

Customer : LG

Approval No.

ISSUE

1.0

Specifications for Approval

Product Name : 16Z90SP ANTENNA, ASSY

Vendor Model Name : LUXSHARE-ICT

Customer Part No. : EAA65985701

Vendor P/N : L1LRF015-CS-H

Condition : 1. _____
2. _____
3. _____
4. _____

The product above is approved.

LG MC Approval	Category	Checked	Reviewed	Agreed	Approved
	Name				
	Signature				
Vendor Approval	Category	Designed	Checked	Agreed	Approved
	Name	郭林	陈宝球	蒋志坚	李坤松
	Signature				

Vendor Name :LUXSHARE-ICT

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P/N:L1LRF015-CS-H

SPECIFICATION
MODEL NAME:16Z90SP ANTENNA, ASSY

REV.NO:1.0


History of Revision

Revision	Date	Item	Contents of Revision Change	Basis
ISSUE 1.0	2023.08.25		Initial Release	NA



16Z90SP ANTENNA, ASSY

Product Feature and Image

PRODUCT NAME	16Z90SP ANTENNA, ASSY		
Customer P/N	EAA65985701		
Vendor P/N	L1LRF015- CS- H		
NET WEIGHT	1.35g+/- 10%		
SIZE	CABLE	L=255.5MM L=299MM	
	PCB	L*W=75*5MM	

P/N: L1LRF015-CS-H	SPECIFICATION MODEL NAME: 16Z90SP ANTENNA, ASSY	REV.NO:1.0
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SPECIFICATION

Test items

1) Apperance and structure check

Check item	Judgement
Visual Inspection	The shape, structure, and color should be consistent with the limit sample and related specifications
Standard	These defects should not be allowed such as damage, correosion, sink, scratches, etc.

2) Dimension Check : Measuring improtant dimensions

Dimensions should meet the requirements of the acknowledgment

3) Mate / Unmating Force : mate connector with a suitable gauge at rate of 25±3 mm/min.
measure force when gauge reaches surface of connector.

mating Force	unmating Force
30N (or 3000g) Max	5 ~ 20 N (or 500g ~ 2000g) 3 ~ 20 N (or 300g ~ 2000g) Final 30 Cycles

4) Disintegration : Parts are allowed to be chiseled, not inserted, dirty etc.

soldering state of PCB like cold welding, less welding, over welding are not allowed. The length of the parts should be suitable.
and parts can not be touched each other.

5) Tape adhesion : Double Sided tape should be not sliped
should be satisfied standard specification.

6) VSWR

Test equipment : Network Analyzer equipment

Frequency(unit MHz)	MAIN	AUX
VSWR	2.45~3.0GHZ<10 5.0~5.9GHZ<5 6.31~7.2GHZ<5	2.45~3.0GHZ<8 5.4~5.9GHZ<5 6.31~7GHZ<5

P/N: L1LRF015-CS-H

SPECIFICATION
MODEL NAME: 16Z90SP ANTENNA, ASSY

REV.NO:1.0

SPECIFICATION

Test items

7) Gain

Test equipment : Network Analyzer equipment

Frquency(MHZ)	Efficiency(%)
2400	>30
2450	>30
2500	>30
5150	>30

8) Thermal Shock

Condition	Temperature : 85°C (30min), -40°C (30min) 10 Cycles. Being Placed 2 Hours
Judgement	Product's mechanism and VSWR should be OK.

9) High Temperature

Condition	Temperature : 80°C, 96H, Being Placed 2 Hours.
Judgement	Product's mechanism and VSWR should be OK.

10) Low Temperature

Condition	Temperature : -20°C, 96H, Being Placed 2 Hours.
Judgement	Product's mechanism and VSWR should be OK.

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SPECIFICATION

Test items

12) High Temperature and humidity test

Condition	Temperature : 40°C, Humidity : 90 – 95% 96H, Being Placed 2 Hours.
Judgement	Product’s mechanism and VSWR should be OK.

13) Virbration Test

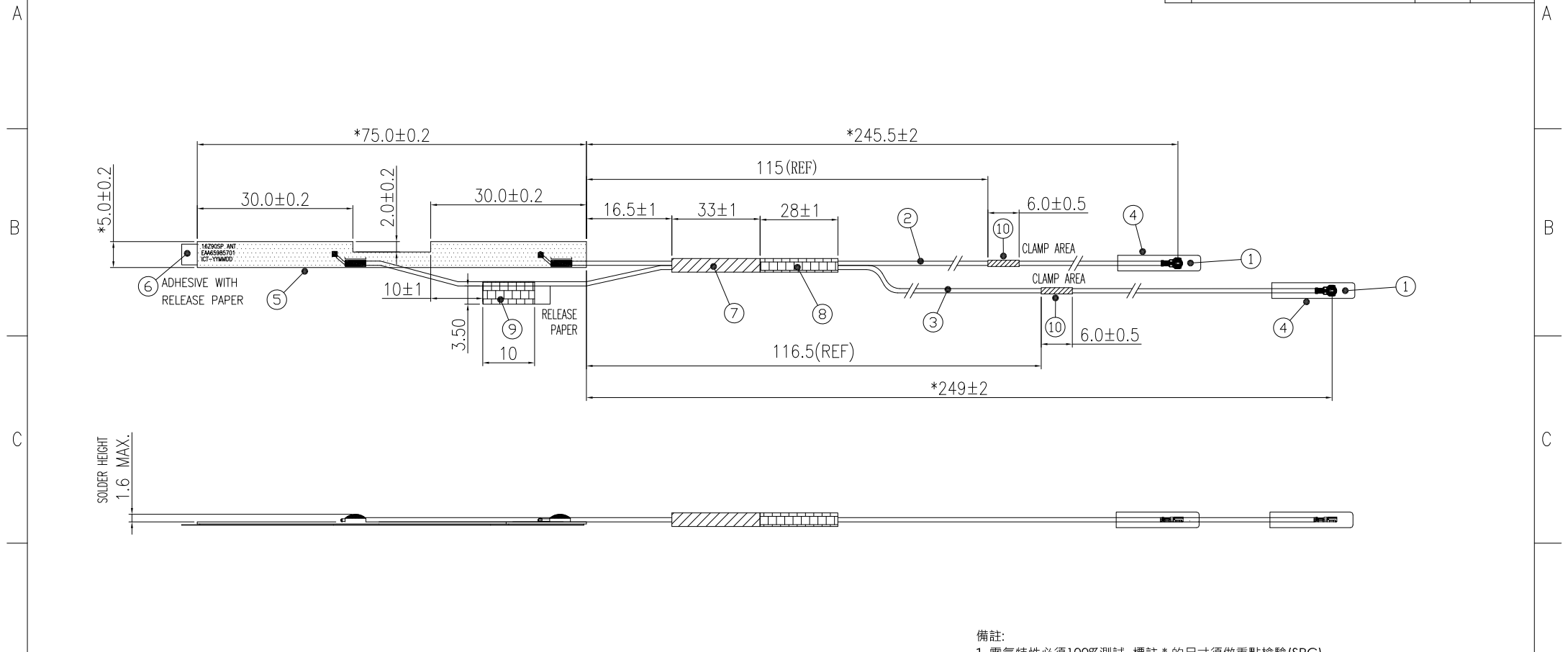
Condition	Class V3 [0.27 Grms, 10-500Hz, 50min, Per 3 axes (X,Y,Z)]
Judgement	Product’s mechanism and VSWR should be OK.

14) Drop Test

Condition	Height : 100cm to Iron Plate (Thickness : 5mm or more) one edge/Three corners/six faces are once total : 10 times
Judgement	there should be no crack and or damage parts.

RoHS + HF

REV	DESCRIPTION	DESIGN	DATE
X1	NEW DRAWING	JACK	2023.06.02
X2	MODIFY PCB SHAPE	JACK	2023.06.23
X3	UPDATED BOM	JACK	2023.07.12



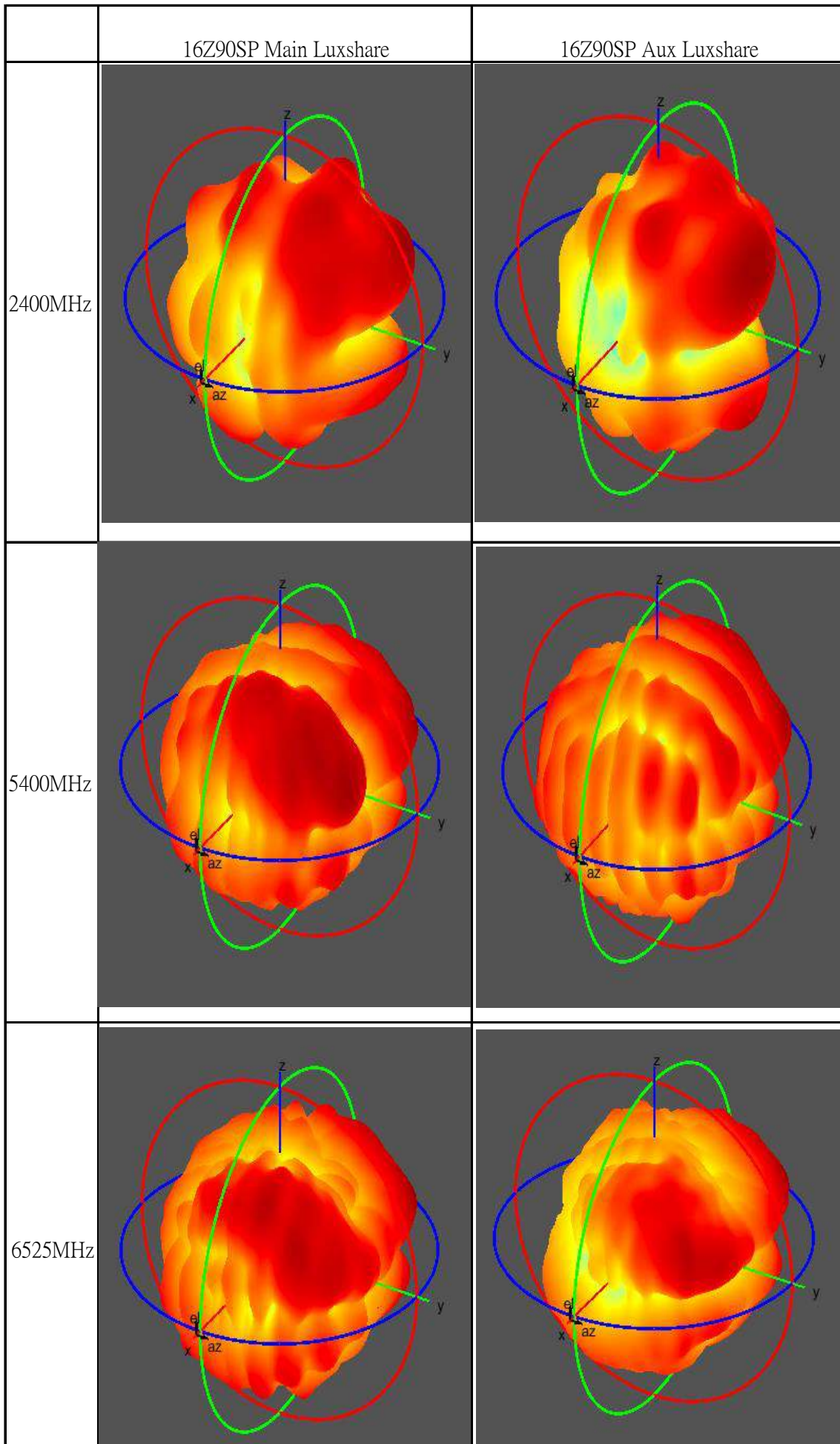
10	058-20G1-0031	CABLE CLIP	COPPER ALLOY, GOLD FLASH, FOR 0.81 CABLE	2
9	---	ACETATE TAPE	L=10mm	1
8	---	ACETATE TAPE	W=28mm	1
7	---	HEAT-SHRINKING TUBE	L=33mm, COLOR : BLACK	1
6	---	ADHESIVE	3M 9888T T=0.15MM L74mm x W4mm	1
5	---	PCB	FR4 , L75 x W5 x T 0.4mm	1
4	---	TRANSPARENT TUBE	L=16MM	2
3	---	AUX CABLE	DIA. 0.81MM SINGLE ENDED COAXIAL LOW LOSS CABLE (COLOR:GRAY)	1
2	---	MAIN CABLE	DIA. 0.81MM SINGLE ENDED COAXIAL LOW LOSS CABLE (COLOR:BLACK)	1
1	---	CONNECTOR	I-Pex 20572 FOR CABLE DIA. 0.81MM PLUG CONNECTOR	2
ITEM	PART NO	NAME	DESCRIPTION	Q'TY

備註:

1. 電氣特性必須100%測試, 標註* 的尺寸須做重點檢驗(SPC)
2. 所有焊接處焊錫不可超出PCB及塑件外
3. 焊接處焊錫不可超出PCB及塑件外
4. 線材焊接處焊錫不可超出鍍金區域範圍
5. 焊錫不可有虛焊, 假焊, 錫尖, 汗點等不良
6. 焊錫表面需均勻且光滑飽滿
7. 本產品使用原物料及製程必須符合立訊"QW-Q-043"環境管理物質相關規定
8. 此產品及其附屬包裝材料的均質成份須滿足無鹵管制要求:
BR<900PPM, CL<900PPM ,BR+CL<1500PPM

TOLERANCE(UNLESS SPECIFIED)	CUSTOMER P/N: EA65985701	LUXSHARE-ICT
*X ±0.5		
*X.X ±0.25	APPD: ANDERSON	TITLE: 16290SP ANTENNA, ASSY
*X.XXX ±0.10	CHKD: JACK	PART NO: L1LRF015-CS-H
*X.XXXX ±0.05	DRAW: JACK	
UNITS: mm		
THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF LUXSHARE-ICT AND SHALL NOT BE REPRODUCED, COPIED OR QUED IN ANY MANNER WITHOUT THE PRIOR WRITTEN CONSENT OF LUXSHARE-ICT.		
		SCALE SHEET SIZE REV 1:1 1/1 A4 X3

	Main			Aux		
Frequency (MHz)	Peak gain (dBi)	Efficiency (dB)	Efficiency (%)	Peak gain (dBi)	Efficiency (dB)	Efficiency (%)
2400	3.274	-5.241	29.914	3.014	-5.181	30.332
2450	5.259	-4.377	36.503	3.268	-5.387	28.925
2500	4.821	-4.011	39.707	2.995	-5.011	31.540
5150	2.519	-5.370	29.041	3.072	-5.315	29.410
5250	2.626	-5.932	25.517	5.155	-4.028	39.557
5350	3.625	-5.418	28.721	5.209	-4.968	31.856
5470	5.649	-5.514	28.093	8.101	-4.525	35.278
5600	5.106	-5.001	31.614	4.679	-4.847	32.759
5725	3.869	-4.288	37.254	6.457	-3.681	42.845
5785	4.289	-4.343	36.791	7.035	-3.641	43.243
5800	4.117	-4.554	35.042	7.058	-3.762	42.050
5850	2.995	-4.590	34.754	7.414	-3.878	40.945
5925	3.389	-5.077	31.065	6.086	-3.917	40.574
6025	3.399	-5.449	28.516	4.822	-4.065	39.217
6125	1.503	-6.789	20.945	4.223	-5.180	30.339
6225	1.311	-6.967	20.106	4.310	-5.067	31.139
6325	-0.913	-9.002	12.582	3.824	-5.362	29.091
6425	-0.235	-8.587	13.844	2.696	-6.986	20.018
6525	-0.526	-7.994	15.873	0.877	-9.033	12.495
6625	-0.481	-9.446	11.359	-0.490	-10.053	9.879
6725	0.278	-9.543	11.111	-1.049	-10.166	9.626
6825	0.716	-7.891	16.250	-1.896	-9.552	11.088
6925	0.701	-8.079	15.564	-2.361	-9.582	11.010
7025	0.087	-9.179	12.082	-1.759	-9.759	10.570
7125	-1.074	-10.376	9.171	-4.391	-12.049	6.239



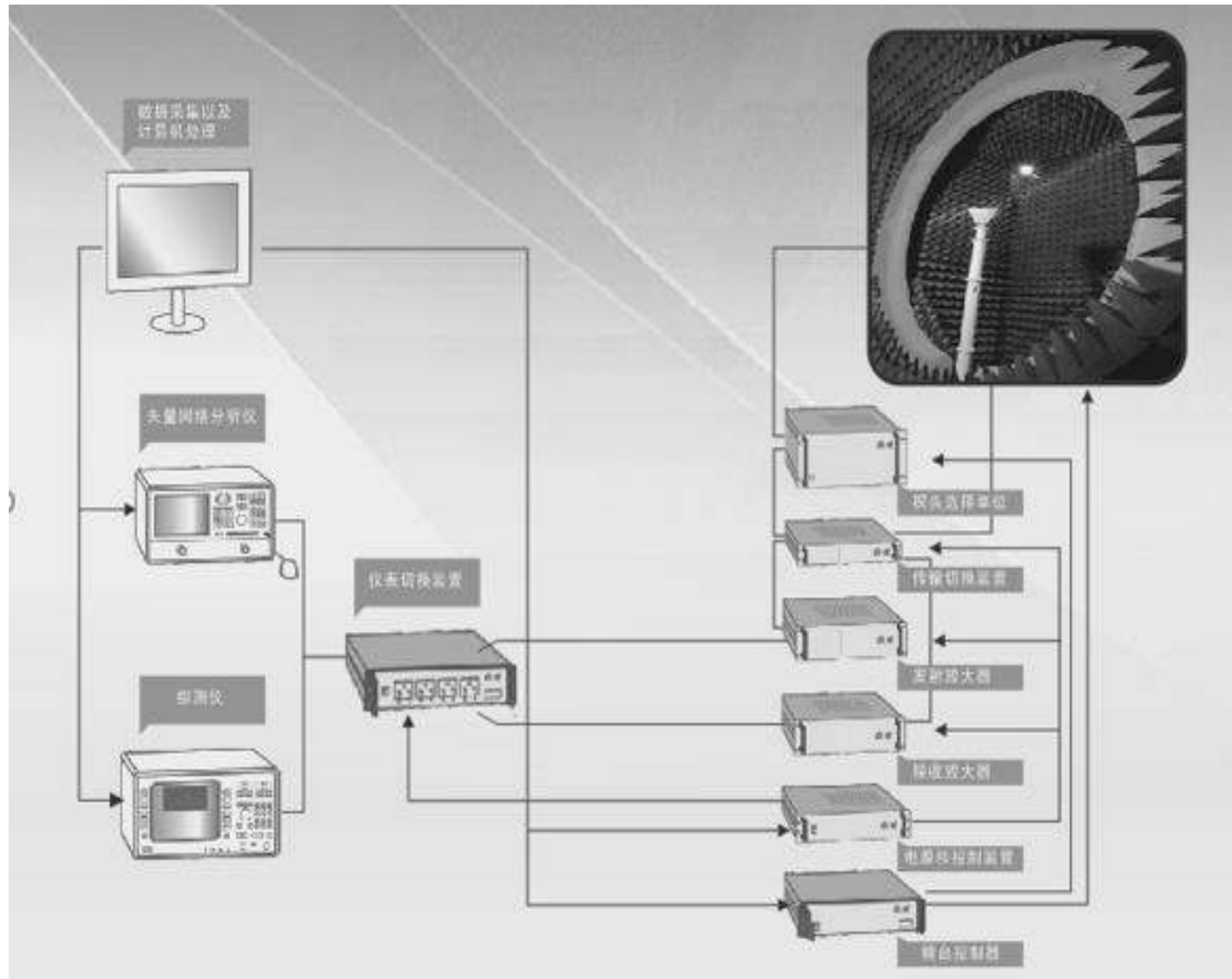
16Z90SP&17Z90SP

2023/11/22

Presented by: Luxshare Antenna Team



测试环境 시험환경

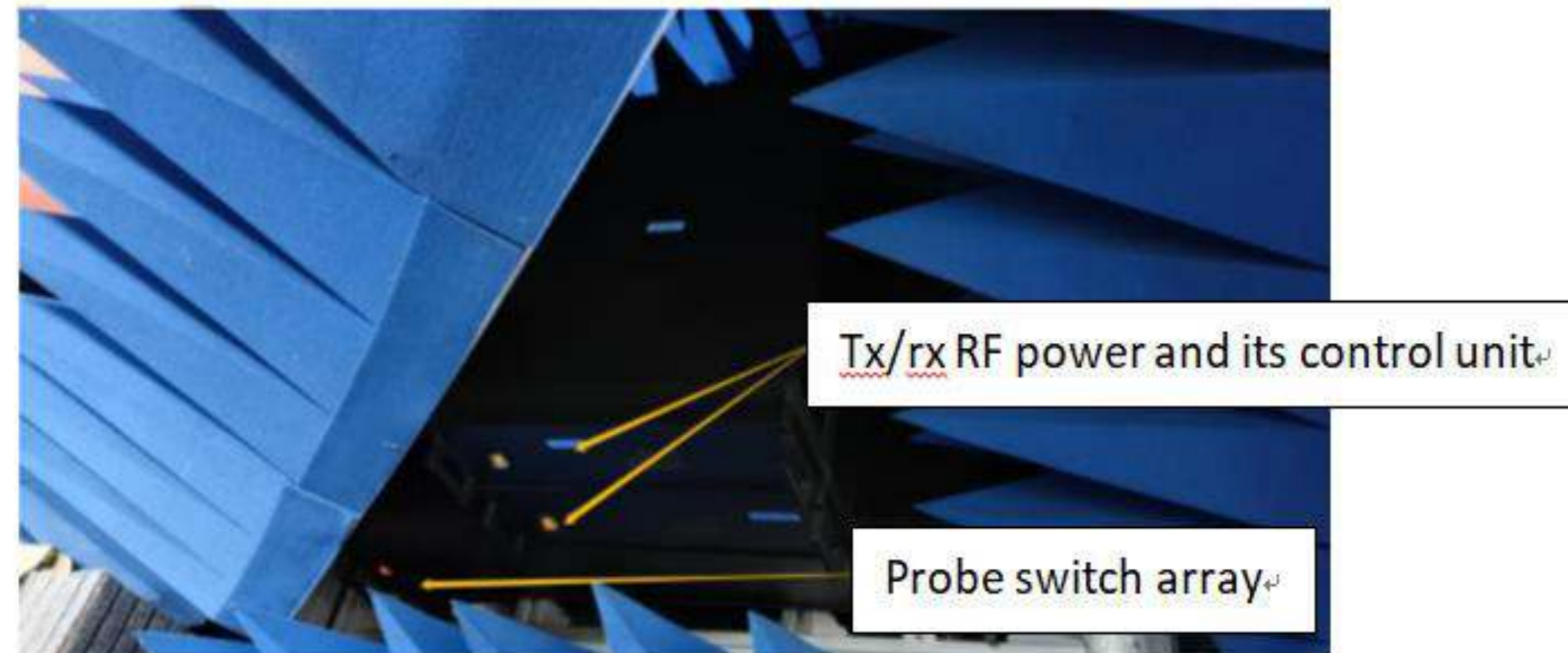
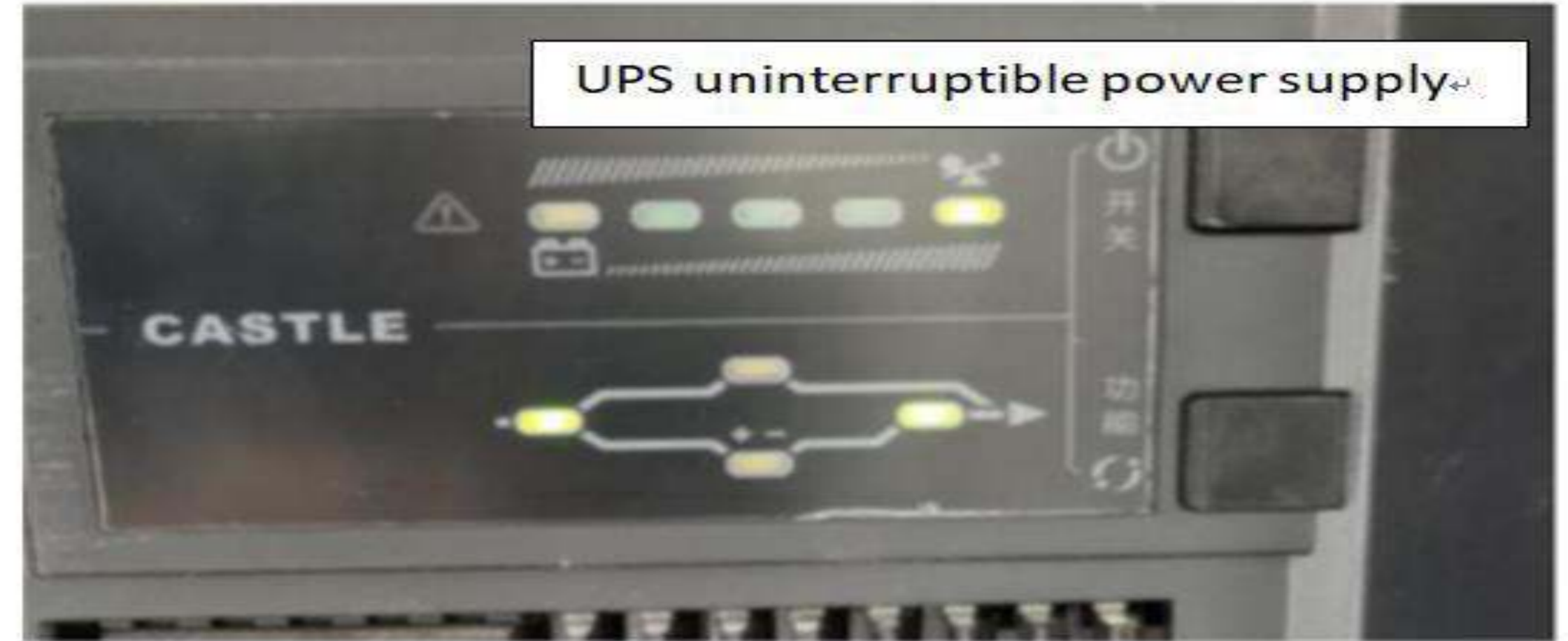
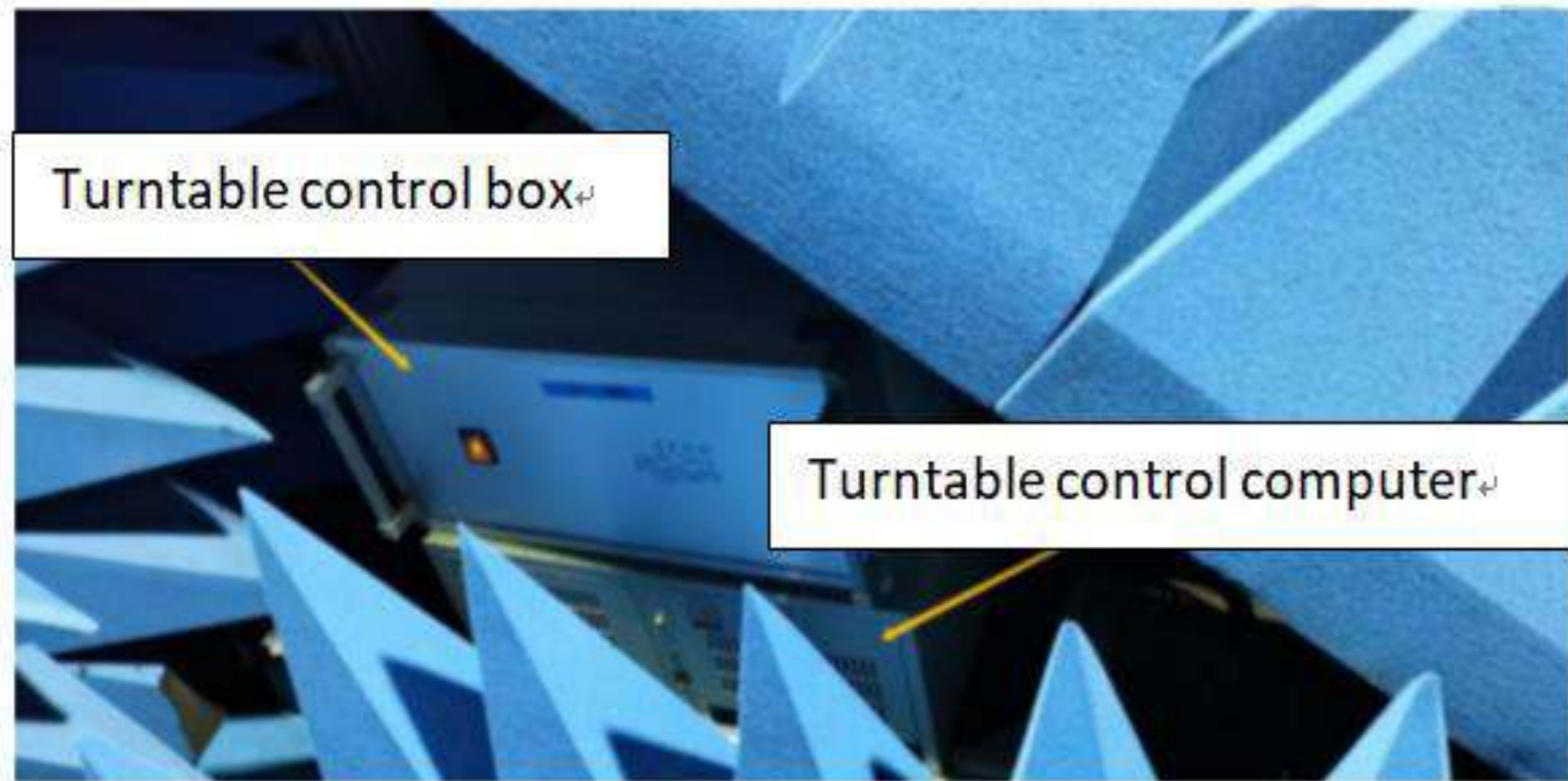


Test setup

Number	Device	Type/Model	Serial	Manufacturer	Cal.Date	Cal.Due Date
1	EMT24 Chamber	EM-testing	1603000653	EMT	2021/9/30	2023/12/31
2	Turntable control box	EM-testing	1603000653	EMT	2022/11/1	2023/11/1
3	Turntable control computer	EM-testing	1603000653	EMT	2022/11/1	2023/11/1
4	Tx/rx RF power and its control unit	EM-testing	1603000653	EMT	N/A	N/A
5	Tx/rx RF power and its control unit	EM-testing	1603000653	EMT	N/A	N/A
6	Test system host	EM-testing	1603000653	EMT	N/A	N/A
7	Network analyzer	E5071C	1603000653	EMT	2022/11/1	2023/11/1
8	RF line TX	EM-testing	1603000653	EMT	N/A	N/A
9	RF line RX	EM-testing	1603000653	EMT	N/A	N/A
10	UPS uninterruptible power supply	Castle	1603000653	EMT	N/A	N/A
11	24 Probe Antenna	EM-testing	1603000653	EMT	2022/11/1	2023/12/31
12	Cable 3m 400MHz~8.5GHz	EM-testing	1603000653	EMT	2021/9/30	2023/12/31

Equipment list

测试环境 시험환경



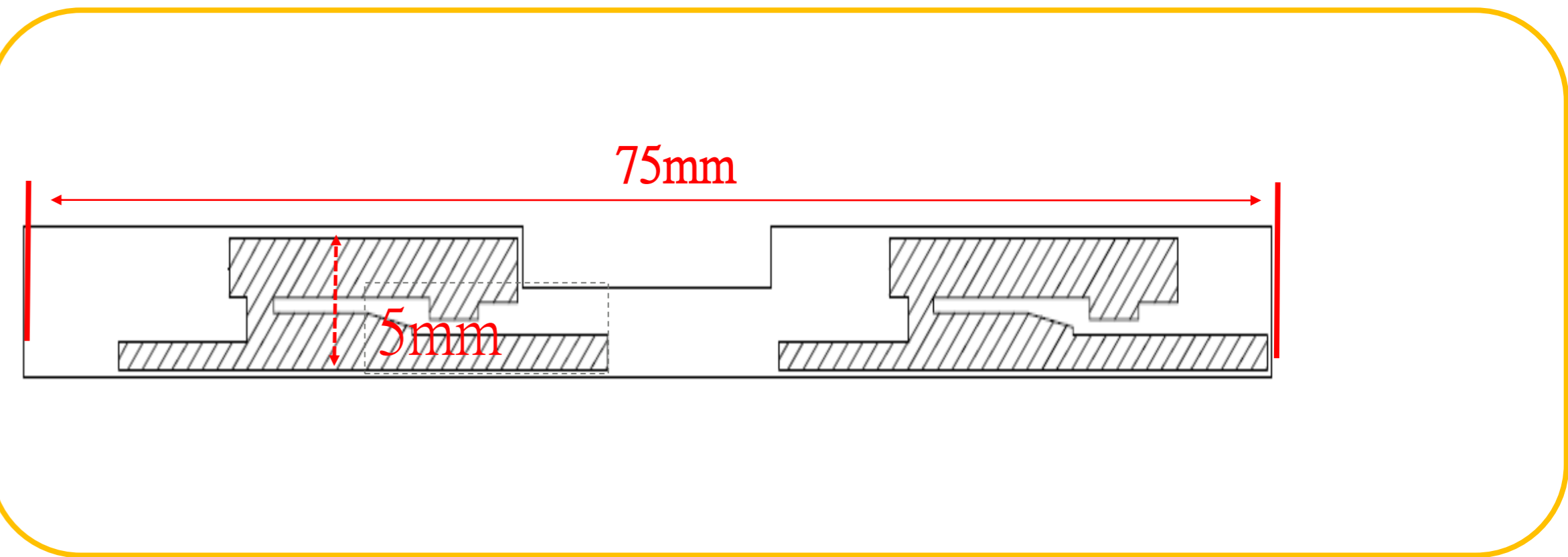
Setup photo

16Z90SP

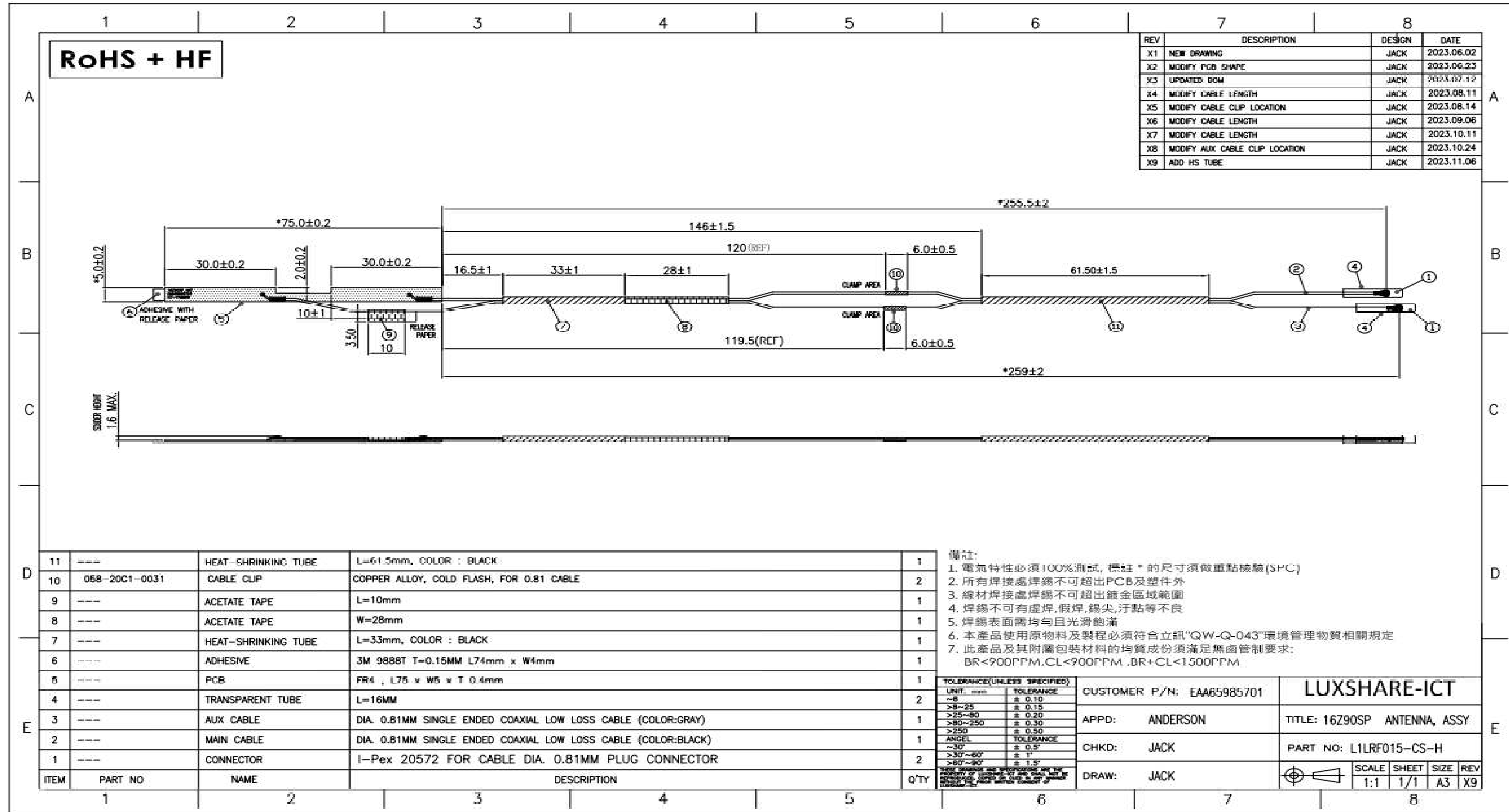
- 环境 환경



Item	Note	permittivity
PCB	75x 5 x0.4mm	
Cable	OD: 0.81 mm Length: 255.5mm	
Cable	OD: 0.81 mm Length: 259mm	



• 天线组装图纸 안테나 도면





Thanks !

I hope you can select us as your preferred supplier!

