

Shenzhen Hetuo Technology Co., Ltd

Building 1202B, Building C 6, Hengfeng industrial city, Hezhou, xixiang, Baoan District, Shenzhen City

Sample Approved Sheet

Hetuo (R1360-L+Touch) Acknowledgment
Antenna Type:FPC

Customer Name Dongguan Shui Wo Electronic Technology Co. , Ltd.

Client Type R1360

Brand HT-R1360-L+Touch

Hetuo Judgment Audit Team

Formulate	Check	Ratify	Acknowledge the book completion time
ZhongXiaoMing	HuangZhiLing	Daitingting	2025.5.13

(Ruihe) Judgment Audit Team

Acknowledgement Number_____

Proving time

acknowledge	check	ratify	Acknowledge the book completion time

Project Review ☐Three acknowledgements☐Specifications/drawings
☐examining report ☐Specimen PCS ☐Safety standard ☐HSF

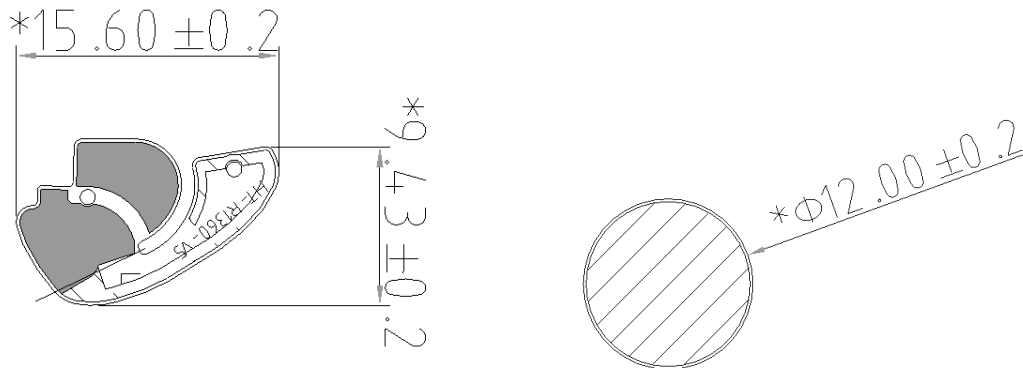
Appraisal report☐Accept ☐Conditional acceptance ☐Refuse

Confidential Information

Items	Date	Version	The revised notes	Notes
1	2025. 5. 13	A0	For the first time	
2				

1. Antenna picture

The report mainly provides the test status of the electrical properties parameters of **HT-R1360 -L+Touch**. The **HT-R1360 -L+Touch** antenna is a **BT** Band . The antenna Picture and assembly are shown below.



Antenna picture & assembly picture

2. Antenna Test Equipment Introduction

Test of antenna input characteristics using **Agilent E5071C** and **Agilent 5062A** vector network analyzer; The radiation pattern of the antenna are tested using the Satimo starlab 3D near field Anechoic Chamber , and the instrument is used to agilent8960 E5515 and Agilent E4438C. The test coordinates of the darkroom are as follows:

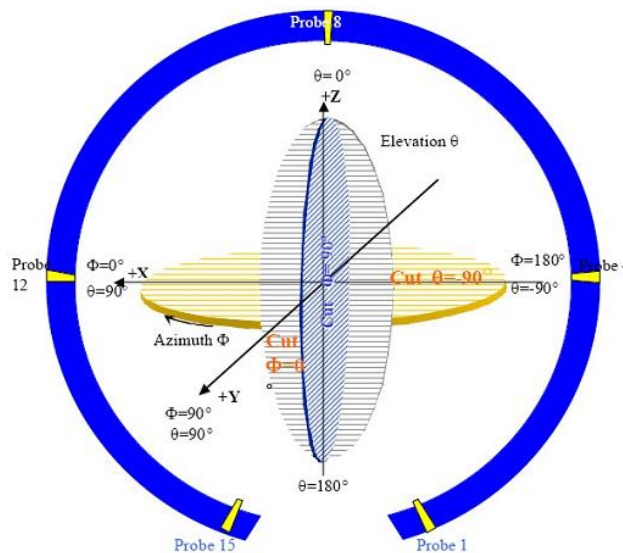


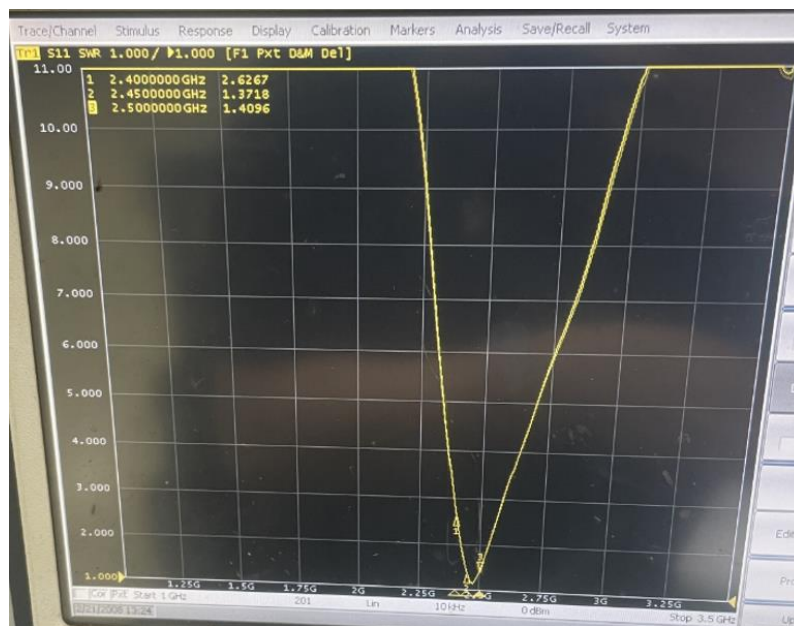
图 4 3D 微波暗室测试坐标系 (back view)

3. Electrical Specification

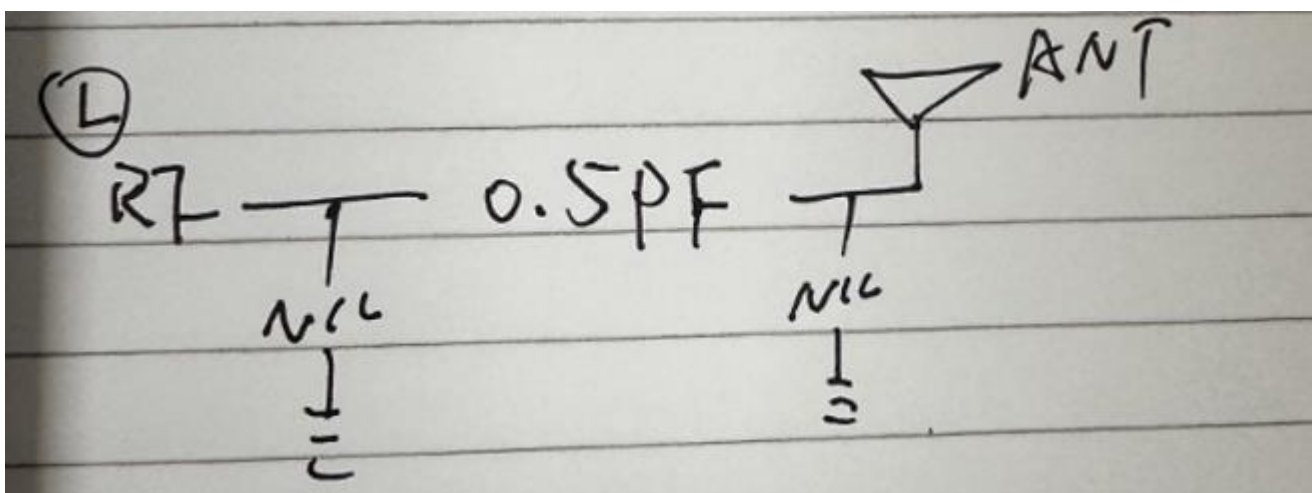
3-2 Passive S11 parameter

Measuring Method is a 50Ω coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the S11 parameter, Keeping this fixture away from metal at least 20cm.

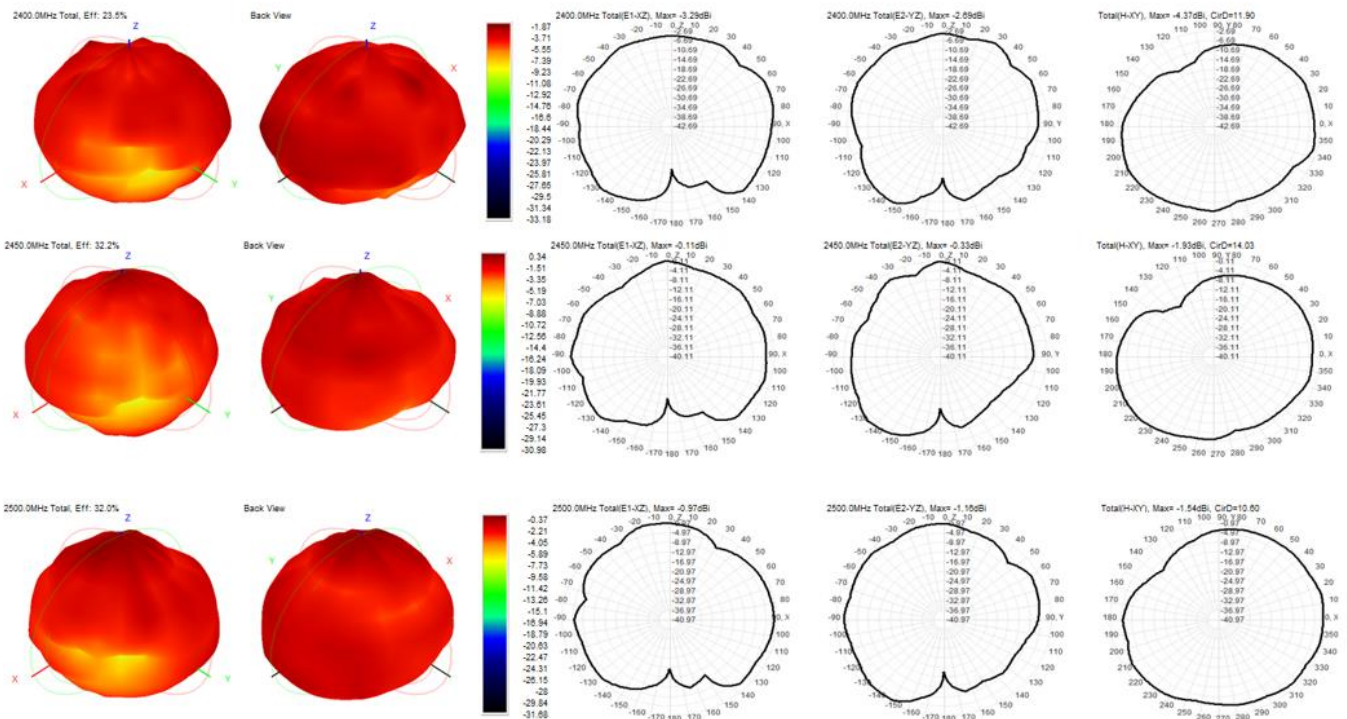
VSWR



3-3 Antenna Matching Network



Frequency (MHz)	Efficiency (%)	Gain (dBi)
2400	23.55	-1.87
2410	24.46	-2.36
2420	24.91	-2.03
2430	25.47	-0.52
2440	25.81	-0.08
2450	26.23	0.34
2460	26.94	0.20
2470	27.63	-0.07
2480	28.81	0.02
2490	29.50	0.08
2500	28.00	-0.37



BT-L_{ANT}-FS

Test Equipment:	R&S CMW500			
Test Condition:	3D chamber			
Band	Wireless Protocol	Channel	TRP(dBm)	TIS(dBm)
BT	CLASS 1	0	3.13	-88.77
		39	3.51	-87.79
		78	3.84	-87.42

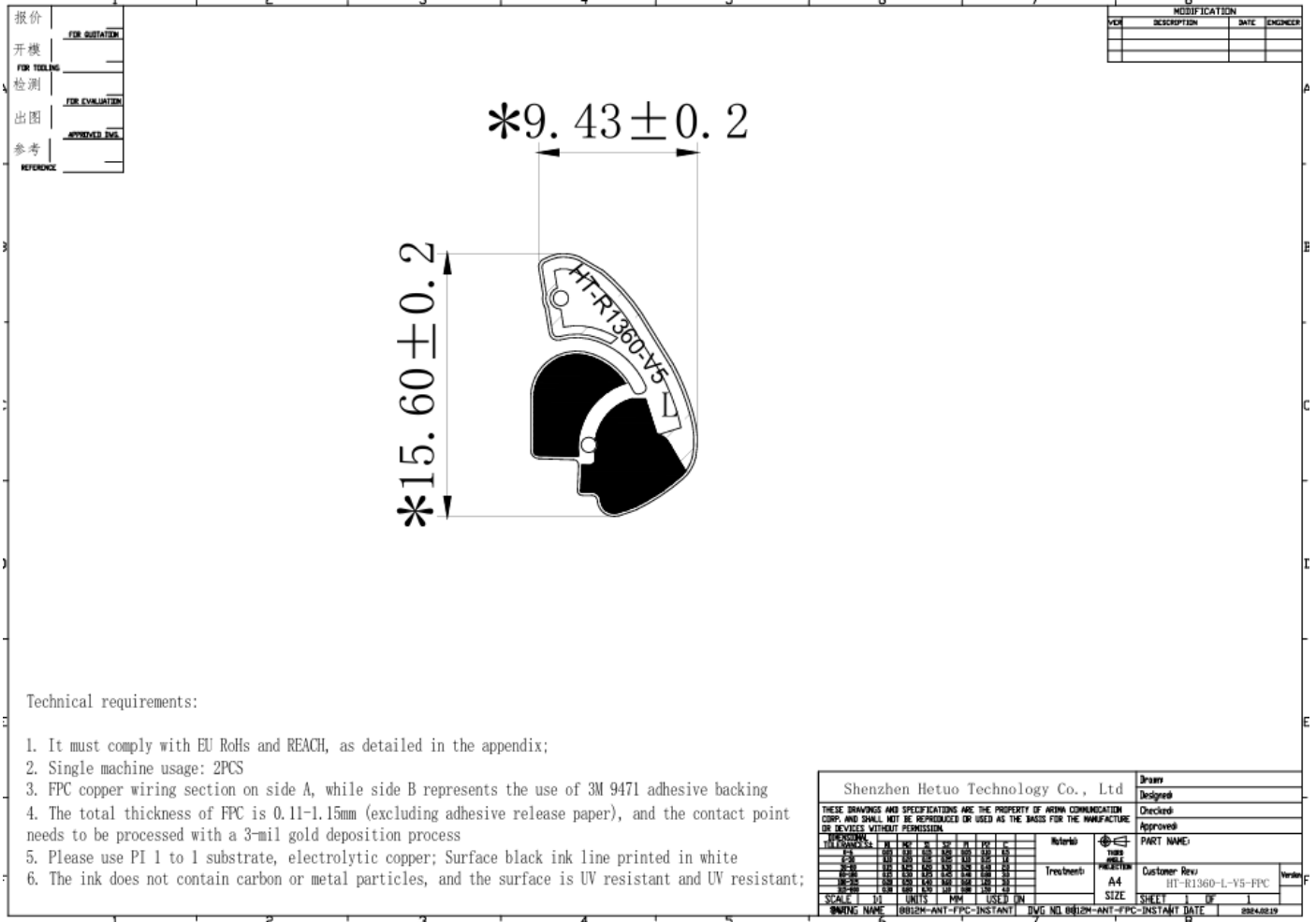
BT-L_{ANT}-BH

Test Equipment:	R&S CMW500			
Test Condition:	3D chamber			
Band	Wireless Protocol	Channel	TRP(dBm)	TIS(dBm)
BT	CLASS 1	0	0.11	-84.56
		39	1.04	-83.51
		78	0.95	-83.65

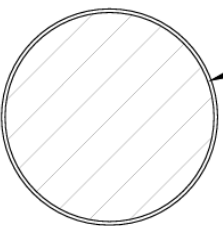
4. Mechanical Specification:

Mechanical Configuration (Unit: mm)

The appearance of the antenna is according to drawing Figure 8



Confidential Information

报价 开模 检测 出图 参考 REFERENCE	FOR QUOTATION FOR TOOLING FOR EVALUATION APPROVED PWS	 *Ø12.00 ± 0.2	MODIFICATION VCH DESCRIPTION DATE ENGINEER
---	--	--	---

Technical requirements:

1. It must comply with EU RoHs and REACH, as detailed in the appendix;
2. Single machine usage: 2PCS
3. FPC copper wiring section on side A, while side B represents the use of 3M 9471 adhesive backing
4. The total thickness of FPC is 0.11-1.15mm (excluding adhesive release paper), and the contact point needs to be processed with a 3-mil gold deposition process
5. Please use PI 1 to 1 substrate, electrolytic copper; Surface black ink line printed in white
6. The ink does not contain carbon or metal particles, and the surface is UV resistant and UV resistant;

Shenzhen Hetuo Technology Co., Ltd										Drawn																																													
THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF ARIMA COMMUNICATION CORP. AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SERVICES WITHOUT PERMISSION.										Designed																																													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>ITEM NO.</th> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td>1</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>2</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>3</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>4</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>5</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>6</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>7</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>8</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>9</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>10</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> </tbody> </table>										ITEM NO.	REV	DATE	DESCRIPTION	1	1	2024-08-29	Initial Release	2	1	2024-08-29	Initial Release	3	1	2024-08-29	Initial Release	4	1	2024-08-29	Initial Release	5	1	2024-08-29	Initial Release	6	1	2024-08-29	Initial Release	7	1	2024-08-29	Initial Release	8	1	2024-08-29	Initial Release	9	1	2024-08-29	Initial Release	10	1	2024-08-29	Initial Release	Checked	
ITEM NO.	REV	DATE	DESCRIPTION																																																				
1	1	2024-08-29	Initial Release																																																				
2	1	2024-08-29	Initial Release																																																				
3	1	2024-08-29	Initial Release																																																				
4	1	2024-08-29	Initial Release																																																				
5	1	2024-08-29	Initial Release																																																				
6	1	2024-08-29	Initial Release																																																				
7	1	2024-08-29	Initial Release																																																				
8	1	2024-08-29	Initial Release																																																				
9	1	2024-08-29	Initial Release																																																				
10	1	2024-08-29	Initial Release																																																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>ITEM NO.</th> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td>1</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>2</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>3</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>4</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>5</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>6</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>7</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>8</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>9</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>10</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> </tbody> </table>										ITEM NO.	REV	DATE	DESCRIPTION	1	1	2024-08-29	Initial Release	2	1	2024-08-29	Initial Release	3	1	2024-08-29	Initial Release	4	1	2024-08-29	Initial Release	5	1	2024-08-29	Initial Release	6	1	2024-08-29	Initial Release	7	1	2024-08-29	Initial Release	8	1	2024-08-29	Initial Release	9	1	2024-08-29	Initial Release	10	1	2024-08-29	Initial Release	Approved	
ITEM NO.	REV	DATE	DESCRIPTION																																																				
1	1	2024-08-29	Initial Release																																																				
2	1	2024-08-29	Initial Release																																																				
3	1	2024-08-29	Initial Release																																																				
4	1	2024-08-29	Initial Release																																																				
5	1	2024-08-29	Initial Release																																																				
6	1	2024-08-29	Initial Release																																																				
7	1	2024-08-29	Initial Release																																																				
8	1	2024-08-29	Initial Release																																																				
9	1	2024-08-29	Initial Release																																																				
10	1	2024-08-29	Initial Release																																																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>ITEM NO.</th> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td>1</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>2</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>3</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>4</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>5</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>6</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>7</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>8</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>9</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>10</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> </tbody> </table>										ITEM NO.	REV	DATE	DESCRIPTION	1	1	2024-08-29	Initial Release	2	1	2024-08-29	Initial Release	3	1	2024-08-29	Initial Release	4	1	2024-08-29	Initial Release	5	1	2024-08-29	Initial Release	6	1	2024-08-29	Initial Release	7	1	2024-08-29	Initial Release	8	1	2024-08-29	Initial Release	9	1	2024-08-29	Initial Release	10	1	2024-08-29	Initial Release	PART NAME:	
ITEM NO.	REV	DATE	DESCRIPTION																																																				
1	1	2024-08-29	Initial Release																																																				
2	1	2024-08-29	Initial Release																																																				
3	1	2024-08-29	Initial Release																																																				
4	1	2024-08-29	Initial Release																																																				
5	1	2024-08-29	Initial Release																																																				
6	1	2024-08-29	Initial Release																																																				
7	1	2024-08-29	Initial Release																																																				
8	1	2024-08-29	Initial Release																																																				
9	1	2024-08-29	Initial Release																																																				
10	1	2024-08-29	Initial Release																																																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>ITEM NO.</th> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td>1</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>2</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>3</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>4</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>5</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>6</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>7</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>8</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>9</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>10</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> </tbody> </table>										ITEM NO.	REV	DATE	DESCRIPTION	1	1	2024-08-29	Initial Release	2	1	2024-08-29	Initial Release	3	1	2024-08-29	Initial Release	4	1	2024-08-29	Initial Release	5	1	2024-08-29	Initial Release	6	1	2024-08-29	Initial Release	7	1	2024-08-29	Initial Release	8	1	2024-08-29	Initial Release	9	1	2024-08-29	Initial Release	10	1	2024-08-29	Initial Release	Customer Rev:	
ITEM NO.	REV	DATE	DESCRIPTION																																																				
1	1	2024-08-29	Initial Release																																																				
2	1	2024-08-29	Initial Release																																																				
3	1	2024-08-29	Initial Release																																																				
4	1	2024-08-29	Initial Release																																																				
5	1	2024-08-29	Initial Release																																																				
6	1	2024-08-29	Initial Release																																																				
7	1	2024-08-29	Initial Release																																																				
8	1	2024-08-29	Initial Release																																																				
9	1	2024-08-29	Initial Release																																																				
10	1	2024-08-29	Initial Release																																																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>ITEM NO.</th> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td>1</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>2</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>3</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>4</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>5</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>6</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>7</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>8</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>9</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>10</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> </tbody> </table>										ITEM NO.	REV	DATE	DESCRIPTION	1	1	2024-08-29	Initial Release	2	1	2024-08-29	Initial Release	3	1	2024-08-29	Initial Release	4	1	2024-08-29	Initial Release	5	1	2024-08-29	Initial Release	6	1	2024-08-29	Initial Release	7	1	2024-08-29	Initial Release	8	1	2024-08-29	Initial Release	9	1	2024-08-29	Initial Release	10	1	2024-08-29	Initial Release	HT-R1360-TOUCH-FPC	
ITEM NO.	REV	DATE	DESCRIPTION																																																				
1	1	2024-08-29	Initial Release																																																				
2	1	2024-08-29	Initial Release																																																				
3	1	2024-08-29	Initial Release																																																				
4	1	2024-08-29	Initial Release																																																				
5	1	2024-08-29	Initial Release																																																				
6	1	2024-08-29	Initial Release																																																				
7	1	2024-08-29	Initial Release																																																				
8	1	2024-08-29	Initial Release																																																				
9	1	2024-08-29	Initial Release																																																				
10	1	2024-08-29	Initial Release																																																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>ITEM NO.</th> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td>1</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>2</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>3</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>4</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>5</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>6</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>7</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>8</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>9</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>10</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> </tbody> </table>										ITEM NO.	REV	DATE	DESCRIPTION	1	1	2024-08-29	Initial Release	2	1	2024-08-29	Initial Release	3	1	2024-08-29	Initial Release	4	1	2024-08-29	Initial Release	5	1	2024-08-29	Initial Release	6	1	2024-08-29	Initial Release	7	1	2024-08-29	Initial Release	8	1	2024-08-29	Initial Release	9	1	2024-08-29	Initial Release	10	1	2024-08-29	Initial Release	SHEET 1 OF 1	
ITEM NO.	REV	DATE	DESCRIPTION																																																				
1	1	2024-08-29	Initial Release																																																				
2	1	2024-08-29	Initial Release																																																				
3	1	2024-08-29	Initial Release																																																				
4	1	2024-08-29	Initial Release																																																				
5	1	2024-08-29	Initial Release																																																				
6	1	2024-08-29	Initial Release																																																				
7	1	2024-08-29	Initial Release																																																				
8	1	2024-08-29	Initial Release																																																				
9	1	2024-08-29	Initial Release																																																				
10	1	2024-08-29	Initial Release																																																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>ITEM NO.</th> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td>1</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>2</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>3</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>4</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>5</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>6</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>7</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>8</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>9</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> <tr><td>10</td><td>1</td><td>2024-08-29</td><td>Initial Release</td></tr> </tbody> </table>										ITEM NO.	REV	DATE	DESCRIPTION	1	1	2024-08-29	Initial Release	2	1	2024-08-29	Initial Release	3	1	2024-08-29	Initial Release	4	1	2024-08-29	Initial Release	5	1	2024-08-29	Initial Release	6	1	2024-08-29	Initial Release	7	1	2024-08-29	Initial Release	8	1	2024-08-29	Initial Release	9	1	2024-08-29	Initial Release	10	1	2024-08-29	Initial Release	DATE 2024.08.29	
ITEM NO.	REV	DATE	DESCRIPTION																																																				
1	1	2024-08-29	Initial Release																																																				
2	1	2024-08-29	Initial Release																																																				
3	1	2024-08-29	Initial Release																																																				
4	1	2024-08-29	Initial Release																																																				
5	1	2024-08-29	Initial Release																																																				
6	1	2024-08-29	Initial Release																																																				
7	1	2024-08-29	Initial Release																																																				
8	1	2024-08-29	Initial Release																																																				
9	1	2024-08-29	Initial Release																																																				
10	1	2024-08-29	Initial Release																																																				