

Report No.: FR880926AW



## FCC RADIO TEST REPORT

FCC ID : QISLYA-LX9

**Equipment**: Smartphone

**Brand Name : HUAWEI** 

Model Name : LYA-L29, LYA-L09

Applicant / : Huawei Technologies Co., Ltd.

Manufacturer Administration Building, Headquarters of Huawei

Technologies Co., Ltd., Bantian, Longgang District,

Shenzhen, 518129, P.R.C

Standard : 47 CFR FCC Part 15.209

The product was received on Aug. 13, 2018, and testing was started from Aug. 24, 2018 and completed on Aug. 27, 2018. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Allen Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

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PHOTOGRAPHS OF EUT v01

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## History of this test report

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Report No.	Version	Description	Issued Date
FR880926AW	01	Initial issue of report	Aug. 28, 2018
FR880926AW	02	Update Accessories Information	Sep. 11, 2018

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## **Summary of Test Result**

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Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.209	Transmitter Radiated Emissions	PASS	-
3.3	15.215(c)	Emission Bandwidth	PASS	-

Reviewed by: Sam Tsai

Report Producer: Ann Hou

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## 1 General Description

#### 1.1 Information

#### 1.1.1 General Information

Wireless Power Transfer General Information						
Frequency Range	Modulation	Charging Freq. (kHz)	Field Strength (dBuV/m)			
110.1-148 kHz	ASK	112	52.35			
Power Transfer Method	Output power from each primary coil	That may have multiple primary coils	Charging Method			
Magnetic induction and only single primary coil coupling secondary coil	<15W	Yes	Client directly contact			
Note 1: Field strength performed peak level at 3m.						

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#### 1.1.2 Antenna Information

	Antenna Category					
	Equipment placed on the market without antennas					
$\boxtimes$	Integral antenna (antenna permanently attached)					
	External antenna (dedicated antennas)					

#### 1.1.3 Type of EUT

	Type of EUT						
$\boxtimes$	Stand-alone						
	Combined (EUT where the radio part is fully integrated within another device)						
	Combined Equipment - Brand Name / Model No.:						
	Plug-in radio (EUT intended for a variety of host systems)						
	Host System - Brand Name / Model No.:						
	Other: The EUT place with the platform.						

#### 1.1.4 Test Signal Duty Cycle

	Operated Mode for Worst Duty Cycle						
	☐ Operated normally mode for worst duty cycle						
$\boxtimes$	Operated test mode for worst duty cycle						
Test Signal Duty Cycle (x)							
$\boxtimes$	100%						

#### 1.1.5 EUT Operational Condition

Supply Voltage	□ DC	
Type of DC Source	□ Battery	☐ From System

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#### 1.2 Table for Multiple Listing

The brand/model names in the following table are all refer to the identical product.

Brand Name	Model Name	Description
HUAWEI	LYA-L29	The only difference between LYA-L29 and LYA-L09 is that LYA-L09
HUAWEI	LYA-L09	deletes into single SIM card by software.  Other parts of the two models are the same

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#### 1.3 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR FCC Part 15
- ANSI C63.10-2013
- KDB 680106 D01 RF Exposure Wireless Charging Apps v03

#### 1.4 Testing Location Information

	Testing Location									
$\boxtimes$	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)								
		TEL	:	886-3-327-3456	886-3-327-3456 FAX : 886-3-327-0973					
				Test site Designation	on No.	ΤV	1190 with FCC.			
	☐ JHUBEI ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan (R.O.C.)				City, Hsinchu County, Taiwan (R.O.C.)					
	TEL: 886-3-656-9065 FAX: 886-3-656-9085									
	Test site Designation No. TW0006 with FCC.									

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	TH01-HY	Andy Lee	24.7°C / 63.8%	24/Aug/2018
RF Conducted	CO01-HY	Terry Chang	24.5°C/56%	27/Aug/2018
Radiated Emission	03CH03-HY	Jeremy Lin	24.5°C /55.9%	25/Aug/2018

## 1.5 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Measurement Uncertainty						
Test Item		Uncertainty	Limit			
Radio Frequency	Radio Frequency					
All emissions, radiated 9 – 150 kHz		±2.5 dB	±6 dB			
	0.15 – 30 MHz	±2.3 dB	±6 dB			
	30 – 1000 MHz	±2.6 dB	±6 dB			
Temperature	Temperature					
Humidity	±5 %	±5 %				
DC and low frequency voltages	±0.9%	±3 %				

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## 2 Test Configuration of EUT

## 2.1 The Worst Case Configuration

Modulation Mode	Field Strength (dBuV/m at 3m)
ASK	52.35
Wireless sharger were performed all sharging con	ditions including variable leading and non aborging

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Wireless charger were performed all charging conditions including variable loading and non-charging operation, the worst mode is full charging loading.

### 2.2 The Worst Charger Frequencies Configuration

Modulation Mode	Charger Frequencies (kHz)
ASK	112
Wireless charger frequencies are variable frequenc	cy range (110.1-148 kHz) and depend on charging

Wireless charger frequencies are variable frequency range (110.1-148 kHz) and depend on charging loading. The charging frequency is 112 kHz.

### 2.3 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests		
Tests Item AC power-line conducted emissions		
Condition AC power-line conducted measurement for line and neutral Test Voltage: 110Vac / 60Hz		
Operating Mode	Operating Mode Description	
1	Adapter Mode	

The Worst Case Mode for Following Conformance Tests				
Tests Item	Transmitter Radiated Emis	ransmitter Radiated Emissions, Emission Bandwidth		
Test Condition	Radiated measurement	Radiated measurement		
	☐ EUT will be placed in	fixed position.		
User Position	⊠ EUT will be placed in	mobile position and operati	ng multiple positions.	
	EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions.			
Operating Mode < 1GHz				
Modulation Mode	ASK			
	X Plane	Y Plane	Z Plane	
Orthogonal Planes of EUT				
Worst Planes of EUT			V	

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#### 2.4 Accessories

		Accessories Informatio	n			
	Brand Name	Huawei Technologies Co., Ltd.	Model Name	HW-100400A00		
AC Adapter 1	Manufacturer	Huawei Technologies Co., Ltd.	Huawei Technologies Co., Ltd.			
	Power Rating	I/P: 100 - 240Vac~50/60Hz, 1.2 A	A; O/P: 5V == 2A	or 9V === 2A or 10V === 4A		
	Brand Name	Huawei Technologies Co., Ltd.	Model Name	HW-100400U00		
AC Adapter 2	Manufacturer	łuawei Technologies Co., Ltd.				
	Power Rating	I/P: 100 - 240Vac~50/60Hz, 1.2 A	/P: 100 - 240Vac~50/60Hz, 1.2 A; O/P: 5V === 2A or 9V === 2A or 10V === 4A			
	Brand Name	Huawei Technologies Co., Ltd.	Model Name	HW-100400E00		
AC Adapter 3	Manufacturer	Huawei Technologies Co., Ltd.				
	Power Rating	I/P: 100 - 240Vac~50/60Hz, 1.2 A	A; O/P: 5V === 2A (	or 9V === 2A or 10V === 4A		
	Brand Name	Huawei Technologies Co., Ltd.	Model Name	HW-100400B00		
AC Adapter 4	Manufacturer	Huawei Technologies Co., Ltd.				
	Power Rating	I/P: 100 - 240Vac~50/60Hz, 1.2 A	A; O/P: 5V === 2A 0	or 9V === 2A or 10V === 4A		
	Brand Name	Huawei Technologies Co., Ltd.	Model Name	HB486486ECW		
Battery 1	Power Rating	Nominal Voltage:+3.82Vdc Charging Voltage:+4.4V Rated capacity: 4100mAh	Туре	Li-ion Polymer		
	Brand Name	Huawei Technologies Co., Ltd.	Model Name	HB486486ECW		
Battery 2	Power Rating	Nominal Voltage:+3.82Vdc Charging Voltage:+4.4V Rated capacity: 4100mAh	Туре	Li-ion Polymer		
	Brand Name	Huawei Technologies Co., Ltd.	Model Name	HB486486ECW		
Battery 3	Power Rating	Nominal Voltage:+3.82Vdc Charging Voltage:+4.4V Rated capacity: 4100mAh	Туре	Li-ion Polymer		
Earphone 1	Brand Name	Jiangxi Lianchuang Hongsheng E	Electronic Co. ,LTI	D.		
сагрионе т	Model Name	MEND1632B729003	Number	22040325		
Earphone 2	Brand Name	GoerTek Inc.				
Laiphone 2	Model Name	Windy-S	Number	22040325		
Earphone 3	Brand Name	Boluo County Quancheng Electro	onic Co.,ltd.	T		
Laipilollo 0	Model Name	1331-3301-6001-TC-088	Number	22040325		
Earphone 4	Brand Name	Boluo County Quancheng Electro		T		
	Model Name	630276	Number	NA		
Earphone 5	Brand Name	Jiangxi Lianchuang Hongsheng E		D.		
(Black)	Model Name	MEND1632B729008	Number	MEND1632B729008		

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		Ningbo Broad Telecommunication Co., Ltd.		
USB Cable1	Model Name	WA0009	Number	4071722
Brand Name		LUXSHARE Precision Industry Co., Ltd.		
USB Cable2	Model Name	L99UC117-CS-H	Number	4071722
USB Cable3		HUIZHOU DEHONG TECHNOLOGY CO.,LTD.		
COD Cables	Model Name	330-50465	Number	4071722

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Note: Regarding to more detail and other information, please refer to user manual.

## 2.5 Support Equipment

		Support Equipment – A	AC Conduction	
No. Equipment Brand Name Model Name FCC ID				
1	Mobile phone	HUAWEI	LYA-L29	QISLYA-LX9

Note: Support equipment No.1 was provided by customer.

		Support Equipment	<ul> <li>Conducted</li> </ul>	
No.	Equipment	Brand Name	Model Name	FCC ID
1	Mobile phone	HUAWEI	LYA-L29	QISLYA-LX9

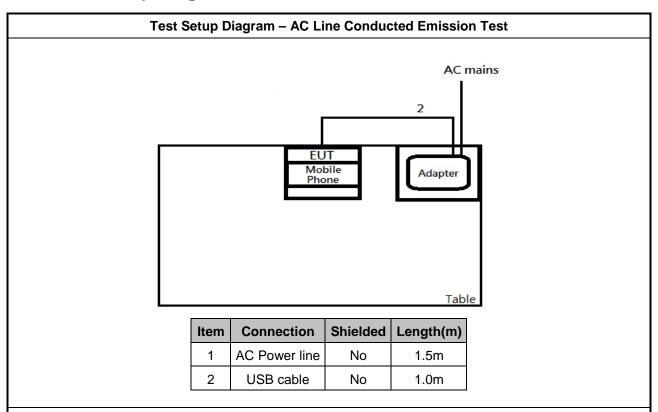
Note: Support equipment No.1 was provided by customer.

		Support Equipment	t – Radiated	
No.	Equipment	Brand Name	Model Name	FCC ID
1	Mobile phone	HUAWEI	LYA-L29	QISLYA-LX9

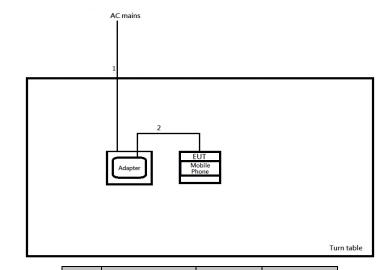
Note: Support equipment No.1 was provided by customer.

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#### 2.6 **Test Setup Diagram**



#### **Test Setup Diagram - Radiated Test**



Item	Connection	Shielded	Length(m)
1	AC Power line	No	1.5m
2	USB cable	No	1.0m

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## 3 Transmitter Test Result

#### 3.1 AC Power-line Conducted Emissions

#### 3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		imit
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

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#### 3.1.2 Measuring Instruments

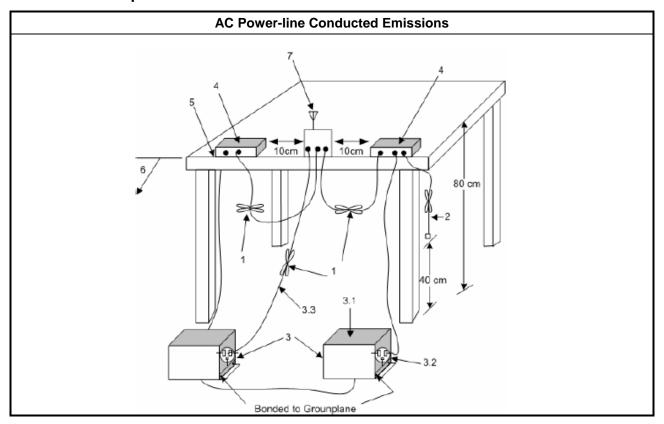
Refer a test equipment and calibration data table in this test report.

#### 3.1.3 Test Procedures

	Test Method			
$\boxtimes$	Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.			
$\boxtimes$	If AC	C conducted emissions fall in operating band, then following below test method confirm final result.		
		Accept measurements done with a suitable dummy load replacing the antenna under the following conditions:  (1) Perform the AC line conducted tests with the antenna connected to determine compliance with FCC 15.207 limits outside the transmitter's fundamental emission band;  (2) Retest with a dummy load to determine compliance with FCC 15.207 limits within the transmitter's fundamental emission band.		
		For a device with a permanent antenna operating at or below 30 MHz, accept measurements done with a suitable dummy load, in lieu of the permanent antenna under the following conditions: (1) Perform the AC line conducted tests with the permanent antenna to determine compliance with the FCC 15.207 limits outside the transmitter's fundamental emission band; (2) Retest with a dummy load in lieu of the permanent antenna to determine compliance with the FCC 15.207 limits within the transmitter's fundamental emission band.		

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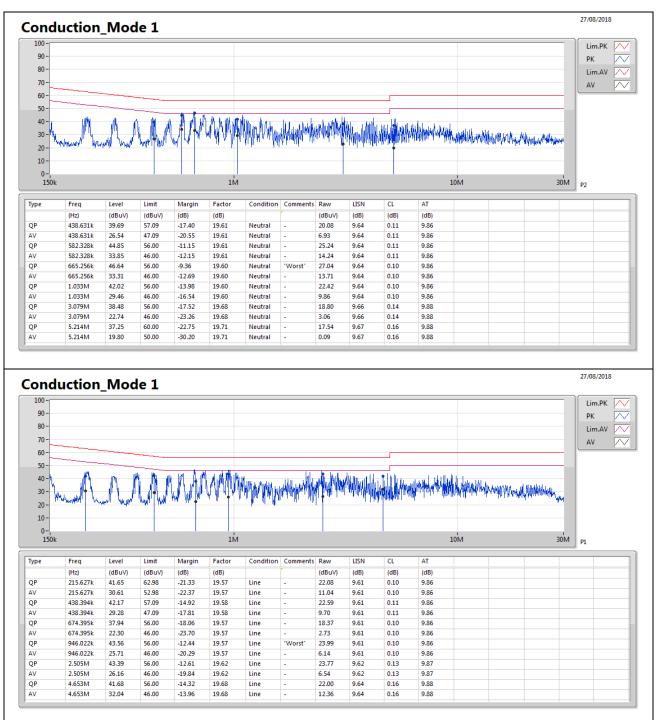
## 3.1.4 Test Setup



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#### 3.1.5 Test Result of AC Power-line Conducted Emissions



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#### 3.2 Transmitter Radiated Emissions

#### 3.2.1 Transmitter Radiated Emissions Limit

Transmitter Radiated Emissions Limit									
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)						
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300						
0.490~1.705	24000/F(kHz)	33.8 - 23	30						
1.705~30.0	30	29	30						
30~88	100	40	3						
88~216	150	43.5	3						
216~960	200	46	3						
Above 960	500	54	3						

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- Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).
- Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.
- Note 3: the frequency bands 9-90 kHz, 110-490 kHz measurements employing an average detector and other below 1GHz measurements employing a CISPR quasi-peak detector.

#### 3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

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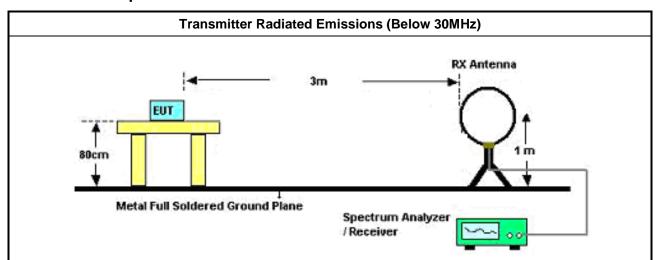
#### 3.2.3 Test Procedures

#### **Test Method** Refer as ANSI C63.10, clause 6.5 for radiated emissions from 30 MHz to 1 GHz and test distance is 3m. Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz the frequency bands 110.1-148 kHz measurements employing an average detector and other below 30MHz measurements employing a CISPR quasi-peak detector. Test distance is 3m. At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the requirements; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be following below methods. The results shall be extrapolated to the specified distance by making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor. The results shall be by using the square of an inverse linear distance extrapolation factor (40 dB/decade). For radiated measurement. Loop antenna was rotated about the horizontal and vertical axis and the equipment to be measured and the test antenna shall be oriented to obtain the maximum emitted field strength level. The any unwanted emissions level shall not exceed the fundamental emission level. All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

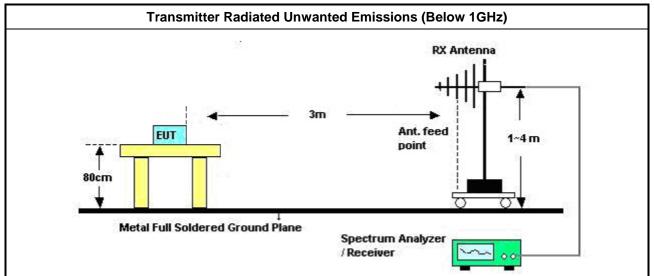
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#### 3.2.4 Test Setup



Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna.



Electric field tests shall be performed in the frequency range of 30 MHz to 1000 MHz using a calibrated bi-log antenna.

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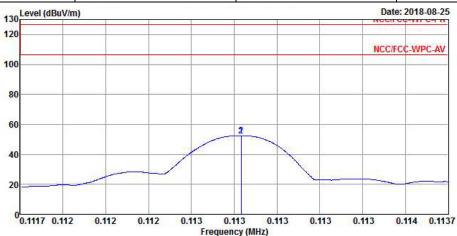
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#### 3.2.5 Transmitter Radiated Emissions (Below 30MHz)

## Transmitter Radiated Emissions Modulation Mode ASK Test Freq. (kHz) 112 Operating Mode 1 Polarization H

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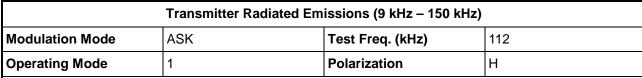
	Freq	Level		Limit Line				The same of the sa	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	0.1127330	52.32	-54.25	106.57	31.56	20.69	0.07	0.00	Average
2	0.1127330	52.35	-74.22	126.57	31.59	20.69	0.07	0.00	Peak

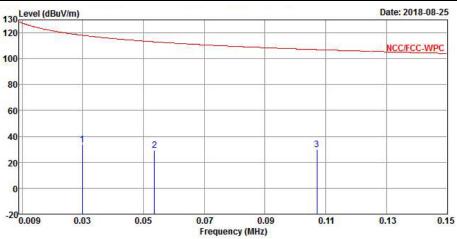
- Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement worst emissions of receive antenna polarization: H(Horizontal).
- Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.
- Note 5: Except fundamental emission, other emissions from digital circuitry used to control additional panel functions or display capabilities other than the touch panel radio transmission. While disable touch panel radio transmission, other emissions have the same levels. Therefore other emissions level could be exceed the fundamental emission level.

Note 6: The test result in peak detector is less than average limit, so that we tested in peak detector only.

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			Over	Limit	ReadA	Antenna	Cable	Preamp	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	5
1	0.0298680	33.66	-84.44	118.10	11.60	22.00	0.06	0.00	Peak
2	0.0535560	29.50	-83.53	113.03	8.37	21.07	0.06	0.00	Peak
3	0.1071360	29.72	-77.29	107.01	8.96	20.69	0.07	0.00	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement worst emissions of receive antenna polarization: H(Horizontal).

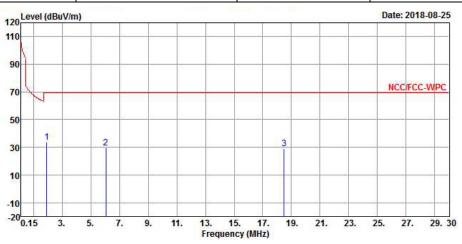
Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.

Note 5: Except fundamental emission, other emissions from digital circuitry used to control additional panel functions or display capabilities other than the touch panel radio transmission. While disable touch panel radio transmission, other emissions have the same levels. Therefore other emissions level could be exceed the fundamental emission level.

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Transmitter Radiated Emissions (150 kHz – 30 MHz)							
Modulation Mode	ASK	Test Freq. (kHz)	112				
Operating Mode	1	Polarization	Н				



	Freq	Level		Limit Line				The state of the s	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	1.9410000	33.80	-35.74	69.54	12.99	20.56	0.25	0.00	Peak
2	6.0603000	29.70	-39.84	69.54	8.40	20.87	0.43	0.00	Peak
3	18.477900	28.95	-40.59	69.54	6.09	22.26	0.60	0.00	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement worst emissions of receive antenna polarization: H(Horizontal).

Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.

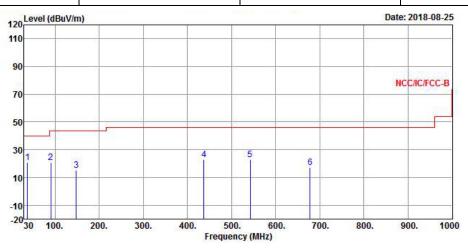
Note 5: Except fundamental emission, other emissions from digital circuitry used to control additional panel functions or display capabilities other than the touch panel radio transmission. While disable touch panel radio transmission, other emissions have the same levels. Therefore other emissions level could be exceed the fundamental emission level.

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3.2.6 Transmitter Radiated Emissions (Above 30MHz)

## Transmitter Radiated Emissions (Above 30MHz) Modulation Mode ASK Test Freq. (kHz) 112 Operating Mode 1 Polarization V

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	Freq	Level	Over Limit			Antenna Factor		1000	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	i
1	37.760000	21.01	-18.99	40.00	29.07	18.87	0.81	27.74	Peak
2	90.140000	20.93	-22.57	43.50	33.31	14.02	1.36	27.76	Peak
3	148.34000	15.25	-28.25	43.50	25.51	15.61	1.76	27.63	Peak
4	437.40000	22.62	-23.38	46.00	25.74	21.87	3.17	28.16	Peak
5	542.16000	22.78	-23.22	46.00	23.97	23.71	3.62	28.52	Peak
6	677.96000	17.38	-28.62	46.00	17.67	24.16	3.97	28.42	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

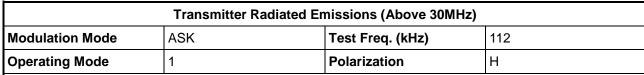
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

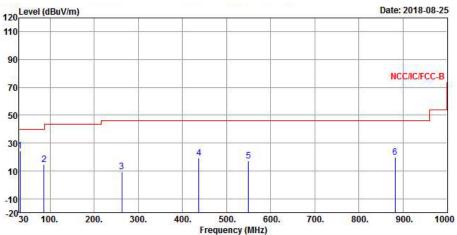
Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.

Note 5: Except fundamental emission, other emissions from digital circuitry used to control additional panel functions or display capabilities other than the touch panel radio transmission. While disable touch panel radio transmission, other emissions have the same levels. Therefore other emissions level could be exceed the fundamental emission level.

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	Freq	Level	Over Limit	Limit Line		Antenna Factor		110	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	-
1	31.940000	24.22	-15.78	40.00	29.24	22.11	0.70	27.83	Peak
2	86.260000	14.63	-25.37	40.00	27.85	13.17	1.35	27.74	Peak
3	262.80000	9.23	-36.77	46.00	15.34	18.70	2.48	27.29	Peak
4	437.40000	19.42	-26.58	46.00	22.54	21.87	3.17	28.16	Peak
5	549 92000	17 00	-29 00	16 00	17 78	24 09	3 65	28 52	Poak

Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.

4.66 27.74 Peak

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

881.66000 19.84 -26.16 46.00 17.13 25.79

Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.

Note 5: Except fundamental emission, other emissions from digital circuitry used to control additional panel functions or display capabilities other than the touch panel radio transmission. While disable touch panel radio transmission, other emissions have the same levels. Therefore other emissions level could be exceed the fundamental emission level.

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#### 3.3 Emission Bandwidth

#### 3.3.1 Emission Bandwidth Limit

Emission Bandwidth Limit
N/A

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: 02

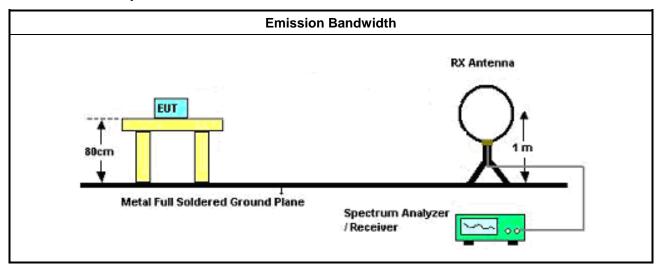
#### 3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

#### 3.3.3 Test Procedures

# Test Method ☐ For the emission bandwidth refer ANSI C63.10, clause 6.9.3 for occupied bandwidth testing. ☐ For radiated measurement. Loop antenna was rotated about the horizontal and vertical axis and the equipment to be measured and the test antenna shall be oriented to obtain the maximum emitted field strength level.

#### 3.3.4 Test Setup

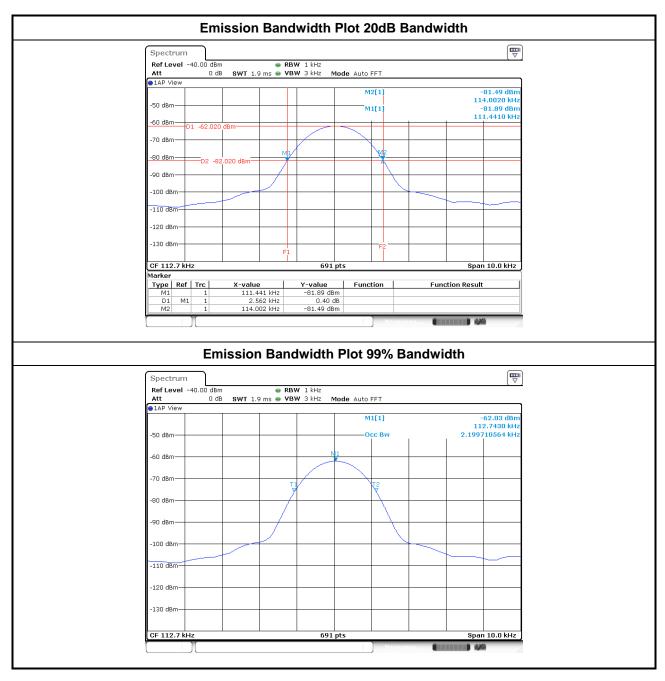


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#### 3.3.5 Test Result of Emission Bandwidth

Occupied Channel Bandwidth Result								
Modulation Mode	Frequency (kHz)	20dB Bandwidth (kHz)	99% Bandwidth (kHz)					
ASK	112.7	2.562	2.199710564					
Lir	nit	N/A	N/A					
Res	sult	Complied						

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## 4 Test Equipment and Calibration Data

#### < AC Conduction >

AC CONGUCTION >						
Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date
EMC Receiver	R&S	ESR3	102052	9KHz ~ 3.6GHz	12/Jun/2018	11/Jun/2019
RF Cable-CON	HUBER+SUHNER	RG213/U	07611832020001	9kHz ~ 30MHz	06/Oct/2017	05/Oct/2018
AC POWER	APC	AFC-11005G	F310050055	47Hz~63Hz 5~300V	NCR	NCR
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9 kHz ~ 30 MHz	12/Oct/2017	11/Oct/2018
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	17/Nov/2017	16/Nov/2018

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NCR: Non-Calibration Require

#### < RF Conducted >

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSP 40	100305	9KHz~40GHz	04/Jan/2018	03/Jan/2019
Loop Antenna	TESEQ	HLA 6120	31244	9k-30MHz	29/Mar/2018	28/Mar/2019

#### < Radiated Emission >

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz ~ 1GHz 3m	20/Oct/2017	19/Oct/2018
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	1GHz ~ 18GHz 3m	27/Oct/2017	26/Oct/2018
Amplifier	Agilent	8447D	2944A11149	100kHz ~ 1.3GHz	27Jul/2018	02/Jul/2019
Spectrum Analyzer	Rohde & Schwarz	FSP40	100593	9KHz - 40GHz	12/Dec/2017	11/Dec/2018
EMI Test Receiver	Rohde & Schwarz	ESCS 30	100354	9kHz ~ 2.75GHz	08/Dec/2017	07/Dec/2018
RF Cable-R03m	Jye Bao	RG142	CB017	9kHz ~ 1GHz	19/Jan/2018	18/Jan/2019
Bilog Antenna	SCHAFFNER	CBL 6112B	2723	30MHz ~ 1GHz	09/Sep/2017	08/Sep/2018
Loop Antenna	TESEQ	HLA 6120	31244	9k-30MHz	29/Mar/2018	28/Mar/2019

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