



**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 C (15.225)

**Report Reference No.** ..... : **CTA24103100106**

**FCC ID.** ..... : **2AYD5-I24D02**

Compiled by

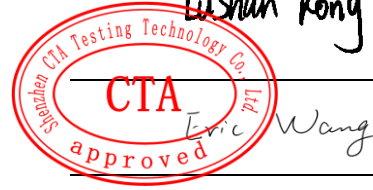
( position+printed name+signature) .: File administrators Jinghua Xiao

Supervised by

( position+printed name+signature) .: Test Engineer Lushan Kong

Approved by

( position+printed name+signature) .: Manager Eric Wang



Date of issue ..... : Sep.20, 2024

**Representative Laboratory Name.:** **Shenzhen CTA Testing Technology Co., Ltd.**

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

**Applicant's name**..... : **Imin Technology Pte Ltd**

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

**Test specification** .....

Standard..... : **FCC Part 15 C (15.225)**

TRF Originator..... : Shenzhen Global Test Service Co.,Ltd.

Master TRF ..... : Dated 2014-12

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**Test item description** .....

**POS Device**

Trade Mark..... :



Manufacturer ..... : Imin Technology Pte Ltd

Model/Type reference ..... : I24D02

List Model ..... : N/A

Modulation Type..... : ASK

Operation Frequency ..... : 13.56 MHz

Hardware Version ..... : N/A

Software Version..... : N/A

Rating ..... : DC 24V/1.5A by adapter

Result ..... : **PASS**

# TEST REPORT

<b>Test Report No.:</b> CTA24103100106	Sep.20, 2024 Date of issue
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Equipment under Test : POS Device

Model /Type : I24D02

List 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 15.225](#): RADIO FREQUENCY DEVICES.


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

## 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)	

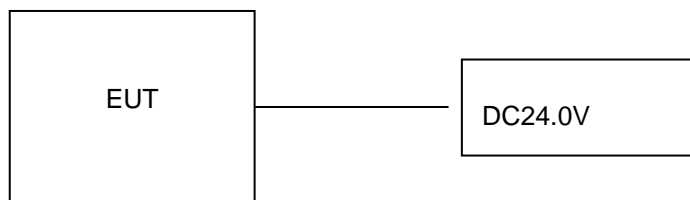
DC 24.0V

### 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. Block Diagram of Test Setup



### 2.6. 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.

### 2.7. EUT Exercise Software

N/A.

### 2.8. 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.

## 2.9. 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

## 2.10. 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:	-20-50 ° 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	30~1000MHz	4.10 dB	(1)
Radiated Emission	1~18GHz	4.32 dB	(1)
Radiated Emission	18-40GHz	5.54 dB	(1)
Conducted Disturbance	0.15~30MHz	3.12 dB	(1)

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

### 3.5. Summary of measurement results

Applied Standard: FCC Part 15 Subpart C			
Test Items	FCC Rules	Test Sample	Result
Line Conducted Emissions	§15.207(a)	CTA241031001-S0001-4# CTA241031001-S0001-5# CTA241031001-S0001-6# CTA241031001-S0001-7#	PASS
Field Strength of Fundamental Emissions	§15.225(a)(b)(c)	CTA241031001-S0001-3#	PASS
Radiated Emissions	§15.225(d) & §15.209	CTA241031001-S0001-3# CTA241031001-S0001-4# CTA241031001-S0001-5# CTA241031001-S0001-6# CTA241031001-S0001-7#	PASS
20dB Bandwidth	§ 15.215	CTA241031001-S0001-3#	PASS
Frequency Stability	§15.225(e)	CTA241031001-S0001-3#	PASS
Antenna Requirement	§15.203	CTA241031001-S0001-3#	PASS

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 (SAR Report).
5. We tested all test mode and recorded worst case in report

### 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. RADIATED MEASUREMENT

### 4.1. Standard Applicable

According to §15.209/ §15.205

15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
\1\ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293.	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(\2)
13.36-13.41			

\1\ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

\2\ Above 38.6

According to §15.247 (d): 20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

### 4.2. Measuring Instruments and Setting

Please refer to equipment list in this report. The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10 <sup>th</sup> carrier harmonic
RB / VB (Emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 1/B kHz for Average
RB / VB (Emission in non-restricted band)	1MHz / 1MHz for Peak, 1 MHz / 1/B kHz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB/VB 200Hz/1KHz for QP/AVG
Start ~ Stop Frequency	150kHz~30MHz / RB/VB 9kHz/30KHz for QP/AVG
Start ~ Stop Frequency	30MHz~1000MHz / RB/VB 120kHz/1MHz for QP

### 4.3. Test Procedures

#### 1) Sequence of testing 9 kHz to 30 MHz

**Setup:**

- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- If the EUT is a tabletop system, a rotatable table with 0.8 m height is used.
- If the EUT is a floor standing device, it is placed on the ground.
- Auxiliary equipment and cables were positioned to simulate normal operation conditions.
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- The measurement distance is 3 meter.
- The EUT was set into operation.

**Premeasurement:**

- The turntable rotates from 0° to 315° using 45° steps.
- The antenna height is 1.0 meter.
- At each turntable position the analyzer sweeps with peak detection to find the maximum of all emissions

**Final measurement:**

- Identified emissions during the premeasurement the software maximizes by rotating the turntable position (0° to 360°) and by rotating the elevation axes (0° to 360°).
- The final measurement will be done in the position (turntable and elevation) causing the highest emissions with QPK detector.
- The final levels, frequency, measuring time, bandwidth, turntable position, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement and the limit will be stored.

#### 2) Sequence of testing 30 MHz to 1 GHz

**Setup:**

- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- If the EUT is a tabletop system, a table with 0.8 m height is used, which is placed on the ground plane.
- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.
- Auxiliary equipment and cables were positioned to simulate normal operation conditions
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- The measurement distance is 3 meter.
- The EUT was set into operation.

**Premeasurement:**

- The turntable rotates from 0° to 315° using 45° steps.
- The antenna is polarized vertical and horizontal.
- The antenna height changes from 1 to 3 meter.
- At each turntable position, antenna polarization and height the analyzer sweeps three times in peak to find the maximum of all emissions.

**Final measurement:**

- The final measurement will be performed with minimum the six highest peaks.
- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable position ( $\pm 45^\circ$ ) and antenna movement between 1 and 4 meter.
- The final measurement will be done with QP detector with an EMI receiver.
- The final levels, frequency, measuring time, bandwidth, antenna height, antenna polarization, turntable angle, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement with marked maximum final measurements and the limit will be stored.

### 3) Sequence of testing 1 GHz to 18 GHz

#### Setup:

- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- If the EUT is a tabletop system, a rotatable table with 1.5 m height is used.
- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.
- Auxiliary equipment and cables were positioned to simulate normal operation conditions
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- The measurement distance is 3 meter.
- The EUT was set into operation.

#### Premeasurement:

- The turntable rotates from 0° to 315° using 45° steps.
- The antenna is polarized vertical and horizontal.
- The antenna height scan range is 1 meter to 2.5 meter.
- At each turntable position and antenna polarization the analyzer sweeps with peak detection to find the maximum of all emissions.

#### Final measurement:

- The final measurement will be performed with minimum the six highest peaks.
- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable position ( $\pm 45^\circ$ ) and antenna movement between 1 and 4 meter. This procedure is repeated for both antenna polarizations.
- The final measurement will be done in the position (turntable, EUT-table and antenna polarization) causing the highest emissions with Peak and Average detector.
- The final levels, frequency, measuring time, bandwidth, turntable position, EUT-table position, antenna polarization, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement with marked maximum final measurements and the limit will be stored.

### 4) Sequence of testing above 18 GHz

#### Setup:

- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- If the EUT is a tabletop system, a rotatable table with 1.5 m height is used.
- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.
- Auxiliary equipment and cables were positioned to simulate normal operation conditions
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- The measurement distance is 1 meter.
- The EUT was set into operation.

#### Premeasurement:

- The antenna is moved spherical over the EUT in different polarizations of the antenna.

#### Final measurement:

- The final measurement will be performed at the position and antenna orientation for all detected emissions that were found during the premeasurements with Peak and Average detector.
- The final levels, frequency, measuring time, bandwidth, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement and the limit will be stored.

**Field Strength Calculation**

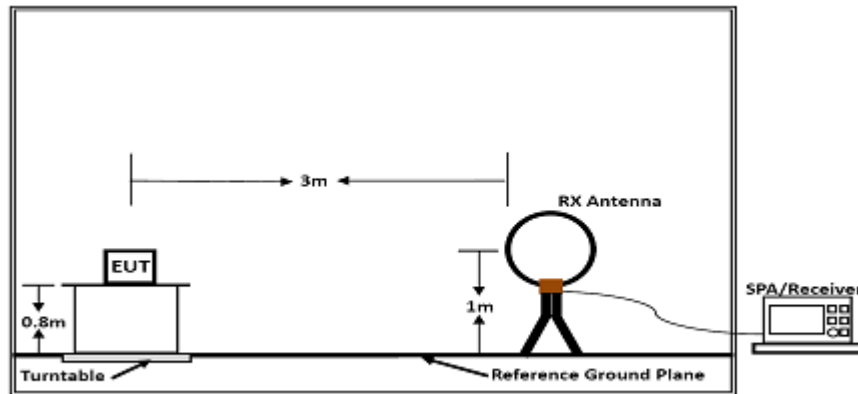
The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

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

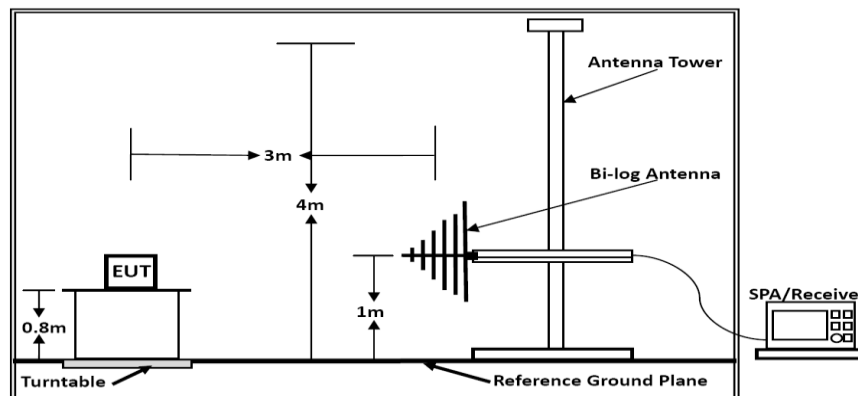
Where FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	AG = Amplifier Gain
AF = Antenna Factor	

$$Transd = AF + CL - AG$$

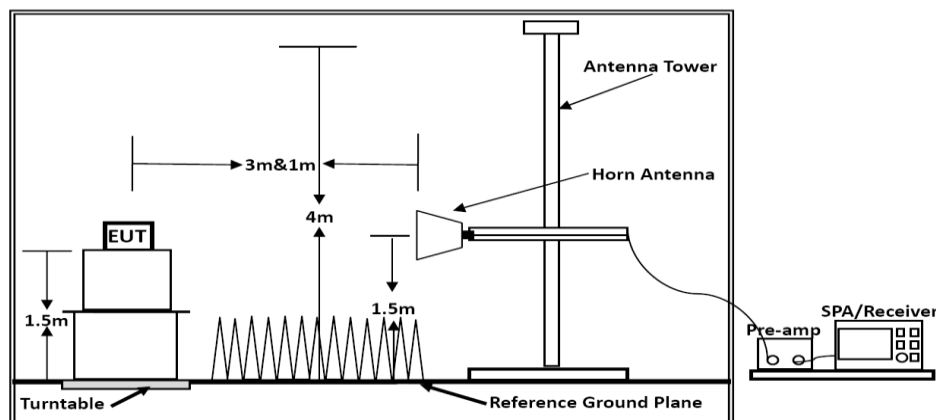
**4.4. Test Setup Layout**



Below 30MHz



Below 1GHz



Above 1GHz

Above 18 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from 3m to 1m.

Distance extrapolation factor =  $20 \log (\text{specific distance [3m]} / \text{test distance [1m]})$  (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [6 dB].

**4.5. Test Results**

Temperature	24.5°C	Humidity	53.7%
Test Engineer	Lushan Kong	Configurations	NFC

PASS.

The test data please refer to following page:

**9 KHz~30MHz****Version A(Adapter: ADS-65HI-19A-124036F, NFC antenna Model:DS2-52):**

Freq. MHz	Reading dBuV	Factor dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark
0.24	34.50	20.54	55.04	100.03	45.00	QP
0.94	32.88	20.48	53.36	80.03	26.67	QP
2.03	31.42	20.30	51.72	69.54	17.82	QP
5.01	27.43	20.32	47.75	69.54	21.79	QP
13.56	42.34	20.18	62.52	124.00	61.48	QP
14.97	33.12	20.12	53.24	69.54	16.30	QP
22.00	26.96	19.94	46.90	69.54	22.64	QP
26.02	29.59	19.95	49.54	69.54	20.00	QP

**Version B(Adapter: ADS-65HI-19A-124036F, NFC antenna Model:DS2-52):**

Freq. MHz	Reading dBuV	Factor dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark
0.23	33.43	20.54	53.97	100.23	46.26	QP
0.92	26.55	20.48	47.03	80.23	33.20	QP
2.03	24.96	20.30	45.26	69.54	24.28	QP
5.03	33.30	20.32	53.62	69.54	15.92	QP
13.56	40.01	20.18	60.19	124.00	63.81	QP
14.95	30.51	20.12	50.63	69.54	18.91	QP
22.05	29.76	19.94	49.70	69.54	19.84	QP
25.97	33.99	19.95	53.94	69.54	15.60	QP



**Version C(Adapter: ADS-65HI-19A-124036F, NFC antenna Model:DS2-52):**

Freq. MHz	Reading dBuV	Factor dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark
0.21	31.55	20.54	52.09	101.23	49.14	QP
0.88	31.52	20.48	52.00	81.23	29.24	QP
2.03	27.40	20.30	47.70	69.54	21.84	QP
5.01	32.11	20.32	52.43	69.54	17.11	QP
13.56	39.54	20.18	59.72	124.00	64.28	QP
15.03	31.23	20.12	51.35	69.54	18.19	QP
22.03	32.33	19.94	52.27	69.54	17.27	QP
25.95	31.94	19.95	51.89	69.54	17.65	QP

**Version D(Adapter: ADS-65HI-19A-124036F, NFC antenna Model:DS2-52):**

Freq. MHz	Reading dBuV	Factor dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark
0.19	27.23	20.54	47.77	101.83	54.06	QP
0.86	27.76	20.48	48.24	81.83	33.59	QP
1.97	27.13	20.30	47.43	69.54	22.11	QP
5.03	25.34	20.32	45.66	69.54	23.88	QP
13.56	42.93	20.18	63.11	124.00	60.89	QP
15.00	28.45	20.12	48.57	69.54	20.97	QP
22.02	30.81	19.94	50.75	69.54	18.79	QP
26.01	28.58	19.95	48.53	69.54	21.01	QP

\*Note: Emission Level= Reading Level + Factor

Factor= Antenna Factor + Cable Loss

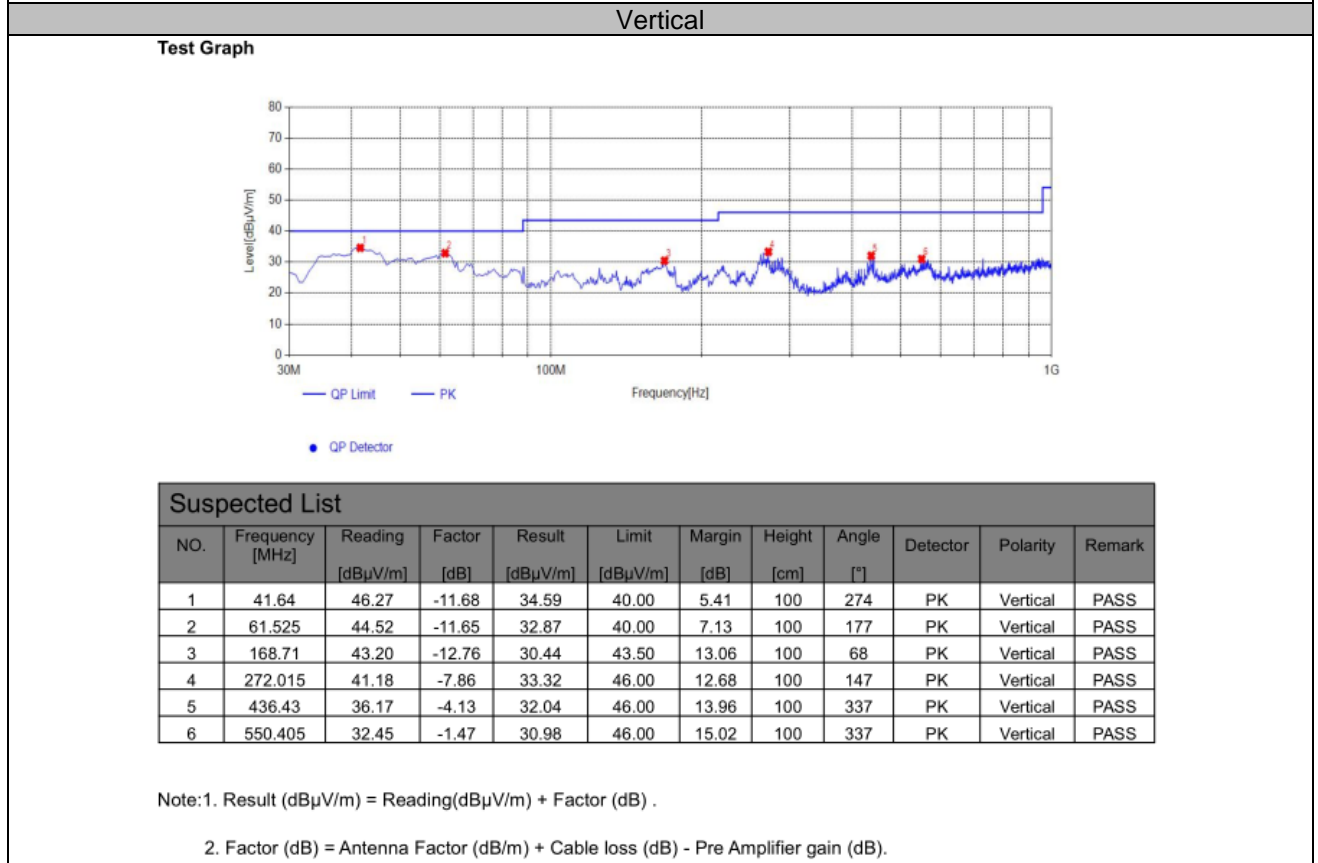
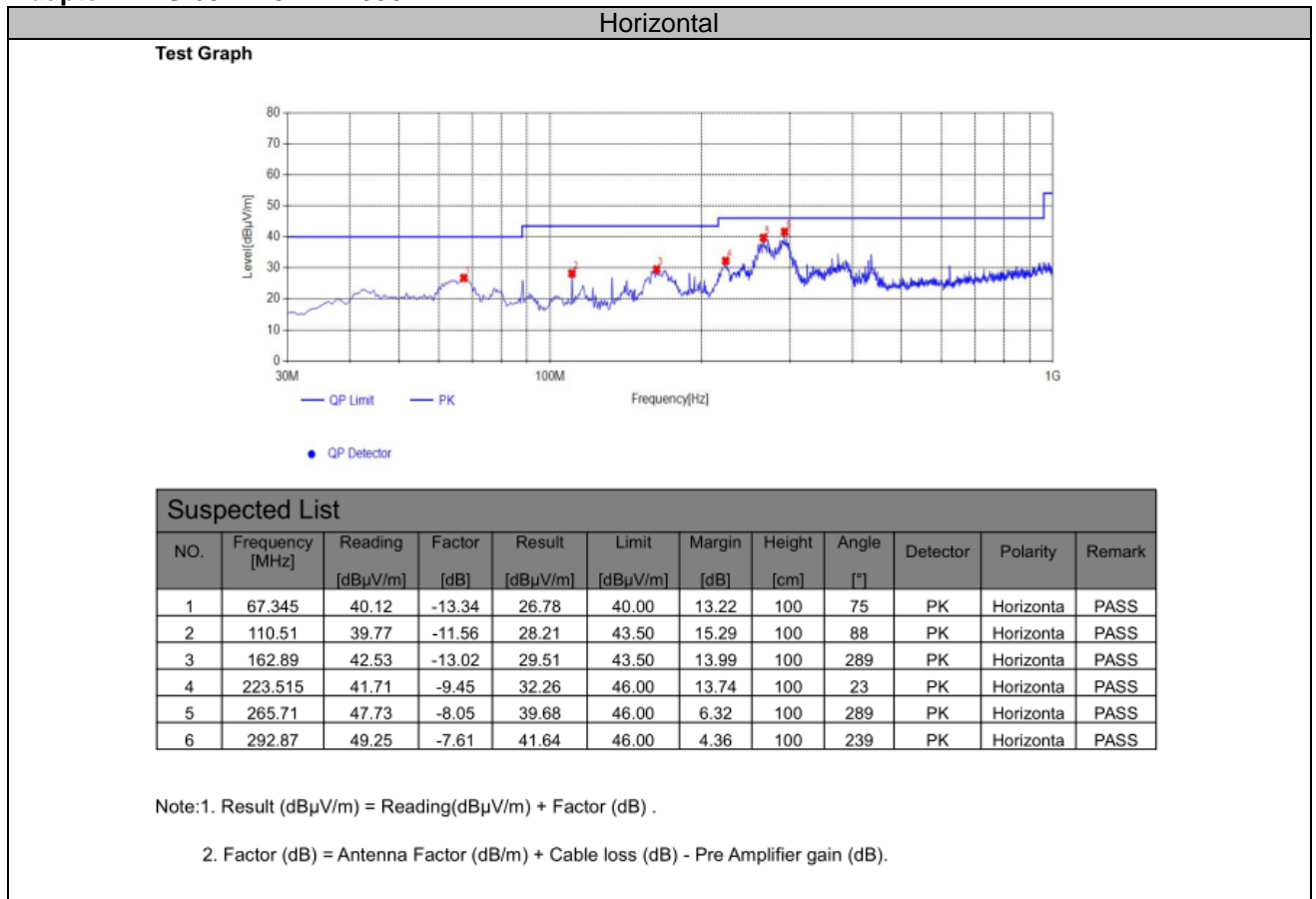
Margin = Emission Level Limit – Measured Values

“--” means noise floor.

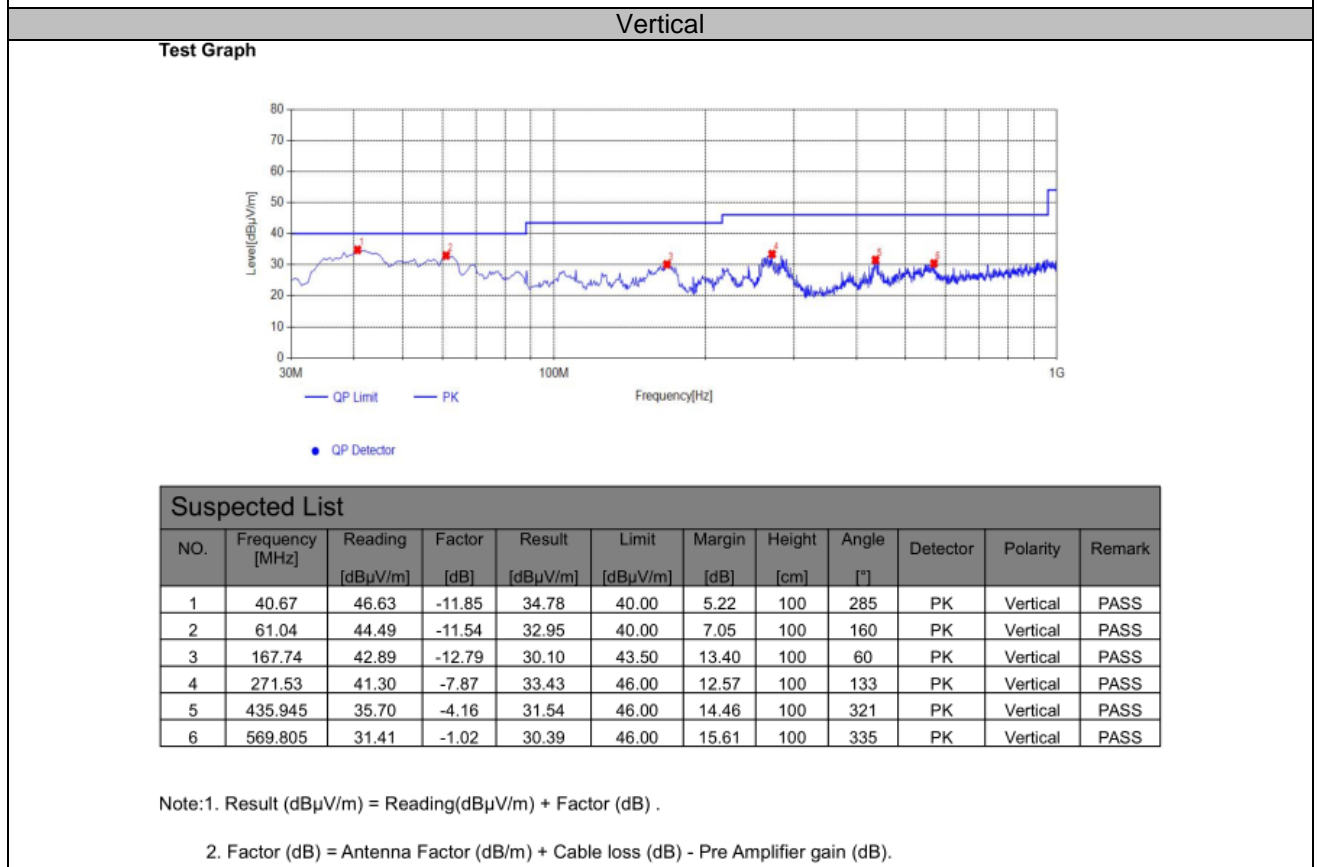
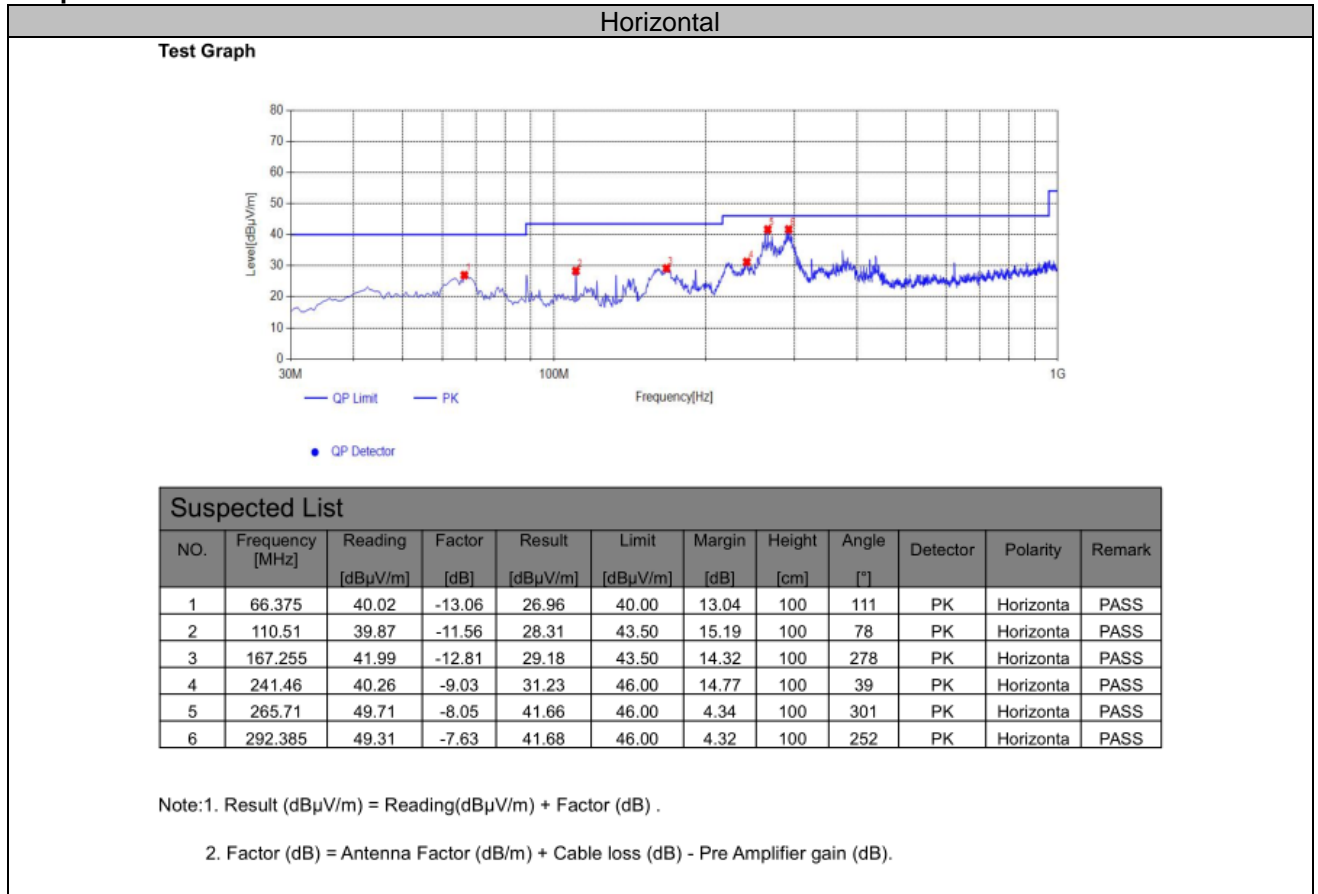
**NOTE: All the modes have been tested and recorded worst mode in the report.**

For 30MHz-1GHz  
Version A:

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



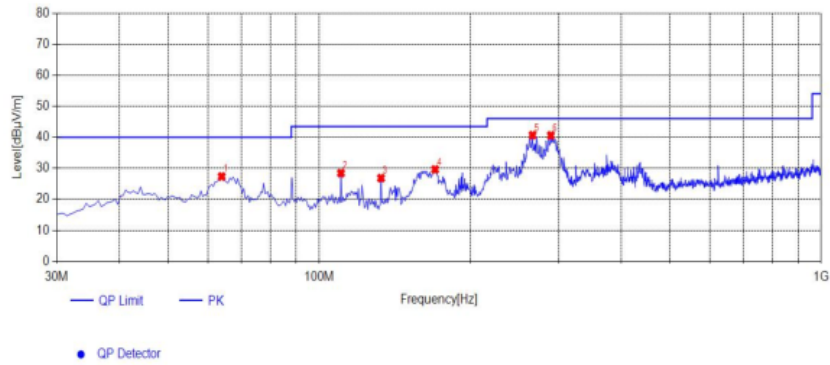
Adapter: SOY-2400150-332-A



Adapter: CYZS36-240150

**Horizontal**

**Test Graph**



**Suspected List**

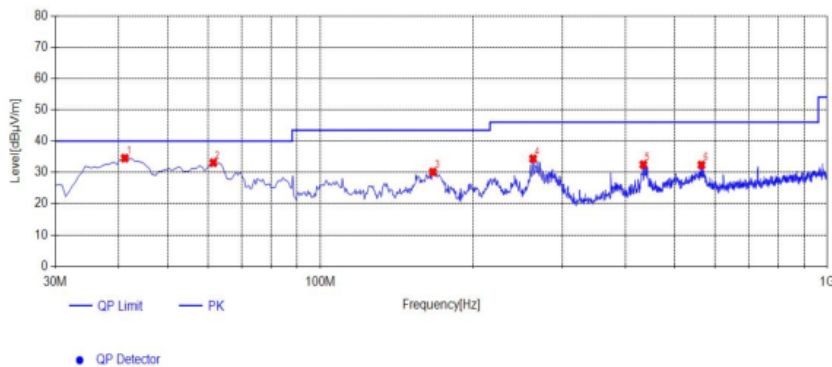
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	63.95	39.72	-12.34	27.38	40.00	12.62	100	279	PK	Horizontal	PASS
2	110.51	40.00	-11.56	28.44	43.50	15.06	100	95	PK	Horizontal	PASS
3	132.82	40.70	-13.85	26.85	43.50	16.65	100	75	PK	Horizontal	PASS
4	170.165	42.37	-12.73	29.64	43.50	13.86	100	269	PK	Horizontal	PASS
5	266.195	48.72	-8.03	40.69	46.00	5.31	100	315	PK	Horizontal	PASS
6	289.475	48.28	-7.66	40.62	46.00	5.38	100	266	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	46.31	-11.77	34.54	40.00	5.46	100	227	PK	Vertical	PASS
2	61.525	44.75	-11.65	33.10	40.00	6.90	100	177	PK	Vertical	PASS
3	166.77	42.93	-12.81	30.12	43.50	13.38	100	65	PK	Vertical	PASS
4	262.8	42.53	-8.17	34.36	46.00	11.64	100	154	PK	Vertical	PASS
5	433.52	36.71	-4.23	32.48	46.00	13.52	100	330	PK	Vertical	PASS
6	564.47	33.51	-1.13	32.38	46.00	13.62	100	333	PK	Vertical	PASS

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

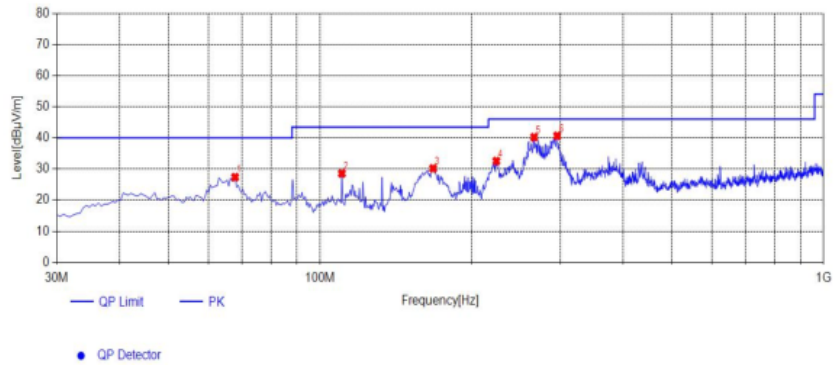
2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Version B:

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

**Horizontal**

Test Graph



Suspected List

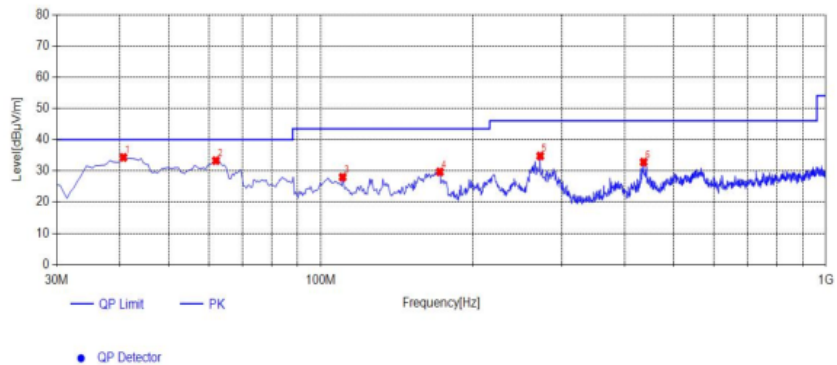
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	67.83	40.87	-13.48	27.39	40.00	12.61	100	88	PK	Horizontal	PASS
2	110.51	40.12	-11.56	28.56	43.50	14.94	100	114	PK	Horizontal	PASS
3	167.74	42.98	-12.79	30.19	43.50	13.31	100	275	PK	Horizontal	PASS
4	224	42.00	-9.44	32.56	46.00	13.44	100	9	PK	Horizontal	PASS
5	266.195	48.23	-8.03	40.20	46.00	5.80	100	302	PK	Horizontal	PASS
6	295.78	48.22	-7.58	40.64	46.00	5.36	100	233	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



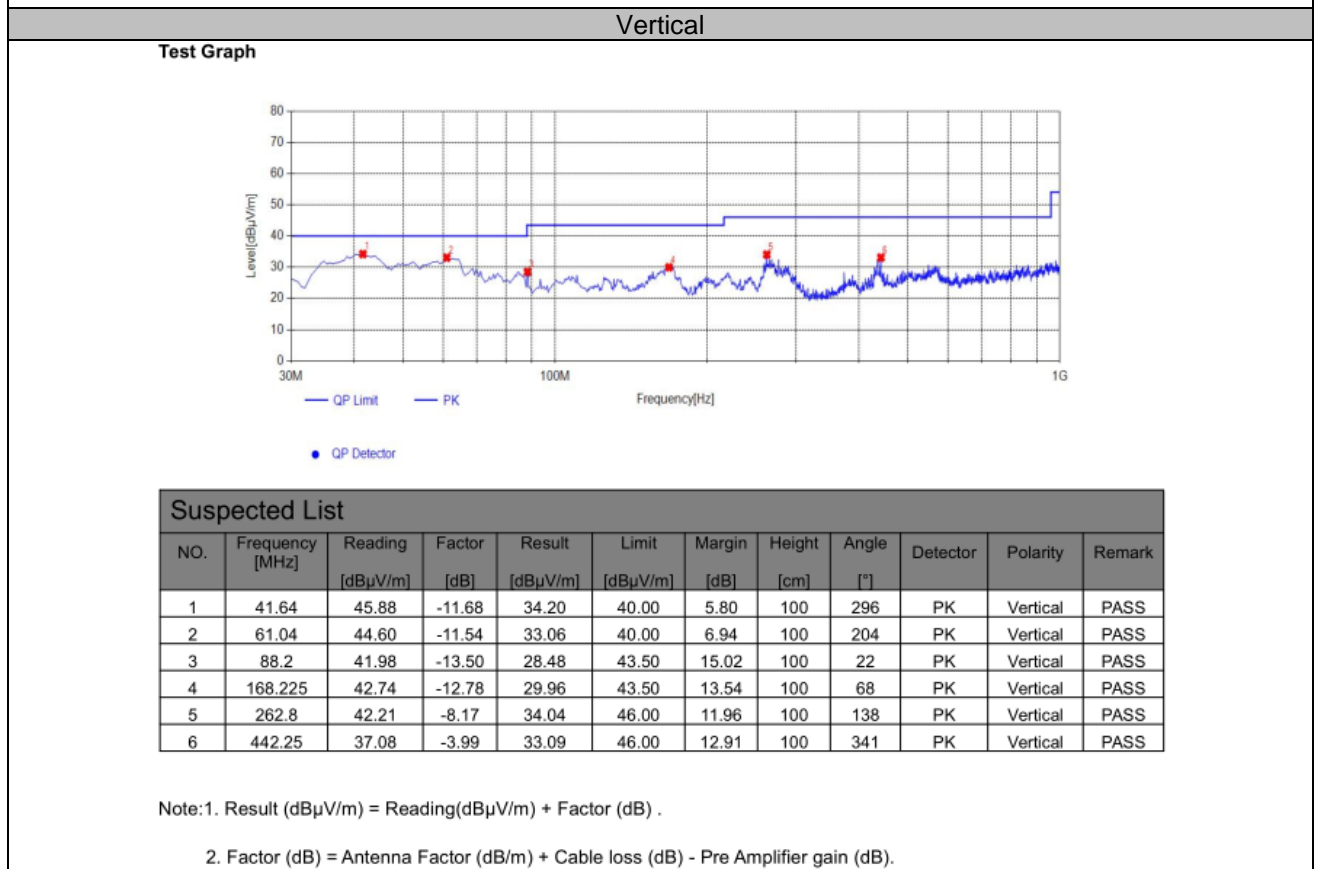
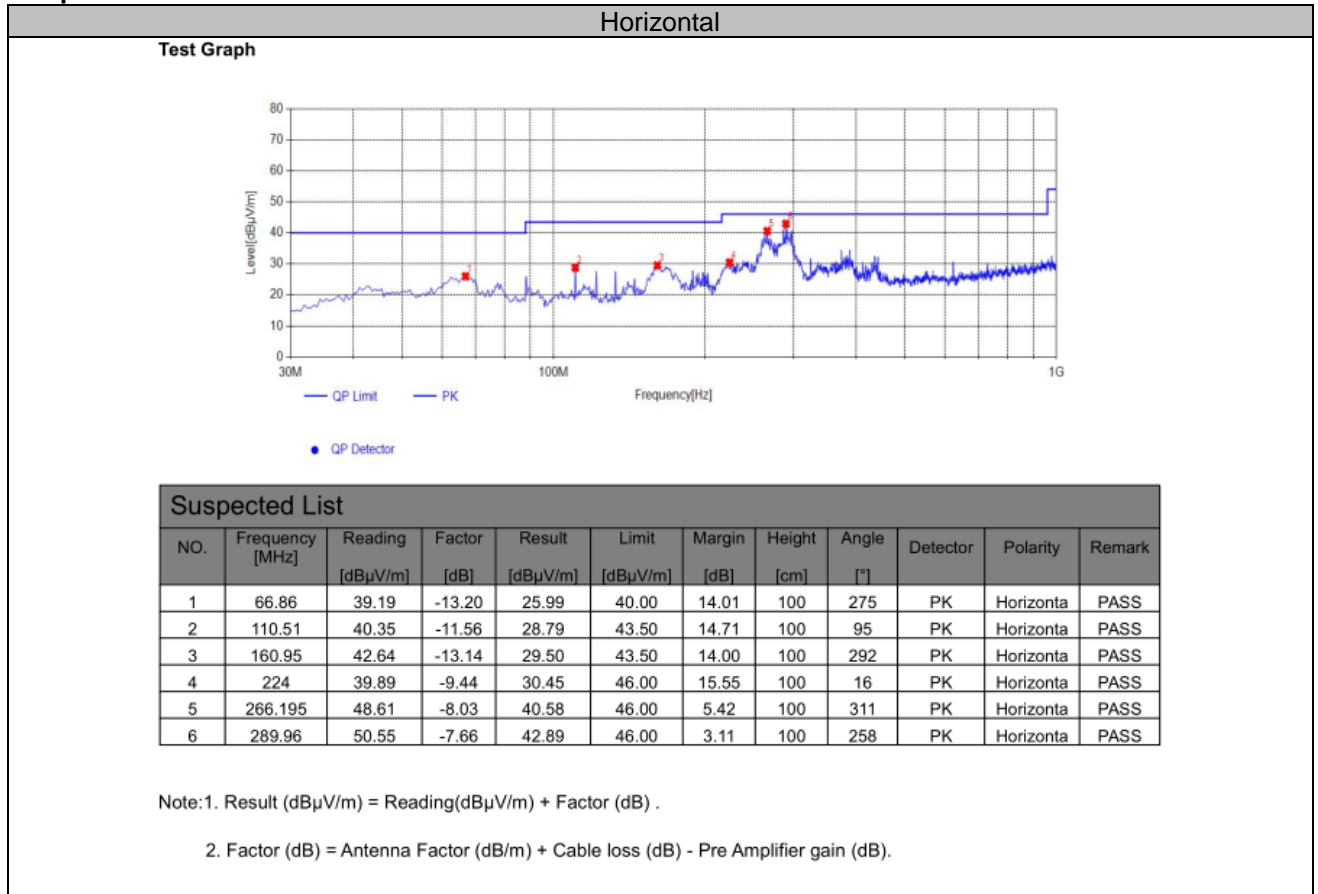
Suspected List

NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	40.67	46.16	-11.85	34.31	40.00	5.69	100	358	PK	Vertical	PASS
2	62.01	45.04	-11.76	33.28	40.00	6.72	100	184	PK	Vertical	PASS
3	110.51	39.55	-11.56	27.99	43.50	15.51	100	22	PK	Vertical	PASS
4	172.105	42.34	-12.66	29.68	43.50	13.82	100	66	PK	Vertical	PASS
5	272.015	42.63	-7.86	34.77	46.00	11.23	100	132	PK	Vertical	PASS
6	435.945	36.96	-4.16	32.80	46.00	13.20	100	322	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).

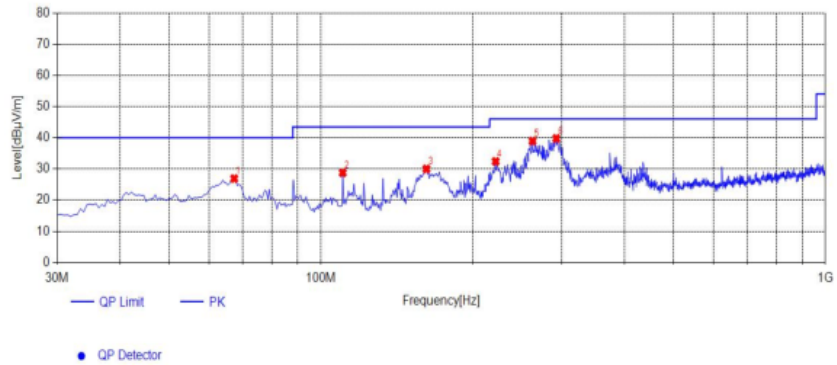
Adapter: SOY-2400150-332-A



Adapter: CYZS36-240150

**Horizontal**

**Test Graph**



**Suspected List**

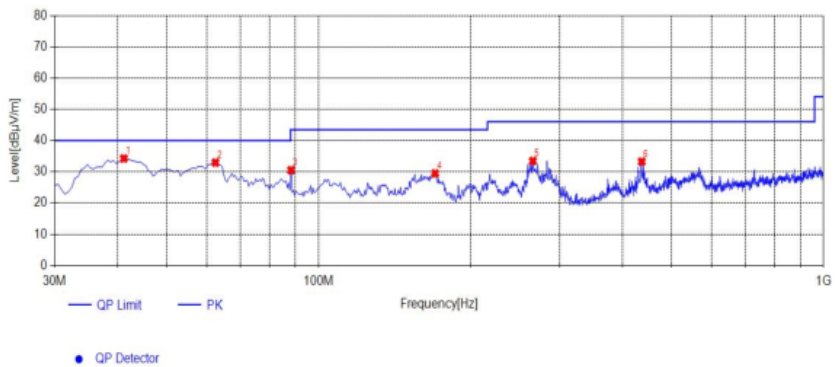
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	67.345	40.25	-13.34	26.91	40.00	13.09	100	277	PK	Horizontal	PASS
2	110.51	40.34	-11.56	28.78	43.50	14.72	100	102	PK	Horizontal	PASS
3	161.92	43.08	-13.08	30.00	43.50	13.50	100	284	PK	Horizontal	PASS
4	222.06	41.89	-9.48	32.41	46.00	13.59	100	20	PK	Horizontal	PASS
5	262.8	47.11	-8.17	38.94	46.00	7.06	100	304	PK	Horizontal	PASS
6	292.87	47.40	-7.61	39.79	46.00	6.21	100	178	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	46.02	-11.77	34.25	40.00	5.75	100	242	PK	Vertical	PASS
2	62.495	44.84	-11.89	32.95	40.00	7.05	100	160	PK	Vertical	PASS
3	88.2	44.02	-13.50	30.52	43.50	12.98	100	32	PK	Vertical	PASS
4	170.165	42.20	-12.73	29.47	43.50	14.03	100	78	PK	Vertical	PASS
5	265.71	41.51	-8.05	33.46	46.00	12.54	100	153	PK	Vertical	PASS
6	436.43	37.37	-4.13	33.24	46.00	12.76	100	0	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).

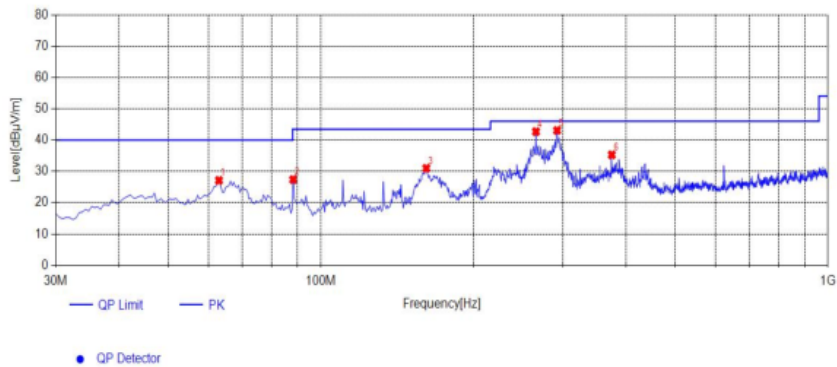


Version C:

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

**Horizontal**

Test Graph



Suspected List

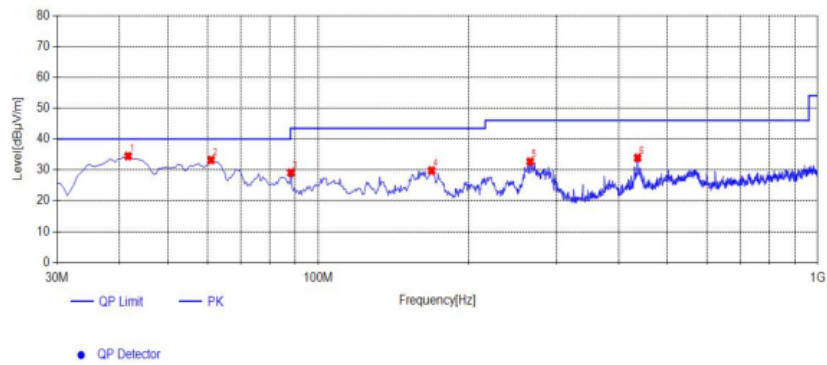
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	62.98	39.17	-12.03	27.14	40.00	12.86	100	281	PK	Horizontal	PASS
2	88.2	40.90	-13.50	27.40	43.50	16.10	100	100	PK	Horizontal	PASS
3	161.435	44.11	-13.12	30.99	43.50	12.51	100	317	PK	Horizontal	PASS
4	265.71	50.76	-8.05	42.71	46.00	3.29	100	301	PK	Horizontal	PASS
5	292.385	50.71	-7.63	43.08	46.00	2.92	100	242	PK	Horizontal	PASS
6	374.835	41.01	-5.71	35.30	46.00	10.70	100	209	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	46.13	-11.68	34.45	40.00	5.55	100	333	PK	Vertical	PASS
2	61.04	44.75	-11.54	33.21	40.00	6.79	100	179	PK	Vertical	PASS
3	88.2	42.60	-13.50	29.10	43.50	14.40	100	62	PK	Vertical	PASS
4	168.71	42.53	-12.76	29.77	43.50	13.73	100	84	PK	Vertical	PASS
5	265.71	40.74	-8.05	32.69	46.00	13.31	100	160	PK	Vertical	PASS
6	435.945	38.07	-4.16	33.91	46.00	12.09	100	336	PK	Vertical	PASS

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

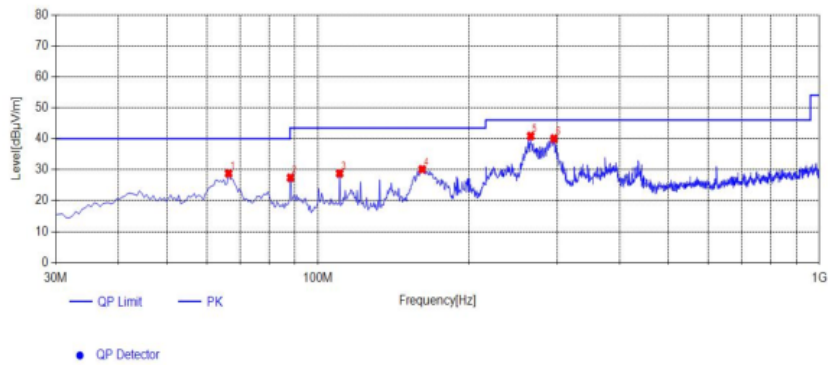
2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).



Adapter: SOY-2400150-332-A

**Horizontal**

**Test Graph**



**Suspected List**

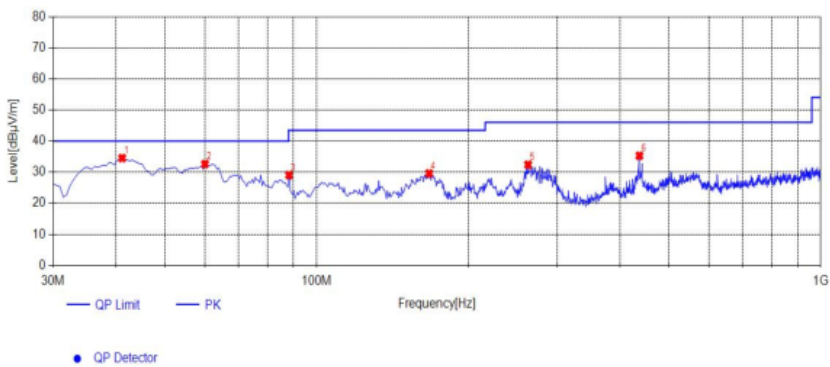
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	66.375	41.87	-13.06	28.81	40.00	11.19	100	261	PK	Horizontal	PASS
2	88.2	40.91	-13.50	27.41	43.50	16.09	100	101	PK	Horizontal	PASS
3	110.51	40.36	-11.56	28.80	43.50	14.70	100	101	PK	Horizontal	PASS
4	161.435	43.26	-13.12	30.14	43.50	13.36	100	317	PK	Horizontal	PASS
5	265.71	48.92	-8.05	40.87	46.00	5.13	100	290	PK	Horizontal	PASS
6	295.78	47.64	-7.58	40.06	46.00	5.94	100	189	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**



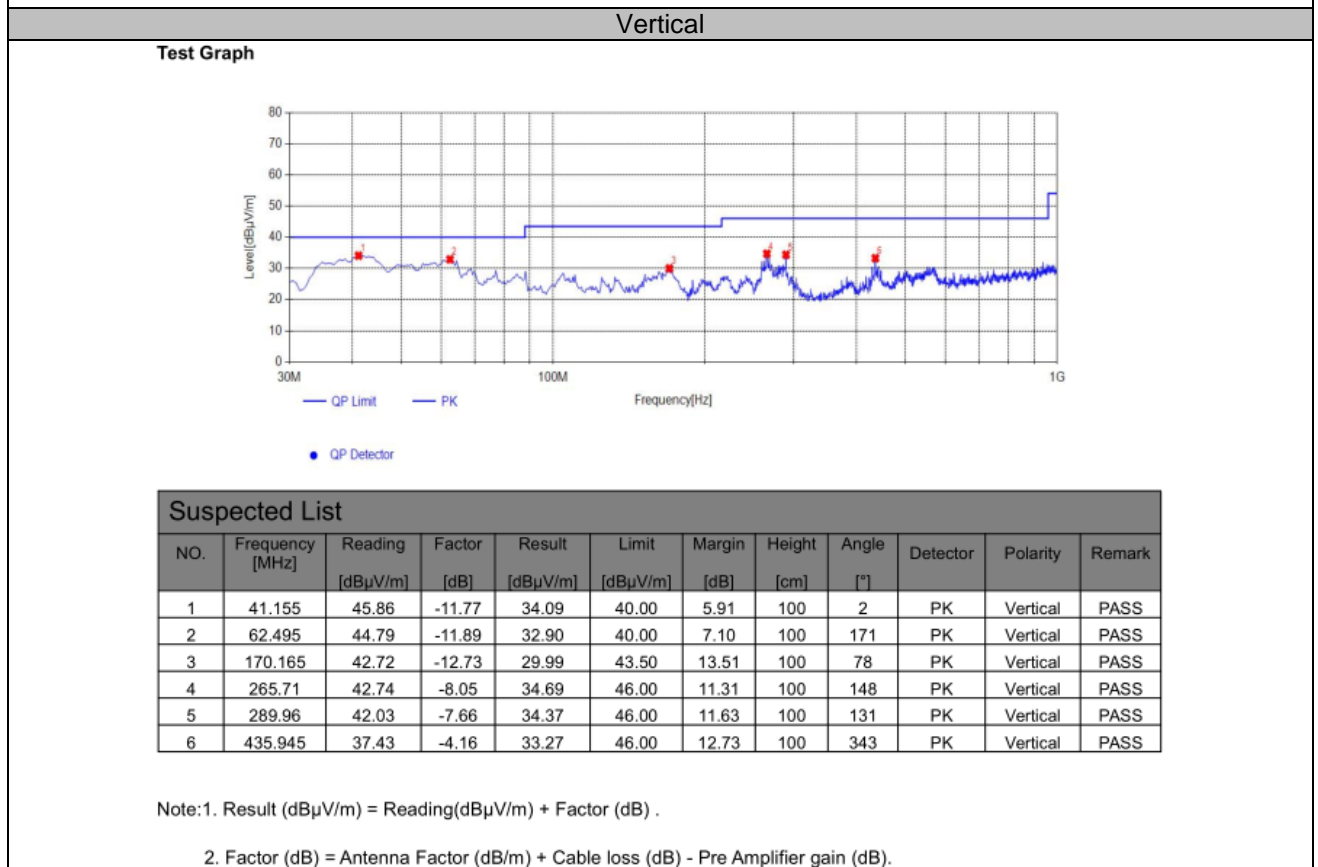
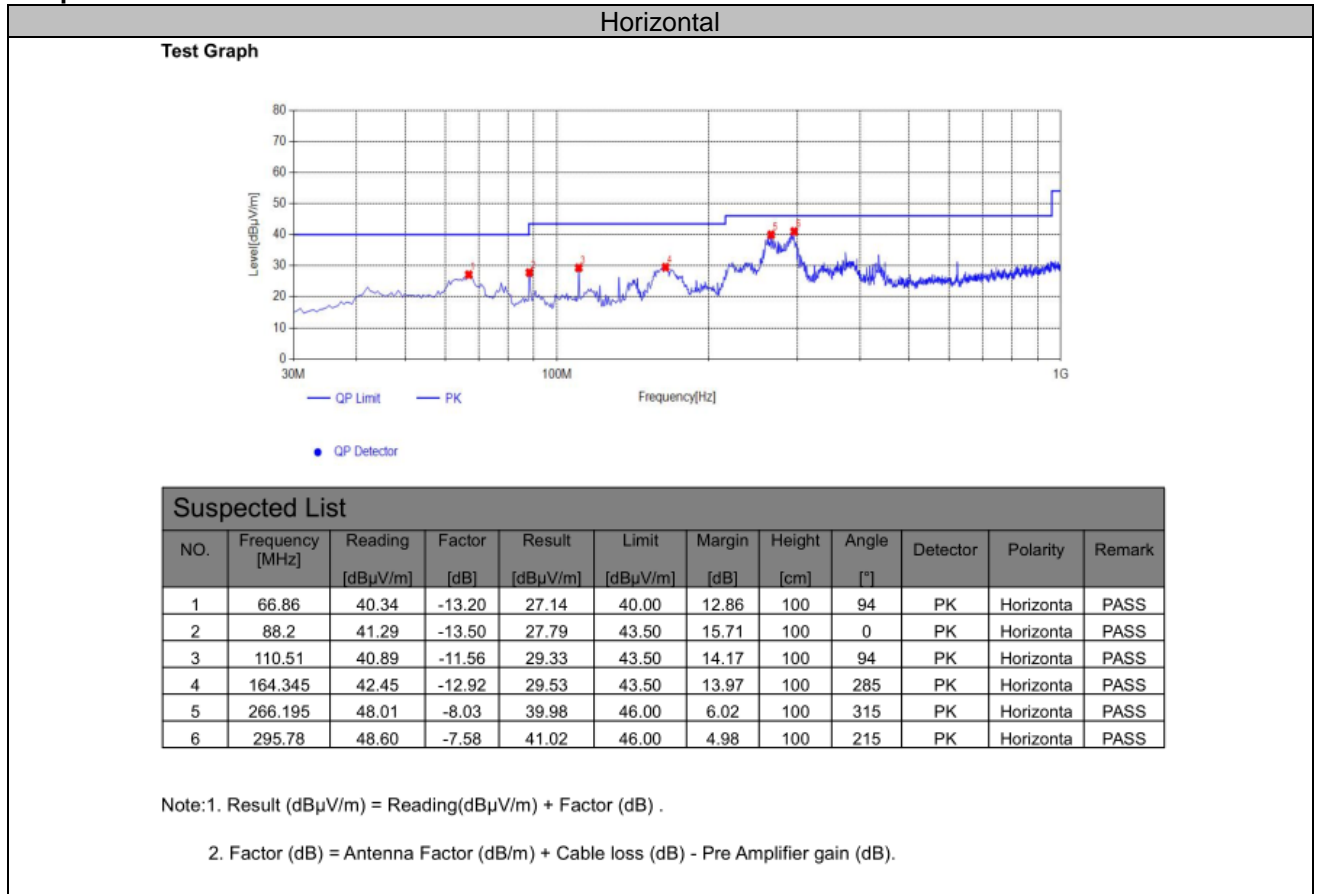
**Suspected List**

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	46.29	-11.77	34.52	40.00	5.48	100	232	PK	Vertical	PASS
2	60.07	43.92	-11.31	32.61	40.00	7.39	100	183	PK	Vertical	PASS
3	88.2	42.57	-13.50	29.07	43.50	14.43	100	36	PK	Vertical	PASS
4	167.255	42.41	-12.81	29.60	43.50	13.90	100	52	PK	Vertical	PASS
5	262.8	40.56	-8.17	32.39	46.00	13.61	100	157	PK	Vertical	PASS
6	436.915	39.41	-4.12	35.29	46.00	10.71	100	341	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

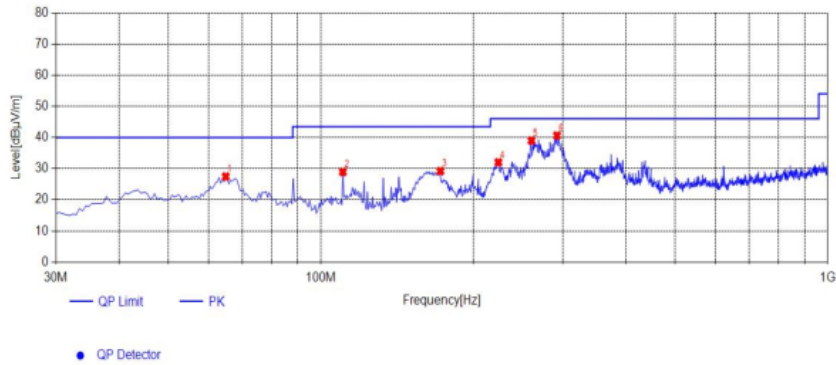


Version D:

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

**Horizontal**

**Test Graph**



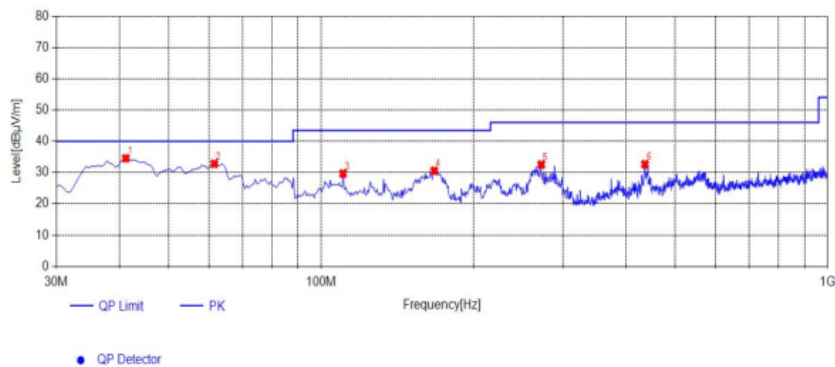
Suspected List											
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	64.92	40.10	-12.63	27.47	40.00	12.53	100	88	PK	Horizontal	PASS
2	110.51	40.51	-11.56	28.95	43.50	14.55	100	101	PK	Horizontal	PASS
3	172.105	41.88	-12.66	29.22	43.50	14.28	100	264	PK	Horizontal	PASS
4	224	41.46	-9.44	32.02	46.00	13.98	100	22	PK	Horizontal	PASS
5	260.375	47.27	-8.26	39.01	46.00	6.99	100	304	PK	Horizontal	PASS
6	292.385	48.25	-7.63	40.62	46.00	5.38	100	268	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**

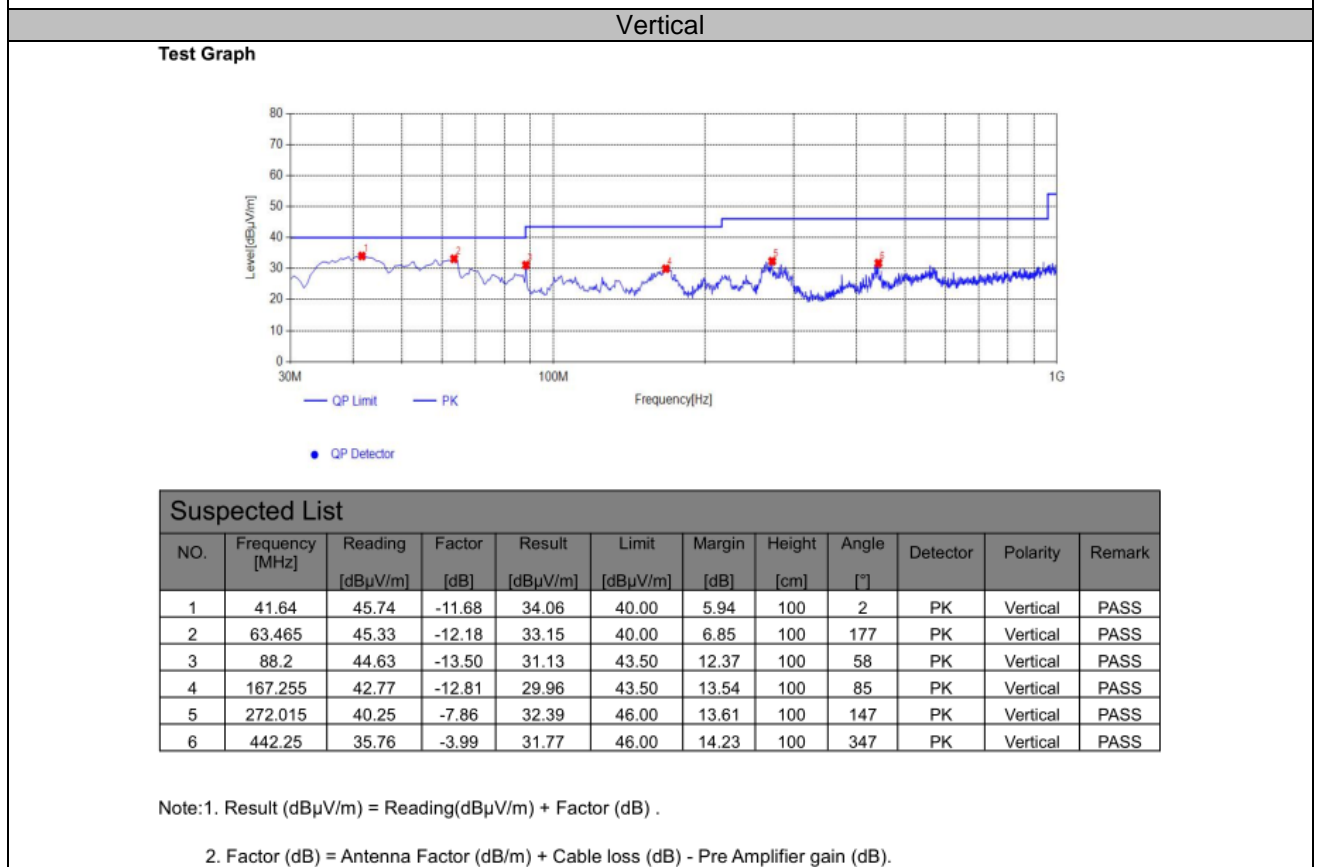
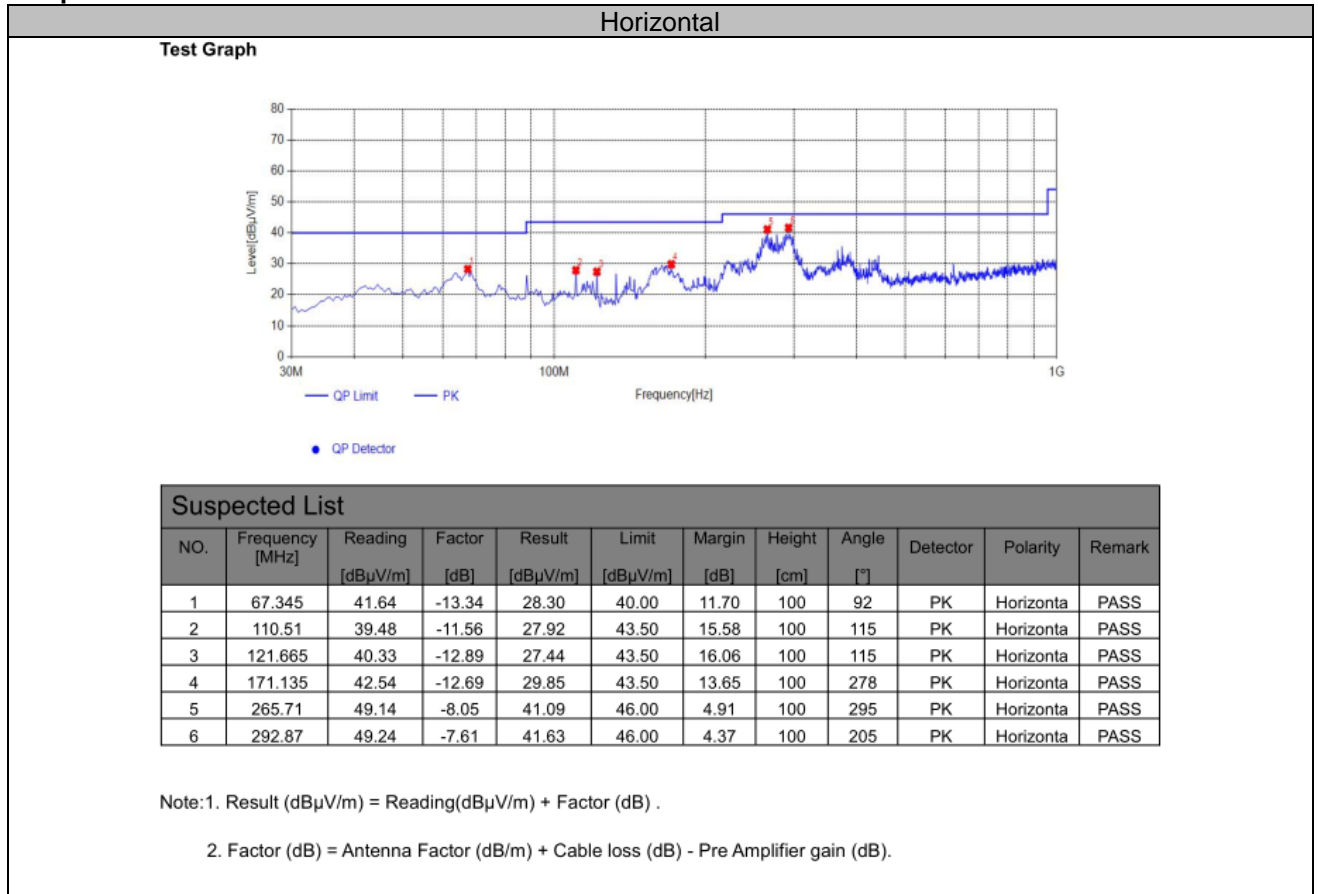


Suspected List											
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	41.155	46.32	-11.77	34.55	40.00	5.45	100	236	PK	Vertical	PASS
2	61.525	44.44	-11.65	32.79	40.00	7.21	100	196	PK	Vertical	PASS
3	110.51	41.25	-11.56	29.69	43.50	13.81	100	157	PK	Vertical	PASS
4	167.255	43.37	-12.81	30.56	43.50	12.94	100	72	PK	Vertical	PASS
5	272.015	40.42	-7.86	32.56	46.00	13.44	100	157	PK	Vertical	PASS
6	435.945	36.84	-4.16	32.68	46.00	13.32	100	351	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).

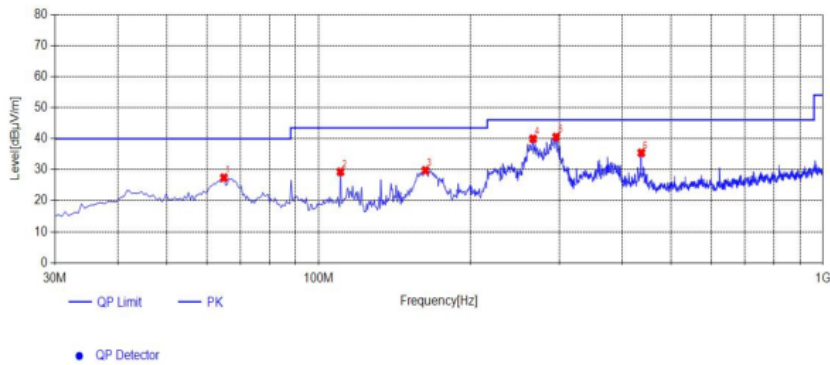
Adapter: SOY-2400150-332-A



Adapter: CYZS36-240150

**Horizontal**

**Test Graph**



**Suspected List**

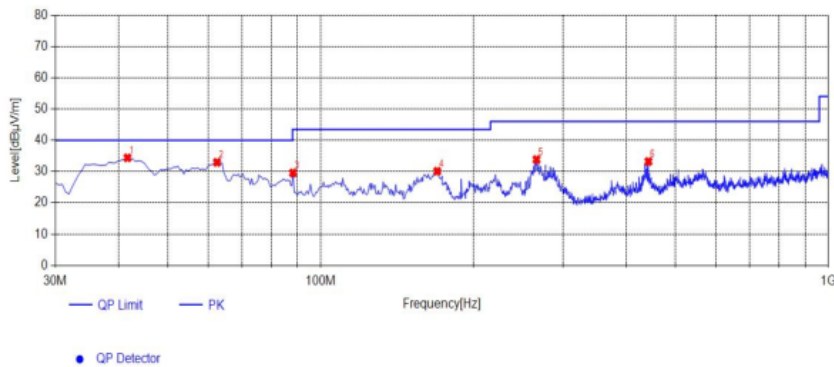
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	64.92	40.08	-12.63	27.45	40.00	12.55	100	302	PK	Horizontal	PASS
2	110.51	40.87	-11.56	29.31	43.50	14.19	100	94	PK	Horizontal	PASS
3	162.89	42.80	-13.02	29.78	43.50	13.72	100	308	PK	Horizontal	PASS
4	266.195	48.00	-8.03	39.97	46.00	6.03	100	311	PK	Horizontal	PASS
5	295.78	48.12	-7.58	40.54	46.00	5.46	100	216	PK	Horizontal	PASS
6	436.43	39.57	-4.13	35.44	46.00	10.56	100	6	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	46.08	-11.68	34.40	40.00	5.60	100	225	PK	Vertical	PASS
2	62.495	44.84	-11.89	32.95	40.00	7.05	100	209	PK	Vertical	PASS
3	88.2	43.06	-13.50	29.56	43.50	13.94	100	50	PK	Vertical	PASS
4	169.68	42.86	-12.75	30.11	43.50	13.39	100	66	PK	Vertical	PASS
5	266.195	41.87	-8.03	33.84	46.00	12.16	100	152	PK	Vertical	PASS
6	442.25	37.23	-3.99	33.24	46.00	12.76	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).

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).