



# Product Specification

Project Name: SA0778F

Prepared: Nick/Zorro		Approved: Vita
Checked: Arvin		Customer:
Version	Changed Reason	Changed by
01	First release	Nick/Zorro

Pulse (Suzhou) Wireless Products Co., Ltd

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**Form No: QPGE7.3.1-02 30.10.2012**

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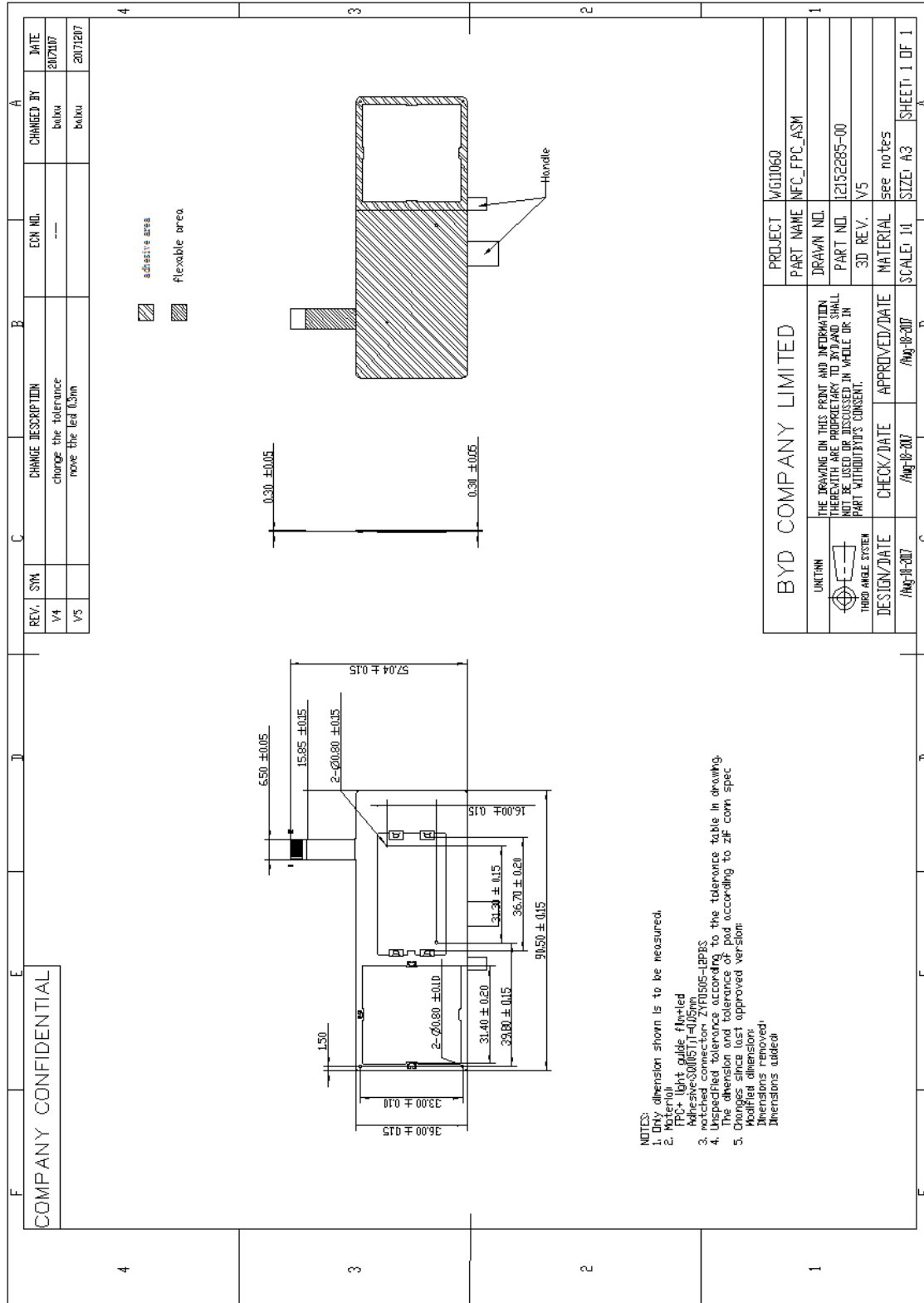
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# A. Antenna Drawing



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## B. FAI

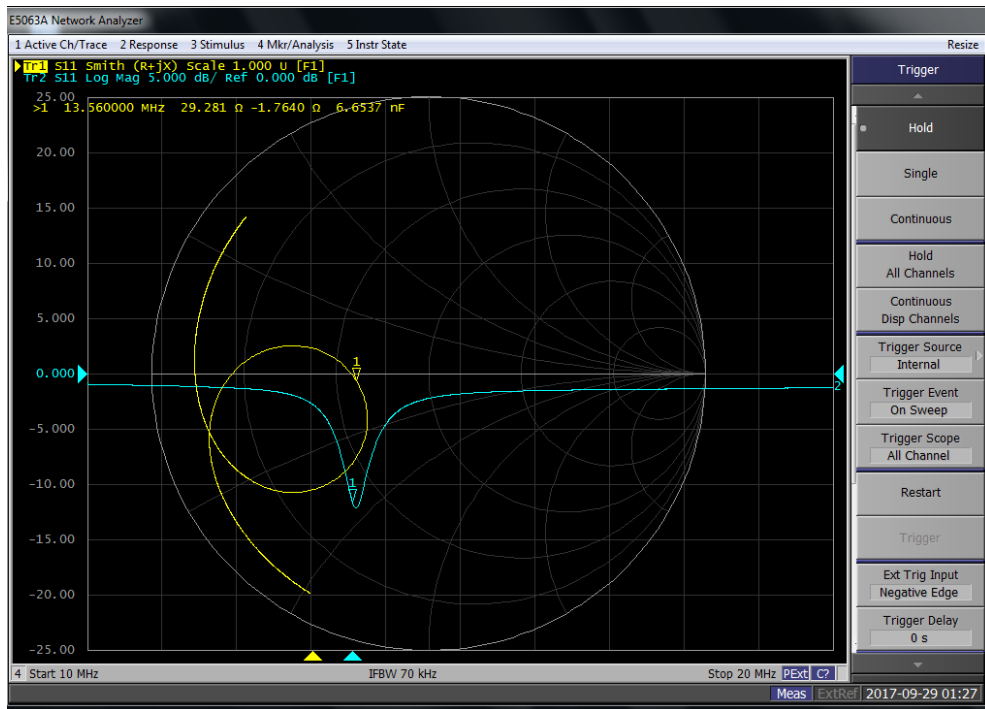
Pulse Electronics		Measurement report for mechanical dimensions					V1.0
Measurer:	李娟		Product:	T1 mini NFC		Tool Number:	
Date:	2017.12.26		Part version:			No of samples:	1PCS
Measuring device:			Drawing number:	SA0778F			
Contact person:			Drawing version:	V5			
Dimension number	Measurement result	Nominal dimension	Upper tolerance	Lower tolerance	Difference to nominal	Result	
Dim. 1	6.470	6.50	0.05	0.05		OK	
Dim. 2	15.880	15.85	0.15	0.15		OK	
Dim. 3	0.770	0.80	0.15	0.15		OK	
Dim. 4	0.750	0.80	0.15	0.15		OK	
Dim. 5	57.070	57.04	0.15	0.15		OK	
Dim. 6	1.460	1.50	0.15	0.15		OK	
Dim. 7	36.030	36.00	0.15	0.15		OK	
Dim. 8	32.950	33.00	0.10	0.10		OK	
Dim. 9	0.760	0.80	0.10	0.10		OK	
Dim. 10	0.850	0.80	0.10	0.10		OK	
Dim. 11	31.320	31.40	0.20	0.20		OK	
Dim. 12	39.780	39.80	0.15	0.15		OK	
Dim. 13	31.320	31.30	0.15	0.15		OK	
Dim. 14	36.750	36.70	0.20	0.20		OK	
Dim. 15	90.530	90.50	0.15	0.15		OK	
Dim. 16	15.960	16.00	0.15	0.15		OK	
Dim. 17	0.290	0.30	0.05	0.05		OK	
Dim. 18	0.280	0.30	0.05	0.05		OK	
QPGE 7.3.1-07	30.08.2010	Confidential					

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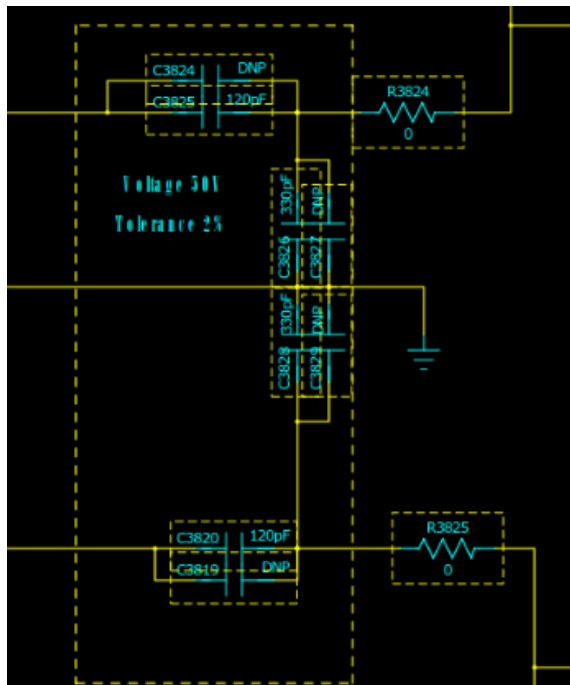
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## C. RF Specification

### 1. NFC antenna impedance



### 2. The circuit matching topology and value



C3824=C3819=47pF C3820=C3825=NA

C3826=C3828=68pF C3827=C3829=22pF

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3. 读卡距离

Tag2: 30mm

Tag3: 38mm

Tag4: 36mm

身份证: 40mm

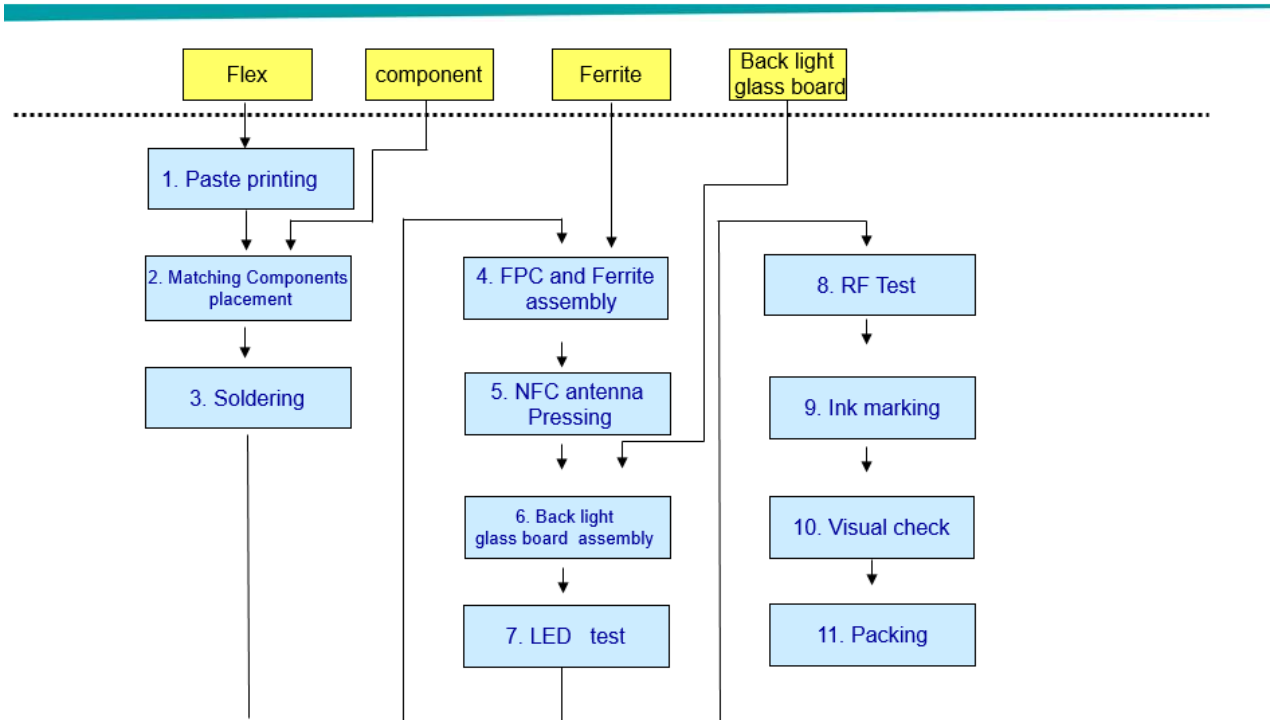
4. 卡模拟距离



150mm

## D. Flowchart

### T1 Mini NFC Process Flow Chart Version: 1.0



## E. QC engineering drawing

Pulse Electronics		Pulse (Suzhou) Wireless Products Co., Ltd. 普尔思(苏州)无线通讯产品有限公司											
Document No.: CP-SZHS-D2861 Scope: T1-mini NFC Team member: Vita, Nick, Jack, Antony		Part Name: T1 mini NFC Part Number: SA0778F											
Process	Sub-process	Production machine	Critical Characteristic			Inspection / Test type	Nominal	Tolerance	Instructions / drawings	Gauge type	Sampling Plan	Function resp.	Action when Out of Control
			Process	Product	CTQ (Y/N)								
<b>Sub-supplier final inspection</b>													
0	Antenna FPC, component Ferrite, Back light glass board	Visual	NA	cosmetic	N	visual	/	refer to incoming chart	visual	100%	supplier	Reject	
		measurement	NA	dimension	Y	measurement	refer to latest drawing	refer to incoming chart	2D Flash	3pcs/batch	supplier	Reject	
<b>In-coming inspection</b>													
0.1	Antenna FPC, component Ferrite, Back light glass board	Visual	NA	cosmetic	N	visual	/	refer to incoming chart	visual	AQL 0.4	IQC	Reject / Notice QC leader to dispose	
		measurement	NA	dimension	Y	2D Flash	refer to latest drawing	refer to incoming chart	2D Flash / Caliper	3pcs/batch	IQC	Reject / Notice QC leader to dispose	
<b>Assembly process</b>													
1	FPC and cable Soldering	manual/Jig	Visual	cosmetic	N	visual	350+/-20 degree	working instruction and assembly inspection plan	visual	100%	Operator	Select NG parts out/ Adjust process	
1	SMT Paste printing	SMT	Visual	cosmetic	Y	visual	working instruction and assembly inspection plan	working instruction and assembly inspection plan	visual	100%	Operator	Select NG parts out/ Adjust process	
2	Matching Components placement	SMT	Visual	cosmetic	N	visual	working instruction and assembly inspection plan	working instruction and assembly inspection plan	visual	100%	Operator	Select NG parts out/ Adjust process	
3	Reflow	SMT	Visual	cosmetic	N	visual	working instruction and assembly inspection plan	working instruction and assembly inspection plan	visual	100%	Operator	Select NG parts out/ Adjust process	
4	FPC and Ferrite assembly	Jig	Visual	cosmetic	N	visual	350+/-20 degree	working instruction and assembly inspection plan	visual	100%	Operator	Select NG parts out/ Adjust process	

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5	NFC antenna Pressing	Jig	Visual	cosmetic	N	visual	working instruction and assembly inspection plan	working instruction and assembly inspection plan	visual	100%	Operator	Select NG parts out/ Adjust process
6	Back light glass board assembly	jig	Visual	cosmetic	N	visual	working instruction and assembly inspection plan	working instruction and assembly inspection plan	visual	100%	Operator	Select NG parts out/ Adjust process
7	LED test	LED jig	LED jig	Function	Y	visual	7pcs show light is OK	working instruction and assembly inspection plan	LED jig	100%	Operator	Select NG parts out/ Adjust process
8	RF test(CTQ)	RF Jig	RF jig	Function	Y	Network analyzer	NFC 0+/-0.1MHz	working instruction and assembly inspection plan	Network analyzer	100%	Operator	Reject/ PE and QE analysis for correction
9	Ink marking	Machine	manual/Machine	cosmetic	N	visual	working instruction and assembly inspection plan	<b>working instruction and assembly inspection plan</b>	visual	100%	Operator	Reject/ PE and QE analysis for correction
10	IPQC for antenna after assembly	cosmetic	Visual	Cosmetic	N	visual	/	Assembly inspection plan	visual	1.5 pcs FAI per shift for Cosmetic 2.2 pcs/4hours/process for Cosmetic	IPOC	Reject/ PE and QE analysis for correction
		Measurement	critical dimensions	dimension	Y	2D Flash	refer to latest drawing	Assembly inspection plan	2D Flash/Caliper	1.5 pcs FAI per shift for CPK dimensions 2.2 pcs/4hours/process for CPK dimensions	IPOC	Reject/ PE and QE analysis for correction
		RF Jig	RF Jig	Function	Y	Network analyzer	NFC 0+/-0.1MHz	Assembly inspection plan	Network analyzer	1.5 pcs FAI per shift for RF function test 2.2 pcs/4hours/process for RF function test	IPOC	Reject/ PE and QE analysis for correction
11	Final check	Visual	Visual	cosmetic	N	Visual	/	working instruction and Assembly inspection plan	visual	100%	Operator	Select NG parts out/Notice line leader to dispose
12	FOC	cosmetic	Visual	cosmetic	N	Visual	/	Assembly inspection plan	visual	AQL 0.1	FOC	Reject/ PE and QE analysis for correction
		Measurement	critical dimensions	dimension	Y	2D Flash/Caliper	refer to latest drawing	Assembly inspection plan	2D Flash/Caliper	5PCS/Shift	FOC	Reject/ PE and QE analysis for correction
		RF Jig	RF Jig	Function	Y	Network analyzer	NFC 0+/-0.1MHz	Assembly inspection plan	Network analyzer	AQL 0.1	FOC	Reject/ PE and QE analysis for correction

13	Packing	manual/Machine	manual/Machine	TrayPacking	N	Visual	Packing instruction	Packing instruction	visual	100%	Operator	Reject / Re package
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History

Version 版本	Effective Date 生效日期	Changing history 变更履历		Prepared by 编制	Approved by 核准
1.0	1/8/2018	Document created/新增制作		LisaZhang	JackMa

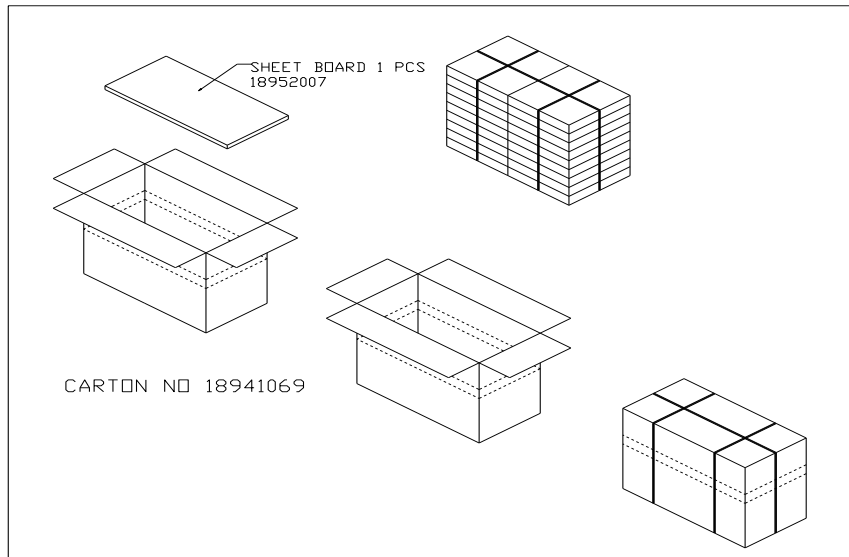
Issue Dept:  QA Dept.  MFGE Dept.

OPHS 7.1.1-15 30.05.2016 Confidential

## F. Packaging Request

### Packaging

Item	Units
Sample per tray	15PCS
Tray per box	41PCS
Total sample/BOX	600PCS



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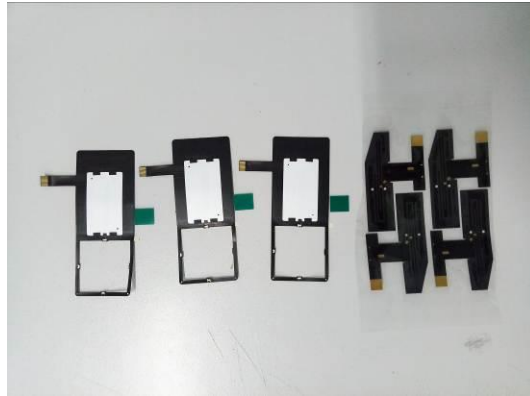
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## G. Reliability /Environment Test

Test Result--- Salt mist test

Sample Name	: T1 mini	
Sample No.	: 3Pcs	
Test Ambient	: Temperature:24°C	
	: Humidity: 40%RH	
Sample Reception	: Fig.1	
Test Condition Setup	: 5% NaCl spray for 48 h, @ +35°C,+95% RH	
Test Process	: Fig.2	
Photos After Test	: Fig.3	
Test Result	: Pass	
Final Result	: OK	√
	: NG	
Confirmed by	: Li xiaolu	
Date	: 2018.01.05	

Fig.1: Appearance photos of the samples before test.



Sample No.: 1712025

Fig.2: Photo of samples in test process.



Sample No.: 1712025

Fig.3: Appearance photos of the samples after test.



Sample No.: 1712025