



**Shenzhen CTA Testing Technology Co., Ltd.**  
 Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

## FCC PART 15 SUBPART C TEST REPORT

### FCC PART 15.247

<b>Report Reference No.</b> .....:	<b>CTA24103100103</b>
<b>FCC ID</b> .....:	<b>2AYD5-I24D02</b>
Compiled by ( position+printed name+signature)..:	File administrators Jinghua Xiao <span style="float: right;"><i>Jinghua Xiao</i></span>
Supervised by ( position+printed name+signature)..:	Test Engineer Lushan Kong <span style="float: right;"><i>Lushan Kong</i></span>
Approved by ( position+printed name+signature)..:	Manager Eric Wang <span style="float: right;"><i>Eric Wang</i></span>
Date of issue.....:	Sep.20, 2024
<b>Representative Laboratory Name .:</b>	<b>Shenzhen CTA Testing Technology Co., Ltd.</b>
Address .....	Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China
<b>Applicant's name</b> .....:	<b>Imin Technology Pte Ltd</b>
Address .....	11 Bishan Street 21, #03-05 Bosch Building, Singapore 573943
<b>Test specification</b> .....	
Standard .....	<b>FCC Part 15.247: Operation within the bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz</b>
TRF Originator .....	Shenzhen Global Test Service Co.,Ltd.
Master TRF .....	Dated 2014-12
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<b>Test item description</b> .....	<b>POS Device</b>
Trade Mark .....	
Manufacturer .....	Imin Technology Pte Ltd
Model/Type reference.....:	I24D02
Listed Models .....	N/A
Operation Frequency.....:	From 2412MHz to 2462MHz
Hardware Version .....	N/A
Software Version .....	N/A
Rating .....	DC 24V/1.5A by adapter
Result.....:	<b>PASS</b>



**TEST REPORT**

<b>Test Report No. :</b> CTA24103100103	Sep.20, 2024
	Date of issue

Equipment under Test : POS Device

Model /Type : I24D02

Listed model : N/A

**Applicant** : **Imin Technology Pte Ltd**

Address : 11 Bishan Street 21, #03-05 Bosch Building, Singapore 573943

**Manufacturer** : **Imin Technology Pte Ltd**

Address : 11 Bishan Street 21, #03-05 Bosch Building, Singapore 573943

<b>Test Result:</b>	<b>PASS</b>
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The test report merely corresponds to the test sample.  
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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## **1. TEST STANDARDS**

The tests were performed according to following standards:

[FCC Rules Part 15.247](#): Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz.

[ANSI C63.10-2020](#): American National Standard for Testing Unlicensed Wireless Devices


[KDB 558074 D01 DTS Meas Guidance v05r02](#): Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247.

## 2. SUMMARY

### 2.1. General Remarks

Date of receipt of test sample	:	Aug.29, 2024
Testing commenced on	:	Aug.29, 2024
Testing concluded on	:	Sep.19, 2024

### 2.2. Product Description

Product Name:	POS Device
Trade Mark:	
Model/Type reference:	I24D02
List Model:	N/A
Model Declaration	N/A
Power supply:	DC 24V/1.5A by adapter
Hardware Version	N/A
Software Version	N/A
Sample ID	CTA241031001-S0001-3# CTA241031001-S0001-4#( Version A ) CTA241031001-S0001-5#( Version B ) CTA241031001-S0001-6#( Version C ) CTA241031001-S0001-7#( Version D )
Bluetooth	
Frequency Range	2402MHz ~ 2480MHz
Channel Number	79 channels for Bluetooth (DSS) 40 channels for Bluetooth (DTS)
Channel Spacing	1MHz for Bluetooth (DSS) 2MHz for Bluetooth (DTS)
Modulation Type	GFSK, $\pi/4$ -DQPSK, 8DPSK for Bluetooth (DSS) GFSK for Bluetooth (DTS)
2.4GWLAN	
WLAN Operation frequency	IEEE 802.11b:2412-2462MHz IEEE 802.11g:2412-2462MHz IEEE 802.11n HT20:2412-2462MHz IEEE 802.11n HT40:2422-2452MHz IEEE 802.11ax HE20:2412-2462MHz IEEE 802.11ax HE40:2422-2452MHz
WLAN Modulation Type	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ax HE20: OFDMA (1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ax HE40: OFDMA (1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK)
Channel number:	11 Channel for IEEE 802.11b/g/n/ax (HT20) 7 Channel for IEEE 802.11n/ax (HT40)
Channel separation:	5MHz
WIFI(5.2G/5.3G/5.7G/5.8G Band)	
WLAN Operation frequency	5180-5240MHz/ 5260MHz to 5320MHz/ 5500MHz to 5700MHz/ 5745MHz

	to 5825MHz
WLAN Modulation Type	IEEE 802.11a: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac VHT20: OFDM (256QAM,64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ax HE20: OFDMA (1024QAM,256QAM,64QAM, 16QAM, QPSK,BPSK) IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac VHT40: OFDM (256QAM,64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ax HE40: OFDMA (1024QAM,256QAM,64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac VHT80: OFDM (256QAM,64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ax HE80: OFDMA (1024QAM,256QAM,64QAM, 16QAM, QPSK,BPSK)
Channel number:	4 Channels for 20MHz bandwidth(5180-5240MHz) 4 Channels for 20MHz bandwidth(5260-5320MHz) 11 Channels for 20MHz bandwidth(5500-5700MHz) 5 channels for 20MHz bandwidth(5745-5825MHz) 2 channels for 40MHz bandwidth(5190~5230MHz) 2 channels for 40MHz bandwidth(5270~5310MHz) 5 Channels for 40MHz bandwidth(5510-5670MHz) 2 channels for 40MHz bandwidth(5755~5795MHz) 1 channels for 80MHz bandwidth(5210MHz) 1 channels for 80MHz bandwidth(5290MHz) 2 Channels for 80MHz bandwidth(5530-5610MHz) 1 channels for 80MHz bandwidth(5775MHz)
Antenna Description	Internal Antenna, 2.05dBi(Max.) for 2.4G Band and 3.87dBi(Max.) for 5G Band
RFID(13.56MHz) (Optional)	
Frequency Range	13.56MHz
Channel Number	1
Modulation Type	ASK
Antenna Description	Internal Antenna, 0dBi (Max.), NFC has two optional antennas, antenna 1(Model:DS2-52) and antenna 2 (Model:DS2-51).
<p>Remark:The I24D02 model has 4 versions;</p> <p>Version A: One large display and one small display(large display+ 10 inch small display)</p> <p>Version B: Only one large display</p> <p>Version C: Double large display</p> <p>Version D: One large display and one small display (large display+ 5 inch small display)</p>	

### 2.3. Equipment Under Test

#### Power supply system utilised

Power supply voltage	:	<input type="radio"/> 230V / 50 Hz	<input type="radio"/> 120V / 60Hz
		<input type="radio"/> 12 V DC	<input checked="" type="radio"/> 24 V DC
		<input type="radio"/> Other (specified in blank below)	

DC 24.0V

### 2.4. Short description of the Equipment under Test (EUT)

This is a POS Device.

For more details, refer to the user's manual of the EUT.

### 2.5. EUT operation mode

The application provider specific test software to control sample in continuous TX and RX (Duty Cycle >98%) for testing meet KDS758074 test requirement.

IEEE 802.11b/g/n/ax: Thirteen channels are provided to the EUT.

Antenna	Chain 0		Chain 1		Simultaneously
Bandwidth Mode	20MHz	40MHz	20MHz	40MHz	/
IEEE 802.11b	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IEEE 802.11g	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IEEE 802.11n	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IEEE 802.11ax	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	2412	8	2447
2	2417	9	2452
3	2422	10	2457
4	2427	11	2462
5	2432		
6	2437		
7	2442		

The EUT has been tested under operating condition.

AC conducted emission pre-test at both at AC 120V/60Hz and AC 240V/50Hz modes, recorded worst case(AC 120V/60Hz).

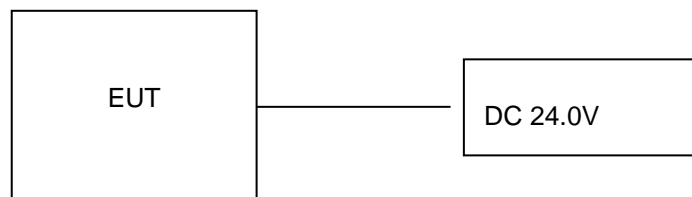
AC main conducted emission pre-test at charge from PC modes, recorded worst case;

This test was performed with EUT in X, Y, Z position and the worst case was found when EUT in X position.

Worst-case mode and channel used for 9 KHz-1000 MHz radiated emissions was the mode and channel with the highest output power, that was determined to be IEEE 802.11g mode (MCH).

AX mode tested all RU, only worst case mode (Full RU) recorded in report.

### 2.6. Block Diagram of Test Setup



### 2.7. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: 2AYD5-I24D02 filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules.

## 2.8. EUT Exercise Software

The system was configured for testing in a continuous transmits condition and change test channels by software (XWHammer) provided by application.

## 2.9. Special Accessories

Manufacturer	Description	Model	Serial Number	Certificate
SHENZHEN HONOR ELECTRONIC CO.,LTD.	Adapter	ADS-65HI-19A-124036F	--	SDOC
Shenzhen SOY Technology Co.,Ltd.	Adapter	SOY-2400150-332-A	--	SDOC
Jiangsu Chenyang Electron Co.,Ltd.	Adapter	CYZS36-240150	--	SDOC
LENOVO	PC	DESKYOP-EUIVCNR	--	SDOC
LENOVO	Keyboard	T460S	--	SDOC
LENOVO	Mouse	Howard	--	SDOC
aigo	USB flash disk	U330	--	SDOC
THTF	Display	LE23CW-D	--	SDOC
SONY	Earphone	MDR-XB550AP	--	SDOC
--	Electronic Scale	--	--	SDOC
--	Cashbox	--	--	SDOC

Note: The PC, Display, Electronic Scale, Cashbox, Keyboard, Mouse and USB flash disk is only used for auxiliary testing.

## 2.10. External I/O Cable

I/O Port Description	Quantity	Cable
DC IN Port	1	Non-Shielded, 1.0m
USB Port	5	N/A
LAN Port	1	Non-Shielded, 10m
RJ11 Port	1	N/A
RJ12 Port	1	N/A
HDMI Port	1	N/A
Type-C Port	1	N/A
Earphone Port	1	N/A

## 2.11. Modifications

No modifications were implemented to meet testing criteria.



### 3. TEST ENVIRONMENT

#### 3.1. Address of the test laboratory

**Shenzhen CTA Testing Technology Co., Ltd.**

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

#### 3.2. Test Facility

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

**FCC-Registration No.: 517856 Designation Number: CN1318**

Shenzhen CTA Testing Technology Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

**A2LA-Lab Cert. No.: 6534.01**

Shenzhen CTA Testing Technology Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

#### 3.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15-35 ° C
Humidity:	30-60 %
Atmospheric pressure:	950-1050mbar

#### 3.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the Shenzhen CTA Testing Technology Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device. Hereafter the best measurement capability for Shenzhen CTA Testing Technology Co., Ltd. :

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	9KHz~30MHz	3.02 dB	(1)
Radiated Emission	30~1000MHz	4.06 dB	(1)
Radiated Emission	1~18GHz	5.14 dB	(1)
Radiated Emission	18-40GHz	5.38 dB	(1)
Conducted Disturbance	0.15~30MHz	2.14 dB	(1)
Output Peak power	30MHz~18GHz	0.55 dB	(1)
Power spectral density	/	0.57 dB	(1)
Spectrum bandwidth	/	1.1%	(1)
Radiated spurious emission (30MHz-1GHz)	30~1000MHz	4.10 dB	(1)
Radiated spurious emission (1GHz-18GHz)	1~18GHz	4.32 dB	(1)
Radiated spurious emission (18GHz-40GHz)	18-40GHz	5.54 dB	(1)

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

### 3.5. Test Description

Applied Standard: FCC Part 15 Subpart C				
ISED Rules	Description of Test	Test Sample	Result	Remark
/	On Time and Duty Cycle	CTA241031001-S0001-3#	/	/
§15.247(b)	Maximum Conducted Output Power	CTA241031001-S0001-3#	Compliant	Appendix C
§15.247(e)	Power Spectral Density	CTA241031001-S0001-3#	Compliant	Appendix C
§15.247(a)(2)	6dB Bandwidth	CTA241031001-S0001-3#	Compliant	Appendix C
§2.1047	99% Occupied Bandwidth	CTA241031001-S0001-3#	Compliant	Appendix C
§15.209, §15.247(d)	Conducted Spurious Emissions and Band Edges Test	CTA241031001-S0001-3#	Compliant	Appendix C
§15.209, §15.247(d)	Radiated Spurious Emissions	CTA241031001-S0001-3# CTA241031001-S0001-4# CTA241031001-S0001-5# CTA241031001-S0001-6# CTA241031001-S0001-7#	Compliant	Note 1
§15.205	Emissions at Restricted Band	CTA241031001-S0001-3#	Compliant	Appendix C
§15.207(a)	AC Conducted Emissions	CTA241031001-S0001-4# CTA241031001-S0001-5# CTA241031001-S0001-6# CTA241031001-S0001-7#	Compliant	Note 1
§15.203 §15.247(c)	Antenna Requirements	CTA241031001-S0001-3#	Compliant	Note 1
§15.247(i)§2.1 091	RF Exposure	/	Compliant	Note 2

Remark:

1. The measurement uncertainty is not included in the test result.
2. NA = Not Applicable; NP = Not Performed
3. Note 1 – Test results inside test report;
4. Note 2 – Test results in other test report (MPE Report).
5. We tested all test mode and recorded worst case in report

Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Data Rate	Channel
Maximum Peak Conducted Output Power Power Spectral Density 6dB Bandwidth Spurious RF conducted emission Radiated Emission 9kHz~1GHz& Radiated Emission 1GHz~10 <sup>th</sup> Harmonic	11b/DSSS	1 Mbps	1/6/11
	11g/OFDM	6 Mbps	1/6/11
	11n(20MHz)/OFDM	6.5Mbps	1/6/11
	11n(40MHz)/OFDM	13.5Mbps	3/6/09
	11ax(20MHz)/OFDMA	8.6Mbps	1/6/11
	11ax(40MHz)/OFDMA	17.2Mbps	3/6/09
Band Edge	11b/DSSS	1 Mbps	1/11
	11g/OFDM	6 Mbps	1/11
	11n(20MHz)/OFDM	6.5Mbps	1/11
	11n(40MHz)/OFDM	13.5Mbps	3/9
	11ax(20MHz)/OFDMA	8.6Mbps	1/11
	11ax(40MHz)/OFDMA	17.2Mbps	3/09

### 3.6. Equipments Used during the Test

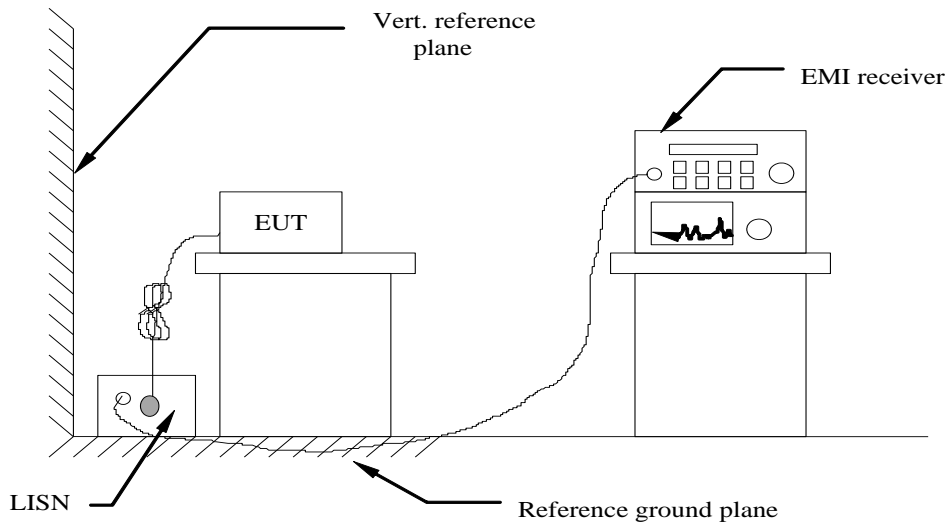
Test Equipment	Manufacturer	Model No.	Equipment No.	Calibration Date	Calibration Due Date
LISN	R&S	ENV216	CTA-308	2024/08/02	2025/08/02
LISN	R&S	ENV216	CTA-314	2024/08/02	2025/08/02
EMI Test Receiver	R&S	ESPI	CTA-307	2024/08/02	2025/08/02
EMI Test Receiver	R&S	ESCI	CTA-306	2024/08/02	2025/08/02
Spectrum Analyzer	Agilent	N9020A	CTA-301	2024/08/02	2025/08/02
Spectrum Analyzer	R&S	FSP	CTA-337	2024/08/02	2025/08/02
Vector Signal generator	Agilent	N5182A	CTA-305	2024/08/02	2025/08/02
Analog Signal Generator	R&S	SML03	CTA-304	2024/08/02	2025/08/02
Universal Radio Communication	CMW500	R&S	CTA-302	2024/08/02	2025/08/02
Temperature and humidity meter	Chigo	ZG-7020	CTA-326	2024/08/02	2025/08/02
Ultra-Broadband Antenna	Schwarzbeck	VULB9163	CTA-310	2024/08/02	2025/08/02
Horn Antenna	Schwarzbeck	BBHA 9120D	CTA-309	2024/08/02	2025/08/02
Loop Antenna	Zhinan	ZN30900C	CTA-311	2024/08/02	2025/08/02
Horn Antenna	Beijing Hangwei Dayang	OBH100400	CTA-336	2024/08/06	2027/08/05
Antenna Tower	Suzhou Keletuo electronic Technology Co., LTD	BK-*AT-BS	N/A	N/A	N/A
Amplifier	Schwarzbeck	BBV 9745	CTA-312	2024/08/02	2025/08/02
Amplifier	Taiwan chengyi	EMC051845B	CTA-313	2024/08/02	2025/08/02
Directional coupler	NARDA	4226-10	CTA-303	2024/08/02	2025/08/02
High-Pass Filter	XingBo	XBLBQ-GTA18	CTA-402	2024/08/02	2025/08/02
High-Pass Filter	XingBo	XBLBQ-GTA27	CTA-403	2024/08/02	2025/08/02
Automated filter bank	Tonscend	JS0806-F	CTA-404	2024/08/02	2025/08/02
Power Sensor	Agilent	U2021XA	CTA-405	2024/08/02	2025/08/02
Amplifier	Schwarzbeck	BBV9719	CTA-406	2024/08/02	2025/08/02

Note: The Cal.Interval was one year.

## 4. TEST CONDITIONS AND RESULTS

### 4.1. AC Power Conducted Emission

#### TEST CONFIGURATION



#### TEST PROCEDURE

- 1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10-2020.
- 2 Support equipment, if needed, was placed as per ANSI C63.10-2020.
- 3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10-2020.
- 4 The EUT received DC 24V power, the adapter received AC120V/60Hz or AC 240V/50Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5 All support equipments received AC power from a second LISN, if any.
- 6 The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7 Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
- 8 During the above scans, the emissions were maximized by cable manipulation.

#### AC Power Conducted Emission Limit

For intentional device, according to § 15.207(a) AC Power Conducted Emission Limits is as following :

Frequency range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

\* Decreases with the logarithm of the frequency.

#### DISTURBANCE Calculation

The AC mains conducted disturbance is calculated by adding the 10dB Pulse Limiter and Cable Factor and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$CD \text{ (dBuV)} = RA \text{ (dBuV)} + PL \text{ (dB)} + CL \text{ (dB)}$$

Where CD = Conducted Disturbance	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	PL = 10 dB Pulse Limiter Factor

**TEST RESULTS**

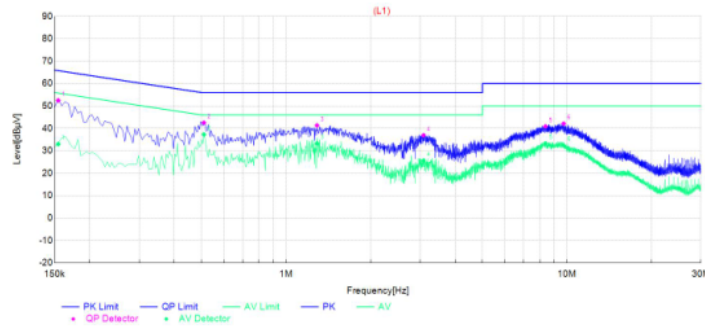
Remark: We measured Conducted Emission at 802.11b/802.11g/802.11n HT20/802.11n HT40/802.11ax HE20/802.11ax HE40 mode from 150 KHz to 30MHz in AC120V and the worst case was recorded.

Temperature	25°C	Humidity	60%
Test Engineer	Lushan Kong	Configurations	IEEE 802.11g (MCH)

**Version A:**  
**Adapter: ADS-65HI-19A-124036F**

Power supply:	AC 120V/60Hz	Polarization	L
---------------	--------------	--------------	---

Test Graph



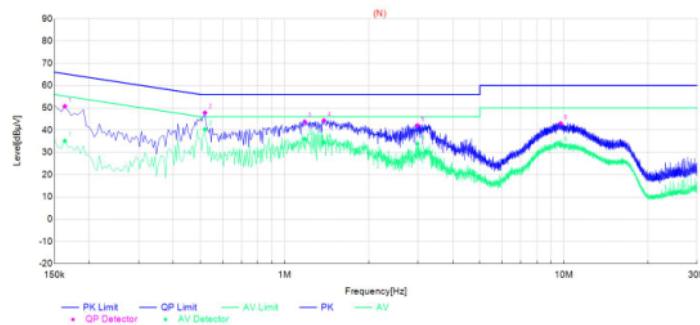
Final Data List												
NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.1545	42.16	22.66	10.33	52.49	32.99	65.75	55.75	13.26	22.76	L1	PASS
2	0.51	32.28	27.04	10.25	42.53	37.29	56.00	46.00	13.47	8.71	L1	PASS
3	1.2885	31.11	23.09	10.22	41.33	33.31	56.00	46.00	14.67	12.69	L1	PASS
4	3.084	26.58	15.25	10.34	36.92	25.59	56.00	46.00	19.08	20.41	L1	PASS
5	8.3895	30.35	22.72	10.56	40.91	33.28	60.00	50.00	19.09	16.72	L1	PASS
6	9.7305	31.53	21.81	10.57	42.10	32.38	60.00	50.00	17.90	17.62	L1	PASS

Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Power supply:	AC 120V/60Hz	Polarization	N
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Test Graph



Final Data List												
NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.1635	40.43	24.85	10.29	50.72	35.14	65.28	55.28	14.56	20.14	N	PASS
2	0.519	37.55	30.10	10.24	47.79	40.34	56.00	46.00	8.21	5.66	N	PASS
3	1.1805	33.58	25.82	10.21	43.79	36.03	56.00	46.00	12.21	9.97	N	PASS
4	1.383	34.12	24.21	10.23	44.35	34.44	56.00	46.00	11.65	11.56	N	PASS
5	2.9895	31.77	23.45	10.34	42.11	33.79	56.00	46.00	13.89	12.21	N	PASS
6	9.7395	32.44	22.46	10.57	43.01	33.03	60.00	50.00	16.99	16.97	N	PASS

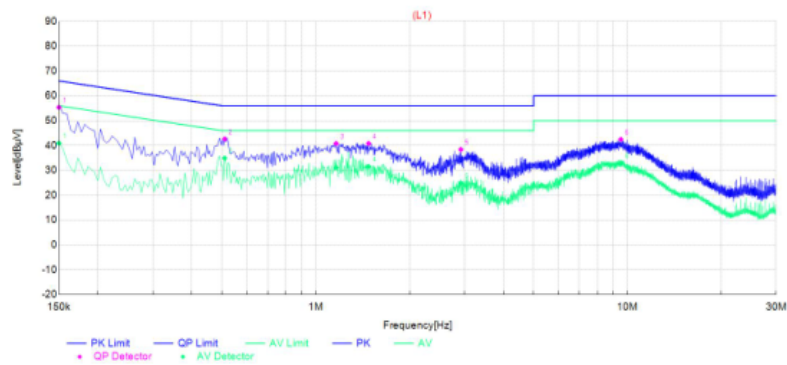
Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Adapter: SOY-2400150-332-A

Power supply:	AC 120V/60Hz	Polarization	L
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Test Graph



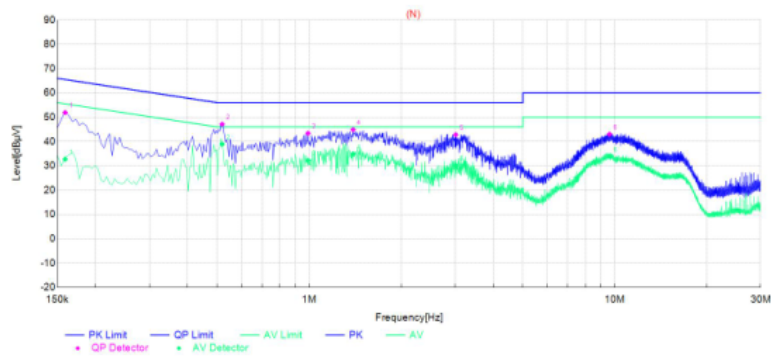
Final Data List												
NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.15	45.02	30.57	10.35	55.37	40.92	66.00	56.00	10.63	15.08	L1	PASS
2	0.51	32.38	24.65	10.25	42.63	34.90	56.00	46.00	13.37	11.10	L1	PASS
3	1.1625	30.60	20.89	10.21	40.81	31.10	56.00	46.00	15.19	14.90	L1	PASS
4	1.4775	30.60	21.29	10.23	40.83	31.52	56.00	46.00	15.17	14.48	L1	PASS
5	2.922	28.05	14.55	10.33	38.38	24.88	56.00	46.00	17.62	21.12	L1	PASS
6	9.5235	31.89	22.25	10.56	42.45	32.81	60.00	50.00	17.55	17.19	L1	PASS

Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Power supply:	AC 120V/60Hz	Polarization	N
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Test Graph



Final Data List												
NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.159	41.60	22.41	10.31	51.91	32.72	65.52	55.52	13.61	22.80	N	PASS
2	0.519	36.86	28.69	10.24	47.10	38.93	56.00	46.00	8.90	7.07	N	PASS
3	0.9915	33.21	22.09	10.19	43.40	32.28	56.00	46.00	12.60	13.72	N	PASS
4	1.392	34.66	24.73	10.23	44.89	34.96	56.00	46.00	11.11	11.04	N	PASS
5	3.0165	32.47	19.90	10.34	42.81	30.24	56.00	46.00	13.19	15.76	N	PASS
6	9.609	32.43	23.31	10.57	43.00	33.88	60.00	50.00	17.00	16.12	N	PASS

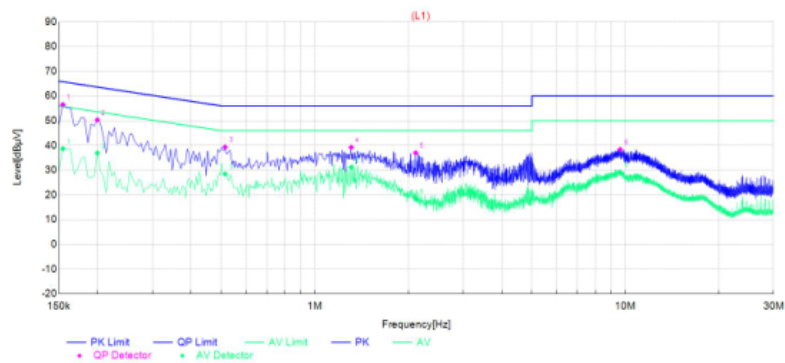
Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Adapter: CYZS36-240150

Power supply:	AC 120V/60Hz	Polarization	L
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Test Graph



Final Data List

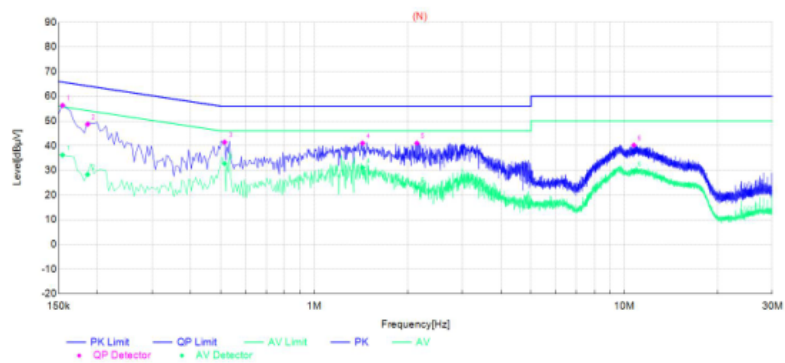
NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.1545	46.21	28.34	10.33	56.54	38.67	65.75	55.75	9.21	17.08	L1	PASS
2	0.1995	40.19	26.80	10.15	50.34	36.95	63.63	53.63	13.29	16.68	L1	PASS
3	0.5145	29.16	18.22	10.24	39.40	28.46	56.00	46.00	16.60	17.54	L1	PASS
4	1.311	29.04	20.94	10.22	39.26	31.16	56.00	46.00	16.74	14.84	L1	PASS
5	2.112	26.70	8.22	10.28	36.98	18.50	56.00	46.00	19.02	27.50	L1	PASS
6	9.6315	27.79	18.51	10.57	38.36	29.08	60.00	50.00	21.64	20.92	L1	PASS

Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Power supply:	AC 120V/60Hz	Polarization	N
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Test Graph



Final Data List

NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.1545	46.00	25.86	10.33	56.33	36.19	65.75	55.75	9.42	19.56	N	PASS
2	0.186	38.50	18.14	10.18	48.68	28.32	64.21	54.21	15.53	25.89	N	PASS
3	0.5145	31.18	22.51	10.24	41.42	32.75	56.00	46.00	14.58	13.25	N	PASS
4	1.4325	30.80	20.80	10.23	41.03	31.03	56.00	46.00	14.97	14.97	N	PASS
5	2.1435	30.73	12.67	10.28	41.01	22.95	56.00	46.00	14.99	23.05	N	PASS
6	10.7295	29.51	19.00	10.69	40.20	29.69	60.00	50.00	19.80	20.31	N	PASS

Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

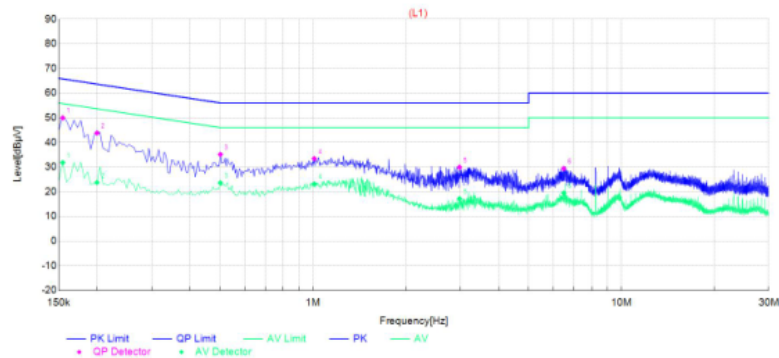
2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).



Version B:  
 Adapter: ADS-65HI-19A-124036F

Power supply:	AC 120V/60Hz	Polarization	L
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Test Graph



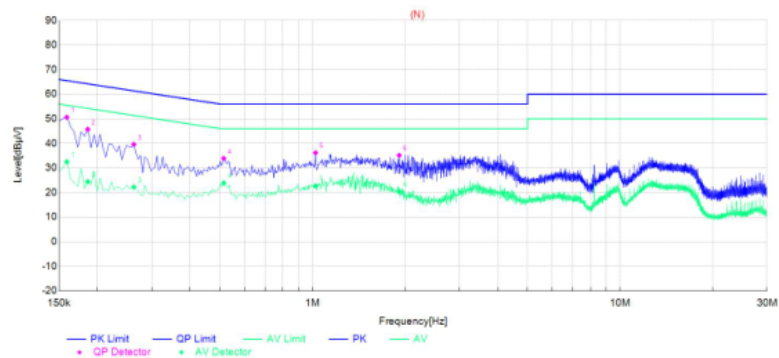
Final Data List												
NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.1545	39.61	21.48	10.33	49.94	31.81	65.75	55.75	15.81	23.94	L1	PASS
2	0.1995	33.66	13.58	10.15	43.81	23.73	63.63	53.63	19.82	29.90	L1	PASS
3	0.501	24.88	13.35	10.25	35.13	23.60	56.00	46.00	20.87	22.40	L1	PASS
4	1.0095	23.22	12.95	10.20	33.42	23.15	56.00	46.00	22.58	22.85	L1	PASS
5	2.985	19.58	6.84	10.34	29.92	17.18	56.00	46.00	26.08	28.82	L1	PASS
6	6.495	18.89	8.96	10.50	29.39	19.46	60.00	50.00	30.61	30.54	L1	PASS

Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Power supply:	AC 120V/60Hz	Polarization	N
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Test Graph



Final Data List												
NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.159	40.30	22.19	10.31	50.61	32.50	65.52	55.52	14.91	23.02	N	PASS
2	0.186	35.55	14.22	10.18	45.73	24.40	64.21	54.21	18.48	29.81	N	PASS
3	0.2625	29.47	12.10	10.12	39.59	22.22	61.35	51.35	21.76	29.13	N	PASS
4	0.5145	23.64	13.63	10.24	33.88	23.87	56.00	46.00	22.12	22.13	N	PASS
5	1.023	25.93	12.48	10.20	36.13	22.68	56.00	46.00	19.87	23.32	N	PASS
6	1.914	24.86	10.09	10.26	35.12	20.35	56.00	46.00	20.88	25.65	N	PASS

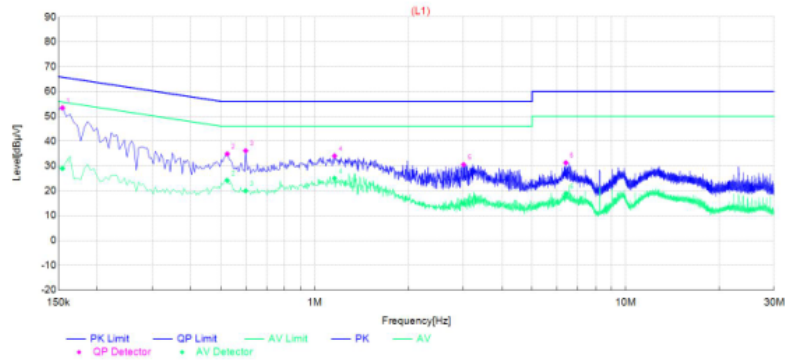
Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Adapter: SOY-2400150-332-A

Power supply:	AC 120V/60Hz	Polarization	L
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Test Graph



Final Data List

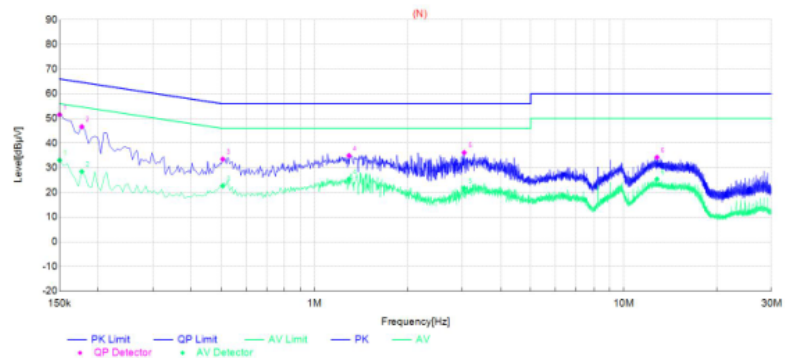
NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.1545	43.06	18.63	10.33	53.39	28.96	65.75	55.75	12.36	26.79	L1	PASS
2	0.5235	24.60	13.87	10.24	34.84	24.11	56.00	46.00	21.16	21.89	L1	PASS
3	0.6	25.92	9.78	10.19	36.11	19.97	56.00	46.00	19.89	26.03	L1	PASS
4	1.158	23.82	14.83	10.21	34.03	25.04	56.00	46.00	21.97	20.96	L1	PASS
5	3.012	20.20	4.43	10.34	30.54	14.77	56.00	46.00	25.46	31.23	L1	PASS
6	6.4185	20.77	8.38	10.50	31.27	18.88	60.00	50.00	28.73	31.12	L1	PASS

Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Power supply:	AC 120V/60Hz	Polarization	N
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Test Graph



Final Data List

NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.15	41.18	22.69	10.35	51.53	33.04	66.00	56.00	14.47	22.96	N	PASS
2	0.177	36.42	18.22	10.22	46.64	28.44	64.63	54.63	17.99	26.19	N	PASS
3	0.5055	23.24	12.36	10.25	33.49	22.61	56.00	46.00	22.51	23.39	N	PASS
4	1.293	24.72	15.17	10.22	34.94	25.39	56.00	46.00	21.06	20.61	N	PASS
5	3.048	25.78	11.40	10.34	36.12	21.74	56.00	46.00	19.88	24.26	N	PASS
6	12.795	23.32	14.47	10.89	34.21	25.36	60.00	50.00	25.79	24.64	N	PASS

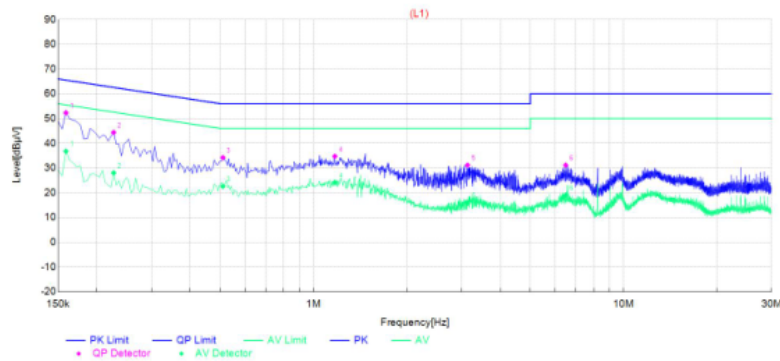
Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Adapter: CYZS36-240150

Power supply:	AC 120V/60Hz	Polarization	L
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Test Graph



Final Data List

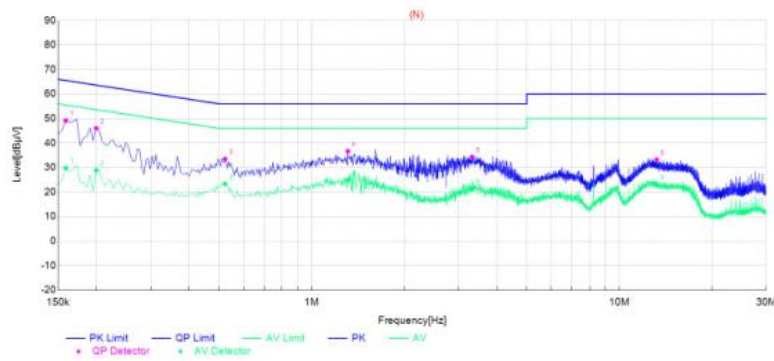
NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.159	42.01	26.45	10.31	52.32	36.76	65.52	55.52	13.20	18.76	L1	PASS
2	0.2265	34.22	17.91	10.14	44.36	28.05	62.58	52.58	18.22	24.53	L1	PASS
3	0.51	23.96	12.32	10.25	34.21	22.57	56.00	46.00	21.79	23.43	L1	PASS
4	1.1715	24.53	14.01	10.21	34.74	24.22	56.00	46.00	21.26	21.78	L1	PASS
5	3.138	20.81	5.69	10.34	31.15	16.03	56.00	46.00	24.85	29.97	L1	PASS
6	6.504	20.63	8.55	10.50	31.13	19.05	60.00	50.00	28.87	30.95	L1	PASS

Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Power supply:	AC 120V/60Hz	Polarization	N
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Test Graph



Final Data List

NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.159	38.87	19.47	10.31	49.18	29.78	65.52	55.52	16.34	25.74	N	PASS
2	0.1995	35.90	18.71	10.15	46.05	28.86	63.63	53.63	17.58	24.77	N	PASS
3	0.5235	23.25	13.09	10.24	33.49	23.33	56.00	46.00	22.51	22.67	N	PASS
4	1.311	26.44	14.68	10.22	36.66	24.90	56.00	46.00	19.34	21.10	N	PASS
5	3.318	23.97	10.82	10.35	34.32	21.17	56.00	46.00	21.68	24.83	N	PASS
6	13.2045	22.30	12.15	10.90	33.20	23.05	60.00	50.00	26.80	26.95	N	PASS

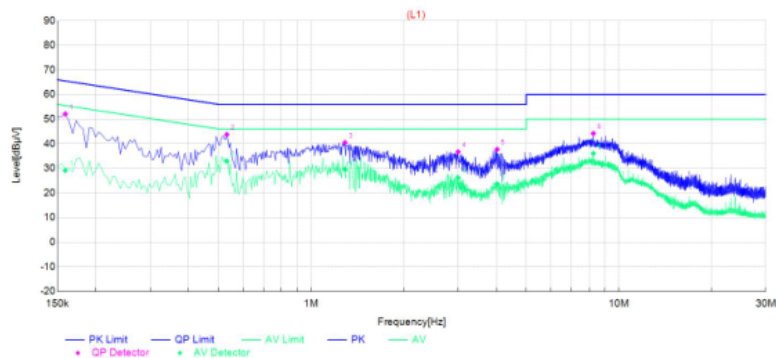
Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Version C:  
 Adapter: ADS-65HI-19A-124036F

Power supply:	AC 120V/60Hz	Polarization	L
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Test Graph



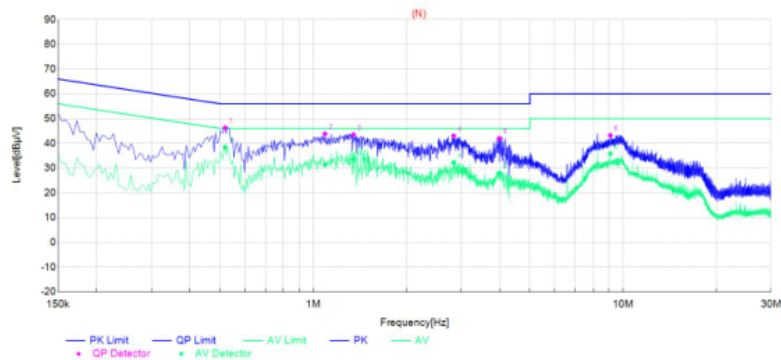
Final Data List												
NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.159	41.79	18.81	10.31	52.10	29.12	65.52	55.52	13.42	26.40	L1	PASS
2	0.5325	33.51	22.71	10.23	43.74	32.94	56.00	46.00	12.26	13.06	L1	PASS
3	1.2885	30.24	19.37	10.22	40.46	29.59	56.00	46.00	15.54	16.41	L1	PASS
4	3.003	26.36	15.84	10.34	36.70	26.18	56.00	46.00	19.30	19.82	L1	PASS
5	4.02	27.33	13.27	10.37	37.70	23.64	56.00	46.00	18.30	22.36	L1	PASS
6	8.259	33.62	25.48	10.57	44.19	36.05	60.00	50.00	15.81	13.95	L1	PASS

Note:1. Result (dBμV) = Reading (dBμV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Power supply:	AC 120V/60Hz	Polarization	N
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Test Graph



Final Data List												
NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.519	36.02	28.17	10.24	46.26	38.41	56.00	46.00	9.74	7.59	N	PASS
2	1.0905	33.60	21.16	10.21	43.81	31.37	56.00	46.00	12.19	14.63	N	PASS
3	1.347	33.29	23.31	10.22	43.51	33.53	56.00	46.00	12.49	12.47	N	PASS
4	2.8365	32.70	21.89	10.33	43.03	32.22	56.00	46.00	12.97	13.78	N	PASS
5	3.984	31.64	17.65	10.37	42.01	28.02	56.00	46.00	13.99	17.98	N	PASS
6	9.087	32.65	25.26	10.55	43.20	35.81	60.00	50.00	16.80	14.19	N	PASS

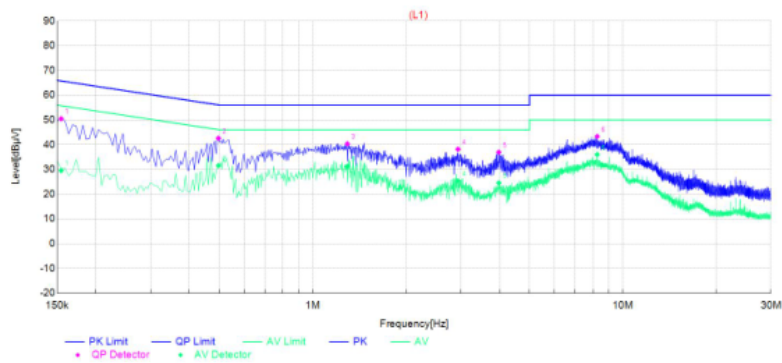
Note:1. Result (dBμV) = Reading (dBμV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Adapter: SOY-2400150-332-A

Power supply:	AC 120V/60Hz	Polarization	L
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Test Graph



Final Data List

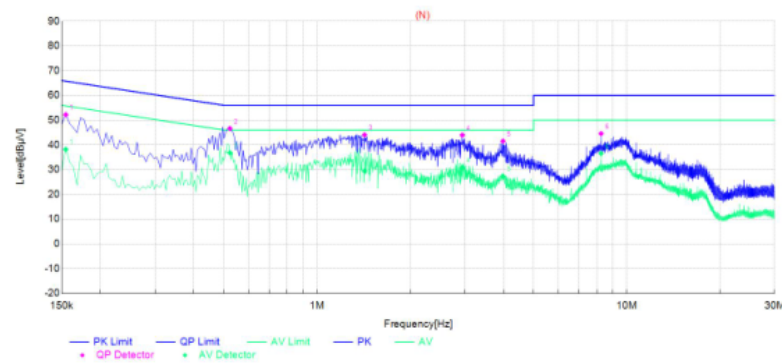
NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.1545	40.13	19.18	10.33	50.46	29.51	65.75	55.75	15.29	26.24	L1	PASS
2	0.4965	32.36	21.29	10.25	42.61	31.54	56.06	46.06	13.45	14.52	L1	PASS
3	1.293	30.13	21.07	10.22	40.35	31.29	56.00	46.00	15.65	14.71	L1	PASS
4	2.94	27.82	15.01	10.34	38.16	25.35	56.00	46.00	17.84	20.65	L1	PASS
5	3.9795	26.58	14.13	10.37	36.95	24.50	56.00	46.00	19.05	21.50	L1	PASS
6	8.259	32.74	25.42	10.57	43.31	35.99	60.00	50.00	16.69	14.01	L1	PASS

Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Power supply:	AC 120V/60Hz	Polarization	N
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Test Graph



Final Data List

NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.1545	41.86	27.83	10.33	52.19	38.16	65.75	55.75	13.56	17.59	N	PASS
2	0.5235	36.36	26.52	10.24	46.60	36.76	56.00	46.00	9.40	9.24	N	PASS
3	1.4235	33.79	19.19	10.23	44.02	29.42	56.00	46.00	11.98	16.58	N	PASS
4	2.9445	33.60	20.54	10.34	43.94	30.88	56.00	46.00	12.06	15.12	N	PASS
5	3.984	31.15	16.98	10.37	41.52	27.35	56.00	46.00	14.48	18.65	N	PASS
6	8.259	34.00	25.95	10.57	44.57	36.52	60.00	50.00	15.43	13.48	N	PASS

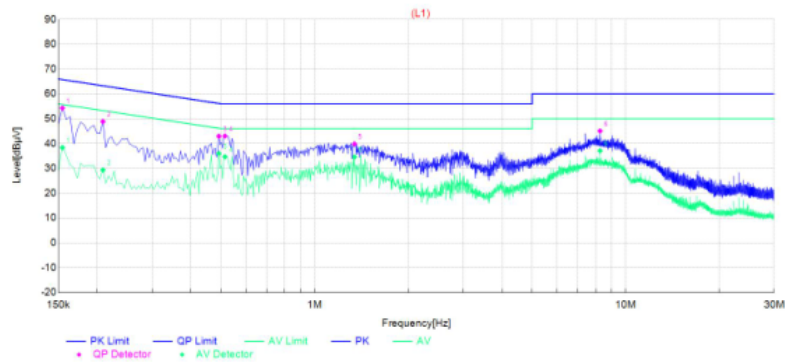
Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Adapter: CYZS36-240150

Power supply:	AC 120V/60Hz	Polarization	L
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Test Graph



Final Data List

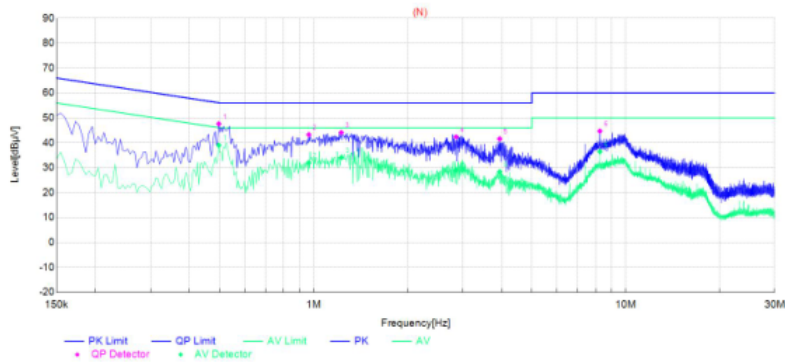
NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.1545	43.95	28.03	10.33	54.28	38.36	65.75	55.75	11.47	17.39	L1	PASS
2	0.2085	38.70	19.19	10.15	48.85	29.34	63.26	53.26	14.41	23.92	L1	PASS
3	0.492	32.68	25.71	10.26	42.94	35.97	56.13	46.13	13.19	10.16	L1	PASS
4	0.5145	32.78	24.42	10.24	43.02	34.66	56.00	46.00	12.98	11.34	L1	PASS
5	1.3425	29.61	24.36	10.22	39.83	34.58	56.00	46.00	16.17	11.42	L1	PASS
6	8.268	34.48	26.52	10.57	45.05	37.09	60.00	50.00	14.95	12.91	L1	PASS

Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Power supply:	AC 120V/60Hz	Polarization	N
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Test Graph



Final Data List

NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.4965	37.34	28.76	10.25	47.59	39.01	56.06	46.06	8.47	7.05	N	PASS
2	0.9645	33.07	21.78	10.20	43.27	31.98	56.00	46.00	12.73	14.02	N	PASS
3	1.2255	33.89	23.79	10.22	44.11	34.01	56.00	46.00	11.89	11.99	N	PASS
4	2.859	32.02	18.75	10.33	42.35	29.08	56.00	46.00	13.65	16.92	N	PASS
5	3.9435	31.23	17.99	10.37	41.60	28.36	56.00	46.00	14.40	17.64	N	PASS
6	8.259	34.11	25.87	10.57	44.68	36.44	60.00	50.00	15.32	13.56	N	PASS

Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

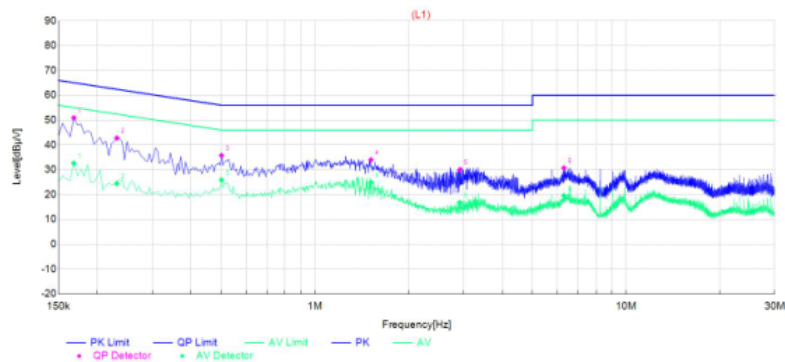
2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).



Version D:  
 Adapter: ADS-65HI-19A-124036F

Power supply:	AC 120V/60Hz	Polarization	L
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Test Graph



Final Data List

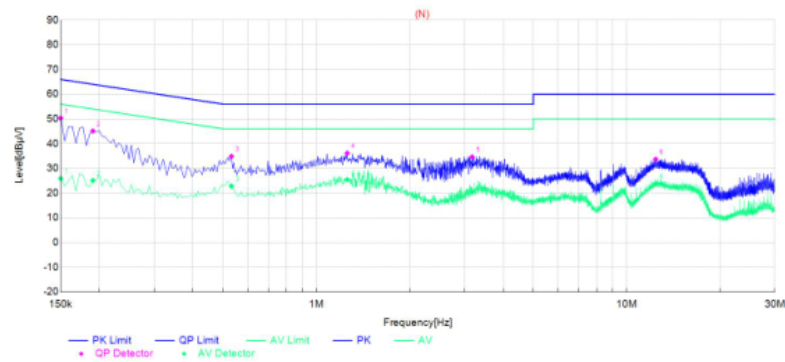
NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.168	40.63	22.32	10.27	50.90	32.59	65.06	55.06	14.16	22.47	L1	PASS
2	0.231	32.65	14.33	10.13	42.78	24.46	62.41	52.41	19.63	27.95	L1	PASS
3	0.501	25.51	15.65	10.25	35.76	25.90	56.00	46.00	20.24	20.10	L1	PASS
4	1.5135	23.76	14.69	10.24	34.00	24.93	56.00	46.00	22.00	21.07	L1	PASS
5	2.922	19.72	6.46	10.33	30.05	16.79	56.00	46.00	25.95	29.21	L1	PASS
6	6.3105	20.22	9.10	10.49	30.71	19.59	60.00	50.00	29.29	30.41	L1	PASS

Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Power supply:	AC 120V/60Hz	Polarization	N
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Test Graph



Final Data List

NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.15	39.94	15.55	10.35	50.29	25.90	66.00	56.00	15.71	30.10	N	PASS
2	0.1905	34.92	14.91	10.16	45.08	25.07	64.01	54.01	18.93	28.94	N	PASS
3	0.5325	24.60	12.58	10.23	34.83	22.81	56.00	46.00	21.17	23.19	N	PASS
4	1.257	25.90	15.22	10.22	36.12	25.44	56.00	46.00	19.88	20.56	N	PASS
5	3.174	24.24	10.03	10.35	34.59	20.38	56.00	46.00	21.41	25.62	N	PASS
6	12.39	22.84	12.93	10.85	33.69	23.78	60.00	50.00	26.31	26.22	N	PASS

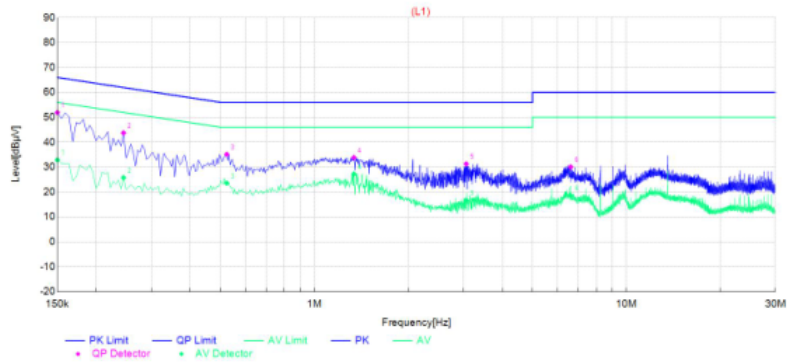
Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Adapter: SOY-2400150-332-A

Power supply:	AC 120V/60Hz	Polarization	L
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Test Graph



Final Data List

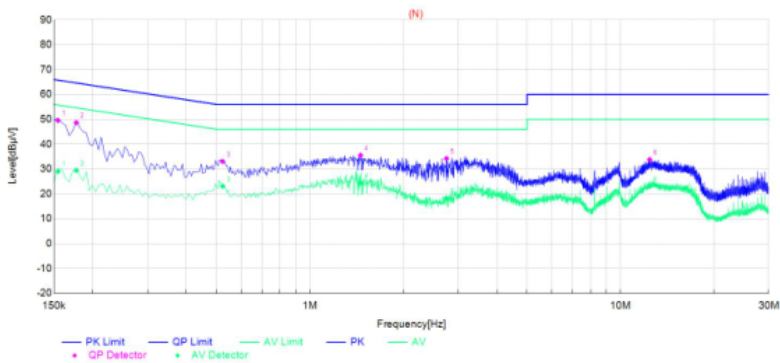
NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.15	41.56	22.52	10.35	51.91	32.87	66.00	56.00	14.09	23.13	L1	PASS
2	0.2445	33.62	15.63	10.13	43.75	25.76	61.94	51.94	18.19	26.18	L1	PASS
3	0.5235	24.90	13.33	10.24	35.14	23.57	56.00	46.00	20.86	22.43	L1	PASS
4	1.338	23.62	17.00	10.22	33.84	27.22	56.00	46.00	22.16	18.78	L1	PASS
5	3.066	20.94	6.36	10.34	31.28	16.70	56.00	46.00	24.72	29.30	L1	PASS
6	6.6255	19.56	8.11	10.50	30.06	18.61	60.00	50.00	29.94	31.39	L1	PASS

Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Power supply:	AC 120V/60Hz	Polarization	N
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Test Graph



Final Data List

NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.1545	39.21	18.75	10.33	49.54	29.08	65.75	55.75	16.21	26.67	N	PASS
2	0.177	38.41	19.20	10.22	48.63	29.42	64.63	54.63	16.00	25.21	N	PASS
3	0.5235	22.76	12.85	10.24	33.00	23.09	56.00	46.00	23.00	22.91	N	PASS
4	1.455	25.30	14.19	10.23	35.53	24.42	56.00	46.00	20.47	21.58	N	PASS
5	2.751	23.90	7.98	10.32	34.22	18.30	56.00	46.00	21.78	27.70	N	PASS
6	12.4035	22.97	12.14	10.85	33.82	22.99	60.00	50.00	26.18	27.01	N	PASS

Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

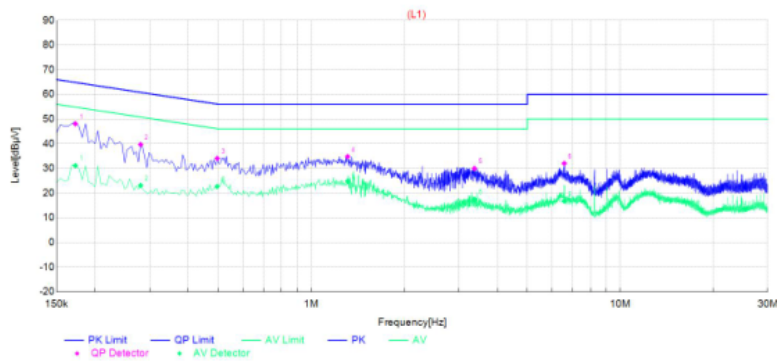
2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).



Adapter: CYZS36-240150

Power supply:	AC 120V/60Hz	Polarization	L
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Test Graph



Final Data List

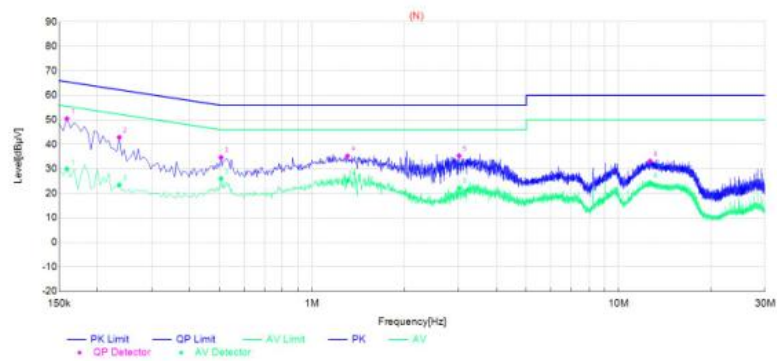
NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.1725	37.83	20.86	10.24	48.07	31.10	64.84	54.84	16.77	23.74	L1	PASS
2	0.2805	29.55	12.96	10.11	39.66	23.07	60.80	50.80	21.14	27.73	L1	PASS
3	0.4965	23.79	12.43	10.25	34.04	22.68	56.06	46.06	22.02	23.38	L1	PASS
4	1.311	24.55	14.57	10.22	34.77	24.79	56.00	46.00	21.23	21.21	L1	PASS
5	3.372	19.63	7.13	10.35	29.98	17.48	56.00	46.00	26.02	28.52	L1	PASS
6	6.585	21.52	6.23	10.50	32.02	16.73	60.00	50.00	27.98	33.27	L1	PASS

Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Power supply:	AC 120V/60Hz	Polarization	N
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Test Graph



Final Data List

NO.	Frequency	QP	AVG.	Factor	QP	AVG.	QP	AVG.	QP	AVG.	Line	Remark
		Reading	Reading		Result	Result	Limit	Limit	Margin	Margin		
1	0.159	40.13	19.62	10.31	50.44	29.93	65.52	55.52	15.08	25.59	N	PASS
2	0.2355	32.73	13.29	10.13	42.86	23.42	62.25	52.25	19.39	28.83	N	PASS
3	0.5055	24.36	15.72	10.25	34.61	25.97	56.00	46.00	21.39	20.03	N	PASS
4	1.3065	25.01	14.95	10.22	35.23	25.17	56.00	46.00	20.77	20.83	N	PASS
5	3.0165	24.97	11.72	10.34	35.31	22.06	56.00	46.00	20.69	23.94	N	PASS
6	12.6555	22.25	13.38	10.88	33.13	24.26	60.00	50.00	26.87	25.74	N	PASS

Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

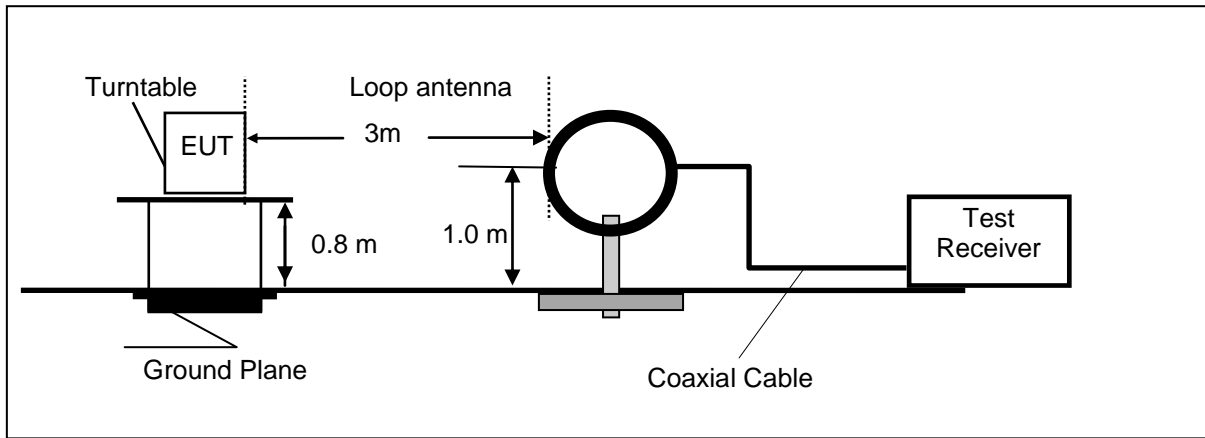
2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Note: All modes have been tested and the worst mode is recorded in the report, NFC has two optional antennas, with the worst mode recorded in the report (NFC antenna Model:DS2-52).

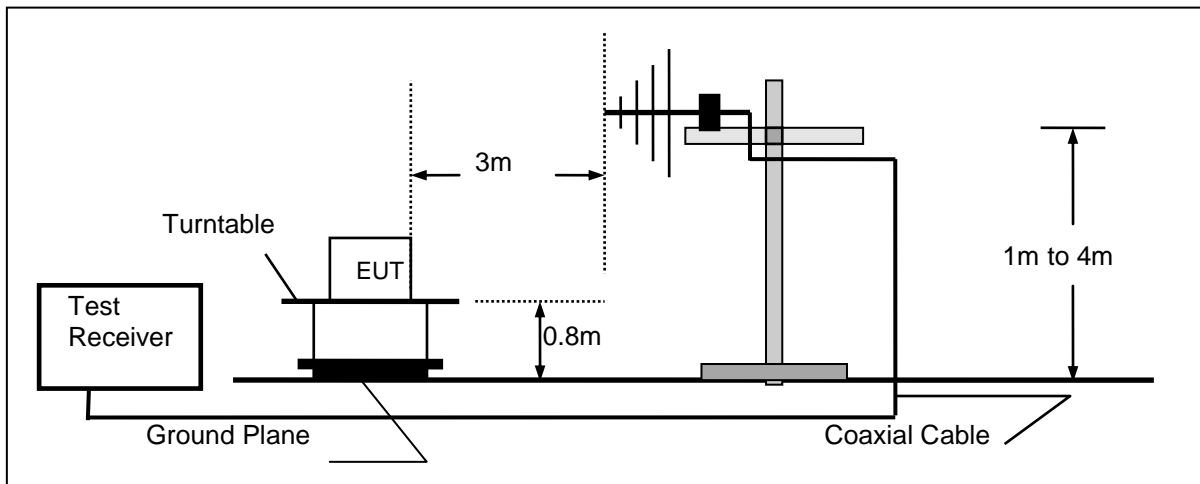
### 4.2. Radiated Emission

#### TEST CONFIGURATION

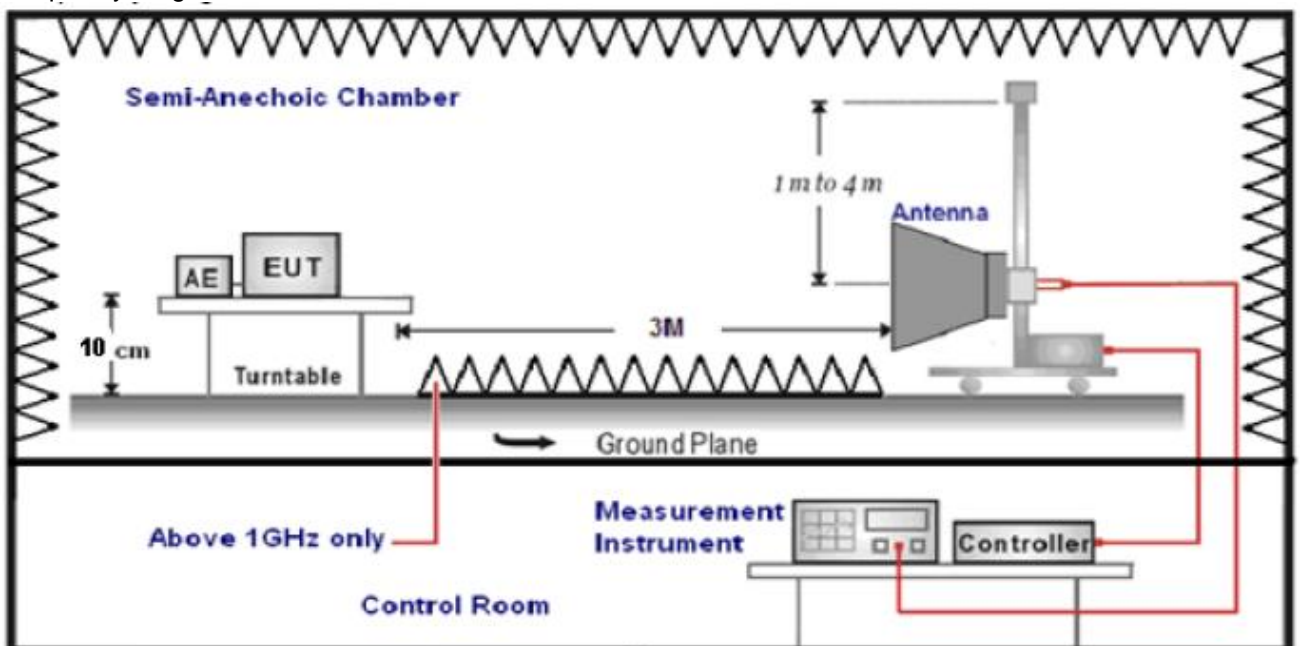
Frequency range 9 KHz – 30MHz



Frequency range 30MHz – 1000MHz



Frequency range above 1GHz-25GHz



**TEST PROCEDURE**

1. The EUT was placed on a turn table which is 0.8m above ground plane when testing frequency range 30MHz –1GHz;the EUT was placed on a turn table which is 1.5m above ground plane when testing frequency range 1GHz – 25GHz.
2. Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0° to 360° to acquire the highest emissions from EUT.
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measurements have been completed.
5. Radiated emission test frequency band from 30MHz to 25GHz.
6. The distance between test antenna and EUT as following table states:

Test Frequency range	Test Antenna Type	Test Distance
9KHz-30MHz	Active Loop Antenna	3
30MHz-1GHz	Ultra-Broadband Antenna	3
1GHz-18GHz	Double Ridged Horn Antenna	3
18GHz-25GHz	Horn Antenna	1

7. Setting test receiver/spectrum as following table states:

Test Frequency range	Test Receiver/Spectrum Setting	Detector
9KHz-150KHz	RBW=200Hz/VBW=3KHz,Sweep time=Auto	QP
150KHz-30MHz	RBW=9KHz/VBW=100KHz,Sweep time=Auto	QP
30MHz-1GHz	RBW=120KHz/VBW=1000KHz,Sweep time=Auto	QP
1GHz-40GHz	Peak Value: RBW=1MHz/VBW=3MHz, Sweep time=Auto Average Value: RBW=1MHz/VBW=10Hz, Sweep time=Auto	Peak

**Field Strength Calculation**

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor(if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

Where FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	AG = Amplifier Gain
AF = Antenna Factor	

$$Transd=AF +CL-AG$$

**RADIATION LIMIT**

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emission from intentional radiators at a distance of 3 meters shall not exceed the following table. According to § 15.247(d), in any 100kHz bandwidth outside the frequency band in which the EUT is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of desired power.

The pre-test have done for the EUT in three axes and found the worst emission at position shown in test setup photos.

Frequency (MHz)	Distance (Meters)	Radiated (dBµV/m)	Radiated (µV/m)
0.009-0.49	3	$20\log(2400/F(KHz))+40\log(300/3)$	2400/F(KHz)
0.49-1.705	3	$20\log(24000/F(KHz))+40\log(30/3)$	24000/F(KHz)
1.705-30	3	$20\log(30)+40\log(30/3)$	30
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

**TEST RESULTS**

Remark: We measured Radiated Emission at 802.11b/802.11g/802.11n HT20 mode from 30 MHz to 25GHz in AC120V and the worst case was recorded.

Temperature	25°C	Humidity	60%
Test Engineer	Lushan Kong	Configurations	IEEE 802.11g (MCH)

**For 9 KHz~30MHz**

Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Over Limit (dBuV)	Remark
-	-	-	-	See Note

**Note:**

The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Distance extrapolation factor =  $40 \log(\text{specific distance} / \text{test distance})$  (dB);

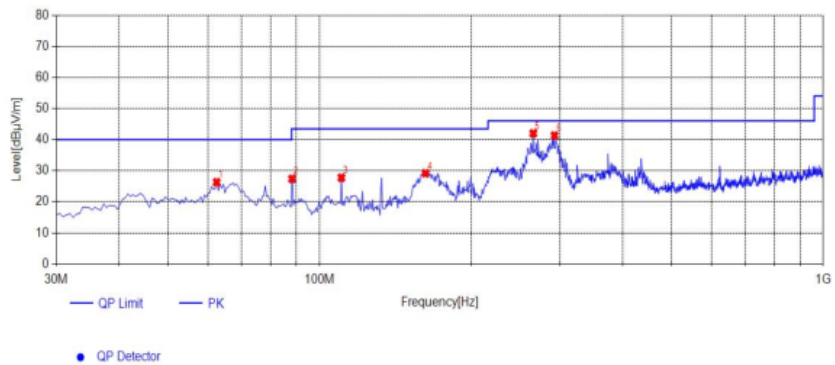
Limit line = specific limits (dBuV) + distance extrapolation factor.

For 30MHz-1GHz  
Version A:

Adapter: ADS-65HI-19A-124036F

**Horizontal**

Test Graph



Suspected List

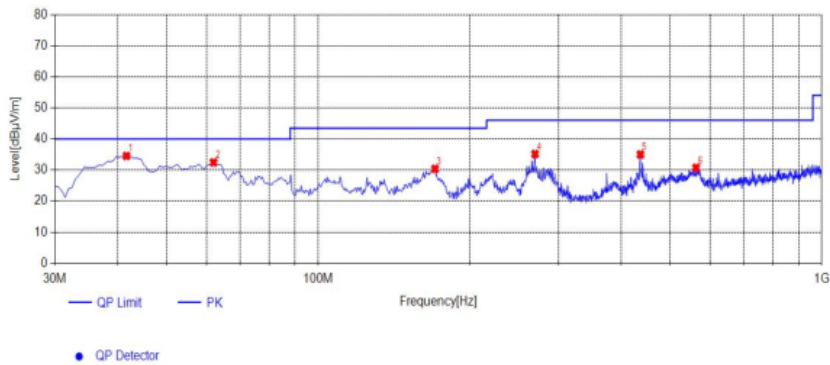
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	62.495	38.20	-11.89	26.31	40.00	13.69	100	264	PK	Horizontal	PASS
2	88.2	40.90	-13.50	27.40	43.50	16.10	100	108	PK	Horizontal	PASS
3	110.51	39.31	-11.56	27.75	43.50	15.75	100	85	PK	Horizontal	PASS
4	162.405	42.24	-13.05	29.19	43.50	14.31	100	298	PK	Horizontal	PASS
5	265.71	50.06	-8.05	42.01	46.00	3.99	100	311	PK	Horizontal	PASS
6	292.87	48.93	-7.61	41.32	46.00	4.68	100	247	PK	Horizontal	PASS

Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

**Vertical**

Test Graph



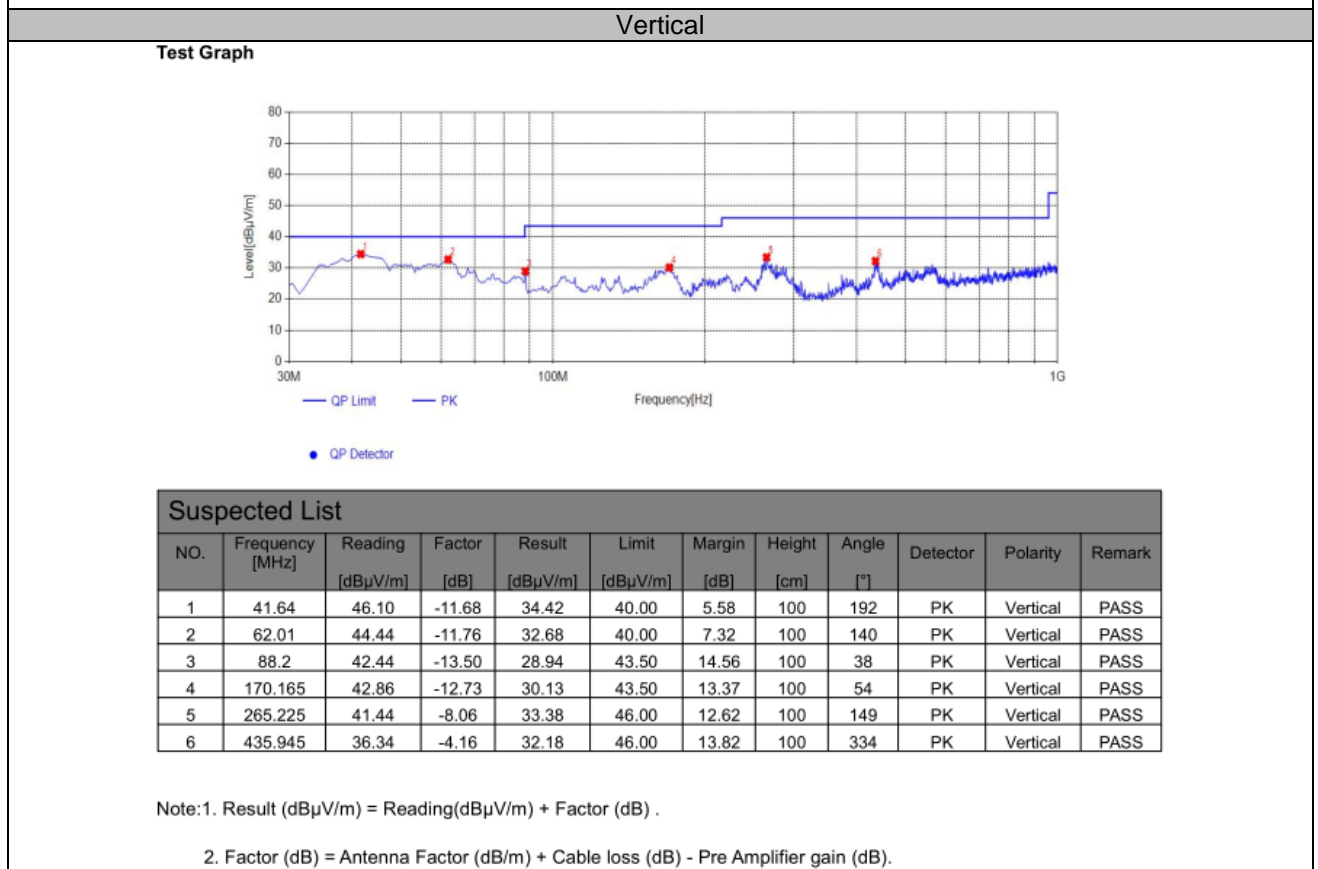
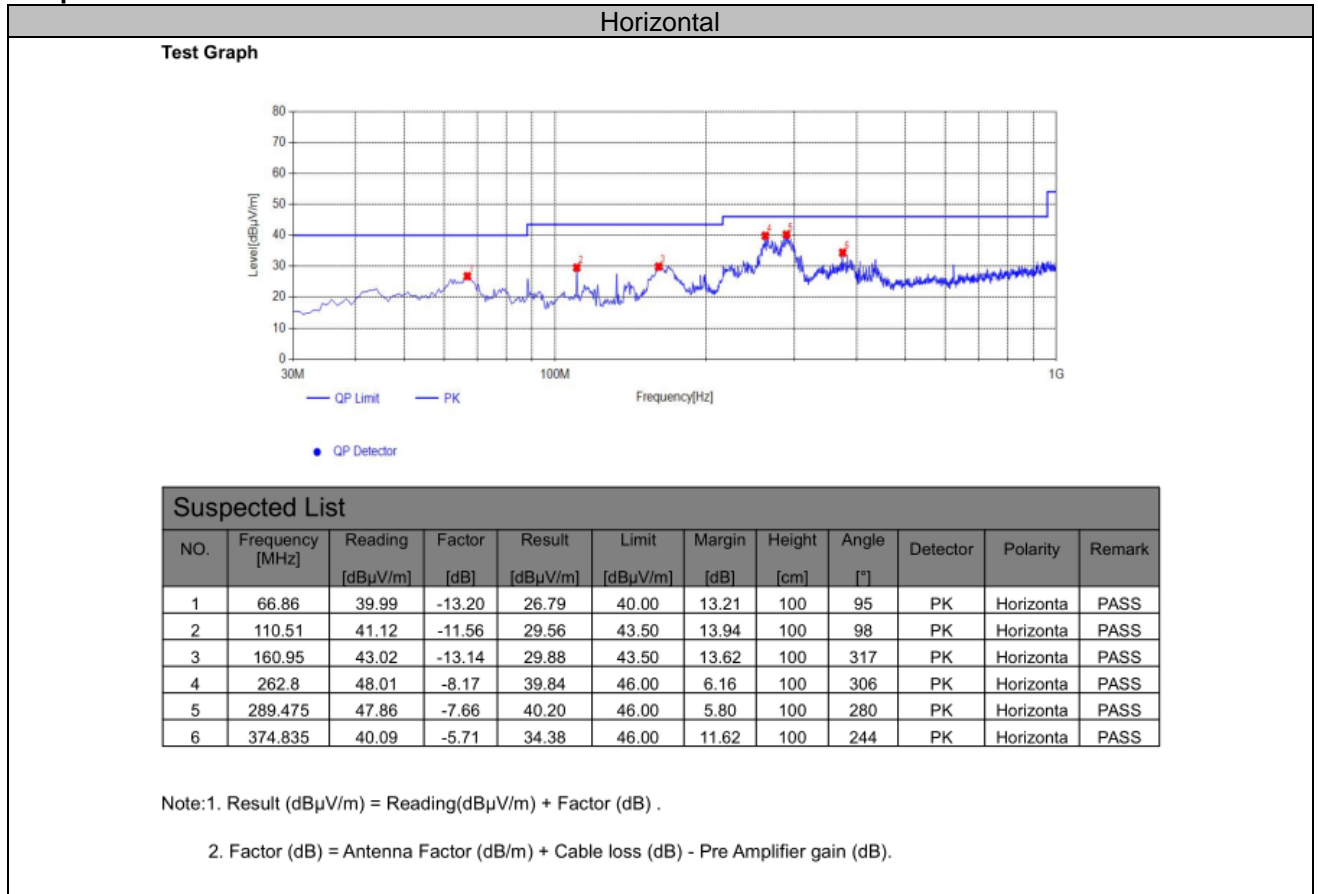
Suspected List

NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	41.64	46.22	-11.68	34.54	40.00	5.46	100	327	PK	Vertical	PASS
2	62.01	44.22	-11.76	32.46	40.00	7.54	100	155	PK	Vertical	PASS
3	170.65	43.09	-12.71	30.38	43.50	13.12	100	62	PK	Vertical	PASS
4	269.59	43.06	-7.89	35.17	46.00	10.83	100	357	PK	Vertical	PASS
5	436.43	39.16	-4.13	35.03	46.00	10.97	100	347	PK	Vertical	PASS
6	563.015	31.89	-1.16	30.73	46.00	15.27	100	334	PK	Vertical	PASS

Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

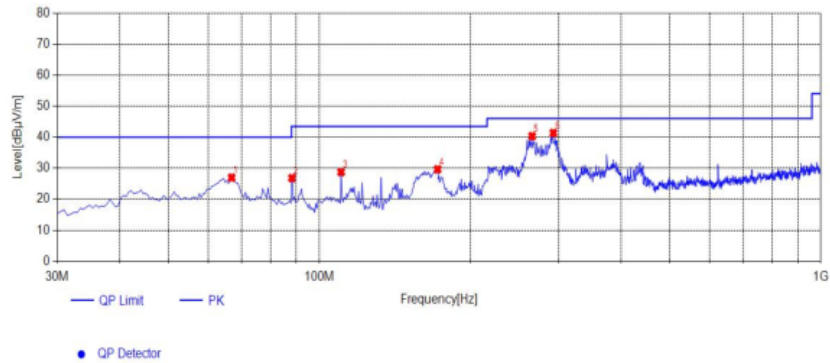
Adapter: SOY-2400150-332-A



Adapter: CYZS36-240150

**Horizontal**

Test Graph



Suspected List

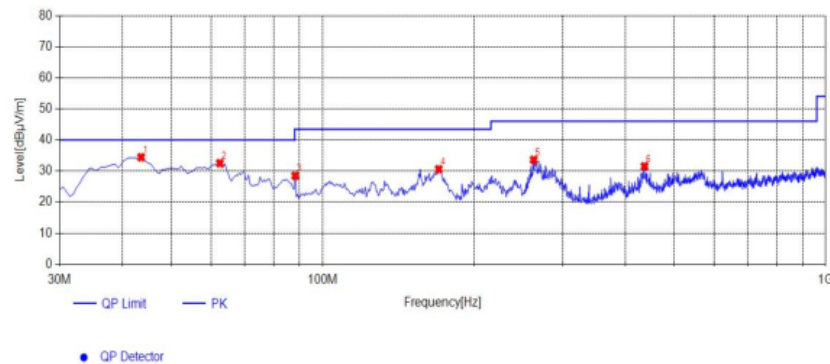
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	66.86	40.17	-13.20	26.97	40.00	13.03	100	94	PK	Horizontal	PASS
2	88.2	40.32	-13.50	26.82	43.50	16.68	100	110	PK	Horizontal	PASS
3	110.51	40.31	-11.56	28.75	43.50	14.75	100	91	PK	Horizontal	PASS
4	172.105	42.31	-12.66	29.65	43.50	13.85	100	262	PK	Horizontal	PASS
5	265.71	48.38	-8.05	40.33	46.00	5.67	100	308	PK	Horizontal	PASS
6	292.87	48.98	-7.61	41.37	46.00	4.63	100	0	PK	Horizontal	PASS

Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

**Vertical**

Test Graph



Suspected List

NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	43.58	45.91	-11.49	34.42	40.00	5.58	100	238	PK	Vertical	PASS
2	62.495	44.41	-11.89	32.52	40.00	7.48	100	212	PK	Vertical	PASS
3	88.2	41.98	-13.50	28.48	43.50	15.02	100	32	PK	Vertical	PASS
4	170.165	43.32	-12.73	30.59	43.50	12.91	100	62	PK	Vertical	PASS
5	262.8	41.78	-8.17	33.61	46.00	12.39	100	163	PK	Vertical	PASS
6	436.43	35.66	-4.13	31.53	46.00	14.47	100	344	PK	Vertical	PASS

Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

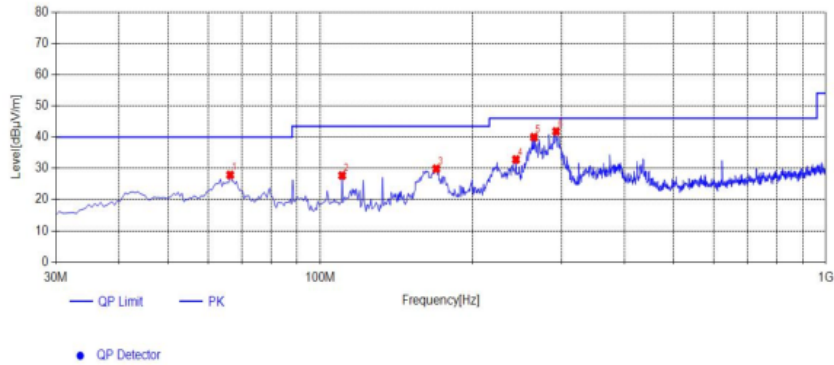


Version B:

Adapter: ADS-65HI-19A-124036F

**Horizontal**

Test Graph



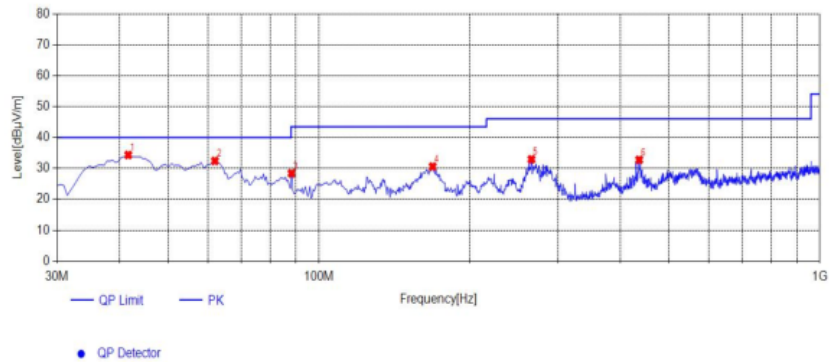
Suspected List											
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	66.375	40.96	-13.06	27.90	40.00	12.10	100	91	PK	Horizontal	PASS
2	110.51	39.27	-11.56	27.71	43.50	15.79	100	75	PK	Horizontal	PASS
3	169.68	42.60	-12.75	29.85	43.50	13.65	100	280	PK	Horizontal	PASS
4	243.885	41.78	-8.96	32.82	46.00	13.18	100	102	PK	Horizontal	PASS
5	264.74	48.07	-8.08	39.99	46.00	6.01	100	310	PK	Horizontal	PASS
6	292.87	49.44	-7.61	41.83	46.00	4.17	100	254	PK	Horizontal	PASS

Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

**Vertical**

Test Graph



Suspected List											
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	41.64	46.03	-11.68	34.35	40.00	5.65	100	341	PK	Vertical	PASS
2	62.01	44.18	-11.76	32.42	40.00	7.58	100	185	PK	Vertical	PASS
3	88.2	41.90	-13.50	28.40	43.50	15.10	100	46	PK	Vertical	PASS
4	168.71	43.37	-12.76	30.61	43.50	12.89	100	72	PK	Vertical	PASS
5	265.71	41.00	-8.05	32.95	46.00	13.05	100	139	PK	Vertical	PASS
6	435.945	36.94	-4.16	32.78	46.00	13.22	100	327	PK	Vertical	PASS

Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

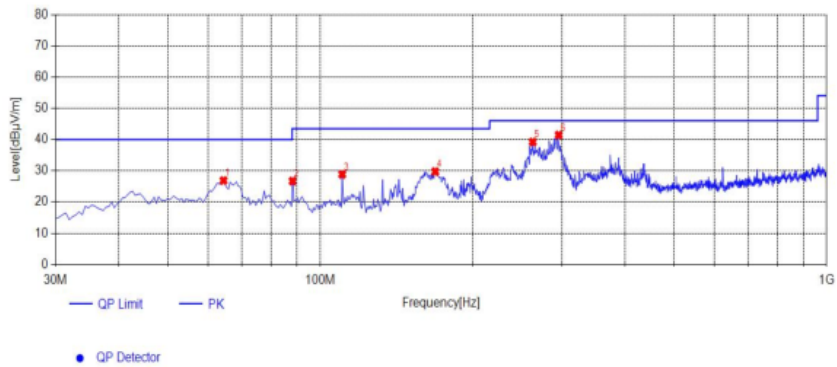
2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).



Adapter: SOY-2400150-332-A

**Horizontal**

**Test Graph**



**Suspected List**

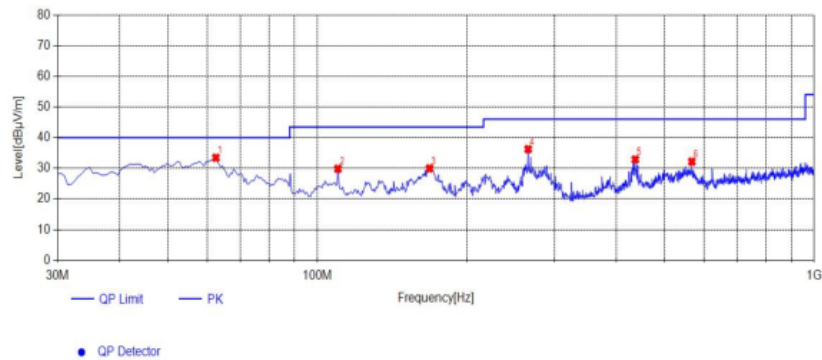
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	64.435	39.37	-12.48	26.89	40.00	13.11	100	130	PK	Horizontal	PASS
2	88.2	40.21	-13.50	26.71	43.50	16.79	100	104	PK	Horizontal	PASS
3	110.51	40.43	-11.56	28.87	43.50	14.63	100	80	PK	Horizontal	PASS
4	168.71	42.50	-12.76	29.74	43.50	13.76	100	275	PK	Horizontal	PASS
5	262.8	47.40	-8.17	39.23	46.00	6.77	100	321	PK	Horizontal	PASS
6	295.78	49.03	-7.58	41.45	46.00	4.55	100	220	PK	Horizontal	PASS

Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

**Vertical**

**Test Graph**



**Suspected List**

NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	62.495	45.33	-11.89	33.44	40.00	6.56	100	178	PK	Vertical	PASS
2	110.025	41.31	-11.47	29.84	43.50	13.66	100	320	PK	Vertical	PASS
3	168.225	42.75	-12.78	29.97	43.50	13.53	100	86	PK	Vertical	PASS
4	265.71	44.30	-8.05	36.25	46.00	9.75	100	172	PK	Vertical	PASS
5	436.43	37.01	-4.13	32.88	46.00	13.12	100	352	PK	Vertical	PASS
6	567.38	33.25	-1.07	32.18	46.00	13.82	100	326	PK	Vertical	PASS

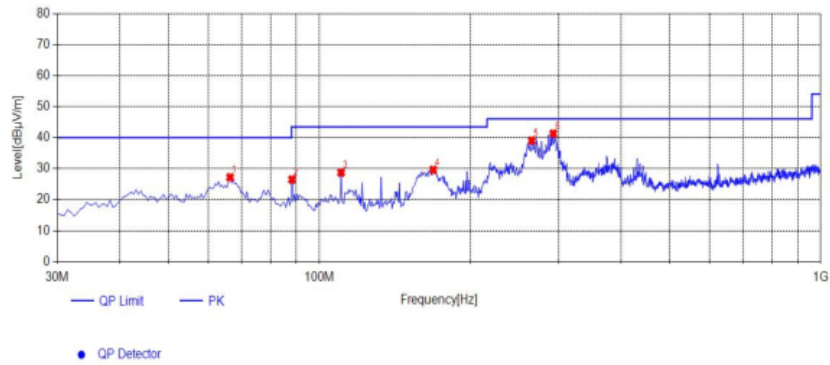
Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Adapter: CYZS36-240150

**Horizontal**

**Test Graph**



**Suspected List**

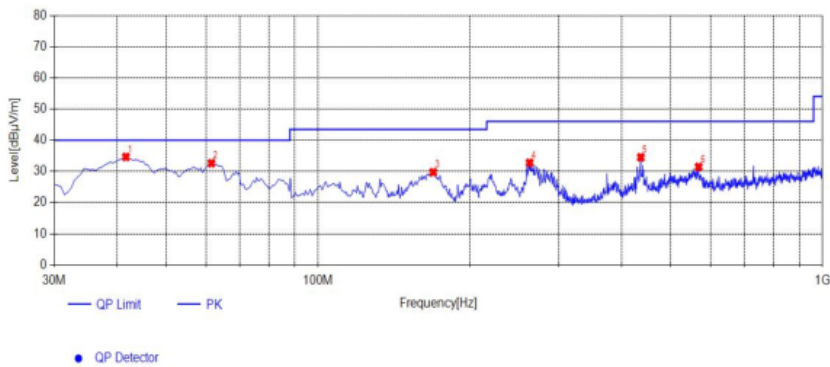
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	66.375	40.27	-13.06	27.21	40.00	12.79	100	72	PK	Horizontal	PASS
2	88.2	39.99	-13.50	26.49	43.50	17.01	100	95	PK	Horizontal	PASS
3	110.51	40.30	-11.56	28.74	43.50	14.76	100	98	PK	Horizontal	PASS
4	168.71	42.37	-12.76	29.61	43.50	13.89	100	285	PK	Horizontal	PASS
5	265.225	47.08	-8.06	39.02	46.00	6.98	100	302	PK	Horizontal	PASS
6	292.87	48.92	-7.61	41.31	46.00	4.69	100	246	PK	Horizontal	PASS

Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

**Vertical**

**Test Graph**



**Suspected List**

NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	41.64	46.32	-11.68	34.64	40.00	5.36	100	249	PK	Vertical	PASS
2	61.525	44.27	-11.65	32.62	40.00	7.38	100	174	PK	Vertical	PASS
3	169.195	42.48	-12.75	29.73	43.50	13.77	100	84	PK	Vertical	PASS
4	262.8	40.95	-8.17	32.78	46.00	13.22	100	131	PK	Vertical	PASS
5	436.43	38.64	-4.13	34.51	46.00	11.49	100	334	PK	Vertical	PASS
6	568.35	32.51	-1.06	31.45	46.00	14.55	100	338	PK	Vertical	PASS

Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

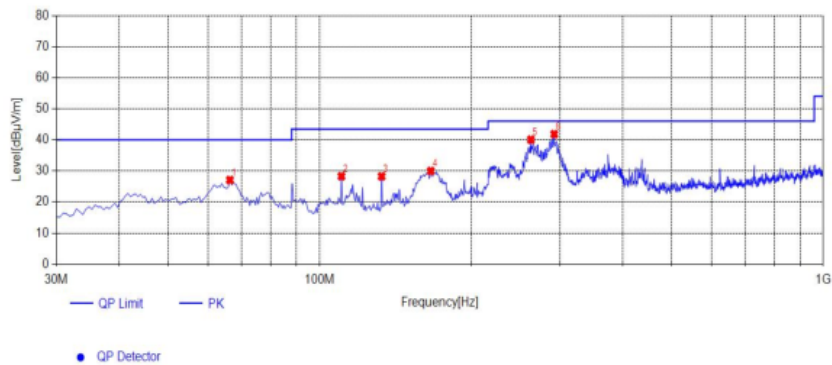
2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Version C:

Adapter: ADS-65HI-19A-124036F

**Horizontal**

Test Graph



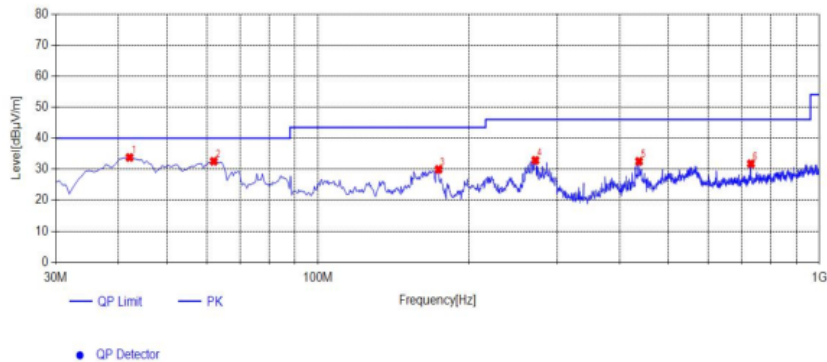
Suspected List											
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	66.375	40.14	-13.06	27.08	40.00	12.92	100	100	PK	Horizontal	PASS
2	110.51	39.86	-11.56	28.30	43.50	15.20	100	103	PK	Horizontal	PASS
3	132.82	42.11	-13.85	28.26	43.50	15.24	100	93	PK	Horizontal	PASS
4	166.285	42.82	-12.83	29.99	43.50	13.51	100	276	PK	Horizontal	PASS
5	262.8	48.25	-8.17	40.08	46.00	5.92	100	316	PK	Horizontal	PASS
6	292.385	49.48	-7.63	41.85	46.00	4.15	100	253	PK	Horizontal	PASS

Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

**Vertical**

Test Graph

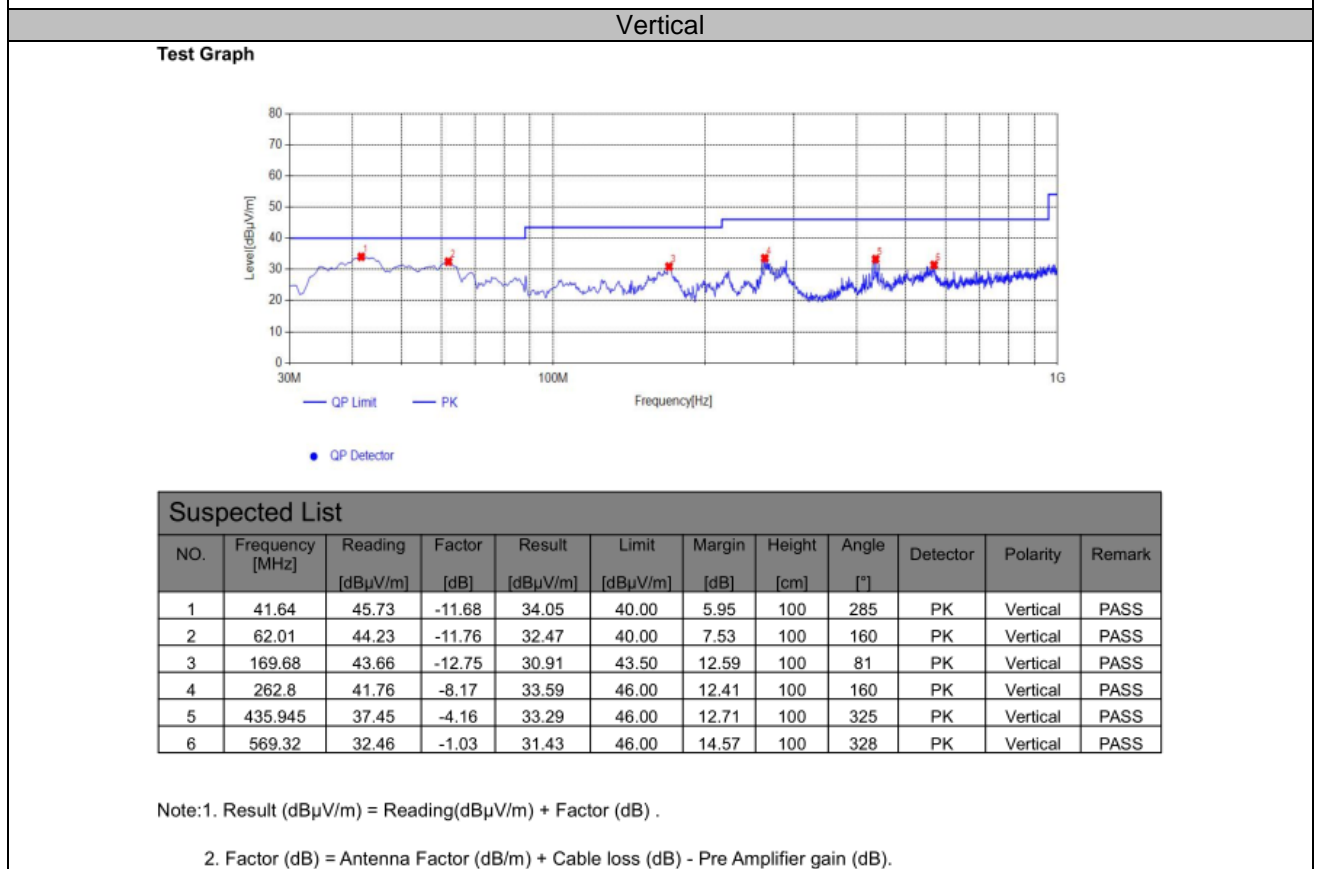
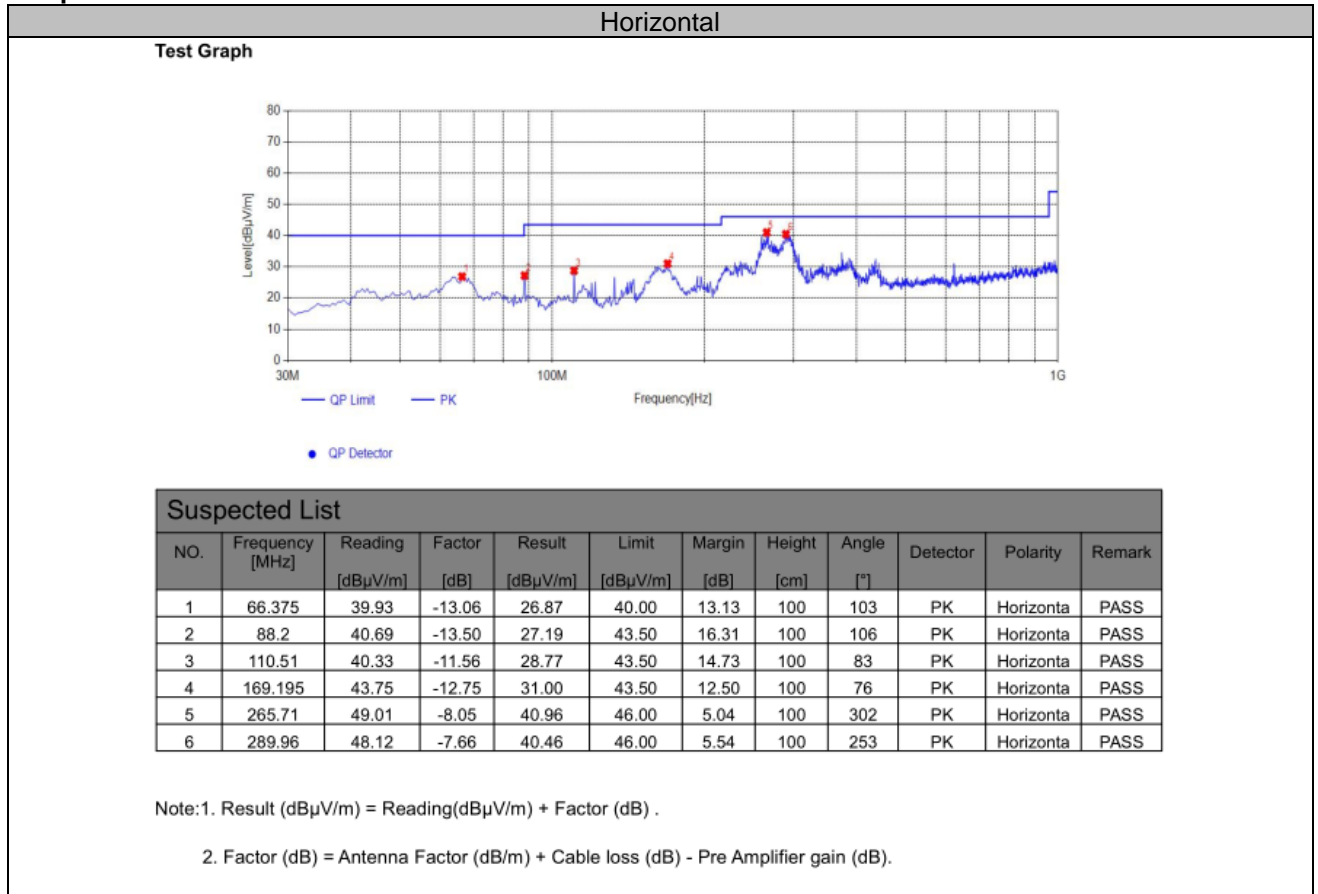


Suspected List											
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	42.125	45.39	-11.60	33.79	40.00	6.21	100	166	PK	Vertical	PASS
2	62.01	44.30	-11.76	32.54	40.00	7.46	100	156	PK	Vertical	PASS
3	174.045	42.53	-12.59	29.94	43.50	13.56	100	75	PK	Vertical	PASS
4	271.53	40.74	-7.87	32.87	46.00	13.13	100	150	PK	Vertical	PASS
5	436.915	36.65	-4.12	32.53	46.00	13.47	100	331	PK	Vertical	PASS
6	730.34	30.89	0.88	31.77	46.00	14.23	100	328	PK	Vertical	PASS

Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

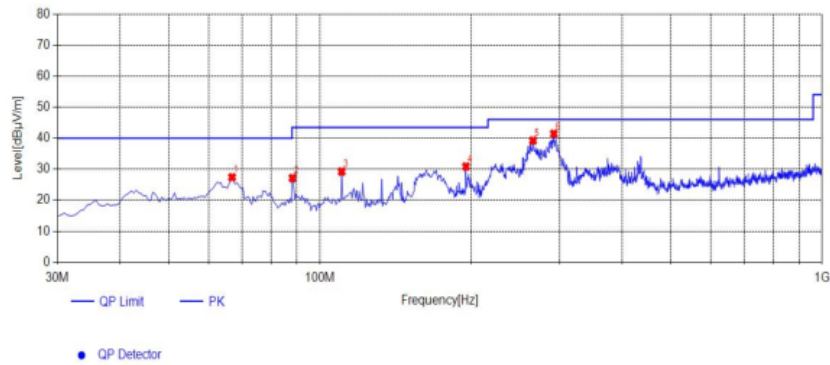
Adapter: SOY-2400150-332-A



Adapter: CYZS36-240150

**Horizontal**

**Test Graph**



**Suspected List**

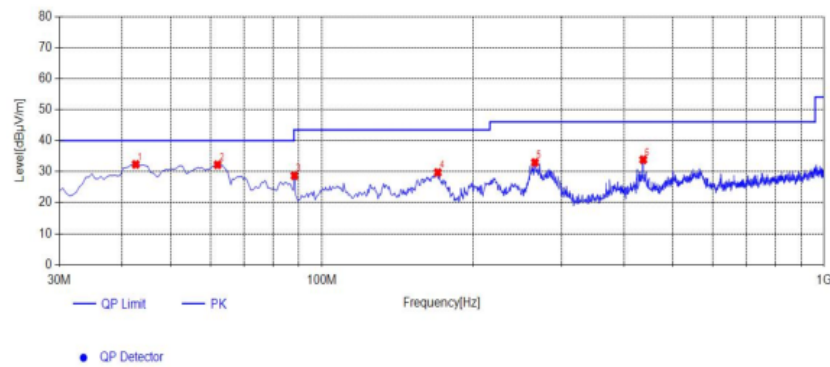
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	66.86	40.60	-13.20	27.40	40.00	12.60	100	93	PK	Horizontal	PASS
2	88.2	40.65	-13.50	27.15	43.50	16.35	100	109	PK	Horizontal	PASS
3	110.51	40.81	-11.56	29.25	43.50	14.25	100	99	PK	Horizontal	PASS
4	195.385	41.48	-10.61	30.87	43.50	12.63	100	44	PK	Horizontal	PASS
5	265.71	47.28	-8.05	39.23	46.00	6.77	100	298	PK	Horizontal	PASS
6	292.385	49.05	-7.63	41.42	46.00	4.58	100	252	PK	Horizontal	PASS

Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

**Vertical**

**Test Graph**



**Suspected List**

NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	42.61	43.89	-11.56	32.33	40.00	7.67	100	275	PK	Vertical	PASS
2	62.01	43.98	-11.76	32.22	40.00	7.78	100	174	PK	Vertical	PASS
3	88.2	42.21	-13.50	28.71	43.50	14.79	100	49	PK	Vertical	PASS
4	170.165	42.46	-12.73	29.73	43.50	13.77	100	75	PK	Vertical	PASS
5	265.71	41.01	-8.05	32.96	46.00	13.04	100	141	PK	Vertical	PASS
6	436.43	37.99	-4.13	33.86	46.00	12.14	100	342	PK	Vertical	PASS

Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

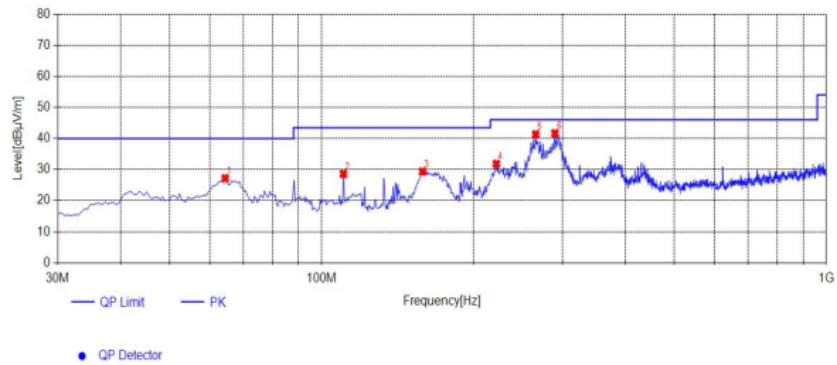
2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Version D:

Adapter: ADS-65HI-19A-124036F

**Horizontal**

Test Graph



Suspected List

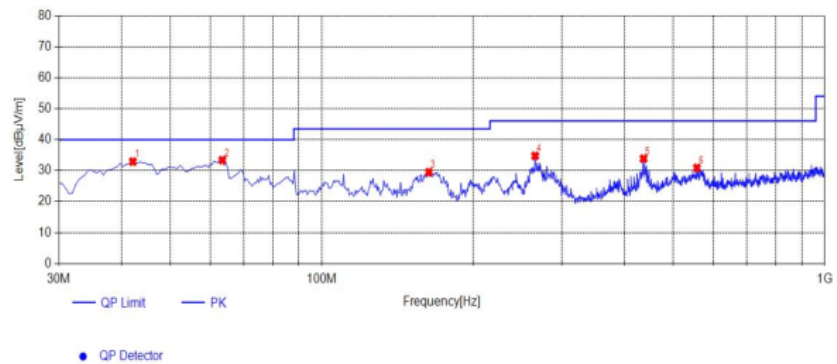
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	64.435	39.69	-12.48	27.21	40.00	12.79	100	291	PK	Horizontal	PASS
2	110.51	40.16	-11.56	28.60	43.50	14.90	100	97	PK	Horizontal	PASS
3	158.525	42.67	-13.32	29.35	43.50	14.15	100	309	PK	Horizontal	PASS
4	222.06	41.32	-9.48	31.84	46.00	14.16	100	17	PK	Horizontal	PASS
5	265.71	49.36	-8.05	41.31	46.00	4.69	100	301	PK	Horizontal	PASS
6	289.96	49.32	-7.66	41.66	46.00	4.34	100	242	PK	Horizontal	PASS

Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

**Vertical**

Test Graph



Suspected List

NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	42.125	44.51	-11.60	32.91	40.00	7.09	100	312	PK	Vertical	PASS
2	63.465	45.56	-12.18	33.38	40.00	6.62	100	210	PK	Vertical	PASS
3	163.375	42.49	-12.98	29.51	43.50	13.99	100	229	PK	Vertical	PASS
4	265.71	42.82	-8.05	34.77	46.00	11.23	100	141	PK	Vertical	PASS
5	436.43	38.01	-4.13	33.88	46.00	12.12	100	334	PK	Vertical	PASS
6	557.195	32.19	-1.30	30.89	46.00	15.11	100	334	PK	Vertical	PASS

Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

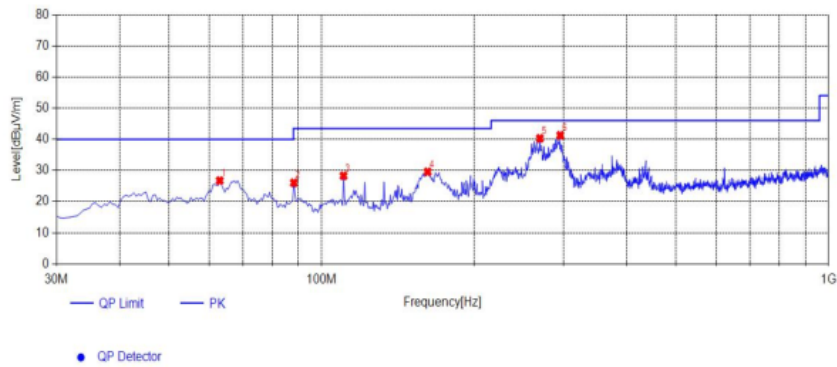
2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).



Adapter: SOY-2400150-332-A

**Horizontal**

**Test Graph**



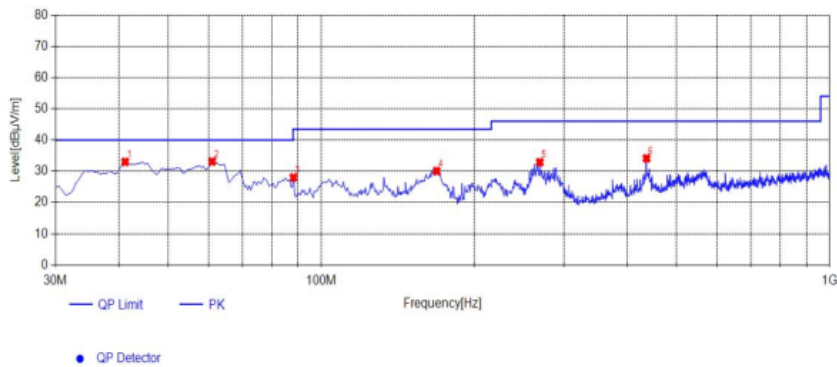
Suspected List											
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	62.98	38.79	-12.03	26.76	40.00	13.24	100	282	PK	Horizontal	PASS
2	88.2	39.56	-13.50	26.06	43.50	17.44	100	106	PK	Horizontal	PASS
3	110.51	39.86	-11.56	28.30	43.50	15.20	100	112	PK	Horizontal	PASS
4	161.92	42.65	-13.08	29.57	43.50	13.93	100	308	PK	Horizontal	PASS
5	269.59	48.20	-7.89	40.31	46.00	5.69	100	315	PK	Horizontal	PASS
6	295.78	48.87	-7.58	41.29	46.00	4.71	100	0	PK	Horizontal	PASS

Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

**Vertical**

**Test Graph**

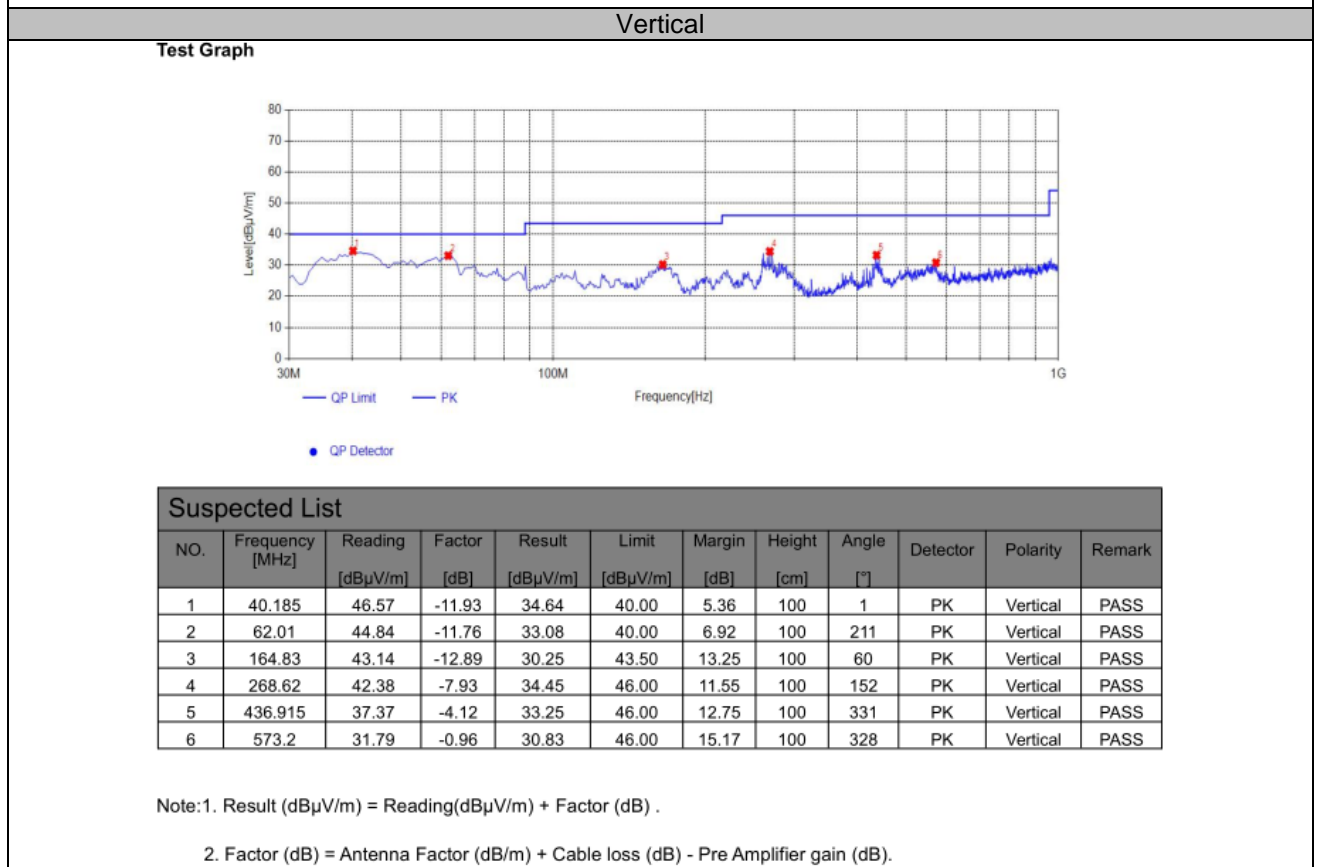
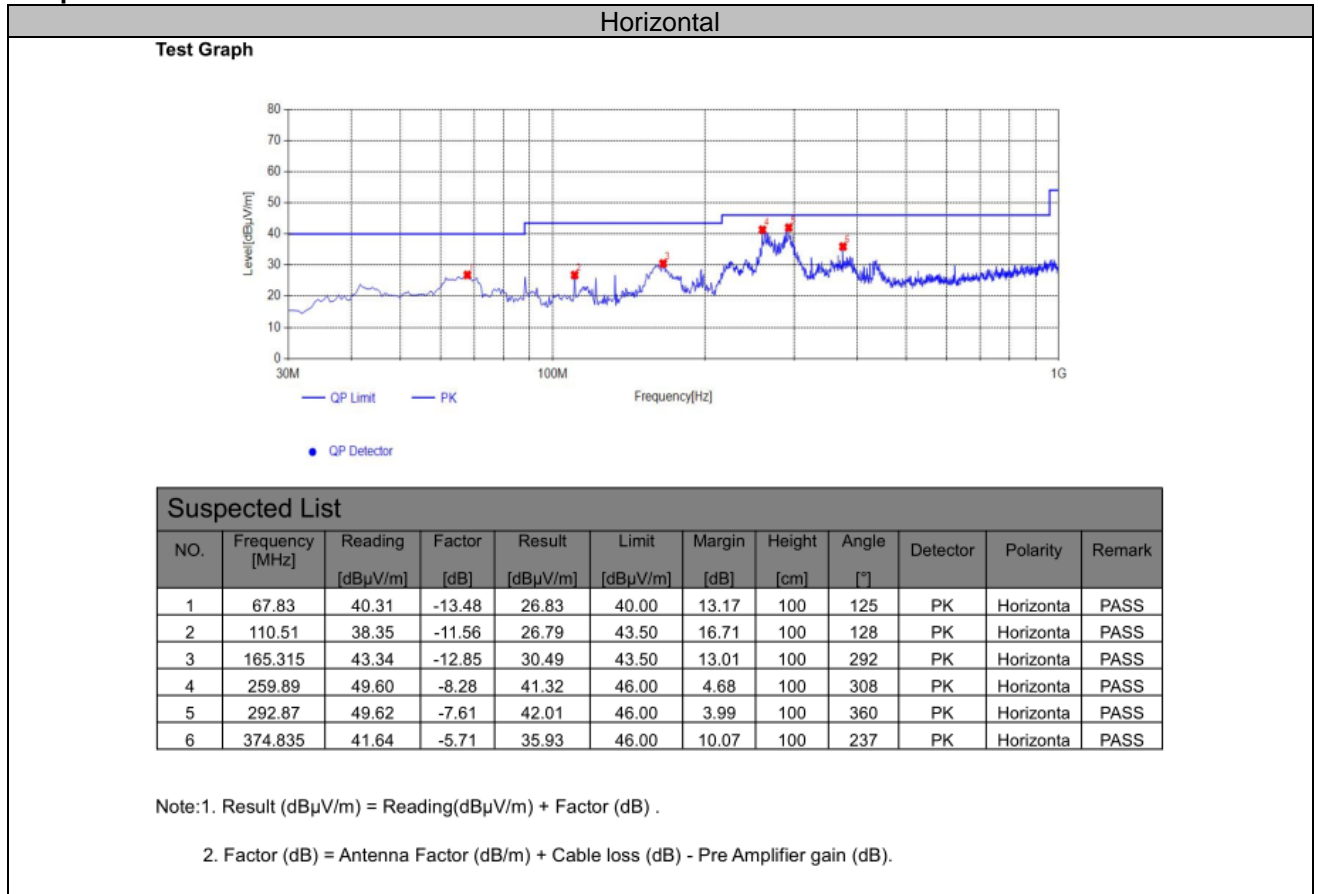


Suspected List											
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	41.155	44.80	-11.77	33.03	40.00	6.97	100	187	PK	Vertical	PASS
2	61.04	44.66	-11.54	33.12	40.00	6.88	100	184	PK	Vertical	PASS
3	88.2	41.51	-13.50	28.01	43.50	15.49	100	69	PK	Vertical	PASS
4	168.71	42.87	-12.76	30.11	43.50	13.39	100	72	PK	Vertical	PASS
5	269.105	40.81	-7.91	32.90	46.00	13.10	100	131	PK	Vertical	PASS
6	436.43	38.28	-4.13	34.15	46.00	11.85	100	336	PK	Vertical	PASS

Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Adapter: CYZS36-240150



Note: All modes have been tested and the worst mode is recorded in the report, NFC has two optional antennas, with the worst mode recorded in the report (NFC antenna Model:DS2-52).



## For 1GHz to 25GHz

IEEE 802.11b\_ (Worst Case)

Channel 1 / 2412 MHz

Freq. MHz	Reading dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
4824.00	49.45	32.44	30.25	7.95	59.59	74.00	-14.41	Peak	Horizontal
4824.00	35.59	32.44	30.25	7.95	45.73	54.00	-8.27	Average	Horizontal
4824.00	50.17	31.60	36.50	7.00	52.27	74.00	-21.73	Peak	Vertical
4824.00	35.44	31.60	36.50	7.00	37.54	54.00	-16.46	Average	Vertical

## Channel 39 / 2441 MHz

Freq. MHz	Reading dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
4874.00	50.91	32.52	30.31	8.12	61.24	74.00	-12.76	Peak	Horizontal
4874.00	37.17	32.52	30.31	8.12	47.50	54.00	-6.50	Average	Horizontal
4874.00	49.98	31.02	36.50	7.60	52.10	74.00	-21.90	Peak	Vertical
4874.00	35.95	31.02	36.50	7.60	38.07	54.00	-15.93	Average	Vertical

## Channel 78 / 2480 MHz

Freq. MHz	Reading dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
4924.00	50.20	32.68	30.27	7.88	60.49	74.00	-13.51	Peak	Horizontal
4924.00	36.30	32.68	30.27	7.88	46.59	54.00	-7.41	Average	Horizontal
4924.00	51.71	31.58	36.20	7.82	54.91	74.00	-19.09	Peak	Vertical
4924.00	37.83	31.58	36.20	7.82	41.03	54.00	-12.97	Average	Vertical

**Note: All modes were tested and the worst mode was recorded in the report (version A\_Adapter: ADS-65HI-19A-124036F\_NFC antenna Model:DS2-52).**

IEEE 802.11b\_ (Worst Case)

Channel 1 / 2412 MHz

Freq. MHz	Reading dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
4824.00	50.72	32.44	30.25	7.95	60.86	74.00	-13.14	Peak	Horizontal
4824.00	36.05	32.44	30.25	7.95	46.19	54.00	-7.81	Average	Horizontal
4824.00	50.66	31.60	36.50	7.00	52.76	74.00	-21.24	Peak	Vertical
4824.00	36.18	31.60	36.50	7.00	38.28	54.00	-15.72	Average	Vertical

Channel 39 / 2441 MHz

Freq. MHz	Reading dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
4874.00	50.39	32.52	30.31	8.12	60.72	74.00	-13.28	Peak	Horizontal
4874.00	37.80	32.52	30.31	8.12	48.13	54.00	-5.87	Average	Horizontal
4874.00	49.96	31.02	36.50	7.60	52.08	74.00	-21.92	Peak	Vertical
4874.00	35.23	31.02	36.50	7.60	37.35	54.00	-16.65	Average	Vertical

Channel 78 / 2480 MHz

Freq. MHz	Reading dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
4924.00	51.47	32.68	30.27	7.88	61.76	74.00	-12.24	Peak	Horizontal
4924.00	35.64	32.68	30.27	7.88	45.93	54.00	-8.07	Average	Horizontal
4924.00	51.15	31.58	36.20	7.82	54.35	74.00	-19.65	Peak	Vertical
4924.00	38.26	31.58	36.20	7.82	41.46	54.00	-12.54	Average	Vertical

**Note: All modes were tested and the worst mode was recorded in the report (version B\_Adapter: ADS-65HI-19A-124036F\_NFC antenna Model:DS2-52).**

IEEE 802.11b\_ (Worst Case)

Channel 1 / 2412 MHz

Freq. MHz	Reading dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
4824.00	50.32	32.44	30.25	7.95	60.46	74.00	-13.54	Peak	Horizontal
4824.00	35.31	32.44	30.25	7.95	45.45	54.00	-8.55	Average	Horizontal
4824.00	49.51	31.60	36.50	7.00	51.61	74.00	-22.39	Peak	Vertical
4824.00	36.15	31.60	36.50	7.00	38.25	54.00	-15.75	Average	Vertical

Channel 39 / 2441 MHz

Freq. MHz	Reading dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
4874.00	49.82	32.52	30.31	8.12	60.15	74.00	-13.85	Peak	Horizontal
4874.00	36.54	32.52	30.31	8.12	46.87	54.00	-7.13	Average	Horizontal
4874.00	51.10	31.02	36.50	7.60	53.22	74.00	-20.78	Peak	Vertical
4874.00	36.28	31.02	36.50	7.60	38.40	54.00	-15.60	Average	Vertical

Channel 78 / 2480 MHz

Freq. MHz	Reading dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
4924.00	50.72	32.68	30.27	7.88	61.01	74.00	-12.99	Peak	Horizontal
4924.00	35.84	32.68	30.27	7.88	46.13	54.00	-7.87	Average	Horizontal
4924.00	51.11	31.58	36.20	7.82	54.31	74.00	-19.69	Peak	Vertical
4924.00	37.52	31.58	36.20	7.82	40.72	54.00	-13.28	Average	Vertical

**Note: All modes were tested and the worst mode was recorded in the report (version C\_Adapter: ADS-65HI-19A-124036F\_NFC antenna Model:DS2-52).**

IEEE 802.11b\_ (Worst Case)

Channel 1 / 2412 MHz

Freq. MHz	Reading dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
4824.00	50.62	32.44	30.25	7.95	60.76	74.00	-13.24	Peak	Horizontal
4824.00	34.82	32.44	30.25	7.95	44.96	54.00	-9.04	Average	Horizontal
4824.00	51.02	31.60	36.50	7.00	53.12	74.00	-20.88	Peak	Vertical
4824.00	35.99	31.60	36.50	7.00	38.09	54.00	-15.91	Average	Vertical

Channel 39 / 2441 MHz

Freq. MHz	Reading dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
4874.00	50.83	32.52	30.31	8.12	61.16	74.00	-12.84	Peak	Horizontal
4874.00	36.75	32.52	30.31	8.12	47.08	54.00	-6.92	Average	Horizontal
4874.00	50.65	31.02	36.50	7.60	52.77	74.00	-21.23	Peak	Vertical
4874.00	36.30	31.02	36.50	7.60	38.42	54.00	-15.58	Average	Vertical

Channel 78 / 2480 MHz

Freq. MHz	Reading dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
4924.00	51.70	32.68	30.27	7.88	61.99	74.00	-12.01	Peak	Horizontal
4924.00	36.65	32.68	30.27	7.88	46.94	54.00	-7.06	Average	Horizontal
4924.00	52.68	31.58	36.20	7.82	55.88	74.00	-18.12	Peak	Vertical
4924.00	37.18	31.58	36.20	7.82	40.38	54.00	-13.62	Average	Vertical

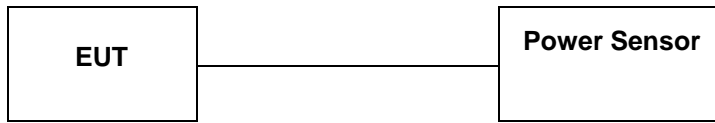
**Note: All modes were tested and the worst mode was recorded in the report (version D\_Adapter: ADS-65HI-19A-124036F\_NFC antenna Model:DS2-52).**

Notes:

- 1). Measuring frequencies from 9 KHz~10<sup>th</sup> harmonic or 26.5GHz (which is less), No emission found between lowest internal used/generated frequency to 30MHz.
- 2). Radiated emissions measured in frequency range from 9 KHz~10<sup>th</sup> harmonic or 26.5GHz (which is less) were made with an instrument using Peak detector mode.
- 3). Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4). Measured= Reading- Pre. Fac.+ Ant. Fac.+ Cab. Loss
- 5). Margin = Measured- Limit

### 4.3. Maximum Peak Output Power

#### TEST CONFIGURATION



#### TEST PROCEDURE

According to KDB558074 D01 15.247 Measurement Guidance v05r02 Section 8.3.1 Maximum peak conducted output power, 8.3.1.3 The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.

#### LIMIT

The Maximum Peak Output Power Measurement is 30dBm.

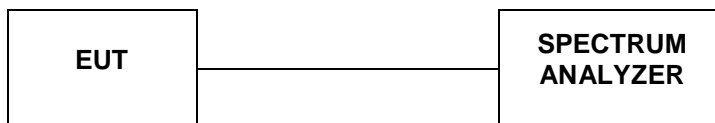
#### TEST RESULTS

For reporting purpose only.

Please refer to Appendix C.3.

#### 4.4. Power Spectral Density

##### TEST CONFIGURATION



##### TEST PROCEDURE

According to KDB 558074 D01 Method PKPSD (peak PSD) This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance, and is optional if the maximum conducted (average) output power was used to demonstrate compliance.

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW to:  $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$ .
4. Set the VBW  $\geq 3 \text{ RBW}$ .
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

##### LIMIT

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

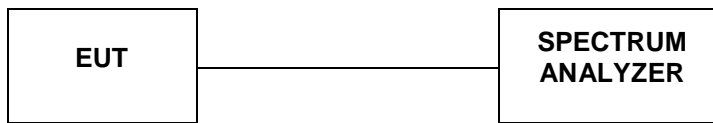
##### TEST RESULTS

For reporting purpose only.

Please refer to Appendix C.4.

## 4.5. 99% and 6dB Bandwidth

### TEST CONFIGURATION



### TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with RBW=100 KHz and VBW=300KHz. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB. According to KDI23M0258074 D01 for one of the following procedures may be used to determine the modulated DTS device signal bandwidth.

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW)  $\geq 3$  RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

### LIMIT

For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz

### TEST RESULTS

For reporting purpose only.

Please refer to Appendix C.1.

Please refer to Appendix C.2.

## 4.6. Conducted Spurious Emissions and Band Edge Compliance of RF Emission

### TEST REQUIREMENT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

### TEST PROCEDURE

According to KDB 558074 D01 for Antenna-port conducted measurement. Antenna-port conducted measurements may also be used as an alternative to radiated measurements for demonstrating compliance in the restricted frequency bands. If conducted measurements are performed, then proper impedance matching must be ensured and an additional radiated test for cabinet/case spurious emissions is required.

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Remove the antenna from the EUT and then connect to a low loss RF cable from the antenna port to a EMI test receiver, then turn on the EUT and make it operate in transmitting mode. Then set it to Low Channel and High Channel within its operating range, and make sure the instrument is operated in its linear range.
3. Set both RBW and VBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100kHz bandwidth from band edge, for Radiated emissions restricted band RBW=1MHz, VBW=3MHz for peak detector and RBW=1MHz, VBW=10Hz for average detector.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.
6. Measure the conducted output power (in dBm) using the detector specified by the appropriate regulatory agency (see 12.2.2, 12.2.3, and 12.2.4 for guidance regarding measurement procedures for determining quasi-peak, peak, and average conducted output power, respectively).
7. Add the maximum transmit antenna gain (in dBi) to the measured output power level to determine the EIRP level (see 12.2.5 for guidance on determining the applicable antenna gain)
8. Add the appropriate maximum ground reflection factor to the EIRP level (6 dB for frequencies  $\leq$  30 MHz, 4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive and 0 dB for frequencies  $>$  1000 MHz).
9. For devices with multiple antenna-ports, measure the power of each individual chain and sum the EIRP of all chains in linear terms (e.g., Watts, mW).
10. Convert the resultant EIRP level to an equivalent electric field strength using the following relationship:  

$$E = \text{EIRP} - 20\log D + 104.8$$

where:

E = electric field strength in dB $\mu$ V/m,

EIRP = equivalent isotropic radiated power in dBm

D = specified measurement distance in meters.

11. Since the out-of-band characteristics of the EUT transmit antenna will often be unknown, the use of a conservative antenna gain value is necessary. Thus, when determining the EIRP based on the measured conducted power, the upper bound on antenna gain for a device with a single RF output shall be selected as the maximum in-band gain of the antenna across all operating bands, or 2 dBi, whichever is greater. However, for devices that operate in multiple frequency bands while using the same transmit antenna, the highest gain of the antenna within the operating band nearest in frequency to the restricted band emission being measured may be used in lieu of the overall highest gain when the emission is at a frequency that is within 20 percent of the nearest band edge frequency, but in no case shall a value less than 2 dBi be used.
12. Compare the resultant electric field strength level to the applicable regulatory limit.
13. Perform radiated spurious emission test dures until all measured frequencies were complete.

### LIMIT

Below -20dB of the highest emission level in operating band.

Radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a).



**TEST RESULTS**

**4.6.1 For Conducted at Restricted Band Measurement**

For reporting purpose only.

Please refer to Appendix C.7.

**4.6.2 For Conducted Bandedge Measurement**

For reporting purpose only.

Please refer to Appendix C.5.

**4.6.3 For Conducted Spurious Emissions Measurement**

For reporting purpose only.

Please refer to Appendix C.6.

## 4.7. Antenna Requirement

### Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247 (c), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

### **Antenna Information**

The antenna is Internal Antenna, through the buckle stretched out, The directional gains of antenna used for transmitting is 2.05dBi.

Reference to the **Internal photos**.

**5. TEST SETUP PHOTOS OF THE EUT**

Reference to the Test Report: CTA24103100101.

**6. EXTERNAL AND INTERNAL PHOTOS OF THE EUT**

Reference to the Test Report: CTA24103100101.

.....**End of Report**.....