FCC PART 15B

Supplier's Declaration of Conformity

Test Report

Product	Laser Engraver
Model Number	S6,S3,S3 pro,S6 Pro,S9,S9 Pro,SC mini,SC pro,S50,SR-2000, Laser Module,Main Unit
Prepared for	Shenzhen Sculpfun Technology Co., Ltd.
Address	1411,Building D,Longguang Jiuzuan Business Center South, Daling Community,Minzhi Street,Longhua District,Shenzhen, Guangdong,China 518131
Brand Name	SCULPFUN
Report No	F0203-XY
Date of Test	Jan 27,2021
Date of Rep	Jan 27,2021-Feb 03,2021

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TEST REPORT DECLARATION

Applicant	Shenzhen Sculpfun Technology Co., Ltd.
Address	1411,Building D,Longguang Jiuzuan Business Center South, Daling Community,Minzhi Street,Longhua District,Shenzhen, Guangdong,China 518131
Manufacturer	Shenzhen Sculpfun Technology Co., Ltd.
Address	1411,Building D,Longguang Jiuzuan Business Center South, Daling Community,Minzhi Street,Longhua District,Shenzhen, Guangdong,China 518131
EUT Description	Laser Engraver
Model Number	S6
Test Result	The equipment under test was found to be compliance with the requirements of the standards applied.
Test Procedure Used	FCC Part 15B ANSI C63.4:2014

Prepared by(Engineer):

Reviewer(Quality Manager):

Approved & Authorized Signer(Manager):

1. GENERAL INFORMATION

1.1. Description of Device(EUT)

EUT	Laser Engraver
Brand Name	SCULPFUN
Model Number	S6
Power Supply	100-240V;50/60Hz;2A;60W
Test Supply	12V;5A
All models are identical except for model number and mechanical appearance.The model S6 was select as the test model and the data have been recorded in this report.	

1.2. Tested System Details

None.

1.3. Test Uncertainty

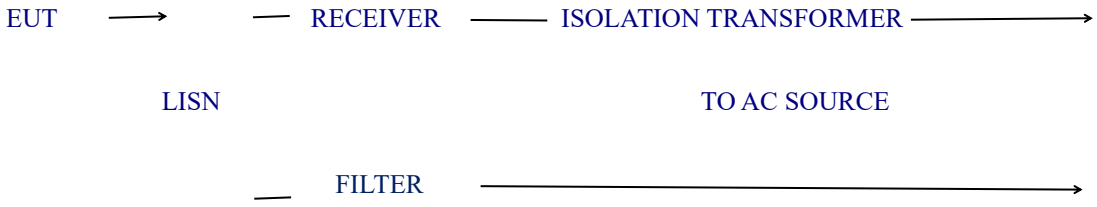
Conducted Emission Uncertainty	±2.66dB
Radiated Emission Uncertainty	±4.26dB

1.4. Test Facility

Site Description	
Name of Firm	Shenzhen JT Detection Technology Co., Ltd
Site Location	Floor 10, Shijie Building,No.384,Gushu Road 1st , Xixiang Street,Baoan district, Shenzhen
Test Location	5/F, Hongyu Business Building, No.4814 Baoan Avenue, Baoan District, Shenzhen (Jintong Detection)

2. CONDUCTED EMISSION AT THE MAINS TERMINALS TEST

2.1. Block Diagram Of Test Setup



2.2. Test Standard

FCC PART 15B

2.3. Power line Conducted Emission Limit

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15-0.50	66-56*	56-46*
0.50-5.00	56	46
5.00-30.00	60	50

Notes：

1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

2.4. EUT Configuration on Test

The following equipments are installed on conducted emission test to meet FCC PART 15 B requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

2.5. Operating Condition of EUT

2.5.1. Setup the EUT and simulators as shown ind Section 2.1.
2.5.2. Turn on the power of all equipments.
2.5.3. Let the EUT work in test modes and test it.

2.6. Test Procedure

The EUT is put on the ground and connected to the AC mains through a Artificial Mains Network(AMN).This provided a 50 ohm coupling impedance for the tested equipments.Both sides of AC line are checked to find out the maximum coducted emission levels according to the FCC PART 15 B regulations during conducted emission test.

The bandwidth of the test receiver(R&S Test Receiver ESCI)is set at 10KHz.

The frequency range from 150KHz to 30MHz is investigated.

2.7.Test Result

Not applicable.

The EUT is supplied by DC Power.

3 Emission Test Results

3.1. Mains Terminals Disturbance Voltage Measurement

Frequency Range:	150kHz to 30MHz
Detector	Peak for pre-scan (9kHz Resolution Bandwidth) Quasi-Peak & Average if maximum peak within 6dB of Average Limit

3.2 E.U.T. Operation

Operating Environment:

Temperature:	18 °C	Humidity:	59% RH	Atmospheric Pressure:	102	Kpa
EUT Operation:	1					

3.3 Test Specification

EUT was placed upon a wooden test table 0.8m above the horizontal metal reference plane and 0.4m from the vertical ground plane, and it was connected to an AMN. The closest distance between the boundary of the EUT and the surface of the AMN is 0.8m, All peripherals were connected to another AMN, and placed at a distance of 10 cm from each other. A spectrum and receiver was connected to the RF output port of the AMN. Both average and quasi-peak value were detected.

Associated with the conducted emission test data in this report is a ±1.54dB measurement uncertainty.

3.4 Measurement Data

An initial pre-scan was performed on the live and neutral lines.

Quasi-peak or average measurements were performed at the frequency which maximum peak emissions were detected.

Please refer to the attached quasi-peak & average measurement data.

3.5 Radiated Emissions Measurement

Frequency Range:	30MHz to 1GHz
Measurement Distance:	3 m
Detector:	Peak for pre-scan (120kHz resolution bandwidth)
	Quasi-Peak if maximum peak within 6dB of limit

3.6 E.U.T. Operation

Operating Environment:

Temperature:	16.7 °C	Humidity:	59% RH	Atmospheric Pressure:	102	Kpa
EUT Operation:	1					

3.7 Test Specification

EUT was placed upon a wooden test table which was placed on the turn table 0.8m above the horizontal metal ground plane, and operating in the mode as mentioned above. A receiving antenna was placed 3m away from the EUT. During testing, turn around the turn table and move the antenna from 1m to 4m to find the maximum field-strength reading. All peripherals were placed at a distance of 10cm between each other. Both horizontal and vertical antenna polarities were tested.

Associated with the radiated emission test data in this report is a ±3.08dB measurement uncertainty.

3.8 Measurement Data

An initial pre-scan was performed in the 3m chamber using the spectrum analyzers in peak detection mode. The EUT was measured by Biology antenna with 2 orthogonal polarities and peak emissions from the EUT were detected within 6dB of the class B limit line.

The following quasi-peak measurements were performed on the EUT.

Frequency (MHz)	Antenna Polar.	Factor (dB)	QP Reading (dBμV/m)	QP Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)
* 31.940	Vertical	13.320	18.200	31.520	40.000	-8.480
40.670	Vertical	13.980	13.500	27.480	40.000	-12.520
48.430	Vertical	13.990	10.300	24.290	40.000	-15.710
88.200	Vertical	10.950	12.500	23.450	40.000	-16.550
130.880	Vertical	15.080	2.600	17.680	40.000	-22.320
257.950	Vertical	15.480	3.500	18.980	47.000	-28.020
30.970	Horizontal	13.300	7.200	20.500	40.000	-19.500
45.520	Horizontal	14.050	4.600	18.650	40.000	-21.350
* 50.370	Horizontal	13.960	6.800	20.760	40.000	-19.240
81.410	Horizontal	10.520	5.900	16.420	40.000	-23.580
129.910	Horizontal	15.000	5.500	20.500	40.000	-19.500
242.430	Horizontal	15.030	3.300	18.330	47.000	-28.670

Note: '*' means the worst case

Measurement Level = Reading Level + Factor

Factor=Ant Factor + Cable Loss + Site Attenuation

(Put test data for H)

EUT:	Laser Engraver	Model No.:	S6
Temperature:	24℃	Relative Humidity:	55%
Distance:	3m	Test Power:	100-240V
Polarization:	Horizontal	Test Result:	Pass
Standard:	(RE)FCC PART 15 class B 3m	Test By:	Vito
Test Mode:	FULL LOAD		

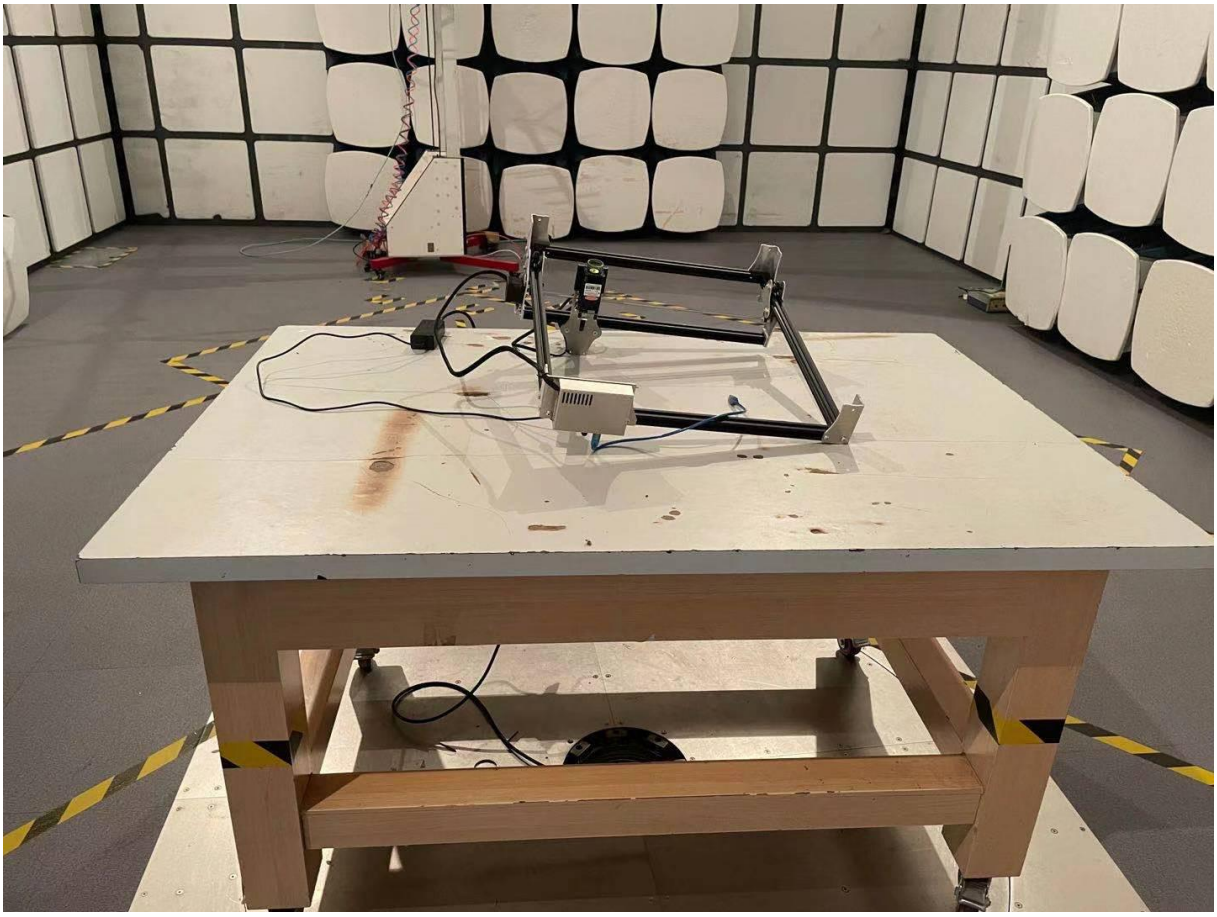
No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	33.7986	28.51	-9.50	19.01	40.00	-20.99	QP
2	71.3300	32.44	-14.72	17.72	40.00	-22.28	QP
3	101.6443	43.19	-16.94	26.25	43.50	-17.25	QP
4	109.7960	41.92	-15.89	26.03	43.50	-17.47	QP
5	135.5062	33.82	-11.68	22.14	43.50	-21.36	QP
6	170.7926	30.73	-11.03	19.70	43.50	-23.80	QP

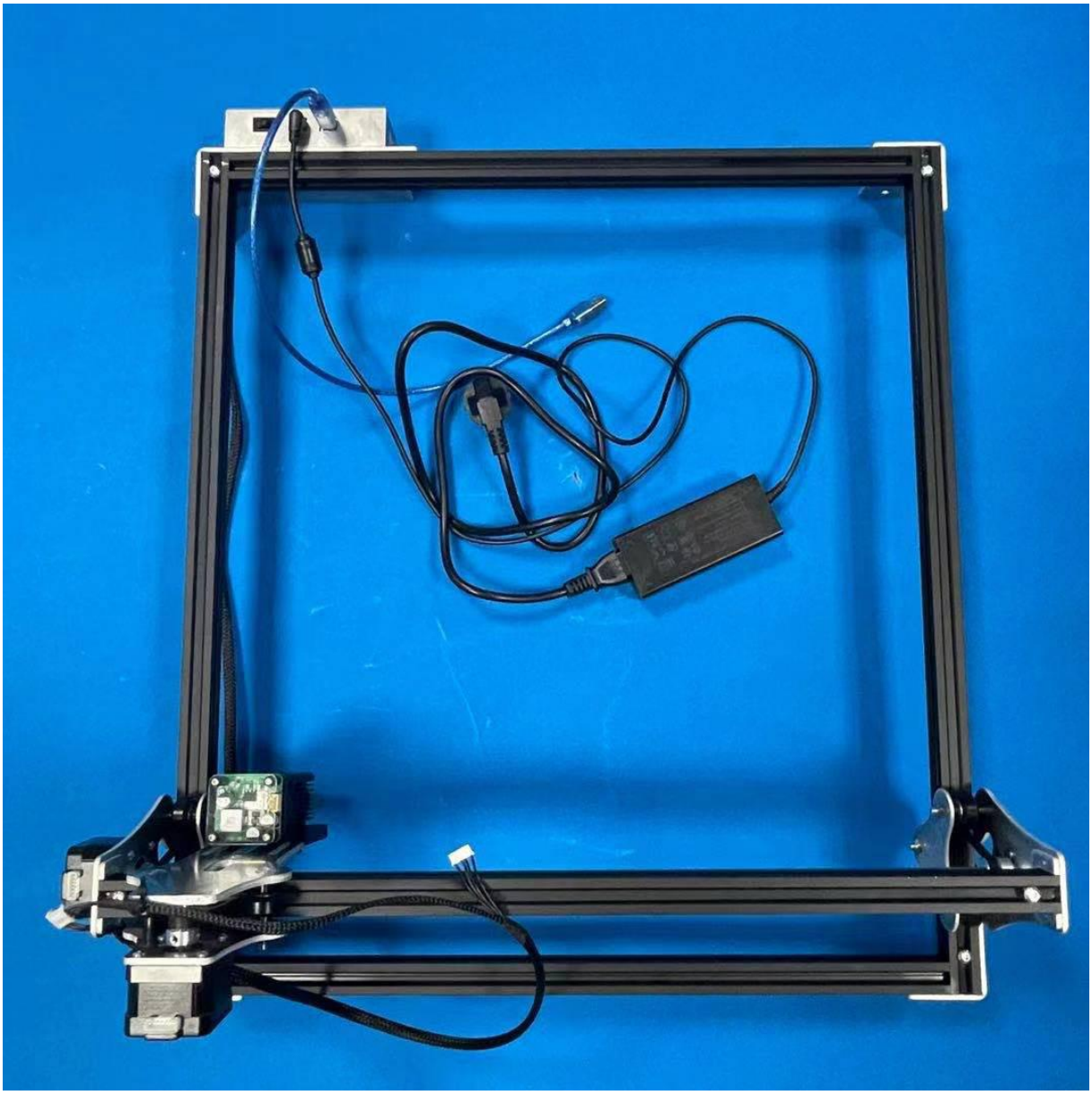
(Put test data for V)

EUT:	Laser Engraver	Model No.:	S6
Temperature:	24℃	Relative Humidity:	55%
Distance:	3m	Test Power:	100-240V
Polarization:	Vertical	Test Result:	Pass
Standard:	(RE)FCC PART 15 class B 3m	Test By:	Vito
Test Mode:	FULL LOAD		

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.0000	42.48	-8.32	34.16	40.00	-5.84	QP
2	33.9174	39.54	-11.11	28.43	40.00	-11.57	QP
3	75.4463	40.27	-13.52	26.75	40.00	-13.25	QP
4	98.8324	38.48	-12.57	25.91	43.50	-17.59	QP
5	108.2667	36.64	-12.44	24.20	43.50	-19.30	QP
6	174.4241	27.76	-8.19	19.57	43.50	-23.93	QP

4 APPENDIX-Photographs of EUT Constructional Details





****End of Report****