



FCC TEST REPORT

FCC CFR Title 47 Part 15 Subpart B Class A

/ICES 003 Issue 6 Class A

Report No.: S202010145831E01

Report Version: V02

Issue Date: 12-27-2021

Applicant: Hesai Technology Co., Ltd.
Address: No.2 Building, No.468 Xinlai Road, Jiading District,
Shanghai, China

Application Type: FCC ID Certification
FCC ID: 2ASO2PANDAR128
Product: Rangefinder
Model No.: Pandar128
FCC Rule Part(s): CFR Title 47 Part 15 Subpart B Class A
IC Rule Part(s): ICES 003 Issue 6 Class A
Test Procedure(s): ANSI C63.4: 2014
Result: Pass
Test Date: October 20 ~ November 20, 2020

Compiled By Line Chen
(Line Chen)
Senior Test Engineer
Approved By Kerry Zhou
(Kerry Zhou)
Senior Test Engineer



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4-2014. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of Fanguang Inspection & Testing Co., Ltd. Wuxi Branch

Revision History

Report No.	Version	Description	Issue Date
S202010145831E01	Rev. 01	/	11-27-2020
S202010145831E01	Rev. 02	1、 Deleted the EUT photos	12-27-2021

CONTENTS

Description	Page
1. General Information.....	4
2. INTRODUCTION.....	5
2.1. Scope.....	5
2.2. Fangguang Test Location.....	5
3. PRODUCT INFORMATION.....	6
3.1. Equipment Description.....	6
3.2. Configuration of Tested System.....	6
3.3. Test Mode.....	6
3.4. Description of Auxiliary Equipment.....	7
3.5. EMI Suppression Device(s)/Modifications.....	7
4. DESCRIPTION OF TEST.....	8
4.1. Evaluation Procedure.....	8
4.2. AC Line Conducted Emissions.....	8
4.3. Radiated Emissions.....	9
5. LIST OF USED TEST EQUIPMENT.....	10
6. TEST RESULT.....	11
6.1. Summary.....	11
6.2. Conducted Emission Measurement.....	12
6.2.1. Test Limit.....	12
6.2.2. Test Setup.....	12
6.2.3. Test Result of Conducted Emissions.....	13
6.3. Radiated Emission Measurement.....	17
6.3.1. Test Limit.....	17
6.3.2. Test Setup.....	17
6.3.3. Test Result of Radiated Emissions.....	18
7. CONCLUSION.....	26

1. General Information

Applicant:	Hesai Technology Co., Ltd.
Applicant Address:	No.2 Building, No.468 Xinlai Road, Jiading District, Shanghai, China
Manufacturer:	Hesai Technology Co., Ltd.
Manufacturer Address:	No.2 Building, No.468 Xinlai Road, Jiading District, Shanghai, China
Factory:	Hesai Technology Co., Ltd.
Factory Address:	No.2 Building, No.468 Xinlai Road, Jiading District, Shanghai, China
Test Site:	Fanguang Inspection & Testing Co., Ltd. Wuxi Branch
Test Site Address:	200 Linghu Avenue, Xinwu District, Wuxi City, China
Test Device Serial No.:	N/A <input checked="" type="checkbox"/> Production <input type="checkbox"/> Pre-Production <input type="checkbox"/> Engineering

2. INTRODUCTION

2.1. Scope


Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Industry Canada Certification and Engineering Bureau.

2.2. Fangguang Test Location

These measurement tests were performed at the Fangguang Inspection and testing Co.,Ltd. Wuxi Branch located at 200 Linghu Avenue, Xinwu District, Wuxi City. The detailed description of the measurement facility was found to be in compliance with the requirements of ANSI C63.4-2014.

3. PRODUCT INFORMATION

3.1. Equipment Description

Product Name:	Rangefinder
Model Name:	Pandar128
Model version:	V4.5
Input Voltage Range:	DC 9-48V, Power Consumption 27 W / 20 W (at 0.1° / 0.2° horizontal resolution)
Trade Mark:	 “HESAI” “禾赛”
Adapter Information:	Input: AC 100-240V, 50/60Hz, 1.0A Output: DC 12V, 3.34A, 40W MAX.

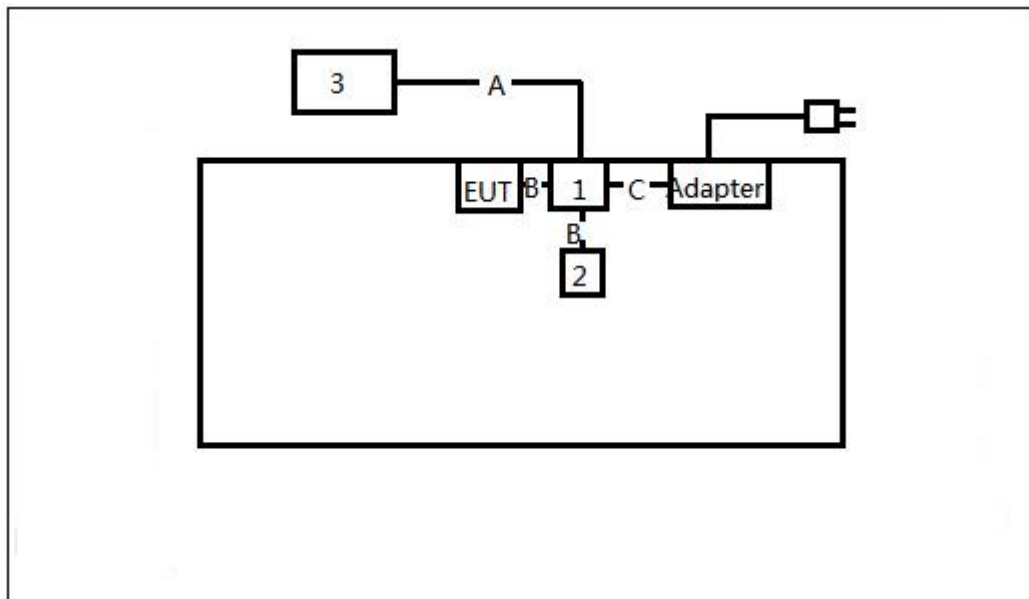
3.2. Configuration of Tested System

The **Rangefinder** was tested per the guidance FCC CFR Title 47 Part 15 Subpart B Class A and ANSI C63.4: 2014 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing.

3.3. Test Mode

Test Mode	
EMI Mode	Mode 1: power on and the sample is in real-time detection state(Shape1: Circular radiator on black top cover, black color) Mode 2: power on and the sample is in real-time detection state(Shape2: Fin style heat-sink on top cover, silver color)

Connection Diagram (Mode 1~2)



Signal Cable Type		Signal Cable Description
A	LAN Cable	Non-Shielded, >6m
B	Signal cable	Shielded, 2m
C	power cable	Shielded, 2m

3.4. Description of Auxiliary Equipment

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	Power Cord
1	Connection box	HESAI	/	/
2	GPS antenna	/	GPSU7/U28	/
3	Notebook	DELL	Latitude 3490	/

3.5. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

4. DESCRIPTION OF TEST

4.1. Evaluation Procedure

The measurement procedures described in the American National Standard for Methods of Measurement of Radio-Noise Emission from Low-Voltage Electrical Equipment in the Range of 9kHz to 18GHz (ANSI C63.4-2014) was used in the measurement of the **Rangefinder**.

Deviation from measurement procedure.....None

4.2. AC Line Conducted Emissions

The line-conducted facility is located inside an shielded enclosure. A 1m x 2m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50uH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from one LISN and the support equipment is powered from the second LISN. If the EUT is a DC-powered device, power will be derived from the source power supply it normally will be powered from and this supply line(s) will be connected to the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference ground-plane. Power cables for support equipment were routed down to the second LISN while ensuring that that cables were not draped over the second LISN.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the receiver and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The receiver was scanned from 150 kHz to 30 MHz. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 9 kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Each emission was also maximized by varying: power lines, the mode of operation or resolution, clock or data exchange speed, scrolling H pattern to the EUT and/or support equipment whichever determined the worst-case emission. Once the worst case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions are used for final measurements on the same test site.

4.3. Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. A turntable is used for radiated measurement. It is a continuously rotatable, remote controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm high PVC support structure is placed on top of the turntable.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30 MHz up to the upper frequency shown in 15.33(b)(1) depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30 MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up was placed on top of the 0.8 meter high, 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, mode of operation, if applicable, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions. According to 3dB beam-width of horn antenna, the horn antenna should be always directed to the EUT when rising height.

5. LIST OF USED TEST EQUIPMENT

Conducted Emissions

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	FWXGJC-2016-181	1 year	2021/03/23
Two-Line V-Network	R&S	ENV 216	FWXGJC-2016-182	1 year	2021/03/15
AMN	AFJ	LT32C/10	FWXGJC-2016-179	1 year	2021/04/29
Thermohygrometer	Yuhuaze	HTC-1	FWXDA-2016-385	1 year	2021/02/28

Radiated Emission

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Loop Antenna	Schwarzbeck	FMZB 1519B	FWXGJC-2018-015	1 year	2021/08/23
Bi-Log Antenna	R&S	HL562E	FWXGJC-2016-267-06	3 year	2021/03/21
Broadband Horn Antenna	R&S	HF907	FWXGJC-2016-267-07	1 year	2021/04/06
Broadband Horn Antenna	Schwarzbeck	BBHA9170	FWXGJC-2018-016	1 year	2021/08/19
EMI Receiver	R&S	ESR26	FWXGJC-2016-267-01	1 year	2021/04/29
Pre-Amplifier	R&S	SCU-18D	FWXGJC-2016-267-05	1 year	2021/04/09
Pre-Amplifier	R&S	EMC184055 SE			2021/07/10
Thermohygrometer	Yuhuaze	HTC-1	FWXDA-2016-386	1 year	2021/02/28
Anechoic Chamber	Aimuke	EMCCT-3	FWXGJC-2016-270	1 year	2021/04/10

Test Software	Manufacturer	Version	Asset No.	Function
EMI Test Software	tonscend	V2.5.0.0	FWXWA-2018-004	Emission Test

6. TEST RESULT

6.1. Summary

FCC Part Section(s)	IC Part Section(s)	Test Description	Test Result
FCC CFR Title 47 Part 15 Subpart B: 15.107 Class A, ANSI C63.4: 2014	ICES 003 Issue 6 Class A	Conducted Emissions	Pass
FCC CFR Title 47 Part 15 Subpart B: 15.109 Class A, ANSI C63.4: 2014	ICES 003 Issue 6 Class A	Radiated Emissions	Pass

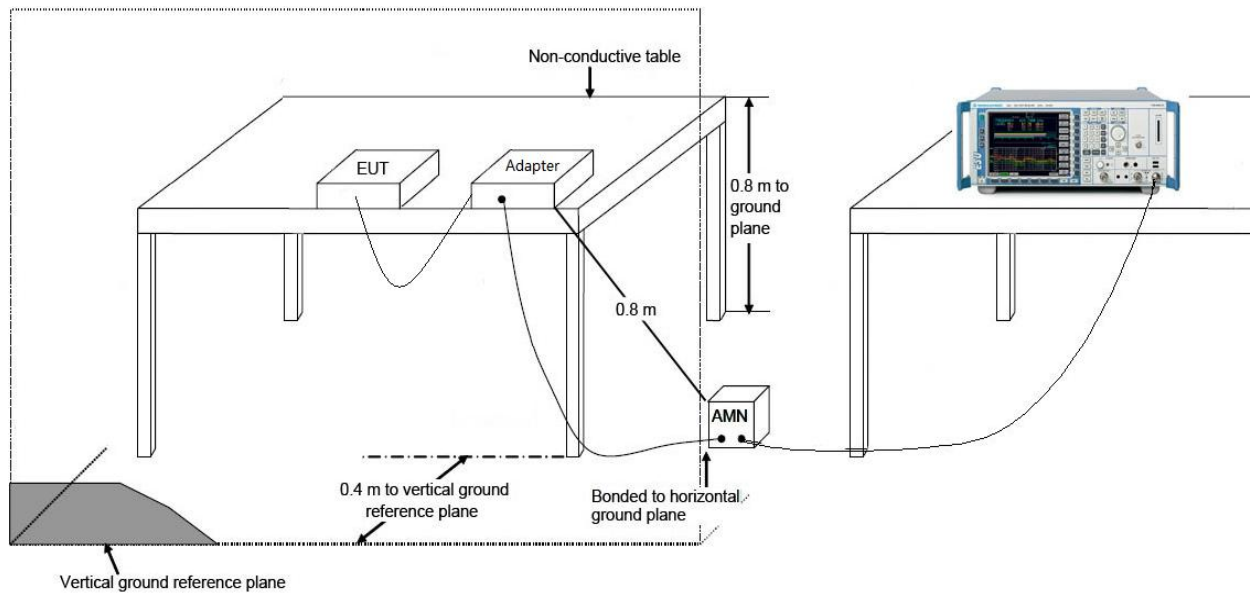
6.2. Conducted Emission Measurement

6.2.1. Test Limit

FCC Part 15.107 Class A Limits		
Frequency (MHz)	QP (dB μ V)	AV (dB μ V)
0.15 - 0.50	79	66
0.50 - 30	73	60

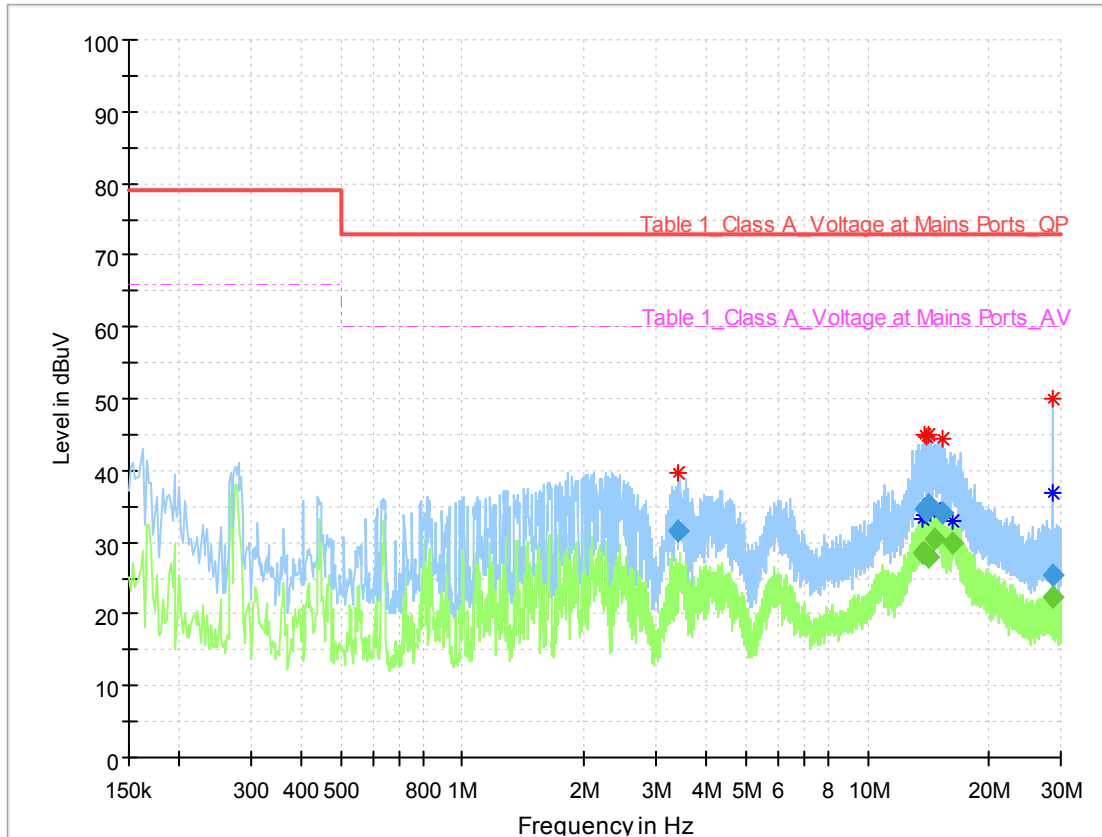
Note 1: The lower limit shall apply at the transition frequencies.

6.2.2. Test Setup



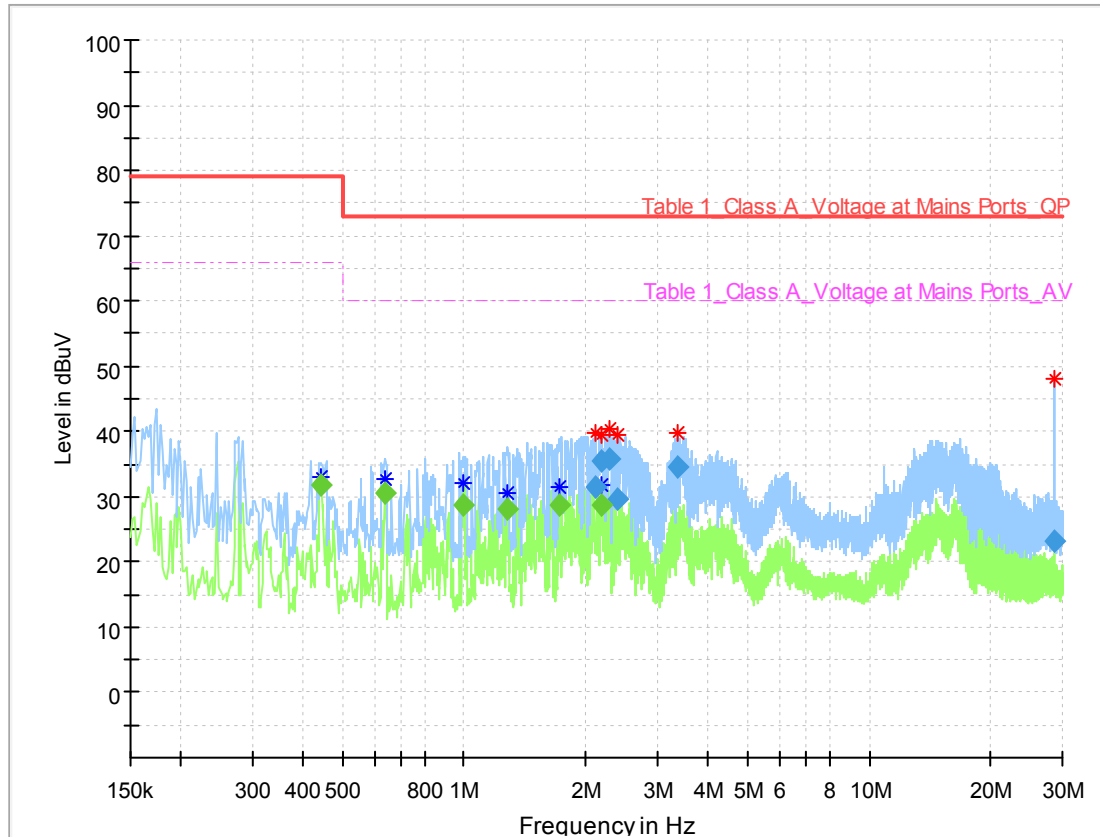
6.2.3. Test Result of Conducted Emissions

EUT:	Rangefinder	Polarity:	LINE
Model:	Pandar128	SN:	P1283DC852973DC953
Mode:	Mode 1	Voltage:	120V/60Hz
Environment:	Temp: 25°C; Humi:60%	Engineer:	Emin Fang



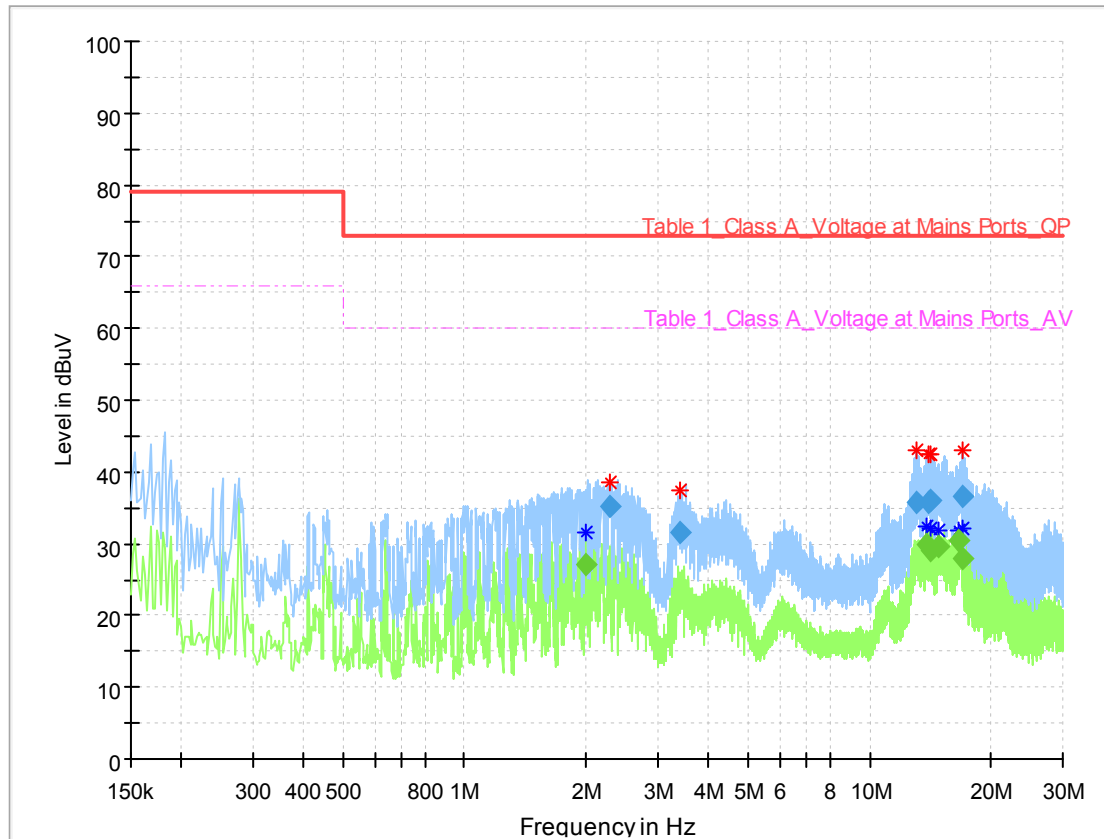
Frequency (MHz)	QuasiPeak (dBuV)	Average (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Line	Filter	Corr. (dB)
3.390000	31.55	---	73.00	41.45	1000.	9.000	L1	ON	9.8
13.614000	---	28.35	60.00	31.65	1000.	9.000	L1	ON	9.8
13.800000	---	28.36	60.00	31.64	1000.	9.000	L1	ON	9.8
13.800000	34.54	---	73.00	38.46	1000.	9.000	L1	ON	9.8
13.974000	34.38	---	73.00	38.62	1000.	9.000	L1	ON	9.8
14.152000	---	27.94	60.00	32.06	1000.	9.000	L1	ON	9.8
14.186000	35.07	---	73.00	37.93	1000.	9.000	L1	ON	9.8
14.616000	---	30.48	60.00	29.52	1000.	9.000	L1	ON	9.8
15.264000	34.02	---	73.00	38.98	1000.	9.000	L1	ON	9.8
16.270000	---	30.00	60.00	30.00	1000.	9.000	L1	ON	9.8
28.766000	---	22.29	60.00	37.71	1000.	9.000	L1	ON	9.9
28.768000	25.46	---	73.00	47.54	1000.	9.000	L1	ON	9.9

EUT:	Rangefinder	Polarity:	NEUTRAL
Model:	Pandar128	SN:	P1283DC852973DC953
Mode:	Mode 1	Voltage:	120V/60Hz
Environment:	Temp: 25°C; Humi:60%	Engineer:	Emin Fang



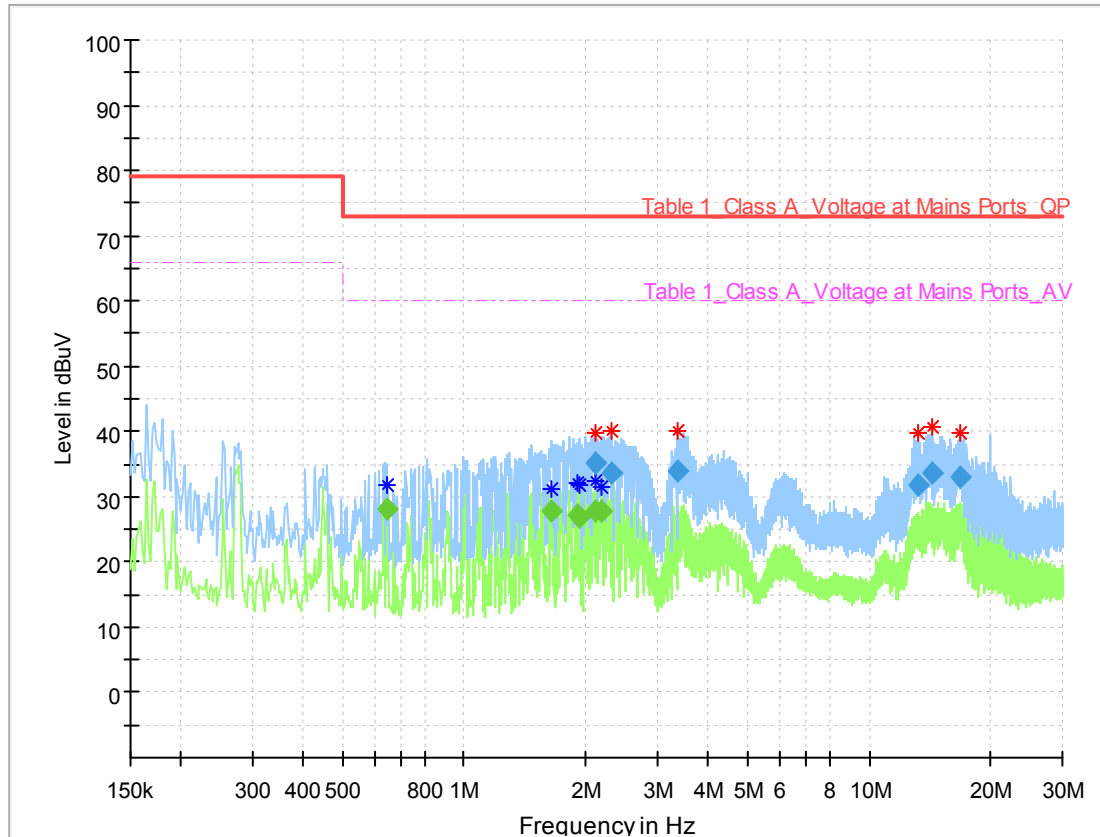
Frequency (MHz)	QuasiPeak (dBuV)	Average (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.442000	---	31.69	66.00	34.31	1000.	9.000	N	ON	10.1
0.636000	---	30.51	60.00	29.49	1000.	9.000	N	ON	10.0
1.000000	---	28.62	60.00	31.38	1000.	9.000	N	ON	9.9
1.278000	---	28.14	60.00	31.86	1000.	9.000	N	ON	9.9
1.726000	---	28.67	60.00	31.33	1000.	9.000	N	ON	9.9
2.118000	31.51	---	73.00	41.49	1000.	9.000	N	ON	9.8
2.174000	---	28.86	60.00	31.14	1000.	9.000	N	ON	9.8
2.192000	35.52	---	73.00	37.48	1000.	9.000	N	ON	9.8
2.296000	35.88	---	73.00	37.12	1000.	9.000	N	ON	9.8
2.398000	29.71	---	73.00	43.29	1000.	9.000	N	ON	9.8
3.376000	34.66	---	73.00	38.34	1000.	9.000	N	ON	9.8
28.636000	23.04	---	73.00	49.96	1000.	9.000	N	ON	10.0

EUT:	Rangefinder	Polarity:	LINE
Model:	Pandar128	SN:	P1283DC852973DC953
Mode:	Mode 2	Voltage:	120V/60Hz
Environment:	Temp: 25°C; Humi:60%	Engineer:	Emin Fang



Frequency (MHz)	QuasiPeak (dBuV)	Average (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Line	Filter	Corr. (dB)
1.994000	---	27.00	60.00	33.00	1000.	9.000	L1	ON	9.8
2.288000	35.16	---	73.00	37.84	1000.	9.000	L1	ON	9.8
3.414000	31.69	---	73.00	41.31	1000.	9.000	L1	ON	9.8
13.008000	35.79	---	73.00	37.21	1000.	9.000	L1	ON	9.8
13.854000	---	29.86	60.00	30.14	1000.	9.000	L1	ON	9.8
13.980000	35.78	---	73.00	37.22	1000.	9.000	L1	ON	9.8
14.136000	---	28.92	60.00	31.08	1000.	9.000	L1	ON	9.8
14.188000	36.04	---	73.00	36.96	1000.	9.000	L1	ON	9.8
14.842000	---	29.56	60.00	30.44	1000.	9.000	L1	ON	9.8
16.682000	---	30.34	60.00	29.66	1000.	9.000	L1	ON	9.8
16.898000	36.63	---	73.00	36.37	1000.	9.000	L1	ON	9.8
17.052000	---	27.85	60.00	32.15	1000.	9.000	L1	ON	9.8

EUT:	Rangefinder	Polarity:	NEUTRAL
Model:	Pandar128	SN:	P1283DC852973DC953
Mode:	Mode 2	Voltage:	120V/60Hz
Environment:	Temp: 25°C; Humi:60%	Engineer:	Emin Fang



Frequency (MHz)	QuasiPeak (dBuV)	Average (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.642000	---	27.97	60.00	32.03	1000.	9.000	N	ON	10.0
1.638000	---	27.89	60.00	32.11	1000.	9.000	N	ON	9.9
1.902000	---	27.07	60.00	32.93	1000.	9.000	N	ON	9.9
1.932000	---	26.79	60.00	33.21	1000.	9.000	N	ON	9.9
2.106000	35.24	---	73.00	37.76	1000.	9.000	N	ON	9.8
2.106000	---	27.64	60.00	32.36	1000.	9.000	N	ON	9.8
2.180000	---	27.65	60.00	32.35	1000.	9.000	N	ON	9.8
2.306000	33.70	---	73.00	39.30	1000.	9.000	N	ON	9.8
3.378000	33.80	---	73.00	39.20	1000.	9.000	N	ON	9.8
13.228000	31.73	---	73.00	41.27	1000.	9.000	N	ON	9.8
14.242000	33.73	---	73.00	39.27	1000.	9.000	N	ON	9.8
16.734000	33.05	---	73.00	39.95	1000.	9.000	N	ON	9.9

6.3. Radiated Emission Measurement

6.3.1. Test Limit

FCC Part 15.109 Class A Limits		
Frequency (MHz)	Distance (m)	Level (dB μ V/m)
30 - 88	3	50
88 - 216	3	53.5
216 - 960	3	56
Above 960	3	60

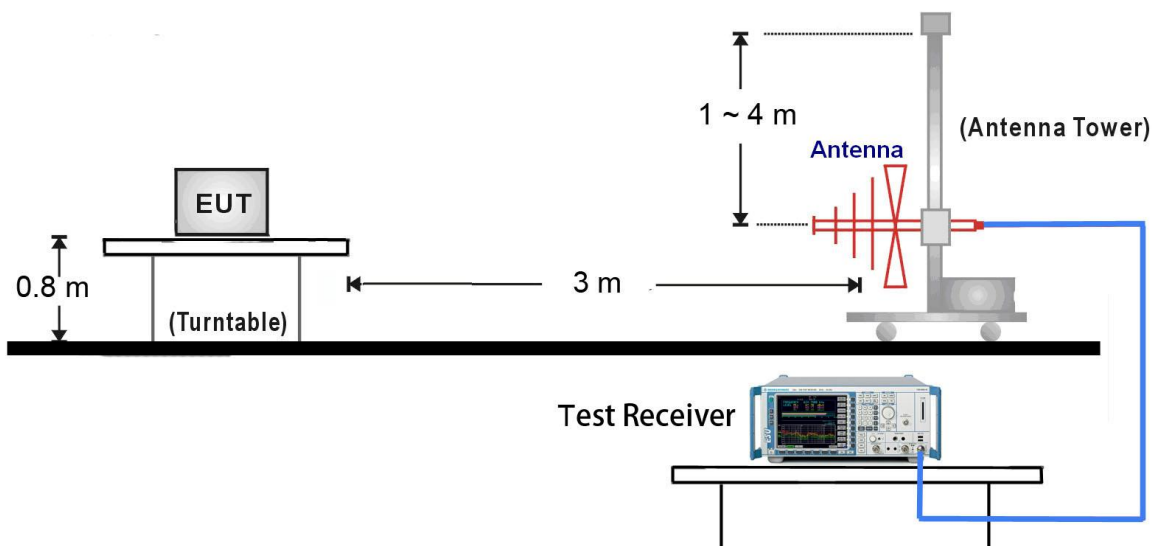
Note 1: The lower limit shall apply at the transition frequency.

Note 2: Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

Note 3: E field strength (dB μ V/m) = 20 log E field strength (μ V/m)

6.3.2. Test Setup

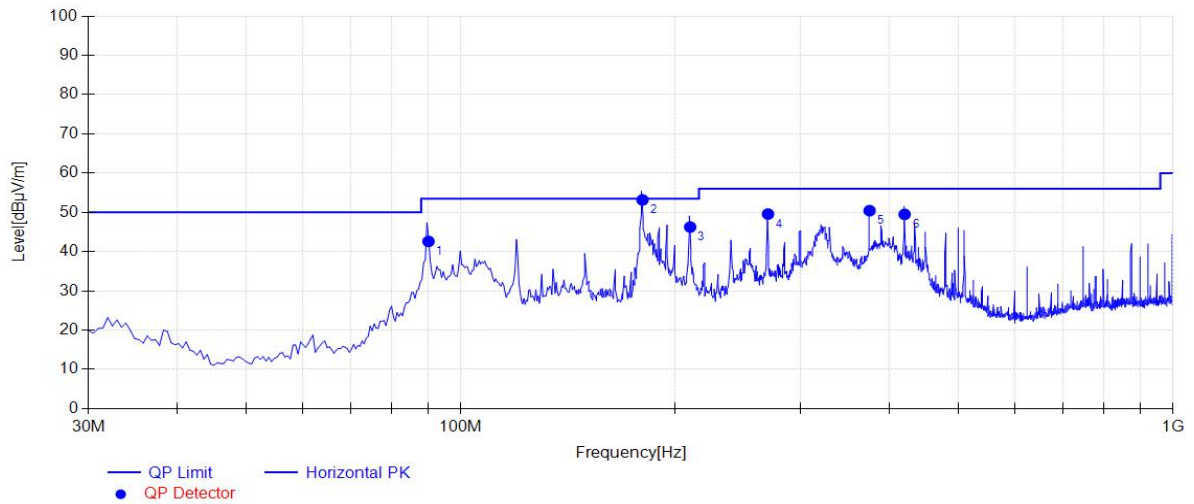
30MHz ~ 1GHz Test Setup:



6.3.3. Test Result of Radiated Emissions

EUT:	Rangefinder	Polarity:	Horizontal
Model:	Pandar128	SN:	P1283DC852973DC953
Mode:	Mode 1	Voltage:	120V/60Hz
Environment:	Temp: 25°C; Humi:60%	Engineer:	Emin Fang

Test Graph

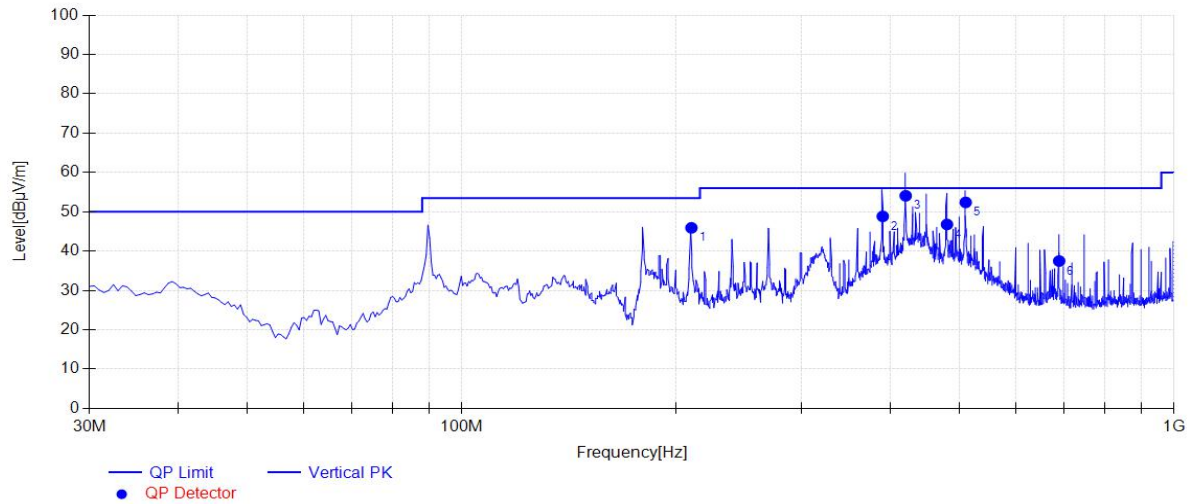


Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	90.0934	10.56	42.60	53.50	10.90	199.9	200.9	Horizontal
2	179.954	9.42	53.18	53.50	0.32	100	244	Horizontal
3	209.934	9.52	46.26	53.50	7.24	200	30.1	Horizontal
4	270.021	12.24	49.58	56.00	6.42	100	105.1	Horizontal
5	374.985	15.58	50.44	56.00	5.56	100	5.2	Horizontal
6	419.981	16.76	49.49	56.00	6.51	100	359.1	Horizontal

EUT:	Rangefinder	Polarity:	Vertical
Model:	Pandar128	SN:	P1283DC852973DC953
Mode:	Mode 1	Voltage:	120V/60Hz
Environment:	Temp: 25°C; Humi:60%	Engineer:	Line Chen

Test Graph

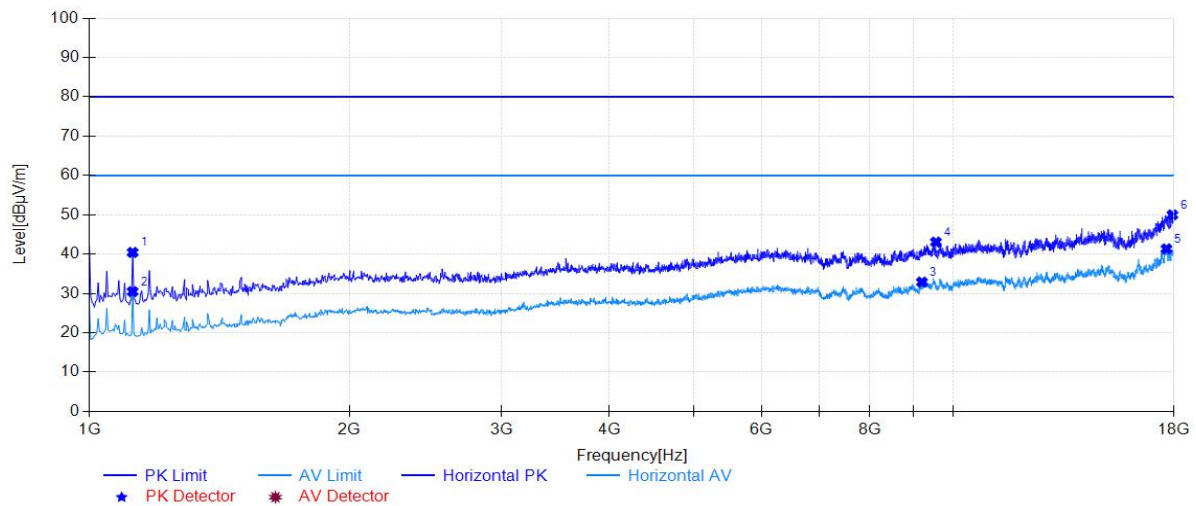


Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	210.102	9.52	45.92	53.50	7.58	100	291.7	Vertical
2	390.064	15.99	48.85	56.00	7.15	100	234	Vertical
3	420.065	16.76	54.08	56.00	1.92	100	330.1	Vertical
4	480.080	17.79	46.79	56.00	9.21	100	280	Vertical
5	509.997	18.12	52.40	56.00	3.60	100	102.6	Vertical
6	689.946	21.87	37.49	56.00	18.51	100	259	Vertical

EUT:	Rangefinder	Polarity:	Horizontal
Model:	Pandar128	SN:	P1283DC852973DC953
Mode:	Mode 1	Voltage:	120V/60Hz
Environment:	Temp: 25°C; Humi:60%	Engineer:	Line Chen

Test Graph

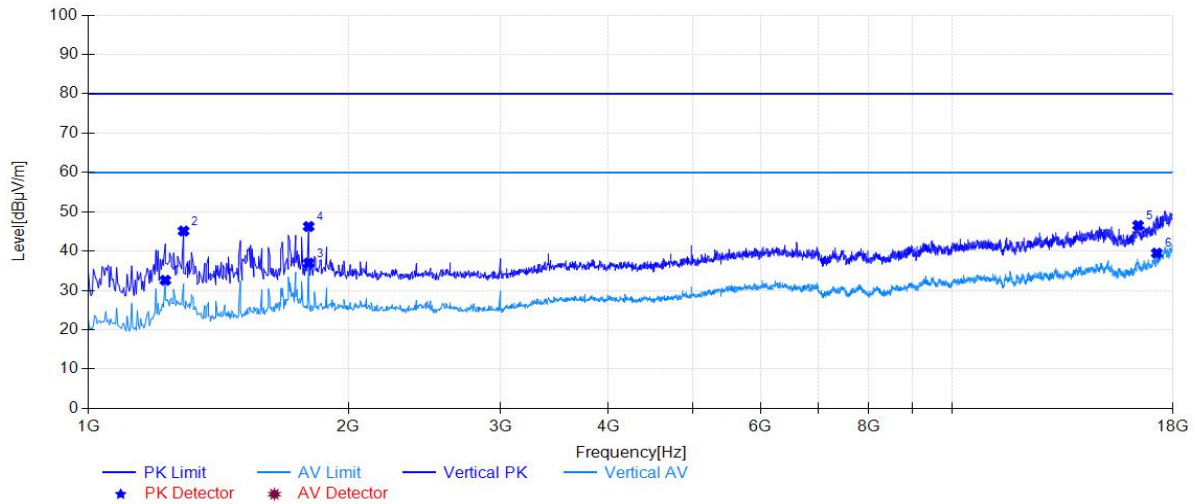


Final Data List

NO.	Freq. [MHz]	Factor [dB]	Value [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detection Mode
1	1122.40	40.43	-5.88	80.00	39.57	100	17	PK
2	1122.40	30.47	-5.88	60.00	29.53	100	17	AV
3	9197.40	32.89	14.66	60.00	27.11	100	96	AV
4	9547.60	43.07	14.77	80.00	36.93	100	118	PK
5	17646.4	41.33	27.23	60.00	18.67	100	222	AV
6	17928.6	49.98	27.26	80.00	30.02	100	26	PK

EUT:	Rangefinder	Polarity:	Vertical
Model:	Pandar128	SN:	P1283DC852973DC953
Mode:	Mode 1	Voltage:	120V/60Hz
Environment:	Temp: 25°C; Humi:60%	Engineer:	Line Chen

Test Graph

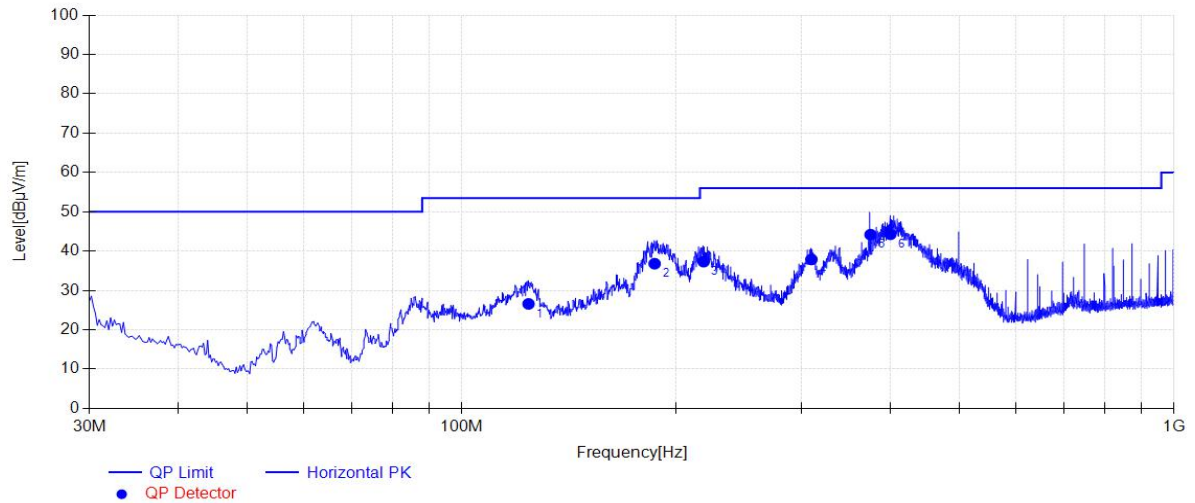


Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Detection Mode
1	1227.80	32.59	-5.09	60.00	27.41	100	135	AV
2	1289.00	45.10	-4.61	80.00	34.90	100	32	PK
3	1799.00	36.94	-0.28	60.00	23.06	100	320	AV
4	1799.00	46.26	-0.28	80.00	33.74	100	320	PK
5	16408.8	46.52	23.29	80.00	33.48	100	227	PK
6	17245.2	39.49	25.70	60.00	20.51	100	251	AV

EUT:	Rangefinder	Polarity:	Horizontal
Model:	Pandar128	SN:	P1283DC852973DC953
Mode:	Mode 2	Voltage:	120V/60Hz
Environment:	Temp: 25°C; Humi:60%	Engineer:	Emin Fang

Test Graph

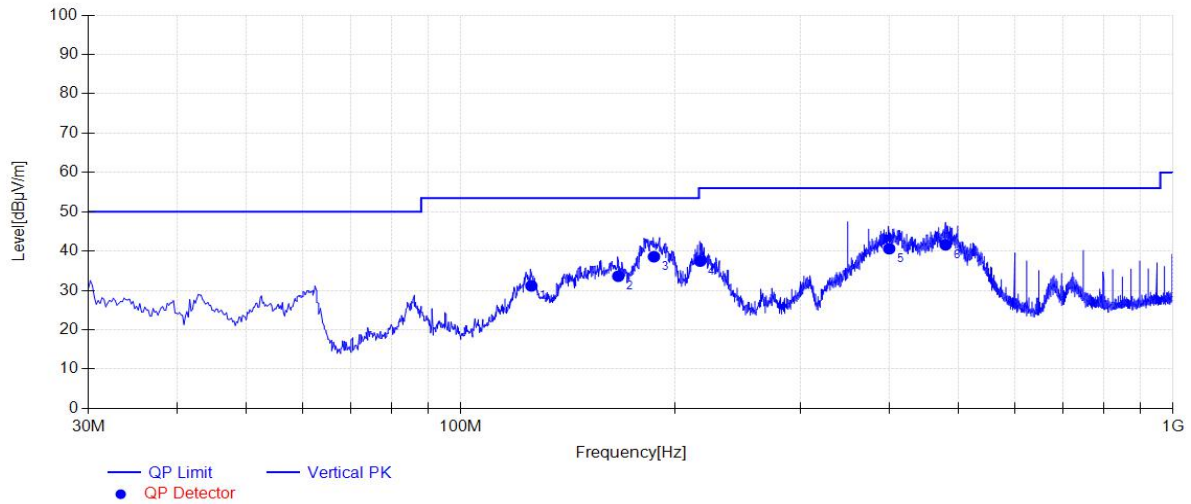


Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	124.090	11.38	26.59	53.50	26.91	300	88	Horizontal
2	186.558	9.29	36.81	53.50	16.69	100	90	Horizontal
3	218.568	9.95	37.33	56.00	18.67	100	97	Horizontal
4	309.748	13.58	37.89	56.00	18.11	100	119	Horizontal
5	374.932	15.58	44.20	56.00	11.80	100	141	Horizontal
6	399.764	16.24	44.29	56.00	11.71	100	126	Horizontal

EUT:	Rangefinder	Polarity:	Vertical
Model:	Pandar128	SN:	P1283DC852973DC953
Mode:	Mode 2	Voltage:	120V/60Hz
Environment:	Temp: 25°C; Humi:60%	Engineer:	Line Chen

Test Graph

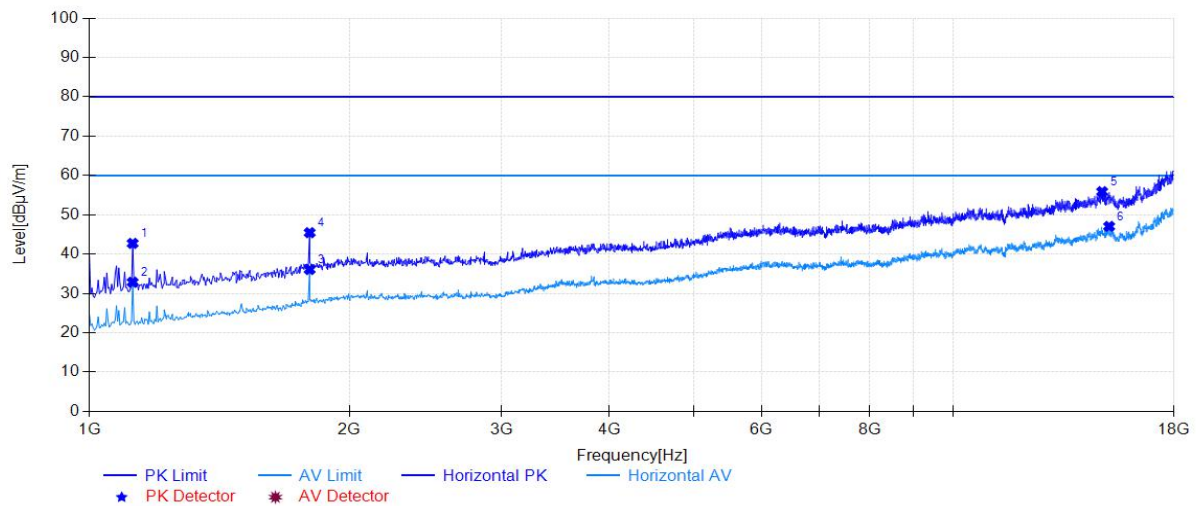


Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	125.642	11.43	31.16	53.50	22.34	100	155	Vertical
2	166.382	9.63	33.63	53.50	19.87	100	103	Vertical
3	186.752	9.28	38.58	53.50	14.92	100	50	Vertical
4	216.822	9.86	37.47	56.00	18.53	100	350	Vertical
5	399.570	16.24	40.62	56.00	15.38	100	356	Vertical
6	479.498	17.79	41.62	56.00	14.38	100	169	Vertical

EUT:	Rangefinder	Polarity:	Horizontal
Model:	Pandar128	SN:	P1283DC852973DC953
Mode:	Mode 2	Voltage:	120V/60Hz
Environment:	Temp: 25°C; Humi:60%	Engineer:	Line Chen

Test Graph

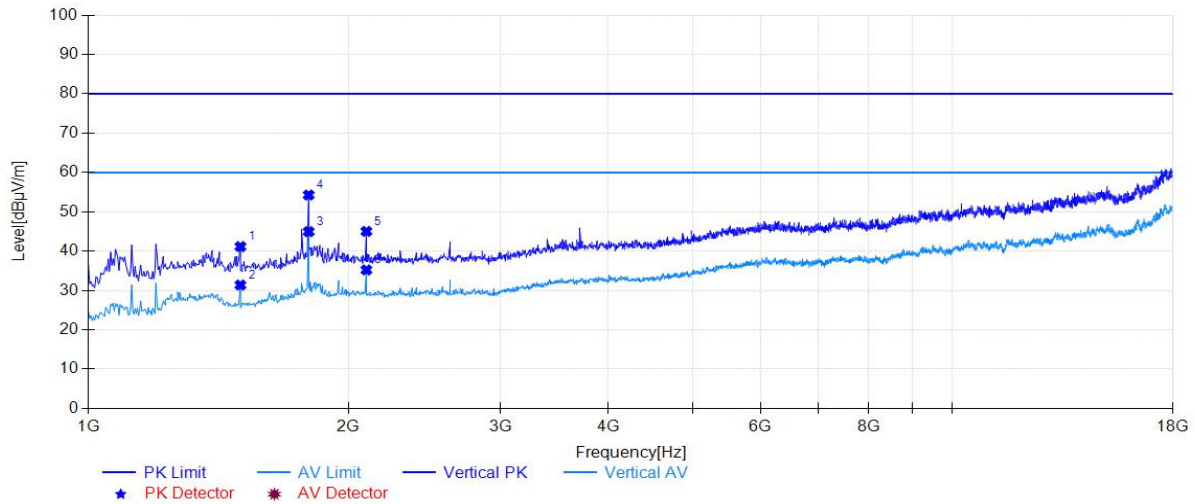


Final Data List

NO.	Freq. [MHz]	Factor [dB]	Value [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detection Mode
1	1122.40	42.73	-5.88	80.00	37.27	100	195	PK
2	1122.40	32.86	-5.88	60.00	27.14	100	195	AV
3	1799.00	36.09	-0.28	60.00	23.91	200	191	AV
4	1799.00	45.44	-0.28	80.00	34.56	200	191	PK
5	14868.6	55.88	20.39	80.00	24.12	100	70	PK
6	15147.4	47.04	20.96	60.00	12.96	200	148	AV

EUT:	Rangefinder	Polarity:	Vertical
Model:	Pandar128	SN:	P1283DC852973DC953
Mode:	Mode 2	Voltage:	120V/60Hz
Environment:	Temp: 25°C; Humi:60%	Engineer:	Line Chen

Test Graph



Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Detection Mode
1	1499.80	41.15	-3.02	80.00	38.85	200	355	AV
2	1499.80	31.38	-3.02	60.00	28.62	200	35	PK
3	1799.00	44.94	-0.28	60.00	15.06	100	348	AV
4	1799.00	54.27	-0.28	80.00	25.73	100	348	PK
5	2098.20	45.02	1.20	80.00	34.98	200	286	PK
6	2098.20	35.22	1.20	60.00	24.78	200	293	AV

7. CONCLUSION

The data collected relate only the item(s) tested and show that the **Rangefinder**

(Model:Pandar128) has been tested to comply with the requirements specified in §15.107 / §15.109 of the FCC CFR Title 47 Part 15 Subpart B.

The End
