

Data Sheet

CUSTOMER: Ubiquconn

MODEL NAME: Viking II NFC AFPEE-000001

ANTENNA TYPE: NFC LOOP antenna

CUSTOMER P/N: 21U700105-001

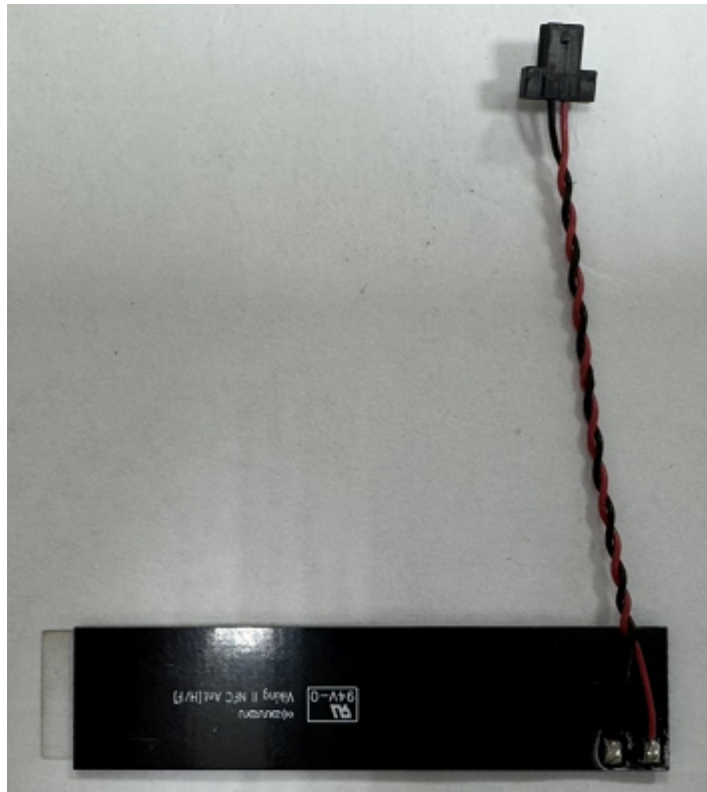
AWAN P/N: AFPEE-000001





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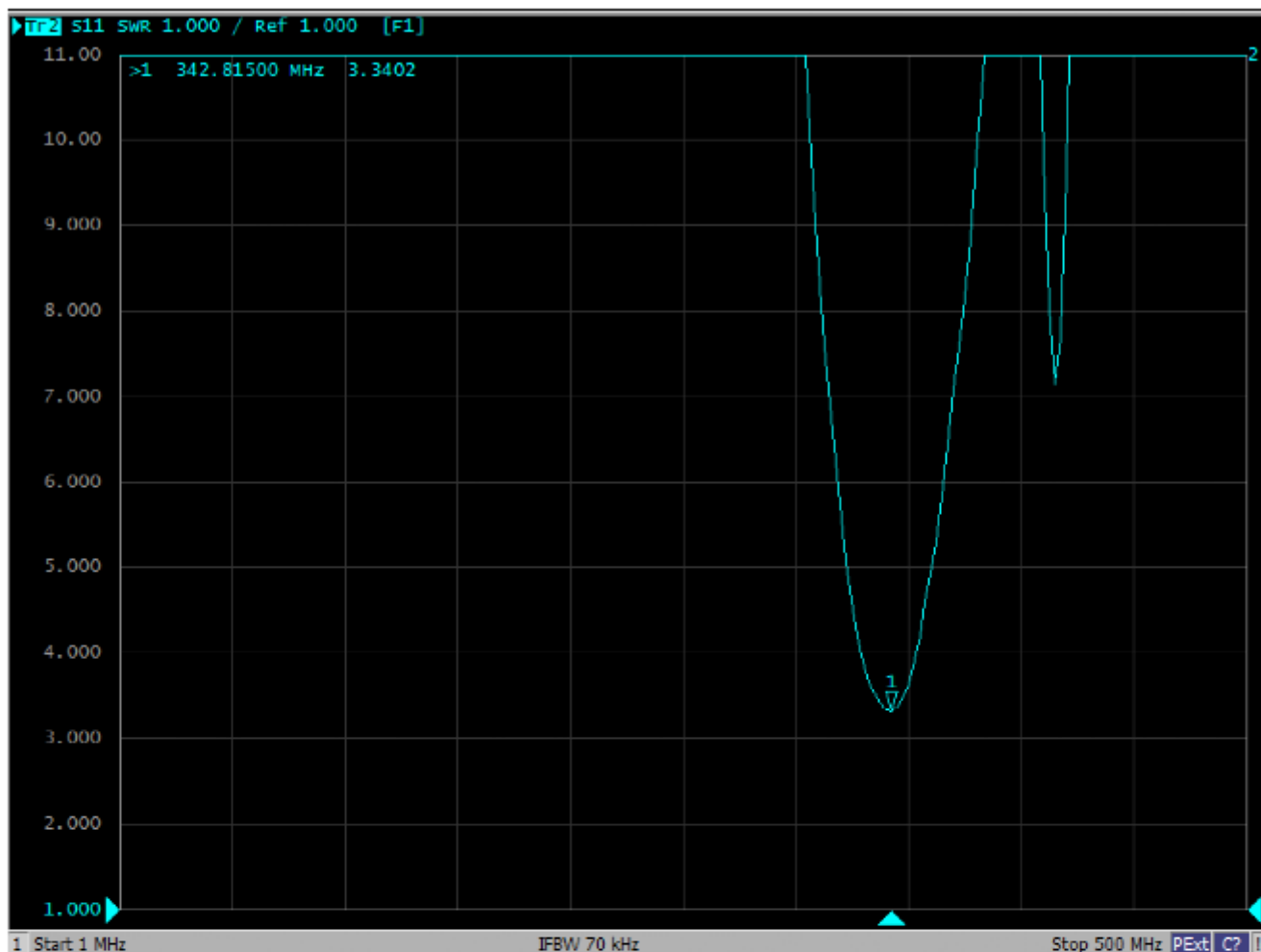
1. NFC Antenna:



P/N: AFPEE-000001

- *The antenna function is rather sensitive. Please notify us if there are any changes to the surrounding structures of the main body for assessment.**
- *Oxidation (black spots) at the NFC area is a normal phenomenon and does not affect its functional characteristics.**

2. VSWR:



3. Revision History

Release Date	Version	Revision History
2025/05/15	X01	1 st release
2025/8/21	X02	Change to English version

1

2

3

4

5

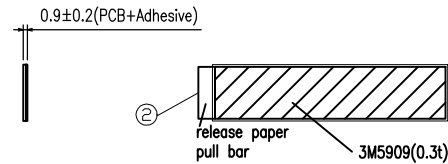
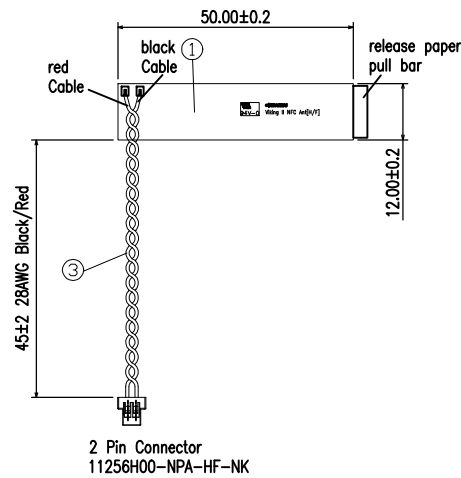
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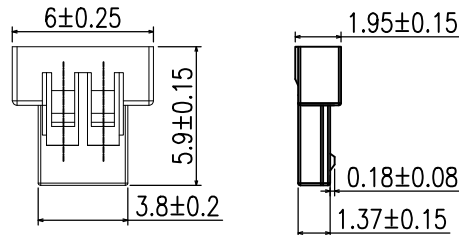
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AWAN P/N	AFPEE-000001
Customer P/N	21U700105-001

Rev.	EC#	Description	Drawn/Date	Checked/Date	Approved/Date
X1		New Release	Jerry 05/14/25'	Jason 05/14/25'	Jason 05/14/25'



Connector(Pitch 1.25mm)
11256H00-NPA-HF-NK(Black,halogen free)



scale 5:1

HALOGEN FREE

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HSF相關均質拆分及測試點選擇參照
<HSF均質物質拆分作業圖示表>

3	28AWG wire + 2 Pin Connector	1	YEW-28EE0000	Cable+Connector																																																											
2	Viking II NFC_Tape 3M5909(0.3t)	1	P-TP-111104900300	Tape																																																											
1	Viking II NFC_PCB	1	D-AFPEE-2FC201	PCB																																																											
Item	Name	Q'ty	Part #	Material / Finish																																																											
<table><tr><td colspan="2">Tolerances Unless Otherwise Specified</td><td>Drawn</td><td>Date</td><td rowspan="5"> Viking II NFC_ANT_HF</td></tr><tr><td>General</td><td>X ±1.00</td><td>Jerry</td><td>05/14/25'</td></tr><tr><td></td><td>.X ±0.50</td><td>Design</td><td>Date</td></tr><tr><td></td><td>.XX ±0.20</td><td>Jerry</td><td>05/14/25'</td></tr><tr><td></td><td>.XXX ±0.05</td><td>Checked</td><td>Date</td></tr><tr><td>Angles</td><td>X ±3.0°</td><td>Jason</td><td>05/14/25'</td><td rowspan="3">Title</td></tr><tr><td></td><td>.X ±2.0°</td><td>Approved</td><td>Date</td></tr><tr><td></td><td>.XX ±1.0°</td><td>Jason</td><td>05/14/25'</td></tr><tr><td>Scale</td><td>1 : 1</td><td>3D File</td><td>Customer Drawing</td><td>Series</td></tr><tr><td>Sheet</td><td>1 of 1</td><td></td><td></td><td>AFPEE</td></tr><tr><td>Unit</td><td>mm</td><td></td><td></td><td>Series</td></tr><tr><td></td><td></td><td></td><td></td><td>C-AFPEE-01-00</td></tr><tr><td></td><td></td><td></td><td></td><td>Rev. X1</td></tr></table>					Tolerances Unless Otherwise Specified		Drawn	Date	 Viking II NFC_ANT_HF	General	X ±1.00	Jerry	05/14/25'		.X ±0.50	Design	Date		.XX ±0.20	Jerry	05/14/25'		.XXX ±0.05	Checked	Date	Angles	X ±3.0°	Jason	05/14/25'	Title		.X ±2.0°	Approved	Date		.XX ±1.0°	Jason	05/14/25'	Scale	1 : 1	3D File	Customer Drawing	Series	Sheet	1 of 1			AFPEE	Unit	mm			Series					C-AFPEE-01-00					Rev. X1
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符合AWAN環境管理物質技術標準

All materials meet the AWAN's spec. Environment - related substances management technical standard.

5. Test Environment & Reader Distance:

Test Equipment



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Advanced Wireless & Antenna Inc.	
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Procedure	Equipment Name & Photo
Antenna Tuning	 Network Analyzer : KEYSIGHT
Reader Distance	  Test Card Acrylic

Test Environment



Advanced Wireless & Antenna Inc. Advanced Wireless & Antenna Inc. Advanced Wireless & Antenna Inc.

Top View :



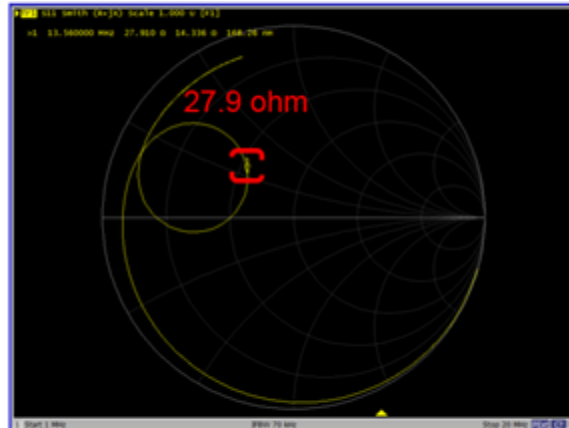
SmithChart

Antenna Matching & Smith Chart :

The variation is minor and does not necessitate any modification.



handmade prototype

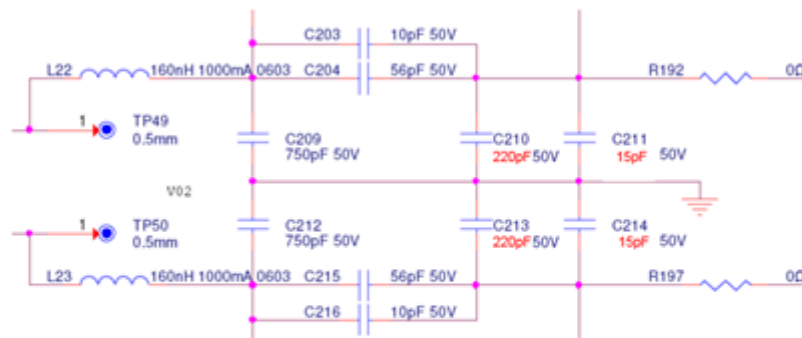
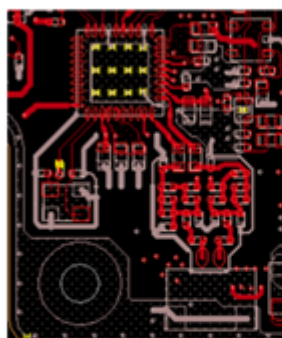


standard sample

- CAPACITY and RESISTANCE's level:
- NPO/COG Dielectric 2%

Matching Design

Antenna Matching & Smith Chart :



ANT. 50x12mm	
Impedance Matching	
C203 \ C216	10 pF
C204 \ C215	56 pF
C211 \ C214	15 pF
C210 \ C213	220 pF

- CAPACITY and RESISTANCE's level:
- NPO/COG Dielectric 2%

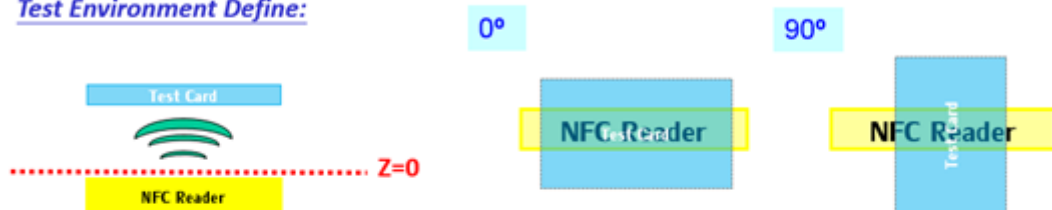
Reader Distance

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Test Environment Define:



NFC tags/Test conditions	Center point					
	Judge				0520 sample	0912 sample
	Z=0mm	Z=5mm	Z=10mm	Z=15mm	Max. Distance(mm)	Max. Distance(mm)
	0°/90°	0°/90°	0°/90°	0°/90°	0°/90°	0°/90°
TYPE2, Mifare Classic -4K	PASS/PASS	PASS/PASS	PASS/PASS	PASS/PASS	45/45	30/30
TYPE2, Mifare Plus S-4K	PASS/PASS	PASS/PASS	PASS/PASS	PASS/PASS	40/40	30/30
TYPE3, Felica light RC-S966	PASS/PASS	PASS/PASS	PASS/PASS	PASS/PASS	45/45	15/15
TYPE4, Mifare Desfire	PASS/PASS	PASS/PASS	PASS/PASS	PASS/PASS	40/40	30/30
TYPE4B,ISO14443-B	PASS/PASS	PASS/PASS	PASS/PASS	PASS/PASS	35/35	30/25
TYPE5, ICODE-NXP,ISO15693	PASS/PASS	PASS/PASS	PASS/PASS	PASS/PASS	50/50	50/50
TYPE5, LRiSK-STM, ISO15693	PASS/PASS	PASS/PASS	PASS/PASS	PASS/PASS	50/50	50/50

Revision

Revision	Date	Change Notification	Notes
Rev.0	2025-08-21	--	WSFA250174-KS