



# ROHS TEST REPORT

**Report Reference No** : DER090323006110

**Applicant** : Shenzhen Shiji Lighting Co.,Ltd

**Address** : 3F, Building A, Chuangfu Science and Technology Park, 202 Shihuan Road, Shiyuan Street, Baoan District, Shenzhen, Guangdong, China

**Report on the submitted sample said to be:**

**Sample Name** : Led strip

**Trade Mark** : N/A

**Model No.** : See model list on the page 2

**Sample Received Date** : May 05, 2022

**Testing Period** : May 09, 2022 to May 10, 2022

**Test location** : Shenzhen DE Certification Lab Co., Ltd.  
Room 202, Building 3, Xinnantian Industrial Area, No.106, Danzi Road, Laokeng Community, Longtian Street, Pingshan District, Shenzhen, Guangdong, China

	Test Requested	Result
1	As specified by the client, to determine Pb, Cd, Hg, Cr(VI), PBBs&&PBDEs content in the submitted sample in accordance with EU Directive 2011/65/EU (ROHS 2.0) and to determine DIBP, DEHP, DBP&&BBP content in the submitted sample in accordance with EU Directive 2015/863 (RoHS, Previously 2002/95/EC).	Pass

\*\*\*\*\*FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S)\*\*\*\*\*

Tested by : Taylor

Reviewed by : Mary Mo

Approved by : Young

Date : Aug 28, 2023





## Model list:

Model	Input voltage	Input power
SJ-10030/60/72/144-2812	5V	6w/12w/14.4w/28.8w
SJ-10030/60/72/144-2813	5V	6w/12w/14.4w/28.8w
SJ-10030/60/72/144-2815	12V	6w/12w/14.4w/28.8w
SJ-10030/60/72/144-8208	12V	6w/12w/14.4w/28.8w
SJ-10030/60/72/144-9822	5V	9w/18w/21.6w/43.2w
SJ-10030/60/72/144-102C	5V	9w/18w/21.6w/43.2w
SJ-10030/60/72/144-107S	5V	9w/18w/21.6w/43.2w
SJ-10030/60/72/144-6812	5V	6w/12w/14.4w/28.8w
SJ-10030/60/72-2811	12V/24V	7.2w/14.4w/17.28w
SJ-10030/60/72-1903	12V/24V	7.2w/14.4w/17.28w
SJ-10030/60/72-2903	12V/24V	7.2w/14.4w/17.28w
SJ-10030/60/72-2904	12V/24V	7.2w/14.4w/17.28w
SJ-10030/60/72-8903	12V/24V	7.2w/14.4w/17.28w
SJ-10030/60/72-8904	12V/24V	7.2w/14.4w/17.28w
SJ-10030/60/72-2818	12V/24V	7.2w/14.4w/17.28w
SJ-10030/60/72-1934	12V/24V	7.2w/14.4w/17.28w
SJ-10030/60/72-16703	12V/24V	7.2w/14.4w/17.28w
SJ-10030/60/72-DMX512	12V/24V	7.2w/14.4w/17.28w
SJ-10030/60/90/120/144-4020	5V	6w/12w/18w/24w/28.8w
SJ-10030/60/90/120/144-2427	5V	6w/12w/18w/24w/28.8w
SJ-10030/60/90/120/144-3535	5V	6w/12w/18w/24w/28.8w
SJ-100120/180/240-1903	12V/24V	28.8w/43.2w/57.6w
SJ-100120/180/240-2904	12V/24V	38.4w/57.6w/76.8w
SJ-100120/180/240-DMX512	12V/24V	38.4w/57.6w/76.8w
SJ-100200-2020	5V	60w
SJ-10032/48-2801/2811/1903	5V	9.6w/14.4w
SJ-10084-IC	12V/24V	20w/m
SJ-10096-IC	12V/24V	23w/m
SJ-10030/60/120-5050	12V/24V	7.2w/14.4w/28.8w
SJ-10030/60/120-2835-RGB-RGBW	12V/24V	7.2w/14.4w/28.8w
SJ-NHD-5V/12V/24V	5V/12V/24V	--
SJ-8X8	5V	12.8w
SJ-16X16	5V	51.2w
SJ-8X32	5V	51.2w
SJ-A4040-1212	5V	28.8w
SJ-10060/120-D40	12V/24V	14.4w/28.8w
SJ-10060/120-D20	12V/24V	14.4w/28.8w
SJ-10064-DMX /SPI	12V/24V	23.04w
SJ-100180/360A/B	12v/24v	43w/86w
SJ-10024-48W-DMX/SPI	12V/24V	48w
SJ-10036-36W-DMX/SPI	12V/24V	36w
SJ-10048-12W/24W	12V/24V	12W/24W
SJ-A10048IC	12V/24V	11.52w
SJ-A10060IC	12V/24V	14.4w
SJ-10W-RGBW-DMX/SPI	AC220V	10w

## Remark:

All models have the same mechanical constructure, the model uses SJ-1006-2811 isselected to perform the tests



**1.1 EU Directive 2011/65/EU (ROHS, Previously 2002/95/EC) - XRF**

Method: With reference to IEC 62321-3-1:2013

Analysis was performed by X-ray Fluorescence Spectrometry (XRF)

No.	Specimen Description	Result(s)				
		Br	Pb	Hg	Cd	Cr
1	PE polyethylene plastic	BL	BL	BL	BL	BL
2	Green wire	BL	BL	BL	BL	BL
3	PE polyethylene plastic	BL	BL	BL	BL	BL
4	PCB	BL	BL	BL	BL	BL
5	Red wire	BL	BL	BL	BL	BL
6	Yellow wire	BL	BL	BL	BL	BL
7	metal	BL	BL	BL	BL	BL
8	PE white plastic	BL	BL	BL	BL	BL
9	tin	BL	BL	BL	BL	BL

Note:	(1)	Results were obtained by XRF for primary screening, and further chemical testing by ICP (for Cd, Pb, Hg), UV-VIS (for CrVI) and GC/MS (for PBBs/PBDEs) are recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321: 2013.
	BL	= Below Limit by XRF analysis
	OL	= Over Limit by XRF analysis
	X	= Inconclusive
	LOD	= Limit of Detection
	(2)	The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.
	(3)	The maximum permissible limit is quoted from the EU Directive 2011/65/EU Annex II

Element	Unit	Polymer	Metal	Composite Material
Cd	mg/kg	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Pb	mg/kg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Hg	mg/kg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Br	mg/kg	$BL \leq (300-3\sigma) < X$	--	$BL \leq (250-3\sigma) < X$
Cr	mg/kg	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$



ROHS Restricted Substances	Maximum Concentration Value (by weight in homogenous materials)
Lead (Pb)	0.1%
Cadmium (Cd)	0.01%
Mercury (Hg)	0.1%
Hexavalent Chromium (Cr VI)	0.1%
Polybrominated biphenyls (PBBs)	0.1%
Polybrominated Diphenylethers (PBDEs)	0.1%
Diisobutyl phthalate (DIBP)	0.1%
Phthalic acid (DEHP)	0.1%
Dibutyl phthalate (DBP)	0.1%
Butyl benzyl phthalate (BBP)	0.1%

**1.2 EU Directive 2015/863 (RoHS, Previously 2002/95/EC) - Phthalates**

Method: With reference to IEC 62321-6:2015

Analysis was performed by Gas Chromatography Mass Spectrometer (GC-MS)

No.	Specimen Description	Result(s)			
		DIBP	DEHP	DBP	BBP
1	PE polyethylene plastic	ND	ND	ND	ND
2	Green wire	ND	ND	ND	ND
3	PE polyethylene plastic	ND	ND	ND	ND
4	PCB	ND	ND	ND	ND
5	Red wire	ND	ND	ND	ND
6	Yellow wire	ND	ND	ND	ND
7	metal	ND	ND	ND	ND
8	PE white plastic	ND	ND	ND	ND
9	tin	ND	ND	ND	ND
<b>MDL</b>		0.005%	0.005%	0.005%	0.005%
<b>Permissible Limit</b>		0.1%	0.1%	0.1%	0.1%

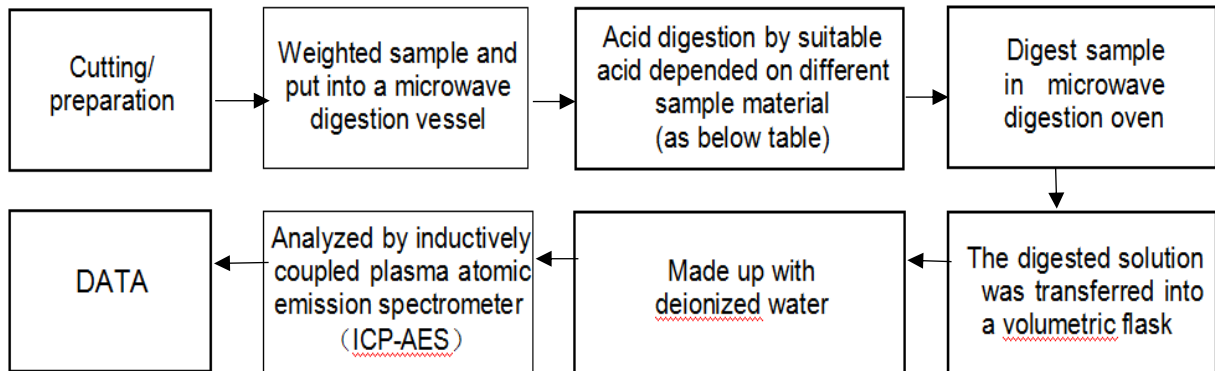
Note:	-	% = percentage by weight
	-	MDL = Method Detection Limit
	-	ND = Not Detected (lower than MDL)
	-	1% = 10000 mg/kg = 10000 ppm
	-	The maximum permissible limit is quoted from the EU Directive 2011/65/EU Annex II



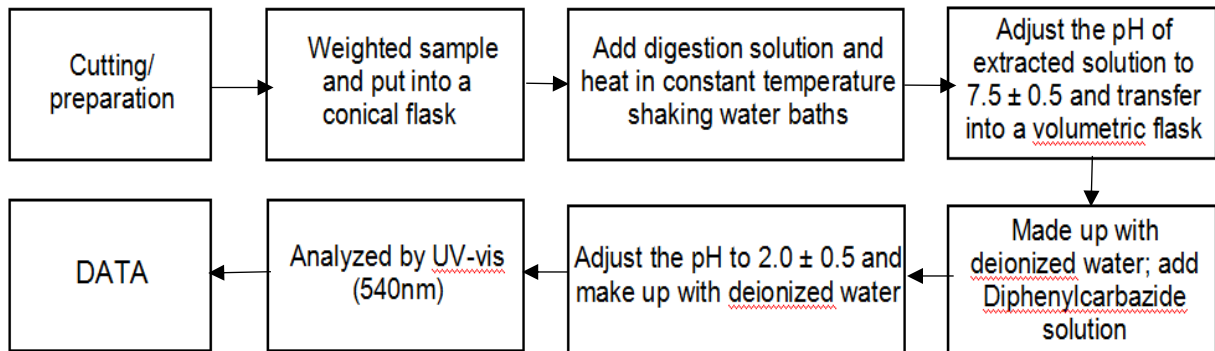
**Test Flow chart**

1. Test Flowchart for Cd / Pb /Hg content

These samples were dissolved totally by pre-conditioning method according to below flow chart.

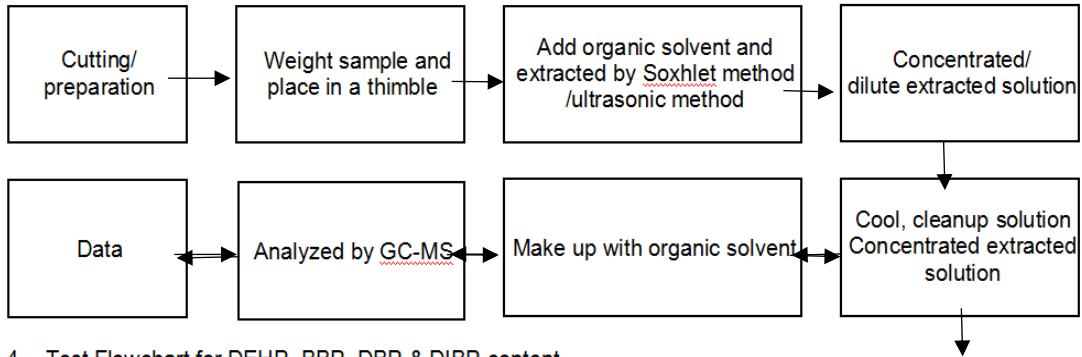


2. Test Flowchart for Cr<sup>6+</sup> content





3. Test Flowchart for PBBs & PBDEs content



4. Test Flowchart for DEHP, BBP, DBP & DIBP content

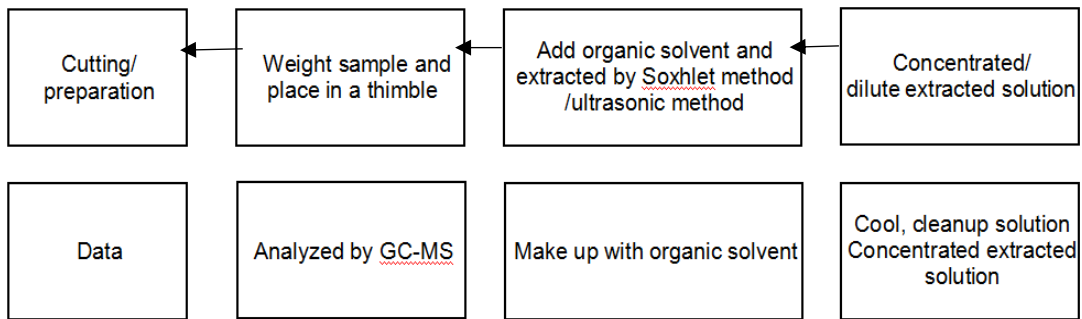


Table:

	Digestion Acid
Steel, copper, aluminum, solder	Aqua regia, HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub>
Glass	HNO <sub>3</sub> /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO <sub>3</sub>
Plastic	H <sub>2</sub> SO <sub>4</sub> , H <sub>2</sub> O <sub>2</sub> , HNO <sub>3</sub> , HCl
Others	Any acid to total digestion

## PHOTO OF THE MAIN TEST SAMPLE

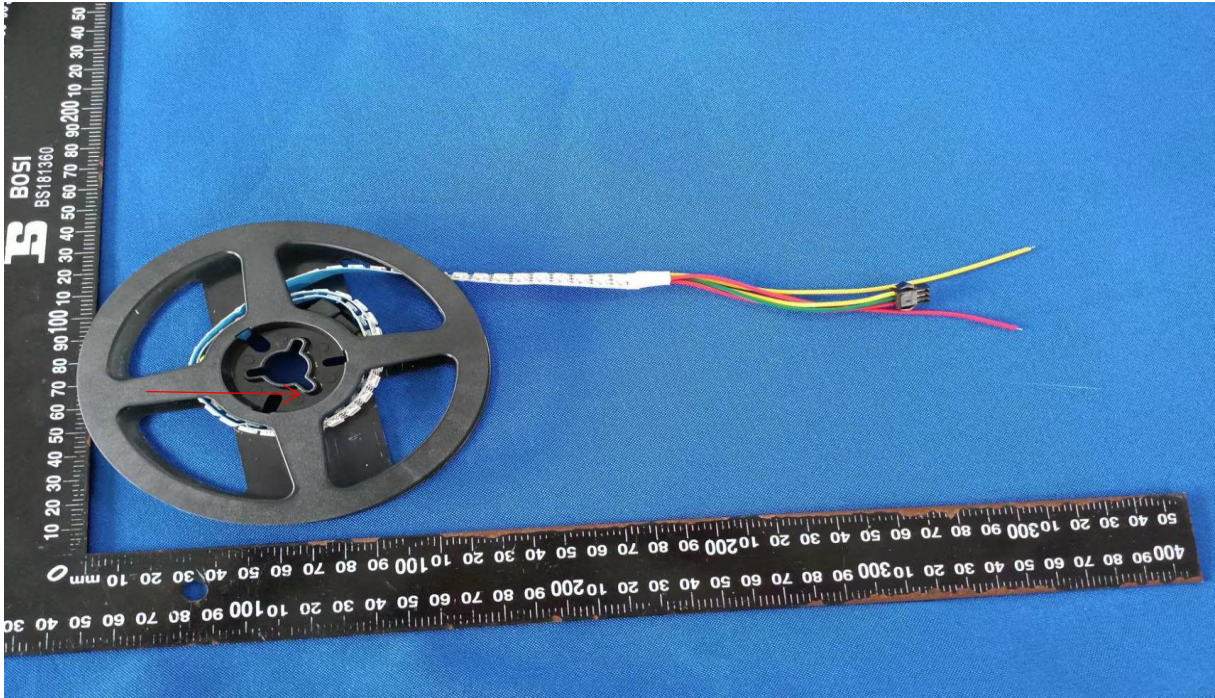


Fig. 1 - Front view

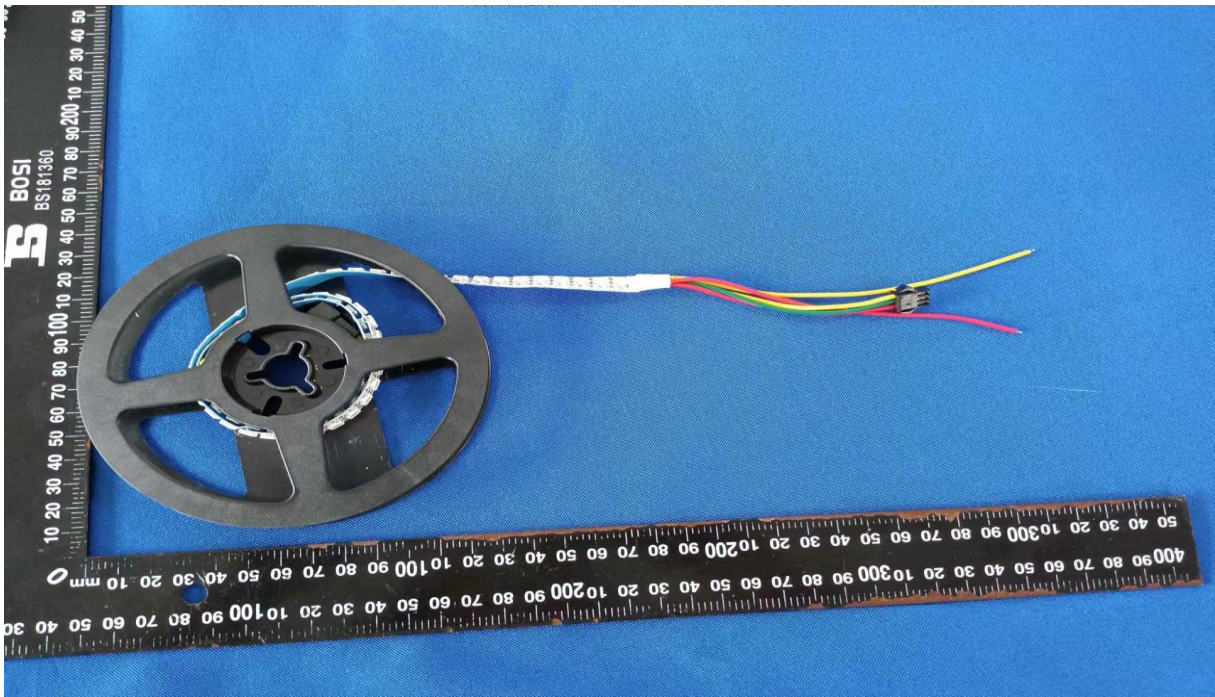


Fig. 2 - Rear view



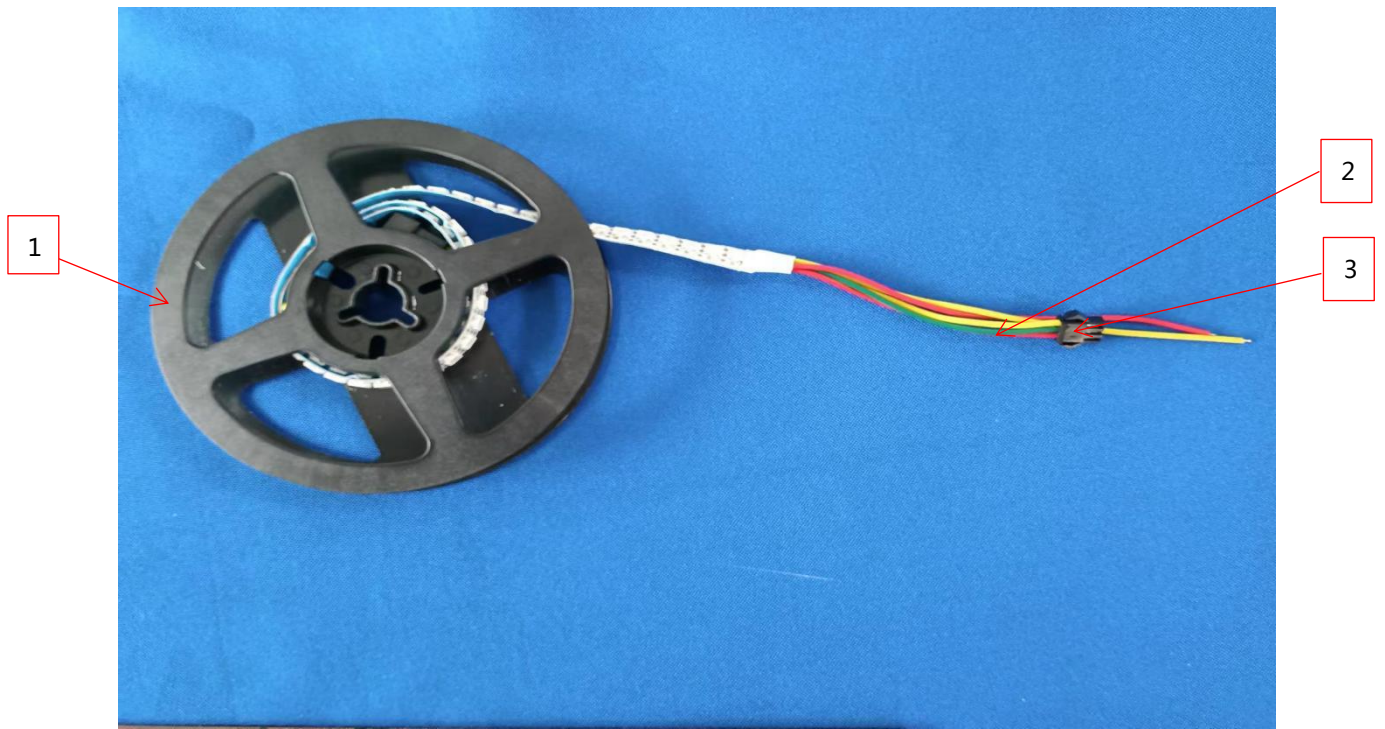


Fig. 3 - Front view

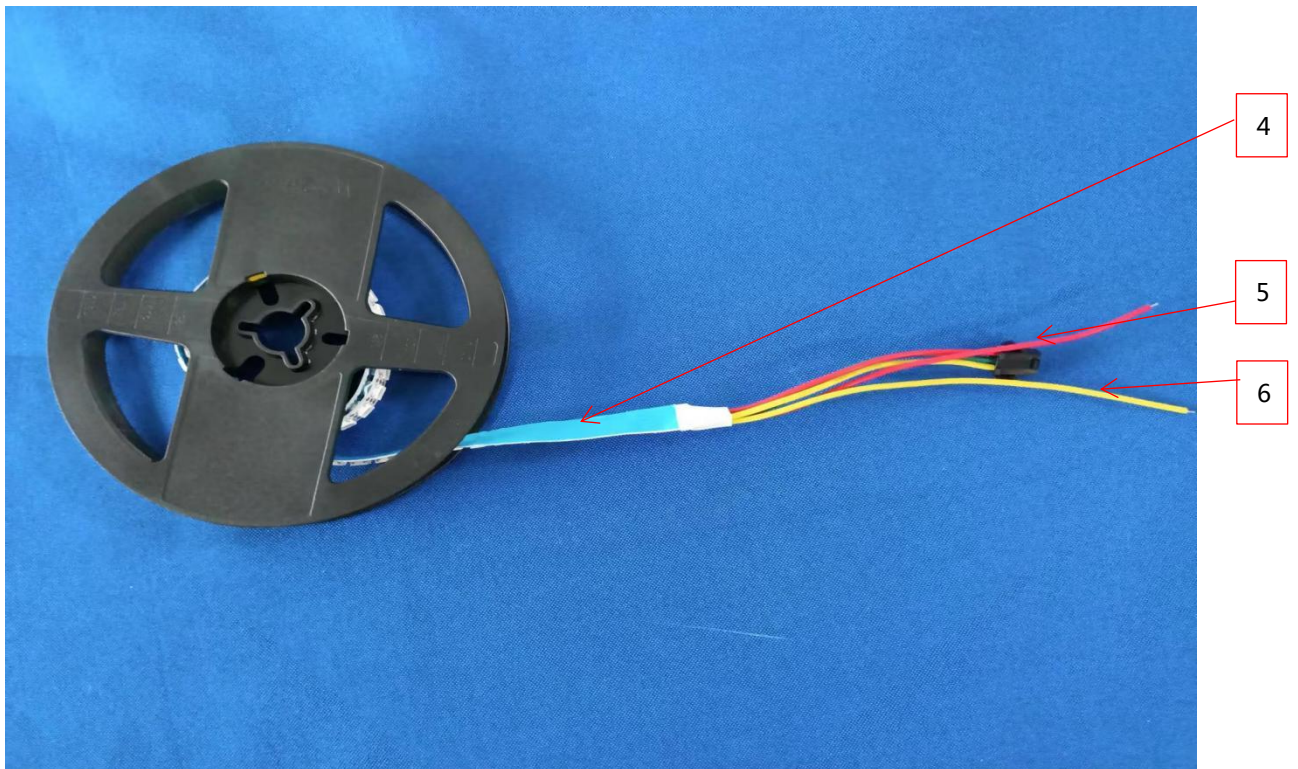


Fig. 4 - Rear view



Fig. 5 - Light strip close view

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