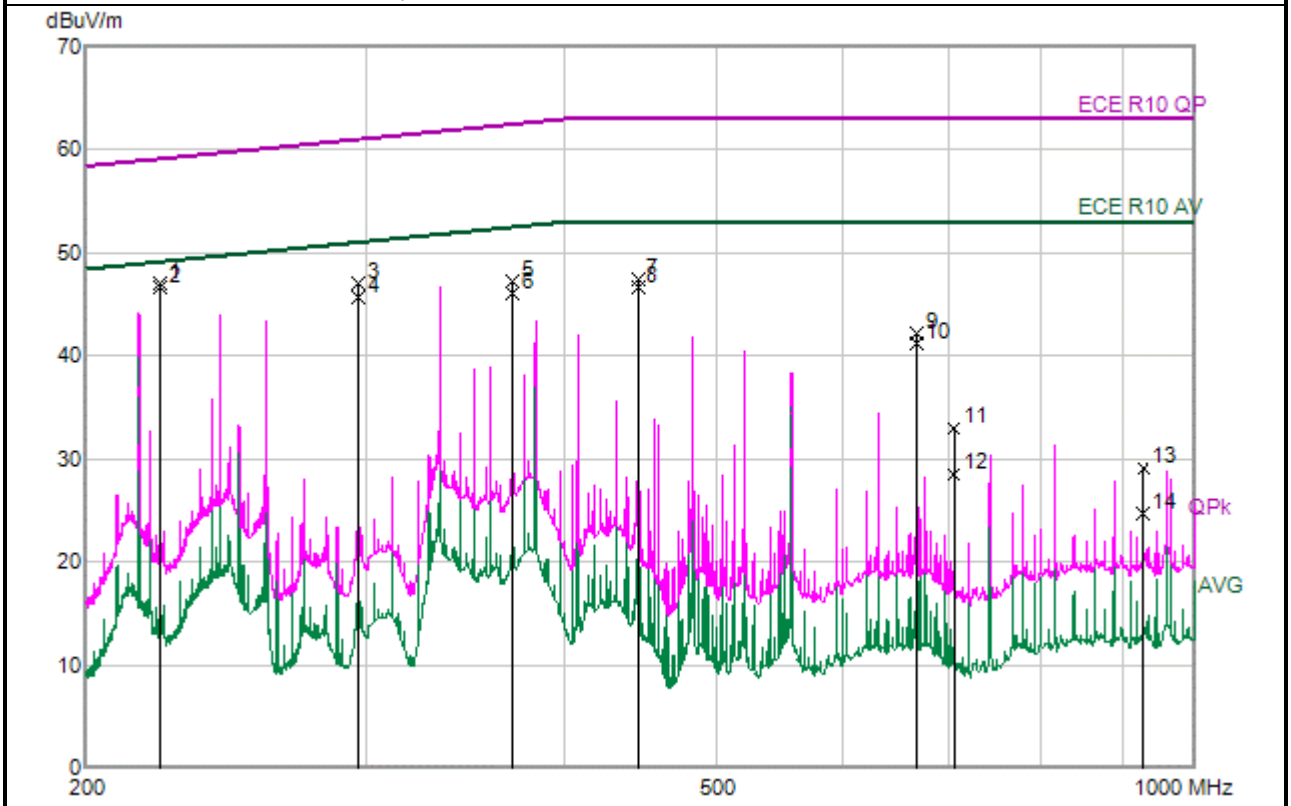


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	222.77	60.26	-16.5	43.76	59.15	15.39	QP
2	222.77	59.81	-16.5	43.31	49.15	5.84	AVG
3	297.02	59.48	-14.7	44.78	61.04	16.26	QP
4	297.02	58.15	-14.7	43.45	51.04	7.59	AVG
5	371.27	57.98	-13.3	44.68	62.51	17.83	QP
6	371.27	56.68	-13.3	43.38	52.51	9.13	AVG
7	445.52	57.11	-12.08	45.03	63	17.97	QP
8	445.52	56.34	-12.08	44.26	53	8.74	AVG
9	668.27	48.03	-8.82	39.21	63	23.79	QP
10	668.27	46.62	-8.82	37.8	53	15.2	AVG
11	705.41	37.74	-8.52	29.22	63	33.78	QP
12	705.41	34.2	-8.52	25.68	53	27.32	AVG
13	928.16	31.65	-4.51	27.14	63	35.86	QP
14	928.16	27.05	-4.51	22.54	53	30.46	AVG

Note: Result =Reading + Correct Factor, Margin =Limit-Result

16) Record No. 16 (200 - 1000MHz)

200 - 1000MHz: RBW = 120kHz,MT=1000ms



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	222.77	63.57	-16.5	47.07	59.15	12.08	QP
2	222.77	63.17	-16.5	46.67	49.15	2.48	AVG
3	297.02	61.74	-14.7	47.04	61.04	14	QP
4	297.02	60.37	-14.7	45.67	51.04	5.37	AVG
5	371.27	60.59	-13.3	47.29	62.51	15.22	QP
6	371.27	59.37	-13.3	46.07	52.51	6.44	AVG
7	445.52	59.49	-12.08	47.41	63	15.59	QP
8	445.52	58.73	-12.08	46.65	53	6.35	AVG
9	668.27	51.04	-8.82	42.22	63	20.78	QP
10	668.27	50.05	-8.82	41.23	53	11.77	AVG
11	705.41	41.49	-8.52	32.97	63	30.03	QP
12	705.41	37.02	-8.52	28.5	53	24.5	AVG
13	928.16	33.66	-4.51	29.15	63	33.85	QP
14	928.16	29.2	-4.51	24.69	53	28.31	AVG

Note: Result =Reading + Correct Factor, Margin =Limit-Result

6.2 Conducted transient disturbances

Test Requirement: ECE R10.06
Test Method: ISO 7637-2:2004

Limit:

Table – Limits of transient disturbances

	Maximum allowed pulse amplitude for	
Polarity of pulse amplitude	Vehicles 12V systems	Vehicles 24V systems
Positive	+75	+150
Negative	-100	-450

6.2.1 E.U.T. Operation

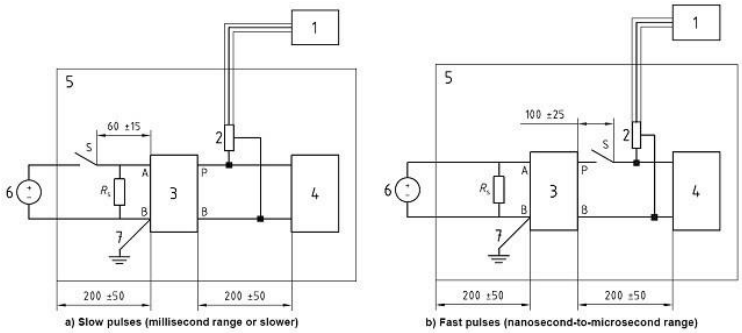
Operating Environment:

Temperature: 24.3 °C Humidity: 50.6 % RH Atmospheric Pressure: 1020 mbar

6.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	DC13.5V power supply, USB1 connected to a USB flash drive, playing music, adjust the volume to the maximum, keeping EUT working normally.
Pre-scan	01	DC13.5V power supply, USB2 connected to a USB flash drive, playing music, adjust the volume to the maximum, keeping EUT working normally.
Pre-scan	02	DC13.5V power supply, TF card plays music, with the volume set to maximum, keeps EUT working normally.
Pre-scan	03	DC13.5V power supply, connected to phone Phonelink, playing music, volume set to maximum, keeping EUT working normally.
Final test	04	DC13.5V power supply, connected to BT, playing music, volume set to maximum, keeping EUT working normally.

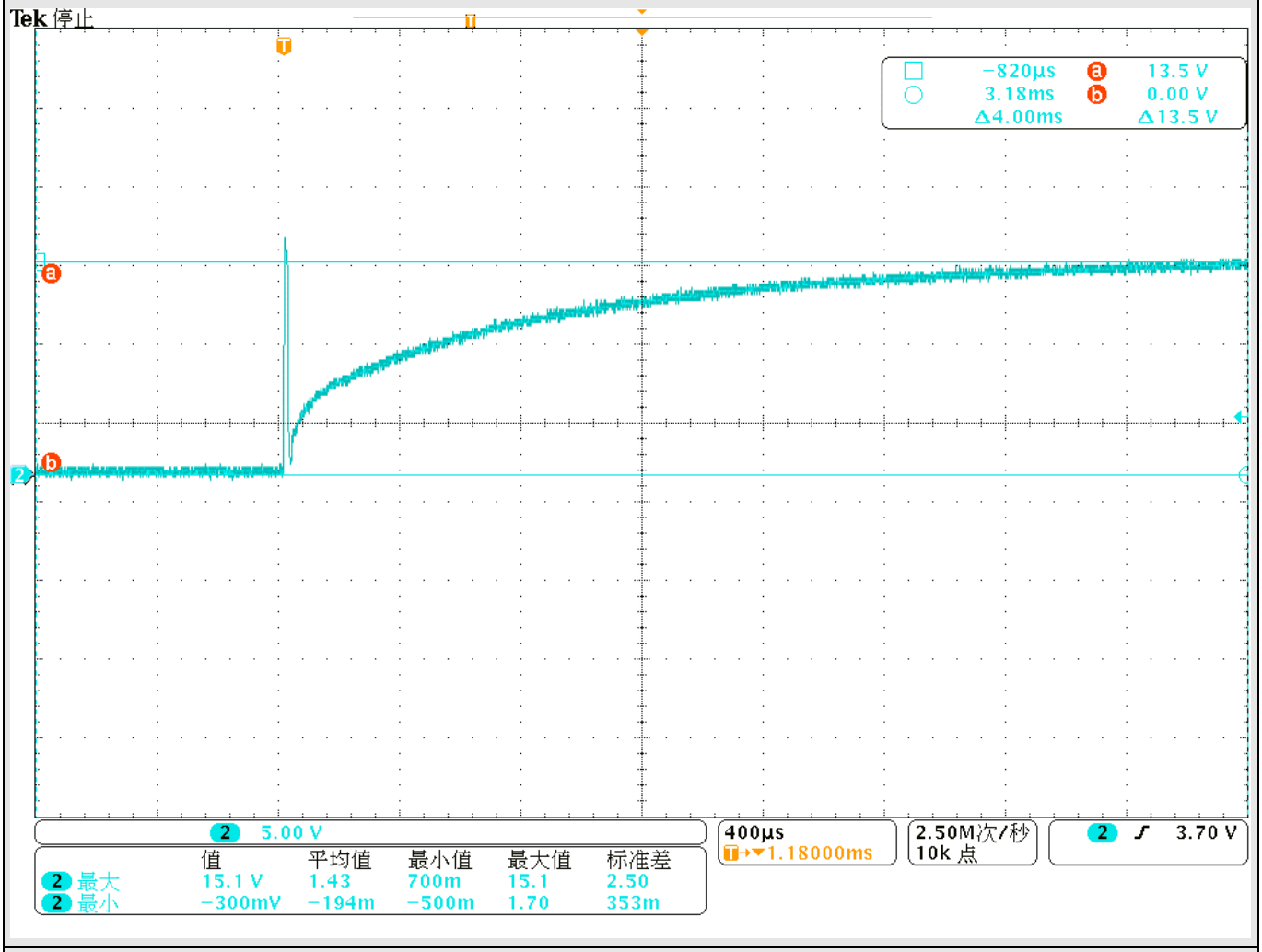
6.2.3 Test Setup Diagram



Key	
1. oscilloscope	5. ground plane
2. voltage probe	6. power supply
3. artificial network	7. Ground connection; length 100 mm
4. EUT(source of transient)	

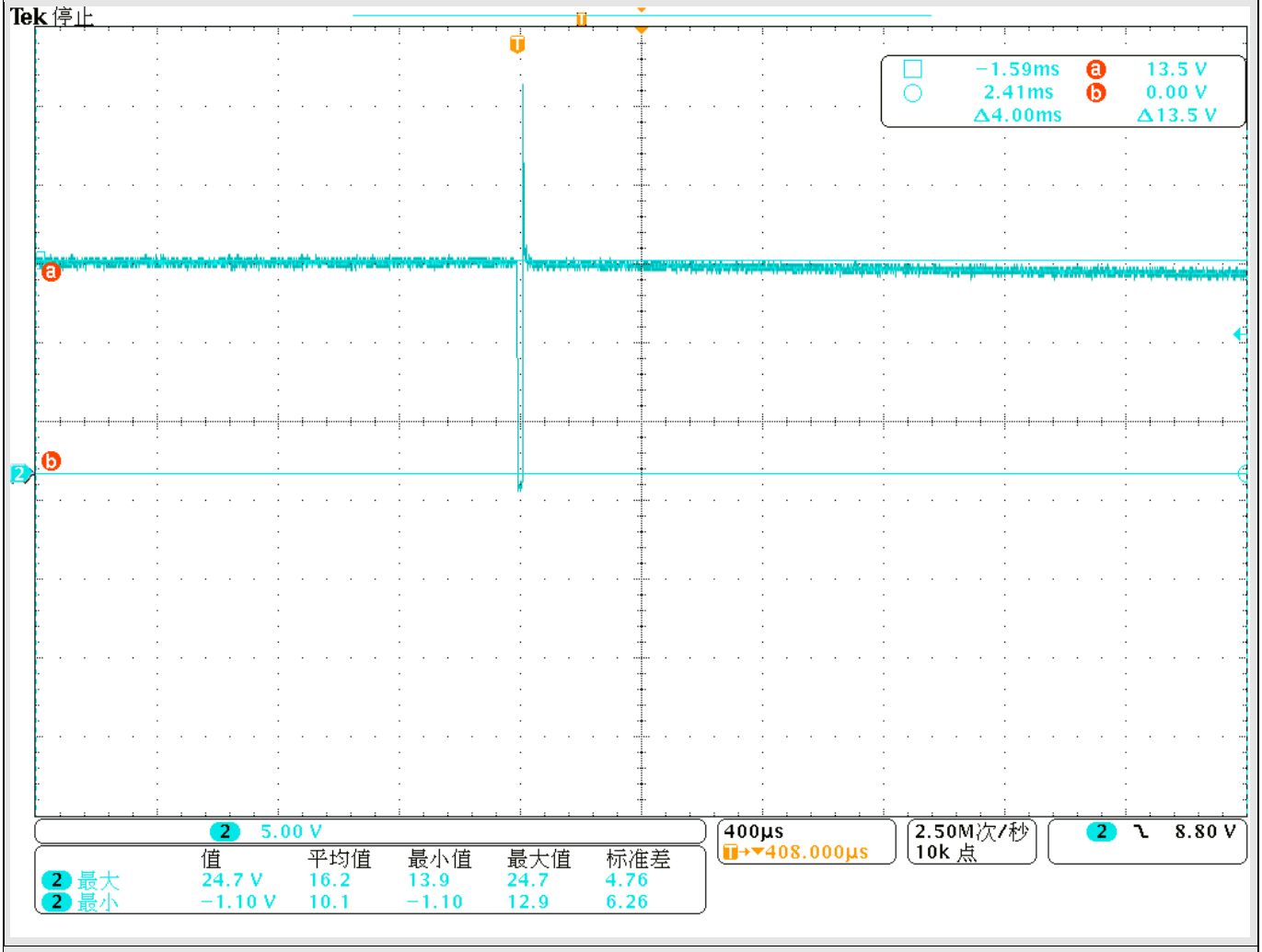
6.2.4 Measurement Procedure and Data

Mode 00					
Switch type	Pulse	Test Times	Off →On		
			Fast Pulses		
			Worst Reading	Limit	Result
Electronic switch	Positive	10	+1.6V	+75V	Pass
	Negative		-13.8V	-100V	Pass



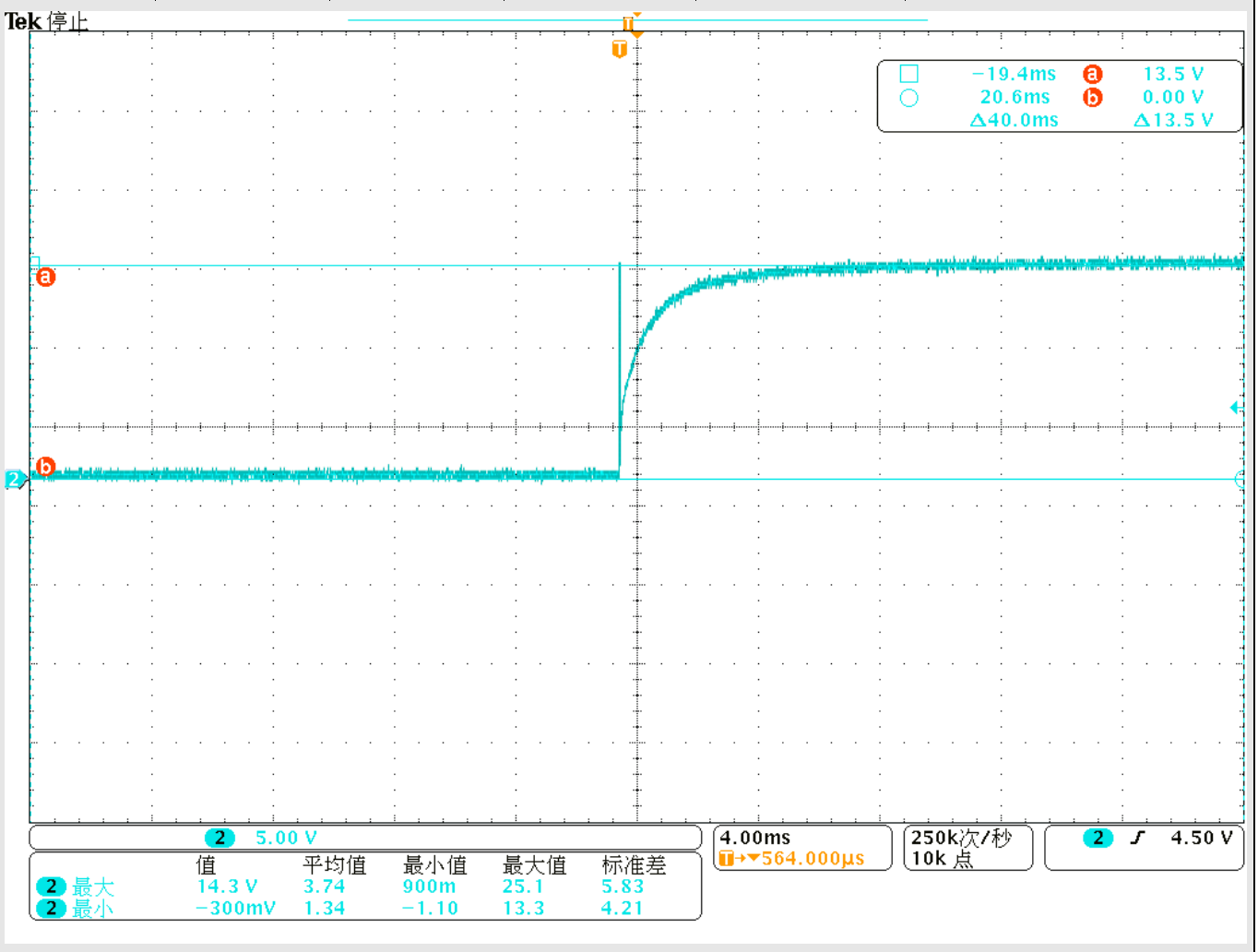
maximum amplitude

Mode 00					
Switch type	Pulse	Test Times	On → Off		
			Fast Pulses		
			Worst Reading	Limit	Result
Electronic switch	Positive	10	+11.2V	+75V	Pass
	Negative		-14.6V	-100V	Pass



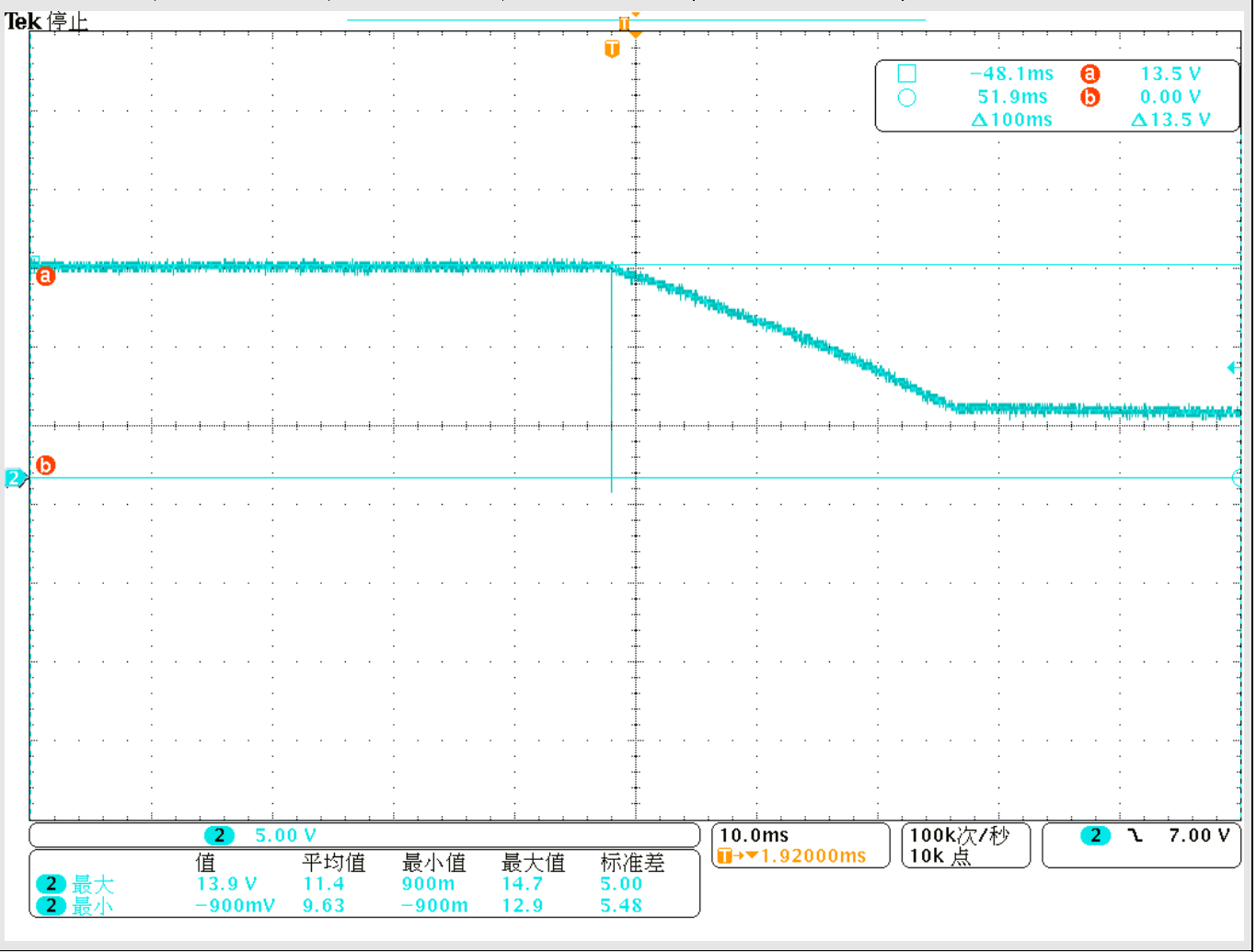
maximum amplitude

Mode 00					
Switch type	Pulse	Test Times	Off →On		
			Slow Pulses		
			Worst Reading	Limit	Result
Electronic switch	Positive	10	+0.8V	+75V	Pass
	Negative		-13.8V	-100V	Pass



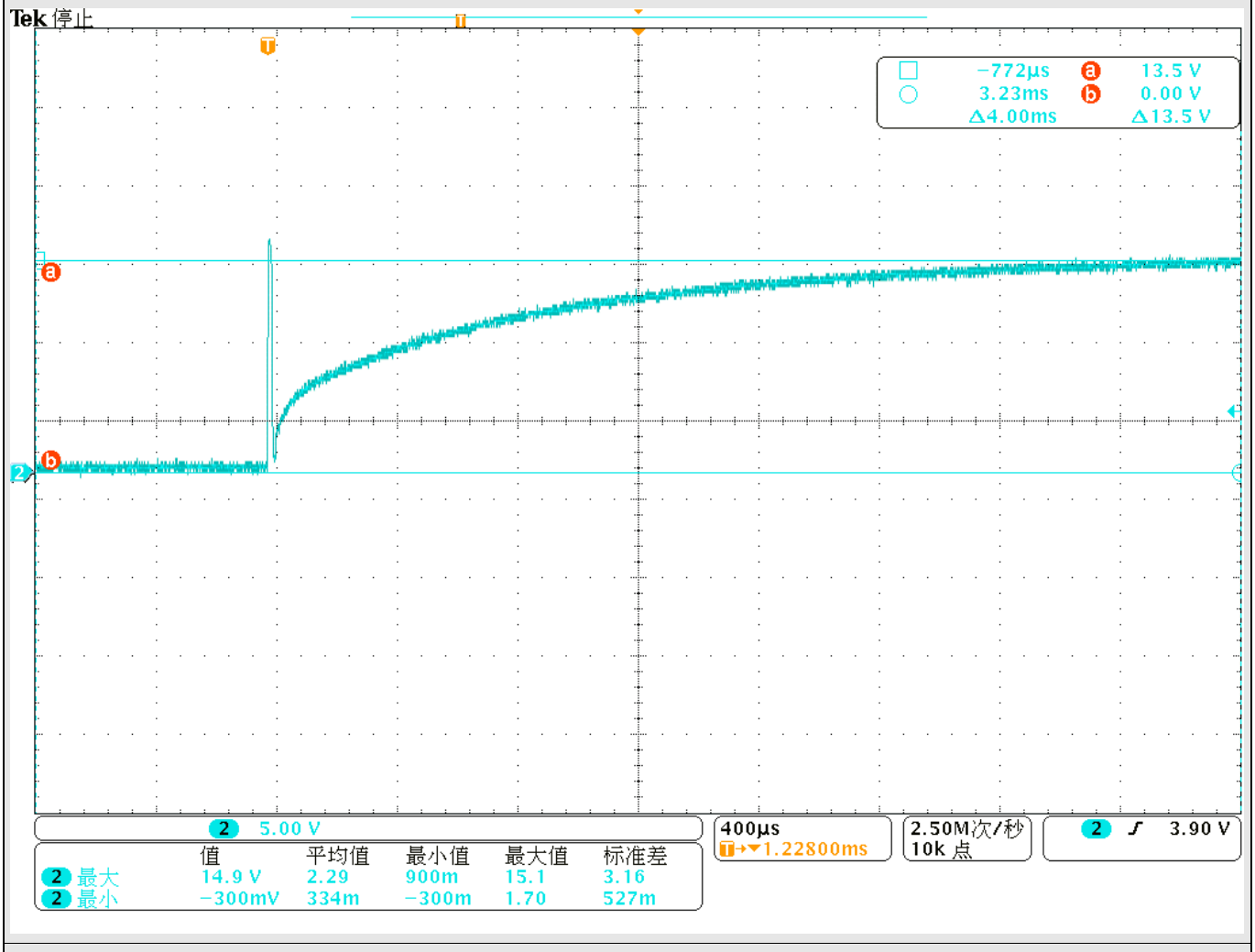
maximum amplitude

Mode 00					
Switch type	Pulse	Test Times	On → Off		
			Slow Pulses		
			Worst Reading	Limit	Result
Electronic switch	Positive	10	+0.4V	+75V	Pass
	Negative		-14.4V	-100V	Pass



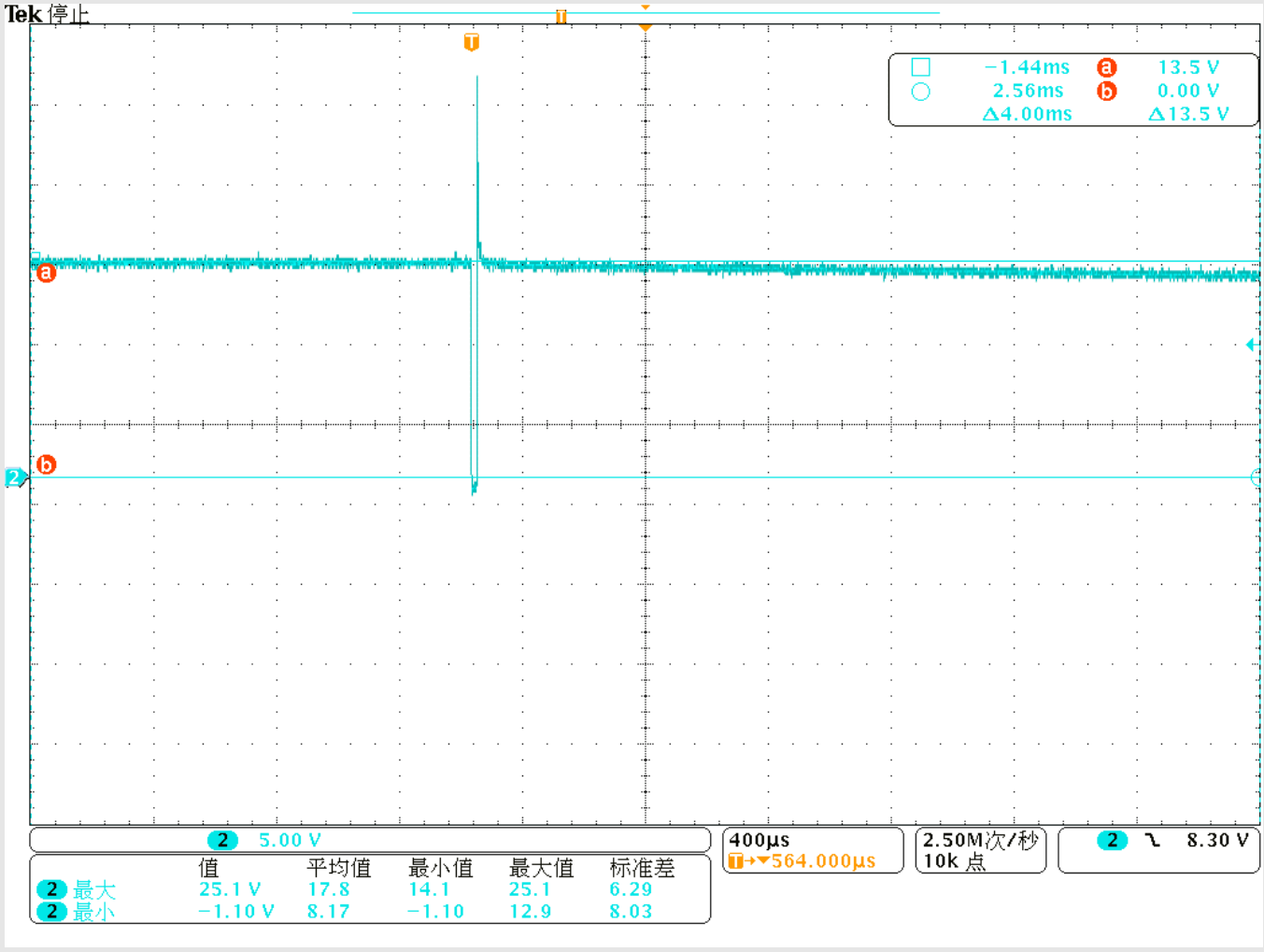
maximum amplitude

Mode 04					
Switch type	Pulse	Test Times	Off →On		
			Fast Pulses		
			Worst Reading	Limit	Result
Electronic switch	Positive	10	+1.4V	+75V	Pass
	Negative		-13.8V	-100V	Pass



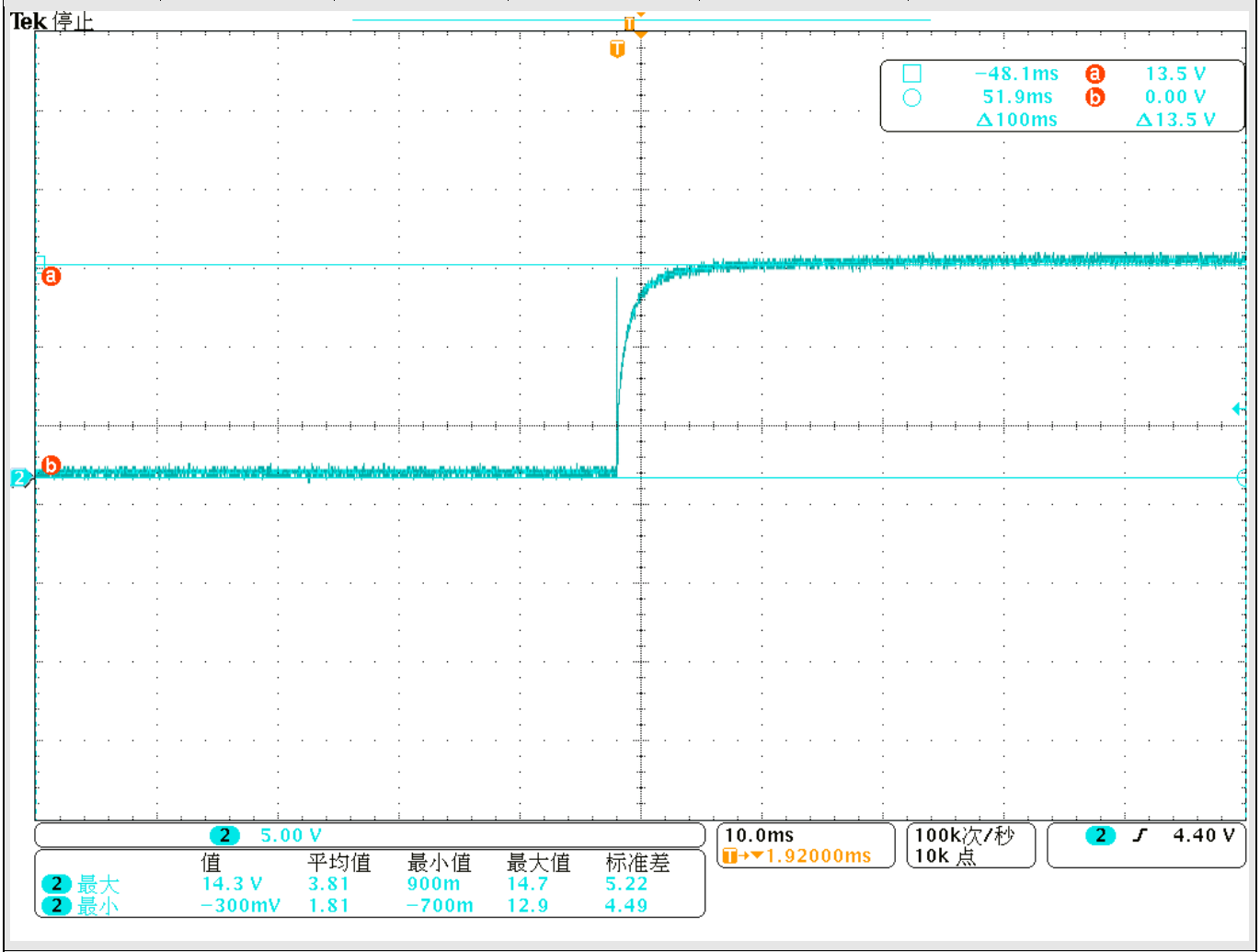
maximum amplitude

Mode 04					
Switch type	Pulse	Test Times	On → Off		
			Fast Pulses		
			Worst Reading	Limit	Result
Electronic switch	Positive	10	+11.6V	+75V	Pass
	Negative		-14.6V	-100V	Pass



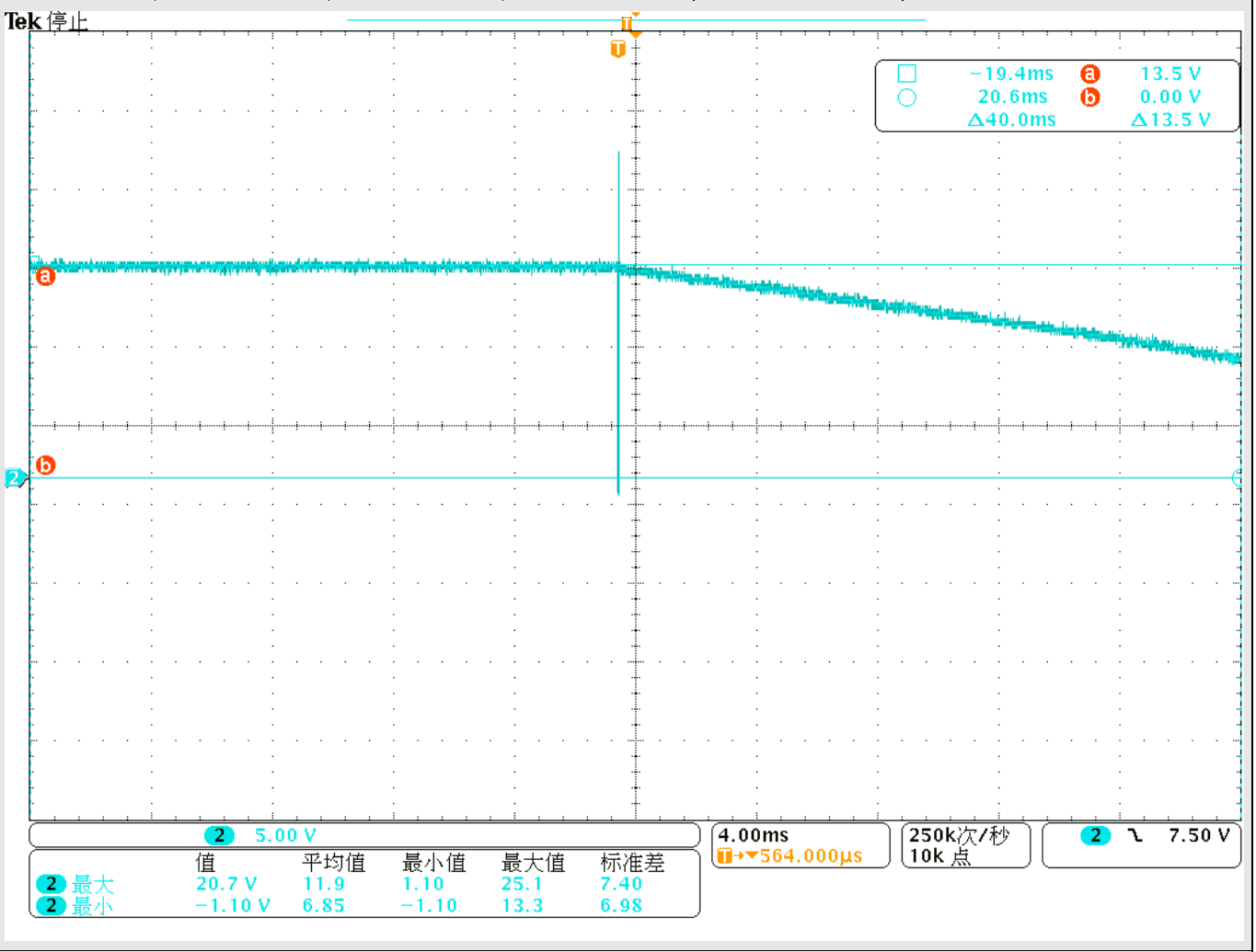
maximum amplitude

Mode 04					
Switch type	Pulse	Test Times	Off →On		
			Slow Pulses		
			Worst Reading	Limit	Result
Electronic switch	Positive	10	+0.8V	+75V	Pass
	Negative		-13.8V	-100V	Pass



maximum amplitude

Mode 04					
Switch type	Pulse	Test Times	On → Off		
			Slow Pulses		
			Worst Reading	Limit	Result
Electronic switch	Positive	10	+7.2V	+75V	Pass
	Negative		-14.6V	-100V	Pass



maximum amplitude

7 Immunity Test Results

Performance Criteria Description in ECE R10-06, ISO 7637-2:2004, ISO 11452-2:2004 and ISO 11452-4:2011.

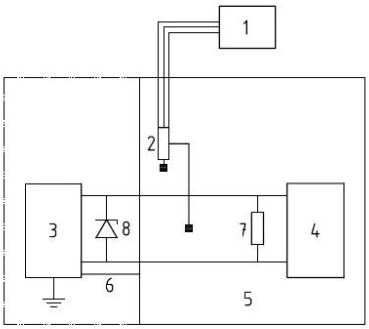
Criterion A	All functions of a device/system perform as designed during and after exposure to disturbance
Criterion B	All functions of a device/system perform as designed during exposure. However, one or more of them can go beyond specified tolerance. All functions return automatically to within normal limits after exposure is removed. Memory functions shall remain class A
Criterion C	One or more functions of a device/system do not perform as designed during exposure but return automatically to normal operation after exposure is removed
Criterion D	One or more functions of a device/system do not perform as designed during exposure and do not return to normal operation until exposure is removed and the device/system is reset by simple "operator/use" action
Criterion E	One or more functions of a device/system do not perform as designed during and after exposure and cannot be returned to proper operation without repairing or replacing the device/system

7.1 Conducted transient immunity

Test Requirement: ECE R10.06

Test Method: ISO 7637-2:2004

7.1.1 Test Setup Diagram



Key

1 oscilloscope or equivalent
2 voltage probe
3 test pulse generator with internal power supply resistance R_i
4 DUT
5 ground plane
6 Ground connection
7 optional resistor (R_v) [a]
8 optional diode bridge [b]

7.1.2 E.U.T. Operation

Operating Environment:

Temperature: 24.3 °C Humidity: 50.2 % RH Atmospheric Pressure: 1020 mbar

7.1.3 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	DC13.5V power supply, USB1 connected to a USB flash drive, playing music, adjust the volume to the maximum, keeping EUT working normally.
Final test	01	DC13.5V power supply, USB2 connected to a USB flash drive, playing music, adjust the volume to the maximum, keeping EUT working normally.
Final test	02	DC13.5V power supply, TF card plays music, with the volume set to maximum, keeps EUT working normally.
Final test	03	DC13.5V power supply, connected to phone Phonelink, playing music, volume set to maximum, keeping EUT working normally.
Final test	04	DC13.5V power supply, connected to BT, playing music, volume set to maximum, keeping EUT working normally.

7.1.4 Test Condition and Results:

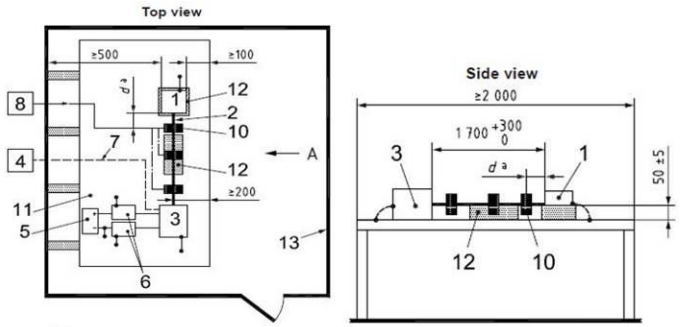
Test Pulse Number	Immunity Test Level	Min. number of pulses or test time	Performance Criterion required	Result / Observations
Mode 00; Mode 01; Mode 02; Mode 03; Mode 04				
1	III (Us=-75V)	5000 pulses	C	C
2a	III (Us=+37V)	5000 pulses	B	A
2b	III (Us=+10V)	10 pulses	C	C
3a	III (Us=-112V)	1h	A	A
3b	III (Us=+75V)	1h	A	A
4	III (Us=-6V)	1 pulse	C	C
A: No degradation in the performance of the EUT was observed C: The EUT resets periodicity during the test and recover automatically after the test.				

7.2 Bulk Current Injection(20MHz-400MHz)

Test Requirement: ECE R10.06

Test Method: ISO 11452-4:2011

7.2.1 Test Setup Diagram



Key

1 DUT (connected to ground if specified in the test plan)
2 wiring harness (S)
3 load simulator (placement and ground connection according to 7.5)
4 stimulation and monitoring system
5 power supply
6 AN
7 optical fibres
8 high-frequency equipment
9 optional current measurement probe (not shown in this figure, but shown in Figure 2)
10 injection probe (represented at 3 positions)
11 ground plane (connected to the shielded room)
12 low relative permittivity support ($\varepsilon_r \leq 1,4$)
13 shielded room

7.2.2 E.U.T. Operation

Operating Environment:

Temperature: 22.3 °C Humidity: 51.4 % RH Atmospheric Pressure: 1020 mbar

7.2.3 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	DC13.5V power supply, USB1 connected to a USB flash drive, playing music, adjust the volume to the maximum, keeping EUT working normally.
Final test	01	DC13.5V power supply, USB2 connected to a USB flash drive, playing music, adjust the volume to the maximum, keeping EUT working normally.
Final test	02	DC13.5V power supply, TF card plays music, with the volume set to maximum, keeps EUT working normally.
Final test	03	DC13.5V power supply, connected to phone Phonelink, playing music, volume set to maximum, keeping EUT working normally.
Final test	04	DC13.5V power supply, connected to BT, playing music, volume set to maximum, keeping EUT working normally.

7.2.4 Test Condition and Results:

Frequency (MHz)	Test Level (mA)	Test Location	Step Size	Dwell Time	Result / Observations
20~400	60	15cm	5%	2s	A
A: No degradation in the performance of the EUT was observed					

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch Testing Center EEC Laboratory.
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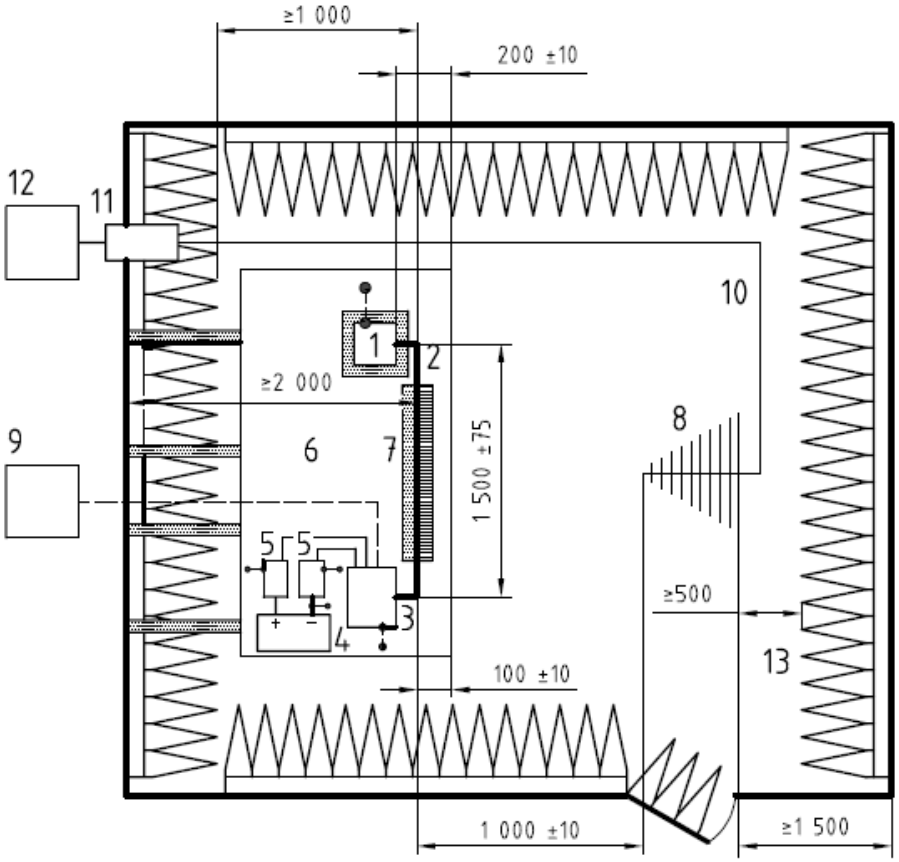
中国·深圳·宝安区福永街道新田社区凤塘大道50号鑫龙科技工业园A栋105室 邮编: 518103 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

7.3 Radiation immunity-ALSE(400MHz-2GHz)

Test Requirement: ECE R10.06
Test Method: ISO 11452-2:2004

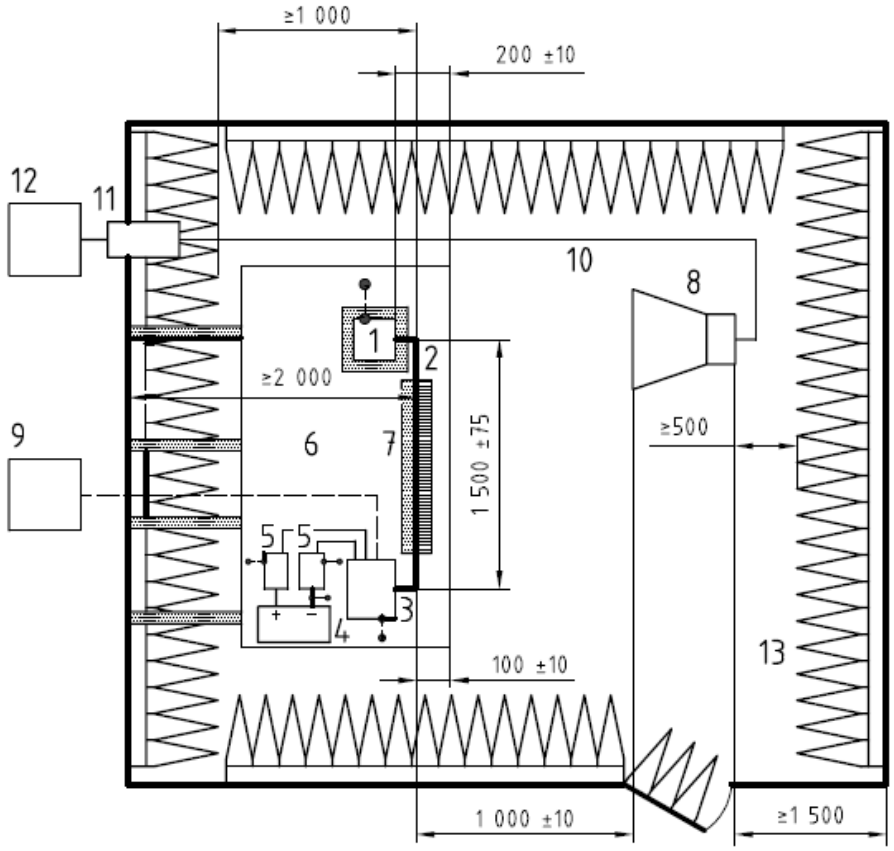
7.3.1 Test Setup Diagram



Key

1	DUT (grounded locally if required in test plan)	6	ground plane (bonded to shielded enclosure)	10	high quality double-shielded coaxial cable (50 Ω)
2	test harness	7	low relative permittivity support ($\varepsilon_r \leqslant 1{,}4$)	11	bulkhead connector
3	load simulator (placement and ground: connection according to 7.5)	8	log-periodic antenna	12	RF signal generator and amplifier
4	power supply (location optional)	9	stimulation and monitoring system	13	RF absorber material
5	artificial network (AN)				

Figure — Example test set-up — Log-periodic antenna



Key

1 DUT (grounded locally if required in test plan)
2 test harness
3 load simulator (placement and ground: connection according to 7.5)
4 power supply (location optional)
5 artificial network (AN)
6 ground plane (bonded to shielded enclosure)
7 low relative permittivity support ($\varepsilon_r \leqslant 1{,}4$)
8 horn antenna
9 stimulation and monitoring system
10 high quality double-shielded coaxial cable (50 Ω)
11 bulkhead connector
12 RF signal generator and amplifier
13 RF absorber material

Figure — Example test set-up for frequencies above 1 GHz — Horn antenna

7.3.2 E.U.T. Operation

Operating Environment:

Temperature: 22.1 °C Humidity: 51 % RH Atmospheric Pressure: 1020 mbar

7.3.3 Test Mode Description

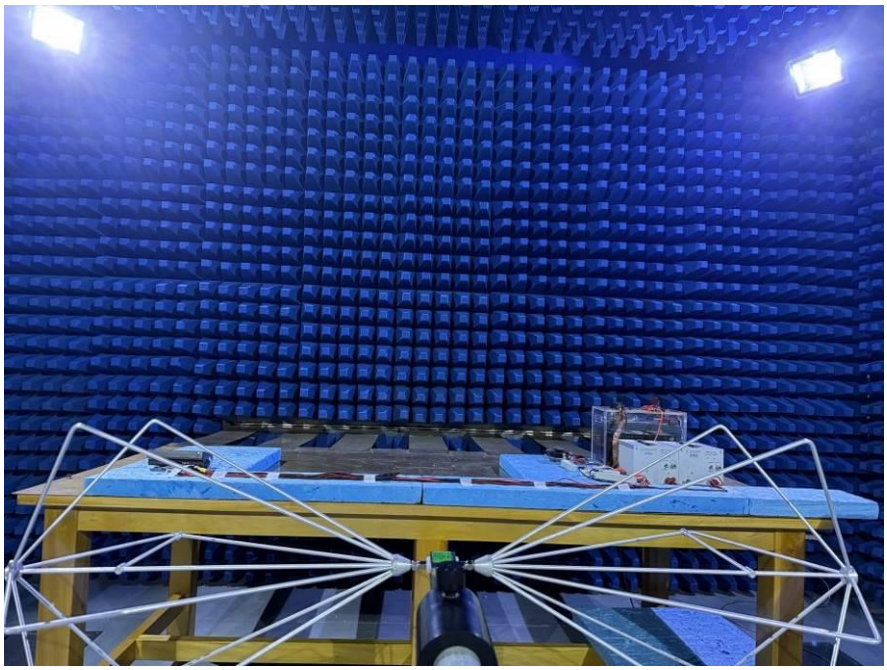
Pre-scan / Final test	Mode Code	Description
Final test	00	DC13.5V power supply, USB1 connected to a USB flash drive, playing music, adjust the volume to the maximum, keeping EUT working normally.
Final test	01	DC13.5V power supply, USB2 connected to a USB flash drive, playing music, adjust the volume to the maximum, keeping EUT working normally.
Final test	02	DC13.5V power supply, TF card plays music, with the volume set to maximum, keeps EUT working normally.
Final test	03	DC13.5V power supply, connected to phone Phonelink, playing music, volume set to maximum, keeping EUT working normally.
Final test	04	DC13.5V power supply, connected to BT, playing music, volume set to maximum, keeping EUT working normally.

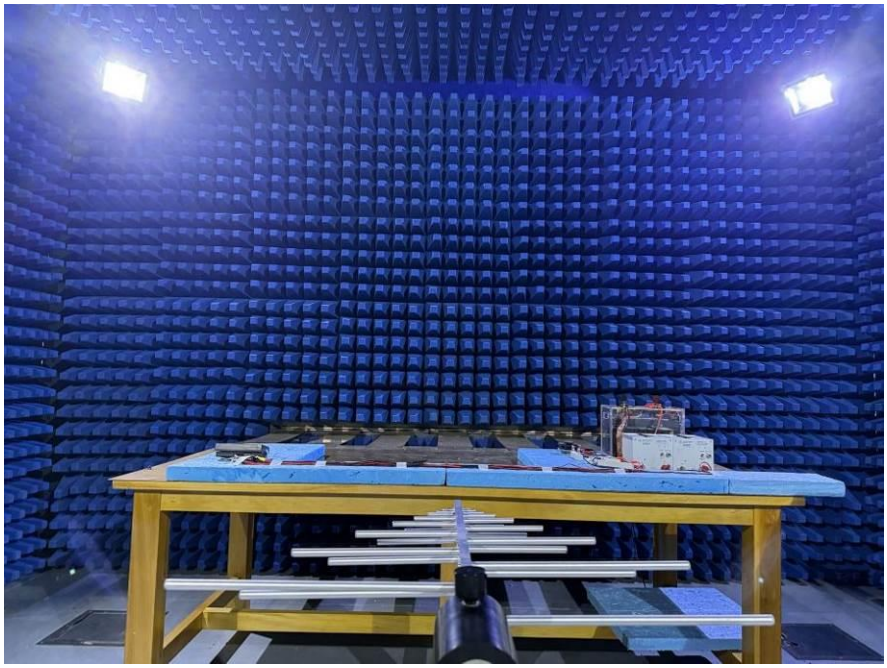
7.3.4 Test Condition and Results:

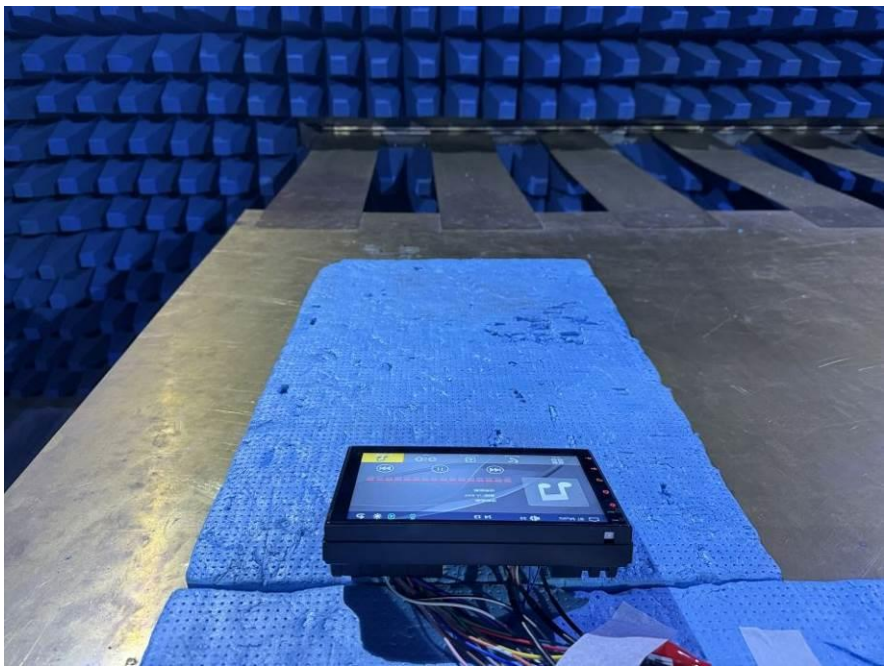
Frequency (MHz)	Test Level (V/m)	EUT Face	Step Size	Dwell time	Result / Observations
400~800	30	Front	2%	2s	A
800~2000	30	Front	2%	2s	A
A: No degradation in the performance of the EUT was observed					

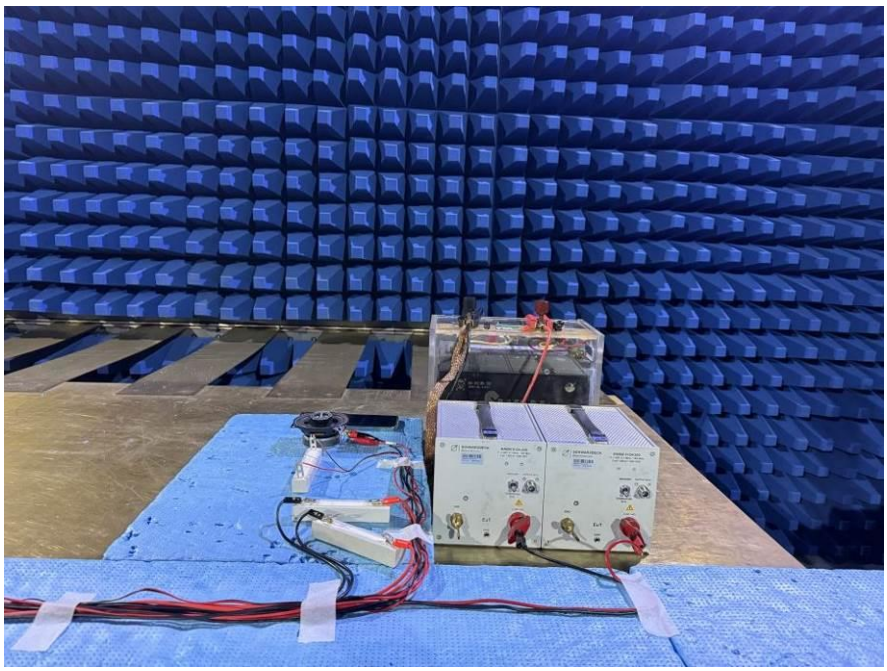
8 Test Setup Photo

Radiated Emission(30MHz-1GHz)



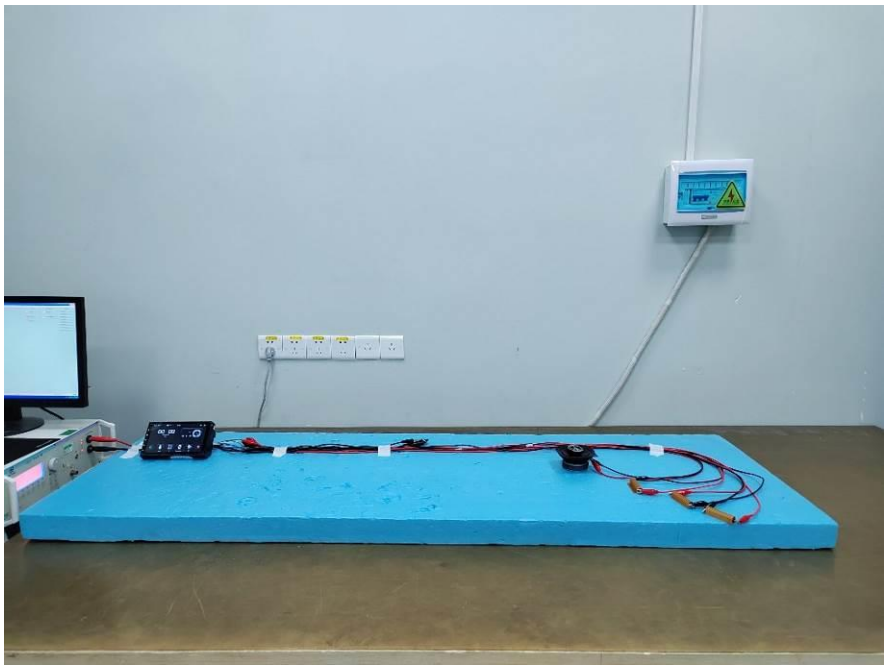




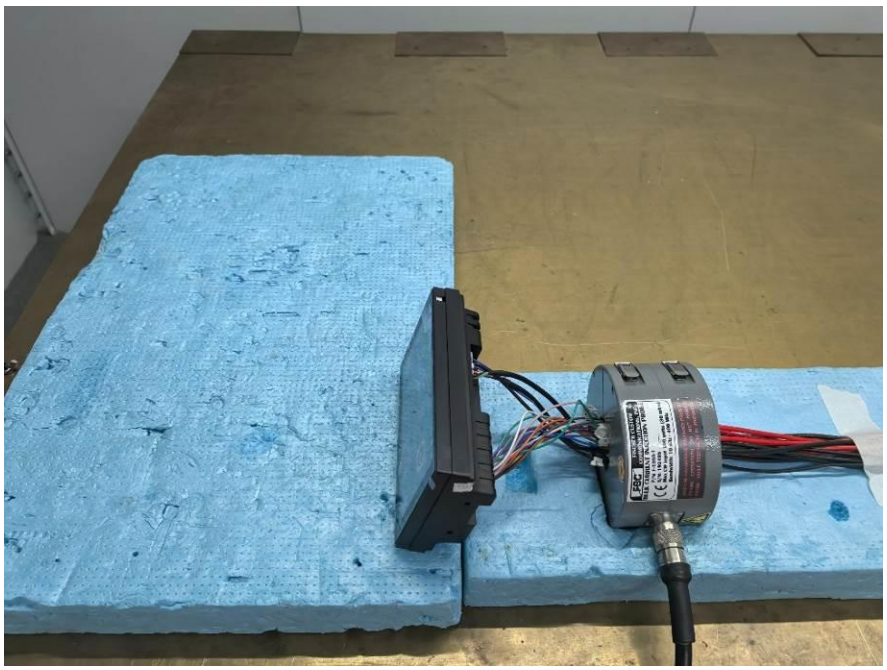


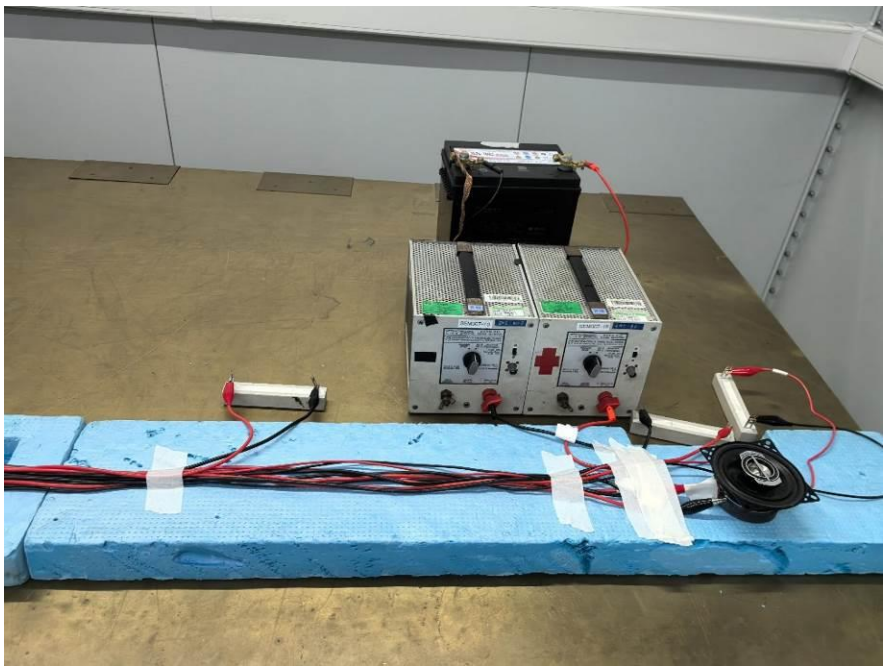
Conducted transient disturbances

Conducted transient immunity

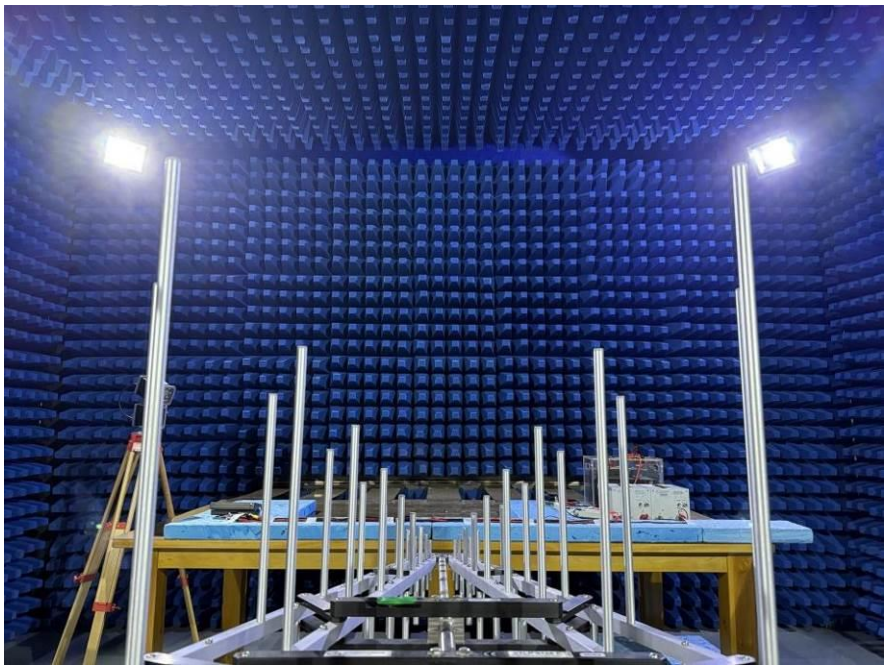


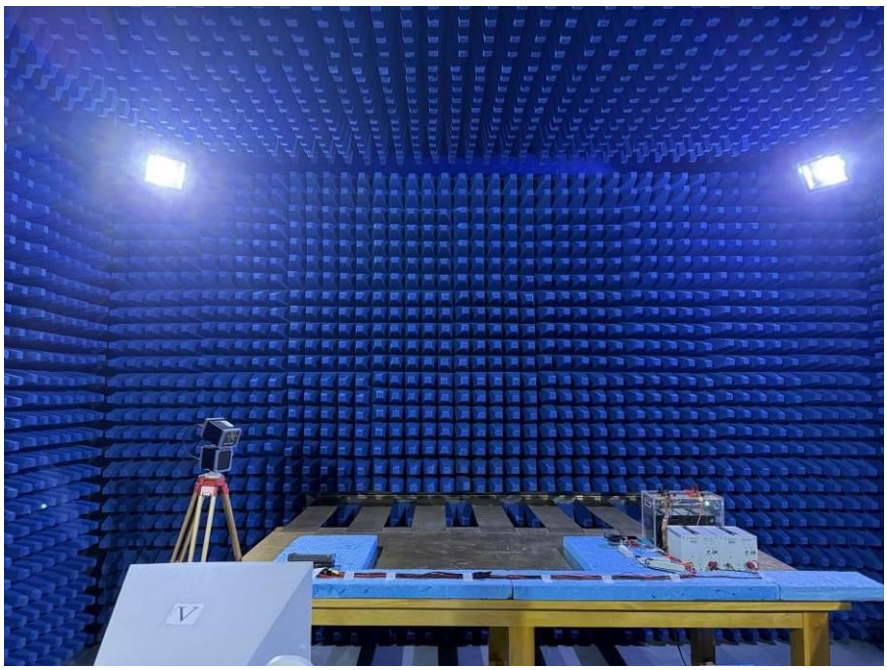
Bulk Current Injection(20MHz-400MHz)

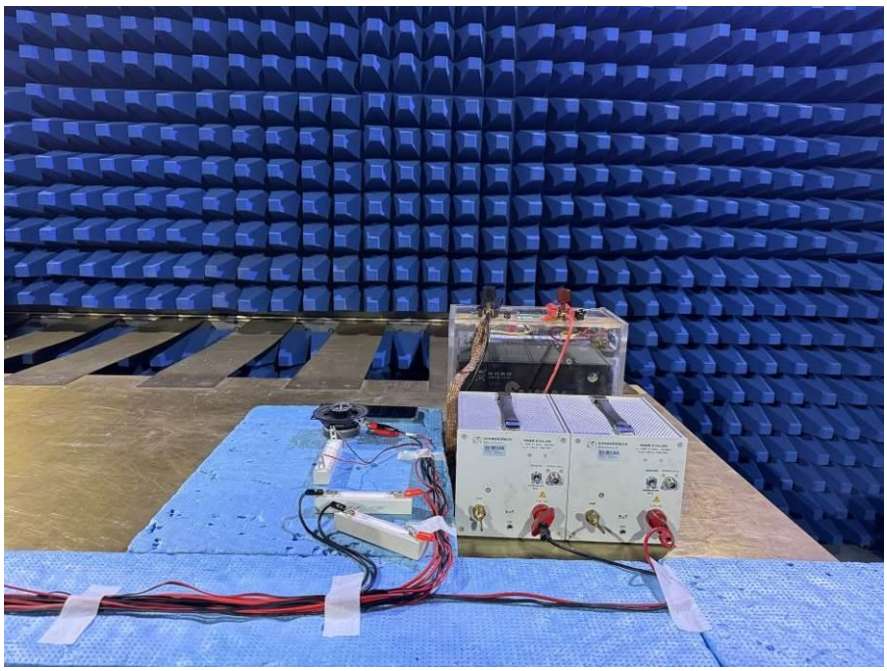




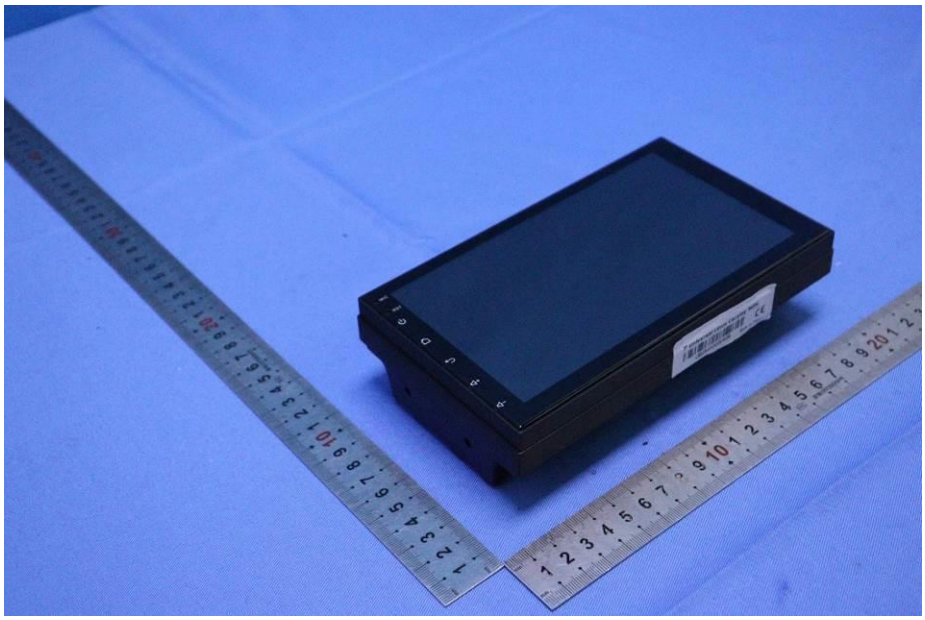
Radiation immunity-ALSE(400MHz-2GHz)

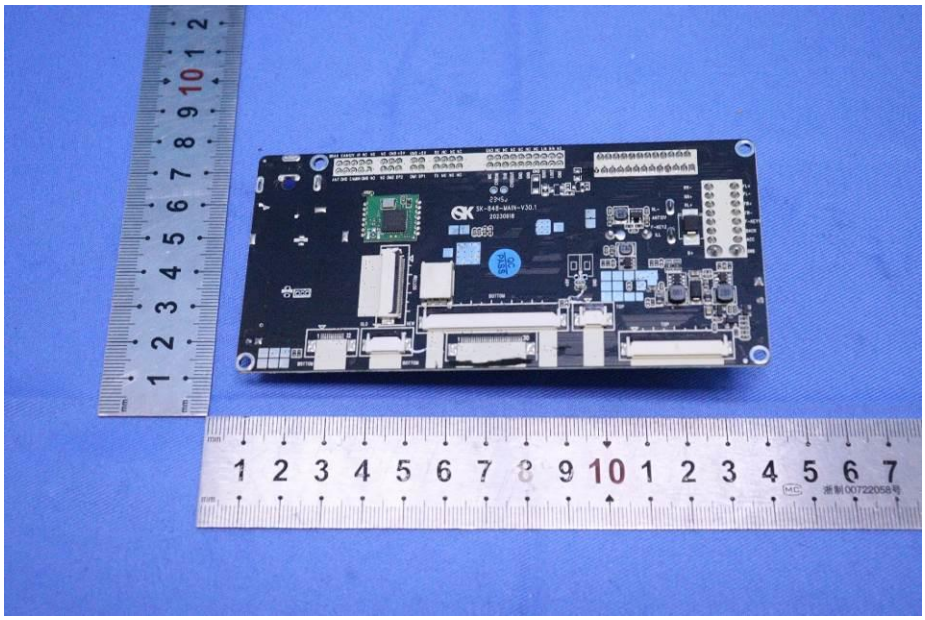


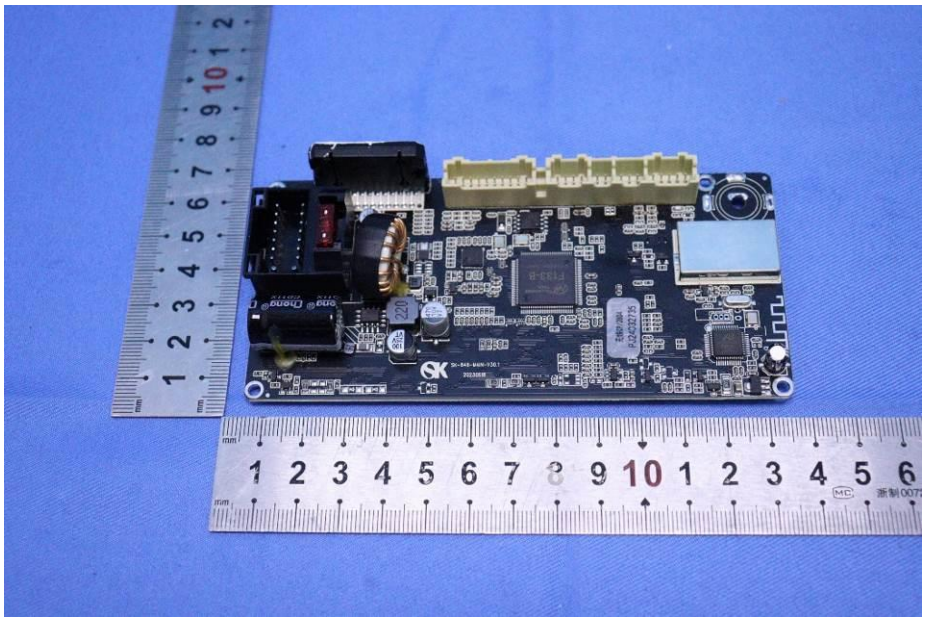


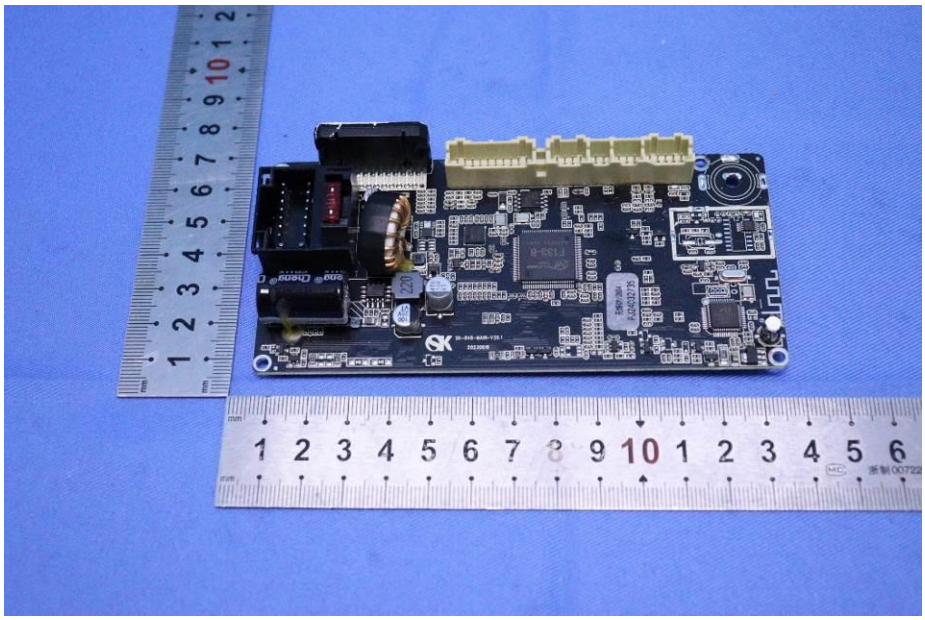


9 EUT Constructional Details (EUT Photos)









- End of the Report -

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中国·深圳·宝安区福永街道新田社区凤塘大道50号鑫龙科技工业园A栋105室 邮编：518103 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com
Member of the SGS Group (SGS SA)

Application for Type Approval Pursuant To ECE R10.06 Relating to Electromagnetic compatibility of an ESA

For: Shenzhen Youchang Digital Electronics Co Ltd
Component:UGODE MULTIMEDIA
Type: 121-P-410-0034
Place: Room316-318, Zhongxi ECO International Building Shuiku Road,Xixiang Street, Baoan District, Shenzhen City

1.	Make (trade name of manufacturer)	Musoshi
2.	Type	121-P-410-0034
2.1.	Variant	n.a.
3.	Means of identification of type, if marked on the component/separate technical unit	Type Designation
3.1.	Location of that marking	Print on the back of the product
4.	Name and address of manufacturer	Shenzhen Youchang Digital Electronics Co Ltd Room316-318, Zhongxi ECO International Building Shuiku Road, Xixiang Street, Baoan District, Shenzhen City
	Name and address of authorized representative, if any	n.a.
5.	In the case of components and separate technical units, location and method of affixing of the approval mark	Printed on the back of the product
6.	Address (es) of assembly plant(s)	Shenzhen Youchang Digital Electronics Co Ltd Room316-318, Zhongxi ECO International Building Shuiku Road, Xixiang Street, Baoan District, Shenzhen City
7.	This ESA shall be approved as a	Component
8.	Any restrictions of use and conditions for fitting	n.a.
9.	Electrical system rated voltage	12V DC Negative ground
10.	Charger: on board/external	n.a.
11.	Charging current: direct current/alternating current (number of phases/frequency)	n.a.

12.	Maximal nominal current (in each mode if necessary)	n.a.
13.	Nominal charging voltage	n.a.
14.	Basic ESA interface functions:	n.a.
15.	Minimum Rsce value (see paragraph 7.11. of this Regulation)	n.a.

List of Contents

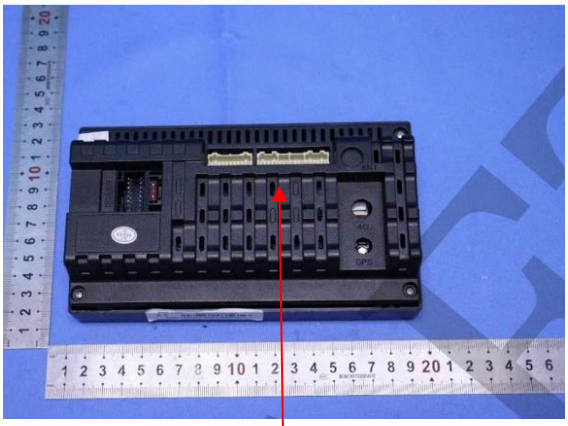
This information document consists of pages 3 to 30 including Appendix and Attachments

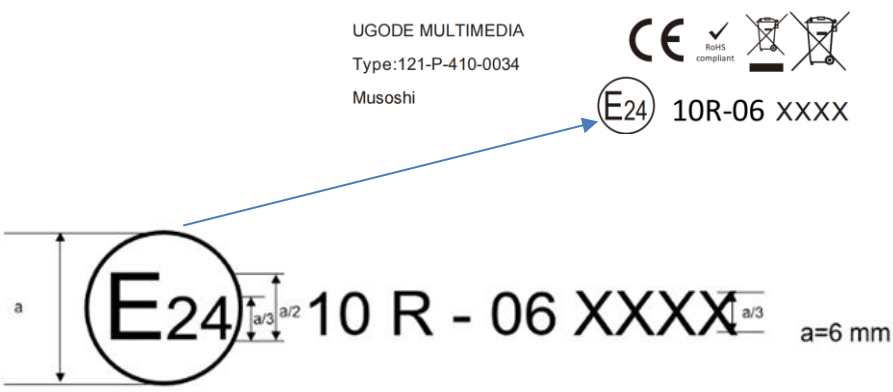
Appendix 1: Description of the ESA

1.	Input range	:	12V DC
2.	Consumption power	:	54W
3.	Resource of X-tal or oscillator	:	n.a.
4.	Main dimensions	:	180*104*50mm
5	Description/Manual:		n.a.

The 7-Inch Linux T113 In-Car Multimedia System is a cutting-edge automotive entertainment solution designed to enhance your driving experience. Featuring a vibrant 7-inch display and running on a stable Linux system, this device seamlessly integrates wireless CarPlay connectivity, Bluetooth functionality, and multimedia playback capabilities for superior in-vehicle entertainment.

Attachment 1: Photo of the ESA





Attachment 2: Dimensional drawing

Unit: cm

Attachment 3: Photo of the PCB

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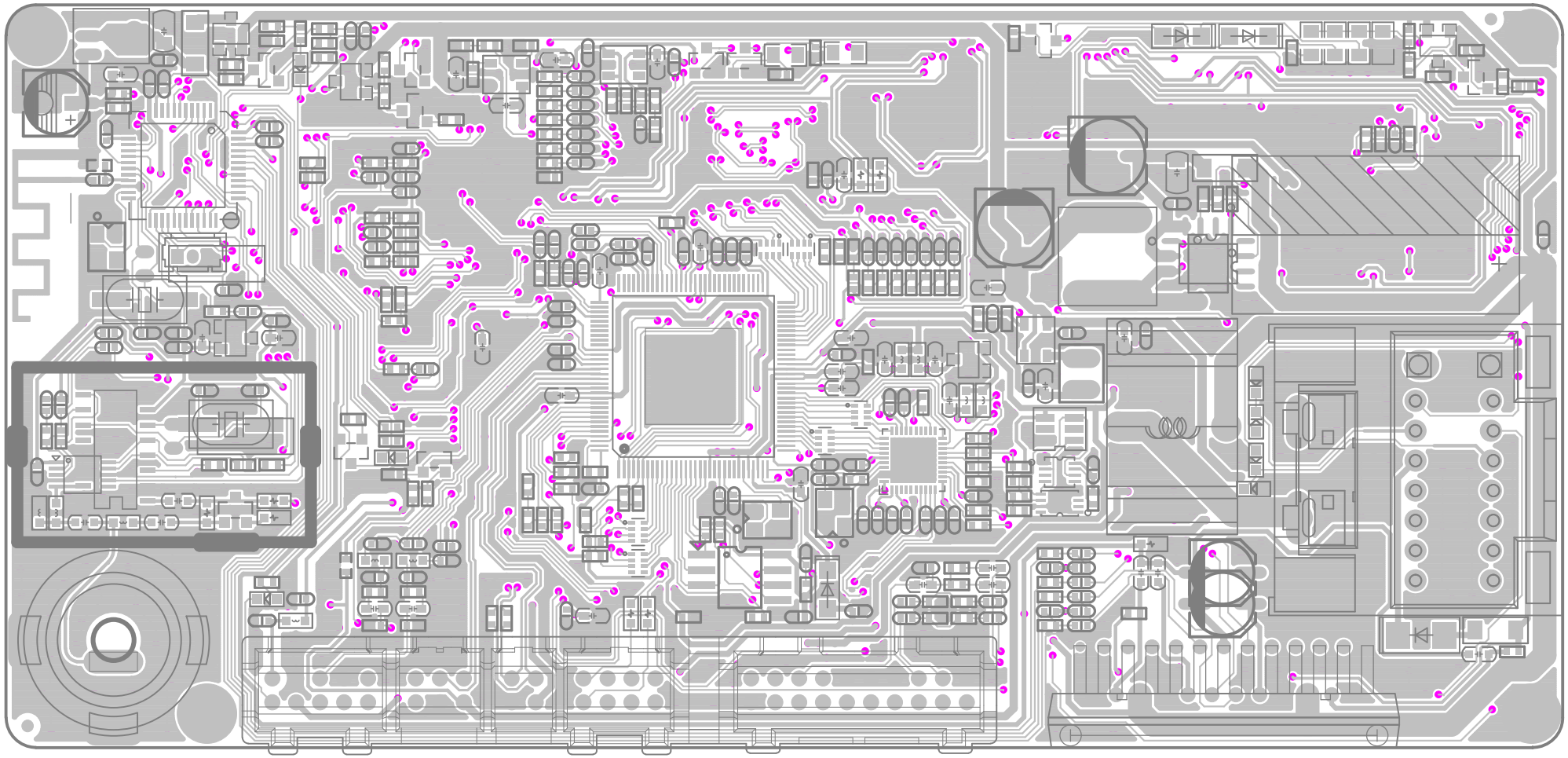

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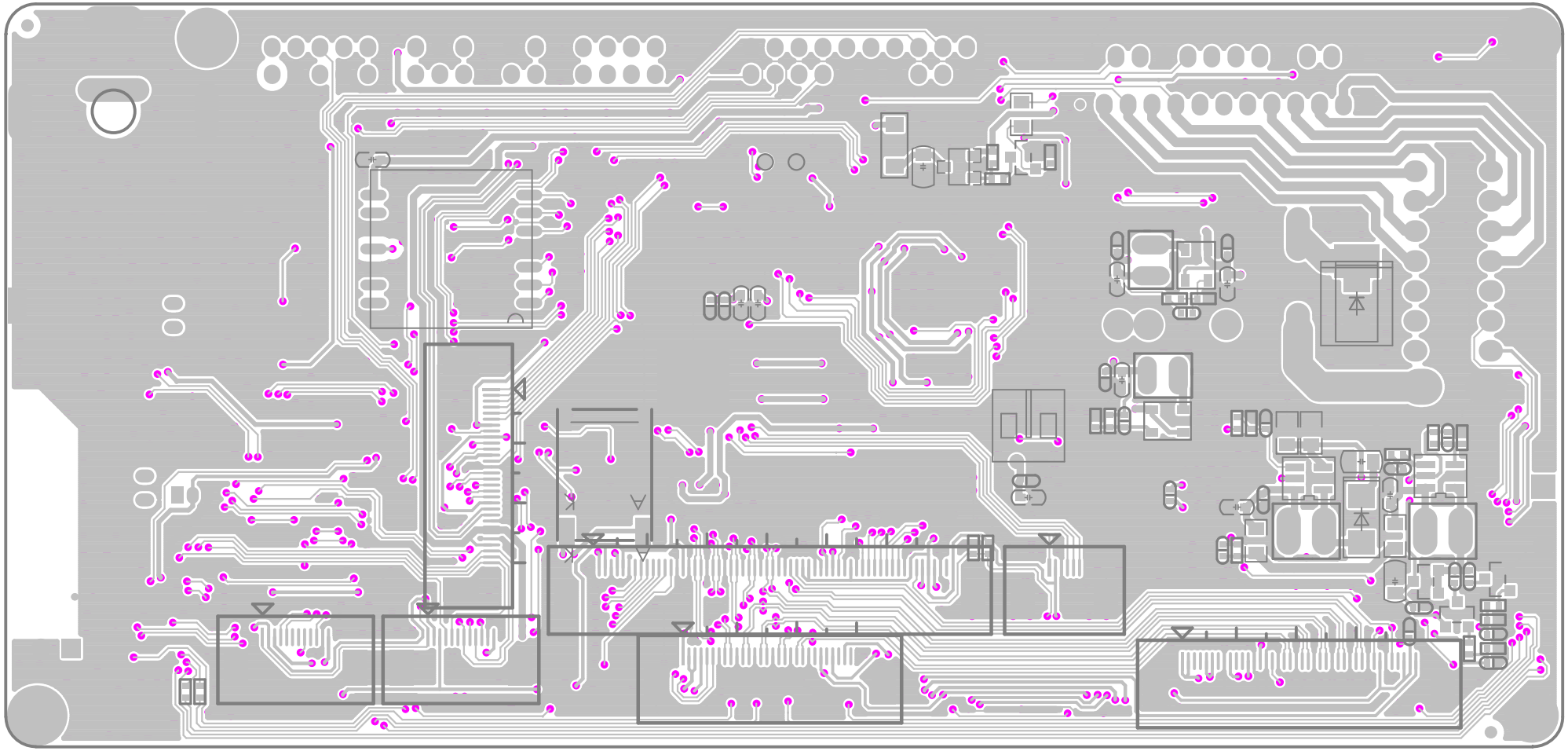

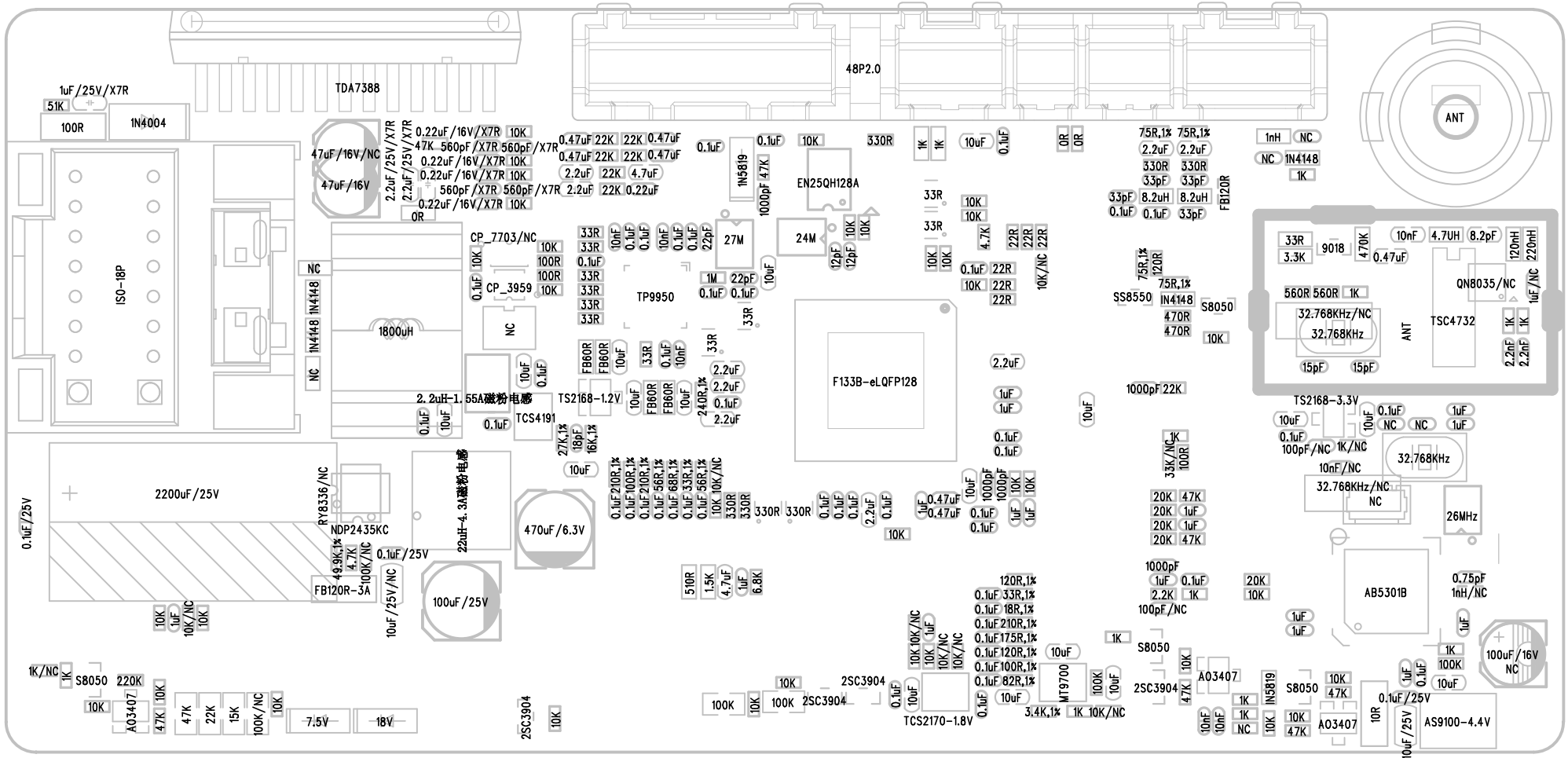

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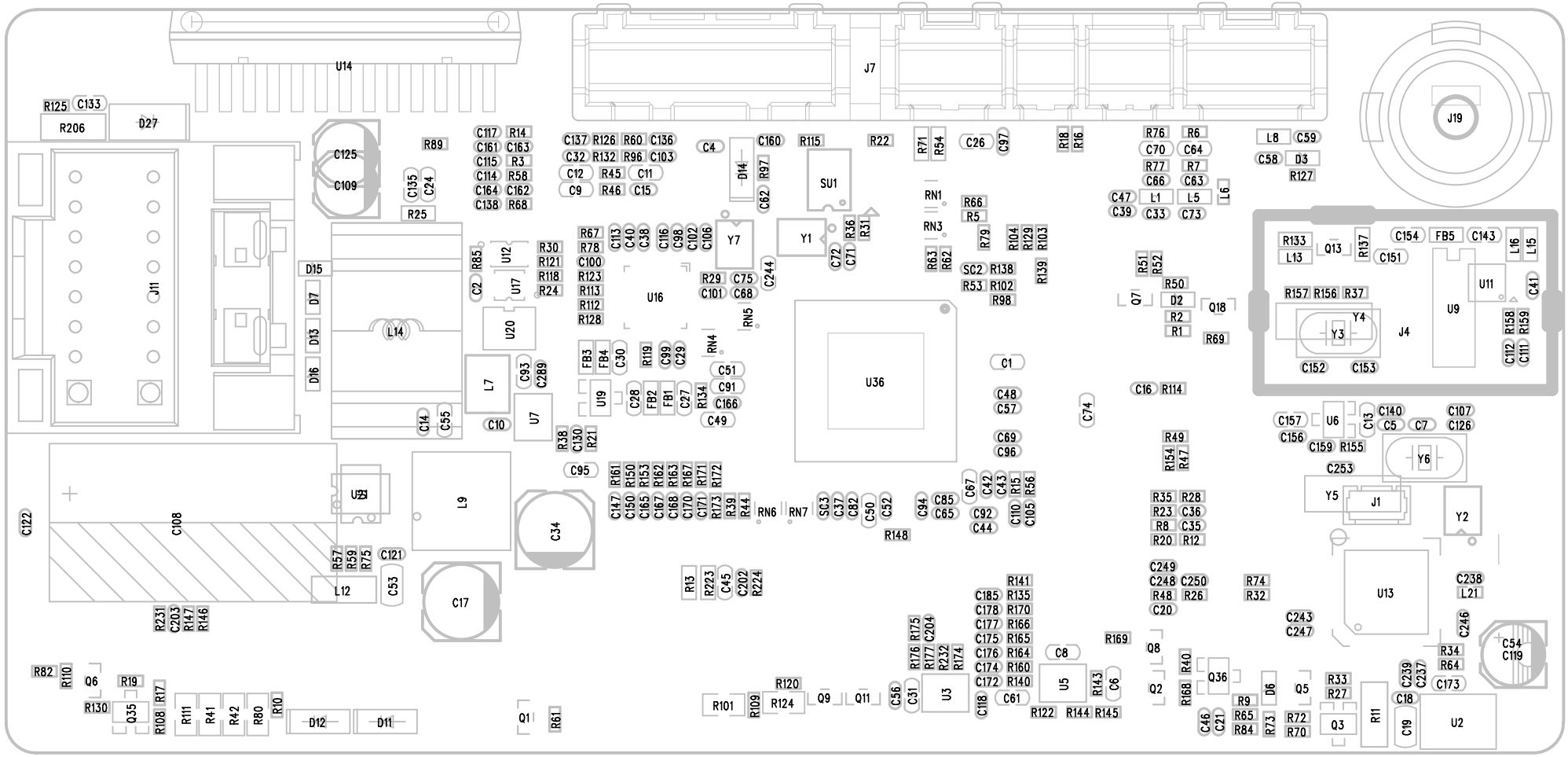

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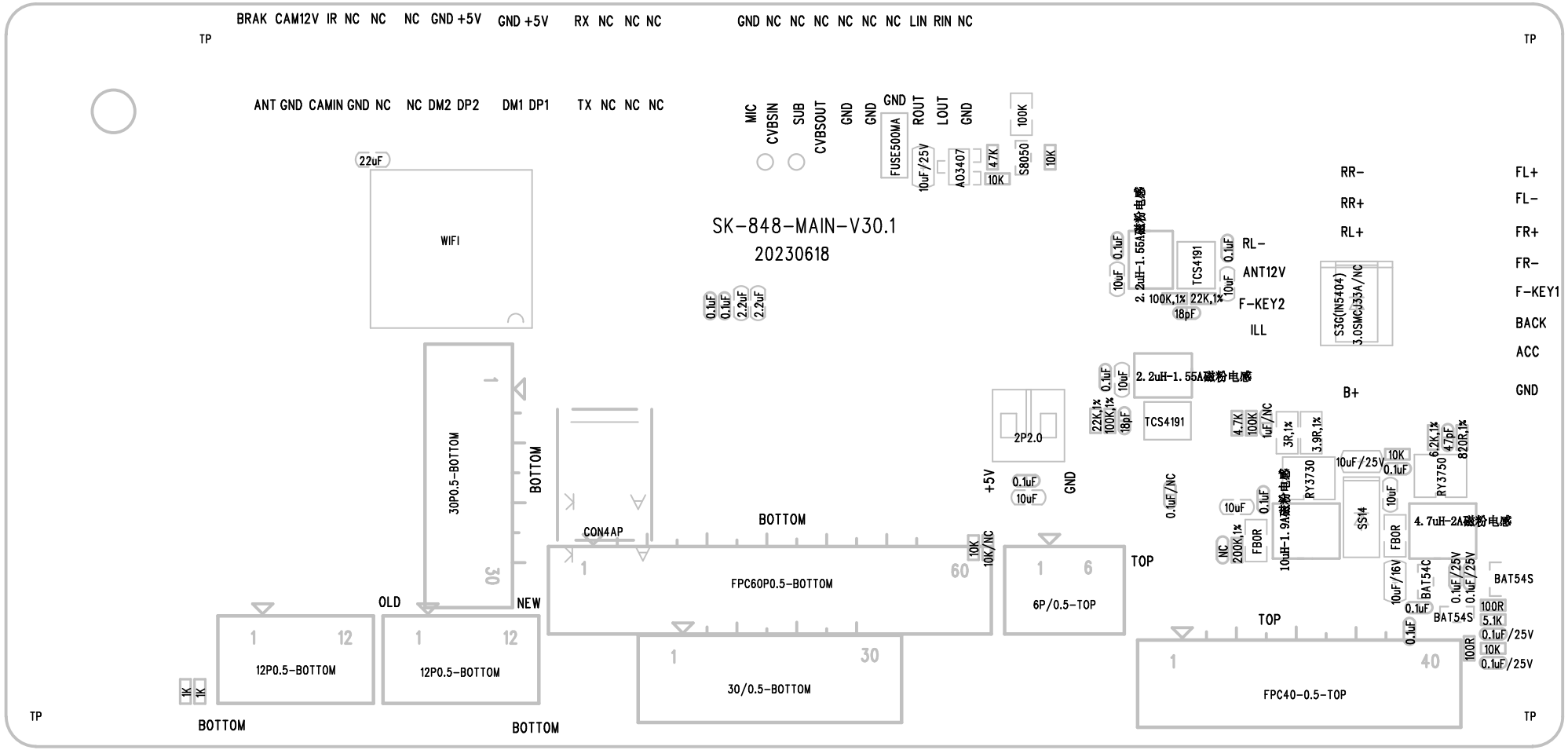

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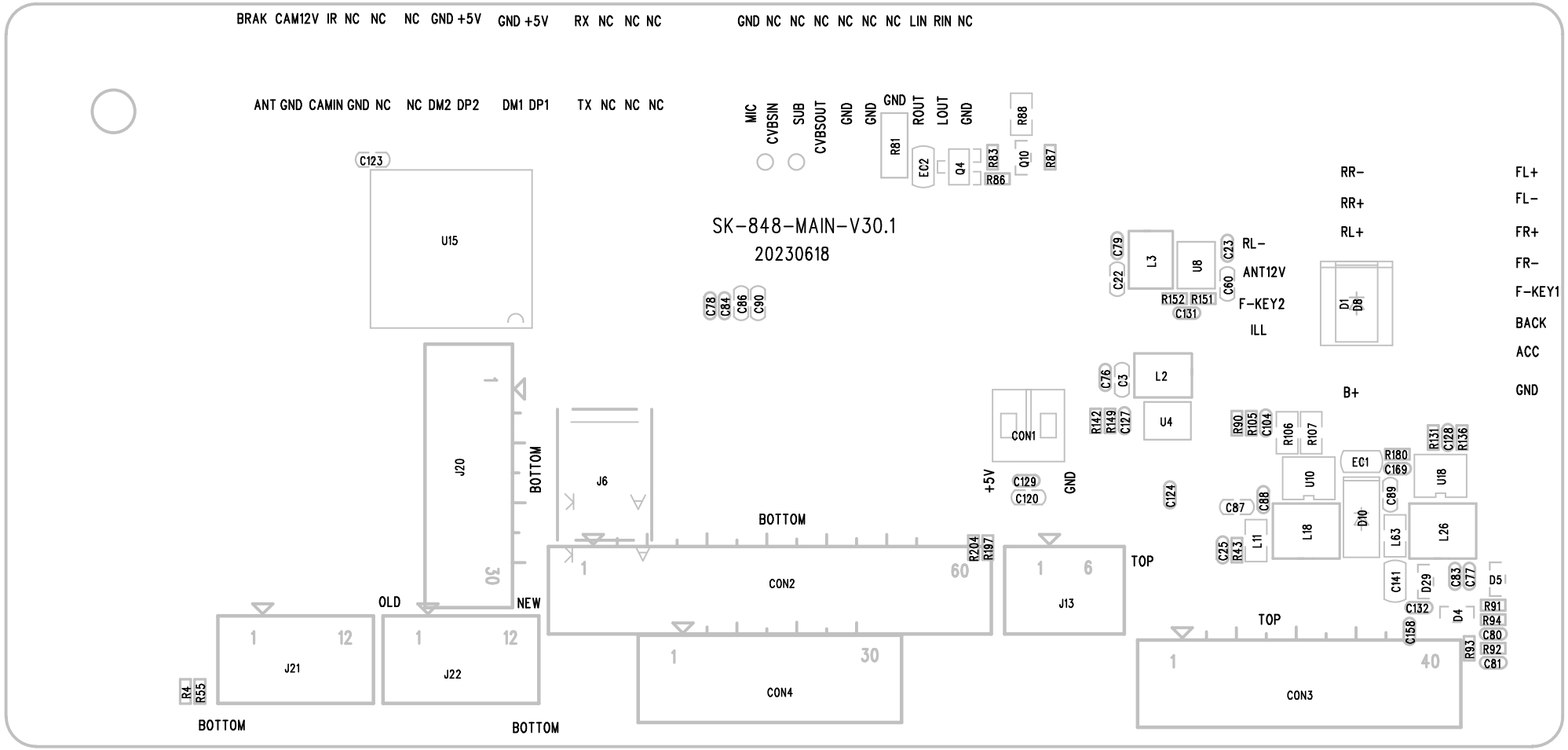

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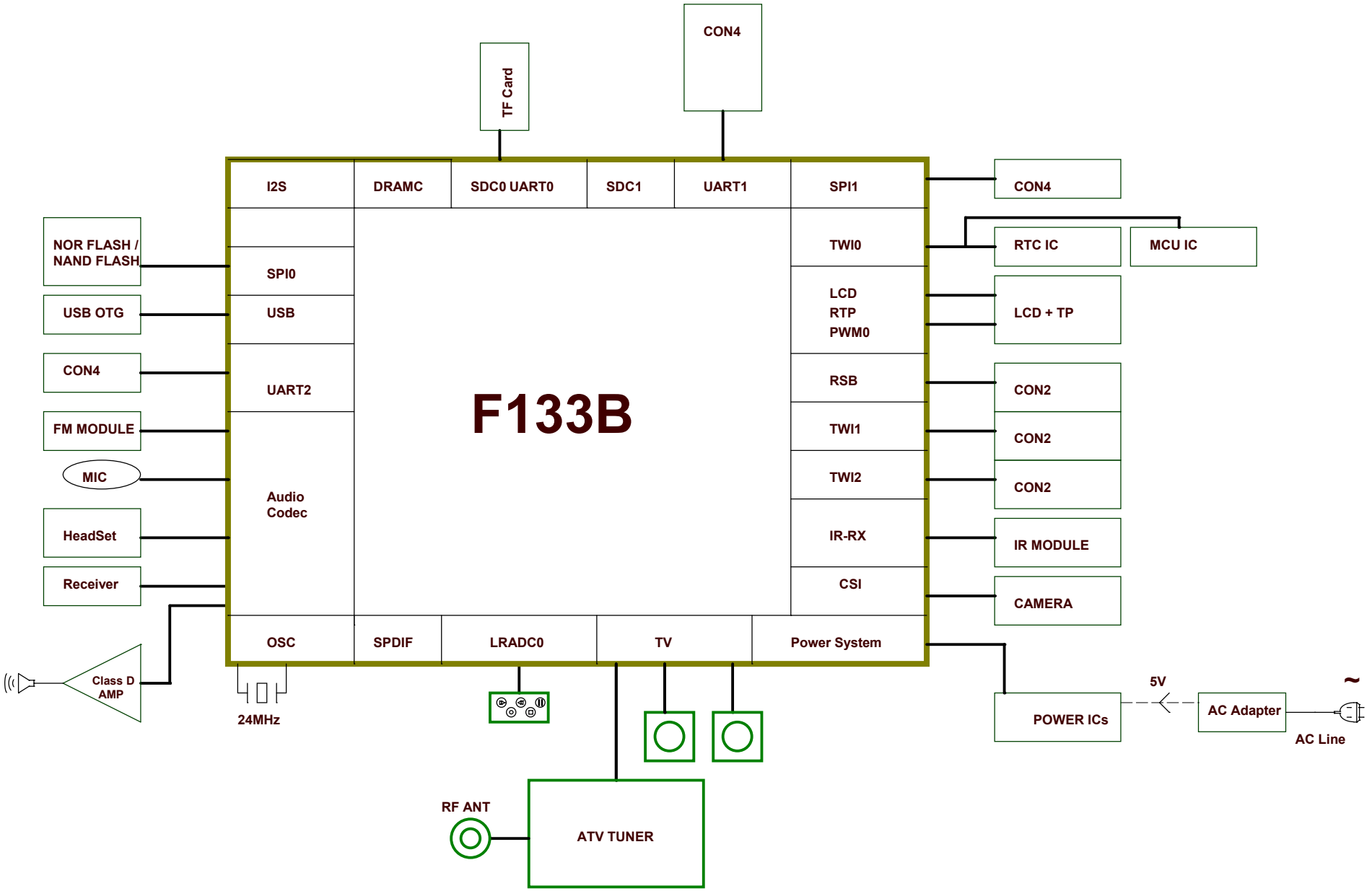
Attachment 4: Electric Circuit Diagram

BLOCK DIAGRAM



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深圳市宝安区西乡街道水库路116号燕达科技园三楼

Title	BLOCK DIAGRAM	
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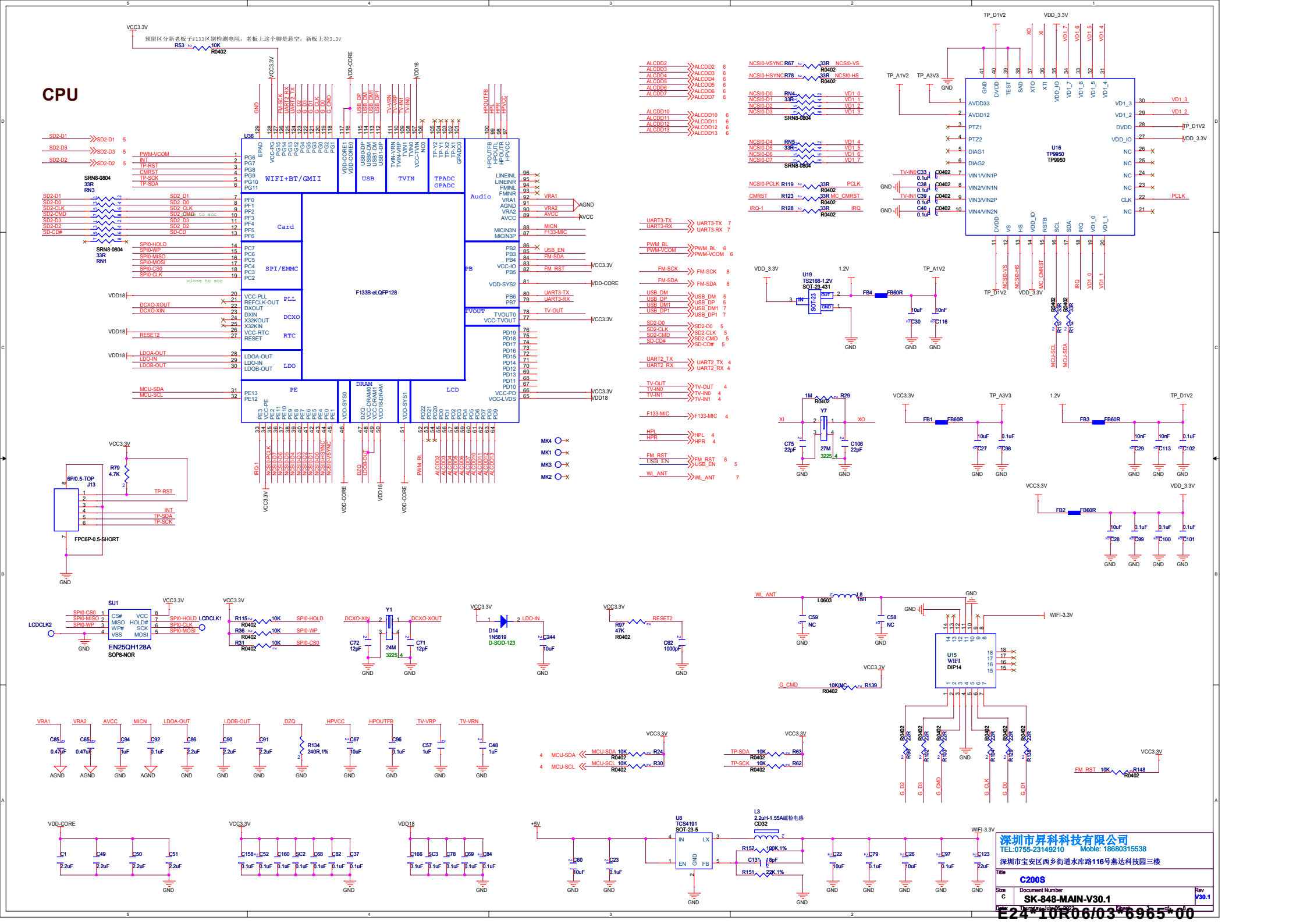
E24*10R06/03*6965*00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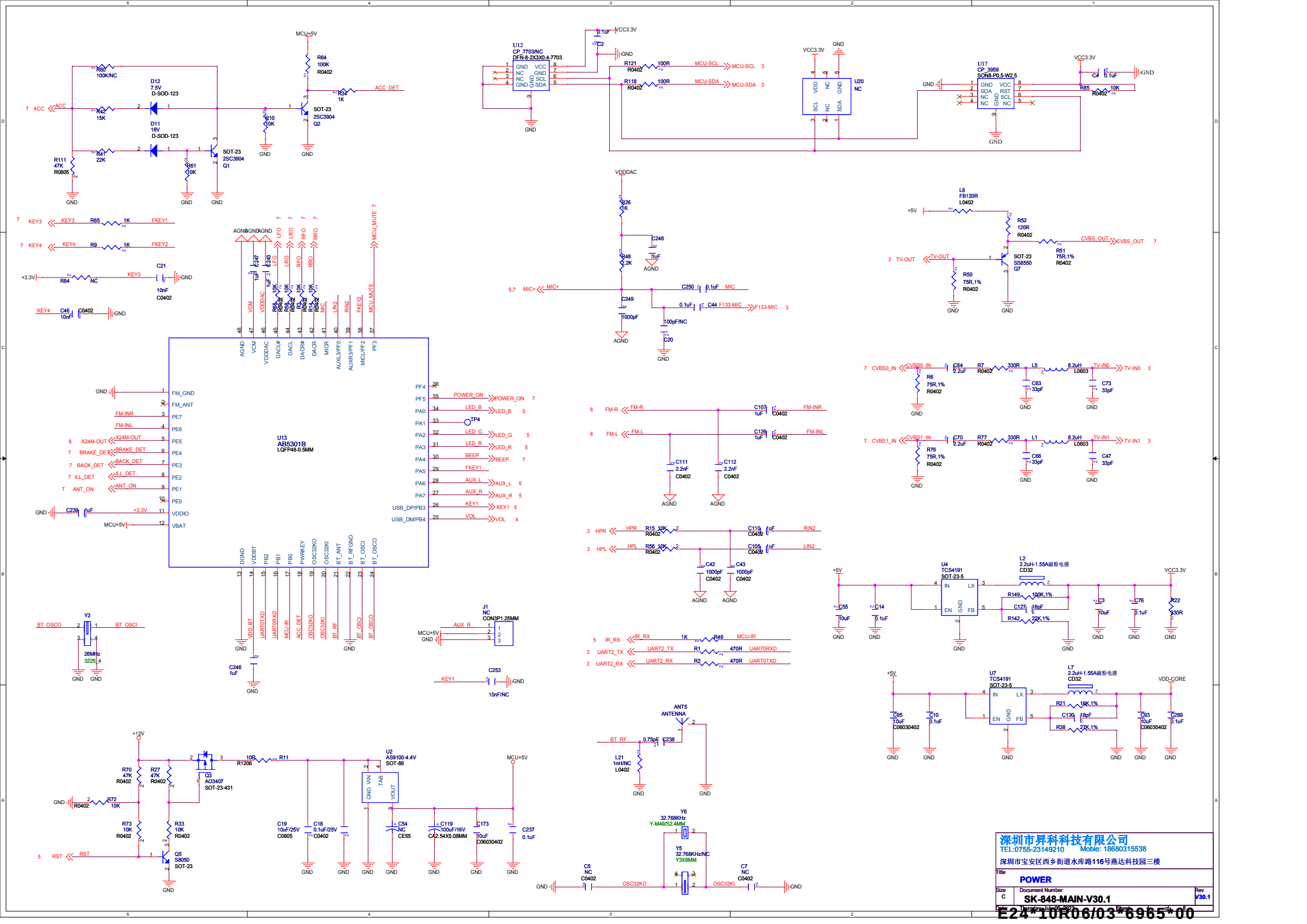
TVIN
TPADC
GPADC
Audio
Card
SPI/EMMC
PLL
DCXO
RTC
LDO
PE
DRAM
LCD
PB
TVOUT
U36
U16
TP9950
U19
TS2168-1.2V
SOT-23-431
U15
WIFI
DIP14
U8
TCS4191
SOT-23-5
SU1
EN25QH128A
SOP8-NOR
J13
6P/0.5-TOP
FPC6P-0.5-SHORT
SRN8-0804
33R
RN3
SRN8-0804
33R
RN1
SRN8-0804
SRN8-0804
L3
2.2uH-1.55A磁粉电感
CD32
深圳市昇科科技有限公司
TEL:0755-23149210
Mobile: 18680315538
深圳市宝安区西乡街道水库路116号燕达科技园三楼
C200S
SK-848-MAIN-V30.1
V30.1
Thursday, June 06, 2024
E24*10R06/03*6965*00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LQFP48-0.5MM
U12
CP_7703/NC
DFN-8-2X3X0.4-7703
U17
CP_3959
SON8-P0.5-W2.5
U20
NC
U4
TC54191
SOT-23-5
U7
TC54191
SOT-23-5
U2
AS9100-4.4V
SOT-89
Q3
AO3407
SOT-23-431
Q5
S8050
SOT-23
Y2
26MHz
Y6
32.768KHz
Y-M49/S2.4MM
Y5
32.768KHz/NC
Y3X8MM
ANT5
ANTENNA
J1
NC
CON3P1.25MM
深圳市昇科科技有限公司
TEL:0755-23149210 Moble: 18680315538
深圳市宝安区西乡街道水库路116号燕达科技园三楼
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POWER
Size
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Rev
V30.1
Date
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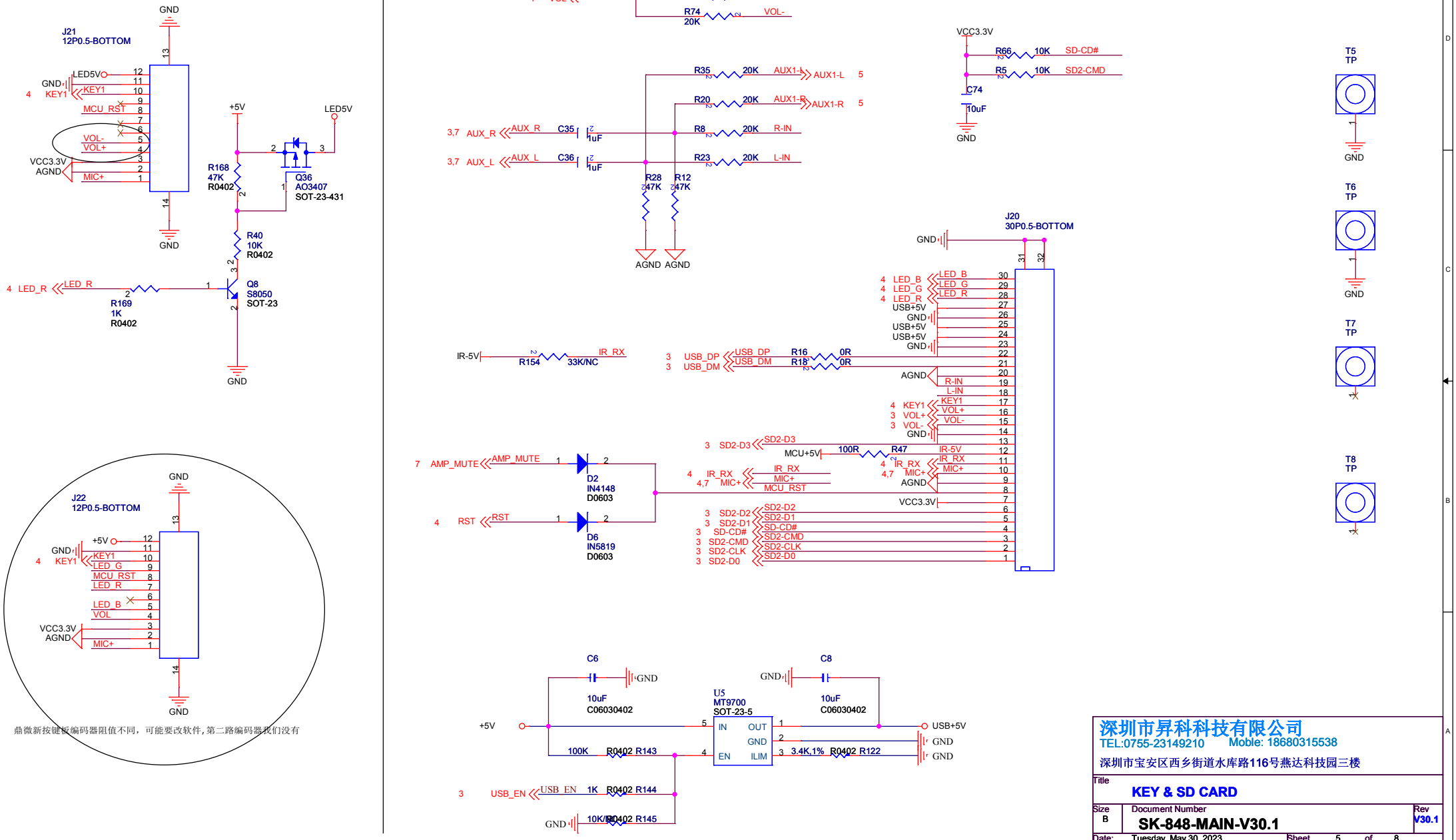
Sheet
of
E24*10R06/03*6965*00



鼎微新按键板编码器阻值不同，可能要改软件，第二路编码器我们没有

深圳市昇科科技有限公司
TEL:0755-23149210 Moble: 18680315538
深圳市宝安区西乡街道水库路116号燕达科技园三楼

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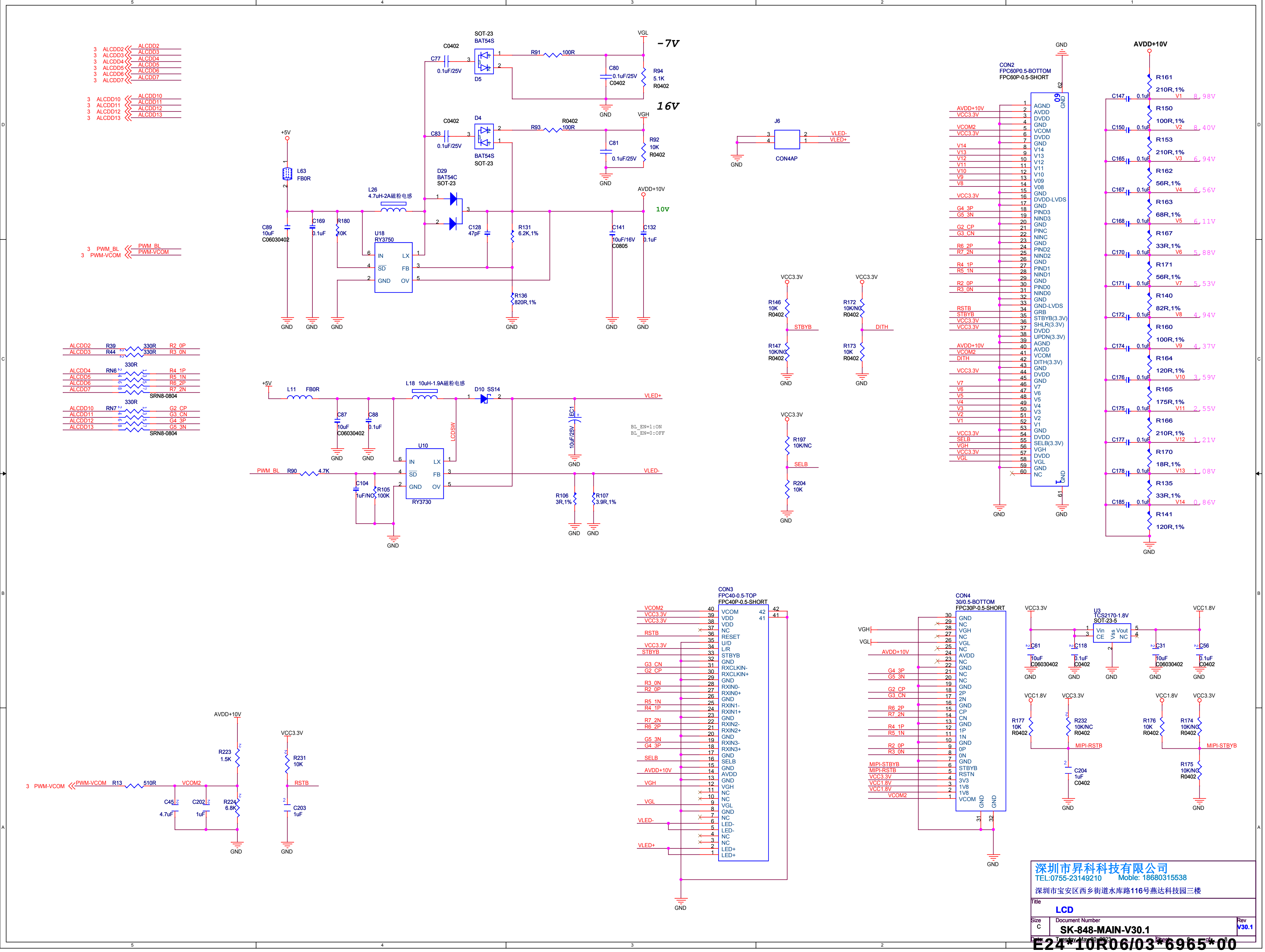

-7V
16V
10V
VGL
VGH
AVDD+10V
SOT-23
BAT54S
D5
D4
C0402
C77
C83
0.1uF/25V
R91 100R
R93 100R
R94 5.1K R0402
R92 10K R0402
C80 0.1uF/25V C0402
C81 0.1uF/25V
D29 BAT54C SOT-23
L26 4.7uH-2A磁粉电感
U18 RY3750
L63 FB0R
C89 10uF C06030402
C169 0.1uF
R180 10K
C128 47pF
R131 6.2K,1%
R136 820R,1%
C141 10uF/16V C0805
C132 0.1uF
L11 FB0R
L18 10uH-1.9A磁粉电感
D10 SS14
U10 RY3730
C87 10uF C06030402
C88 0.1uF
LCDSW
VLED+
VLED-
EC1 10uF/25V
BL_EN=1:ON
BL_EN=0:OFF
PWM_BL R90 4.7K
C104 1uF/NC
R105 100K
R106 3R,1%
R107 3.9R,1%
J6 CON4AP
R146 10K R0402
R147 10K/NC R0402
STBYB
R172 10K/NC R0402
R173 10K R0402
DITH
R197 10K/NC
SELB
R204 10K
CON2 FPC60P0.5-BOTTOM FPC60P-0.5-SHORT
AVDD+10V
R161 210R,1%
R150 100R,1%
R153 210R,1%
R162 56R,1%
R163 68R,1%
R167 33R,1%
R171 56R,1%
R140 82R,1%
R160 100R,1%
R164 120R,1%
R165 175R,1%
R166 210R,1%
R170 18R,1%
R135 33R,1%
R141 120R,1%
V1 8.98V
V2 8.40V
V3 6.94V
V4 6.56V
V5 6.11V
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V7 5.53V
V8 4.94V
V9 4.37V
V10 3.59V
V11 2.55V
V12 1.21V
V13 1.08V
V14 0.86V
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CON4 30/0.5-BOTTOM FPC30P-0.5-SHORT
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C118 0.1uF C0402
C31 10uF C06030402
C56 0.1uF C0402
R177 10K R0402
R232 10K/NC R0402
MIPI-RSTB
R176 10K R0402
R174 10K/NC R0402
MIPI-STBYB
C204 1uF C0402
R175 10K/NC R0402
R223 1.5K
R224 6.8K
PWM-VCOM R13 510R VCOM2
C45 4.7uF
C202 1uF
R231 10K
RSTB
C203 1uF
深圳市昇科科技有限公司
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Mobile: 18680315538
深圳市宝安区西乡街道水库路116号燕达科技园三楼
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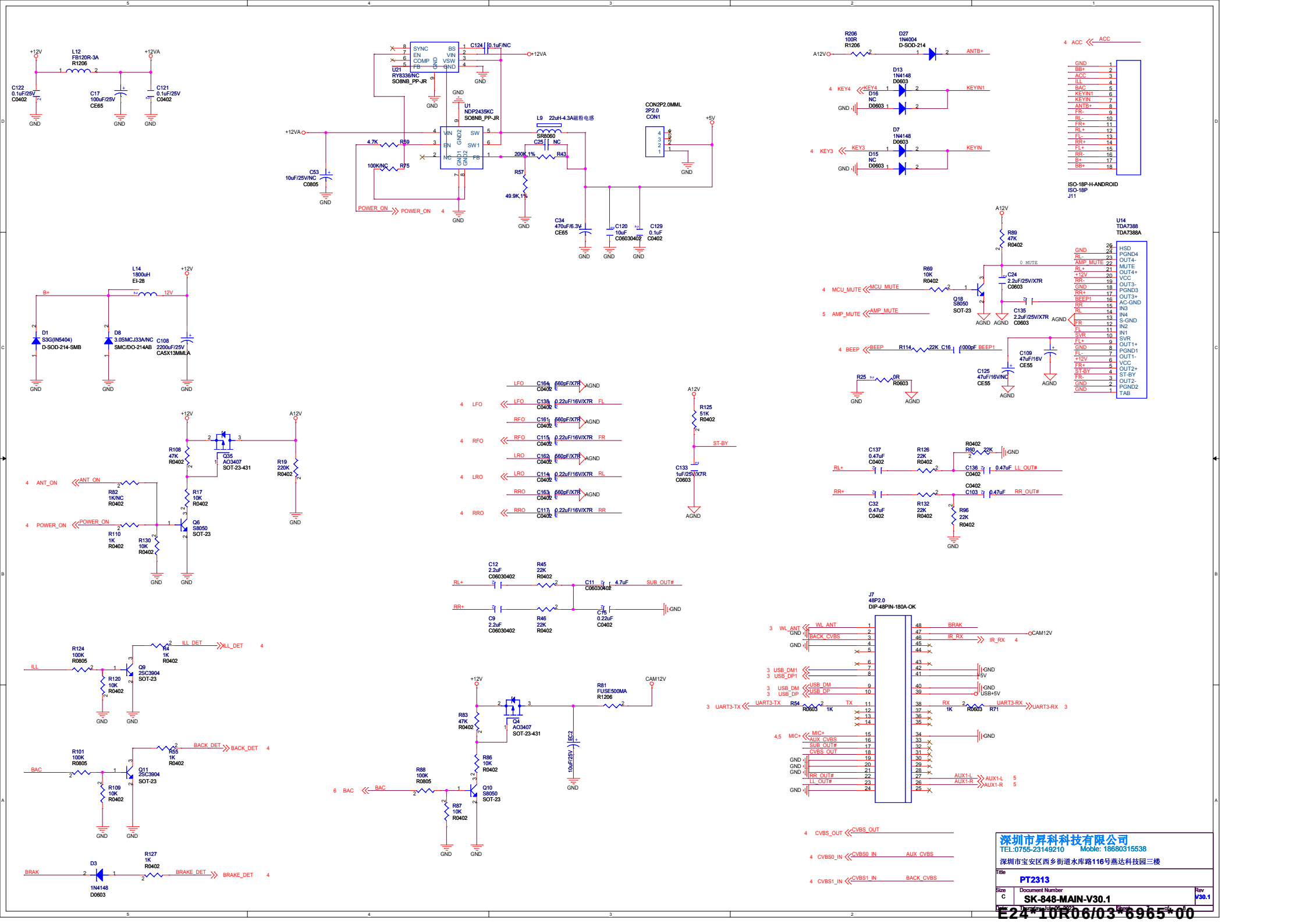
SK-848-MAIN-V30.1
Rev
V30.1
E24*10R06/03*6965*00



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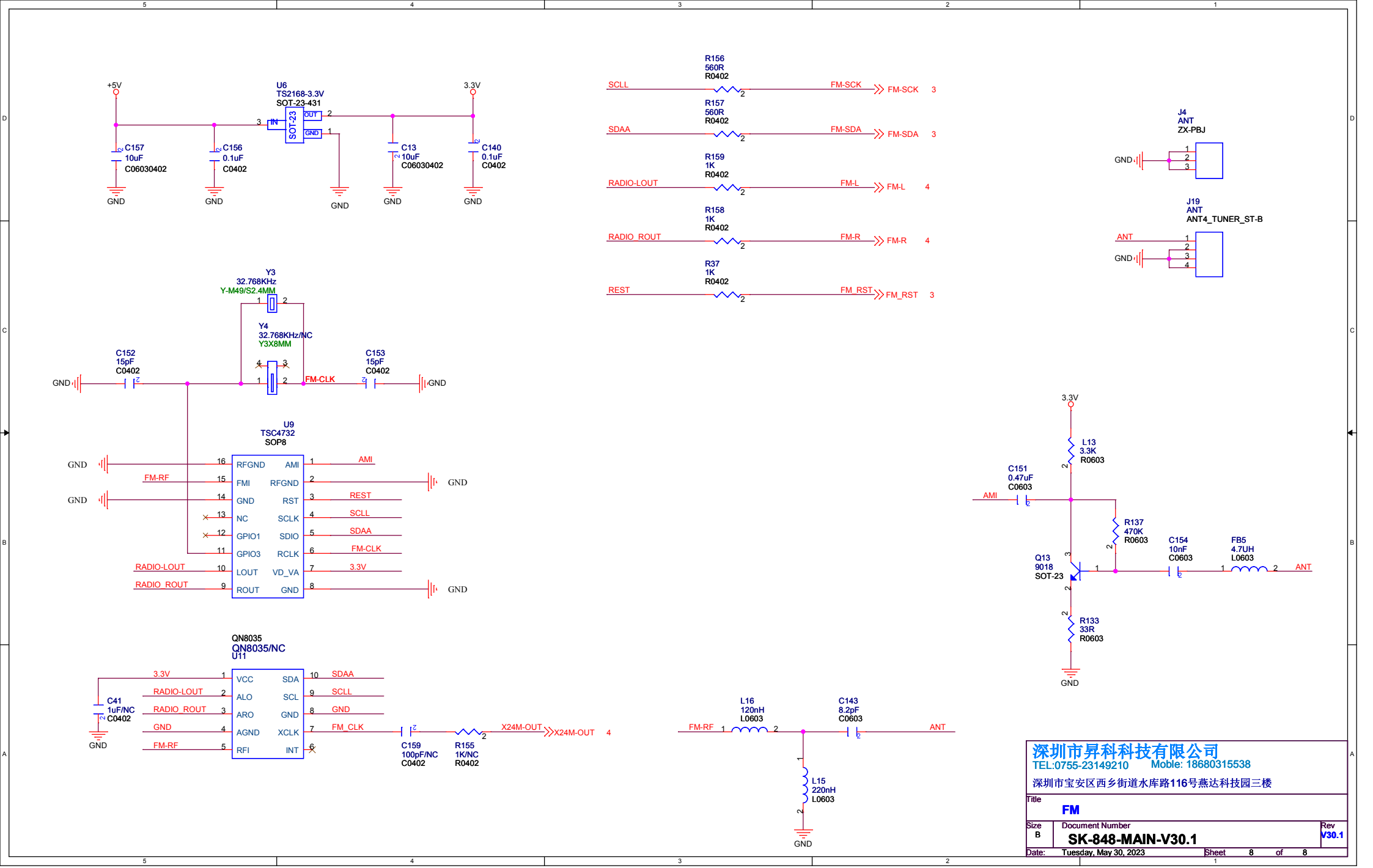
Title	PT2313	
Size C	Document Number SK-848-MAIN-V30.1	Rev V30.1
Date: Thursday, July 06, 2023	Sheet 1 of 8	

E24*10R06/03*6965*00



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Title	FM	
Size B	Document Number SK-848-MAIN-V30.1	Rev V30.1
Date: Tuesday, May 30, 2023	Sheet 8 of 8	

E24*10R06/03*6965*00

Attachment 5: Bill of Materials

121-P-410-0034： BOM				
Mainboard SMD Part（Default Installation）				
NO.	Material Name	Specification Description	Location Number	Quantity
1	FFC Socket	6P*0.5mm Double Sider Touch Renovation，Thickness 2.0MM	J13	1
2	SMT Capacitor	0402 0.75PF/50V,± 0.25PF	C238	1
3	SMT Capacitor	0402 12pF/50V,+/-5%	C71 C72	2
4	SMT Capacitor	0402 18pF/50V,+/-5%	C127 C130	2
5	SMT Capacitor	0402 33pF/50V,+/-5%	C47 C63 C66 C73	4
6	SMT Capacitor	0402 47pF/50V,+/-5%	C128	1
7	SMT Capacitor	0402 560pF/50V,+/-10%	C161 C162 C163 C164	4
8	SMT Capacitor	0402 1000pF/50V,+/-10%	C16 C42 C43 C62 C249	5
9	SMT Capacitor	0402 2200pF/50V,+/-10%	C111 C112	2
10	SMT Capacitor	0402 10nF/50V,X7R,+/-10%	C21 C46	2

11	SMT Capacitor	0402 0.1UF/16V,+80/-20%	C4 C10 C14 C37 C44 C52 C68 C69 C76 C78 C82 C84 C88 C92 C96 C129 C132 C140 C156 C160 C166 C169 C237 C250 C289 SC2 SC3	27
12	SMT Capacitor	0402 0.1UF/25V,X5R,+/-10%	C18 C77 C80 C81 C83 C121 C122	7
13	SMT Capacitor	0402 220nF/16V,X7R,+/-10%	C15 C114 C115 C117 C138	5
14	SMT Capacitor	0402 470nF/10V,+80/-20%	C32 C65 C85 C103 C136 C137	6
15	SMT Capacitor	0402 1UF/6.3V,X5R,+/-10%	C35 C36 C48 C57 C94 C105 C107 C110 C126 C202 C239 C243 C246 C247 C248	15
16	SMT Capacitor	0603 2.2UF/6.3V,X5R,+/-10%	C1 C9 C12 C49 C50 C51 C64 C70 C86 C90 C91	11
17	SMT Capacitor	0603 4.7uF/6.3V,X5R,+/-10%	C11 C45	2
18	SMT Capacitor	0603 10uF/6.3V,+/-20%	C3 C6 C8 C13 C55 C67 C87 C89 C93 C95 C120 C157 C173 C244	14
19	SMT Capacitor	0603 1UF/25V,X7R,+/-10%	C133	1

20	SMT Capacitor	0603 2.2uF/25V,X5R,+/-10%	C24 C135	2
21	SMT Capacitor	0603 22UF/10V,+/-20%	C123	1
22	SMT Capacitor	0805 10uF/16V,+/-20%	C141	1
23	SMT Capacitor	0805 10uF/25V,+/-10%	C19 EC1	2
24	SMT Electrolytic Capacitor	47uF 16V 20% SMD	C109	1
25	SMT Electrolytic Capacitor	100UF 25V 20% SMD	C17	1
26	SMT Electrolytic Capacitor	470UF 6.3V 20% SMD	C34	1
27	SMT Resistor	0402 100R,+/-5%	R91 R93	2
28	SMT Resistor	0402 120R,+/-5%	R52	1
29	SMT Resistor	0402 330R,+/-5%	R7 R22 R39 R44 R77	5
30	SMT Resistor	0402 470R,+/-5%	R1 R2	2
31	SMT Resistor	0402 560R,+/-5%	R156 R157	2
32	SMT Resistor	0402 1KR,+/-5%	R4 R9 R26 R34 R49 R55 R65 R127 R144 R158 R159 R82	12
33	SMT Resistor	0402 2.2KR,+/-5%	R48	1
34	SMT Resistor	0402 4.7KR,+/-5%	R59 R79 R90	3
35	SMT Resistor	0402 5.1KR,+/-5%	R94	1
36	SMT Resistor	0402 6.8KR,+/-5%	R224	1

37	SMT Resistor	0402 10KR,+/-5%	R3 R10 R14 R15 R17 R24 R30 R31 R33 R36 R53 R56 R58 R62 R63 R68 R69 R72 R73 R92 R109 R115 R120 R130 R180	25
38	SMT Resistor	0402 20KR,+/-5%	R20 R35	2
39	SMT Resistor	0402 22KR,+/-5%	R45 R46 R60 R96 R114 R126 R132	7
40	SMT Resistor	0402 47KR,+/-5%	R12 R27 R28 R70 R89 R97 R108	7
41	SMT Resistor	0402 51KR,+/-5%	R125	1
42	SMT Resistor	0402 100KR,+/-5%	R64 R75 R105 R143	4
43	SMT Resistor	0402 220KR,+/-5%	R19	1
44	SMT Resistor	0402 75R,+/-1%	R6 R50 R51 R76	4
45	SMT Resistor	0402 240R,+/-1%	R134	1
46	SMT Resistor	0402 820R,+/-1%	R136	1
47	SMT Resistor	0402 3.4KR,+/-1%	R122	1
48	SMT Resistor	0402 6.2KR,+/-1%	R131	1
49	SMT Resistor	0402 16KR,+/-1%	R21	1
50	SMT Resistor	0402 22KR,+/-1%	R142	1
51	SMT Resistor	0402 27KR,+/-1%	R38	1
52	SMT Resistor	0402 49.9KR,+/-1%	R57	1
53	SMT Resistor	0402 100KR,+/-1%	R149	1
54	SMT Resistor	0402 200KR,+/-1%	R43	1
55	SMT Resistor	0603 0R,+/-5%	R25	1

56	SMT Resistor	0603 510R,+/-5%	R13	1
57	SMT Resistor	0603 1KR,+/-5%	R54 R71	2
58	SMT Resistor	0603 1.5KR,+/-5%	R223	1
59	SMT Resistor	0805 3.6R,+/-1%	R106	1
60	SMT Resistor	0805 3.9R,+/-1%	R107	1
61	SMT Resistor	0805 47KR,+/-5%	R111	1
62	SMT Resistor	0805 100KR,+/-5%	R101 R124	2
63	SMT Resistor	1206 10R,+/-5%	R11	1
64	SMT Resistor	1206 100R,+/-5%	R206	1
65	SMT Exclusion Resistor	0402 330R*4,+/-5%	RN6 RN7	2
66	SMT Magnetic Bead	0402 FB120R,+/-25%	L6	1
67	SMT Magnetic Bead	0805 FB0R,+/-25%	L11 L63	2
68	SMT Magnetic Bead	1206 FB120R,3A.+/-25%	L12	1
69	SMT Inductor	0603 8.2uH,+/-10%	L1 L5	2
70	SMT Power Inductor	SR3012TYD-2.2UH-1.55A Inductor	L2 L7	2
71	SMT Power Inductor	SR4030TYD-4.7UH-2A Inductor	L26	1
72	SMT Power Inductor	SR4030TYD-10UH-1.9A Inductor	L18	1
73	SMT Power Inductor	SR8060-22UH-4.3A Inductor	L9	1
74	SMT Diode	SS14 DO-214AC	D10	1
75	SMT Diode	IN4148/0603 SOD523	D2 D3 D7 D13	4
76	SMT Diode	1N5819 0603 SOD523	D6	1

77	SMT Diode	1N5819 DO-213AA/1206	D14	1
78	SMT Diode	IN4004 DO-214AC/1808	D27	1
79	SMT Diode	1N5404（SMB S3G）	D1	1
80	SMT Bidirectional Diode	BAT54C SOT-23	D29	1
81	SMT Bidirectional Diode	BAT54S SOT-23	D4 D5	2
82	SMT Audion	2N3904 NPN SOT-23	Q2 Q9 Q11	3
83	SMT Audion	S8050 NPN SOT-23	Q5 Q6 Q18	3
84	SMT Audion	SS8550 PNP SOT-23	Q7	1
85	MOSFET P	AO3407 SOT-23-3	Q3 Q35	2
86	SMT IC	F133B LQFP-128_EPAD	U36	1
87	SMT IC	AS9100-4.4V SOT-89-3	U2	1
88	SMT IC	MT9700 SOT-23-5	U5	1
89	SMT IC	TS7289 SOT-23-6	U10	1
90	SMT IC	RY3750 SOT-23-5	U18	1
91	SMT IC	TCS4191 SOT-23-5(M3406 Substitute)	U4 U7	2
92	SMT IC	TS2168-3.3/ME6206A33XG SOT-23	U6	1

93	SMT IC	NDP2331KC SOP-8	U1 IC The bottom must be ensured to have a good coating of solder.	1
94	Crystalloid_SMD	32.768KHZ Load Capacitance 12.5pF Precision-5PPM Y-M49/S2	Y6	1
95	Crystalloid_SMD	24MHz 10PPM D3225-4P,Load Capacitance 12pF	Y1	1
96	Crystalloid_SMD	26MHz Load Capacitance 9pF 10PPM D3225-4P	Y2	1
Mainboard DIP Part（Default Installation）				
NO.	Material Name	Specification Description	Location Number	Quantity
1	Connecting Line Socket	2P*2.0mm Bowlegged DIP	CON1 Large Current USB Recharge Selected installation	1
2	Power Amplifier IC	YD7388S Flexiwatt25	U14	1
3	Plated Electrltic Capacitor	100uF 16V 20% 5*7	C119	1
4	Plated Electrltic Capacitor	2200uF 25V 20% 13*21	C108	1

5	Plug-in Power Inductor	SR1505-1.0/18T-470uH DIP	L14	1
6	Tail Circuit Socket	16P Interval 2.5/6.5MM，Power Socket，With 10A Fast Acting Fuse	J11	1
7	FM Antenna	TC12-Z-4-1 Car Radio Vertical Antenna	J19	1
8	Shielding Case	1405 3P Radio Shielding Case	J4	1
9	Expansion Socket	48P Earless Multifunctional Socket Short Angle	J7	1
Mainboard Wired CP Selected Part（Default Installation）				
NO.	Material Name	Specification Description	Location Number	Quantity
1	SMT IC	WX25QH128D SOP-8	SU1	1
2	SMT IC	AB5301B LQFP-48	U13	1
Mainboard with 3959 Part（Default Installation）				
NO.	Material Name	Specification Description	Location Number	Quantity
1	SMT Capacitor	0402 0.1UF/16V,+80/-20%	C2	1
2	SMT Resistor	0402 100R,+/-5%	R118 R121	2

3	SMT Resistor	0402 10KR,+/-5%	R85	1
4	SMT IC	APM32F3959 DFN-8	U17	1
Mainboard with 8035 Radio Part（Default Installation）				
NO.	Material Name	Specification Description	Location Number	Quantity
1	SMT Capacitor	0402 100pF/50V,+/-5%	C159	1
2	SMT Capacitor	0402 1UF/6.3V,X5R,+/-10%	C41	1
3	SMT Capacitor	0603 100pF/50V,+/-5%	C143	1
4	SMT Resistor	0402 1KR,+/-5%	R155	1
5	SMT Inductor	0603 330nH,+/-10%(High Frequency)	L16	1
6	SMT IC	QN8035F MSOP-10L	U11	1