Test Report

Verified code: 056802

Report No.: E202409271682-1EN

Customer:	Kostal (shanghai) Management Co.Ltd
Address:	No.189 Xingting Road, Jiading District, Shanghai, P.R.China
Sample Name:	PEPS
Sample Model:	SCW-433MHz
Receive Sample Date:	Feb.18,2025
Test Date:	Mar.17,2025 ~ Mar.21,2025
Reference Document:	47 CFR Part 15 Subpart C Intentional Radiators ANSI C63.10:2020
Test Result:	Pass

Prepared by: Huang Lifang Reviewed by: Wu Haoting Approved by: Xiao Liang

GRG METROLOGY & TEST GROUP CO., LTD.

Issued Date: 2025-04-15

GRG METROLOGY & TEST GROUP CO., LTD.
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Tel：（+86）400-602-0999 FAX：（+86）020-38698685 Web：http://www.grgtest.com

Statement

1. The report is invalid without "special seal for inspection and testing"; some copies are invalid; The report is invalid if it is altered or missing; The report is invalid without the signature of the person who prepared, reviewed and approved it.

2. The sample information is provided by the client and responsible for its authenticity; The content of the report is only valid for the samples sent this time.

3. When there are reports in both Chinese and English, the Chinese version will prevail when the language problems are inconsistent.

4. If there is any objection concerning the report, please inform us within 15 days from the date of receiving the report.

5. This testing report is only for scientific research, teaching, internal quality control, etc.

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REPORT ISSUED HISTORY

Report Version	Report No.	Description	Compile Date
1.0	E202409271682-1EN	Original Issue	2025-03-27

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1. TEST RESULT SUMMARY

Technical Requirements		
47 CFR Part 15 Subpart C, ANSI C63.10:2020		
Item	**FCC Standard Chapter**	**Result**
Antenna requirements	§15.203	Complied
Radiated Spurious Emissions	§15.209 & §15.205	Complied
20dB Bandwidth	§15.215	Complied
AC Conducted Emission	§15.207	N/A

Note: The four antennas of the EUT are External antenna, which accordance 15.203 is considered sufficient to comply with the provisions of this section. The four antennas of the EUT can't transmitting simultaneously.The EUT is power by DC source, the AC conduction emission is not applicant.

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2. GENERAL DESCRIPTION OF EUT

2.1 APPLICANT

Name:	Kostal (shanghai) Management Co.Ltd
Address:	No.189 Xingting Road, Jiading District, Shanghai, P.R.China

2.2 MANUFACTURER

Name:	Kostal (shanghai) Management Co.Ltd
Address:	No.189 Xingting Road, Jiading District, Shanghai, P.R.China

2.3 FACTORY

Name :	Kostal (shanghai) Management Co.Ltd
Address :	No.189 Xingting Road, Jiading District, Shanghai, P.R.China

2.4 BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

Product Name:	PEPS
Product Model:	SCW-433MHz
Adding Model:	/
Model Difference:	/
Trade Name:	KOSTAL
Power Supply:	DC 9-16V
Frequency Band:	125kHz
Maximum field strength:	100.34dBμV/m@3m
FCC ID:	2AYARZWFRA1020NCE
Antenna Type:	External Antenna Antenna 1: LF Antenna with high performance(in the driver door) Antenna 2: LF Antenna with high performance(in the passenger door) Antenna 3: LF Antenna with IMMO(under the cup holder) Antenna 4: LF antenna(on the rear bumper)
Modulation type:	ASK
Sample submitting way:	■Provided by customer □Sampling
Sample No:	E202409271682-0007
Temperature Range:	-40℃ ~ +80℃

Hardware version: 002

Software version: C01

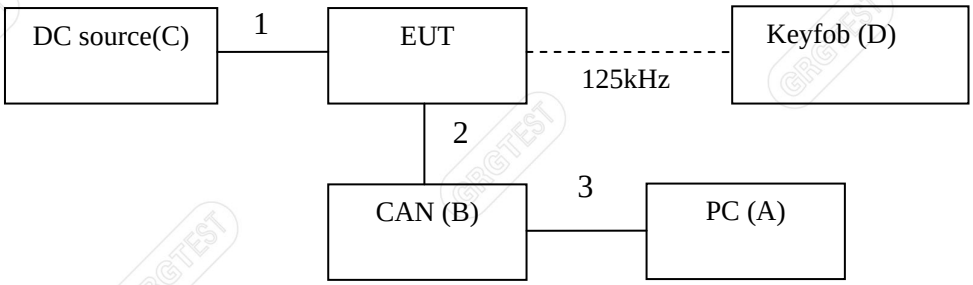
Note: 1.The basic description of the EUT is provided by the applicant. This report is made Solel yon the basis of such data and/or information.We accept no responsibility for the authenticity and completeness of the above data and information and the validity of the results and/or conclusions.
2.The smart antenna of EUT can not transmit simultaneously, it can switch four antennas intelligently and only one antenna transmits.

2.5 TEST MODE

Mode No.	Description of the modes
Mode 1	ASK 125kHz Transmitting

2.6 BLOCK DIAGRAM

Mode 1:



2.7 LOCAL SUPPORTIVE INSTRUMENTS

No.	Name of Equipment	Manufacturer	Model	Serial Number
A	PC	DELL	Latitude3490	2095LR2
B	CAN	Tosun	TC1016P	/
C	DC Source	LW	PS-305DM	180704473
D	Keyfob	KOSTAL	SCW-433MHz	/

No.	Cable Type	Qty.	Shielded Type	Ferrite Core(Qty.)	Note
1	DC cable	1	No	0	0.80m
2	DC cable	1	No	0	2.00m
3	USB cable	1	No	0	1.50m

3. LABORATORY AND MEASUREMENT UNCERTAINTY

3.1 LABORATORY

The tests & measurements refer to this report were performed by Shenzhen EMC Laboratory of GRG METROLOGY & TEST GROUP CO., LTD.

Add	:	No.1301 Guanguang Road Xinlan Community, Guanlan Street, Longhua District Shenzhen, 518110, People's Republic of China
P.C.	:	518110
Tel	:	0755-61180008
Fax	:	0755-61180008

3.2 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to GB/T 27025(ISO/IEC 17025:2017)

USA	A2LA(Certificate #2861.01)

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

Canada	ISED (Company Number: 24897，CAB identifier:CN0069)
USA	FCC (Registration Number: 759402，Designation Number:CN1198)

Copies of granted accreditation certificates are available for downloading from our web site, http://www.grgtest.com

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3.3 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Uncertainty
RF frequency	6.0×10^{-6}
Humidity	6.0%
Temperature	2.0℃

Measurement		Frequency	Uncertainty
Radiated Emission	X	9kHz～30MHz	4.4dB[1)]
	Y	9kHz～30MHz	4.4dB[1)]
	Z	9kHz～30MHz	4.4dB[1)]
	Horizontal	30MHz～200MHz	4.0dB[1)]
		200MHz～1000MHz	4.3dB[1)]
	Vertical	30MHz～200MHz	3.9dB[1)]
		200MHz～1000MHz	4.4dB[1)]

This uncertainty represents an expanded uncertainty factor of *k*=2.
This uncertainty represents an expanded uncertainty expressed at approximately the 95%.

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4. LIST OF USED TEST EQUIPMENT AT GRGT

4.1 LIST OF USED TEST EQUIPMENT

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Loop Antenna	Schwarzbeck	FMZB 1513-60	1513-60-56	2025-05-07
Test Receiver	R&S	ESR26	101758	2025-09-10
Bi-log Antenna	Schwarzbeck	VULB9160	VULB9160-3402	2025-09-11
Preamplifier	SHIRONG ELECTRONIC	DLNA-9k1G-G40	20200928003	2025-10-30
Spectrum Analyzer	R&S	FSV30	1321.3008K30-104381-rH	2025-09-22
RF Cable	TIMES	LMR240UF-NMNM-9000	/	2025-09-11
RF Cable	WCS	C220706518	/	2025-09-11
RF Cable	ROSENBERGER	L72-CM071-400	/	2025-09-11
Test SW	tonscend	JS36-RE		

Note: The calibration interval of the test instruments is 12 months.

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5. RADIATED SPURIOUS EMISSIONS

5.1 LIMITS

Frequency (MHz)	Quasi-peak(μV/m)	Measurement distance(m)	Quasi-peak(dBμV/m)@distance 3m
0.009-0.490	2400/F(kHz)	300	128.5~93.8
0.490-1.705	24000/F(kHz)	30	73.8~63
1.705-30.0	30	30	69.5
30 ~ 88	100	3	40
88~216	150	3	43.5
216 ~ 960	200	3	46
Above 960	500	3	54

NOTE: (1) The lower limit shall apply at the transition frequencies.

5.2 TEST PROCEDURES

1) Sequence of testing 9kHz to 30MHz

Setup:

--- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.

--- If the EUT is a tabletop system, a rotatable table with 0.8 m height is used.

--- If the EUT is a floor standing device, it is placed on the ground.

--- Auxiliary equipment and cables were positioned to simulate normal operation conditions.

--- The measurement distance is 3 meter.

--- The EUT was set into operation.

Pre measurement:

--- The turntable rotates from 0 °to 360 °.

--- The antenna height is 1 meter.

--- At each turntable position the analyzer sweeps with peak detection to find the maximum of all emissions.

Final measurement:

--- Identified emissions during the pre measurement the software maximizes by rotating the turntable position (0 °to 360 °) and by rotating the elevation axes (0 °to 360 °).

--- The final measurement will be done in the position (turntable and elevation) causing the highest emissions with QP detector.

--- The final levels, frequency, measuring time, bandwidth, turntable position, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the pre measurement and the limit will be stored.

2) Sequence of testing 30MHz to 1GHz

Setup:

--- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.

--- If the EUT is a tabletop system, a table with 0.8 m height is used, which is placed on the ground plane.

--- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.

--- Auxiliary equipment and cables were positioned to simulate normal operation conditions

--- The measurement distance is 3 meter.

--- The EUT was set into operation.

Pre measurement:

--- The turntable rotates from 0 °to 360 °.

--- The antenna is polarized vertical and horizontal.

--- The antenna height changes from 1 to 4 meter.

--- At each turntable position, antenna polarization and height the analyzer sweeps three times in peak to find the maximum of all emissions.

Final measurement:

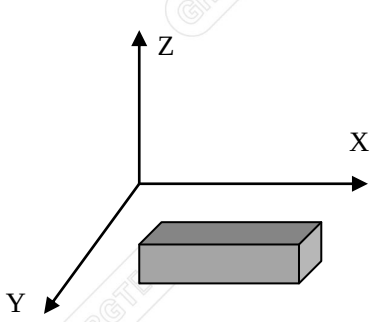
--- The final measurement will be performed with minimum the six highest peaks.

--- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable rotates from 0 °to 360 °and antenna movement between 1 and 4 meter.

--- The final measurement will be done with QP detector with an EMI receiver.

--- The final levels, frequency, measuring time, bandwidth, antenna height, antenna polarization, turntable angle, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement with marked maximum final measurements and the limit will be stored.

3）The radiation measurements are tested under 3-axes(X,Y,Z) position(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand), After pre-test, It was found that the worse radiation emission was get at the X position. So the data shown was the X position only.



MEASURING INSTRUMENTS SETTING

9kHz to 150kHz

Receiver parameters	Setting
RBW	200Hz
VBW	200Hz
Start frequency	9kHz
Stop frerquency	150kHz
Sweep time	Auto
Detector	QP
Trace mode	Max Hold

150kHz to 30MHz

Receiver parameters	Setting
RBW	9kHz
VBW	10kHz
Start frequency	150kHz
Stop frerquency	30MHz
Sweep time	Auto
Detector	QP
Trace mode	Max Hold

30MHz to 1GHz

Receiver parameters	Setting
RBW	100kHz
VBW	300kHz
Start frequency	30MHz
Stop frerquency	1GHz
Sweep time	Auto
Detector	QP
Trace mode	Max Hold

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5.3 TEST SETUP

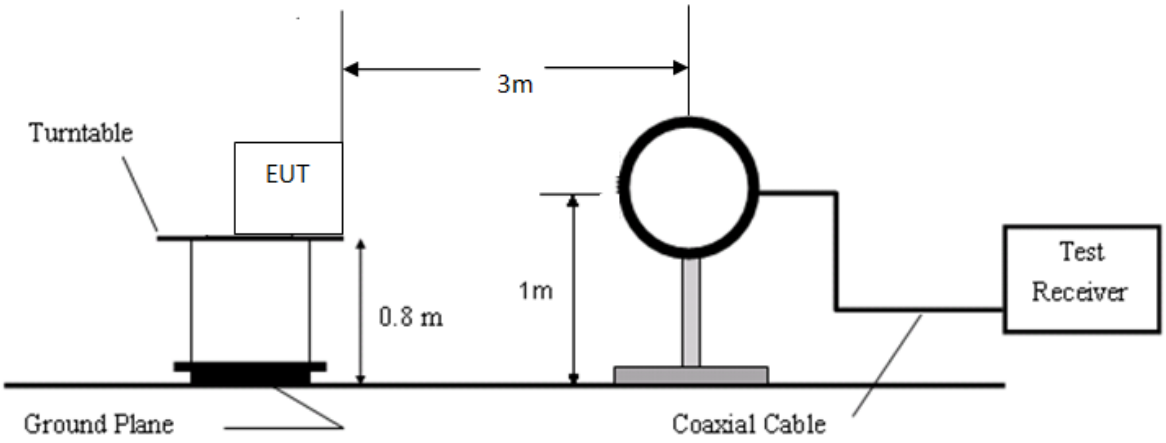


Figure 1. 9kHz to 30MHz radiated emissions test configuration

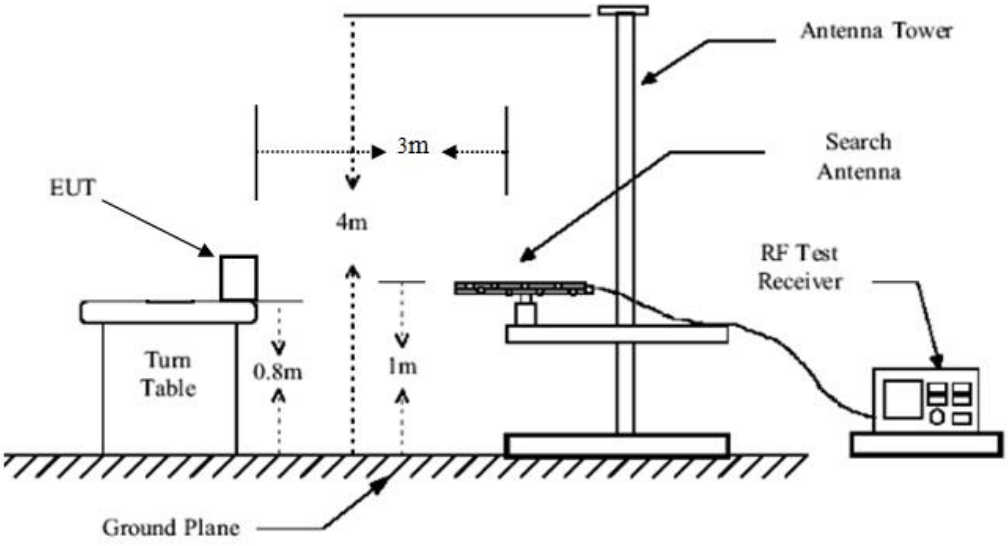


Figure 2. 30MHz to 1GHz radiated emissions test configuration

5.4 DATA SAMPLE

0.009MHz to 30MHz

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	XXX	28.60	50.34	21.74	112.63	62.29	PK	100	93	X	PASS
2	XXX	29.88	51.89	22.01	107.25	55.36	PK	100	93	X	PASS

Frequency (MHz) = Emission frequency in MHz

Ant.Pol. (Coplanar/ Coaxial) = Antenna polarization

Reading (dBuV/m) = Uncorrected Analyzer / Receiver reading

Factor (dB) = Antenna factor + Cable loss – Amplifier gain

Level (dBuV/m) = Reading (dBuV/m) + Factor (dB)

Limit (dBuV/m) = Limit stated in standard

Margin (dB) = Limit (dBuV/m) – Level (dBuV/m)

PK = Peak Reading

30MHz to 1GHz

Suspected Data List										
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity
xxxx	xxxx	62.87	34.23	-28.64	40.00	5.77	PK	200	351	Horizontal

Final Data List									
NO.	Freq. [MHz]	Factor [dB]	QP Reading [dBµV/m]	Level [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
xxxx	xxxx	-28.64	54.02	25.38	40.00	14.62	100	196	Horizontal

Frequency (MHz) = Emission frequency in MHz

Reading (dBuV/m) = Uncorrected Analyzer / Receiver reading

Level (dBuV/m) = Reading (dBuV/m) + Factor (dB)

Limit (dBuV/m) = Limit stated in standard

Margin (dB) = Limit(dBuV/m)- Level(dBuV/m)

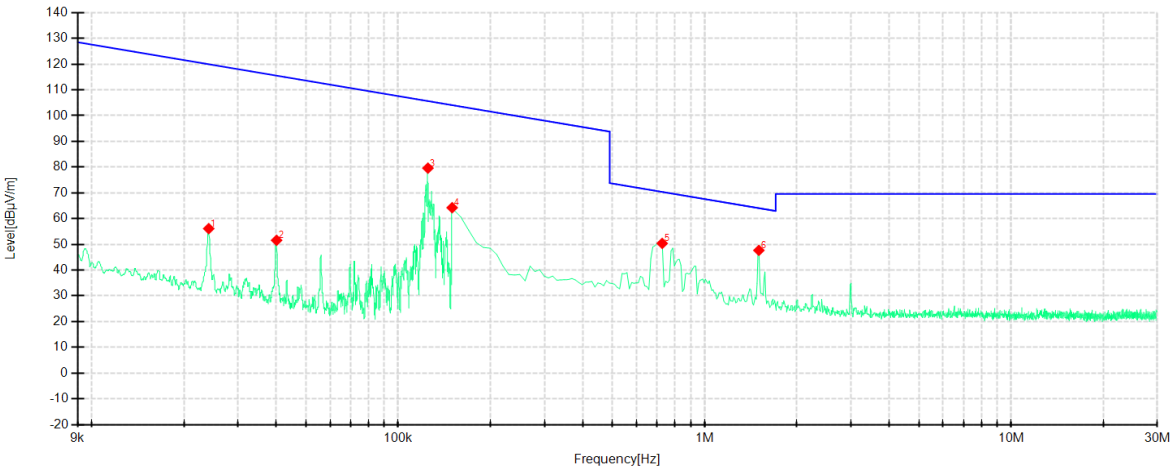
QP = Quasi-peak Reading

5.5 TEST RESULTS

9kHz-30MHz

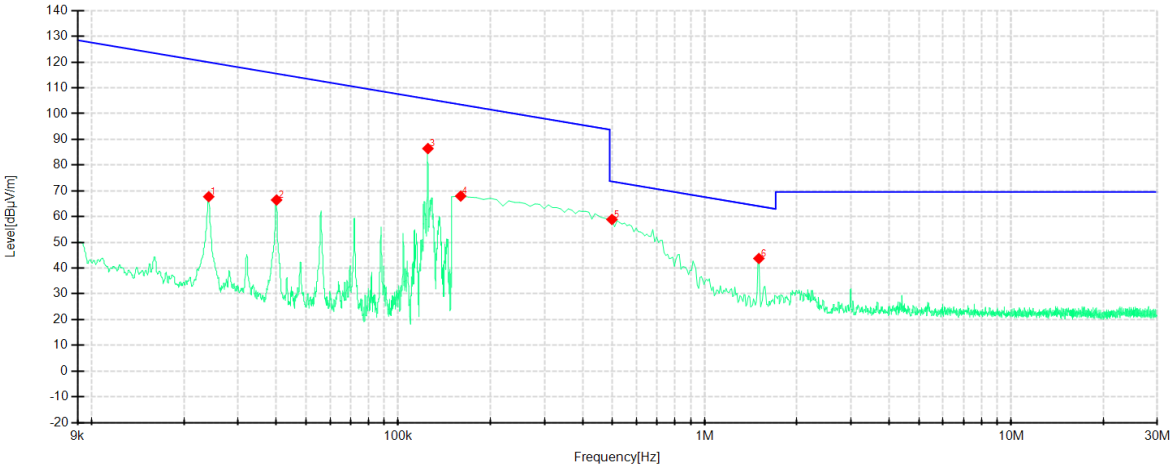
Note: If the margin of the pre-test results is greater than 6dB, it meets the requirements of quasi peak or average values, and final testing is no longer required.

Project Information			
Application No.:	E202409271682	EUT:	PEPS
Model:	SCW-433MHz	SN:	E202409271682-0007
Mode:	Mode 1	Voltage:	DC 12V
Environment:	25.3℃/60%RH/101.0kPa	Engineer:	Qin Tingting
Tested Date:	2025-03-17	Test Antenna	Antenna 1



Suspected Data List											
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	0.0241	37.12	56.10	18.98	119.97	63.87	PK	100	101	X	PASS
2	0.0401	33.89	51.58	17.69	115.54	63.96	PK	100	340	X	PASS
3	0.1250	61.96	79.61	17.65	105.66	26.05	PK	100	162	X	PASS
4	0.1500	46.33	64.25	17.92	104.08	39.83	PK	100	91	X	PASS
5	0.7271	30.19	50.37	20.18	70.37	20.00	PK	100	281	X	PASS
6	1.5032	27.30	47.66	20.36	64.06	16.40	PK	100	152	X	PASS

Note:The No.3 is the operating frequency.



Suspected Data List											
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	0.0241	48.75	67.73	18.98	119.97	52.24	PK	100	197	Y	PASS
2	0.0401	48.77	66.46	17.69	115.54	49.08	PK	100	79	Y	PASS
3	0.1250	68.79	86.44	17.65	105.66	19.22	PK	100	163	Y	PASS
4	0.1600	49.93	67.97	18.04	103.52	35.55	PK	100	68	Y	PASS
5	0.4983	38.91	58.88	19.97	73.65	14.77	PK	100	56	Y	PASS
6	1.5032	23.38	43.74	20.36	64.06	20.32	PK	100	104	Y	PASS

Note:The No.3 is the operating frequency.

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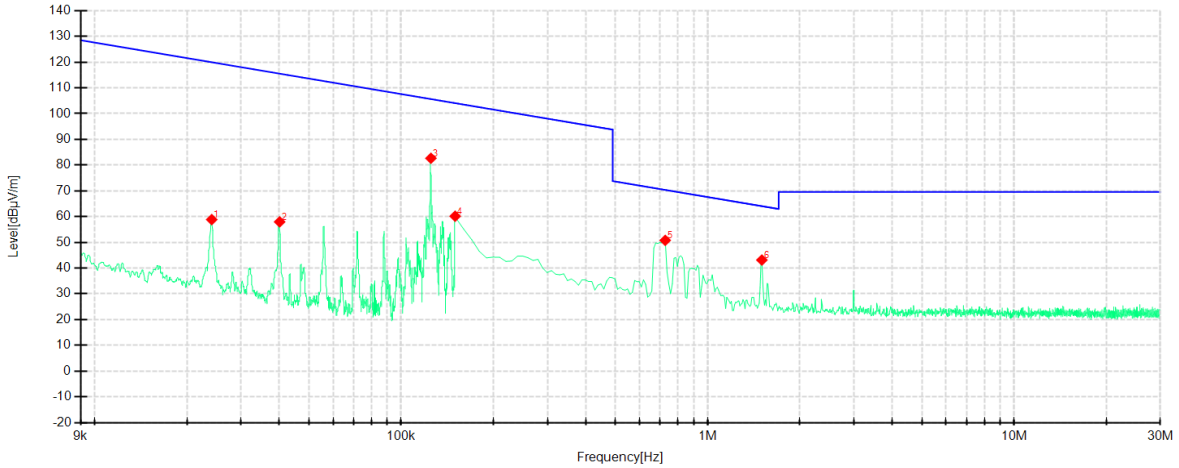

Suspected Data List											
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	0.0241	39.87	58.85	18.98	119.97	61.12	PK	100	338	Z	PASS
2	0.0401	40.27	57.96	17.69	115.54	57.58	PK	100	147	Z	PASS
3	0.1250	65.02	82.67	17.65	105.66	22.99	PK	100	279	Z	PASS
4	0.1500	42.24	60.16	17.92	104.08	43.92	PK	100	105	Z	PASS
5	0.7271	30.60	50.78	20.18	70.37	19.59	PK	100	33	Z	PASS
6	1.5032	22.77	43.13	20.36	64.06	20.93	PK	100	45	Z	PASS

Note:The No.3 is the operating frequency.

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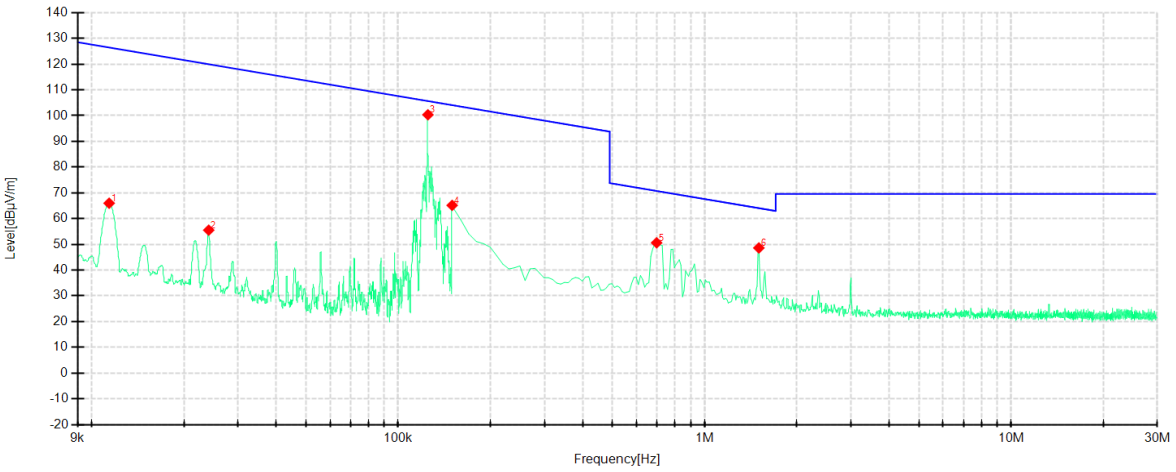
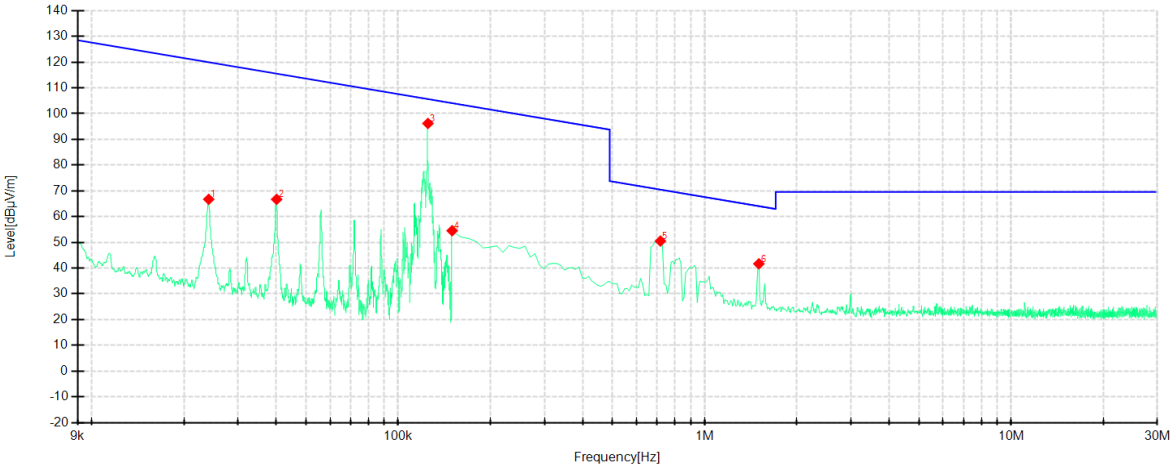
Project Information			
Application No.:	E202409271682	EUT:	PEPS
Model:	SCW-433MHz	SN:	E202409271682-0007
Mode:	Mode 1	Voltage:	DC 12V
Environment:	25.3℃/60%RH/101.0kPa	Engineer:	Qin Tingting
Tested Date:	2025-03-17	Test Antenna	Antenna 2



Suspected Data List											
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	0.0114	45.41	65.98	20.57	126.47	60.49	PK	100	1	X	PASS
2	0.0241	36.54	55.52	18.98	119.97	64.45	PK	100	302	X	PASS
3	0.1250	82.69	100.34	17.65	105.66	5.32	PK	100	114	X	PASS
4	0.1500	47.23	65.15	17.92	104.08	38.93	PK	100	115	X	PASS
5	0.6973	30.44	50.60	20.16	70.74	20.14	PK	100	140	X	PASS
6	1.5032	28.25	48.61	20.36	64.06	15.45	PK	100	162	X	PASS

Note:The No.3 is the operating frequency.



Suspected Data List											
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	0.0241	47.75	66.73	18.98	119.97	53.24	PK	100	61	Y	PASS
2	0.0401	49.03	66.72	17.69	115.54	48.82	PK	100	26	Y	PASS
3	0.1250	78.55	96.20	17.65	105.66	9.46	PK	100	229	Y	PASS
4	0.1500	36.61	54.53	17.92	104.08	49.55	PK	100	30	Y	PASS
5	0.7172	30.33	50.50	20.17	70.49	19.99	PK	100	128	Y	PASS
6	1.5032	21.31	41.67	20.36	64.06	22.39	PK	100	104	Y	PASS

Note:The No.3 is the operating frequency.

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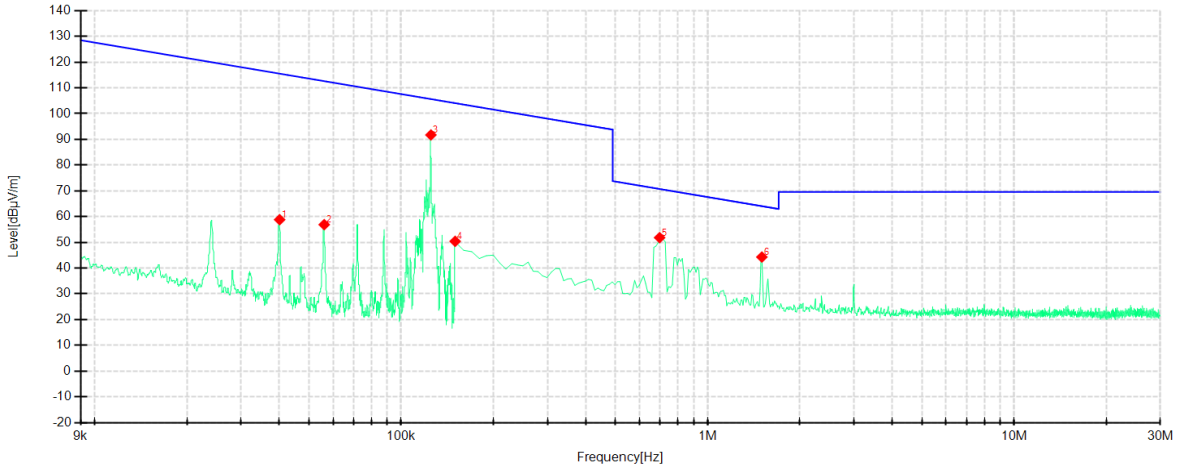

Suspected Data List											
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	0.0401	41.12	58.81	17.69	115.54	56.73	PK	100	270	Z	PASS
2	0.0561	39.77	56.88	17.11	112.63	55.75	PK	100	246	Z	PASS
3	0.1250	74.08	91.73	17.65	105.66	13.93	PK	100	164	Z	PASS
4	0.1500	32.49	50.41	17.92	104.08	53.67	PK	100	212	Z	PASS
5	0.6973	31.67	51.83	20.16	70.74	18.91	PK	100	164	Z	PASS
6	1.5032	23.93	44.29	20.36	64.06	19.77	PK	100	44	Z	PASS

Note:The No.3 is the operating frequency.

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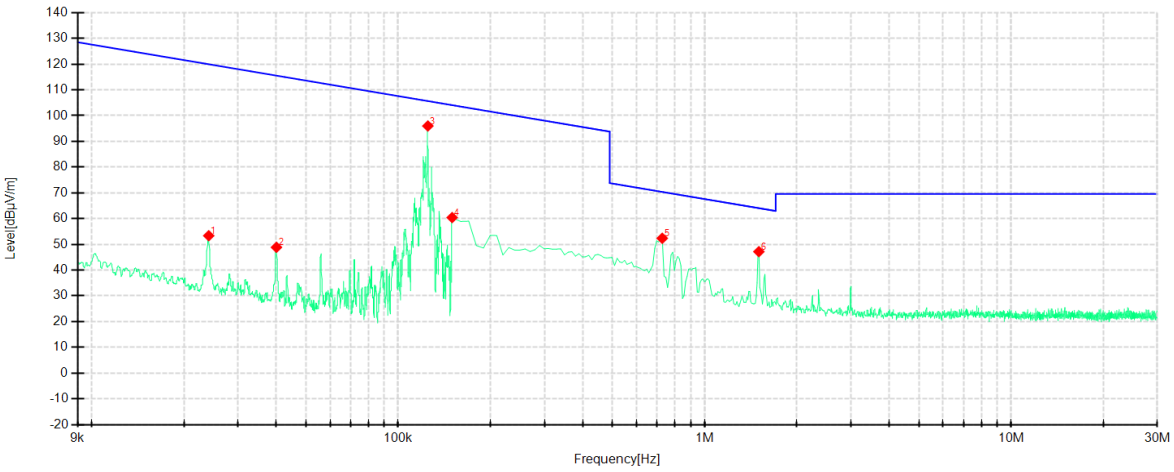
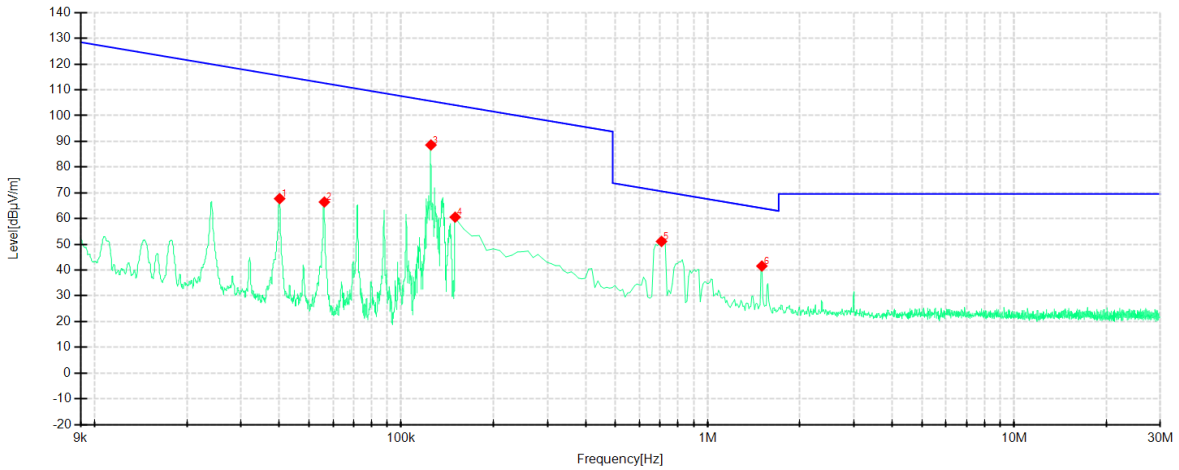
Project Information			
Application No.:	E202409271682	EUT:	PEPS
Model:	SCW-433MHz	SN:	E202409271682-0007
Mode:	Mode 1	Voltage:	DC 12V
Environment:	25.3℃/60%RH/101.0kPa	Engineer:	Qin Tingting
Tested Date:	2025-03-17	Test Antenna	Antenna 3



Suspected Data List											
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	0.0241	34.38	53.36	18.98	119.97	66.61	PK	100	198	X	PASS
2	0.0401	31.15	48.85	17.70	115.55	66.70	PK	100	282	X	PASS
3	0.1250	78.35	95.99	17.64	105.67	9.68	PK	100	341	X	PASS
4	0.1500	42.48	60.40	17.92	104.08	43.68	PK	100	188	X	PASS
5	0.7271	32.16	52.34	20.18	70.37	18.03	PK	100	293	X	PASS
6	1.5032	26.80	47.16	20.36	64.06	16.90	PK	100	44	X	PASS

Note:The No.3 is the operating frequency.



Suspected Data List											
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	0.0401	50.07	67.76	17.69	115.54	47.78	PK	100	140	Y	PASS
2	0.0561	49.33	66.44	17.11	112.62	46.18	PK	100	140	Y	PASS
3	0.1250	70.94	88.59	17.65	105.66	17.07	PK	100	200	Y	PASS
4	0.1500	42.64	60.56	17.92	104.08	43.52	PK	100	150	Y	PASS
5	0.7072	30.96	51.13	20.17	70.61	19.48	PK	100	56	Y	PASS
6	1.5032	21.22	41.58	20.36	64.06	22.48	PK	100	79	Y	PASS

Note:The No.3 is the operating frequency.

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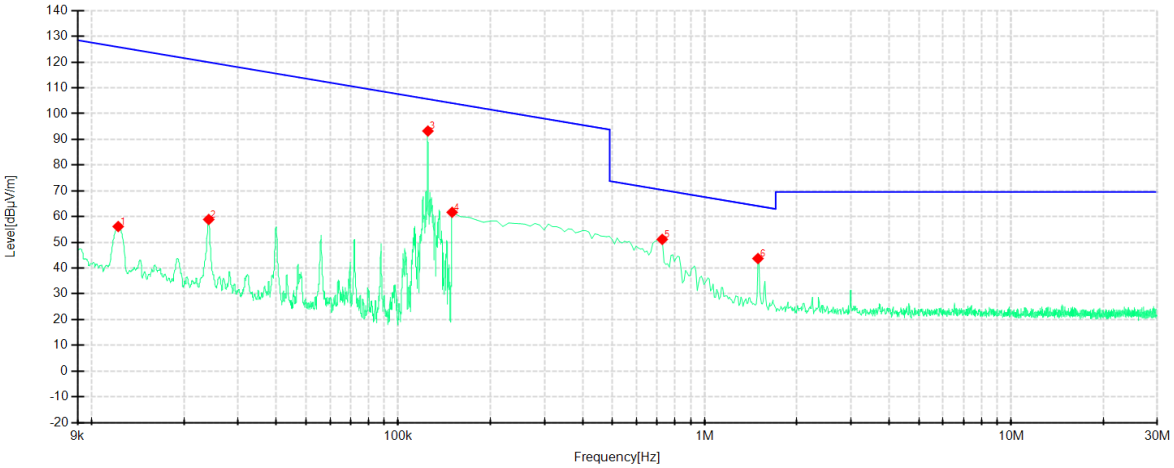

Suspected Data List											
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	0.0122	35.67	56.14	20.47	125.88	69.74	PK	100	223	Z	PASS
2	0.0241	39.90	58.88	18.98	119.97	61.09	PK	100	280	Z	PASS
3	0.1250	75.60	93.25	17.65	105.66	12.41	PK	100	84	Z	PASS
4	0.1500	43.77	61.69	17.92	104.08	42.39	PK	100	138	Z	PASS
5	0.7271	30.97	51.15	20.18	70.37	19.22	PK	100	20	Z	PASS
6	1.4933	23.35	43.71	20.36	64.12	20.41	PK	100	45	Z	PASS

Note:The No.3 is the operating frequency.

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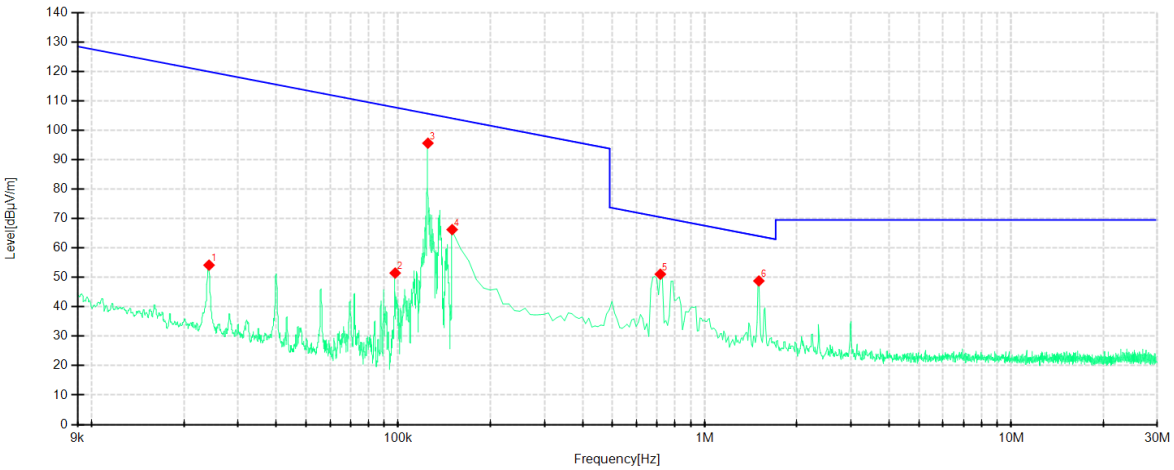
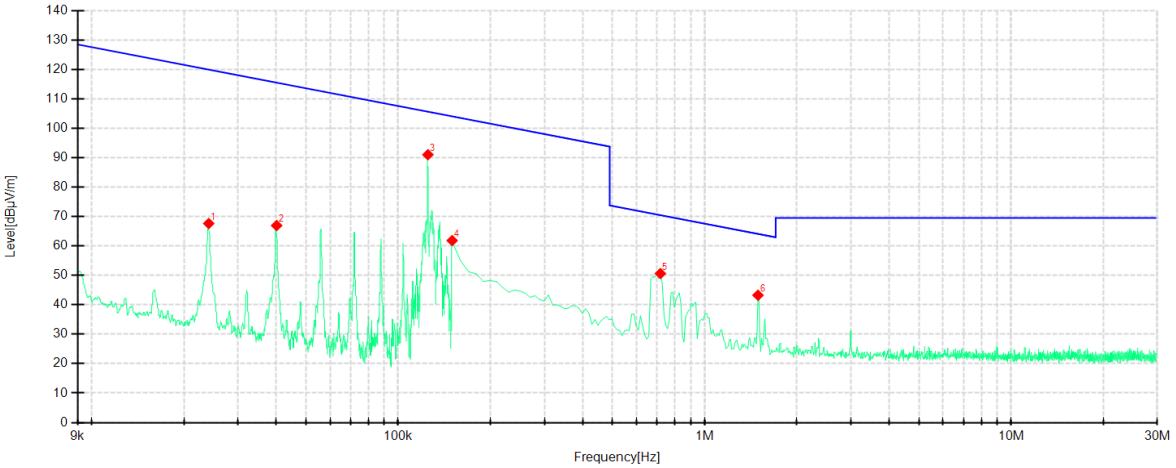
Project Information			
Application No.:	E202409271682	EUT:	PEPS
Model:	SCW-433MHz	SN:	E202409271682-0007
Mode:	Mode 1	Voltage:	DC 12V
Environment:	25.3℃/60%RH/101.0kPa	Engineer:	Qin Tingting
Tested Date:	2025-03-17	Test Antenna	Antenna 4



Suspected Data List											
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	0.0241	35.21	54.18	18.97	119.95	65.77	PK	100	177	X	PASS
2	0.0977	34.18	51.49	17.31	107.80	56.31	PK	100	95	X	PASS
3	0.1250	77.99	95.64	17.65	105.66	10.02	PK	100	276	X	PASS
4	0.1500	48.33	66.25	17.92	104.08	37.83	PK	100	77	X	PASS
5	0.7172	30.94	51.11	20.17	70.49	19.38	PK	100	360	X	PASS
6	1.5032	28.46	48.82	20.36	64.06	15.24	PK	100	161	X	PASS

Note:The No.3 is the operating frequency.



Suspected Data List											
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	0.0241	48.67	67.65	18.98	119.97	52.32	PK	100	342	Y	PASS
2	0.0401	49.28	66.97	17.69	115.54	48.57	PK	100	37	Y	PASS
3	0.1250	73.40	91.05	17.65	105.66	14.61	PK	100	143	Y	PASS
4	0.1500	43.94	61.86	17.92	104.08	42.22	PK	100	66	Y	PASS
5	0.7172	30.48	50.65	20.17	70.49	19.84	PK	100	77	Y	PASS
6	1.4933	22.91	43.27	20.36	64.12	20.85	PK	100	114	Y	PASS

Note:The No.3 is the operating frequency.

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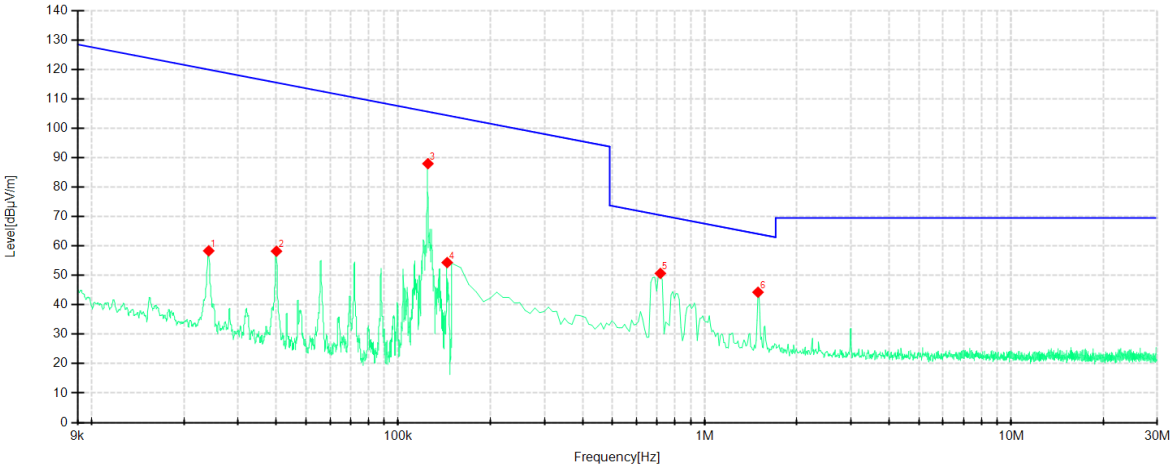

Suspected Data List											
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	0.0241	39.39	58.37	18.98	119.97	61.60	PK	100	244	Z	PASS
2	0.0401	40.54	58.24	17.70	115.55	57.31	PK	100	339	Z	PASS
3	0.1250	70.36	88.01	17.65	105.66	17.65	PK	100	47	Z	PASS
4	0.1445	36.52	54.38	17.86	104.40	50.02	PK	100	115	Z	PASS
5	0.7172	30.52	50.69	20.17	70.49	19.80	PK	100	259	Z	PASS
6	1.4933	23.93	44.29	20.36	64.12	19.83	PK	100	32	Z	PASS

Note:The No.3 is the operating frequency.

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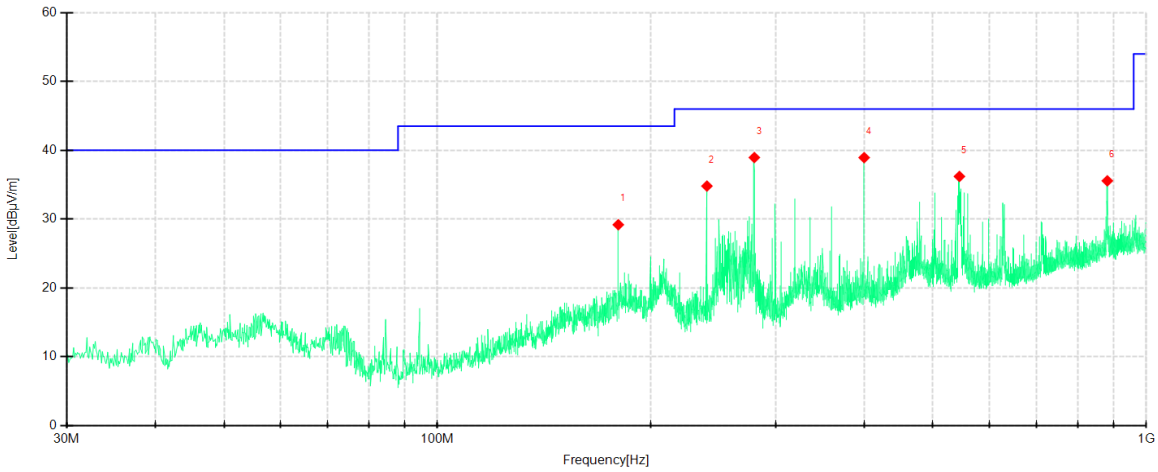
30MHz-1GHz

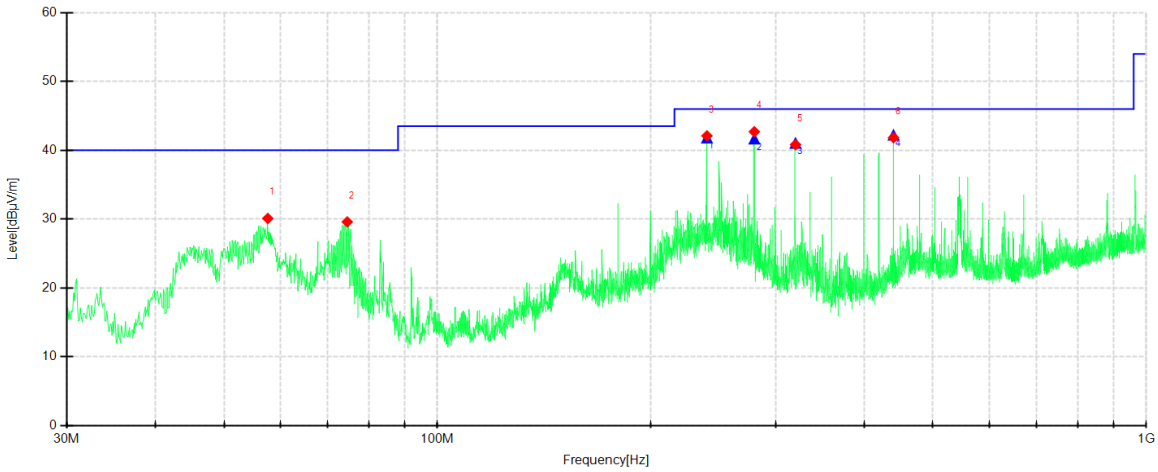
Note: If the margin of the pre test results is greater than 6db, it meets the requirements of quasi peak values, and final testing is no longer required.

All antennas were pretested and only the worst antenna(antenna 2) was recorded in this report.

Project Information			
Application No.:	E202409271682	EUT:	PEPS
Model:	SCW-433MHz	SN:	E202409271682-0007
Mode:	Mode 1	Voltage:	DC 12V
Environment:	23.7℃/48%RH/101.0kPa	Engineer:	Qin Tingting
Tested Date:	2025-03-21	Test Antenna	Antenna 2



Suspected Data List											
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	179.9620	58.97	29.18	-29.79	43.50	14.32	PK	200	231	Horizontal	PASS
2	240.0050	64.34	34.80	-29.54	46.00	11.20	PK	200	54	Horizontal	PASS
3	279.9690	67.18	38.95	-28.23	46.00	7.05	PK	200	41	Horizontal	PASS
4	399.9580	63.05	38.94	-24.11	46.00	7.06	PK	100	318	Horizontal	PASS
5	544.9730	56.79	36.20	-20.59	46.00	9.80	PK	100	208	Horizontal	PASS
6	881.0780	51.13	35.56	-15.57	46.00	10.44	PK	200	205	Horizontal	PASS



Suspected Data List											
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	57.6450	59.45	30.09	-29.36	40.00	9.91	PK	100	29	Vertical	PASS
2	74.6200	62.07	29.59	-32.48	40.00	10.41	PK	100	243	Vertical	PASS
3	240.0050	71.64	42.10	-29.54	46.00	3.90	PK	100	190	Vertical	PASS
4	279.9690	70.93	42.70	-28.23	46.00	3.30	PK	100	163	Vertical	PASS
5	320.0300	67.78	40.82	-26.96	46.00	5.18	PK	100	177	Vertical	PASS
6	440.0190	64.54	41.84	-22.70	46.00	4.16	PK	100	150	Vertical	PASS

Final Data List										
NO.	Freq. [MHz]	Factor [dB]	QP Reading [dBµV/m]	Level [dBµV/m]	QP Limit[dBµV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	240.0154	-29.54	71.34	41.80	46.00	4.20	100	195.7	Vertical	PASS
2	279.9893	-28.23	69.88	41.65	46.00	4.35	101	174.6	Vertical	PASS
3	320.0069	-26.96	67.99	41.03	46.00	4.97	100	175.2	Vertical	PASS
4	439.9999	-22.70	64.90	42.20	46.00	3.80	100	154.5	Vertical	PASS

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6. 20DB BANDWIDTH

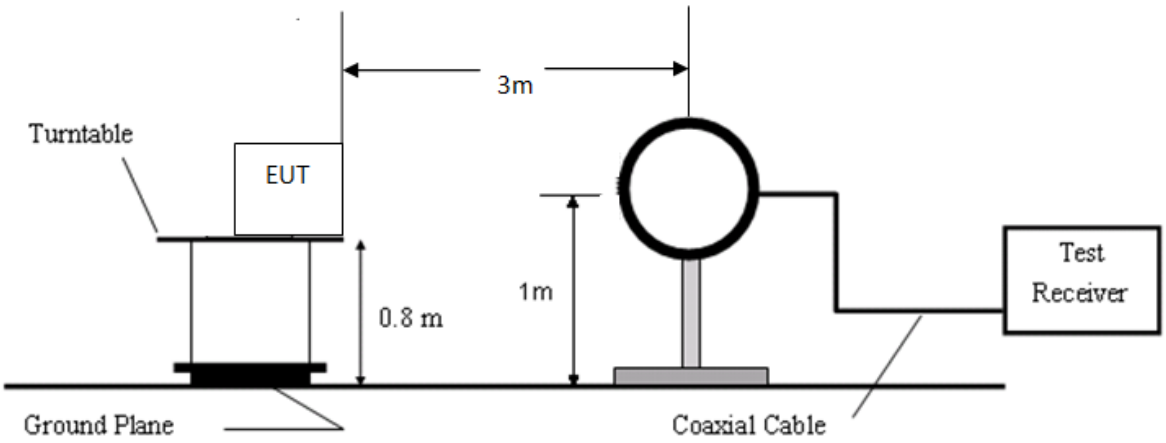
6.1 LIMITS

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. In the case of intentional radiators operating under the provisions of subpart E, the emission bandwidth may span across multiple contiguous frequency bands identified in that subpart. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

6.2 TEST PROCEDURES

1) The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
2) If the EUT is a tabletop system, a rotatable table with 0.8 m height is used.
3) If the EUT is a floor standing device, it is placed on the ground.
4) Auxiliary equipment and cables were positioned to simulate normal operation conditions.
5) The measurement distance is 3 meter.
6) The EUT was set into operation.
7) Adjust the test instrument for the following setting.
   RBW: 1Hz.
   VBW: 3 times of the RBW.
   Detector: Peak.
   Sweep time: Auto.
8) Allow trace to fully stabilize.

6.3 TEST SETUP



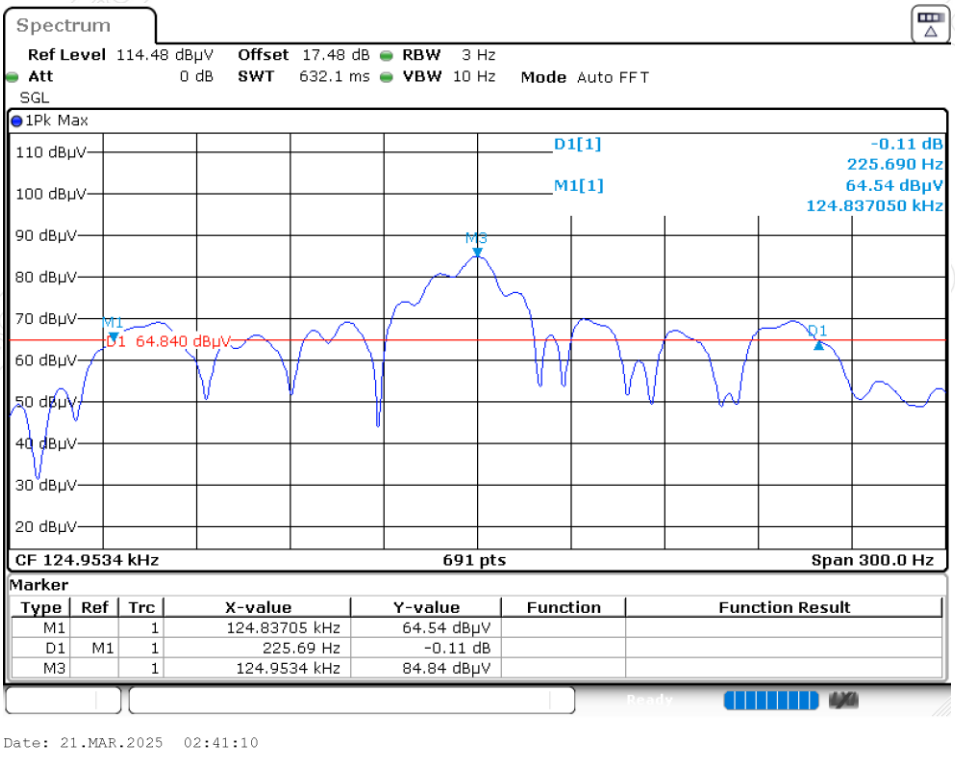
6.4 TEST RESULTS

Project Information			
Application No.:	E202409271682	EUT:	PEPS
Model:	SCW-433MHz	SN:	E202409271682-0007
Environment:	23.7℃/48%RH/101.0kPa	Voltage:	DC 12V
Engineer:	Qin Tingting	Test date:	2025-03-21

Note: This report records the worst antenna and the worst polarity results of the loop antenna.

Antenna 2:

Frequency (kHz)	20dB Bandwidth (Hz)	limit	Test Result
125	225.69	Report only	Report only



Antenna 2

7. PHOTOGRAPHS OF TEST SET-UP

Please refer to the attached document E202409271682-Test photo.

8. PHOTOGRAPHS OF THE EUT

Please refer to the attached document E202409271682-EUT photo.

---------- End of Report ----------