FCC Supplier's Declaration Of Conformity
TEST REPORT

Prepared For :	**Huizhou Yinyi Technology Co., Ltd.** Add: 1615 Yipin International, intersection of Longhai 2nd Road and Dayawan Avenue, Dayawan West District, Huiyang District, Huizhou City, Guangdong Province
Product Name:	Servo
Model :	9842, (Please See The Page of 2 for More Models)
Trade Mark :	VOTIK PTK
Prepared By :	Shenzhen SIT Testing Technology Co., Ltd. Add: Room 401, Building A2, The 2nd Industrial Zone of Zhu'ao, Gushu, Xixiang, Bao'an District, Shenzhen, Guangdong, China
Test Date:	June 28, 2023 to July 04, 2023
Date of Report :	July 04, 2023
Report No.:	SIT230627220201FR

Customer Reference Models:

1512	1512H	6801	6805	6808	6810	6812	6815
6820	6825	6830	6835	6840	6845	6850	7303
7303H	7305	7305H	7306	7306H	7307	7307H	7308
7308H	7310	7310Mini	7312	7312Mini	7315	7320	7325
7335	7340	7341	7350	7450	7452	7455	7460
7462	7465	8420	8422	8425	8430	8432	8435
8450	8452	8455	8460	8462	8465	8480	8482
8485	8492	8495	8497	8505	8510	8512	8515
8520	8522	8525	8530	8532	8535	8540	8542
8545	8810	8812	8815	8816	8820	8822	8825
8828	8830	8832	8835	8840	8842	8845	8848
8850	8852	8855	8860	8862	8865	8870	8872
8875	9110	9120	9125	9130	9132	9135	9140
9142	9145	9150	9152	9155	9160	9165	9215
9220	9225	9230	9235	9240	9245	9250	9255
9260	9265	9270	9275	9320	9325	9340	9342
9345	9350	9352	9355	9420	9422	9425	9430
9432	9435	9490	9492	9495	9497	9712	9715
9718	9720	9725	9730	9732	9735	9740	9742
9750	9752	9810	9812	9815	9820	9825	9830
9832	9835	9840	9845	9850	9860	9870	K110
K120	K130	K9140	K9150	K9180	K9260	K9320	K9450
K9550	K9650	K9720					

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1 TEST RESULT CERTIFICATION

Product:	Servo
Model:	The same as above
Applicant:	**Huizhou Yinyi Technology Co., Ltd.** Add: 1615 Yipin International, intersection of Longhai 2nd Road and Dayawan Avenue, Dayawan West District, Huiyang District, Huizhou City, Guangdong Province
Manufacturer:	**Huizhou Yinyi Technology Co., Ltd.** Add: 1615 Yipin International, intersection of Longhai 2nd Road and Dayawan Avenue, Dayawan West District, Huiyang District, Huizhou City, Guangdong Province
Factory:	**Huizhou Yinyi Technology Co., Ltd.** Add: 1615 Yipin International, intersection of Longhai 2nd Road and Dayawan Avenue, Dayawan West District, Huiyang District, Huizhou City, Guangdong Province
Trade Mark:	VOTIK PTK

EMISSION			
Standard	**Item**	**Result**	**Remarks**
FCC 47 CFR Part 15 Subpart B	Conducted (Main Port)	N/A	Meet Requirement
ANSI C63.4-2014	Radiated	PASS	Meet Requirement

Note: 1. The test result judgment is decided by the limit of measurement standard
2. The information of measurement uncertainty is available upon the customer's request.

The above equipment has been tested by Shenzhen SIT Testing Technology Co., Ltd. and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Prepared by : Debe Yu
Assistant

Reviewer : Jessica
Supervisor

Approved & Authorized Signer : Kevin Sun
Manager

2 EUT DESCRIPTION

Product	Servo
Model	9842
Trade Mark	VOTIK PTK
Applicant	Huizhou Yinyi Technology Co., Ltd.
Housing material	Plastic&Metal
EUT Type	☒ Engineering Sample. ☐ Product Sample, ☐ Mass Product Sample.
Serial Number	N/A
Power Rating	Input: 7.4V⎓3A

3. TEST METHODOLOGY

3.1 DECISION OF FINAL TEST MODE

The EUT was tested together with the thereinafter additional components, and a configuration, which produced the worst emission levels, was selected and recorded in this report.

The following test mode(s) were scanned during the preliminary test:

Pre-Test Mode		
Emission	Conducted Emission	Mode: N/A
	Radiated Emission	Mode: Normal working

After the preliminary scan, the following test mode was found to produce the highest emission level.

The Worst Test Mode		
Emission	Conducted Emission	Mode: N/A
	Radiated Emission	Mode: Normal working

Then, the EUT configuration and cable configuration of the above highest emission mode was chosen for all final test items.

3.2 EUT SYSTEM OPERATION

1. Set up EUT with the relative support equipments.
2. Make sure the EUT worked normally during the test.

4 SETUP OF EQUIPMENT UNDER TEST

4.1 DESCRIPTION OF SUPPORT UNITS

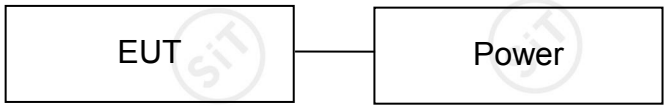
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

No.	Equipment	Model No.	Serial No.	FCC ID	Trade Name	Data Cable	Power Cord
N/A	/	/	/	/	/	/	/

Note:

1) All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2) Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

4.2 CONFIGURATION OF SYSTEM UNDER TEST



(EUT: Servo)

5 FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at **SIT LAB.**

The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

5.2 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

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

5.3 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	Frequency		Uncertainty
Conducted emissions	9kHz~30MHz		+/- 3.59dB
Radiated emissions	Horizontal	30MHz ~ 200MHz	+/- 4.77dB
		200MHz ~1000MHz	+/- 4.93dB
	Vertical	30MHz ~ 200MHz	+/- 5.04dB
		200MHz ~1000MHz	+/- 4.93dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

6 CONDUCTED EMISSION MEASUREMENT

6.1. LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

NOTE:

(1) The lower limit shall apply at the transition frequencies.
(2) The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
(3) All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

6.2. TEST INSTRUMENTS

Conducted Emission Shielding Room Test Site 743				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
EMI Test Receiver	ROHDE&SCHWARZ	ESCI	100005	12/13/2023
LISN	AFJ	LS16	16010222119	12/13/2023
LISN	Meestec	AN3016	04/10040	12/13/2023

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to International system of unit (SI).
2. N.C.R = No Calibration Request.

6.3 TEST PROCEDURES

Procedure of Preliminary Test

The EUT and Support equipment, if needed, was set up as per the test configuration to simulate typical usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor standing equipment, it is placed on the ground plane, which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.

All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.

All support equipment power received from a second LISN.

The EUT test program was started. Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.

The Receiver scanned from 9 kHz to 30MHz for emissions in each of the test modes.

During the above scans, the emissions were maximized by cable manipulation.

The test mode(s) described in Item 3.1 were scanned during the preliminary test.

After the preliminary scan, we found the test mode described in Item 3.1 producing the highest emission level.

The EUT configuration and worse cable configuration of the above highest emission levels were recorded for reference of the final test.

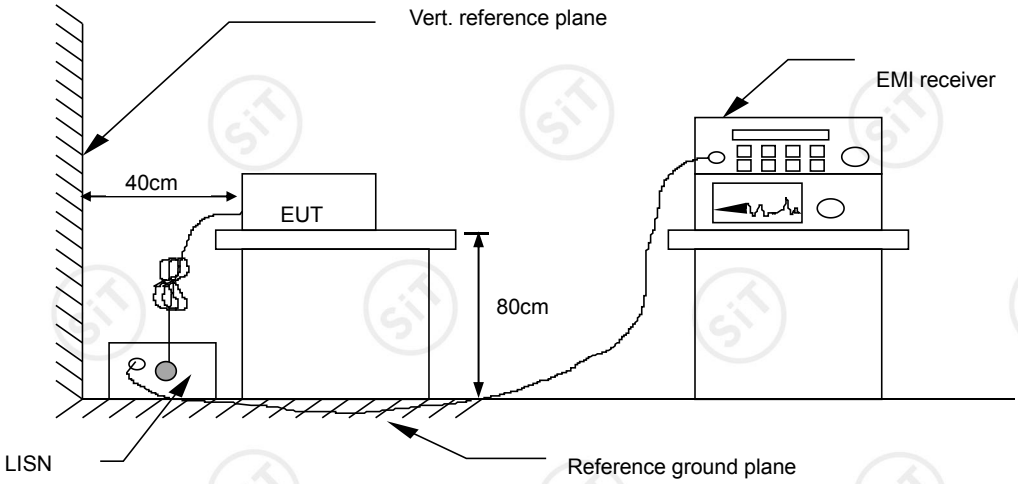
Procedure of Final Test

EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test.

A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.

The test data of the worst-case condition(s) was recorded.

6.4.TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

6.5. TEST RESULTS

Model No.	9842	**6dB Bandwidth**	10 KHz
Environmental Conditions	26°C, 60% RH	**Test Mode**	N/A
Detector Function	Peak / Quasi-peak/AV	**Test Result**	N/A
Test By	Debe Yu		

NOTE: 1. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line).
2. "---" denotes the emission level was or more than 2dB below the Average limit, so no re-check anymore.

Freq. = Emission frequency in MHz
Reading level(dBuV) = Receiver reading
Corr. Factor (dB) = Attenuator Factor+ Cable loss
Level (dBuV) = Reading level(dBuV) + Corr. Factor (dB)
Limit (dBuV) = Limit stated in standard
Margin (dB) = Level (dBuV) – Limits (dBuV)
Q.P.=Quasi-Peak

7 RADIATED EMISSION MEASUREMENT

7.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Maximum permissible level of Radiated Emission measured at 3 meter

FREQUENCY (MHz)	dBuV/m (At 3m)
	Class B
30~88	40.00
88~216	43.50
216~960	46.00
960~1000	54.00

NOTE: (1) The lower limit shall apply at the transition frequencies.
(2) Emission level (dBuV/m) = 20 log Emission level (uV/m).

7.2 TEST INSTRUMENTS

Radiated Emission Test Site 966				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
EMI Test Receiver	ROHDE&SCHWARZ	ESCI	100005	12/15/2023
Pre Amplifier	H.P.	HP8447E	2945A02715	12/15/2023
Bilog Antenna	SUNOL Sciences	JB3	A021907	12/13/2023
Cable	TIME MICROWAVE	LMR-400	N-TYPE04	12/03/2023
System-Controller	CCS	N/A	N/A	N.C.R
Turn Table	CCS	N/A	N/A	N.C.R
Antenna Tower	CCS	N/A	N/A	N.C.R

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to International system of unit (SI).
2. N.C.R = No Calibration Request.

7.3 TEST PROCEDURES

Procedure of Preliminary Test

The equipment was set up as per the test configuration to simulate typical usage per the user's manual. When the EUT is a tabletop system, a wooden turntable with a height of 0.8 meters is used which is placed on the ground plane. When the EUT is a floor standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.

Support equipment, if needed, was placed as per ANSI C63.4.

All I/O cables were positioned to simulate typical usage as per ANSI C63.4.

Mains cables, telephone lines or other connections to auxiliary equipment located outside the test are shall drape to the floor, be fitted with ferrite clamps or ferrite tubes placed on the floor at the point where the cable reaches the floor and then routed to the place where they leave the turntable. No extension cords shall be used to mains receptacle.

The antenna was placed at 3 meter away from the EUT as stated in ANSI C63.4. The antenna connected to the Spectrum Analyzer via a cable and at times a pre-amplifier would be used.

The Analyzer / Receiver quickly scanned from 30MHz to 1000MHz. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.

The test mode(s) described in Item 3.1 were scanned during the preliminary test:

After the preliminary scan, we found the test mode described in Item 3.1 producing the highest emission level.

The EUT and worse cable configuration, antenna position, polarization and turntable position of the above highest emission level were recorded for the final test.

When measuring emissions above 1GHz, the frequencies of maximum emission shall be determined by manually positioning the antenna close to the EUT and by moving the antenna over all sides of the EUT while observing a spectral display. It will be advantageous to have prior knowledge of the frequencies of emissions above 1GHz.If the EUT is a device with dimensions approximately equal to that of the measurement antenna beam width, the measurement antenna shall be aligned with the EUT.

Procedure of Final Test

EUT and support equipment were set up on the turntable as per the configuration with highest emission level in the preliminary test.

The Analyzer / Receiver scanned from 30MHz to 1000MHz. Emissions were scanned and measured rotating the EUT to 360 degrees, varying cable placement and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.

Recorded at least the six highest emissions. Emission frequency, amplitude, antenna position, polarization and turntable position were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit and only Q.P. reading is presented.

For the measurement above 1GHz, use the cable, EUT arrangement, and mode of operation determined in the exploratory testing to produce the emission that has the highest amplitude relative to the limit.

Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the antenna in the “cone of radiation” from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response.

The antenna may have to be higher or lower than the EUT, depending on the EUT’s size and mounting height, but the antenna should be restricted to a range of height of from 1m to 4m above the ground or reference ground plane.

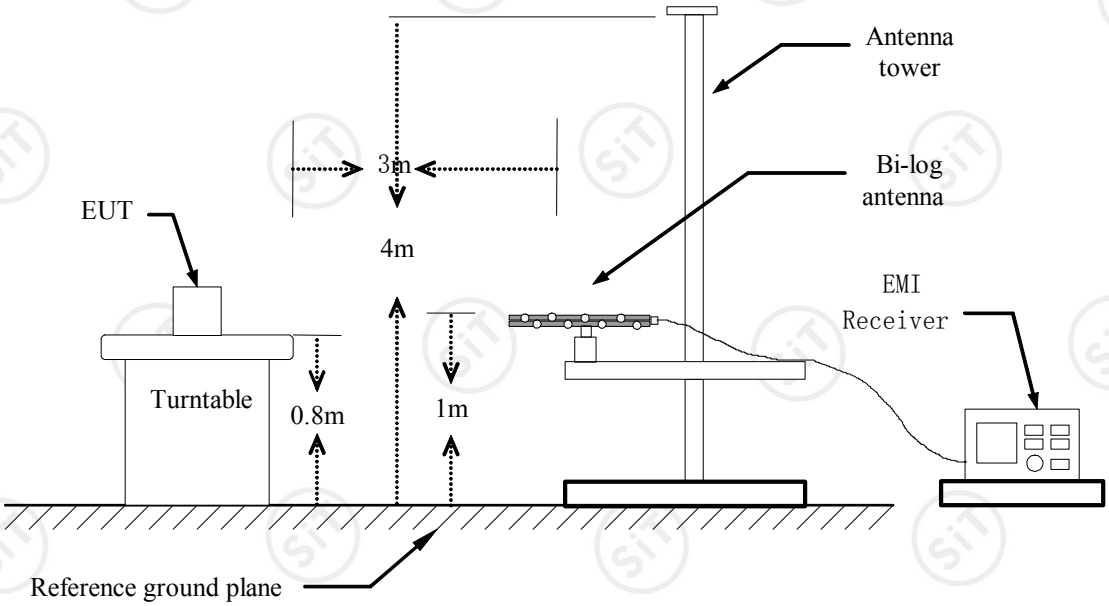
If the transmission line for the measurement antenna restricts its range of height and polarization, the steps needed to ensure the correct measurement of the maximum emissions, shall be described in detail in the report of the measurements.

1) using the procedures above to measure with peak detector function, if the result comply with the average limit specified by the appropriate regulation, record the EUT arrangement, mode of operation, and cable positions used for final radiated emission measurement , this can be done with either diagrams or photographs.

2) Set the detector function of the measuring instrument to average mode, using the procedures above and remeasure only those emissions that complied with the peak limits but exceeded the average limits.

Recorded at least the six highest emissions.

7.4 TEST SETUP



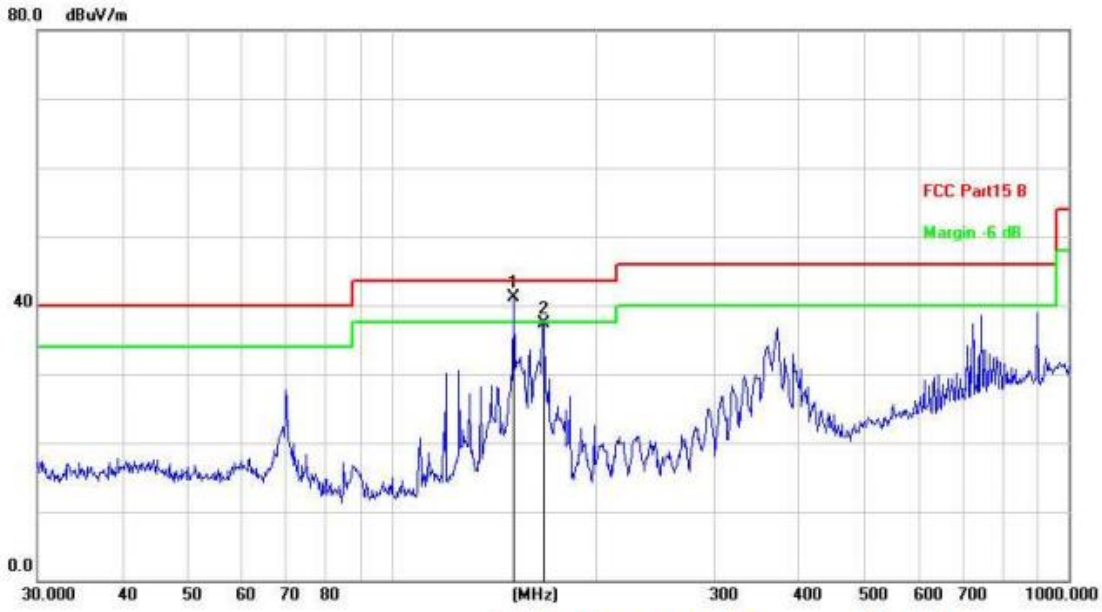
For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

7.5 TEST RESULTS

Model No.	9842	**Test Mode**	Normal working
Environmental Conditions	26°C, 60% RH	**6dB Bandwidth**	120 KHz
Antenna Pole	Vertical / Horizontal	**Antenna Distance**	3m
Detector Function	Peak / Quasi-peak	**Test Result**	Pass

Freq. = Emission frequency in MHz
Reading level (dBuV) = Receiver reading
Corr. Factor (dB) = Antenna factor + Cable loss
Measurement (dBuV) = Reading level (dBuV) + Corr. Factor (dB)
Limit (dBuV) = Limit stated in standard
Margin (dB) = Measurement (dBuV) – Limits (dBuV)

Radiated Emission Measurement



Polarization: *Horizontal* Temperature:

Limit: FCC Part15 B Power: Humidity: %

EUT: Servo Distance: 3m

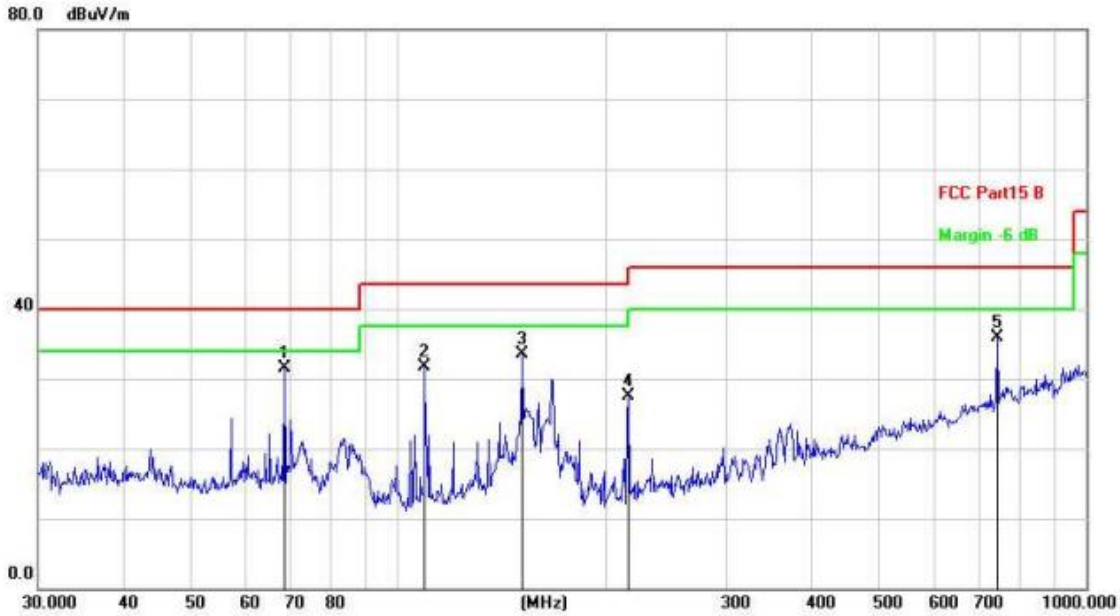
M/N: 9842

Mode:

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector	cm	degree	Comment
1	*	151.5972	51.69	-10.56	41.13	43.50	-2.37	peak			
2		167.8243	48.13	-10.88	37.25	43.50	-6.25	peak			

Radiated Emission Measurement



Limit: FCC Part15 B
EUT: Servo
M/N: 9842
Mode:
Note:

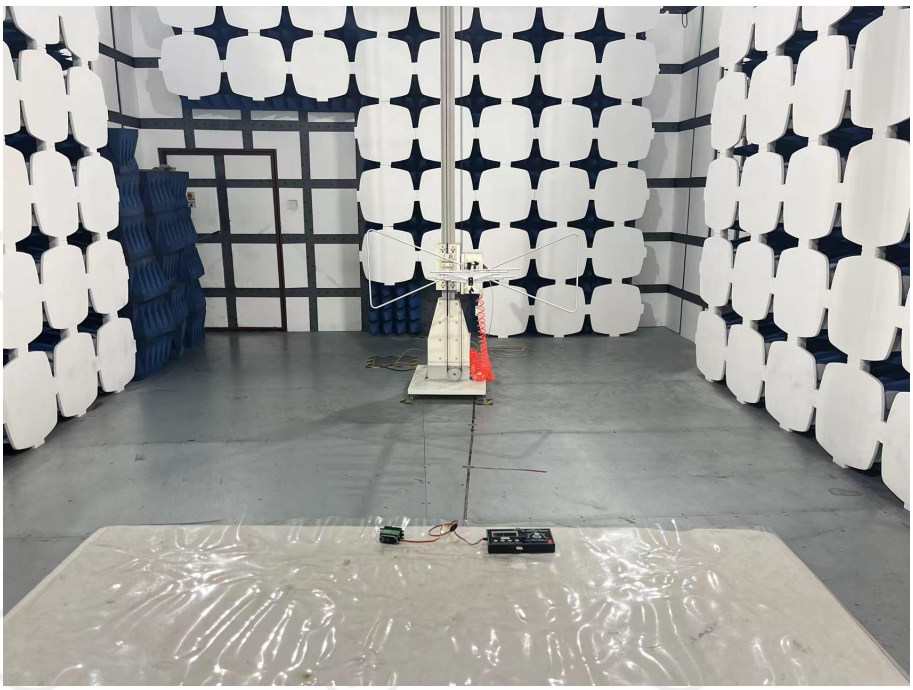
Polarization: *Vertical*
Power:
Distance: 3m

Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector	cm	degree	Comment
1	*	68.3908	44.47	-13.05	31.42	40.00	-8.58	peak			
2		109.4116	45.87	-14.12	31.75	43.50	-11.75	peak			
3		151.5972	44.03	-10.56	33.47	43.50	-10.03	peak			
4		216.0240	40.82	-13.31	27.51	46.00	-18.49	peak			
5		742.2587	36.34	-0.53	35.81	46.00	-10.19	peak			

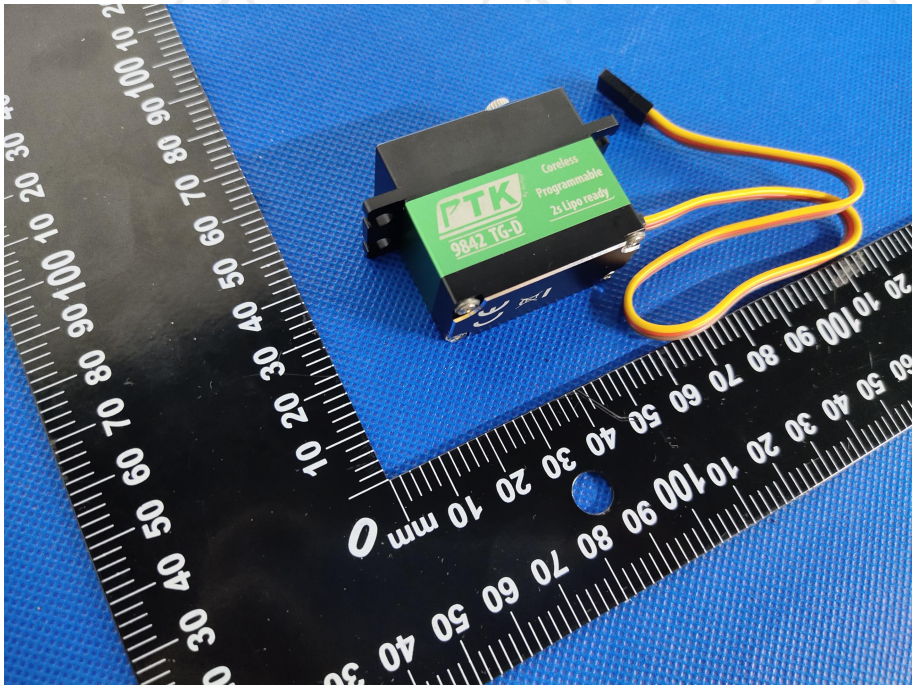
8 PHOTOGRAPHS OF THE TEST CONFIGURATION

RADIATED EMISSION TEST

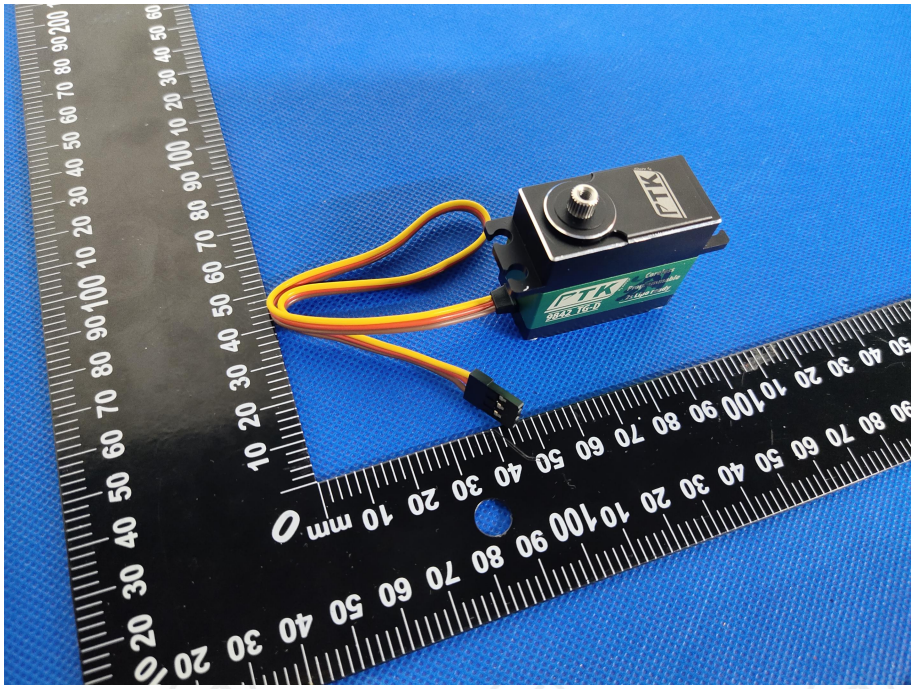


9 PHOTOGRAPHS OF EUT

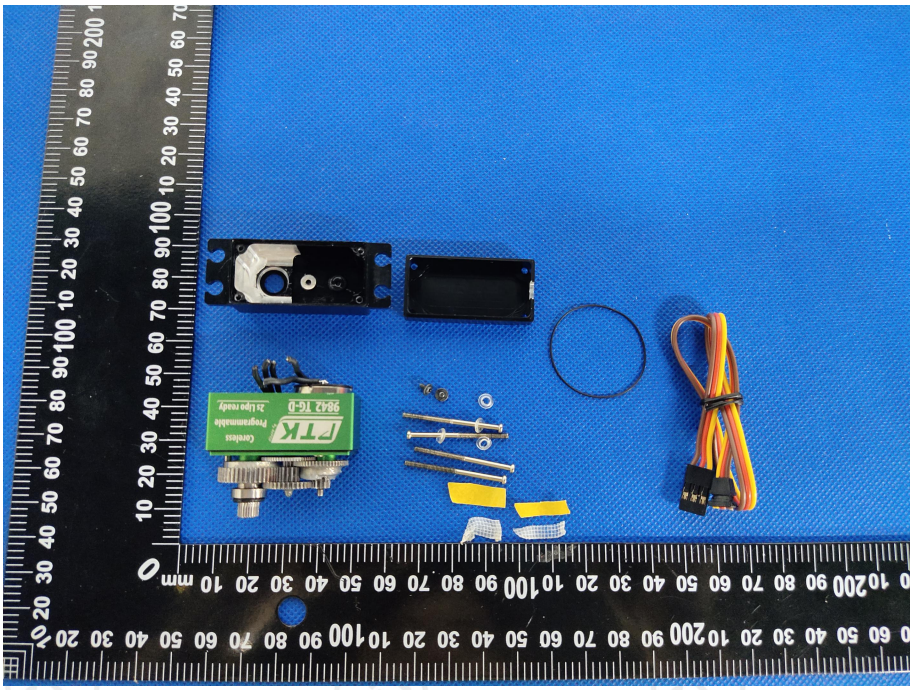
Appearance photograph of EUT



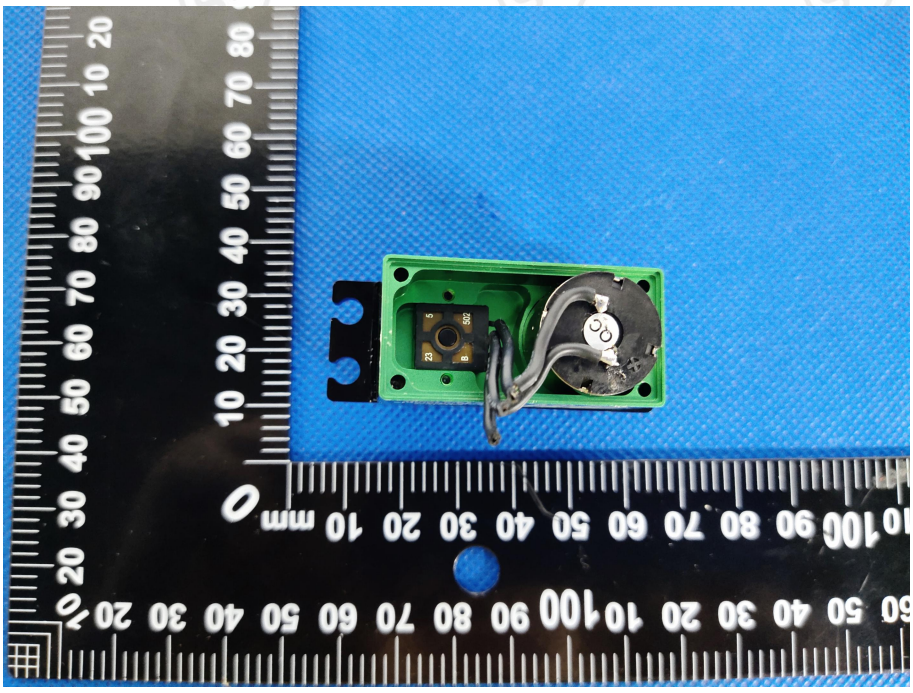
Appearance photograph of EUT



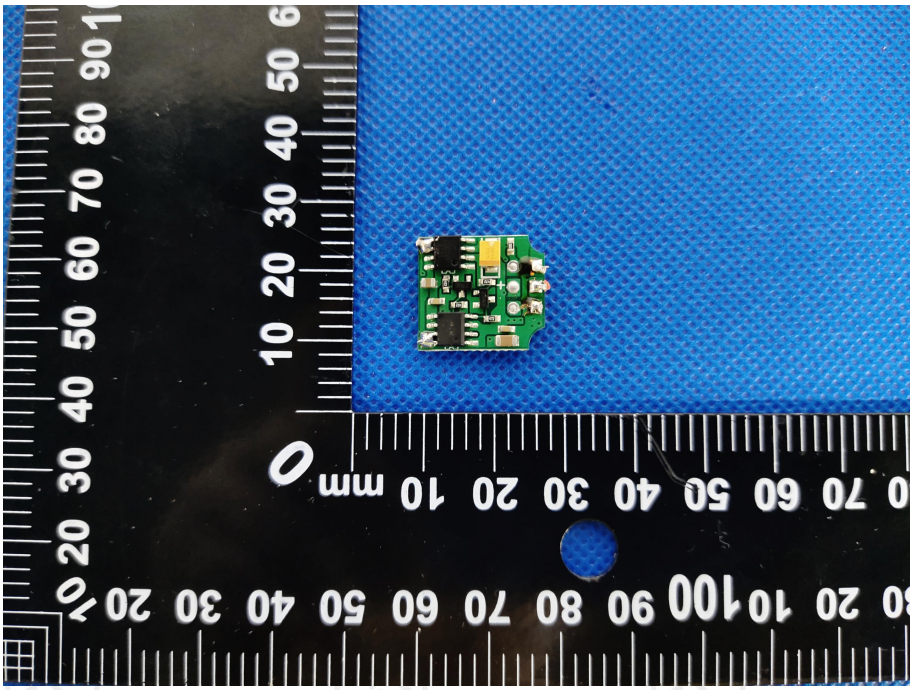
Appearance photograph of EUT



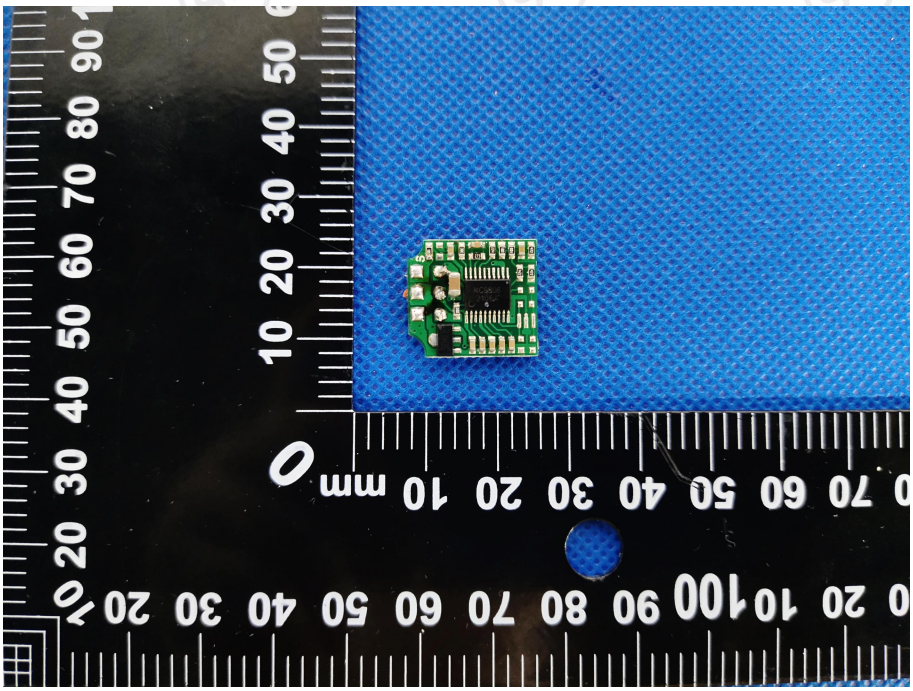
Appearance photograph of EUT



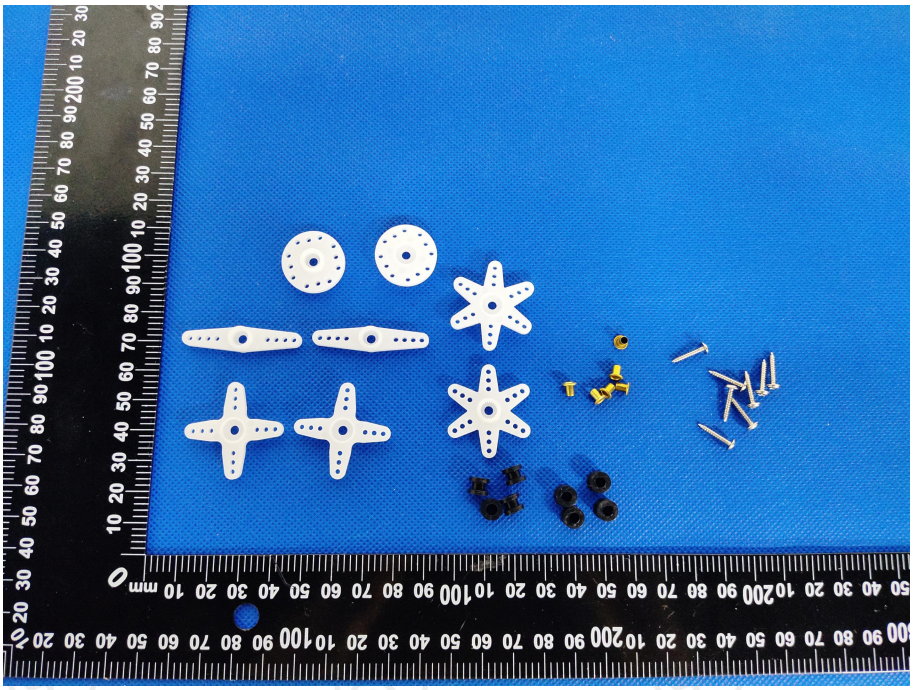
Appearance photograph of EUT



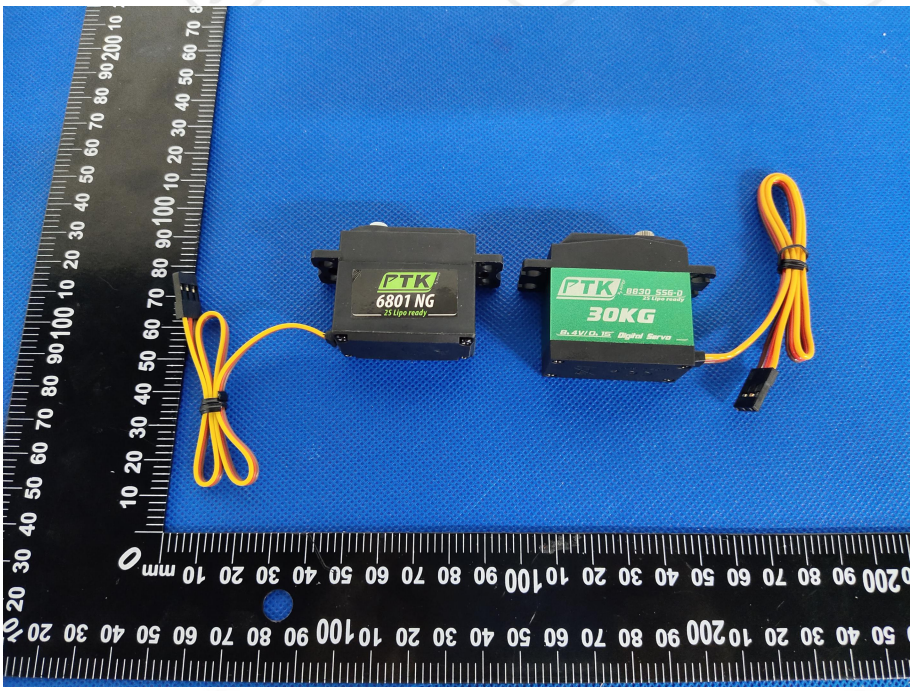
Appearance photograph of EUT



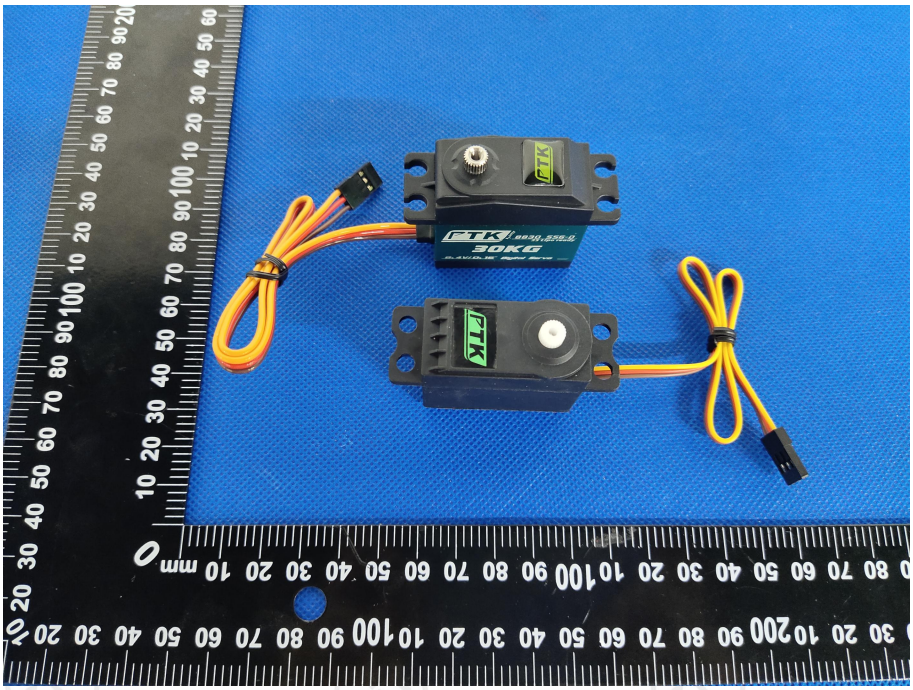
Appearance photograph of EUT



Appearance photograph of additional model



Appearance photograph of additional model



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