

VARIANT FCC TEST REPORT

(PART 24)

Applicant:	BARTEC
Address:	Max-Eyth-Str.16 , 97980 Bad Mergentheim, Germany

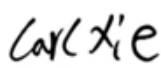
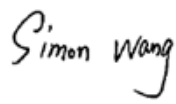
Manufacturer or Supplier:	BARTEC
Address:	Max-Eyth-Str.16 , 97980 Bad Mergentheim, Germany
Product:	Smartscanner / Smartphone
Brand Name:	BARTEC
Model Name:	SP9EX1/SC9EX1/SP9EX2/SC9EX2
FCC ID	TBUSX9EX
Date of tests	Dec. 20, 2025 ~ Jan. 05, 2026

The tests have been carried out according to the requirements of the following standard:

☒ FCC PART 24, Subpart E
☒ FCC PART 2
☒ ANSI/TIA/EIA-603-D

☒ ANSI/TIA/EIA-603-E
☒ ANSI C63.26-2015

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Carl Xie Engineer / Mobile Department	Approved by Simon Wang Manager / Mobile Department
	
Date: Jan. 05, 2026	Date: Jan. 05, 2026

BOOMWAVE TEST (SHENZHEN) CO., LTD. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report. The results documented in this report apply only the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility assure that additional production units of the model are manufactured with identical electrical and mechanical components. All sample tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. without written approval of BOOMWAVE TEST (SHENZHEN) CO., LTD., the test report shall not be reproduced except in full.

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Test Report No.: PSZ-QSZ2510291415RF02

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
PSU-QSU2312140113RF02	Original release	Jul. 26, 2024
PSZ-QSZ2510291415RF02	Based on the original report, new product update HW, for specific changes please refer to the Product ASSY release notes document provided by the applicant. In this report verify power and RSE worst case. The verify results of conducted power are similar or lower. So this report only replaces the low frequency data and the high frequency data (GSM1900_CH810) of RSE, other data please refer to original report.	Jan. 05, 2026



Test Report No.: PSZ-QSZ2510291415RF02

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

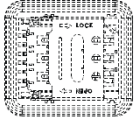
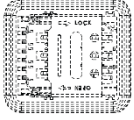
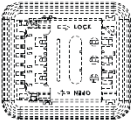
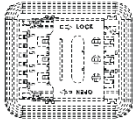
APPLIED STANDARD: FCC Part 24 & Part 2			
STANDARD SECTION	TEST TYPE	RESULT	Test lab*
§2.1046	Conducted Output Power	See note1	--
§24.232(c)	Equivalent Isotropic Radiated Power	See note1	--
§2.1055 §24.235	Frequency Stability	See note1	--
§2.1049	Occupied Bandwidth	See note1	--
§24.232(d)	Peak to average ratio*	See note1	--
§24.238(a)(b)	Band Edge Measurements	See note1	--
§2.1051 §24.238(a)(b)	Conducted Spurious Emissions	See note1	--
§2.1053 §24.238(a)(b)	Radiated Spurious Emissions	Compliance	A

* Refer to KDB 971168 D01 Power Meas License Digital Systems v03r01.

NOTE:

1. Please refer to original report (Report No.: PSU-QSU2312140113RF02, FCC ID: TBUSX9EX).
2. In this report, for specific changes please refer to the documentation provided by the applicant (REV_F SC9EX1_SP9EX1_SC9EX2_SP9EX2 PCBA HW release notes (Ver. 6.0), REV_F SC9EX1_SP9EX1_SC9EX2_SP9EX2 Product ASSY release notes (Ver. 1.0) and SC9EX1_SP9EX1_SC9EX2_SP9EX2 SW release notes (Ver. 6.0)).
3. The differences between SC9EX1 and SP9EX1 the presence of the barcode scanner module and the "bump" on the back cover that model SC9EX1 incorporates the barcode scanner module, no differences on the PCBA between the variants(model:SP9EX1). We verified power and RSE worst case on parent product SC9EX1 and SP9EX1 variant, only the worst-case(SC9EX1) results are shown in the report.

4. The devices BARTEC SP9EX1 Smartphone and BARTEC SP9EX2 Smartphone share the same hardware and software. The same applies for the devices BARTEC SC9EX1 Smartscanner and BARTEC SC9EX2 Smartscanner. The only difference are the hazardous area marking of the devices, see table for clarification.

BARTEC SP9EX1 Smartphone	BARTEC SP9EX2 Smartphone
BARTEC SP9EX1 Type: 17-S19B-****/***** Mfr: BARTEC GmbH Max-Eyth-Straße 16 97980 Bad Mergentheim, DE www.bartec.com  Nano SIM UL 24 ATEX 3153X Ex II 1G Ex ia IIC T4 Ga Ex II 2D Ex ia IIC T135°C Db IP64 IECEx UL 24.0004X Class I, Div 1, Groups A, B, C and D; Class II, Div 1, Groups E, F and G; Class III, T4 Zone 0, AEx ia IIC T4 Ga Zone 21, AEx ia IIC T135°C Db Zone 0, Ex ia IIC T4 Ga Zone 21, Ex ia IIC T135°C Db -20° < Ta < +55°C QR-code S/N: TTTTYYSSSSS MFD: MONTHYY <i>reserved for logos of country approvals</i> USB port: USB-PD compatible – 5-20 Vdc / max 3 A DC-In port: 12 Vdc / max 1.5 A USB Um = 20 V / DCin Um = 12 V WARNING/ATTENTION: Use only replaceable battery pack BARTEC GmbH type: 17-S120-0020/**** Utiliser uniquement la batterie BARTEC GmbH type: 17-S120-0020/**** INTRINSICALLY SAFE/SECURITE INTRINSEQUE Warning - Substitution of components may impair intrinsic safety. Avertissement - La substitution des composants peut nuire à la sécurité intrinsèque.	BARTEC SP9EX2 Type: B7-S29B-****/***** Mfr: BARTEC GmbH Max-Eyth-Straße 16 97980 Bad Mergentheim, DE www.bartec.com  Nano SIM UL 24 ATEX xxxxx Ex II 3G Ex ic IIC T4 Gc Ex II 3D Ex ic IIC T135°C Dc IP64 IECEx UL 24.xxxxx Class I, Div 2, Groups A, B, C and D; Class II, Div 2, Groups E, F and G; Class III, T4 Zone 2, AEx ic IIC T4 Gc Zone 22, AEx ic IIC T135°C Dc Zone 2, Ex ic IIC T4 Gc Zone 22, Ex ic IIC T135°C Dc -20° < Ta < +55°C QR-code S/N: TTTTYYSSSSS MFD: MONTHYY <i>reserved for logos of country approvals</i> USB port: USB-PD compatible – 5-20 Vdc / max 3 A DC-In port: 12 Vdc / max 1.5 A USB Um = 20 V / DCin Um = 12 V WARNING/ATTENTION: Use only replaceable battery pack BARTEC GmbH type: B7-A220-0098/**** Utiliser uniquement la batterie BARTEC GmbH type: B7-A220-0098/**** INTRINSICALLY SAFE/SECURITE INTRINSEQUE Warning - Substitution of components may impair intrinsic safety. Avertissement - La substitution des composants peut nuire à la sécurité intrinsèque.
BARTEC SC9EX1 Smartscanner	BARTEC SC9EX2 Smartscanner
BARTEC SC9EX1 Type: 17-S19C-****/***** Mfr: BARTEC GmbH Max-Eyth-Straße 16 97980 Bad Mergentheim, DE www.bartec.com  Nano SIM UL 24 ATEX 3153X Ex II 1G Ex ia op is IIC T4 Ga Ex II 2D Ex ia op is IIC T135°C Db IP64 IECEx UL 24.0004X Class I, Div 1, Groups A, B, C and D; Class II, Div 1, Groups E, F and G; Class III, T4 Zone 0, AEx ia op is IIC T4 Ga Zone 21, AEx ia op is IIC T135°C Db Zone 0, Ex ia op is IIC T4 Ga Zone 21, Ex ia op is IIC T135°C Db -20° < Ta < +55°C QR-code S/N: TTTTYYSSSSS MFD: MONTHYY <i>reserved for logos of country approvals</i> USB port: USB-PD compatible – 5-20 Vdc / max 3 A DC-In port: 12 Vdc / max 1.5 A USB Um = 20 V / DCin Um = 12 V WARNING/ATTENTION: Use only replaceable battery pack BARTEC GmbH type: 17-S120-0020/**** Utiliser uniquement la batterie BARTEC GmbH type: 17-S120-0020/**** INTRINSICALLY SAFE/SECURITE INTRINSEQUE Warning - Substitution of components may impair intrinsic safety. Avertissement - La substitution des composants peut nuire à la sécurité intrinsèque.	BARTEC SC9EX2 Type: B7-S29C-****/***** Mfr: BARTEC GmbH Max-Eyth-Straße 16 97980 Bad Mergentheim, DE www.bartec.com  Nano SIM UL 24 ATEX xxxxx Ex II 3G Ex ic op is IIC T4 Gc Ex II 3D Ex ic op is IIC T135°C Dc IP64 IECEx UL 24.xxxxx Class I, Div 2, Groups A, B, C and D; Class II, Div 2, Groups E, F and G; Class III, T4 Zone 2, AEx ic op is IIC T4 Gc Zone 22, AEx ic op is IIC T135°C Dc Zone 2, Ex ic op is IIC T4 Gc Zone 22, Ex ic op is IIC T135°C Dc -20° < Ta < +55°C QR-code S/N: TTTTYYSSSSS MFD: MONTHYY <i>reserved for logos of country approvals</i> USB port: USB-PD compatible – 5-20 Vdc / max 3 A DC-In port: 12 Vdc / max 1.5 A USB Um = 20 V / DCin Um = 12 V WARNING/ATTENTION: Use only replaceable battery pack BARTEC GmbH type: B7-A220-0098/**** Utiliser uniquement la batterie BARTEC GmbH type: B7-A220-0098/**** INTRINSICALLY SAFE/SECURITE INTRINSEQUE Warning - Substitution of components may impair intrinsic safety. Avertissement - La substitution des composants peut nuire à la sécurité intrinsèque.

*Test Lab Information Reference

Lab A:

Boomwave Test (Shenzhen) Co., Ltd.

Lab Address:

Rm B38, Warehouse A5(Chiwan #1), #3 Chiwan 4th Rd, Chiwan Comm, Zhaoshang St, Nanshan Dist, Shenzhen, Guangdong, Shenzhen, China

Accredited Test Lab Cert 7607.01

The FCC Site Registration No. is 646781; The Designation No. is CN1429.

Boomwave Test (Shenzhen)
Co., Ltd.

Rm B38, Warehouse A5(Chiwan #1), #3 Chiwan
4th Rd, Chiwan Comm, Zhaoshang St, Nanshan
Dist, Shenzhen, Guangdong, Shenzhen, China

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1.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	UNCERTAINTY
Frequency Stability	$\pm 76.97\text{Hz}$
Radiated emissions (9KHz~30MHz)	$\pm 2.68\text{dB}$
Radiated emissions & Radiated Power (30MHz~1GHz)	$\pm 4.98\text{dB}$
Radiated emissions & Radiated Power (1GHz ~6GHz)	$\pm 4.70\text{dB}$
Radiated emissions (6GHz ~18GHz)	$\pm 4.60\text{dB}$
Radiated emissions (18GHz ~40GHz)	$\pm 4.12\text{dB}$
Conducted emissions	$\pm 4.01\text{dB}$
Occupied Channel Bandwidth	$\pm 43.58\text{KHz}$
Conducted Output power	$\pm 2.06\text{dB}$
Band Edge Measurements	$\pm 4.70\text{dB}$
Peak to average ratio	$\pm 0.76\text{dB}$

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.



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1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn-CT0001143-1216	2025/7/3	2026/7/2
BiConiLog Antenna	ETS-LINDGREN	3143B	161965	2025/7/17	2026/7/16
Horn Antenna	SCHWARZBECK	BBHA9120D	3297	2025/9/27	2026/9/26
Horn Antenna	STEATITE	QWH-SL-18-40-K-SG QMS-00361	15433	2025/7/19	2026/7/18
Preamplifier	Tonscend	TPA184045	AP24L8060388	2025/7/3	2026/7/2
MXE EMI Receiver	keysight	N9038B	MY50018017	2025/7/1	2026/6/30
MXG Vector Signal Generator	Keysight	N5183B	MY59100137	2025/6/30	2026/6/29
Preamplifier	Tonscend	TPA001330	806JSAPO40804251015	2025/6/30	2026/6/29
Preamplifier	Tonscend	TPA011845	AP24L8060392	2025/6/30	2026/6/29
Attenuator 6DB	SHX	TS2-6-6-A	230927166	2025/6/30	2026/6/29
Attenuator 6DB	SHX	TS2-6-6-A	230927165	2025/6/30	2026/6/29
Active Receive Loop Antenna	SCHWARZBECK	FMZB 1519 B	00173	2025/6/30	2026/6/29
Temp. & Humi. Recorder	Kejian	HTC-01	157246	2025/7/2	2026/7/1
HIGH pass FILTER_1-18	EWT	EWT-57-0222	EWT-57-0222	2025/6/30	2026/6/29
HIGH pass FILTER_7-18	EWT	EWT-57-0223	EWT-57-0223	2025/6/30	2026/6/29
HIGH pass FILTER_3-18	EWT	EWT-57-0221	EWT-57-0221	2025/6/30	2026/6/29
DC~1GHz Lowpass Filter	EWT	EWT-56-0649	EWT-56-0649	2025/7/3	2026/7/2
Cable 1	N/A	N/A	N/A	2025/9/28	2026/9/27
Cable 2	N/A	N/A	N/A	2025/9/28	2026/9/27
Cable 3	N/A	N/A	N/A	2025/9/28	2026/9/27
Wireless communication integrated tester	Rohde&Schwarz	CMW500	182016	2025/6/30	2026/6/29
EXA Signal Analyzer	KEYSIGHT	N9010B	MY62170156	2025/6/30	2026/6/29
RF Control Unit	Tonscend	JS0806-1	21K8060504	2025/6/16	2026/6/15
DC Power Supply	AGILENT	HMP2020	100598	2025/7/1	2026/6/30
10dB attenuator	JFW INDUSTRIES INC	50HF-010-SMA	50HF-010-SMA-1	2025/6/30	2026/6/29
10dB attenuator	JFW INDUSTRIES INC	50HF-010-SMA	50HF-010-SMA-2	2025/6/30	2026/6/29
hygrothermograph	Anymetrers	----	TH101B	2025/7/22	2026/7/21
Temperature Box	zhongkemeiqi	MA22040172	MQ-DTH50F-2	2025/7/1	2026/6/30

Boomwave Test (Shenzhen)
Co., Ltd.

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Mobile: +86 15118052731
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**Test Report No.: PSZ-QSZ2510291415RF02**

power divider	WOKEN	71688	204-003180-01	2025/6/30	2026/6/29
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NOTE:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.
3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 646781; The Designation No. is CN1429.

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Smartscanner / Smartphone	
BRAND NAME	BARTEC	
MODEL NAME	SP9EX1/SC9EX1/SP9EX2/SC9EX2	
NOMINAL VOLTAGE	5.0V/9.0V/12.0Vdc (adapter) 3.2V/3.8V/4.2V/dc (battery)	
MODULATION TYPE	GSM/GPRS: GMSK EDGE: 8PSK WCDMA: BPSK, QPSK LTE Band 2: QPSK, 16QAM, 64QAM, 256QAM	
FREQUENCY RANGE	GPRS, EDGE	1850.2MHz ~ 1909.8MHz
	WCDMA	1852.4MHz ~ 1907.6MHz
	LTE Band 2 Channel Bandwidth: 1.4MHz	1850.7MHz ~ 1909.3MHz
	LTE Band 2 Channel Bandwidth: 3MHz	1851.5MHz ~ 1908.5MHz
	LTE Band 2 Channel Bandwidth: 5MHz	1852.5MHz ~ 1907.5MHz
	LTE Band 2 Channel Bandwidth: 10MHz	1855.0MHz ~ 1905.0MHz
	LTE Band 2 Channel Bandwidth: 15MHz	1857.5MHz ~ 1902.5MHz
	LTE Band 2 Channel Bandwidth: 20MHz	1860.0MHz ~ 1900.0MHz
MAX. EIRP POWER	GSM	1069.05mW
	EDGE	442.59mW
	WCDMA	253.51mW
	LTE Band 2 Channel Bandwidth: 1.4MHz	219.28mW
	LTE Band 2 Channel Bandwidth: 3MHz	221.82mW
	LTE Band 2 Channel Bandwidth: 5MHz	219.28mW
	LTE Band 2 Channel Bandwidth: 10MHz	219.79mW
	LTE Band 2 Channel Bandwidth: 15MHz	218.78mW
	LTE Band 2 Channel Bandwidth: 20MHz	222.33mW

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EMISSION DESIGNATOR	GSM	246KGXW
	EDGE	243KG7W
	WCDMA	4M14F9W
	LTE Band 2 Channel Bandwidth: 1.4MHz	QPSK: 1M09G7D
		16QAM: 1M07W7D
		64QAM: 1M08W7D
	LTE Band 2 Channel Bandwidth: 3MHz	QPSK: 2M69G7D
		16QAM: 2M69W7D
		64QAM: 2M69W7D
	LTE Band 2 Channel Bandwidth: 5MHz	QPSK: 4M49G7D
		16QAM: 4M49W7D
		64QAM: 4M48W7D
	LTE Band 2 Channel Bandwidth: 10MHz	QPSK: 8M96G7D
		16QAM: 8M96W7D
		64QAM: 8M96W7D
ANTENNA GAIN	LTE Band 2 Channel Bandwidth: 15MHz	QPSK: 13M5G7D
		16QAM: 13M5W7D
		64QAM: 13M5W7D
	LTE Band 2 Channel Bandwidth: 20MHz	QPSK: 17M9G7D
		16QAM: 17M9W7D
		64QAM: 17M9W7D
ANTENNA TYPE	☒ Provided by client	
	GSM1900	Main TX/RX ANT 0: 1dBi RX ANT SEC.ANT 2: -2.6dBi
	WCDMA II	Main TX/RX ANT 0:1dBi RX ANT PRIM. MIMO ANT 1: -2.2dBi RX ANT SEC.ANT 2: -2.6dBi RX ANT SEC. MIMO ANT 3: 0.5dBi
	LTE B2	Main TX/RX ANT 0: 1dBi RX ANT SEC.ANT 2: -2.6dBi
ANTENNA TYPE	Main TX/RX ANT 0: IFA Antenna RX ANT PRIM. MIMO ANT 1: IFA Antenna RX ANT SEC.ANT 2: IFA Antenna RX ANT SEC. MIMO ANT 3: IFA Antenna	
HW VERSION	F	
SW VERSION	AWG1.250822.030 15030	
I/O PORTS	Refer to user's manual	
CABLE SUPPLIED	USB cable: non-shielded cable, with w/o ferrite core, 0.8 meter	
EXTREME TEMPERATURE	-20°C-60 °C	

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EXTREME VOLTAGE	3.2V – 4.2V
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NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and two/four receivers.

MODULATION MODE	TX FUNCTION
GSM/GPRS/EDGE	1TX/2RX
WCDMA	1TX/2RX
LTE	1TX/4RX

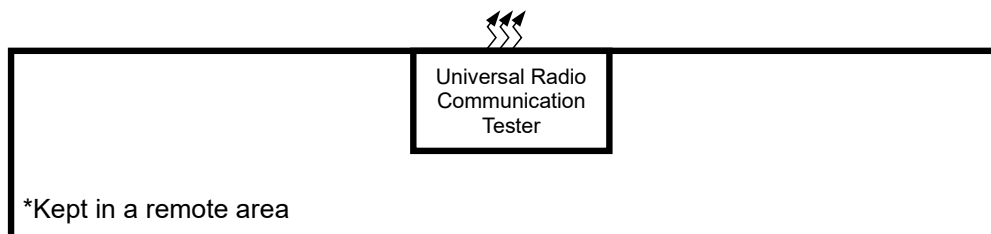
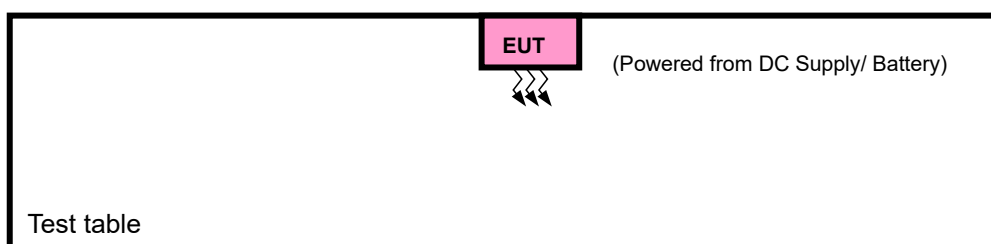
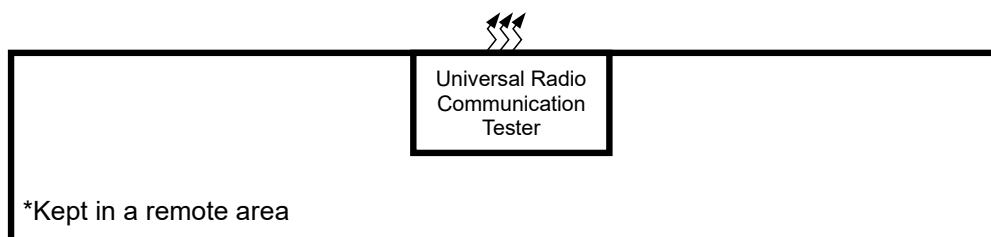
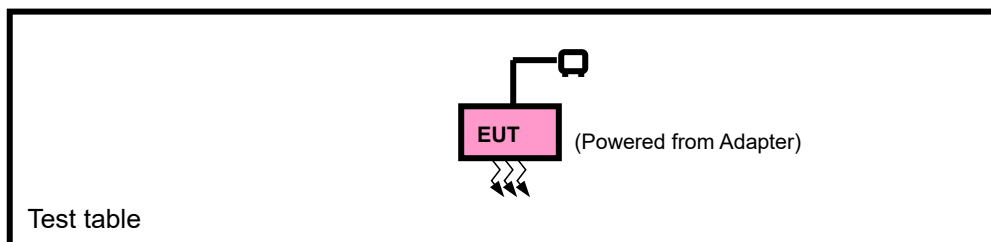
3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
4. Output power measurements were measured on QPSK, 16QAM, 64QAM and 256QAM modulations. And tests other than output power are performed only in worst-case QPSK and 16QAM, 64QAM modes.

5. List of Accessory:

ACCESSORIES	BRAND	MANUFACTURER	MODEL	SPECIFICATION
Display(AMOLED)	EDO	Everdisplay Optronics Co., Ltd.	E611FCC74.A	N/A
Back cover	IV Techmould	N/A	N/A	N/A
Bezel	IV Techmould	N/A	N/A	N/A
Photo/Video Camera 1	Sunny Optical	N/A	F48N03A (Auto focus)	N/A
Photo/Video Camera 2	TrulyOpto	N/A	CSF208-B8BF-E(Fix focus)	N/A
CPU	Qualcomm	N/A	QCM6490	N/A
UFS	Kioxia	N/A	THGJFAT0T44BAIL	N/A
BT/WLAN Module	Murata	N/A	LBEE5QG2CX-830	N/A
NFC chipset	NXP	N/A	SN110TUK1	N/A
Battery	BARTEC	N/A	17-S1Z0-0020/****	4300 mAh, 3.68V
USB-C Cable	BARTEC	N/A	G7-A0Z0-0010	Length: 0.8m

2.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION TEST



2.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Adapter	N/A	N/A	N/A	N/A
2	DC Source	HYELEC	HY3010B	551016	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	DC Line: Unshielded, Detachable, 1.0m;
2	USB Line: non-shielded, Detachable 0.8m;

2.4 TEST ITEM AND TEST CONFIGURATION

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The worst case in EIRP and radiated emission was found when positioned on X-plane for GSM/EDGE/ LTE. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION
A	EUT + Adapter with GSM or WCDMA or LTE link
B	EUT + DC Supply with GSM or WCDMA or LTE link

GSM MODE				
EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
A	RADIATED EMISSION	512 to 810	810	GSM,EDGE

TEST CONDITION			
TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RADIATED EMISSION	23deg. C, 70%RH	DC 5.0V/ 9.0V/ 12.0V By Adapter	Carl Xie

2.5 EUT OPERATING CONDITIONS

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency.

2.6 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC 47 CFR Part 2

FCC 47 CFR Part 24

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI/TIA/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

NOTE: All test items have been performed and recorded as per the above standards.

3 TEST TYPES AND RESULTS

3.1 RADIATED EMISSION MEASUREMENT

3.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. The emission limit equal to -13dBm .

3.1.2 TEST PROCEDURES

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value “ of step a. Record the power level of S.G
- c. $\text{EIRP} = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$.

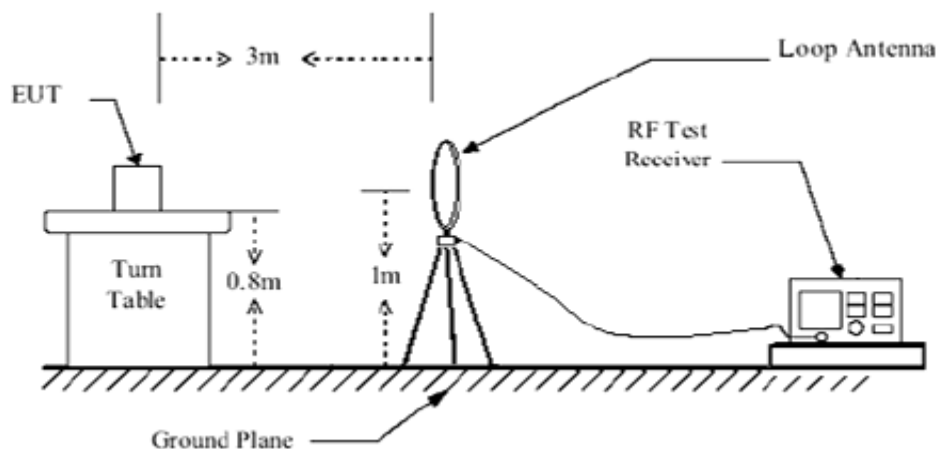
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

3.1.3 DEVIATION FROM TEST STANDARD

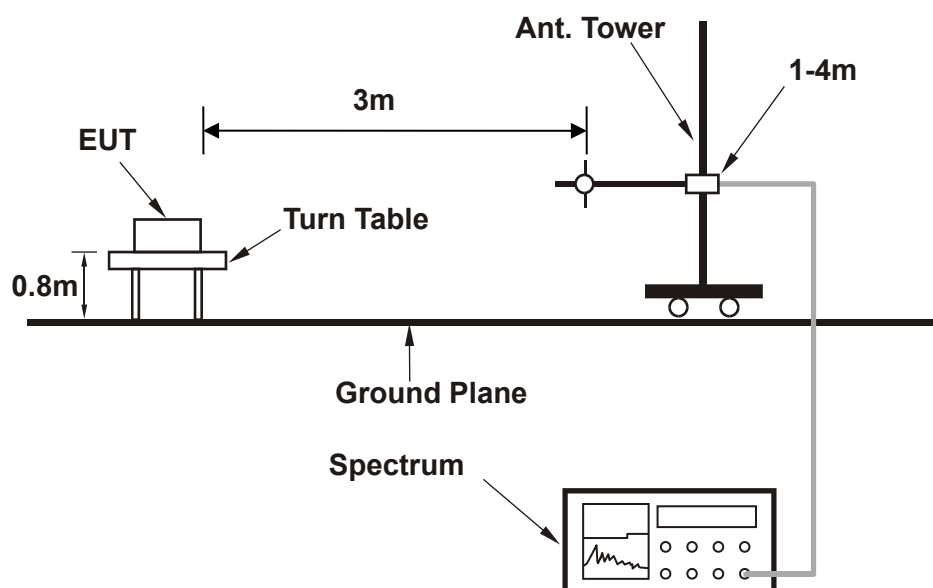
No deviation

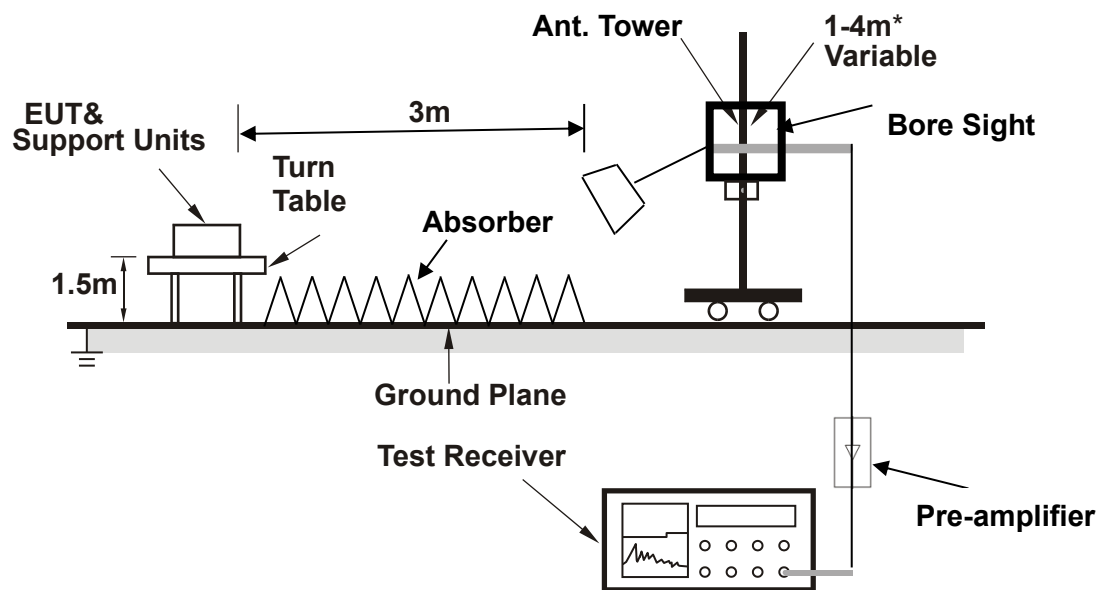
3.1.4 TEST SETUP

< Frequency Range below 30MHz >



< Frequency Range 30MHz~1GHz >





Note: Above 1G is a directional antenna

Depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

3.6.5 TEST RESULTS

NOTE : The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

BELOW 1GHz WORST-CASE DATA

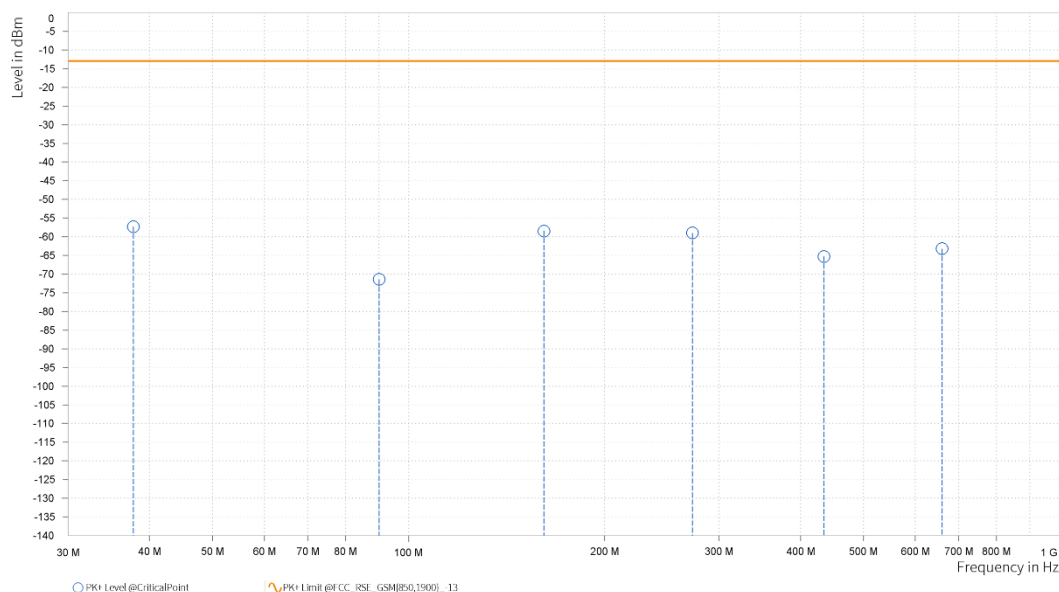
30 MHz – 1GHz data:

GSM 1900:

CHANNEL BANDWIDTH: 512~810

MODE	TX channel 810	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Carl Xie		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

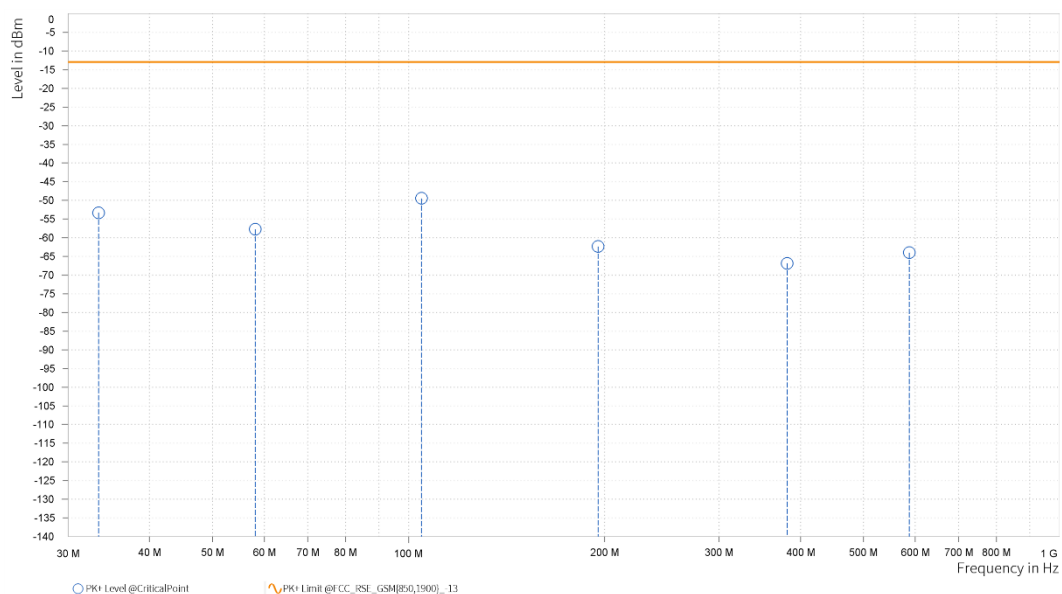
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	37.760	-57.29	-13.00	44.29	-1.58	H	88.2	2.00
1	90.140	-71.43	-13.00	58.43	-13.23	H	167.8	1.00
1	161.435	-58.47	-13.00	45.47	-13.80	H	307	2.00
1	272.985	-58.98	-13.00	45.98	-2.73	H	108	1.00
1	434.490	-65.27	-13.00	52.27	1.11	H	222.8	1.00
1	660.015	-63.22	-13.00	50.22	1.21	H	167.8	1.00



Test Report No.: PSZ-QSZ2510291415RF02

MODE	TX channel 810	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Carl Xie		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	33.395	-53.31	-13.00	40.31	-9.72	V	192.9	1.00
1	58.130	-57.75	-13.00	44.75	-5.44	V	123.5	1.00
1	104.690	-49.45	-13.00	36.45	2.24	V	359	2.00
1	195.385	-62.37	-13.00	49.37	-8.05	V	1	1.00
1	381.625	-66.85	-13.00	53.85	-0.79	V	359	2.00
1	587.750	-63.99	-13.00	50.99	0.25	V	0.9	2.00





Test Report No.: PSZ-QSZ2510291415RF02

ABOVE 1GHz DATA

Note: For higher frequency, the emission is too low to be detected.

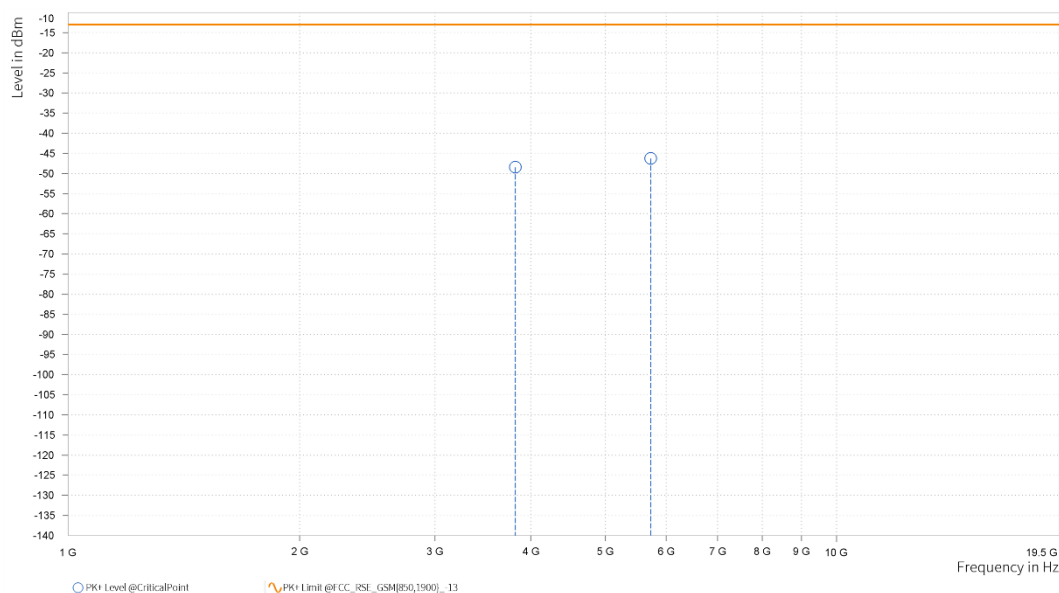
WORST-CASE DATA

GSM 1900:

CH 810

MODE	TX channel 810	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Carl Xie		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,819.600	-48.44	-13.00	35.44	22.23	H	234.7	1.00
4	5,729.400	-46.28	-13.00	33.28	25.33	H	0.9	2.00



Boomwave Test (Shenzhen)
Co., Ltd.

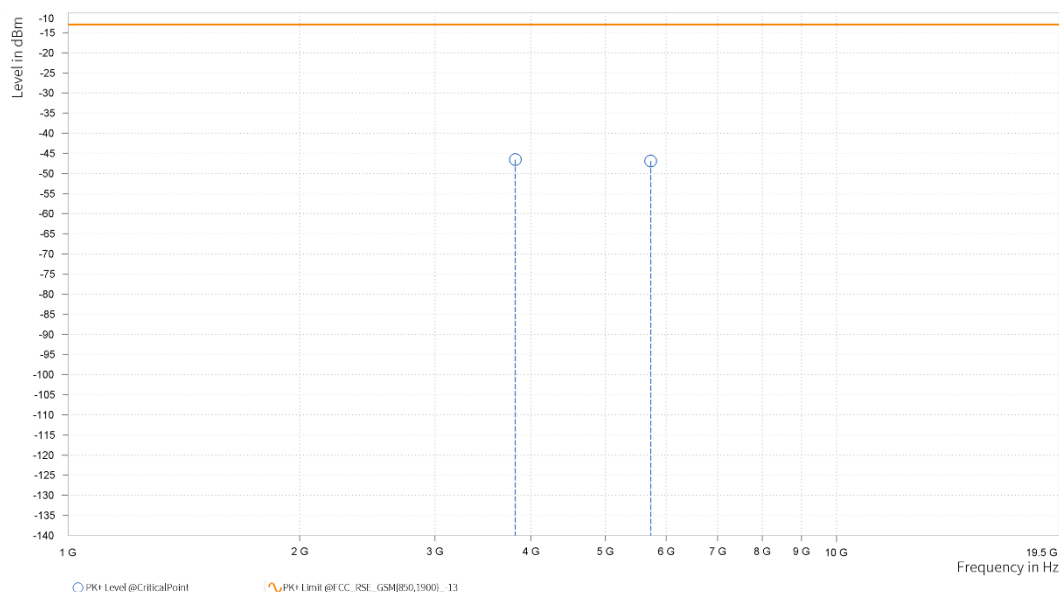
Rm B38, Warehouse A5(Chiwan #1), #3 Chiwan
4th Rd, Chiwan Comm, Zhaoshang St, Nanshan
Dist, Shenzhen, Guangdong, Shenzhen, China

Mobile: +86 15118052731
Email:shimin.wang@boomwavelab.com

Test Report No.: PSZ-QSZ2510291415RF02

MODE	TX channel 810	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Carl Xie		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,819.600	-46.57	-13.00	33.57	22.58	V	359	2.00
4	5,729.400	-46.93	-13.00	33.93	25.79	V	124	2.00





Test Report No.: PSZ-QSZ2510291415RF02

4 INFORMATION ON THE TESTING LABORATORIES

We, Boomwave Test (Shenzhen) co., Ltd., were founded in 2025 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

Boomwave Test (Shenzhen) Co., Ltd.

Lab Address:

Rm B38, Warehouse A5(Chiwan #1), #3 Chiwan 4th Rd, Chiwan Comm, Zhaoshang St, Nanshan Dist, Shenzhen, Guangdong, Shenzhen, China

Accredited Test Lab Cert 7607.01

Shenzhen EMC/RF Lab:

Mobile: +86 15118052731

Email: shimin.wang@boomwavelab.com



Test Report No.: PSZ-QSZ2510291415RF02

5 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

--END--