



SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

SHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: SHCR250300048801

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TEST REPORT

Application No.: SHCR2503000488HS
Applicant: Ningbo Deye Domestic Electrical Appliance Technology Co., Ltd
Address of Applicant: No.568, South Rixian Road, Binhai Economic Development Zone, Cixi, Ningbo, Zhejiang, 315300, P.R.China
Manufacturer: Ningbo Deye Domestic Electrical Appliance Technology Co., Ltd
Address of Manufacturer: No.568, South Rixian Road, Binhai Economic Development Zone, Cixi, Ningbo, Zhejiang, 315300, P.R.China
Factory: Ningbo Deye Domestic Electrical Appliance Technology Co., Ltd
Address of Factory: No.568, South Rixian Road, Binhai Economic Development Zone, Cixi, Ningbo, Zhejiang, 315300, P.R.China
Equipment Under Test (EUT):
EUT Name: Split Type Air Conditioner
Model No.: DW3B1-ACDC-27KR2(EU), DMGA1-ACDC-07KR2(EU)
DMGA1-ACDC-09KR2(EU), DMGA1-ACDC-12KR2(EU)
DMGA1-ACDC-18KR2(EU)
Trade Mark: Deye
Standard(s) : EN 61000-3-3: 2013+ A1:2019+A2:2021
EN IEC 61000-3-2: 2019+A1:2021+A2:2024
EN 301 489-1 V2.2.3
EN 301 489-17 V3.3.1
Date of Receipt: 2025-03-06
Date of Test: 2025-03-07 to 2025-03-26
Date of Issue: 2025-03-27

Test Result:

Pass*

* In the configuration tested, the EUT complied with the standards specified above.

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Member of the SGS Group (SGS SA)

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China



SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

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Revision Record			
Version	Description	Date	Remark
00	Original	2025-03-27	/

Authorized for issue by:			
Tested By		Wade Zhang	
		Wade Zhang/Project Engineer	
Approved By		Parlam Zhan	
		Parlam Zhan / Reviewer	

2 Test Summary

Emission Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at AC Power Port	EN 301 489-1 V2.2.3 EN 301 489-17 V3.3.1	EN 55032: 2015+A11:2020+A1:2020	Class B	Pass
Voltage Fluctuations and Flicker	EN 61000-3-3: 2013+ A1:2019+A2:2021 EN 301 489-17 V3.3.1	EN 61000-3-3: 2013+ A1:2019+A2:2021	Clause 5	Pass
Harmonic Current Emission	EN IEC 61000-3-2: 2019+A1:2021+A2:2024 EN 301 489-17 V3.3.1	EN IEC 61000-3-2: 2019+A1:2021+A2:2024	Class A	Pass

Immunity Part				
Item	Standard	Method	Requirement	Result
Electrostatic Discharge	EN 301 489-1 V2.2.3 EN 301 489-17 V3.3.1	EN 61000-4-2:2009	±4kV Contact Discharge; ±8kV Air Discharge	Pass
Radiated Immunity		EN IEC 61000-4-3:2020	3V/m, 80%, 1kHz Amp. Mod.	Pass
Electrical Fast Transients Burst at AC Mains Power Port		EN 61000-4-4:2012	1kV; 5/50ns Tr/Td; 5kHz Repetition Frequency	Pass
Surge at AC Mains Power Port		EN 61000-4-5:2014 +A1:2017	1.2/50µs Tr/Td; 1kV Line to Line; 2kV Line to Ground	Pass
Conducted Immunity at AC Mains Power Port		EN 61000-4-6:2014	3Vrms (emf), 80%, 1kHz Amp. Mod.	Pass
Voltage Dips and Interruptions		EN IEC 61000-4-11:2020	0 % UT for 0.5per; 0 % UT for 1per; 0 % UT for 250per; 70 % UT for 25per; UT is Supply Voltage	Pass

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4 General Information

4.1 Details of E.U.T.

Power supply:	AC 220-240V 50Hz
Test voltage:	AC230V 50Hz

BLE

Operation Frequency:	2402MHz to 2480MHz
Modulation Type:	GFSK
Channel Spacing:	2MHz
Number of Channels:	40
Antenna Type:	PIFA Antenna
Antenna Gain:	2.5 dBi (Provided by manufacturer)
Power Class:	<10mW
Receiver Category:	2

2.4GHz Wi-Fi

Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2472MHz
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK), 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Channel Spacing:	5MHz
Number of Channels:	802.11b/g/n(HT20): 13
Antenna Type:	PIFA Antenna
Adaptive Type:	LBE under LBT based DAA
Antenna Gain:	2.5 dBi (Provided by manufacturer)
Power Class:	>=10mW
Receiver Category:	1

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
iPad	Apple	A1490	-
Laptop	LENOVO	L460	-
Router	NETGEAR	RAX50	-

4.3 Measurement Uncertainty & Decision Rule

Measurement Uncertainty:

No.	Item	Measurement Uncertainty (U_{Lab})	U_{CISPR}
1	Conducted Emission at mains port using AMN	3.4dB (9kHz to 150kHz)	3.8dB (9kHz to 150kHz)
		2.9dB (150kHz to 30MHz)	3.4dB (150kHz to 30MHz)
2	Conducted Emission at mains port using VP	2.2dB (9kHz to 30MHz)	2.9dB (9kHz to 30MHz)
3	Conducted Emission at telecommunication port using AAN	4.6dB (150kHz to 30MHz)	5.0dB (150kHz to 30MHz)
4	Radiated Power	3.4dB (30MHz to 300MHz)	4.5dB (30MHz to 300MHz)
5	Radiated emission	5.7dB (30MHz-1GHz)	6.3dB (30MHz-1GHz)
		4.8dB (1GHz-6GHz)	5.2dB (1GHz-6GHz)
		5.0dB (6GHz-18GHz)	5.5dB (6GHz-18GHz)

6	Radiated disturbance (disturbance current in a LLAS)	2.6dB (9kHz to 30MHz)	3.3dB (9kHz to 30MHz)
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Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Decision Rule:

- CISPR 16-4-2 for emission measurements is as below described.

Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.

U_{LAB} less than U_{CISPR} , therefore:

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. E&E Lab
588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China
Tel: +86 21 6191 5666 Fax: +86 21 6191 5678

No tests were sub-contracted.

Note:

1. SGS is not responsible for wrong test results due to incorrect information (e.g., max. internal working frequency, antenna gain, cable loss, etc) is provided by the applicant. (If applicable).
2. SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (If applicable).
3. Sample source: sent by customer.

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **A2LA (Certificate No. 6332.01)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the American Association for Laboratory Accreditation(A2LA).

- **FCC (Designation Number: CN1301)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been recognized as an accredited testing laboratory.

- **ISED (CAB Identifier: CN0020)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. EMC Laboratory has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.
Company Number: 8617A

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-13868, C-14336, T-12221, G-10830 respectively.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

4.8 EMS Monitor

Visual: Working status of EUT,

Other: A support spectrum analyser and pick up antenna was used to monitor for any unintentional transmission from the EUT.

5 Equipment List

Conducted Emissions at AC Power Port					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
EMI test receiver	Rohde & Schwarz	ESR7	SHEM162-1	2024/12/18	2025/12/17
Line impedance stabilization network	SCHWARZBECK	NSLK8127	SHEM061-1	2024/12/18	2025/12/17
Line impedance stabilization network	EMCO	3816_2	SHEM019-1	2024/12/18	2025/12/17
Pulse limiter	Rohde & Schwarz	ESH3-Z2	SHEM029-1	2024/12/18	2025/12/17
Shielding Room	ZHONGYU	8*4*3M	SHEM079-2	2023/12/19	2026/12/18
CE test Cable	/	/	SHEM172-2	2024/12/18	2025/12/17
Test Software	ESE	e3	Version: 6.191211	N/A	N/A

Voltage Fluctuations and Flicker					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Harmonic&Flicker analyzer	AMETEK	PACS-1	SHEM024-2	2024/07/31	2025/07/30
AC Power Source 5KVA	AMETEK	5001iX	SHEM025-2	2024/07/31	2025/07/30
Test Software	AMETEK	CTS4	Version: 4.24.0	N/A	N/A
Harmonic&Flicker analyzer	EM TEST	DPA500	SHEM024-1	2024/07/31	2025/07/30
AC Power Source 6KVA	EM TEST	ACS500	SHEM025-1	2024/07/31	2025/07/30
Test Software	EM TEST	DPA	Version: 5.4.8.0	N/A	N/A
Harmonic & Flicker test system	DEWETRON	DEWE2-A4	SHEM274-1	2024/07/31	2025/07/30

Harmonic Current Emission					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Harmonic&Flicker analyzer	AMETEK	PACS-1	SHEM024-2	2024/07/31	2025/07/30
AC Power Source 5KVA	AMETEK	5001iX	SHEM025-2	2024/07/31	2025/07/30
Test Software	AMETEK	CTS4	Version: 4.24.0	N/A	N/A
Harmonic&Flicker analyzer	EM TEST	DPA500	SHEM024-1	2024/07/31	2025/07/30
AC Power Source 6KVA	EM TEST	ACS500	SHEM025-1	2024/07/31	2025/07/30
Test Software	EM TEST	DPA	Version: 5.4.8.0	N/A	N/A
Harmonic & Flicker test system	DEWETRON	DEWE2-A4	SHEM274-1	2024/07/31	2025/07/30

Electrostatic Discharge					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Electrostatic Discharge Simulator	TESEQ	NSG 437	SHEM041-2	2024/07/31	2025/07/30
Electrostatic Discharge Simulator	3CTEST	EDS20H	SHEM199-1	2024/12/18	2025/12/17

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Electrostatic discharge simulator	EM TEST	dito	SHEM289-1	2025/02/10	2026/02/09
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Radiated Immunity					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Signal generator	Rohde & Schwarz	SMB100A	SHEM194-1	2024/12/18	2025/12/17
Power Meter	Rohde & Schwarz	NRP	SHEM057-1	2024/07/31	2025/07/30
Power meter sensor	Rohde & Schwarz	NRP-Z91	SHEM057-4	2024/07/31	2025/07/30
Antenna	SCHWARZBECK	STLP9128D	SHEM130-1	N/A	N/A
Antenna	SCHWARZBECK	STLP9149	SHEM131-1	N/A	N/A
Amplifier	MILMEGA	AS0840-55-55	SHEM133-1	2024/12/18	2025/12/17
Amplifier	MILMEGA	80RF1000-250	SHEM132-1	2024/12/18	2025/12/17
Amplifier	Rohde & Schwarz	BBA150-E60	SHEM171-1	2024/12/18	2025/12/17
Power meter sensor	Rohde & Schwarz	NRP-Z22	SHEM136-1	2024/07/31	2025/07/30
ElectroMagnetic Field Probe	ETS-Lindgren	HI-6105	SHEM134-1	2024/08/16	2025/08/15
Semi/Fully Anechoic	ST	11*6*6M	SHEM078-2	2023/05/06	2026/05/05
Test Software	Rohde & Schwarz	EMC32	Version: 10.20.01	N/A	N/A
Power meter sensor	Rohde & Schwarz	NRP-Z91	SHEM057-5	2024/12/18	2025/12/17

Electrical Fast Transients Burst at AC Mains Power Port					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Immunity Test System	EMC PARTNER	TRA3000 F-S-D-V	SHEM163-1	2024/12/18	2025/12/17
Test Software	EMC-PARTNER	GENECS	Version: 3.29	N/A	N/A
Immunity Test System	TESEQ	NSG 3060	SHEM224-1	2024/07/31	2025/07/30
Coupling / Decoupling Network (CDN)	TESEQ	CDN 3061	SHEM224-3	2024/07/31	2025/07/30
EFT & Surge Generator	PRIMA	PRM61045TB	SHEM200-1	2024/09/27	2025/09/26
CDN for EFT & Surge	PRIMA	PRM-CDN	SHEM200-2	2024/09/27	2025/09/26

Surge at AC Mains Power Port					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Immunity Test System	EMC PARTNER	TRA3000 F-S-D-V	SHEM163-1	2024/12/18	2025/12/17
Test Software	EMC-PARTNER	GENECS	Version: 3.29	N/A	N/A
Immunity Test System	TESEQ	NSG 3060	SHEM224-1	2024/07/31	2025/07/30
Coupling / Decoupling Network (CDN)	TESEQ	CDN 3061	SHEM224-3	2024/07/31	2025/07/30
EFT & Surge Generator	PRIMA	PRM61045TB	SHEM200-1	2024/09/27	2025/09/26
CDN for EFT & Surge	PRIMA	PRM-CDN	SHEM200-2	2024/09/27	2025/09/26
Data coupling network 4 line	EM TEST	CNV 504	SHEM026-3	2024/12/18	2025/12/17
CDN for unsymmetrical interconnection lines (1.2/50us)	SCHAFFNER	CDN 117	SHEM224-5	2024/07/31	2025/07/30

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Conducted Immunity at AC Mains Power Port					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Signal generator	Rohde & Schwarz	SMB100A	SHEM194-1	2024/12/18	2025/12/17
Power Amplifier	HAEFFLY	PAMP250	SHEM023-1	2024/12/18	2025/12/17
6dB Attenuator	HUAXIANG	DTS50-6dB-1G-A	SHEM123-2	2024/12/18	2025/12/17
Power Meter	Rohde & Schwarz	NRP	SHEM057-1	2024/07/31	2025/07/30
Power meter sensor	Rohde & Schwarz	NRP-Z91	SHEM057-4	2024/07/31	2025/07/30
Coupling and Decoupling Network (CDN)	LUTHI	L-801 M1	SHEM023-5	2024/12/18	2025/12/17
Coupling and Decoupling Network (CDN)	LUTHI	L-801 M2/M3	SHEM023-6	2024/12/18	2025/12/17
Shielding Room	ZHONGYU	5*3*3M	SHEM079-6	2022/12/20	2025/12/19
Coupling and Decoupling Network	Teseq	CDN M016	SHEM168-1	2024/07/31	2025/07/30
Test Software	Rohde & Schwarz	EMC32	Version: 10.20.01	N/A	N/A
CDN	TESEQ	CDN M532	SHEM250-3	2024/12/18	2025/12/17
Power meter sensor	Rohde & Schwarz	NRP-Z91	SHEM057-5	2024/12/18	2025/12/17
Current Injection Probe	PRANA	IP-DR250	SHEM273-1	2024/12/18	2025/12/17
Test System for Conducted Immunity	TESEQ	NSG 4070	SHEM295-1	2024/12/18	2025/12/17

Voltage Dips and Interruptions					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Immunity Test System	EMC PARTNER	TRA3000 F-S-D-V	SHEM163-1	2024/12/18	2025/12/17
Test Software	EMC-PARTNER	GENECS	Version: 3.29	N/A	N/A
Immunity Test System	TESEQ	NSG 3060	SHEM224-1	2024/07/31	2025/07/30
Coupling / Decoupling Network (CDN)	TESEQ	CDN 3061	SHEM224-3	2024/07/31	2025/07/30
Manual step transformer	TESEQ	INA 6501	SHEM224-4	2024/07/31	2025/07/30
3 phase voltage dips & interruptions simulator	LIONCEL	VDS-1132A & TGL-332	SHME143-1~SHME143-4	2024/05/06	2025/05/05

General used equipment					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Atmospheric Pressure Meter	Nanjing XiangRuiDe	DYM3	SHEM082-2	2024-01-18	2027-01-17
Temperature&humidity recorder	ShangHai weather meter work	ZJ 1-2B	SHEM042-9~10	2024-12-22	2025-12-21
Temperature&humidity recorder	ShangHai weather meter work	ZJ 1-2B	SHEM042-5	2024-07-13	2025-07-12
Digital Temperature& humidity recorder	Jianda Renke	RS-WS-N01-6J	SHEM247-1~8	2025-01-06	2026-01-05
Digital Multimeter	FLUKE	17B+	SHEM271-7	2024-07-13	2025-07-12
Autoformer regulator	Guangzhou bao de	TDGC2-5KVA	SHEM150-1	N/A	N/A



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Multi-purpose tong tester	FLUKE	317	SHEM001-2	2024-10-30	2025-10-29
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6 Emission Test Results

6.1 Conducted Emissions at AC Power Port

Test Requirement: EN 301 489-1 V2.2.3
 EN 301 489-17 V3.3.1
 Test Method: EN 55032: 2015+A11:2020+A1:2020

Limit:
 0.15MHz-0.5MHz 66dB(μV)-56dB(μV) quasi-peak, 56dB(μV)-46dB(μV) average
 0.5MHz-5MHz 56dB(μV) quasi-peak, 46dB(μV) average
 5MHz-30MHz 60dB(μV) quasi-peak, 50dB(μV) average
 Detector: Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

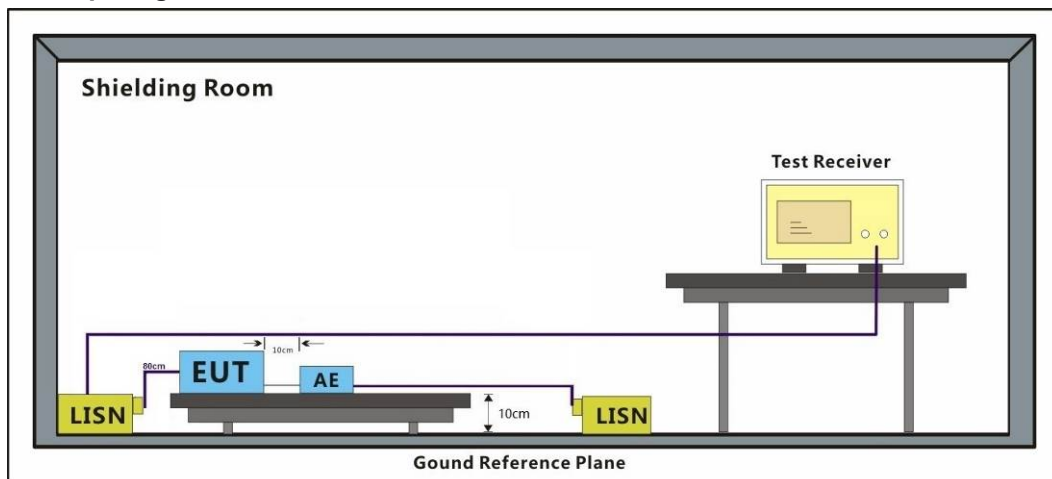
6.1.1 E.U.T. Operation

Operating Environment:
 Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

6.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Operation wireless mode: Establish the communication between EUT(Indoor unit 7+9+12) and Ipad mini via wifi function, and use the "APP" in Ipad mini to control EUT working continuously.
Final test	01	Operation wireless mode: Establish the communication between EUT(Indoor unit 7+9+18) and Ipad mini via wifi function, and use the "APP" in Ipad mini to control EUT working continuously.

6.1.3 Test Setup Diagram

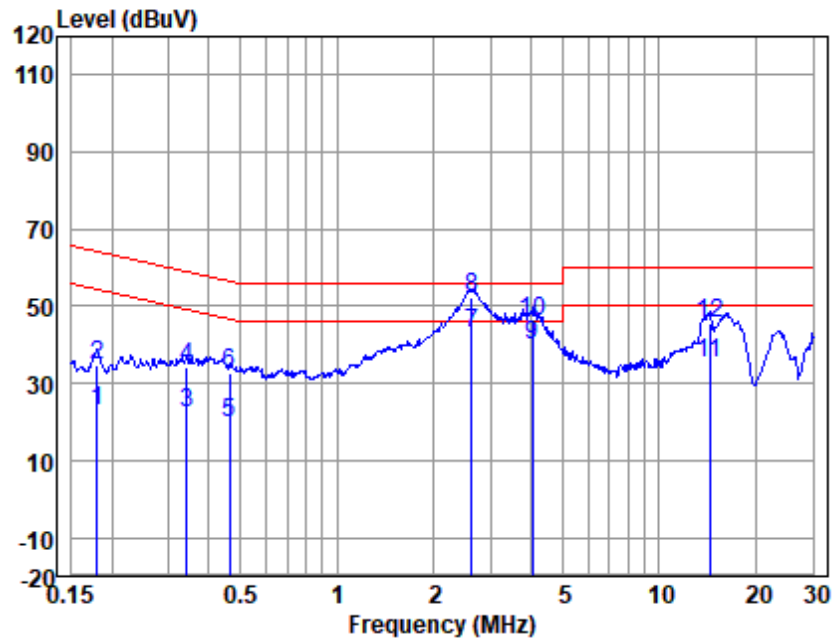


6.1.4 Measurement Procedure and Data

An initial pre-scan was performed with peak detector. Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected.

Remark: Level= Read Level+ Cable Loss+ LISN Factor

Test Mode: 00; Line: Live line

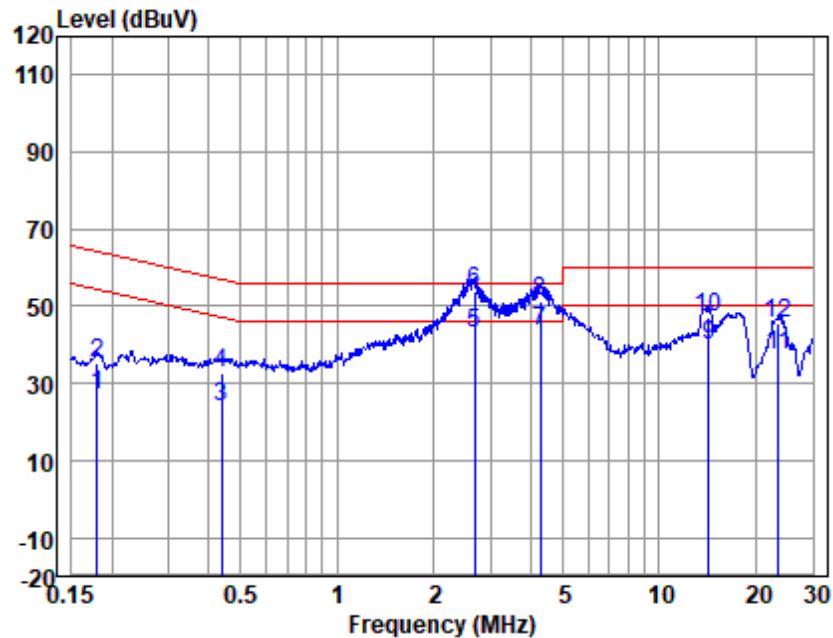


LISN : LINE
EUT/Project No : 0488HS
Test Mode : 00

	Freq (MHz)	Read level (dBuV)	LISN Factor (dB)	Cable Loss (dB)	Emission Level (dBuV)	Limit (dBuV)	Over Limit (dB)	Remark
1	0.18	12.57	0.50	9.90	22.97	54.50	-31.53	Average
2	0.18	24.28	0.50	9.90	34.68	64.50	-29.82	QP
3	0.34	12.33	0.38	9.90	22.61	49.18	-26.57	Average
4	0.34	23.94	0.38	9.90	34.22	59.18	-24.96	QP
5	0.46	9.42	0.32	9.90	19.64	46.63	-26.99	Average
6	0.46	22.51	0.32	9.90	32.73	56.63	-23.90	QP
7	2.61	33.01	0.30	9.90	43.21	46.00	-2.79	Average
8	2.61	41.99	0.30	9.90	52.19	56.00	-3.81	QP
9	4.03	29.54	0.30	9.90	39.74	46.00	-6.26	Average
10	4.03	35.86	0.30	9.90	46.06	56.00	-9.94	QP
11	14.36	24.49	0.60	10.00	35.09	50.00	-14.91	Average
12	14.36	35.13	0.60	10.00	45.73	60.00	-14.27	QP

Notes: Emission Level = Read Level + LISN Factor + Cable loss

Test Mode: 00; Line: Neutral Line

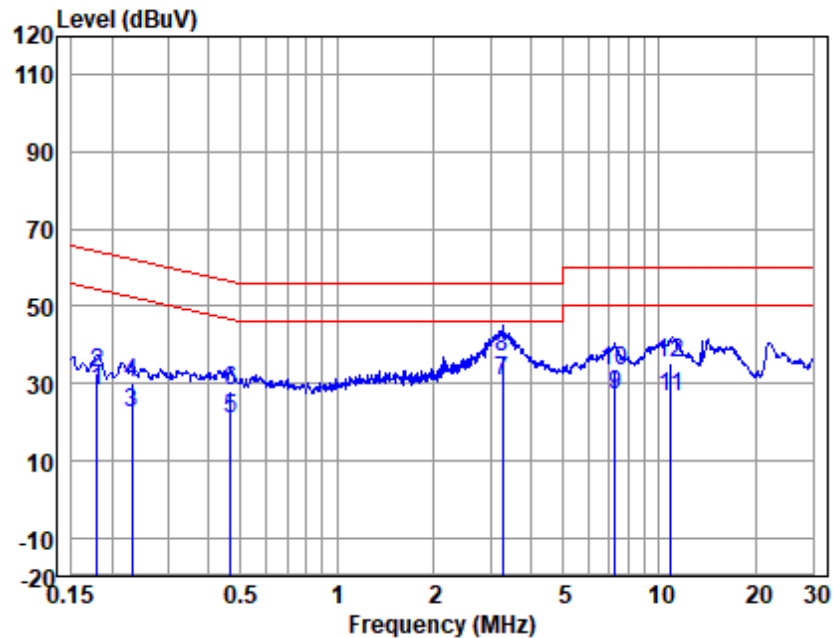


LISN : NEUTRAL
EUT/Project No : 0488HS
Test Mode : 00

	Freq (MHz)	Read level (dBuV)	LISN Factor (dB)	Cable Loss (dB)	Emission Level (dBuV)	Limit (dBuV)	Over Limit (dB)	Remark
1	0.18	16.90	0.42	9.90	27.22	54.50	-27.28	Average
2	0.18	24.96	0.42	9.90	35.28	64.50	-29.22	QP
3	0.44	13.45	0.40	9.90	23.75	47.11	-23.36	Average
4	0.44	22.36	0.40	9.90	32.66	57.11	-24.45	QP
5	2.68	32.98	0.36	9.90	43.24	46.00	-2.76	Average
6	2.68	43.69	0.36	9.90	53.95	56.00	-2.05	QP
7	4.27	33.35	0.47	9.90	43.72	46.00	-2.28	Average
8	4.27	40.70	0.47	9.90	51.07	56.00	-4.93	QP
9	14.21	29.53	0.51	10.00	40.04	50.00	-9.96	Average
10	14.21	36.54	0.51	10.00	47.05	60.00	-12.95	QP
11	23.39	25.92	1.14	10.17	37.23	50.00	-12.77	Average
12	23.39	34.47	1.14	10.17	45.78	60.00	-14.22	QP

Notes: Emission Level = Read Level + LISN Factor + Cable loss

Test Mode: 01; Line: Live line

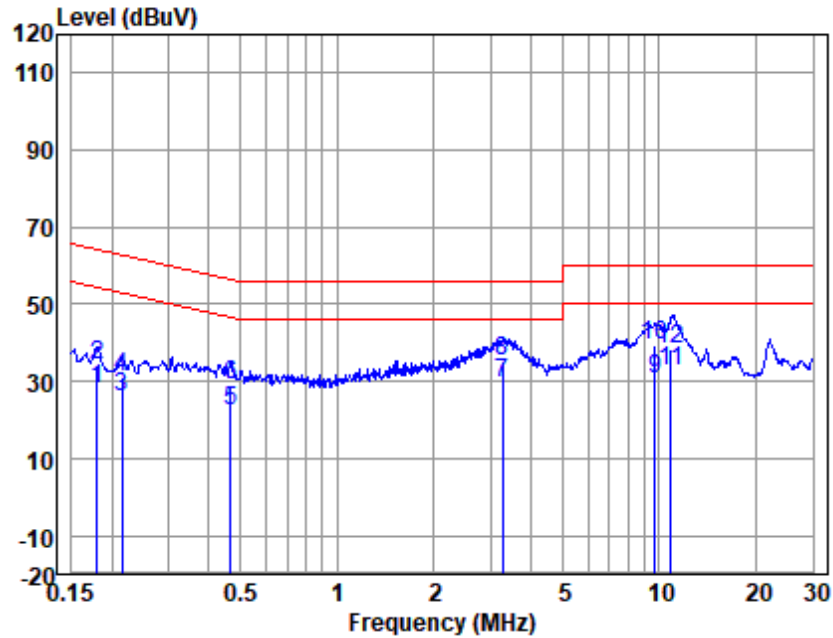


LISN : LINE
EUT/Project No : 0488HS
Test Mode : 01

	Freq (MHz)	Read level (dBuV)	LISN Factor (dB)	Cable Loss (dB)	Emission Level (dBuV)	Limit (dBuV)	Over Limit (dB)	Remark
1	0.18	17.48	0.50	9.90	27.88	54.50	-26.62	Average
2	0.18	22.22	0.50	9.90	32.62	64.50	-31.88	QP
3	0.23	12.22	0.47	9.90	22.59	52.44	-29.85	Average
4	0.23	19.52	0.47	9.90	29.89	62.44	-32.55	QP
5	0.47	10.75	0.31	9.90	20.96	46.58	-25.62	Average
6	0.47	17.84	0.31	9.90	28.05	56.58	-28.53	QP
7	3.26	20.45	0.30	9.90	30.65	46.00	-15.35	Average
8	3.26	26.59	0.30	9.90	36.79	56.00	-19.21	QP
9	7.29	16.69	0.42	10.00	27.11	50.00	-22.89	Average
10	7.29	22.62	0.42	10.00	33.04	60.00	-26.96	QP
11	10.90	15.70	0.60	10.00	26.30	50.00	-23.70	Average
12	10.90	24.84	0.60	10.00	35.44	60.00	-24.56	QP

Notes: Emission Level = Read Level + LISN Factor + Cable loss

Test Mode: 01; Line: Neutral Line



LISN : NEUTRAL
EUT/Project No : 0488HS
Test Mode : 01

	Freq (MHz)	Read level (dBuV)	LISN Factor (dB)	Cable Loss (dB)	Emission Level (dBuV)	Limit (dBuV)	Over Limit (dB)	Remark
1	0.18	17.69	0.42	9.90	28.01	54.50	-26.49	Average
2	0.18	23.67	0.42	9.90	33.99	64.50	-30.51	QP
3	0.22	15.47	0.40	9.90	25.77	53.01	-27.24	Average
4	0.22	21.07	0.40	9.90	31.37	63.01	-31.64	QP
5	0.47	12.27	0.40	9.90	22.57	46.58	-24.01	Average
6	0.47	18.91	0.40	9.90	29.21	56.58	-27.37	QP
7	3.26	19.10	0.41	9.90	29.41	46.00	-16.59	Average
8	3.26	24.72	0.41	9.90	35.03	56.00	-20.97	QP
9	9.71	20.13	0.58	10.00	30.71	50.00	-19.29	Average
10	9.71	29.02	0.58	10.00	39.60	60.00	-20.40	QP
11	10.90	22.03	0.58	10.00	32.61	50.00	-17.39	Average
12	10.90	27.86	0.58	10.00	38.44	60.00	-21.56	QP

Notes: Emission Level = Read Level + LISN Factor + Cable loss

6.2 Voltage Fluctuations and Flicker

Test Requirement: EN 61000-3-3: 2013+ A1:2019+A2:2021
EN 301 489-17 V3.3.1

Test Method: EN 61000-3-3: 2013+ A1:2019+A2:2021

6.2.1 E.U.T. Operation

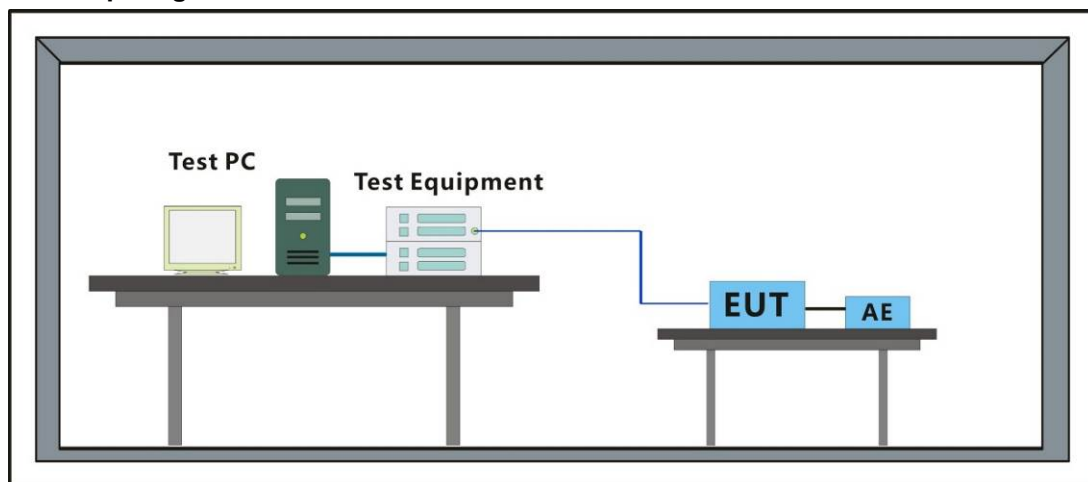
Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

6.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Operation wireless mode: Establish the communication between EUT(Indoor unit 7+9+12) and Ipad mini via wifi function, and use the "APP" in Ipad mini to control EUT working continuously.
Final test	01	Operation wireless mode: Establish the communication between EUT(Indoor unit 7+9+18) and Ipad mini via wifi function, and use the "APP" in Ipad mini to control EUT working continuously.

6.2.3 Test Setup Diagram



6.2.4 Measurement Procedure and Data



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Test Mode: 00

Maximum Flicker results

	EUT values	Limit	Result
Pst	0.492	1.00	PASS
Plt	0.396	0.65	PASS
dc [%]	1.613	3.30	PASS
dmax [%]	1.811	6.00	PASS
dt [s]	0.000	0.50	PASS



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Test Mode: 01

Maximum Flicker results

	EUT values	Limit	Result
Pst	0.531	1.00	PASS
Plt	0.476	0.65	PASS
dc [%]	1.691	3.30	PASS
dmax [%]	1.763	6.00	PASS
dt [s]	0.000	0.50	PASS

6.3 Harmonic Current Emission

Test Requirement: EN IEC 61000-3-2: 2019+A1:2021+A2:2024
EN 301 489-17 V3.3.1

Test Method: EN IEC 61000-3-2: 2019+A1:2021+A2:2024

6.3.1 E.U.T. Operation

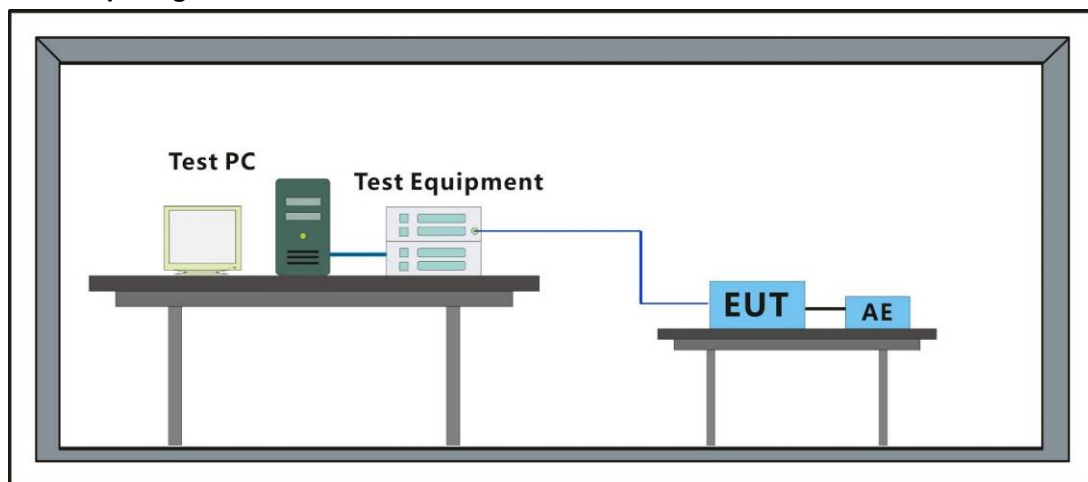
Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

6.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Operation wireless mode: Establish the communication between EUT(Indoor unit 7+9+12) and Ipad mini via wifi function, and use the "APP" in Ipad mini to control EUT working continuously.
Final test	01	Operation wireless mode: Establish the communication between EUT(Indoor unit 7+9+18) and Ipad mini via wifi function, and use the "APP" in Ipad mini to control EUT working continuously.

6.3.3 Test Setup Diagram



6.3.4 Measurement Procedure and Data

Frequency Range: 100Hz to 2kHz

Test Mode: 00

Average harmonic current results

Hn	I _{eff} [A]	% of Limit	Limit [A]	Result
1	3.495			
2	18.835E-3	1.744	1.08	PASS
3	23.645E-3	1.028	2.30	PASS
4	11.301E-3	2.628	430.00E-3	PASS
5	7.725E-3	0.678	1.14	PASS
6	8.639E-3	2.880	300.00E-3	PASS
7	8.397E-3	1.091	770.00E-3	PASS
8	7.217E-3	3.138	230.00E-3	PASS
9	7.398E-3	1.850	400.00E-3	PASS
10	5.433E-3	2.953	184.00E-3	PASS
11	4.677E-3	1.417	330.00E-3	PASS
12	4.500E-3	2.935	153.33E-3	PASS
13	4.080E-3	1.943	210.00E-3	PASS
14	3.265E-3	2.484	131.43E-3	PASS
15	3.345E-3	2.230	150.00E-3	PASS
16	2.427E-3	2.110	115.00E-3	PASS
17	2.576E-3	1.946	132.35E-3	PASS
18	2.310E-3	2.260	102.22E-3	PASS
19	2.908E-3	2.456	118.42E-3	PASS
20	2.089E-3	2.271	92.00E-3	PASS
21	2.150E-3	1.338	160.71E-3	PASS
22	1.910E-3	2.284	83.64E-3	PASS
23	2.073E-3	1.413	146.74E-3	PASS
24	1.887E-3	2.462	76.66E-3	PASS
25	2.257E-3	1.672	135.00E-3	PASS
26	1.747E-3	2.469	70.77E-3	PASS
27	2.335E-3	1.868	124.99E-3	PASS
28	1.493E-3	2.272	65.71E-3	PASS
29	1.870E-3	1.606	116.39E-3	PASS
30	1.339E-3	2.184	61.33E-3	PASS
31	1.444E-3	1.326	108.87E-3	PASS
32	1.465E-3	2.548	57.50E-3	PASS
33	2.029E-3	1.984	102.27E-3	PASS
34	1.393E-3	2.574	54.12E-3	PASS
35	1.477E-3	1.532	96.44E-3	PASS
36	1.265E-3	2.474	51.11E-3	PASS
37	1.996E-3	2.189	91.21E-3	PASS
38	1.297E-3	2.678	48.42E-3	PASS
39	1.232E-3	1.423	86.53E-3	PASS
40	1.199E-3	2.607	46.00E-3	PASS

Maximum harmonic current results

Hn	I _{eff} [A]	% of Limit	Limit [A]	Result
1	7.107			
2	133.689E-3	8.252	1.62	PASS
3	80.674E-3	2.338	3.45	PASS
4	51.608E-3	8.001	645.00E-3	PASS
5	39.213E-3	2.293	1.71	PASS
6	33.859E-3	7.524	450.00E-3	PASS
7	29.754E-3	2.576	1.15	PASS
8	25.693E-3	7.447	345.00E-3	PASS
9	23.288E-3	3.881	600.00E-3	PASS
10	20.398E-3	7.391	276.00E-3	PASS
11	18.956E-3	3.830	495.00E-3	PASS
12	16.930E-3	7.361	229.99E-3	PASS
13	15.877E-3	5.040	315.00E-3	PASS
14	14.372E-3	7.290	197.15E-3	PASS
15	13.315E-3	5.918	225.00E-3	PASS
16	12.291E-3	7.125	172.50E-3	PASS
17	11.750E-3	5.919	198.52E-3	PASS
18	11.016E-3	7.184	153.33E-3	PASS
19	10.457E-3	5.887	177.63E-3	PASS
20	9.697E-3	7.027	138.00E-3	PASS
21	9.633E-3	5.994	160.71E-3	PASS
22	8.946E-3	7.130	125.46E-3	PASS
23	8.734E-3	5.952	146.74E-3	PASS
24	8.376E-3	7.284	114.99E-3	PASS
25	8.328E-3	6.169	135.00E-3	PASS
26	7.788E-3	7.337	106.16E-3	PASS
27	7.795E-3	6.236	124.99E-3	PASS
28	7.256E-3	7.362	98.57E-3	PASS
29	7.322E-3	6.291	116.39E-3	PASS
30	6.686E-3	7.268	92.00E-3	PASS
31	6.694E-3	6.148	108.87E-3	PASS
32	6.642E-3	7.700	86.25E-3	PASS
33	6.643E-3	6.495	102.27E-3	PASS
34	6.209E-3	7.648	81.18E-3	PASS
35	5.892E-3	6.110	96.44E-3	PASS
36	5.885E-3	7.676	76.66E-3	PASS
37	6.178E-3	6.773	91.21E-3	PASS
38	5.641E-3	7.767	72.63E-3	PASS
39	5.460E-3	6.310	86.53E-3	PASS
40	5.444E-3	7.889	69.00E-3	PASS

Maximum harmonic voltage results

Hn	Ueff [V]	Ueff [%]	Limit [%]	Result
1	231.06	100.462		
2	99.15E-3	0.043	0.2	PASS
3	89.86E-3	0.039	0.9	PASS
4	19.02E-3	0.008	0.2	PASS
5	32.19E-3	0.014	0.4	PASS
6	12.21E-3	0.005	0.2	PASS
7	56.43E-3	0.025	0.3	PASS
8	16.74E-3	0.007	0.2	PASS
9	83.83E-3	0.036	0.2	PASS
10	20.10E-3	0.009	0.2	PASS
11	81.29E-3	0.035	0.1	PASS
12	17.73E-3	0.008	0.1	PASS
13	34.20E-3	0.015	0.1	PASS
14	12.89E-3	0.006	0.1	PASS
15	57.13E-3	0.025	0.1	PASS
16	16.60E-3	0.007	0.1	PASS
17	83.23E-3	0.036	0.1	PASS
18	13.34E-3	0.006	0.1	PASS
19	90.51E-3	0.039	0.1	PASS
20	15.07E-3	0.007	0.1	PASS
21	59.43E-3	0.026	0.1	PASS
22	15.14E-3	0.007	0.1	PASS
23	39.67E-3	0.017	0.1	PASS
24	13.78E-3	0.006	0.1	PASS
25	73.79E-3	0.032	0.1	PASS
26	14.23E-3	0.006	0.1	PASS
27	87.83E-3	0.038	0.1	PASS
28	14.19E-3	0.006	0.1	PASS
29	65.84E-3	0.029	0.1	PASS
30	13.86E-3	0.006	0.1	PASS
31	40.20E-3	0.017	0.1	PASS
32	12.66E-3	0.006	0.1	PASS
33	50.60E-3	0.022	0.1	PASS
34	13.13E-3	0.006	0.1	PASS
35	70.96E-3	0.031	0.1	PASS
36	11.63E-3	0.005	0.1	PASS
37	70.68E-3	0.031	0.1	PASS
38	12.12E-3	0.005	0.1	PASS
39	52.15E-3	0.023	0.1	PASS
40	11.50E-3	0.005	0.1	PASS

Power and THD results - DS: 43



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True power P:	1.641kW	Apparent power S:	1.641kVA
Reactiv power Q:	25.16var	Power factor:	1.000
THD (U):	0.001	THD (I):	0.004
Crest Factor (U):	1.414	Crest Factor (I):	1.41

Test Mode: 01

Average harmonic current results

Hn	I _{eff} [A]	% of Limit	Limit [A]	Result
1	7.136			
2	125.250E-3	11.597	1.08	PASS
3	44.991E-3	1.956	2.30	PASS
4	83.715E-3	19.469	430.00E-3	PASS
5	73.101E-3	6.412	1.14	PASS
6	82.735E-3	27.578	300.00E-3	PASS
7	49.948E-3	6.487	770.00E-3	PASS
8	49.924E-3	21.706	230.00E-3	PASS
9	47.127E-3	11.782	400.00E-3	PASS
10	49.717E-3	27.020	184.00E-3	PASS
11	37.975E-3	11.507	330.00E-3	PASS
12	23.723E-3	15.472	153.33E-3	PASS
13	52.875E-3	25.179	210.00E-3	PASS
14	20.411E-3	15.530	131.43E-3	PASS
15	36.769E-3	24.513	150.00E-3	PASS
16	27.590E-3	23.992	115.00E-3	PASS
17	42.143E-3	31.842	132.35E-3	PASS
18	42.139E-3	41.224	102.22E-3	PASS
19	24.319E-3	20.536	118.42E-3	PASS
20	46.330E-3	50.358	92.00E-3	PASS
21	24.671E-3	15.351	160.71E-3	PASS
22	55.549E-3	66.414	83.64E-3	PASS
23	16.102E-3	10.973	146.74E-3	PASS
24	54.539E-3	71.144	76.66E-3	PASS
25	17.997E-3	13.331	135.00E-3	PASS
26	51.571E-3	72.871	70.77E-3	PASS
27	15.727E-3	12.582	124.99E-3	PASS
28	47.707E-3	72.602	65.71E-3	PASS
29	17.893E-3	15.374	116.39E-3	PASS
30	39.083E-3	63.726	61.33E-3	PASS
31	16.777E-3	15.410	108.87E-3	PASS
32	31.742E-3	55.203	57.50E-3	PASS
33	19.701E-3	19.264	102.27E-3	PASS
34	25.161E-3	46.491	54.12E-3	PASS
35	18.631E-3	19.320	96.44E-3	PASS
36	18.356E-3	35.914	51.11E-3	PASS
37	17.156E-3	18.809	91.21E-3	PASS
38	17.174E-3	35.469	48.42E-3	PASS
39	25.623E-3	29.610	86.53E-3	PASS
40	14.764E-3	32.096	46.00E-3	PASS

Maximum harmonic current results

Hn	I _{eff} [A]	% of Limit	Limit [A]	Result
1	7.223			
2	142.381E-3	8.789	1.62	PASS
3	70.179E-3	2.034	3.45	PASS
4	89.828E-3	13.927	645.00E-3	PASS
5	84.703E-3	4.953	1.71	PASS
6	85.527E-3	19.006	450.00E-3	PASS
7	71.089E-3	6.155	1.15	PASS
8	52.810E-3	15.307	345.00E-3	PASS
9	70.277E-3	11.713	600.00E-3	PASS
10	52.668E-3	19.082	276.00E-3	PASS
11	57.666E-3	11.650	495.00E-3	PASS
12	26.095E-3	11.346	229.99E-3	PASS
13	66.426E-3	21.088	315.00E-3	PASS
14	23.215E-3	11.776	197.15E-3	PASS
15	45.461E-3	20.205	225.00E-3	PASS
16	29.338E-3	17.008	172.50E-3	PASS
17	47.826E-3	24.091	198.52E-3	PASS
18	45.075E-3	29.398	153.33E-3	PASS
19	27.726E-3	15.609	177.63E-3	PASS
20	48.748E-3	35.325	138.00E-3	PASS
21	27.953E-3	17.393	160.71E-3	PASS
22	57.877E-3	46.132	125.46E-3	PASS
23	20.213E-3	13.774	146.74E-3	PASS
24	56.382E-3	49.032	114.99E-3	PASS
25	21.560E-3	15.971	135.00E-3	PASS
26	53.111E-3	50.032	106.16E-3	PASS
27	17.882E-3	14.306	124.99E-3	PASS
28	49.620E-3	50.342	98.57E-3	PASS
29	20.571E-3	17.675	116.39E-3	PASS
30	40.792E-3	44.341	92.00E-3	PASS
31	18.604E-3	17.088	108.87E-3	PASS
32	33.594E-3	38.950	86.25E-3	PASS
33	21.220E-3	20.749	102.27E-3	PASS
34	26.873E-3	33.102	81.18E-3	PASS
35	21.126E-3	21.906	96.44E-3	PASS
36	20.481E-3	26.715	76.66E-3	PASS
37	19.207E-3	21.057	91.21E-3	PASS
38	19.437E-3	26.762	72.63E-3	PASS
39	28.514E-3	32.951	86.53E-3	PASS
40	18.321E-3	26.552	69.00E-3	PASS

Maximum harmonic voltage results

Hn	Ueff [V]	Ueff [%]	Limit [%]	Result
1	230.88	100.383		
2	86.70E-3	0.038	0.2	PASS
3	82.06E-3	0.036	0.9	PASS
4	29.32E-3	0.013	0.2	PASS
5	45.14E-3	0.020	0.4	PASS
6	29.35E-3	0.013	0.2	PASS
7	48.55E-3	0.021	0.3	PASS
8	30.64E-3	0.013	0.2	PASS
9	57.18E-3	0.025	0.2	PASS
10	26.35E-3	0.011	0.2	PASS
11	47.65E-3	0.021	0.1	PASS
12	21.76E-3	0.009	0.1	PASS
13	63.73E-3	0.028	0.1	PASS
14	19.75E-3	0.009	0.1	PASS
15	37.58E-3	0.016	0.1	PASS
16	32.29E-3	0.014	0.1	PASS
17	59.45E-3	0.026	0.1	PASS
18	39.97E-3	0.017	0.1	PASS
19	52.51E-3	0.023	0.1	PASS
20	34.50E-3	0.015	0.1	PASS
21	56.52E-3	0.025	0.1	PASS
22	32.29E-3	0.014	0.1	PASS
23	48.11E-3	0.021	0.1	PASS
24	29.84E-3	0.013	0.1	PASS
25	37.28E-3	0.016	0.1	PASS
26	33.34E-3	0.014	0.1	PASS
27	47.23E-3	0.021	0.1	PASS
28	30.70E-3	0.013	0.1	PASS
29	52.67E-3	0.023	0.1	PASS
30	34.46E-3	0.015	0.1	PASS
31	53.86E-3	0.023	0.1	PASS
32	33.29E-3	0.014	0.1	PASS
33	64.36E-3	0.028	0.1	PASS
34	40.17E-3	0.017	0.1	PASS
35	56.32E-3	0.024	0.1	PASS
36	37.98E-3	0.017	0.1	PASS
37	39.83E-3	0.017	0.1	PASS
38	44.14E-3	0.019	0.1	PASS
39	46.09E-3	0.020	0.1	PASS
40	37.82E-3	0.016	0.1	PASS

Power and THD results - DS: 671



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True power P:	1.67kW	Apparent power S:	1.675kVA
Reactiv power Q:	122.1var	Power factor:	0.997
THD (U):	0.001	THD (I):	0.036
Crest Factor (U):	1.414	Crest Factor (I):	1.404

7 Immunity Test Results

Performance Criteria Description in EN 301 489-1 V2.2.3

Performance criteria for continuous phenomena	During the test, the equipment shall: • continue to operate as intended; • not unintentionally transmit; • not unintentionally change its operating state; • not unintentionally change critical stored data.
Performance criteria for transient phenomena	For all ports and transient phenomena with the exception described below, the following applies: • The application of the transient phenomena shall not result in a change of the mode of operation (e.g. unintended transmission) or the loss of critical stored data. • After application of the transient phenomena, the equipment shall operate as intended. For surges applied to symmetrically operated wired network ports intended to be connected directly to outdoor lines the following criteria applies: • For products with only one symmetrical port intended for connection to outdoor lines, loss of function is allowed, provided the function is self-recoverable, or can be otherwise restored. Information stored in non-volatile memory, or protected by a battery backup, shall not be lost. • For products with more than one symmetrical port intended for connection to outdoor lines, loss of function on the port under test is allowed, provided the function is self-recoverable. Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

Performance Criteria Description in EN 301 489-17 V3.3.1

Criteria	During Test	After Test (i.e. as a result of the application of the test)
A	Shall operate as intended. (see note). Shall be no loss of function. Shall be no unintentional transmissions.	Shall operate as intended. Shall be no degradation of performance. Shall be no loss of function. Shall be no loss of critical stored data.
B	May be loss of function.	Functions shall be self-recoverable. Shall operate as intended after recovering. Shall be no loss of critical stored data.
C	May be loss of function.	Functions shall be recoverable by the operator. Shall operate as intended after recovering. Shall be no loss of critical stored data.

NOTE: Operate as intended during the test shall be considered as:

- For equipment that supports a PER or FER, the minimum performance level shall be a PER or FER less than or equal to 10 %.
- For equipment that does not support a PER or a FER, (e.g. audio equipment and equipment transmitting sporadic messages) the minimum performance level shall be no loss of the wireless transmission function needed for the intended use of the equipment.

Performance criteria for Continuous phenomena

The performance criteria A shall apply.

Where the EUT is a transmitter in standby mode, unintentional transmission shall not occur during the test.

Where the EUT is a transceiver in receive mode, unintentional transmission shall not occur during the test.

Performance criteria for Transient phenomena



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The performance criteria B shall apply for transient phenomena, except for voltage dips greater than or equal to 100 ms, voltage interruptions of 5 000 ms duration, and surges of 10/700 μ s for which performance criteria C shall apply.

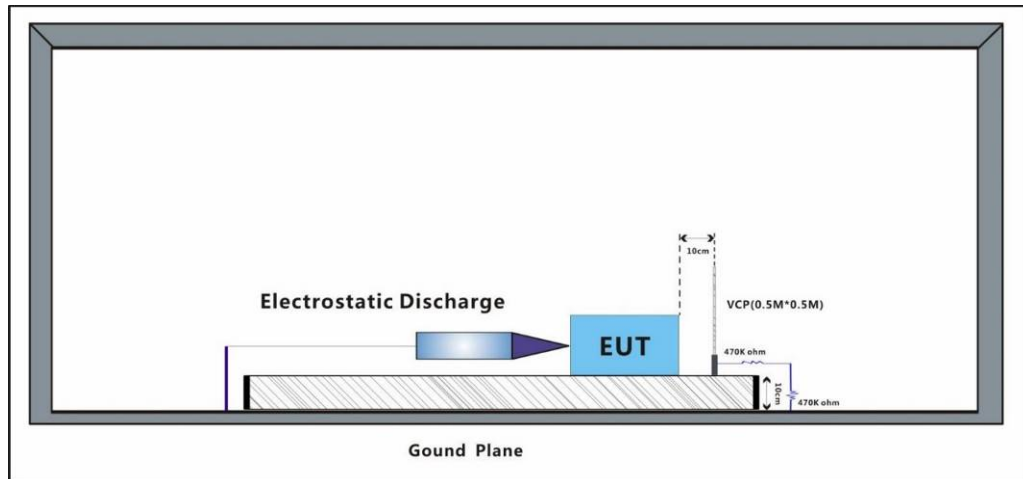
Where the EUT is a transmitter in standby mode, unintentional transmission shall not occur as a result of the application of the test.

Where the EUT is a transceiver in receive mode, unintentional transmission shall not occur as a result of the application of the test.

7.1 Electrostatic Discharge

Test Requirement: EN 301 489-1 V2.2.3
EN 301 489-17 V3.3.1
Test Method: EN 61000-4-2:2009

7.1.1 Test Setup Diagram



7.1.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

7.1.3 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Operation wireless mode: Establish the communication between EUT(Indoor unit 7+9+12) and Ipad mini via wifi function, and use the "APP" in Ipad mini to control EUT working continuously.
Final test	01	Operation wireless mode: Establish the communication between EUT(Indoor unit 7+9+18) and Ipad mini via wifi function, and use the "APP" in Ipad mini to control EUT working continuously.

7.1.4 Test Condition and Results:

Performance Criterion: B

Discharge Impedance: 330Ω/150pF

Number of Discharge: Minimum 10 times at each test point

Discharge Mode: Single Discharge

Discharge Period: 1 second minimum

Test Point:

1. All insulated enclosure and seams.
2. All accessible metal parts of the enclosure.
3. All side



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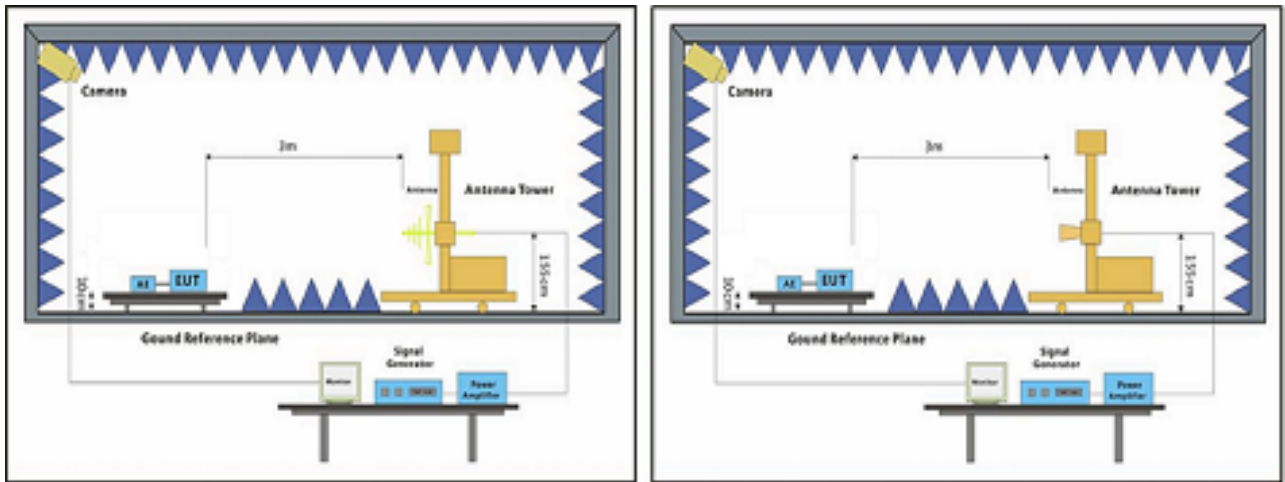
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Discharge type	Level (kV)	Polarity	Test Point	Result / Observations
Air Discharge	2,4,8	+	1	A
Air Discharge	2,4,8	-	1	A
Contact Discharge	4	+	2	A
Contact Discharge	4	-	2	A
Vertical Coupling	4	+	3	A
Vertical Coupling	4	-	3	A
A: No degradation in the performance of the EUT was observed				

7.2 Radiated Immunity

Test Requirement: EN 301 489-1 V2.2.3
EN 301 489-17 V3.3.1
Test Method: EN IEC 61000-4-3:2020

7.2.1 Test Setup Diagram



7.2.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

7.2.3 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Operation wireless mode: Establish the communication between EUT(Indoor unit 7+9+12) and Ipad mini via wifi function, and use the "APP" in Ipad mini to control EUT working continuously.
Final test	01	Operation wireless mode: Establish the communication between EUT(Indoor unit 7+9+18) and Ipad mini via wifi function, and use the "APP" in Ipad mini to control EUT working continuously.

7.2.4 Test Condition and Results:

Performance Criterion: A

Frequency Range: 80MHz to 6GHz

Antenna Polarisation: Vertical and Horizontal

Modulation: 1kHz,80% Amp. Mod,1% increment

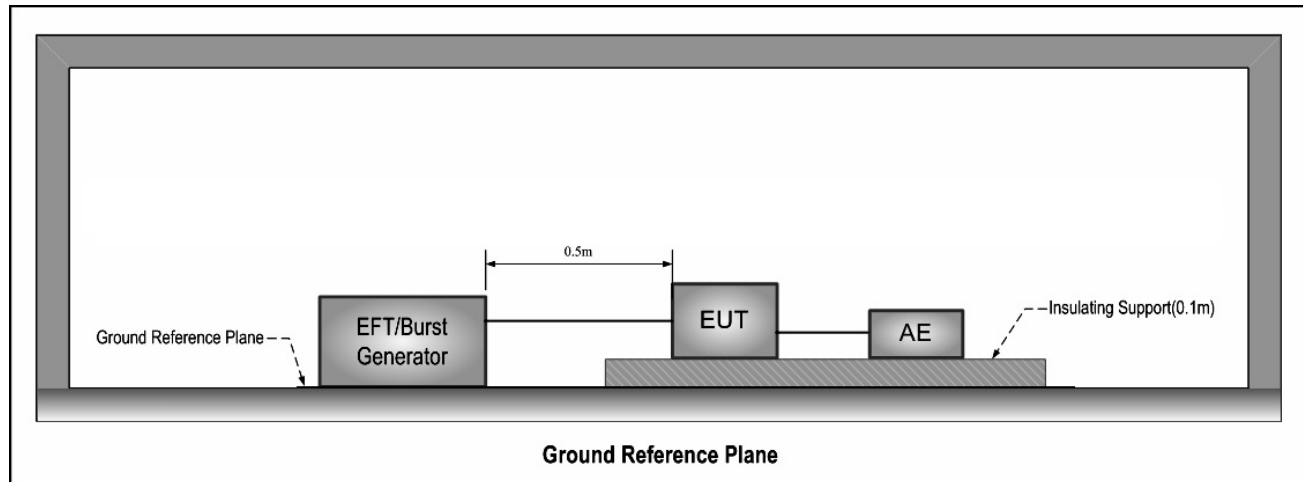
Frequency	Level (V/m)	EUT Face	Dwell time	Result / Observations
80MHz-6GHz	3	Front	2s	A
80MHz-6GHz	3	Back	2s	A
80MHz-6GHz	3	Left	2s	A
80MHz-6GHz	3	Right	2s	A

A: No degradation in the performance of the EUT was observed

7.3 Electrical Fast Transients Burst at AC Mains Power Port

Test Requirement: EN 301 489-1 V2.2.3
EN 301 489-17 V3.3.1
Test Method: EN 61000-4-4:2012

7.3.1 Test Setup Diagram



7.3.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

7.3.3 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Operation wireless mode: Establish the communication between EUT(Indoor unit 7+9+12) and Ipad mini via wifi function, and use the "APP" in Ipad mini to control EUT working continuously.
Final test	01	Operation wireless mode: Establish the communication between EUT(Indoor unit 7+9+18) and Ipad mini via wifi function, and use the "APP" in Ipad mini to control EUT working continuously.

7.3.4 Test Condition and Results:

Performance Criterion: B

Repetition Frequency: 5kHz

Burst Period: 300ms

Test Line	Level (kV)	Polarity	CDN/Clamp	Result / Observations
AC power port	1	+	CDN	A
AC power port	1	-	CDN	A

A: No degradation in the performance of the EUT was observed

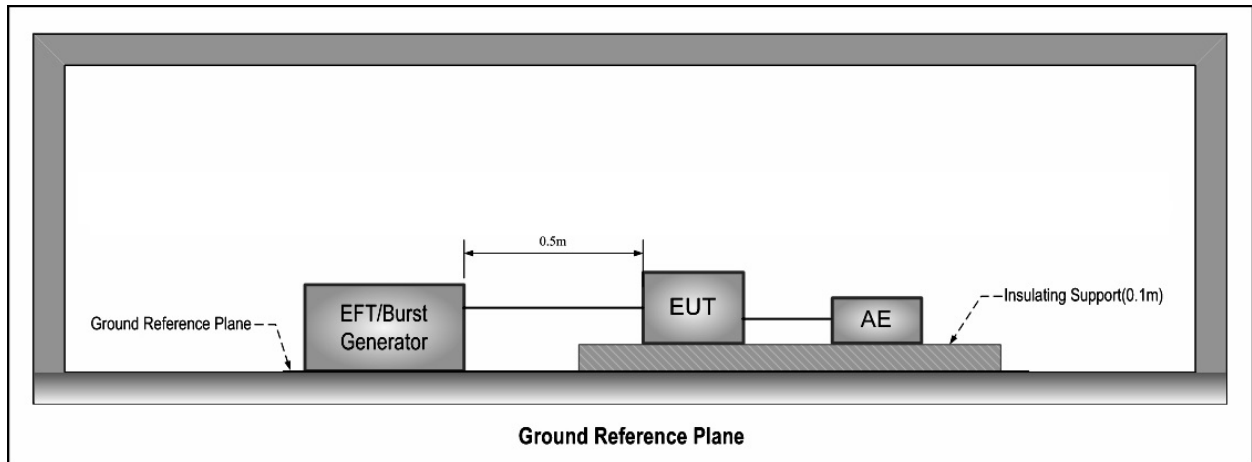
7.4 Surge at AC Mains Power Port

Test Requirement: EN 301 489-1 V2.2.3

EN 301 489-17 V3.3.1

Test Method: EN 61000-4-5:2014 +A1:2017

7.4.1 Test Setup Diagram



7.4.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C

Humidity: 50 % RH

Atmospheric Pressure: 1010 mbar

7.4.3 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Operation wireless mode: Establish the communication between EUT(Indoor unit 7+9+12) and Ipad mini via wifi function, and use the "APP" in Ipad mini to control EUT working continuously.
Final test	01	Operation wireless mode: Establish the communication between EUT(Indoor unit 7+9+18) and Ipad mini via wifi function, and use the "APP" in Ipad mini to control EUT working continuously.

7.4.4 Test Condition and Results:

Performance Criterion: B

Interval: 60s between each surge

No. of surges: 5 positive, 5 negative at 0°, 90°, 180°, 270°

Test Line	Level (kV)	Polarity	Phase (deg)	Result / Observations
L-N	0.5,1	+	0°	A
L-N	0.5,1	-	0°	A
L-N	0.5,1	+	90°	A
L-N	0.5,1	-	90°	A
L-N	0.5,1	+	180°	A
L-N	0.5,1	-	180°	A
L-N	0.5,1	+	270°	A



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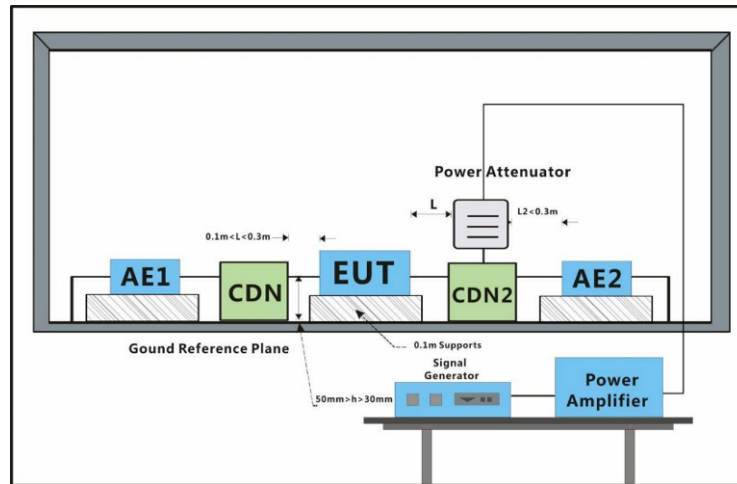
L-N	0.5,1	-	270°	A
L-PE	0.5,1,2	+	0°	A
L-PE	0.5,1,2	-	0°	A
L-PE	0.5,1,2	+	90°	A
L-PE	0.5,1,2	-	90°	A
L-PE	0.5,1,2	+	180°	A
L-PE	0.5,1,2	-	180°	A
L-PE	0.5,1,2	+	270°	A
L-PE	0.5,1,2	-	270°	A
N-PE	0.5,1,2	+	0°	A
N-PE	0.5,1,2	-	0°	A
N-PE	0.5,1,2	+	90°	A
N-PE	0.5,1,2	-	90°	A
N-PE	0.5,1,2	+	180°	A
N-PE	0.5,1,2	-	180°	A
N-PE	0.5,1,2	+	270°	A
N-PE	0.5,1,2	-	270°	A

A: No degradation in the performance of the EUT was observed

7.5 Conducted Immunity at AC Mains Power Port

Test Requirement: EN 301 489-1 V2.2.3
EN 301 489-17 V3.3.1
Test Method: EN 61000-4-6:2014

7.5.1 Test Setup Diagram



7.5.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

7.5.3 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Operation wireless mode: Establish the communication between EUT(Indoor unit 7+9+12) and Ipad mini via wifi function, and use the "APP" in Ipad mini to control EUT working continuously.
Final test	01	Operation wireless mode: Establish the communication between EUT(Indoor unit 7+9+18) and Ipad mini via wifi function, and use the "APP" in Ipad mini to control EUT working continuously.

7.5.4 Test Condition and Results:

Performance Criterion: A

Frequency Range: 0.15MHz to 80MHz

Modulation: 80%, 1kHz Amplitude Modulation

Step Size: 1%

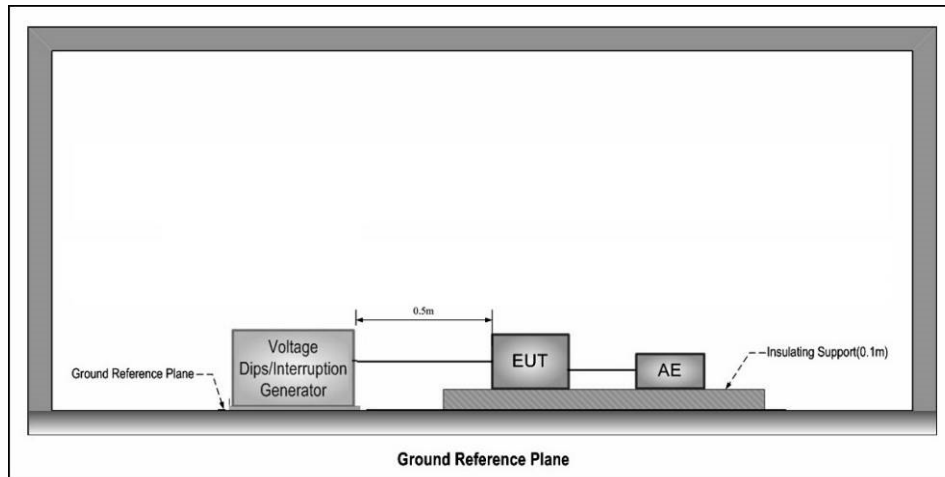
Cable port	Level (Vrms)	CDN/Clamp	Dwell time	Result / Observations
AC power port	3	CDN	2s	A

A: No degradation in the performance of the EUT was observed

7.6 Voltage Dips and Interruptions

Test Requirement: EN 301 489-1 V2.2.3
EN 301 489-17 V3.3.1
Test Method: EN IEC 61000-4-11:2020

7.6.1 Test Setup Diagram



7.6.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

7.6.3 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Operation wireless mode: Establish the communication between EUT(Indoor unit 7+9+12) and Ipad mini via wifi function, and use the "APP" in Ipad mini to control EUT working continuously.
Final test	01	Operation wireless mode: Establish the communication between EUT(Indoor unit 7+9+18) and Ipad mini via wifi function, and use the "APP" in Ipad mini to control EUT working continuously.

7.6.4 Test Condition and Results:

Performance Criterion:

0% of UT (Supply Voltage) for 0.5 Cycle:B;

0% of UT for 1 Cycle:B;

0% of UT for 250 Cycles:C;

70 % of UT for 25 Cycles:C

No. of Dips / Interruptions: 3 per Level

Time between dropout: 10s

Level % UT	Phase (deg)	Duration	No. of Dips / Interruptions	Result / Observations
0	0°	0.5 Cycle	3	A
0	180°	0.5 Cycle	3	A
0	0°	1 Cycle	3	A



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0	180°	1 Cycle	3	A
0	0°	250 Cycles	3	B
0	180°	250 Cycles	3	B
70	0°	25 Cycles	3	A
70	180°	25 Cycles	3	A
A: No degradation in the performance of the EUT was observed				
B: During test, EUT stop work.After test, the EUT restarted automatically.				

8 Test Setup Photo

Conducted Emissions at AC Power Port



Voltage Fluctuations and Flicker





Harmonic Current Emission





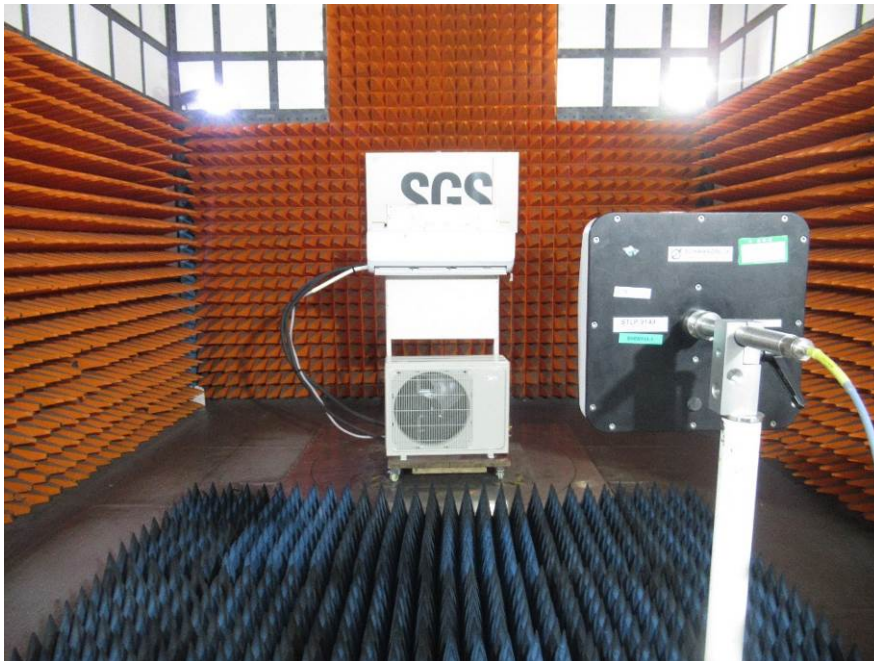
Electrostatic Discharge





Radiated Immunity







Electrical Fast Transients Burst at AC Mains Power Port





Surge at AC Mains Power Port





Conducted Immunity at AC Mains Power Port





Voltage Dips and Interruptions







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9 EUT Constructional Details (EUT Photos)

Refer to Appendix - Photographs of EUT Constructional Details for SHCR2503000488HS

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