

Prüfbericht-Nr.: Test report no.:	CN23N900 001	Auftrags-Nr.: Order no.:	168438589	Seite 1 von 16 Page 1 of 16
Kunden-Referenz-Nr.: Client reference no.:	N/A	Auftragsdatum: Order date:	2023-08-08	
Auftraggeber: Client:	OHM (ChongQing) Electronics Technology CO., LTD. D2 Building, Erlang Overseas Students Pioneer Park, No.71, Kecheng Road, Jiulongpo District, ChongQing City 400039, P. R. China			
Prüfgegenstand: Test item:	RF module			
Bezeichnung / Typ-Nr.: Identification / Type no.:	TRC25			
Auftrags-Inhalt: Order content:	Test Report			
Prüfgrundlage: Test specification:	FCC 47 CFR Part 15.231			
Wareneingangsdatum: Date of sample receipt:	2023-08-24	Please refer to Photo Document		
Prüfmuster-Nr.: Test sample no:	A003516069-002,007			
Prüfzeitraum: Testing period:	2023-08-25 - 2023-08-31			
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 <u>Bell Hu</u>		genehmigt von: authorized by:	X <u>Jonathan Li</u>
Datum: Date: 2023-12-05	Signed by: Bell Hu		Ausstellungsdatum: Issue date: 2023-12-05	Signed by: Jonathan Li
Stellung / Position:	Sachverständige(r)/Expert		Stellung / Position:	Sachverständige(r)/Expert
Sonstiges / Other:	FCC ID: 2BCT6-0002			
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
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

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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. <i>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.</i>
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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. <i>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report.</i> <i>Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</i>
4	Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnissen 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 bezüglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019. <i>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.</i>

TEST SUMMARY

5.1.1 Antenna Requirement

RESULT: Pass

5.1.2 Deactivation of the Transmission

RESULT: Pass

5.1.3 20dB Emission Bandwidth and 99% Bandwidth

RESULT: Pass

5.1.4 Field strength of fundamental and Unwanted Emissions in the Spurious Domain

RESULT: Pass

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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: Test Results of radio spectrum

Appendix B: Photographs of the Test Set-Up

1.2 TEST STANDARD(S)

Applied Rules: FCC 47 CFR Part 15.231

Test Method: ANSI C63.10:2013

2. TEST SITES

2.1 TEST FACILITIES

Test Facilities: TÜV Rheinland (Shenzhen) Co., Ltd.

Address:

No. 362 Huanguan Road Middle, Longhua District, Shenzhen 518110, P.R. China

2.2 LIST OF TEST AND MEASUREMENT INSTRUMENTS

Table 1: List of Test and Measurement Equipment

Radio Spectrum Testing (TS8997)				
Equipment	Manufacturer	Model	Serial No.	Cal. until
Wireless Connectivity Tester	R&S	CMW270	101375	25.07.2024
Signal Analyzer	R&S	FSV 40	101441	25.07.2024
Vector Signal Generator	R&S	SMBV100A	263301	25.07.2024
Signal Generator	R&S	SMB100A	115186	25.07.2024
OSP	R&S	OSP 150	101017	21.11.2023
Control PC	DELL	OptiPlex 7050	FTJZ9P2	N/A
Test Software	R&S	WMS32 (V11.00.00)	N/A	N/A
Power Meter	R&S	NRP2	107105	21.11.2023
Power Sensor	R&S	NRP-Z81	105677	25.07.2024
Humid & Temp Programmable Tester	BOST	NTH090-60	19040801	15.03.2024
Shielding Room 8#	Albatross	SR8	APC17151-SR8	22.06.2024
Unwanted Emission Testing (TS9975)				
Equipment	Manufacturer	Model	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

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2.3 TRACEABILITY

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, 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 basis using in house standards or comparisons.

2.5 LOCATION OF ORIGINAL DATA

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

2.6 STATUS OF FACILITY USED FOR TESTING

The TÜV Rheinland (Shenzhen) Co., Ltd. facility located at No. 362 Huanguan Road Middle, Longhua District, Shenzhen 518110, P.R. 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 RF Module operating at 433MHz band.

For details refer to the User Manual and Technical Description.

3.2 RATINGS AND SYSTEM DETAILS

Table 2: Technical Characteristics of EUT

General Information of EUT	Description
Kind of Equipment:	RF module
Type Designation:	TRC25
FCC ID:	2BCT6-0002
Operating Frequency:	433.1 MHz - 434.75 MHz
Modulation Type:	GFSK
*Antenna info.:	Integral Antenna, 3 dBi Max
Antenna Number:	1
Operating Voltage:	DC 3V Battery powered.
Operating Temperature Range:	-30°C ~ +70°C

Note: As per C63.10 subclause 5.6.1, two frequencies tested, 1 near top and 1 near bottom.

*This module test with three types of antennas as listed in below table, radiated emissions tested for all of them.

Ant No.	Antenna type	Max gain (dBi)	Part Number	Manufacturer
1#	Integral antenna, permanently attached with soldering	1.0	OM7.769.001	OHM (ChongQing) Electronics Technology CO., LTD.
2#	Integral antenna, permanently attached with specific connector.	-6.0	C0448-ANG0003	Radiation Technology, Inc.
3#	Integral antenna, permanently attached with specific connector.	3.0	N/A	Radiation Technology, Inc.

3.3 INDEPENDENT OPERATION MODES

The basic operation modes are:

- A. Transmitting
- B. Idle

3.4 NOISE GENERATING AND NOISE SUPPRESSING PARTS

Refer to the Circuit Diagram.

3.5 SUBMITTED DOCUMENTS

- | | |
|---|--|
| ☒ User Manual | ☒ Rating Label |
| ☒ Circuit Diagram | ☐ PCB Layout |
| ☒ Block Diagram | ☒ Photo Document |
| ☒ Schematics | ☒ Parts List |
| ☐ Model Difference Letter | |

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.

Table 3: Test Environments

Environment Parameter	Selected Values During Tests		
	Temperature	Voltage (Battery)	Relative Humidity
Normal (NTNV)	24.6°C	3V	Ambient

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4.3 SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT

The EUT was tested together with the following accessories:

Table 4: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N
Test Jig	OHM (ChongQing) Electronics Technology CO., LTD.	TCT-B20	B20-23062024 G

4.4 COUNTERMEASURES TO ACHIEVE ERM 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)

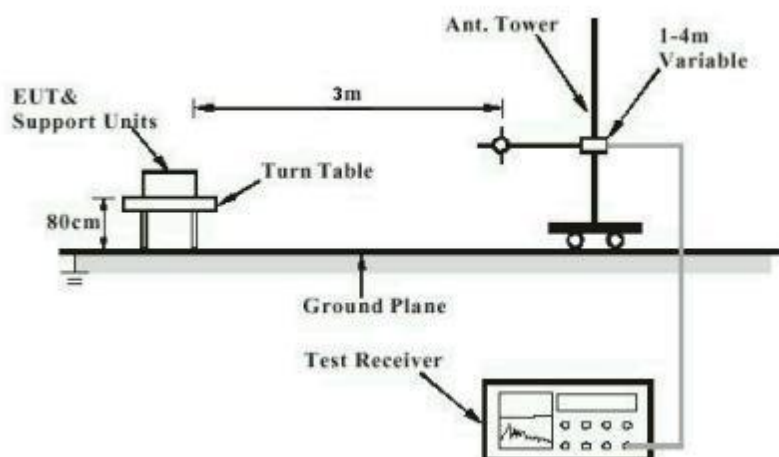
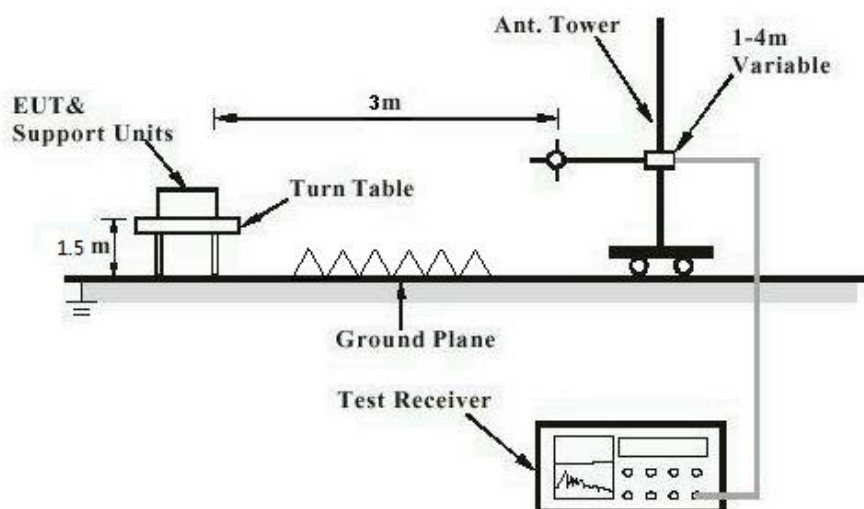


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)



5. TEST RESULTS

5.1 Essential Requirements of Standard

5.1.1 Antenna Requirement

RESULT: **Pass**

Test standard : CFR47 FCC Part 15.203

The EUT have Integral antenna, 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.

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5.1.2 Deactivation of the Transmission

RESULT:**Pass****Test Specification**

Test standard	:	CFR47 FCC Part 15.231
Basic standard	:	ANSI C 63.10:2013
Test requirement	:	CFR47 FCC Part 15.231 (a)(1)
Limit	:	A transmitter activated automatically shall cease transmission within 5 seconds after activation.
Test suite	:	Shielding Room

Test Setup

Date of testing	:	2023-08-29
Test environment:	:	Normal test conditions
Operation mode	:	A
Ambient temperature	:	24.6°C
Relative humidity	:	55%
Atmospheric pressure	:	101kPa

Conclusion:

Refer to attached Appendix A for details of test results.

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5.1.3 20dB Emission Bandwidth and 99% Bandwidth

RESULT:**Pass****Test Specification**

Test standard	:	CFR47 FCC Part 15.231
Basic standard	:	ANSI C 63.10:2013
Test requirement	:	CFR47 FCC Part 15.231 (c)
Limit	:	CFR47 FCC Part 15.231 (c)
Test suite	:	3m Semi Anechoic Room

Test Setup

Date of testing	:	2023-08-29
Test environment:	:	Normal test conditions
Operation mode	:	A
Ambient temperature	:	24.6°C
Relative humidity	:	55%
Atmospheric pressure	:	101kPa

Conclusion:

Refer to attached Appendix A for details of test results.

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5.1.4 Field strength of fundamental and Unwanted Emissions in the Spurious Domain

RESULT:**Pass****Test Specification**

Test standard	:	CFR47 FCC Part 15.231 CFR47 FCC Part 15.205 CFR47 FCC Part 15.209
Basic standard	:	ANSI C 63.10:2013
Test requirement	:	CFR47 FCC Part 15.231 (b)(1)(2)(3)
Limit	:	CFR47 FCC Part 15.231 (b)
Test suite	:	3m Semi Anechoic Room

Test Setup

Date of testing	:	2023-08-28 to 2023-08-30
Test environment:	:	Normal test conditions
Operation mode	:	A
Ambient temperature	:	Refer to test data
Relative humidity	:	Refer to test data
Atmospheric pressure	:	101kPa

Conclusion:

Refer to attached Appendix A for details of test results.

6. System Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 were:

Table 5: System Measurement Uncertainty

Items		Extended Uncertainty
RE	Radiated emission 9 kHz - 30 MHz	±3.97 dB
	Radiated emission 30 MHz - 1 GHz	±4.30 dB
Remark: 95% Confidence Levels, K=2.		

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Appendix A

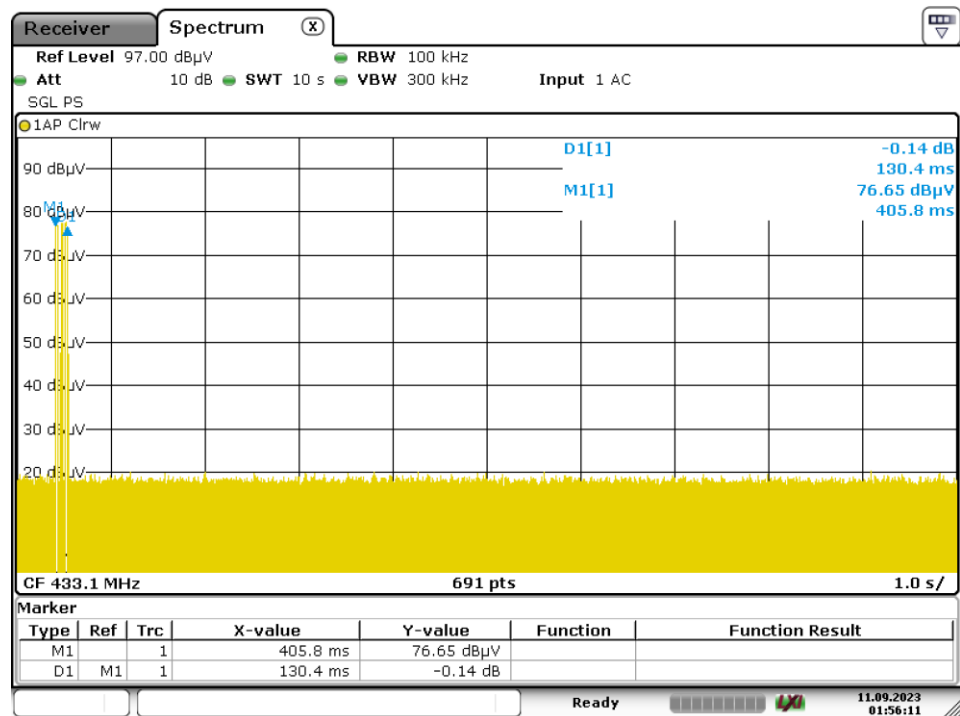
Test Results

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APPENDIX A.1: TEST RESULTS OF DEACTIVATION OF THE TRANSMISSION

Test Results

Operating Frequency (MHz)	Duration Time (S)	Limit (S)	Result
433.10	0.1304	5	Pass

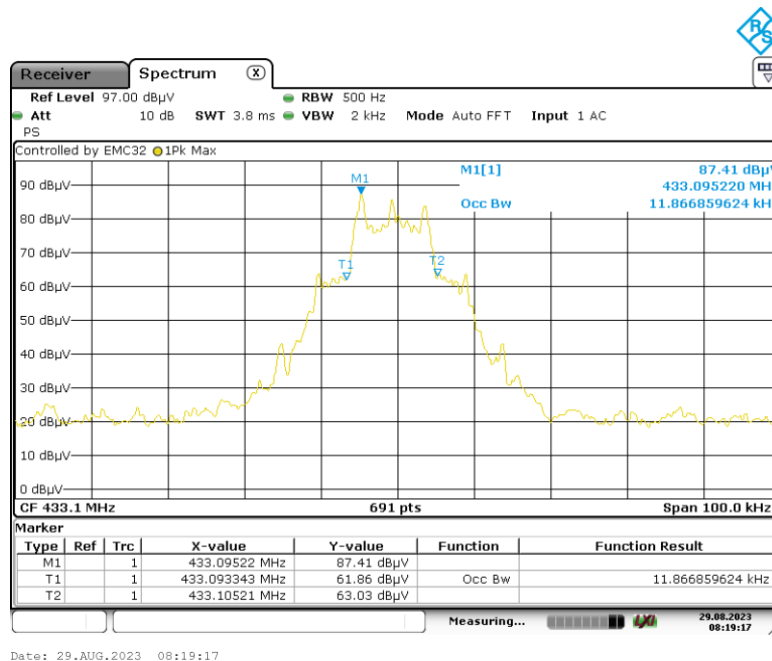
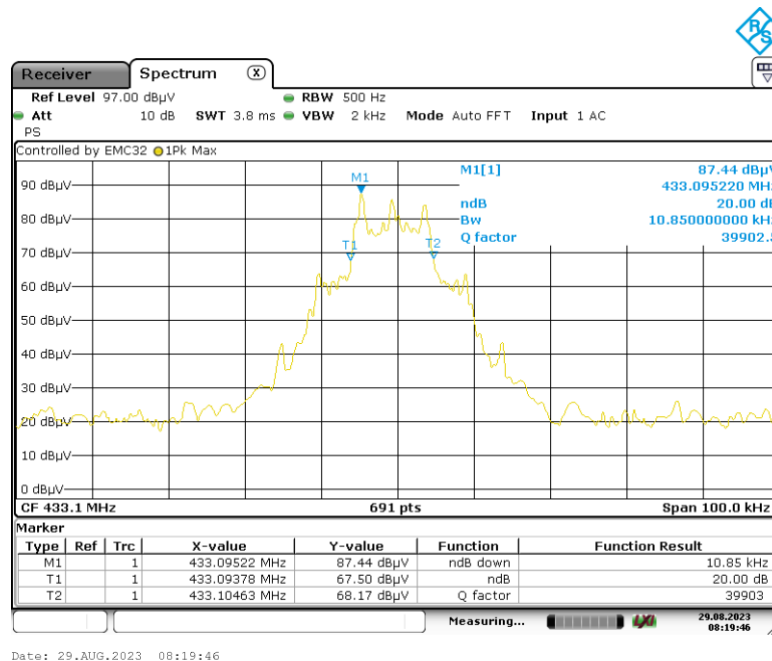


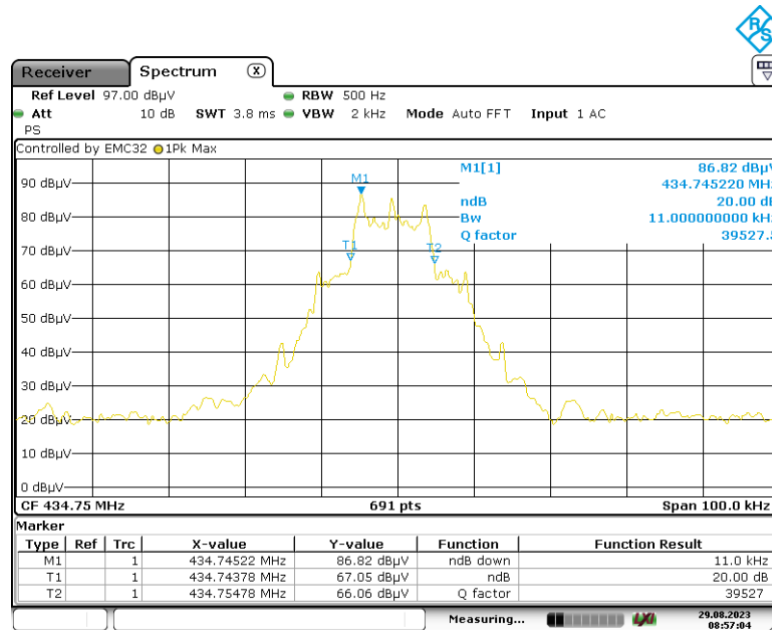
Date: 11.SEP.2023 01:56:12

APPENDIX A.3: TEST RESULTS OF 20dB EMISSION BANDWIDTH AND 99% BANDWIDTH

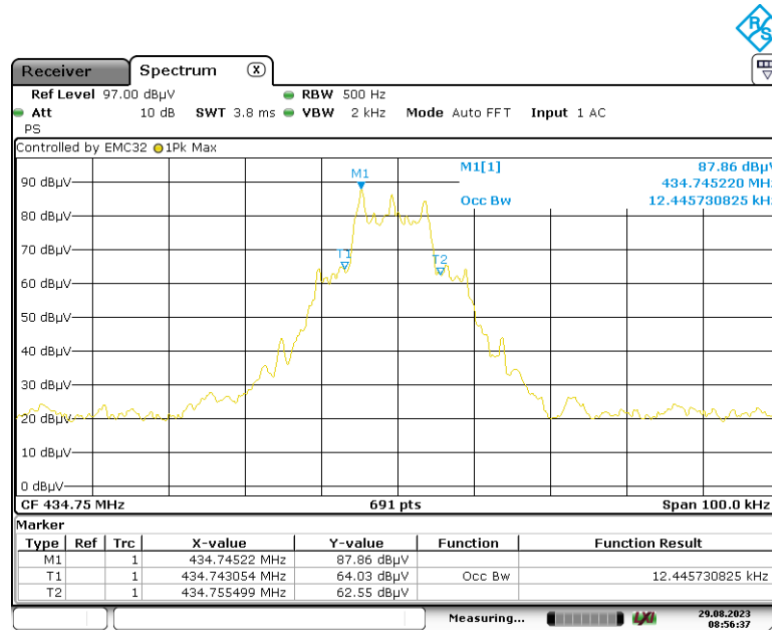
Test Results

Operation Frequency (MHz)	20dB Emission Bandwidth (KHz)	99% Occupied Bandwidth (KHz)	Limit (KHz)	Result
433.10	10.85	11.87	1083	Pass
433.75	11.00	12.45	1084	Pass





Date: 29.AUG.2023 08:57:03



Date: 29.AUG.2023 08:56:37

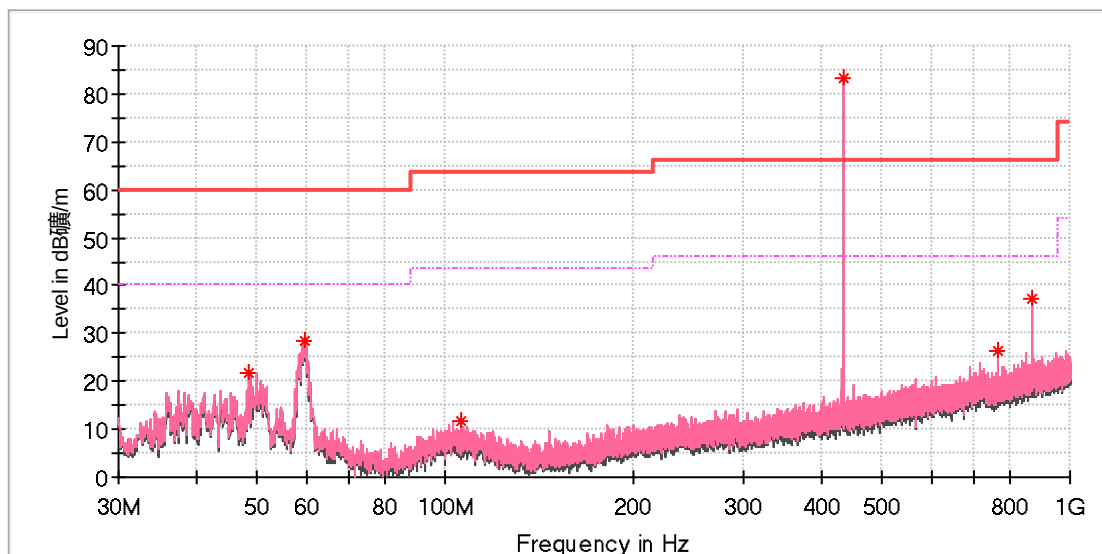
APPENDIX A.4: TEST RESULTS OF FIELD STRENGTH OF FUNDAMENTAL AND UNWANTED EMISSIONS IN THE SPURIOUS DOMAIN

A.4.1 Below 1GHz

Tested with Antenna 1#

EUT Information

EUT Name:	RF module
Model:	TRC25
Test Mode:	Low Channel
Order No/Sample No:	168438589/A003526682-002
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

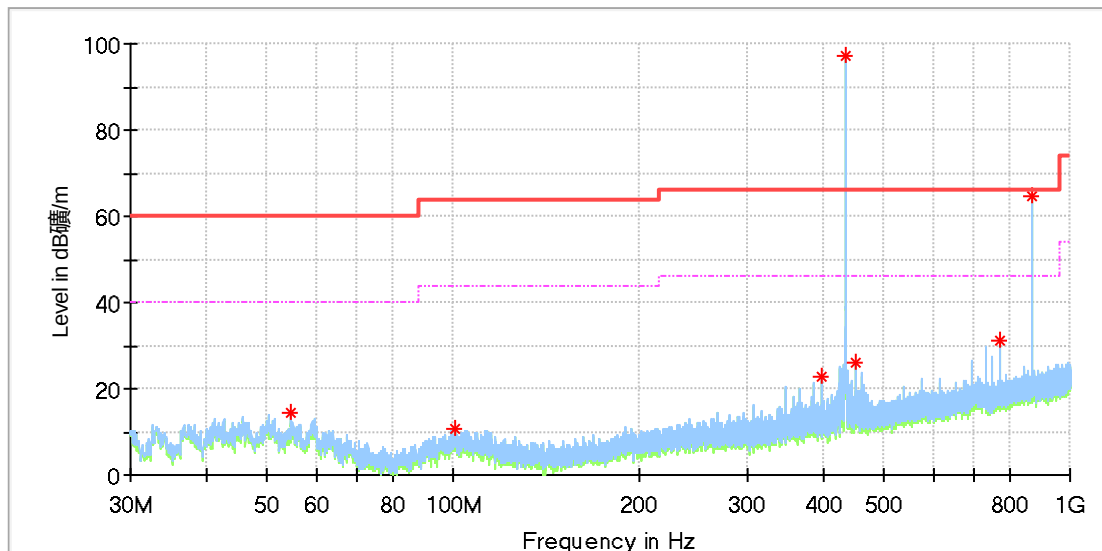


Critical Freqs

Frequency (MHz)	MaxPeak	Average (dBμV/m)	Limit (dBμV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/)
48.616539	21.88	---	40.00	18.12	100.0	V	196.0	-18.7
59.771539	28.63	---	40.00	11.37	100.0	V	0.0	-19.3
106.256923	11.76	---	43.50	31.74	100.0	V	295.0	-19.2
433.109615	83.48	---	100.82	17.34	100.0	V	0.0	-13.6
433.109615	---	62.98	80.82	17.84	100.0	V	0.0	-13.6
768.020769	26.29	---	46.00	19.71	100.0	V	19.0	-7.3
866.214615	37.20	---	80.82	43.62	100.0	V	348.0	-5.7
866.214615	---	16.70	60.82	44.12	100.0	V	348.0	-5.7

EUT Information

EUT Name:	RF module
Model:	TRC25
Test Mode:	Low Channel
Order No/Sample No:	168438589/A003526682-002
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

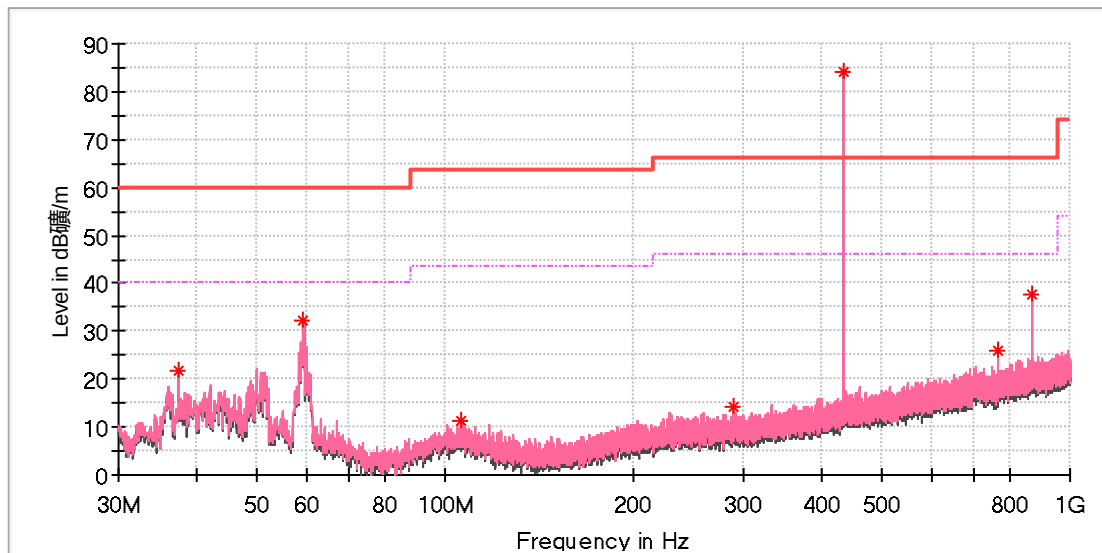


Critical Freqs

Frequency (MHz)	MaxPeak	Average (dBµV/m)	Limit (dBµV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/)
54.697692	14.62	---	40.00	25.38	100.0	H	194.0	-18.7
100.810000	10.74	---	43.50	32.76	100.0	H	238.0	-19.3
394.682692	22.61	---	46.00	23.39	100.0	H	7.0	-14.2
433.109615	97.16	---	100.82	3.66	100.0	H	172.0	-13.6
433.109615	---	76.66	80.82	4.16	100.0	H	172.0	-13.6
450.121923	25.92	---	46.00	20.08	100.0	H	172.0	-13.3
768.020769	31.06	---	46.00	14.94	100.0	H	0.0	-7.3
866.214615	64.74	---	80.82	16.08	100.0	H	183.0	-5.7
866.214615	---	44.24	60.82	16.58	100.0	H	183.0	-5.7

EUT Information

EUT Name:	RF module
Model:	TRC25
Test Mode:	High Channel
Order No/Sample No:	168438589/A003526682-002
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

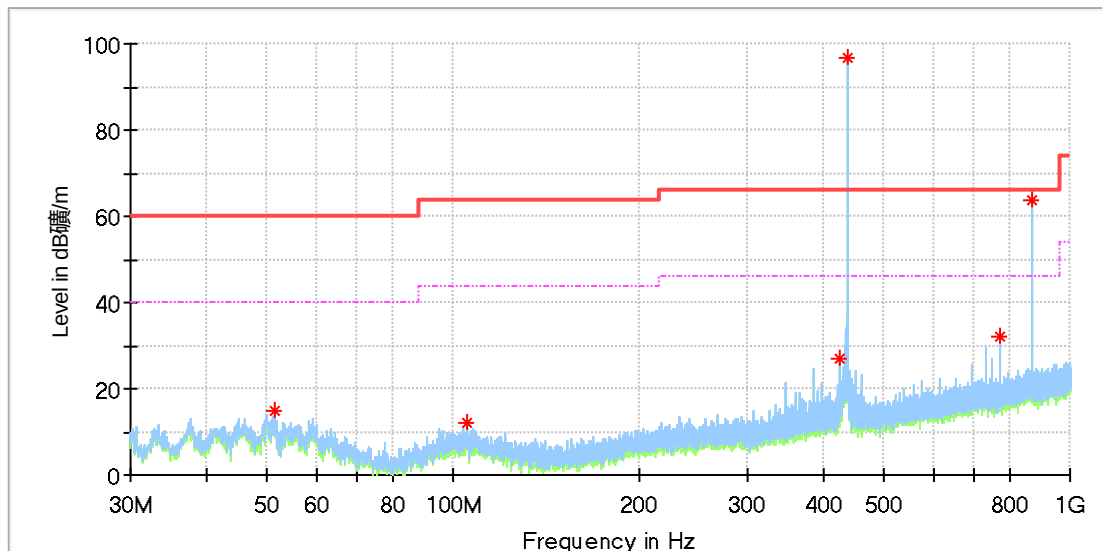


Critical Freqs

Frequency (MHz)	MaxPeak	Average (dBμV/m)	Limit (dBμV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/)
37.498846	21.71	---	40.00	18.29	100.0	V	0.0	-21.2
59.361154	32.29	---	40.00	7.71	100.0	V	0.0	-19.2
105.958462	11.17	---	43.50	32.33	100.0	V	72.0	-19.1
289.624231	14.33	---	46.00	31.67	100.0	V	277.0	-16.9
434.751154	84.12	---	100.82	16.70	100.0	V	310.0	-13.5
434.751154	---	63.62	80.82	17.20	100.0	V	310.0	-13.5
768.020769	25.75	---	46.00	20.25	100.0	V	131.0	-7.3
869.535000	37.77	---	80.82	43.05	100.0	V	346.0	-5.7
869.535000	---	17.27	60.82	43.55	100.0	V	346.0	-5.7

EUT Information

EUT Name:	RF module
Model:	TRC25
Test Mode:	High Channel
Order No/Sample No:	168438589/A003526682-002
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

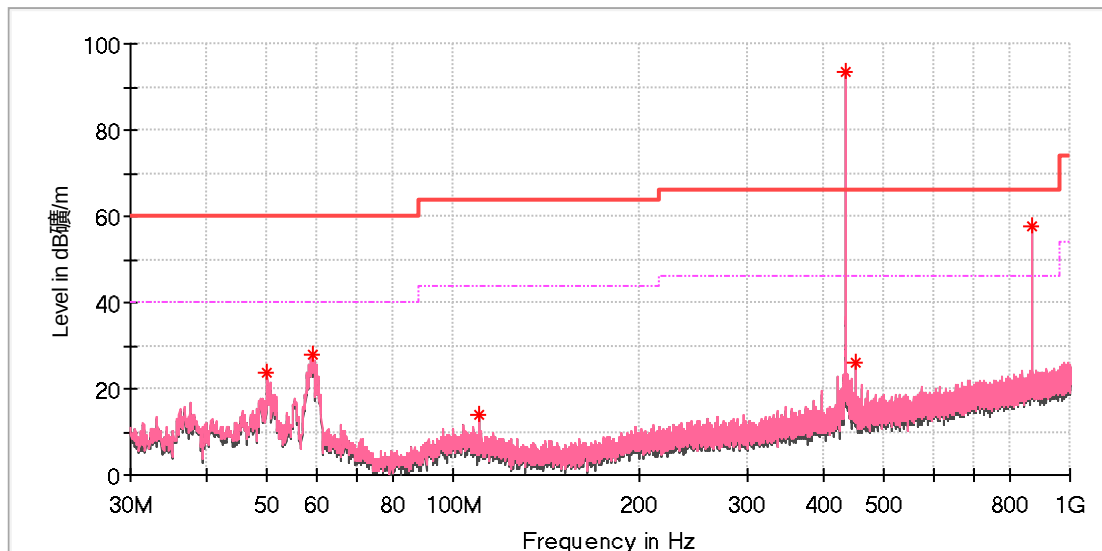


Critical Freqs

Frequency (MHz)	MaxPeak	Average (dBµV/m)	Limit (dBµV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/)
51.377308	14.76	---	40.00	25.24	100.0	H	295.0	-18.6
105.324231	11.99	---	43.50	31.51	100.0	H	337.0	-19.1
422.402308	26.77	---	46.00	19.23	100.0	H	337.0	-13.7
434.751154	96.88	---	100.82	3.94	100.0	H	347.0	-13.5
434.751154	---	76.38	80.82	4.44	100.0	H	347.0	-13.5
768.020769	31.92	---	46.00	14.08	100.0	H	337.0	-7.3
869.535000	63.61	---	80.82	17.21	100.0	H	0.0	-5.7
869.535000	---	43.11	60.82	17.71	100.0	H	0.0	-5.7

Tested with Antenna 2#**EUT Information**

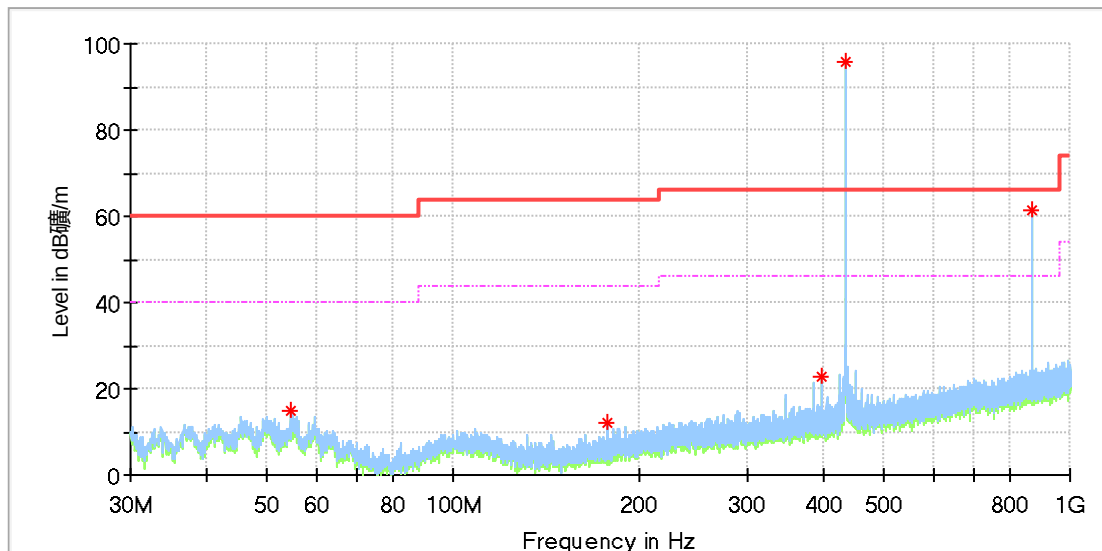
EUT Name:	RF module
Model:	TRC25
Test Mode:	Low Channel
Order No/Sample No:	168438589/A003516069-007
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

**Critical Freqs**

Frequency (MHz)	MaxPeak	Average (dBμV/m)	Limit (dBμV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/)
49.996923	23.95	---	40.00	16.05	100.0	V	154.0	-18.6
59.249231	28.01	---	40.00	11.99	100.0	V	309.0	-19.2
110.286154	14.10	---	43.50	29.40	100.0	V	44.0	-19.4
433.109615	93.55	---	100.82	7.27	100.0	V	119.0	-13.6
433.109615	---	73.05	80.82	7.77	100.0	V	119.0	-13.6
450.121923	26.08	---	46.00	19.92	100.0	V	324.0	-13.3
866.214615	57.62	---	80.82	23.20	100.0	V	309.0	-5.7
866.214615	---	37.12	60.82	23.70	100.0	V	309.0	-5.7

EUT Information

EUT Name:	RF module
Model:	TRC25
Test Mode:	Low Channel
Order No/Sample No:	168438589/A003516069-007
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

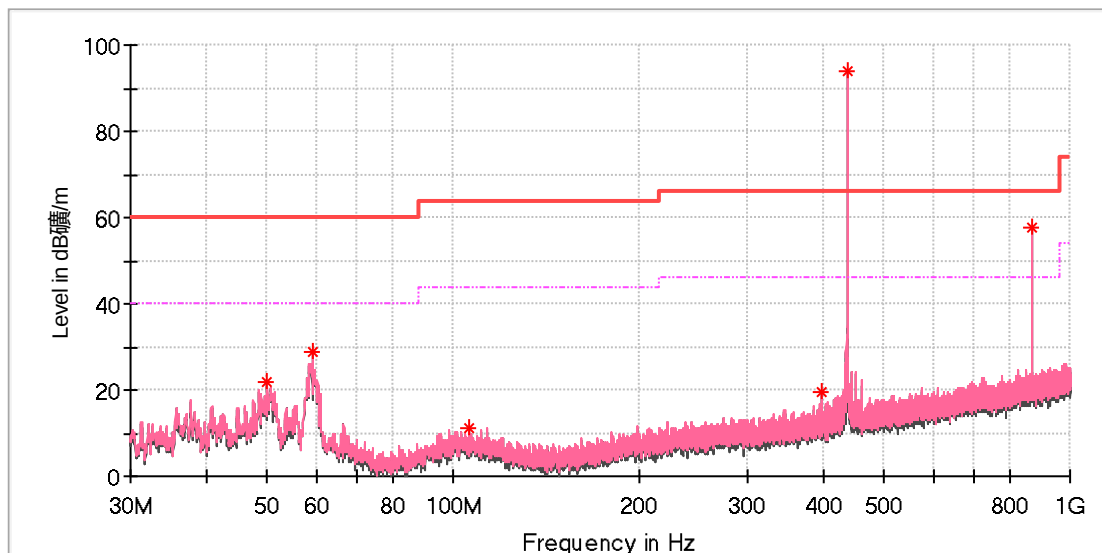


Critical Freqs

Frequency (MHz)	MaxPeak	Average (dBµV/m)	Limit (dBµV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/)
54.399231	14.93	---	40.00	25.07	100.0	H	358.0	-18.7
177.887692	11.88	---	43.50	31.62	100.0	H	0.0	-21.0
394.682692	22.90	---	46.00	23.10	100.0	H	307.0	-14.2
433.109615	95.68	---	100.82	5.14	100.0	H	165.0	-13.6
433.109615	---	75.18	80.82	5.64	100.0	H	165.0	-13.6
866.251923	61.29	---	80.82	19.53	100.0	H	328.0	-5.7
866.251923	---	40.79	60.82	20.03	100.0	H	328.0	-5.7

EUT Information

EUT Name:	RF module
Model:	TRC25
Test Mode:	High Channel
Order No/Sample No:	168438589/A003516069-007
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

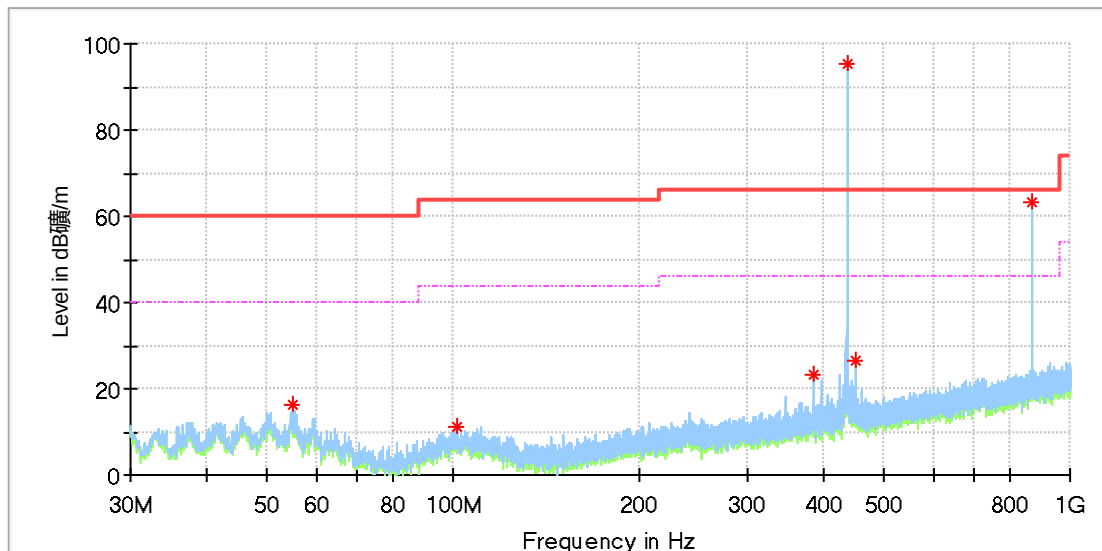


Critical Freqs

Frequency (MHz)	MaxPeak	Average (dBμV/m)	Limit (dBμV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/)
49.996923	21.80	---	40.00	18.20	100.0	V	153.0	-18.6
59.249231	28.79	---	40.00	11.21	100.0	V	130.0	-19.2
106.219615	11.25	---	43.50	32.25	100.0	V	177.0	-19.2
396.361539	19.72	---	46.00	26.28	100.0	V	320.0	-14.2
434.751154	93.78	---	100.82	7.04	100.0	V	320.0	-13.5
434.751154	---	73.28	80.82	7.54	100.0	V	320.0	-13.5
869.535000	57.76	---	80.82	23.06	100.0	V	309.0	-5.7
869.535000	---	37.26	60.82	23.56	100.0	V	309.0	-5.7

EUT Information

EUT Name:	RF module
Model:	TRC25
Test Mode:	High Channel
Order No/Sample No:	168438589/A003516069-007
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

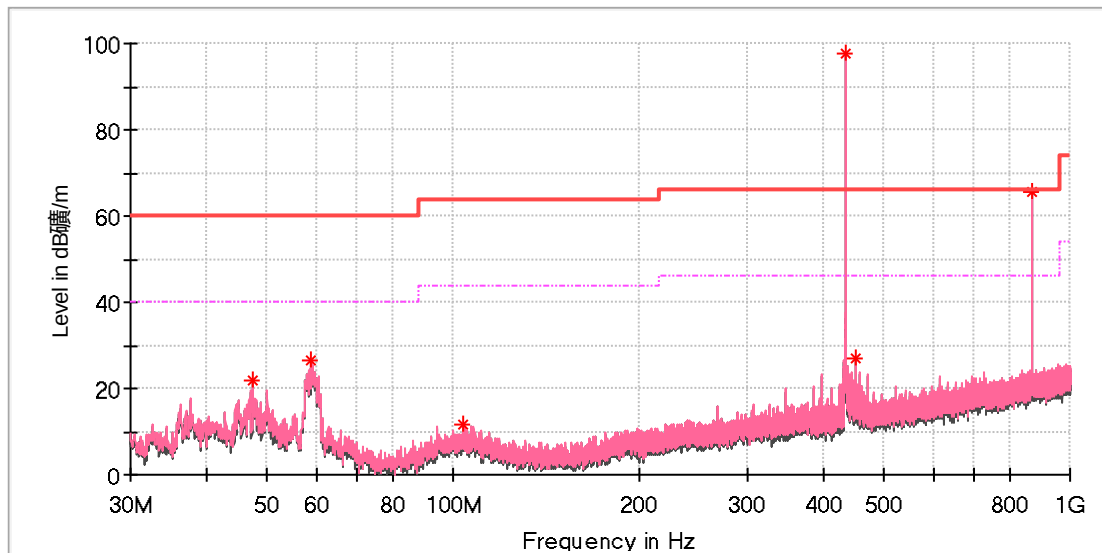


Critical Freqs

Frequency (MHz)	MaxPeak	Average (dBμV/m)	Limit (dBμV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/)
54.846923	16.06	---	40.00	23.94	100.0	H	86.0	-18.7
101.481539	11.32	---	43.50	32.18	100.0	H	254.0	-19.2
384.012692	23.30	---	46.00	22.70	100.0	H	319.0	-14.5
434.751154	95.47	---	100.82	5.35	100.0	H	319.0	-13.5
434.751154	---	74.97	80.82	5.85	100.0	H	319.0	-13.5
448.443077	26.58	---	46.00	19.42	100.0	H	186.0	-13.3
869.535000	63.17	---	80.82	17.65	100.0	H	175.0	-5.7
869.535000	---	42.67	60.82	18.15	100.0	H	175.0	-5.7

Tested with Antenna 3#**EUT Information**

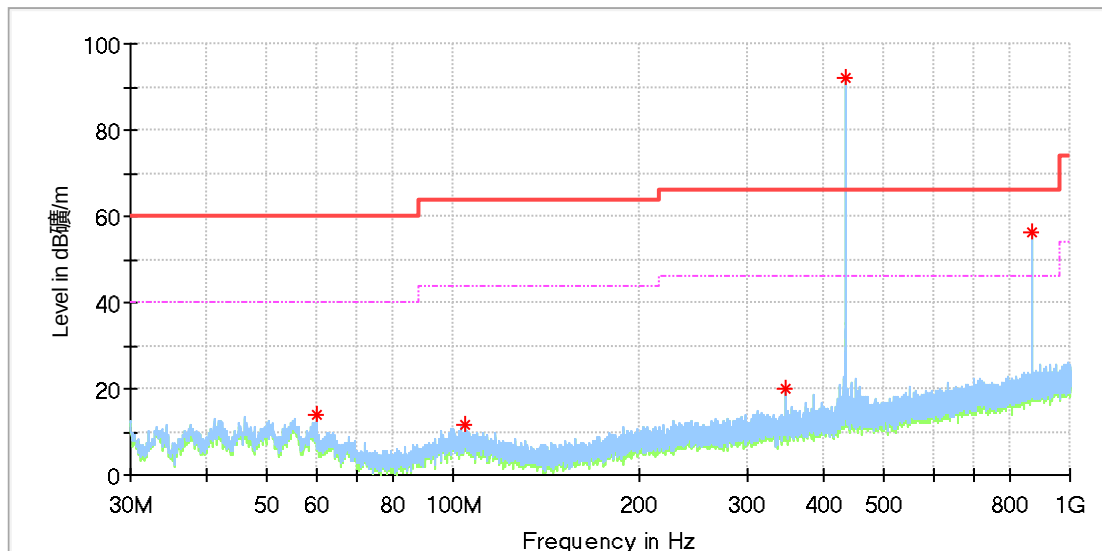
EUT Name:	RF module
Model:	TRC25
Test Mode:	Low Channel
Order No/Sample No:	168438589/A003516069-002
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

**Critical_Freqs**

Frequency (MHz)	MaxPeak	Average	Limit	Margin	Height	Pol	Azimuth	Corr.
47.310769	22.02	---	40.00	17.98	100.0	V	57.0	-18.8
58.950769	26.54	---	40.00	13.46	100.0	V	262.0	-19.2
104.167692	11.76	---	43.50	31.74	100.0	V	239.0	-19.1
433.109615	97.85	---	100.82	2.97	100.0	V	118.0	-13.6
433.109615	---	77.35	80.82	3.47	100.0	V	118.0	-13.6
450.121923	26.92	---	46.00	19.08	100.0	V	106.0	-13.3
866.214615	65.64	---	80.82	15.18	100.0	V	94.0	-5.7
866.214615	---	45.14	60.82	15.68	100.0	V	94.0	-5.7

EUT Information

EUT Name:	RF module
Model:	TRC25
Test Mode:	Low Channel
Order No/Sample No:	168438589/A003516069-002
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

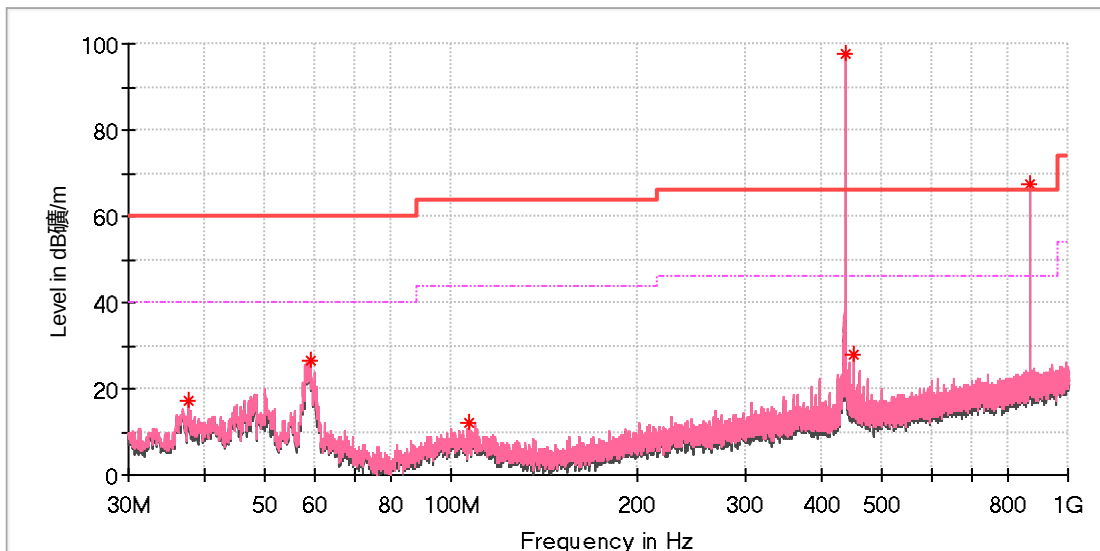


Critical Freqs

Frequency (MHz)	MaxPeak	Average (dBµV/m)	Limit (dBµV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/)
60.032692	13.94	---	40.00	26.06	100.0	H	321.0	-19.3
104.652692	11.55	---	43.50	31.95	100.0	H	176.0	-19.1
345.585769	20.07	---	46.00	25.93	100.0	H	187.0	-15.3
433.109615	92.25	---	100.82	8.57	100.0	H	187.0	-13.6
433.109615	---	71.75	80.82	9.07	100.0	H	187.0	-13.6
866.214615	56.47	---	80.82	24.35	100.0	H	22.0	-5.7
866.214615	---	35.97	60.82	24.85	100.0	H	22.0	-5.7

EUT Information

EUT Name:	RF module
Model:	TRC25
Test Mode:	High Channel
Order No/Sample No:	168438589/A003516069-002
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

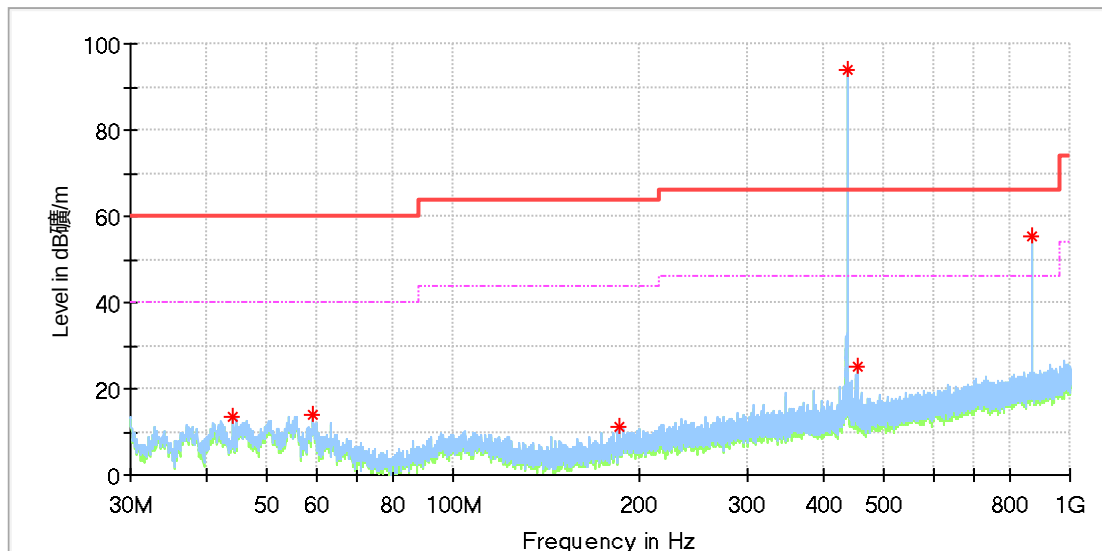


Critical Freqs

Frequency (MHz)	MaxPeak	Average (dBμV/m)	Limit (dBμV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/)
37.498846	17.22	---	40.00	22.78	100.0	V	37.0	-21.2
59.361154	26.63	---	40.00	13.37	100.0	V	143.0	-19.2
106.965769	12.00	---	43.50	31.50	100.0	V	223.0	-19.2
434.751154	97.89	---	100.82	2.93	100.0	V	99.0	-13.5
434.751154	---	77.39	80.82	3.43	100.0	V	99.0	-13.5
448.443077	27.76	---	46.00	18.24	100.0	V	111.0	-13.3
869.535000	67.23	---	80.82	13.59	100.0	V	133.0	-5.7
869.535000	---	46.73	60.82	14.09	100.0	V	133.0	-5.7

EUT Information

EUT Name:	RF module
Model:	TRC25
Test Mode:	High Channel
Order No/Sample No:	168438589/A003516069-002
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

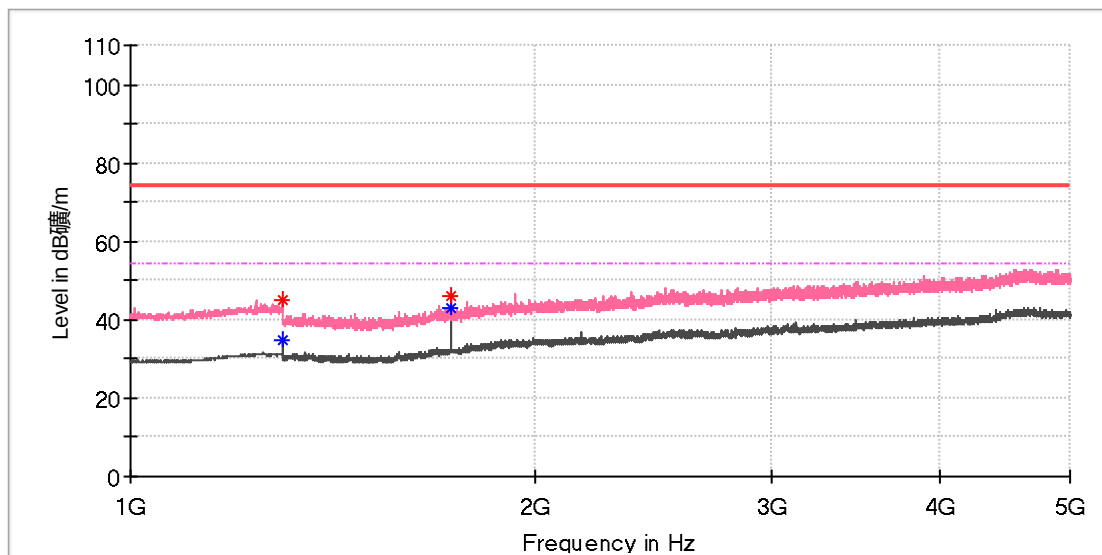


Critical Freqs

Frequency (MHz)	MaxPeak	Average (dBμV/m)	Limit (dBμV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/)
43.915769	13.28	---	40.00	26.72	100.0	H	60.0	-19.4
59.249231	13.80	---	40.00	26.20	100.0	H	262.0	-19.2
186.431154	11.35	---	43.50	32.15	100.0	H	357.0	-20.2
434.751154	93.87	---	100.82	6.95	100.0	H	35.0	-13.5
434.751154	---	73.37	80.82	7.45	100.0	H	35.0	-13.5
453.367692	24.95	---	46.00	21.05	100.0	H	35.0	-13.2
869.535000	55.38	---	80.82	25.44	100.0	H	186.0	-5.7
869.535000	---	34.88	60.82	25.94	100.0	H	186.0	-5.7

A.4.2 Above 1GHz**Tested with Antenna 1#****EUT Information**

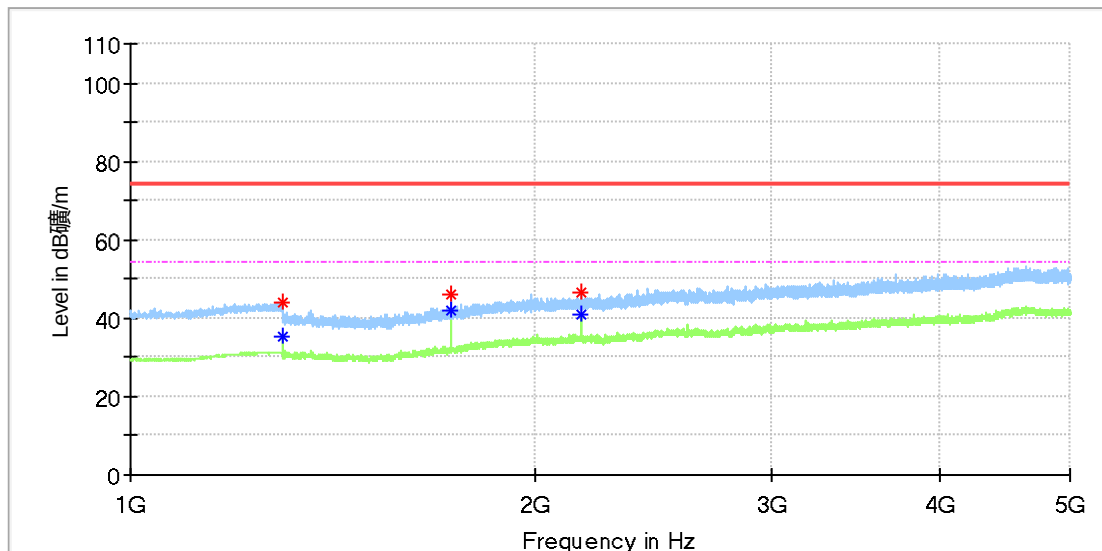
EUT Name:	RF module
Model:	TRC25
Test Mode:	Low Channel
Order No/Sample No:	168438589/A003526682-002
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

**Critical_Freqs**

Frequency (MHz)	MaxPeak	Average (dBμV/m)	Limit (dBμV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/m)
1299.500000	44.86	---	74.00	29.14	150.0	V	88.0	1.9
1299.500000	---	34.90	54.00	19.10	150.0	V	88.0	1.9
1732.283333	45.84	---	74.00	28.16	150.0	V	96.0	3.5
1732.283333	---	42.95	54.00	11.06	150.0	V	96.0	3.5

EUT Information

EUT Name:	RF module
Model:	TRC25
Test Mode:	Low Channel
Order No/Sample No:	168438589/A003526682-002
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

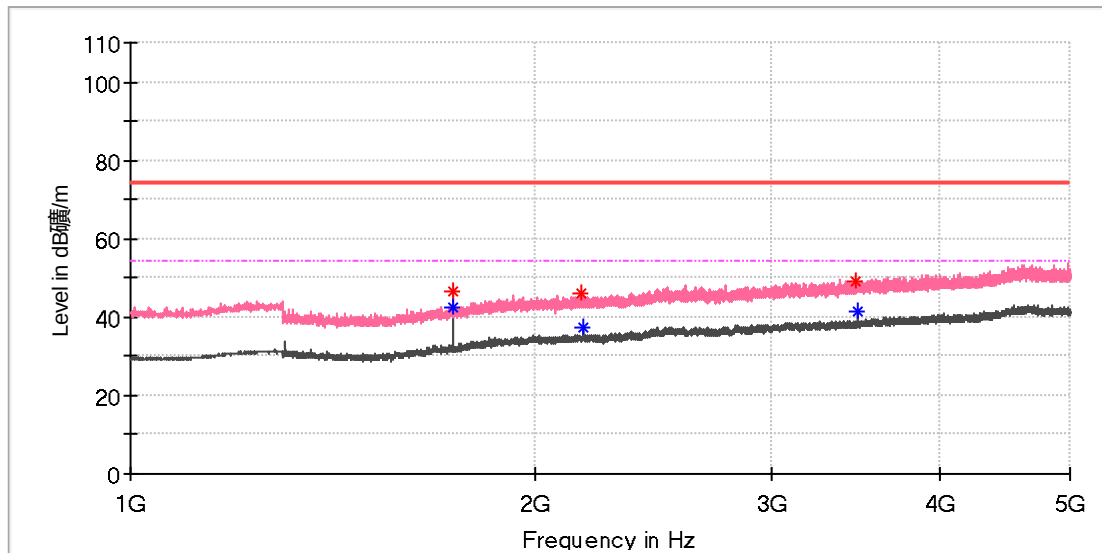


Critical Freqs

Frequency (MHz)	MaxPeak	Average (dBμV/m)	Limit (dBμV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/m)
1299.500000	44.08	---	74.00	29.92	150.0	H	311.0	1.9
1299.500000	---	35.12	54.00	18.88	150.0	H	311.0	1.9
1732.283333	45.82	---	74.00	28.18	150.0	H	45.0	3.5
1732.283333	---	41.77	54.00	12.23	150.0	H	45.0	3.5
2165.491667	46.65	---	74.00	27.35	150.0	H	190.0	6.2
2165.491667	---	40.78	54.00	13.22	150.0	H	190.0	6.2

EUT Information

EUT Name:	RF module
Model:	TRC25
Test Mode:	High Channel
Order No/Sample No:	168438589/A003526682-002
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

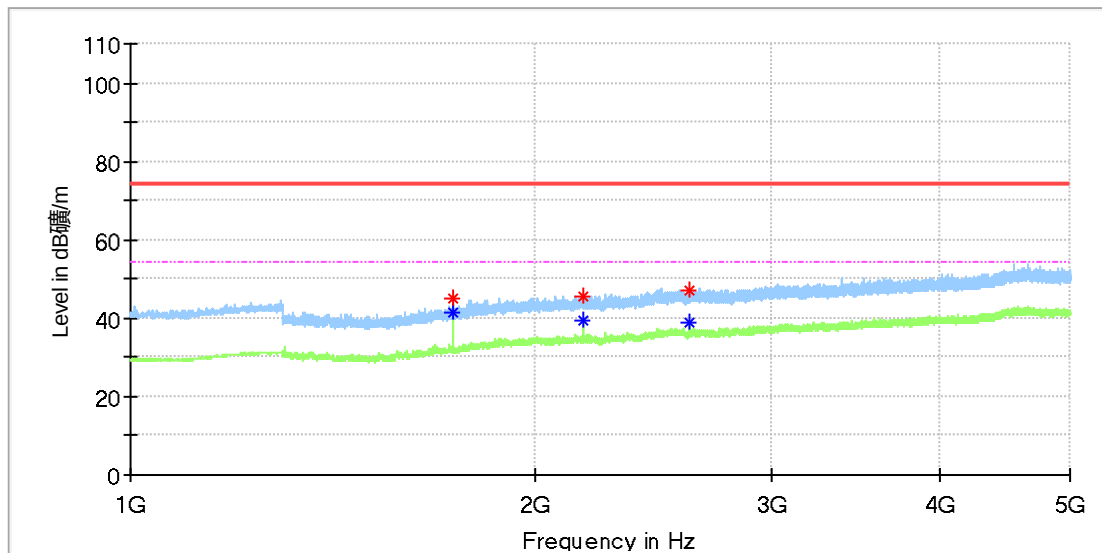


Critical Freqs

Frequency (MHz)	MaxPeak	Average (dBμV/m)	Limit (dBμV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/m)
1738.758333	---	42.68	54.00	11.32	150.0	V	98.0	3.6
1739.066667	46.57	---	74.00	27.43	150.0	V	98.0	3.6
2161.175000	45.90	---	74.00	28.10	150.0	V	140.0	6.2
2173.508333	---	37.18	54.00	16.82	150.0	V	217.0	6.3
3464.808333	48.89	---	74.00	25.11	150.0	V	261.0	8.9
3478.066667	---	41.22	54.00	12.78	150.0	V	337.0	8.9

EUT Information

EUT Name:	RF module
Model:	TRC25
Test Mode:	High Channel
Order No/Sample No:	168438589/A003526682-002
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

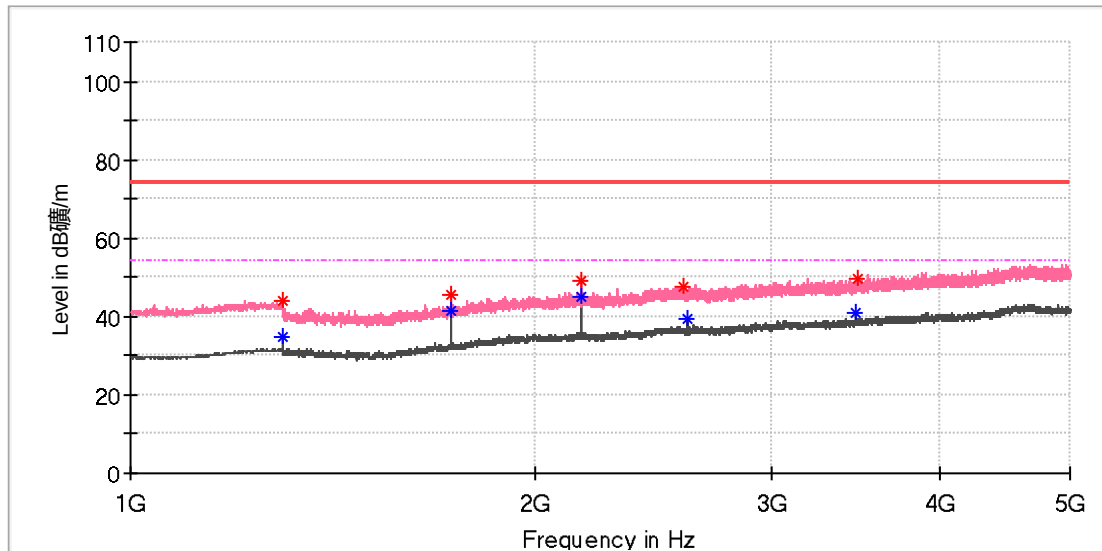


Critical Freqs

Frequency (MHz)	MaxPeak	Average (dBμV/m)	Limit (dBμV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/m)
1738.758333	---	41.30	54.00	12.70	150.0	H	16.0	3.6
1739.066667	45.19	---	74.00	28.81	150.0	H	16.0	3.6
2170.116667	45.56	---	74.00	28.44	150.0	H	54.0	6.2
2173.508333	---	39.35	54.00	14.65	150.0	H	206.0	6.3
2604.866667	47.22	---	74.00	26.78	150.0	H	87.0	7.4
2608.566667	---	38.87	54.00	15.13	150.0	H	96.0	7.4

Tested with Antenna 2#**EUT Information**

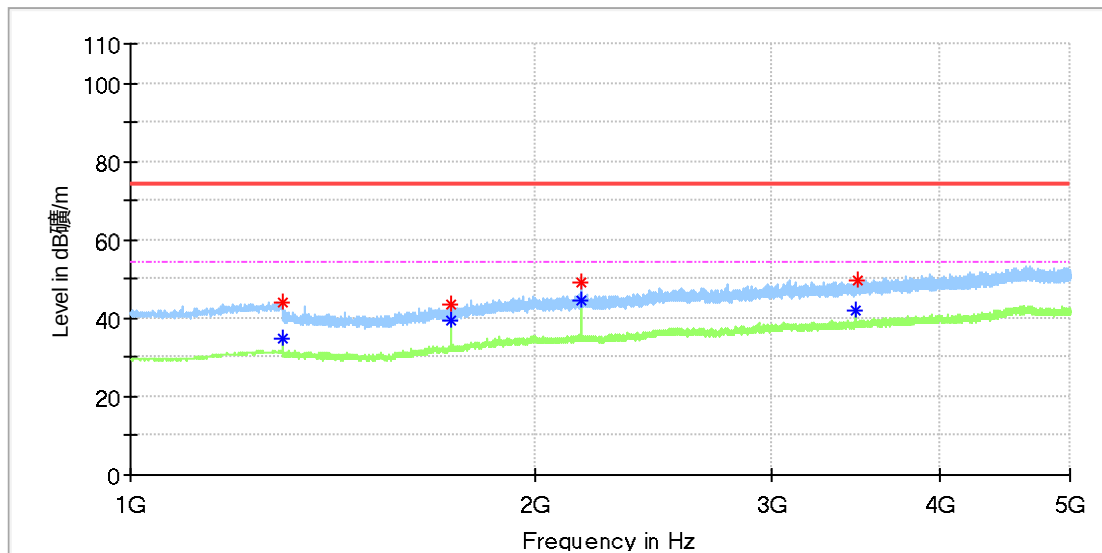
EUT Name:	RF module
Model:	TRC25
Test Mode:	Low Channel
Order No/Sample No:	168438589/A003516069-007
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

**Critical Freqs**

Frequency (MHz)	MaxPeak	Average (dBμV/m)	Limit (dBμV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/m)
1299.500000	---	35.03	54.00	18.97	150.0	V	264.0	1.9
1300.000000	43.96	---	74.00	30.04	150.0	V	264.0	1.9
1732.283333	45.62	---	74.00	28.38	150.0	V	110.0	3.5
1732.283333	---	41.69	54.00	12.31	150.0	V	110.0	3.5
2165.183333	49.08	---	74.00	24.92	150.0	V	157.0	6.2
2165.183333	---	44.91	54.00	9.09	150.0	V	157.0	6.2
2580.816667	47.48	---	74.00	26.53	150.0	V	32.0	7.5
2598.700000	---	39.24	54.00	14.76	150.0	V	356.0	7.4
3464.500000	---	40.71	54.00	13.29	150.0	V	300.0	8.9
3474.366667	49.63	---	74.00	24.37	150.0	V	86.0	8.9

EUT Information

EUT Name:	RF module
Model:	TRC25
Test Mode:	Low Channel
Order No/Sample No:	168438589/A003516069-007
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

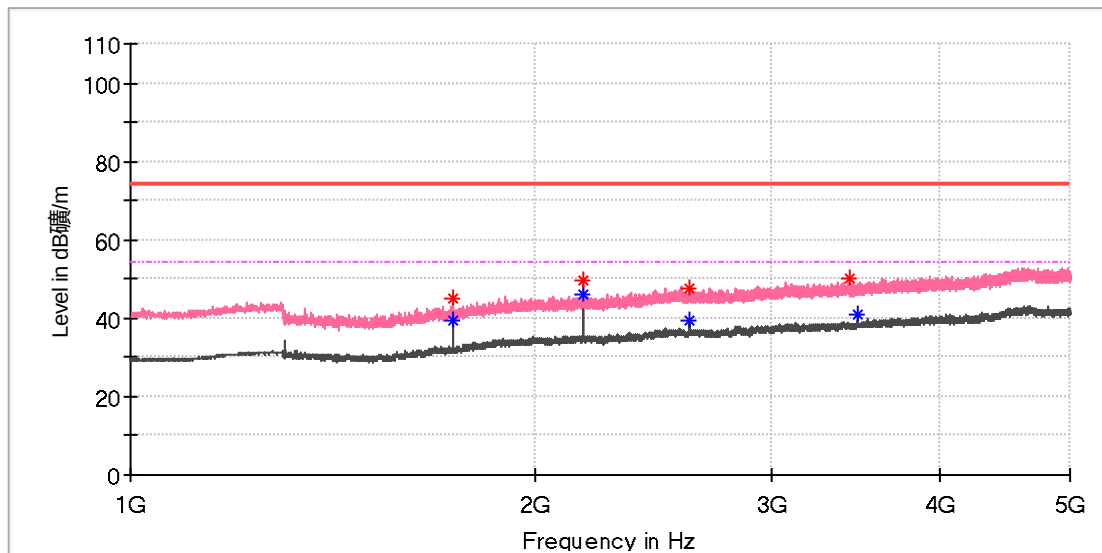


Critical Freqs

Frequency (MHz)	MaxPeak	Average (dBμV/m)	Limit (dBμV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/m)
1299.000000	43.77	---	74.00	30.23	150.0	H	341.0	1.9
1299.500000	---	34.57	54.00	19.43	150.0	H	323.0	1.9
1732.283333	---	39.29	54.00	14.71	150.0	H	35.0	3.5
1732.591667	43.51	---	74.00	30.49	150.0	H	35.0	3.5
2165.183333	---	44.32	54.00	9.68	150.0	H	12.0	6.2
2165.491667	49.21	---	74.00	24.79	150.0	H	12.0	6.2
3464.191667	---	41.74	54.00	12.26	150.0	H	62.0	8.9
3471.283333	49.52	---	74.00	24.48	150.0	H	0.0	8.9

EUT Information

EUT Name:	RF module
Model:	TRC25
Test Mode:	High Channel
Order No/Sample No:	168438589/A003516069-007
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

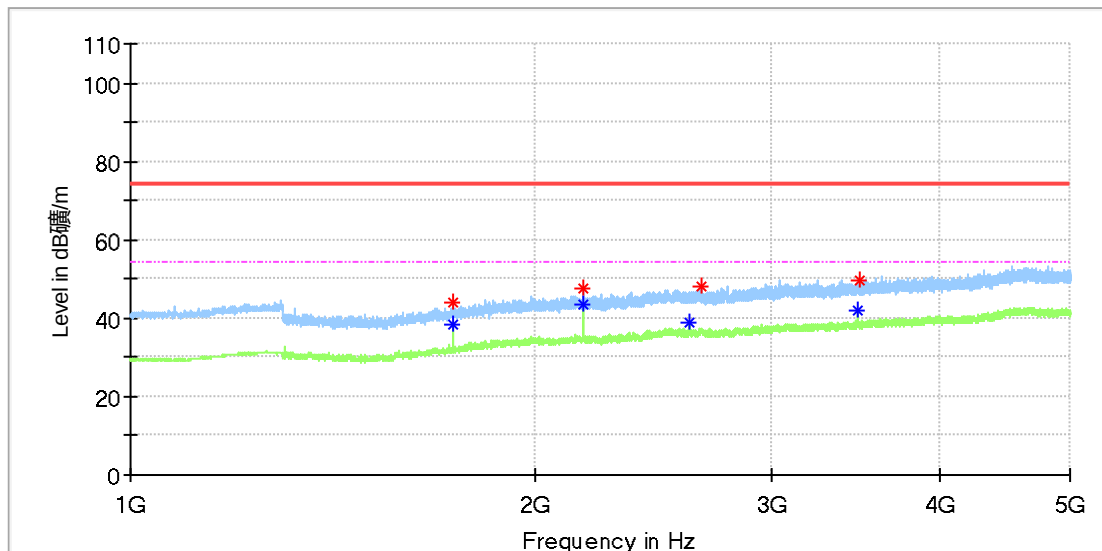


Critical Freqs

Frequency (MHz)	MaxPeak	Average (dBμV/m)	Limit (dBμV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/m)
1738.758333	45.26	---	74.00	28.74	150.0	V	62.0	3.6
1738.758333	---	39.27	54.00	14.73	150.0	V	62.0	3.6
2173.508333	---	46.16	54.00	7.84	150.0	V	143.0	6.3
2174.125000	49.46	---	74.00	24.54	150.0	V	143.0	6.3
2607.950000	47.72	---	74.00	26.28	150.0	V	209.0	7.4
2608.258333	---	39.38	54.00	14.62	150.0	V	209.0	7.4
3430.583333	50.11	---	74.00	23.89	150.0	V	10.0	8.8
3477.450000	---	41.10	54.00	12.90	150.0	V	192.0	8.9

EUT Information

EUT Name:	RF module
Model:	TRC25
Test Mode:	High Channel
Order No/Sample No:	168438589/A003516069-007
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

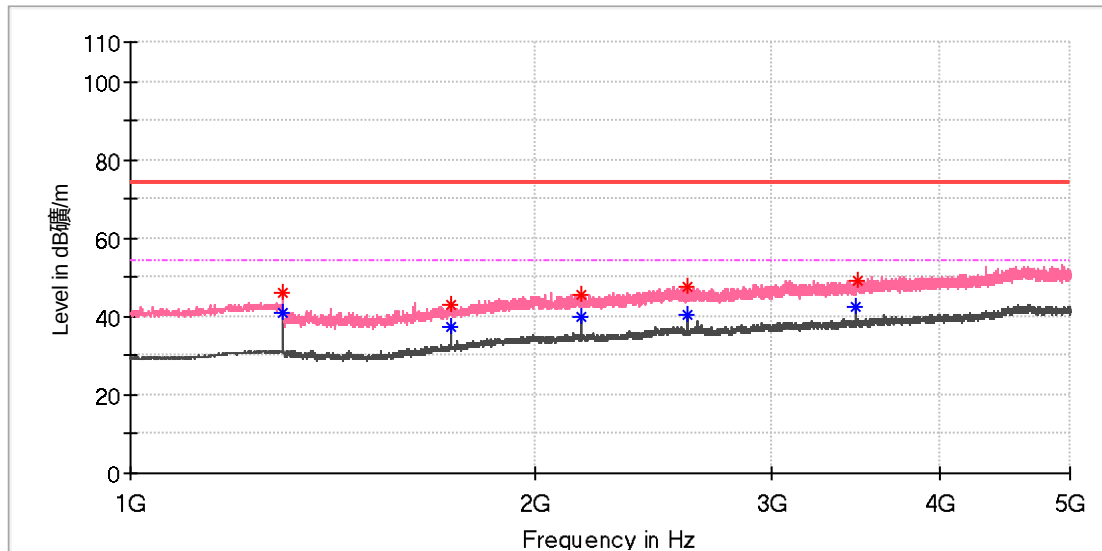


Critical Freqs

Frequency (MHz)	MaxPeak	Average (dBμV/m)	Limit (dBμV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/m)
1738.758333	---	38.43	54.00	15.57	150.0	H	54.0	3.6
1739.066667	44.21	---	74.00	29.79	150.0	H	29.0	3.6
2173.508333	47.64	---	74.00	26.36	150.0	H	3.0	6.3
2173.816667	---	43.68	54.00	10.32	150.0	H	3.0	6.3
2608.258333	---	38.83	54.00	15.17	150.0	H	230.0	7.4
2661.291667	48.08	---	74.00	25.92	150.0	H	80.0	7.6
3477.450000	---	41.92	54.00	12.08	150.0	H	61.0	8.9
3483.308333	49.45	---	74.00	24.55	150.0	H	10.0	8.9

Tested with Antenna 3#**EUT Information**

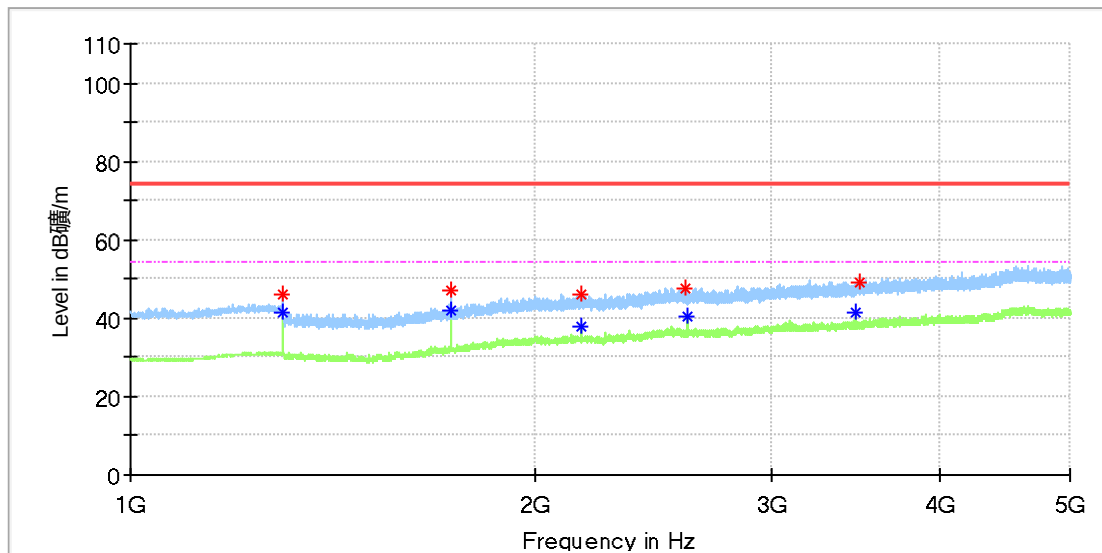
EUT Name:	RF module
Model:	TRC25
Test Mode:	Low Channel
Order No/Sample No:	168438589/A003516069-002
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

**Critical Freqs**

Frequency (MHz)	MaxPeak	Average (dBμV/m)	Limit (dBμV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/m)
1299.500000	---	40.98	54.00	13.02	150.0	V	69.0	1.9
1300.000000	46.18	---	74.00	27.82	150.0	V	69.0	1.9
1732.283333	---	37.43	54.00	16.57	150.0	V	337.0	3.5
1732.283333	43.15	---	74.00	30.85	150.0	V	337.0	3.5
2165.183333	45.65	---	74.00	28.35	150.0	V	190.0	6.2
2165.491667	---	39.96	54.00	14.04	150.0	V	190.0	6.2
2598.391667	47.34	---	74.00	26.66	150.0	V	167.0	7.4
2598.391667	---	40.57	54.00	13.43	150.0	V	167.0	7.4
3464.191667	---	42.34	54.00	11.66	150.0	V	182.0	8.9
3476.525000	49.35	---	74.00	24.65	150.0	V	61.0	8.9

EUT Information

EUT Name:	RF module
Model:	TRC25
Test Mode:	Low Channel
Order No/Sample No:	168438589/A003516069-002
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

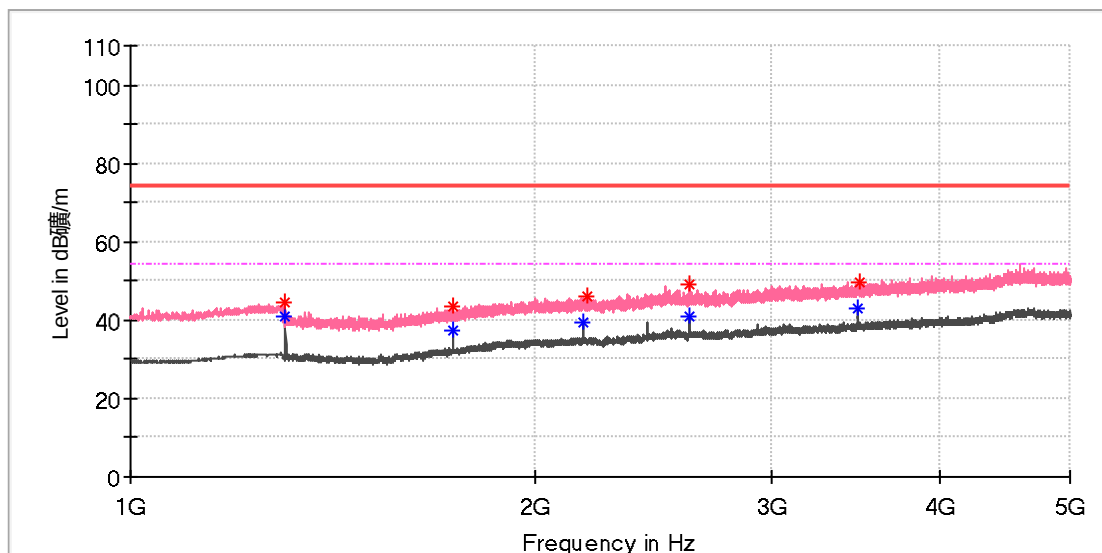


Critical Freqs

Frequency (MHz)	MaxPeak	Average (dBμV/m)	Limit (dBμV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/m)
1299.500000	---	41.46	54.00	12.54	150.0	H	0.0	1.9
1299.500000	46.22	---	74.00	27.78	150.0	H	0.0	1.9
1732.283333	46.98	---	74.00	27.02	150.0	H	182.0	3.5
1732.591667	---	41.83	54.00	12.17	150.0	H	182.0	3.5
2165.491667	---	37.97	54.00	16.03	150.0	H	85.0	6.2
2165.800000	46.16	---	74.00	27.84	150.0	H	85.0	6.2
2583.900000	47.41	---	74.00	26.59	150.0	H	172.0	7.5
2598.700000	---	40.65	54.00	13.35	150.0	H	120.0	7.4
3464.191667	---	41.53	54.00	12.47	150.0	H	0.0	8.9
3485.466667	49.04	---	74.00	24.96	150.0	H	146.0	8.9

EUT Information

EUT Name:	RF module
Model:	TRC25
Test Mode:	High Channel
Order No/Sample No:	168438589/A003516069-002
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

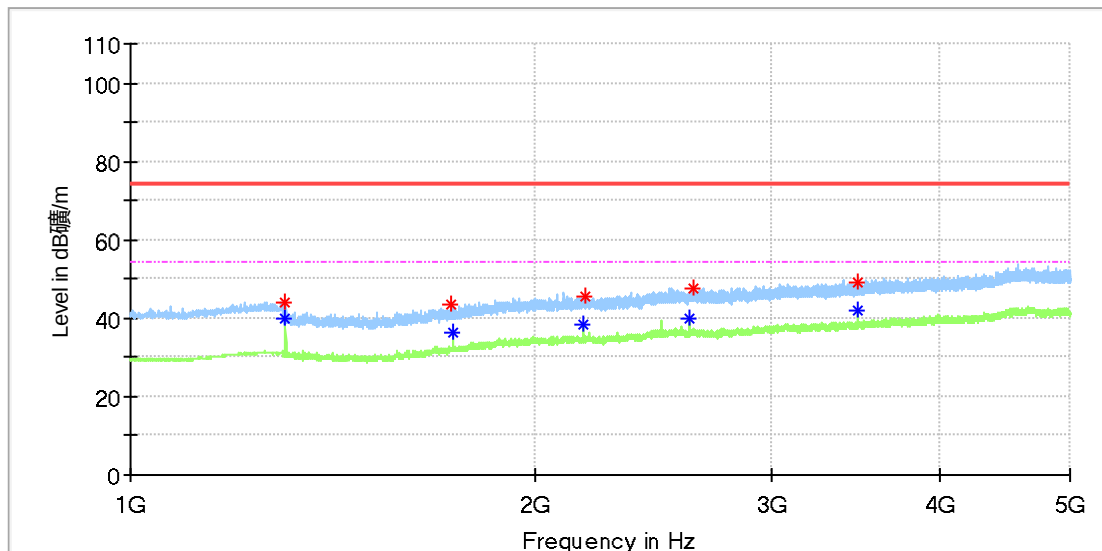


Critical Freqs

Frequency (MHz)	MaxPeak	Average (dBμV/m)	Limit (dBμV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/m)
1304.008333	---	41.14	54.00	12.86	150.0	V	260.0	1.9
1304.316667	44.43	---	74.00	29.57	150.0	V	260.0	1.9
1738.758333	43.49	---	74.00	30.51	150.0	V	104.0	3.6
1738.758333	---	37.22	54.00	16.78	150.0	V	104.0	3.6
2173.816667	---	39.21	54.00	14.79	150.0	V	191.0	6.3
2183.375000	45.87	---	74.00	28.13	150.0	V	53.0	6.3
2608.258333	48.88	---	74.00	25.12	150.0	V	286.0	7.4
2608.566667	---	41.16	54.00	12.84	150.0	V	168.0	7.4
3477.450000	---	43.20	54.00	10.80	150.0	V	63.0	8.9
3484.850000	49.40	---	74.00	24.60	150.0	V	104.0	8.9

EUT Information

EUT Name:	RF module
Model:	TRC25
Test Mode:	High Channel
Order No/Sample No:	168438589/A003516069-002
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:56%
Test Standard:	FCC Part 15C
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak	Average (dBμV/m)	Limit (dBμV/m)	Margin	Height	Pol	Azimuth	Corr. (dB/m)
1304.008333	---	39.91	54.00	14.09	150.0	H	201.0	1.9
1304.316667	44.07	---	74.00	29.93	150.0	H	326.0	1.9
1730.433333	43.41	---	74.00	30.59	150.0	H	236.0	3.5
1738.758333	---	36.47	54.00	17.53	150.0	H	150.0	3.6
2173.816667	---	38.53	54.00	15.47	150.0	H	109.0	6.3
2175.975000	45.42	---	74.00	28.58	150.0	H	65.0	6.3
2608.258333	---	39.72	54.00	14.28	150.0	H	254.0	7.4
2624.291667	47.65	---	74.00	26.35	150.0	H	210.0	7.5
3478.066667	49.23	---	74.00	24.77	150.0	H	118.0	8.9
3478.066667	---	42.11	54.00	11.89	150.0	H	118.0	8.9