

Test Report

Report No.: 210712044SZN-001

Issue date: Jul. 23, 2021

Applicant: **BEAMEVER INC.**

100 N Howard St Ste R, Spokane, WA 99201-0508 USA

Sample Description:

Test item description.....: **LED CLICK LINE, NOVA TAPE, LINIO NEON 1615 TV, LINIO NEON 1220 SV**

Model/Type reference No.....: **2835, COB**

Reference Model No.....: **See Annex**

Date of Sample Received.....: Jul. 12, 2021

Testing Period: Jul. 12, 2021 to Jul. 20, 2021

Tests conducted:

As requested by the applicant, refer to following page(s) for details.

Conclusion:

Tested samples	Standard	Result
Screened components of submitted sample	Screening by XRF spectroscopy and chemical confirmation test for RoHS Directive (2011/65/EU) and amendment Commission Delegated Directive (EU) 2015/863	Pass

Authorized by:
For Intertek Testing Services
Shenzhen Ltd.



Navy Wang
Engineer



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◆ **RoHS Test**

(A) Screening Test by XRF Spectroscopy

Cadmium (Cd), Lead (Pb), Mercury (Hg), Chromium (Cr) and Bromine (Br) content were measured with reference to IEC 62321-3-1 Edition 1.0: 2013 by XRF spectroscopy and chemical confirmation test for RoHS restricted substances.

Screened Components	XRF Results		Chemical Confirmation Result
1	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
2	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
3	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
4	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
5	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
6	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	



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Screened Components	XRF Results		Chemical Confirmation Result
7	Cd	ND	NT
	Pb	Inconclusive #	
	Hg	ND	
	Cr	ND	
	Br	ND	
8	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
9	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
10	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
11	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
12	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
13	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	



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Screened Components	XRF Results		Chemical Confirmation Result
14	Cd	ND	Hg: 522mg/kg
	Pb	ND	
	Hg	Inconclusive	
	Cr	ND	
	Br	ND	
15	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
16	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
17	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
18	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
19	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
20	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	



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Screened Components	XRF Results		Chemical Confirmation Result
21	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
22	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
23	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
24	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
25	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
26	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
27	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	



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Screened Components	XRF Results		Chemical Confirmation Result
28	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
29	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
30	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
31	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
32	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
33	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
34	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	



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Screened Components	XRF Results		Chemical Confirmation Result
35	Cd	ND	Cr ⁶⁺ : ND(<10mg/kg)
	Pb	Detected	
	Hg	ND	
	Cr	Inconclusive	
	Br	ND	
36	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
37	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	Detected	
	Br	NT	
38	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
39	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

- Detected = Below the lower screening limit of table (C) and pass
- ND = Not detected
- NT = Not tested
- Positive = A positive test result indicated the concentration of Cr(VI) is greater than threshold of 0.13µg/cm² for boiling-water-extraction procedures by visual comparison / by UV-VIS Spectrophotometer analysis. The sample coating is considered to contain Cr(VI).
- Negative = A negative test result indicated the concentration of Cr(VI) is less than threshold of 0.10µg/cm² for boiling-water-extraction procedures by UV-VIS Spectrophotometer analysis. The coating is considered a non-Cr(VI) based coating.
- # = As claimed by the declaration submitted from the supplier of applicant, the Lead content of the component comes from the constituent of glass or ceramic (other than dielectric ceramic in capacitors) in electrical and electronic component only, e.g. piezoelectronic devices, or in a glass or ceramic compound. According to EU RoHS Directive (2011/65/EU), Lead in ceramic or glass of the component can be exempted.



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(B) Phthalate Content Test:

Test item	Result			
	(1+2+9)	(10+13+14)	(20+22+23)	(24+25+39)
Dibutyl phthalate (DBP)(mg/kg)	120	120	120	150
Di-(2-ethyl hexyl) phthalate (DEHP)(mg/kg)	ND	ND	ND	ND
Benzyl butyl phthalate (BBP)(mg/kg)	ND	ND	ND	ND
Di-(iso-butyl) phthalate (DIBP)(mg/kg)	ND	ND	ND	ND

Test item	Result (mg/kg) θ
	(3+27+28+30), (4+16+32), (5+6+33+34), (15+17+19)
Dibutyl phthalate (DBP)	ND
Di-(2-ethyl hexyl) phthalate (DEHP)	ND
Benzyl butyl phthalate (BBP)	ND
Di-(iso-butyl) phthalate (DIBP)	ND

- ND = Not detected
 - θ = Single result for each test component/group

(C) XRF Screening Limits in mg/kg for Regulated Elements in Various Matrices:

Element	Polymer Materials	Metallic Materials	Composite Materials
Cd	$P \leq 70 < X < 130 \leq F$	$P \leq 70 < X < 130 \leq F$	$P \leq 70 < X < 150 \leq F$
Pb	$P \leq 700 < X < 1300 \leq F$	$P \leq 700 < X < 1300 \leq F$	$P \leq 500 < X < 1500 \leq F$
Hg	$P \leq 700 < X < 1300 \leq F$	$P \leq 700 < X < 1300 \leq F$	$P \leq 500 < X < 1500 \leq F$
Cr	$P \leq 700 < X$	$P \leq 700 < X$	$P \leq 500 < X$
Br	$P \leq 300 < X$	Not applicable	$P \leq 250 < X$

Remark:

- P = Pass.
- X = Inconclusive result.
- **F = Fail**
- mg/kg = milligram per kilogram = ppm

(D) Estimated Detection Limits in mg/kg for Regulated Elements in Various Matrices:

Element	Polymer Materials	Metallic Materials	Composite Materials
Cd	50	70	70
Pb	100	200	200
Hg	100	200	200
Cr	100	200	200
Br	200	Not applicable	200



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(E) Chemical Confirmation Test Methods:

Testing Item	Testing Method	Reporting Limit
Mercury (Hg) Content	With reference to IEC 62321-4 Edition 1.0:2013 +AMD1: 2017, by acid digestion and determined by ICP - OES	2 mg/kg
Chromium (VI) (Cr ⁶⁺) Content	With reference to IEC 62321-7-2 Edition 1.0:2017, Hexavalent chromium – Determination of hexavalent chromium (Cr(VI) in polymers and electronics by the colorimetric method	10 mg/kg
Dibutyl phthalate (DBP) & Di-(2-ethyl hexyl) phthalate (DEHP) & Benzyl butyl phthalate (BBP) & Di-(iso-butyl) phthalate (DIBP)	With reference to IEC 62321-8 Edition 1.0:2017, by Gas Chromatographic-Mass Spectrometric (GC-MS) analysis	50 mg/kg

(F) Requirement:

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr ⁶⁺)	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)
Dibutyl phthalate (DBP)	0.1% (1000 mg/kg)
Di-(2-ethyl hexyl) phthalate (DEHP)	0.1% (1000 mg/kg)
Benzyl butyl phthalate (BBP)	0.1% (1000 mg/kg)
Di-(iso-butyl) phthalate (DIBP)	0.1% (1000 mg/kg)
The above limits were quoted from 2011/65/EU and amendment Commission Delegated Directive (EU) 2015/863 for homogeneous material.	

Disclaimers:

This XRF Screening and Chemical Confirmation Test Report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF Screening and Chemical Confirmation Test Report is sufficient for its/his/her purposes.

The results shown in this XRF Screening and Chemical Confirmation Test Report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis is required to obtain quantitative data.



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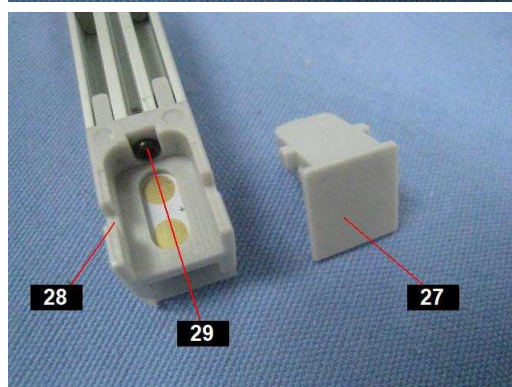
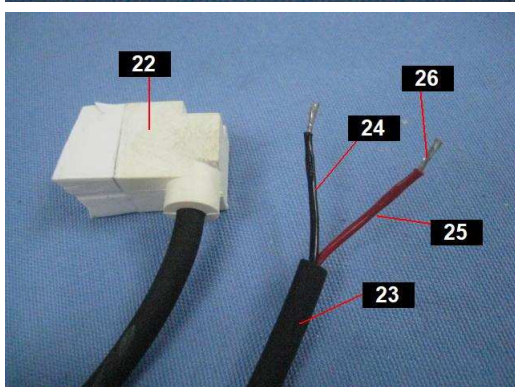
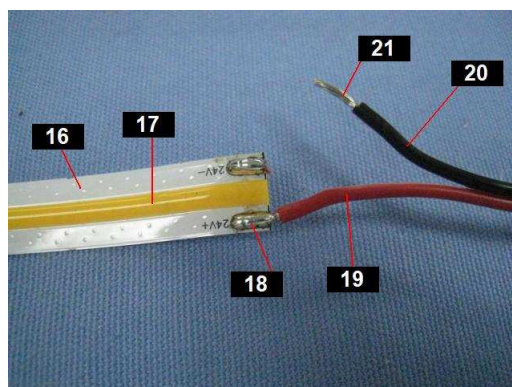
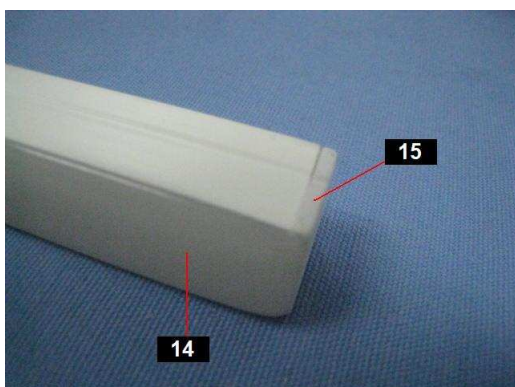
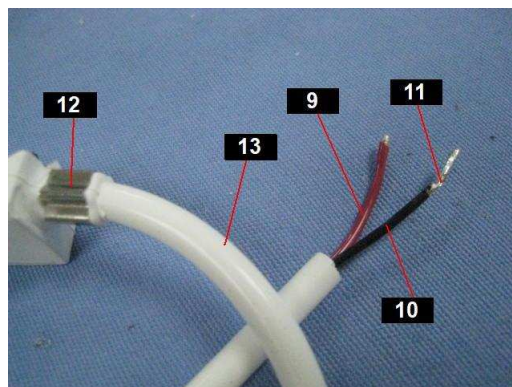
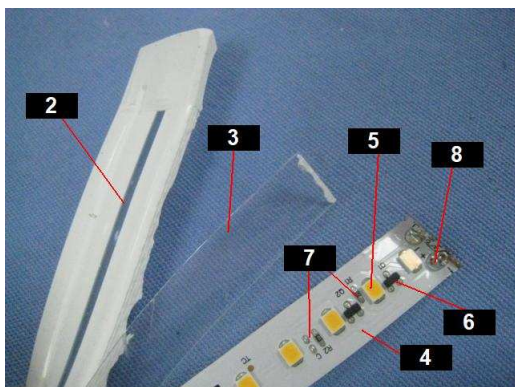
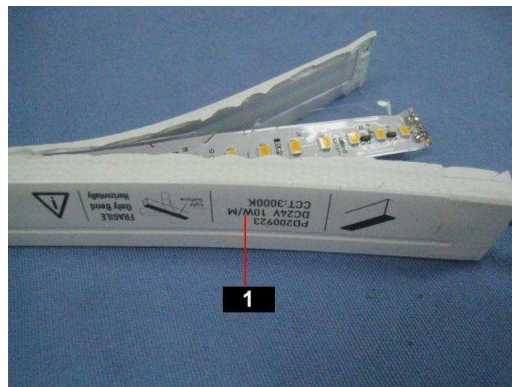
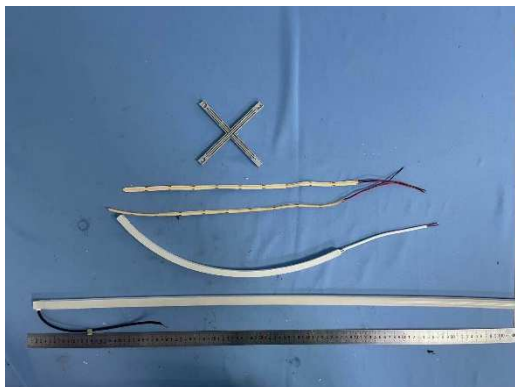
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Screened Components:

- 1 White soft plastic with black printing.
- 2 Transparent soft plastic.
- 3 Transparent plastic sheet.
- 4 Conformal coating with white solder mask & copper color metal pad & fiberboard (PCB).
- 5 White plastic & yellow plastic & silver color metal (SMD LED).
- 6 Black plastic with silver color metal & solder (SMD triode).
- 7 White ceramic with black material & white printing & silver color metal (SMD resistor).
- 8 Solder.
- 9 Red plastic (wire covering).
- 10 Black plastic (wire covering).
- 11 Silver color metal wire.
- 12 Silver color metal.
- 13 White soft plastic (external wire covering).
- 14 Semi-transparent soft plastic.
- 15 Dull white soft plastic.
- 16 Conformal coating with white solder mask & copper color metal pad & fiberboard (PCB).
- 17 Yellow soft plastic.
- 18 Solder.
- 19 Red plastic (wire covering).
- 20 Black/red plastic (wire covering).
- 21 Silver color metal wire.
- 22 Dull white soft plastic.
- 23 Black soft plastic (external wire covering).
- 24 Dull red plastic (wire covering).
- 25 Dull black plastic (wire covering).
- 26 Silver color metal wire.
- 27 Grey plastic.
- 28 Grey plastic.
- 29 Black treated metal (screw).
- 30 Semi-transparent plastic.
- 31 Dull silver color metal (frame).
- 32 Conformal coating with white solder mask & copper color metal pad & fiberboard (PCB).
- 33 White plastic & yellow plastic & silver color metal (SMD LED).
- 34 Black plastic with silver color metal & solder (SMD triode).
- 35 White ceramic with black material & white printing & silver color metal (SMD resistor).
- 36 Solder.
- 37 Silver color metal.
- 38 Silver color magnet.
- 39 Semi-transparent soft plastic.

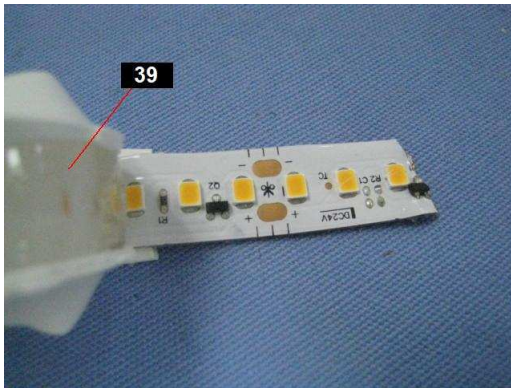
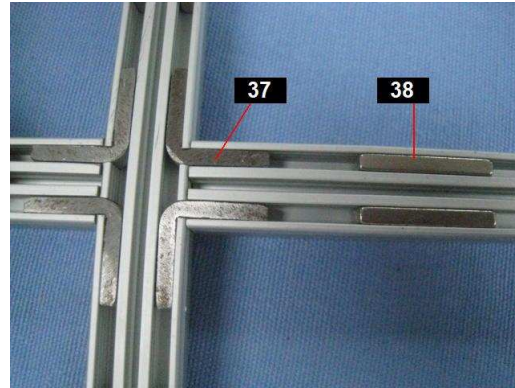
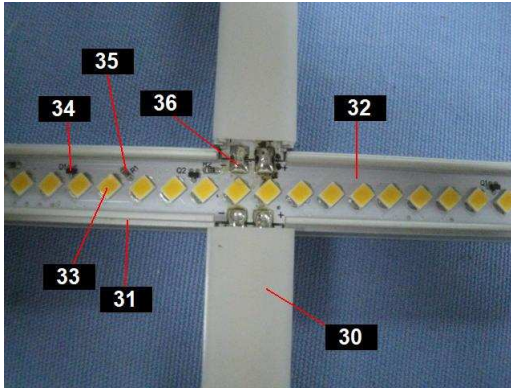


Photos for Test Sample:





Photos for Test Sample:



Annex (The following information is provided by the client):

产品系列	新证书型号	LED 类型
LEDLINE FLEX	MARINE NEON 1615 WHT	2835/3014
	MARINE NEON 1220 WHT	
	MARINE NEON 1010 WHT	
	MARINE NEON TINI WHT	
	MARINE NEON 0612 WHT	
	MARINE NEON 1615 IQ	3014
	MARINE NEON 1220 IQ	
	MARINE NEON 1010 IQ	
	MARINE NEON TINI IQ	
	MARINE NEON 0612 IQ	
	MARINE NEON 1615 RGB	4040
	MARINE NEON 1220 RGB	
	MARINE NEON 1010 RGB	
	MARINE NEON TINI RGB	
	MARINE NEON 0612 RGB	5050
	MARINE NEON 1615 MEDIA	
MARINE NEON 1220 MEDIA		



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	MARINE NEON 1615 AURORA		
	MARINE NEON 1220 AURORA		
	MARINE NEON 1615 RGBW		
	MARINE NEON 1220 RGBW		
ASTON	LINIO NEON 1615 TV	2835	
	LINIO NEON 1220 SV		
	LINIO NEON 1212 TV		
	LINIO NEON 1010 TV		
	LINIO NEON 0612 SV		
	LINIO NEON R16		
	LINIO NEON 3020		
	LINIO NEON 3D		
	LINIO NEON 1225 SV		
	LINIO NEON 360		
	LINIO NEON 1615 TV TW		3014
	LINIO NEON 1220 SV TW		
	LINIO NEON 1212 TV TW		
	LINIO NEON 1010 TV TW		
	LINIO NEON 0612 SV TW		
	LINIO NEON R16 TW		
	LINIO NEON 3020 TW		
	LINIO NEON 3D TW		
	LINIO NEON 360 TW		
	LINIO NEON 3D TW		
	LINIO NEON 1615 TV RGB	4040	
	LINIO NEON 1220 SV RGB		
	LINIO NEON 1212 TV RGB		
	LINIO NEON 1010 TV RGB		
	LINIO NEON 0612 SV RGB		
	LINIO NEON R16 RGB		
	LINIO NEON 3020 RGB		
	LINIO NEON 3D RGB		
	LINIO NEON 1225 SV RGB		
	LINIO NEON 360 RGB		
	LINIO NEON 1615 TV RGBW	5050	
	LINIO NEON 1220 SV RGBW		
LINIO NEON 1615 TV RGB PIXEL			
LINIO NEON 1220 SV RGB PIXEL			
LINIO NEON 1615 TV RGBW PIXEL			



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	LINIO NEON 1220 SV RGBW PIXEL	
	LINIO NEON R16 RGBW	
	LINIO NEON 3020 RGBW	
	LINIO NEON 3D RGBW	
	LINIO NEON 1225 SV RGBW	
	LINIO NEON 360 RGBW	
	LINIO NEON 0606 TV	
	LINIO NEON 0408 SV	2216
Linear profile	LED CLICK LINE	2835
	BRILI LINEAR WHT	
COVEFLEX	AERO TAPE	
	AERO TAPE HD	
	VICT TAPE	
	SKYE TAPE	2835
	ALTA TAPE	
	AERO TAPE IP54	
	AERO TAPE HD IP54	
	DERU TAPE	1808
	DERU TAPE HD	
	NOVA TAPE IP54	
	NOVA TAPE IP68	
	NOVA TAPE S	
	NOVA TAPE	COB
	NOVA TAPE TW	
	NOVA TAPE RGB	
	NOVA TAPE RGBW	
	NOVA TAPE RGBWW	
	AERO TAPE TW	2835
	DERU TAPE TW	1808
	NOVA TAPE DTW	2835
	DIAM TAPE	
	BELA TAPE RGBW	5050
	BELA TAPE RGBWW	
KENE TAPE		
KENE TAPE HD		
SAMO TAPE	2835	
ARTH TAPE		
FERR TAPE		
SHER TAPE		



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ARCT TAPE	
KONA TAPE	
PUMA TAPE	5050
NUNA TAPE	
Graze Flex WHT	2835
Graze Flex IQ	2835
Graze Flex RGB	3535/5050
Graze Flex RGBW	3535/5050
Graze Flex DIGITAL	3535/5050
Tape 3014	3014
Tape 2216	2216
Tape 3528	3528
Tape 5050	5050
Tape 1808	1808
Tape 6060	6060
Tape 3030	3030
Tape 2835	2835
Tape 020	020
Tape 5630	5630

***** End of Report *****

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