



# Amphenol

**REPAIRED DATE** : **May 20th, 2018**  
**PROJECT NAME** : **Volantis/E406**  
**PRODUCT NUMBER** : **CI8226-15-000-R**  
**CISCO PART NUMBER** : **07-100417-01**  
**(Wi-Fi: 2400MHz~2500MHz, 5150MHz~5185MHz)**

SAA function:	Name:	Sign:	Date
<b>RD manager</b>	Bruce Tang	Bruce Tang	5/20/2018
<b>RF manager</b>	Alex Lu	Alex Lu	5/20/2018
<b>ME manager</b>	Albert Mao	Albert Mao	5/20/2018
<b>Project manager</b>	Amanda Chen	Amanda Chen	5/20/2018

Customer:	Name/Title:	Sign:	Date
<b>Cisco</b>	Java Jiang	Java Jiang	5/20/2018

Date:	Revision :	Updates and changes:	Issued by:
<b>5/20/2018</b>	<b>FA</b>	<b>First Release</b>	

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# 1 Antenna description

WiFi antenna: Dipole

Frequency: 2400MHz ~2500 MHz, 5150MHz~5850MHz

## 1.1 Part number

Part number of Wi-Fi antenna : CI8226-15-000-R

## 1.2 Antenna pictures

Picture of Wi-Fi antenna:



WiFi antenna

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## 2 Electrical Performance

### 2.1 Specification

#### 2.1.1 Return loss

Wi-Fi antenna:

Frequency(MHz)	2400	2500	5150	5850
Return loss	≤-6	≤-8	≤-12	≤-12

### 2.2 Measurement Set-up

#### 2.2.1 VSWR and return loss

VSWR measurements ( $S_{11}$ ) were performed using an Agilent ENA series Network Analyser and the previously described test fixture. Coaxial chokes were used to mitigate surface currents on the outside of the cabling. The testing was performed in free space.

#### 2.2.2 Efficiency, Gain

The gain of the antenna was measured in Amphenol's 3D anechoic chamber in Shanghai, China. The chamber is standard Satimo with 64 probes system capable of doing tests from 380MHz to 6GHz. Coaxial chokes on the feed cable were used to mitigate surface currents during passive tests. The measurement results are calibrated using dipole standards.

### 2.3 Reference measurement data

#### 2.3.1 Return loss

Wi-Fi antenna:

Frequency(MHz)	2400	2500	5150	5850
Return loss	≤-6	≤-8	≤-12	≤-12

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### 2.3.2 Efficiency and Gain

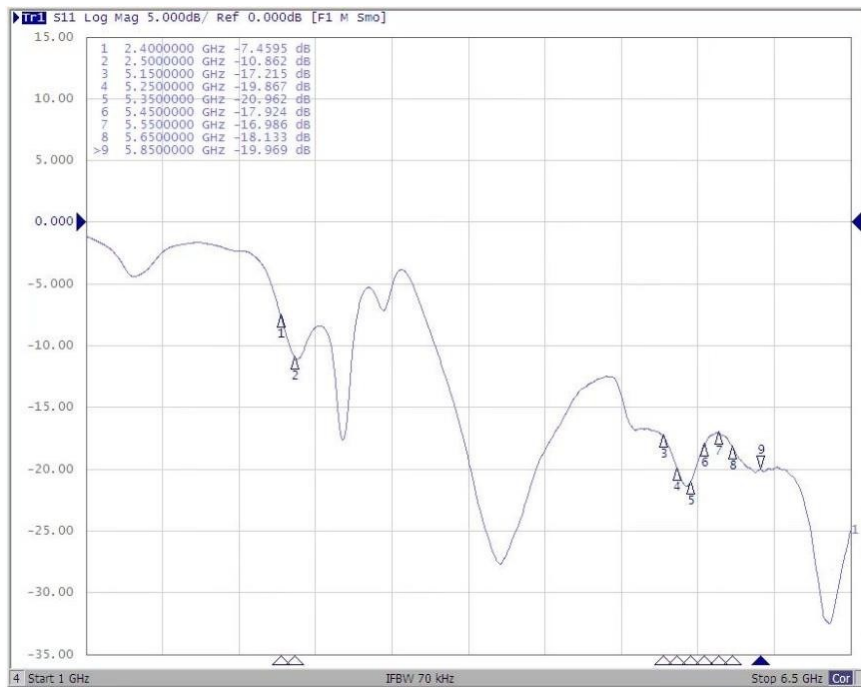
Wi-Fi antenna:

Frequency MHz	Efficiency		Peak Gain
	%	dB	dBi
2400	42%	-3.7	4.1
2450	45%	-3.5	3.9
2500	44%	-3.6	3.5
5150	65%	-1.9	2.6
5250	62%	-2.1	2.8
5350	64%	-1.9	4.0
5450	69%	-1.6	4.3
5550	74%	-1.3	3.9
5650	82%	-0.9	4.8
5750	75%	-1.2	3.7
5850	74%	-1.3	3.5

## 3 Plots

### 3.1 Return loss

Wi-Fi antenna:

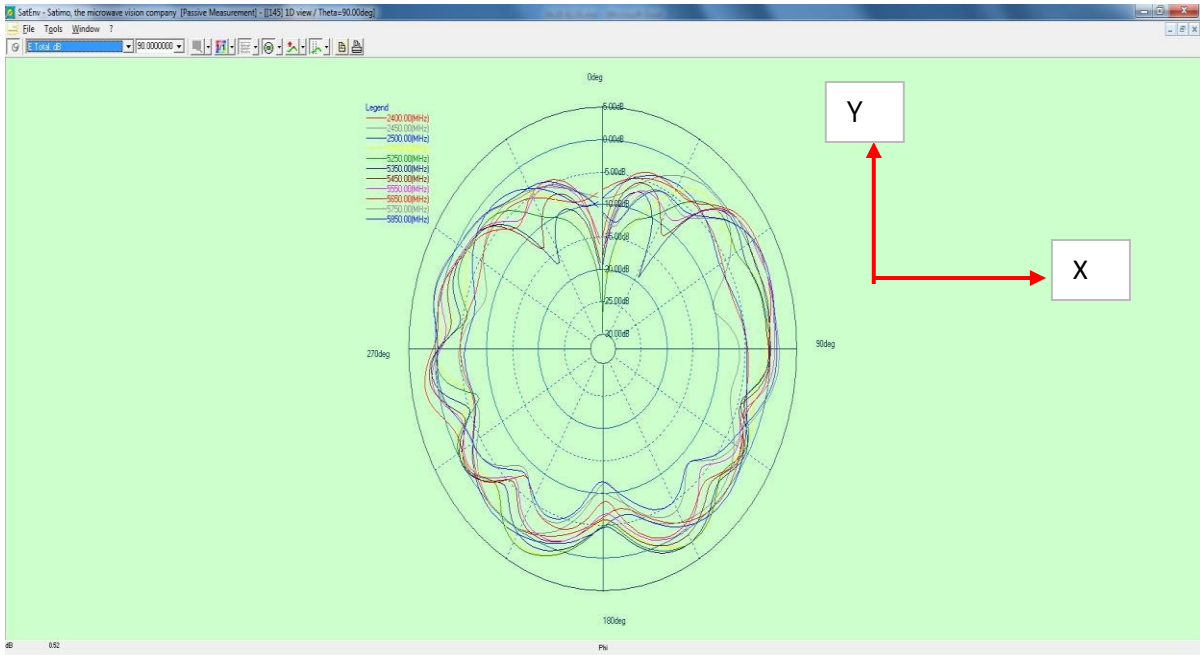
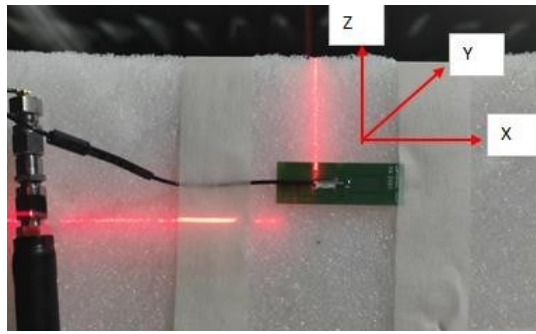


WiFi antenna Return loss

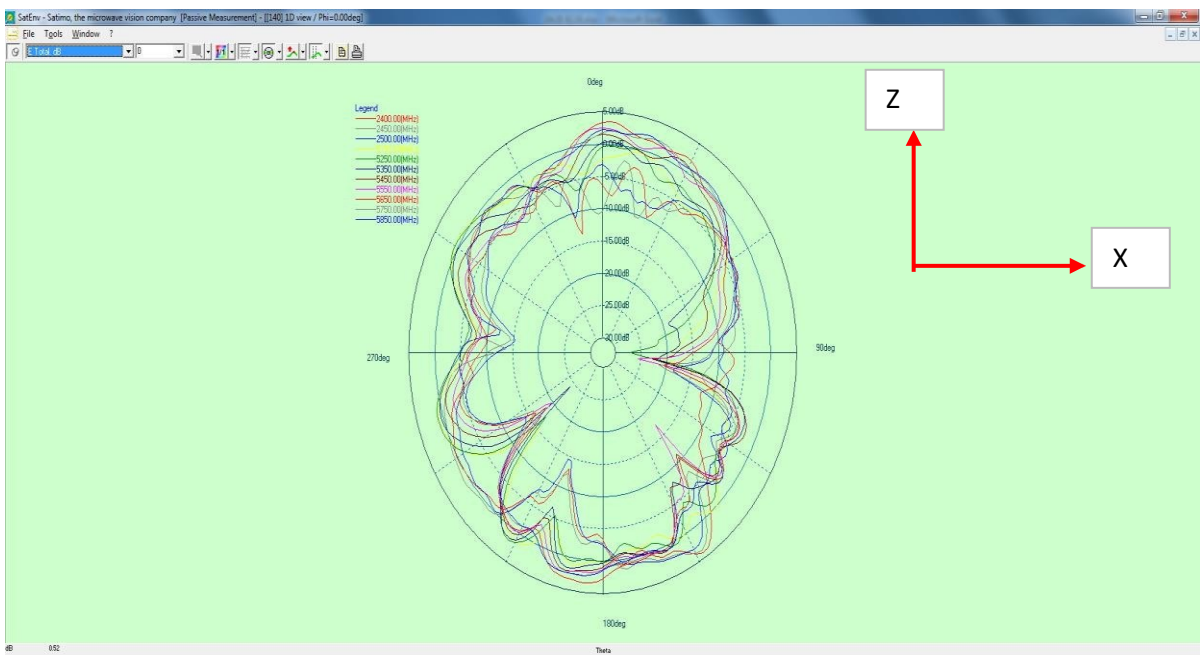
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### 3.2 Radiation pattern

#### Wi-Fi antenna:

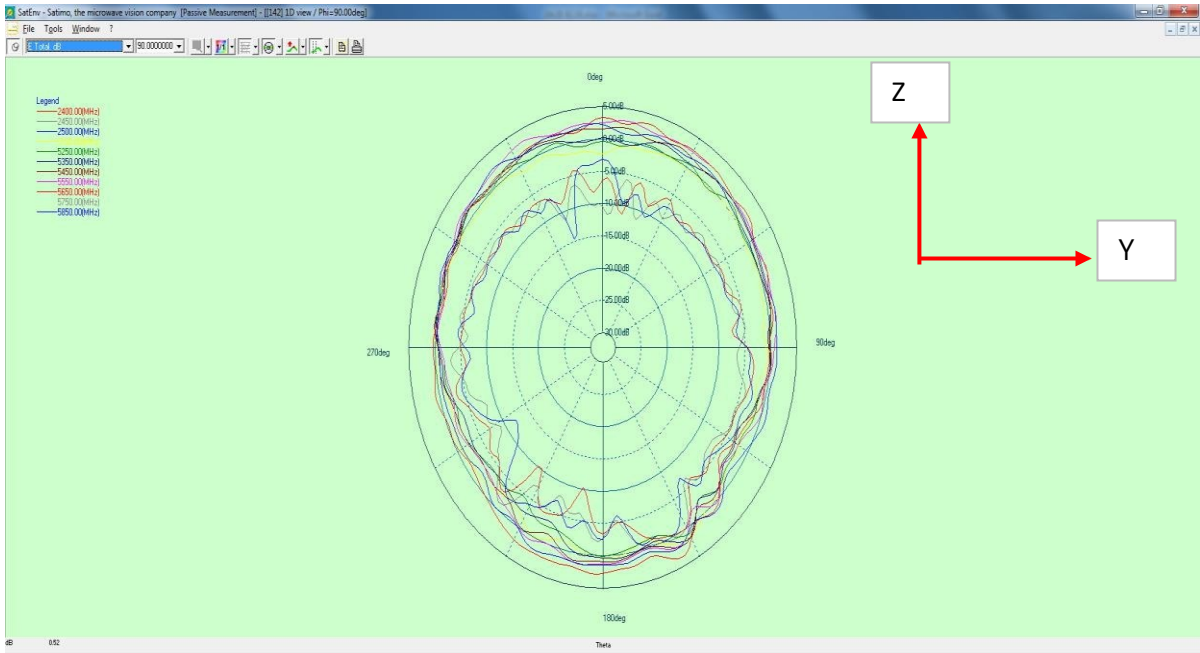


**WiFi antenna Radiation pattern (Theta=90)**



**WiFi antenna Radiation pattern (Phi=0)**

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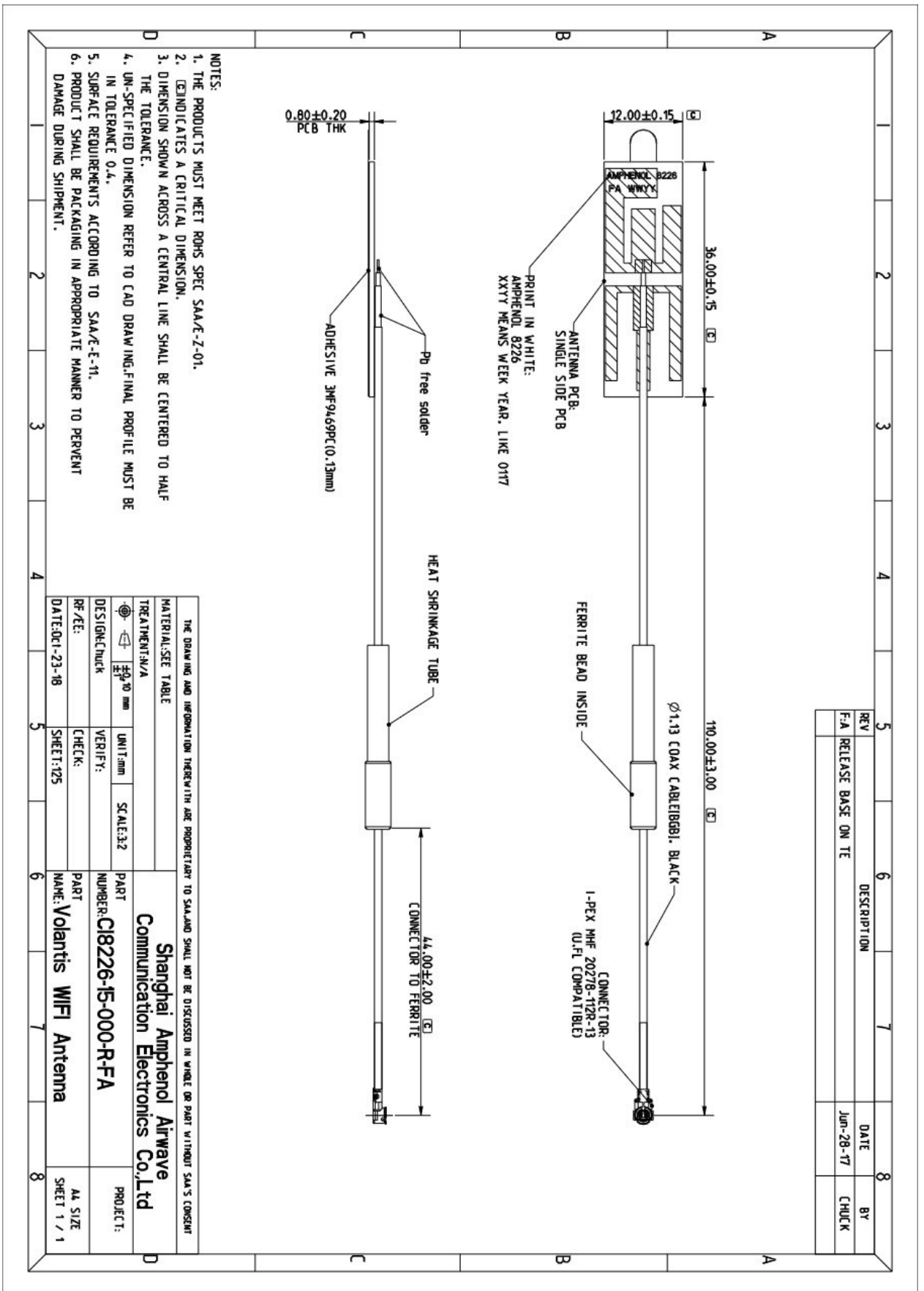


**WiFi antenna Radiation pattern (Phi=90)**

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## 4. Mechanical Appearance Drawing

The mechanical drawing covers the physical appearance of the antenna.



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# 6. Restricted Substances Concentration Evaluation Report

Amphenol		限用物质含量符合性评估报告 Restricted Substances Concentration Evaluation Report										SAA					
客户名称Customer name: CI		项目/产品名称Project/part name: Volantis WIFI															
客户料号Customer P/N:		SAA 料号SAA P/N: CI8226-15-000-R															
项目经理PM:		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     测试结果                      Test Result                      OK (合格)                 </div>															
RD工程师R/ME: Chuck Cheng																	
采购员Sourcing: Allen He Kevin Hao																	
<b>注意事项(Notice):</b> 1. 下表须填写零件材料的最小组成部分,即无法继续用物理方法进行再分解的最小组成。The composition of a substance should write to the minimum unit, which can be decomposed physically. 2. 项目要求Project requirement: ROHS (Y) 、HF(Y) 、Be(J) 、PFOS/PFOA(J) 、Others(J) ; 项Y代表有要求, N代表无要求,input Y means Yes, input N means No. 3. 对于不适用的测试项目, 请填写"n/a".Not applicable items should be input "n/a".																	
产品料号Part No.	产品名称Part Name	产品厂商名称Part Vendor Name	镉Cd	铅Pb	汞Hg	六价铬Cr6+	多溴联苯PBBs	多溴联苯醚PBDEs	氯Cl	溴Br	铍Be	PFOS	PFOA	测试报告编号 Report No.	测试报告发行日期 Test Report Issue Date	检测机构 Test organization	备注 Remarks
CI8226-15-000-R	Volantis WIFI	SAA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R-8226-15-000-74	PCB	鑫科	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	FR4 无卤环氧玻纤板	德记	<2	<10	<2	<2	<5	<5	274	<50	n/a	<10	<10	SHAEC1628430710	2017/1/7	SGS	1.1
	铜箔	铜冠	<2	<2	<2	<2	<5	<5	<10	<10	<1	<5	<5	SCL01J007166001C	2017/2/23	CTI	1.2
	PSM-800 GREEN INK	LINIRES	<2	<2	<2	<2	<5	<5	331	<50	n/a	n/a	n/a	CE/2016/E2217	2016/11/23	SGS	1.3
	锡锡	至诚	<1	96	<1	N/E	<5	<5	n/a	n/a	n/a	n/a	n/a	BDCG2SOO30925704	2016/8/24	PONY	1.4
	白色热固字符油墨	新东方	<2	<2	<2	<8	<5	<5	377	<50	n/a	n/a	n/a	SHAEC1711535101	2017/6/7	SGS	1.5
R-8226-15-000-96	Connector cable assembly	SAA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C-0925-12-000-95-RA	Connector	I-PEX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20278-112R-13	HOUSING DURANEX 310NF BLACK	DAI-HCHI	<2	<2	<2	<2	<5	<5	<50	<50	n/a	<10	<10	CE/2016/C3736	2016/12/28	SGS	2.1
	CS210R	DAI-HCHI	<2	18.5	<2	0.1u.g/cm <sup>2</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	CE/2016/C6659	2017/1/16	SGS	2.2
	CS191R	DAI-HCHI	<2	23.3	<2	0.1u.g/cm <sup>2</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	CE/2017/22832	2017/2/18	SGS	2.3
	PLATING Au Ni	DAI-HCHI	<2	<2	<2	0.1u.g/cm <sup>2</sup>	n/a	n/a	n/a	n/a	n/a	<1	n/a	CE/2017/22856	2017/2/18	SGS	2.4
C02-101-001	Cable	GBE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Copper metal	HENGFENG	<2	<2	<2	0.1u.g/cm <sup>2</sup>	<5	n/a	n/a	<5	n/a	n/a	n/a	SHAEC1703852401	2017/3/16	SGS	3.1
	Silvery metal	HENGFENG	<10	<10	<10	0.1u.g/cm <sup>2</sup>	<5	<5	n/a	n/a	n/a	<10	n/a	SHAEC1703852401	2017/3/16	SGS	
	TEFLON	DACHEN	<2	<2	<2	<2	<5	<5	<10	<10	<10	<5	<5	SCL01J019631001E	2017/4/7	CTI	3.2
	Timed Copper wire	HOPERISE	<2	<2	<2	0.1u.g/cm <sup>2</sup>	<5	<5	n/a	n/a	<5	n/a	n/a	CANEC1618792302	2016/9/26	SGS	3.3
	Jacket Black(FEP)	DACHEN	<2	<2	<2	<2	<5	<5	<10	<10	<10	<5	<5	SCL01J019631002E	2017/4/7	CTI	3.4
R-4671-15-000-80-FA	Adhesive	久泰	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3M9469	3M	<2	<2	<2	<2	<5	<5	198	<50	n/a	n/a	n/a	CANEC1704097801	2017/3/21	SGS	4
	3M9469	3M	<2	<2	<2	<2	<5	<5	198	<50	n/a	n/a	n/a	CANEC1704097802	2017/3/21	SGS	
R-0391-11-000-83-RA	TRANSPARENT TUBE	沃尔	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Transparent Tube	WOER	<2	<2	<2	<2	<5	<5	<50	<50	n/a	n/a	n/a	CANEC1703712705	2017/3/17	SGS	5.1
R-1699-02-000-40	Ferite bead	天通	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	NiZn Ferrite Core	TOG HOLDING	<2	<2	<2	<2	<5	<5	<10	<10	n/a	n/a	n/a	ECL03004915004	2016/10/11	CTI	6
R-1693-15-000-95-RA	Small heat shrinkage tube	沃尔	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R-1693-15-001-95-RA	Big heat shrinkage tube	沃尔	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Black Tube	WOER	<2	<2	<2	<2	<5	<5	<10	<10	n/a	n/a	n/a	SCL01110572005ER1	2016/12/16	CTI	5.2
R-1693-15-000-86-RA	RoHS label	乾朋	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3M57817	3M	<2	<2	<2	<2	<5	<5	107	<50	n/a	n/a	n/a	CANEC1617544901	2016/9/8	SGS	7.1
	3M57817	3M	<2	<2	<2	<2	<5	<5	107	<50	n/a	n/a	n/a	CANEC1617544902	2016/9/8	SGS	
	UV混合油墨	航华	<2	<2	<2	<2	<5	<5	n/a	n/a	n/a	<10	<10	SHAEC1703155502	2017/3/16	SGS	7.2
SO-WI-03	Solder Wire	德浩	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	锡丝	德浩	<2	284	<2	0.1u.g/cm <sup>2</sup>	<5	<5	<50	175	<5	n/a	n/a	SHAEC1703813604	2017/3/10	SGS	8

Prepared by:Ting Jiao

Reviewed by:Sara.Dong

SAA/QE-02-02B

End of Document

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