EMC Test Report

Product Name: IDEOS S7 Slim

Model Number: S7-201w

Report No: SYBH(Z-EMC)042052011-2

FCC ID：QISS7-201W

IC ID：6369A-S7201W

Reliability Laboratory of Huawei Technologies Co., Ltd.

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Notice

1. **The laboratory has obtained the accreditation of China National Accreditation Service for Conformity Assessment (CNAS), and accreditation number: L0310.**
2. **The laboratory has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements. The site recognition number is 97456.**
3. **The laboratory has been listed by industry Canada to perform electromagnetic emission measurement. The site recognition number is 6369A-2.**
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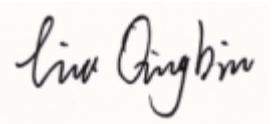
Applicant:	Huawei Technologies Co., Ltd.
Address:	Huawei Base, Bantian, Longgang District, Shenzhen 518129, P.R. China
Date of Receipt Test Item:	Jul.02, 2011
Start Date of Test:	Jul.02, 2011
End Date of Test:	Jul.06, 2011
Test Result:	Pass

	Date	Name	Signature
Approved By	**2011-7-8**	**Liuchunlin**	
Reviewed By	**2011-7-8**	**Dailinjun**	
Operator	**2011-7-8**	**liuqingibn**	

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1 General Information

1.1 EUT Description

EUT Description	
Product Name	IDEOS S7 Slim
Model Number	S7-201w
Serials Number	S3J6TC1141615702
Working Voltage	5V
TX Frequency	Bluetooth: 2400MHz To 2483.5MHz WIFI: 2400MHz To 2483.5MHz GPS:1575.42MHz
RX Frequency	Bluetooth: 2400MHz To 2483.5MHz WIFI: 2400MHz To 2483.5MHz
HW Version	HIDS70IM
SW Version	S7-201wV100R001C003
EUT Accessory	
Data cable	Manufacture: Foxconn Data Cable USB A Male to Micro Usb 120cm,Black,
Adapter	Manufacture: SHENZHEN FRECOM Model: FPS012USA-050200 Input voltage: 100V-240V~50-60Hz，0.3A Output voltage: +5V ⎓ 2A
Adapter	Manufacture: SHENZHEN FRECOM Model: FM050020-US Input voltage: 100V-240V~50-60Hz，0.6A Output voltage: +5V ⎓ 2A
Li-ion	Manufacture: Huawei Technologies Co., Ltd. Model:HB4G1H Rated capacity:3250mAh Nominal Voltage ⎓ +3.7V Charging Voltage ⎓ +4.2V
IDEOS S7 Slim Dock	Manufacture: Huawei Technologies Co., Ltd. Model:S7-D01

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

This is another report of S7-201w.The former report number is SYBH (Z-EMC) 084032011-2. The former report still is adopted.

1.2 Test Site Information

Test Site1:	RELIABILITY LABORATORY OF HUAWEI TECHNOLOGIES CO., LTD.
Test Site Location:	Bantian Longgang District Shenzhen, P.R. China

1.3 Applied Standard

APPLIED STANDARD

FCC 47 CFR FCC Part 15 SubpartB
IC RSS-Gen Issue 3

2 Summary of Results

Summary of Results				
Test Items	**Test Mode**	**Performance Class & Required Performance Criteria**	**Result**	**Site**
Radiated Emissions Enclosure Port	Mode2	CLASS B	Pass	Site1
Conducted Emissions ☐DC Power Port ☒AC Power Port ☐Telecommunication Ports	Mode1 Mode2	CLASS B	Pass	Site1
Note: 1, Measurement taken is within the measurement uncertainty of measurement system. 2, ☒ The item has been tested; ☐ The item has not been tested.				

3 System Configuration during EMC Test

3.1 Test Mode

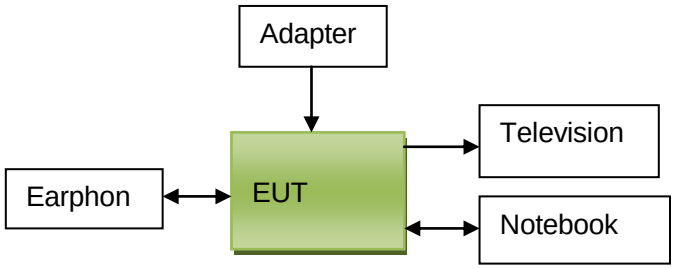
Huawei has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was in this test report and defined as:

Test Mode	
Mode 1:	Adapter + USB + TF card + TV +Earphone + Camera + data service in traffic mode
Mode 2:	Adapter + USB +TF card + TV +Earphone + Camera + data service in Idle mode

Remark: When the EUT have multiple adapters, need separate test with multiple adapters . All test modes are performed, only the worst cases are recorded in this report.

3.2 Configurations of Test System

Connection Diagram (Mode 1-2)



3.3 Cables Used during Test

Cable	Quantity	Length	Type of Cable
AC Power	1	<3m	unshielded
HDMI	1	<3m	shielded
Earphone	1	<3m	unshielded

3.4 Associated Equipment Used during Test

Name	Model	Manufacturer	S/N	Cal Date
Radio Communication Tester	CMU200	R&S	3607033573	2011-3-17
Notebook	D630	DELL	0W7349	NA
Television	KLV-20S400A	SONY	5017657	NA

4 Electromagnetic Interference (EMI)

4.1 Radiated Disturbance 30MHz to 18GHz

4.1.1 Test Procedure

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4dB according to the standards: ANSI C63.4. The test distance was 3m.The set-up and test methods were according to ANSI C63.4 .

A preliminary scan and a final scan of the emissions were made from 30 MHz to18 GHz by using test script of software; the emissions were measured using Quasi-Peak Detector (30MHz~1GHz) and AV/PK detector (above 1GHz). The maximal emission value was acquired by adjusting the antenna height, polarisation and turntable azimuth in accordance with the software setup.

Normally, the height range of antenna was 1m to 4m, the azimuth range of turntable was 0°to 360°, The receive antenna has two polarizations V and H.

EUT was configured in idle mode and the test performed at worst emission state.

4.1.2 Test setup

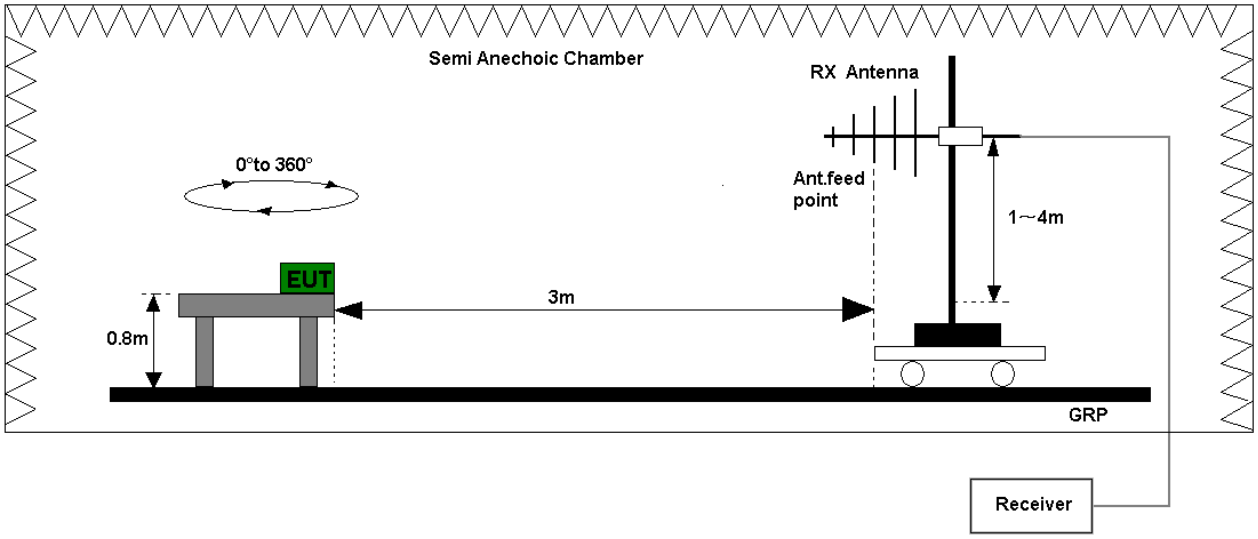


Figure 1. Test set-up of radiated disturbance(30MHz-1GHz)

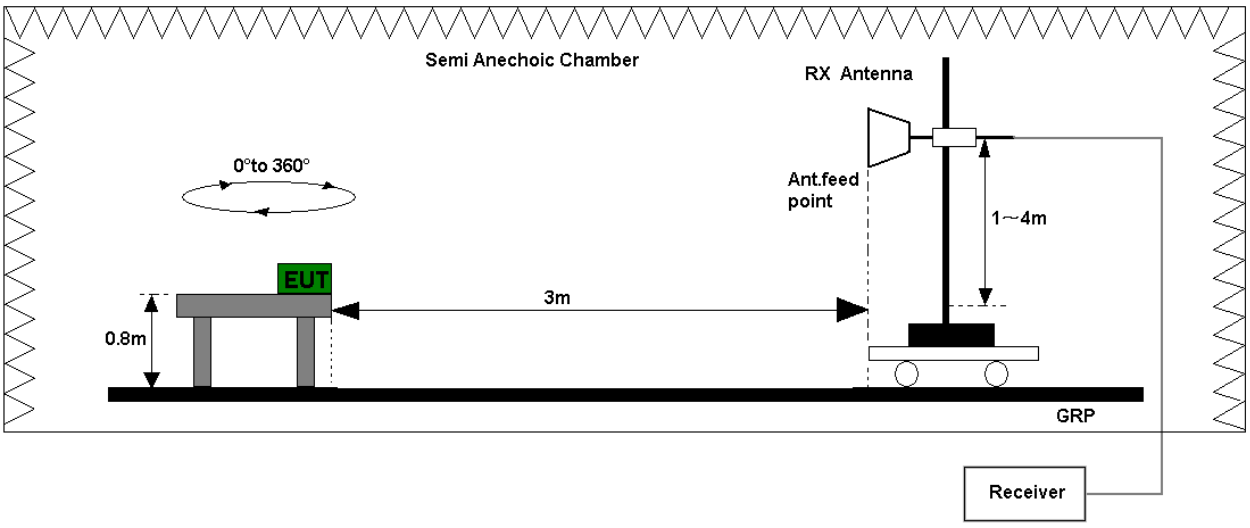


Figure 2. Test set-up of radiated disturbance(above 1GHz)

4.1.3 Test Results

The EUT has met the requirements for Radiated Emission of enclosure port.
The test data see section 7.1 of this report.

Test Limits (Class B)				
Frequency of Emission (MHz)	Radiated Limit			
	Unit(μV)		Unit(dBμV/m)	
30-88	100		40	
88-216	150		43.5	
216-960	200		46	
Above 960	500		54	
Above 1000	AV	PK	AV	PK
	500	5000	54	74

Test environment condition:

Performed Item	Item	Required	Actual
Radiated Emission	Ambient temperature	15°C～35°C	22°C
	Relative humidity	45%～55%	53%
	Atmospheric pressure	86kPa～106kPa	101kPa

4.2 Conducted Disturbance 0.15 MHz to 30MHz

4.2.1 Test Procedure

The Table-top EUT was placed upon a non-metallic table 0.8 m above the horizontal metal reference ground plane. EUT was connected to LISN and LISN was connected to reference Ground Plane. EUT was 80cm from LISN. The set-up and test methods were according to ANSI C63.4.

Conducted Disturbance at AC Port measurements were undertaken on the L and N Lines. The emissions were measured using a Quasi-Peak Detector and Average Detector.

Huawei Mobile Station was communicated with the BTS simulator through Air interface, the BTS simulator controls the Mobile Station to transmitter the maximum power which defined in specification of product. The Mobile Station operated on the typical channel.

Measurement bandwidth (RBW) for 150kz to 30 MHz: 9 kHz;

The Mobile Station was setup in the screened chamber and operated under nominal conditions.

4.2.2 Test Setup

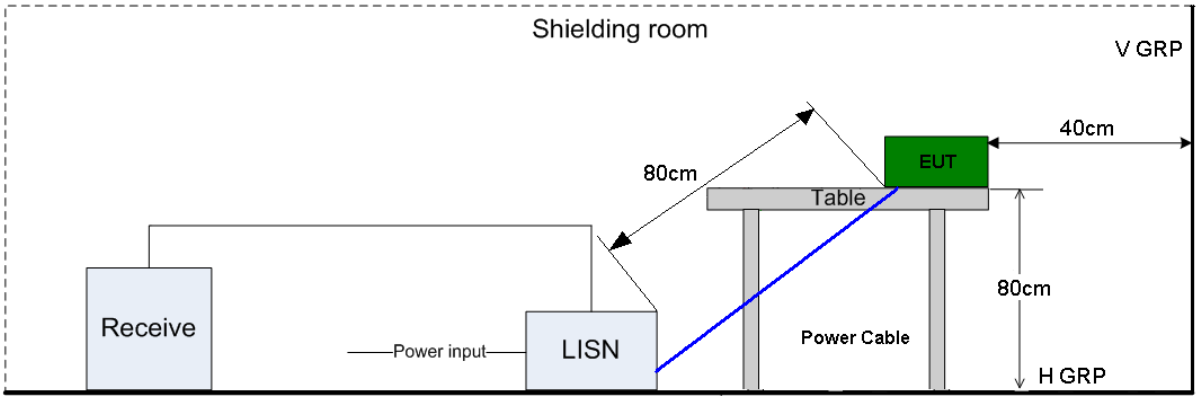


Figure 3. Test Set-up of conducted disturbance

4.2.3 Test Results

The EUT has met requirements for Conducted disturbance of power lines.
The test data see section 7.2 of this report.

Test Limit (Class B) of AC Power Port		
Frequency range	150kHz ~ 30MHz	
Frequency	Voltage limits	
	QP (dBμV)	AV(dBμV)
0.15MHz~0.5MHz	66-56	56-46
0.5MHz-5MHz	56	46
5MHz~30MHz	60	50

Test environment condition:

Performed Item	Item	Required	Actual
Conducted Disturbance	Ambient temperature	15°C～35°C	22°C
	Relative humidity	45%～55%	53%
	Atmospheric pressure	86kPa～106kPa	101kPa

5 Main Test Instruments

Main Test Equipments					
Test item	**Test Instrument**	**Model**	**Manufacturer**	**Cal-Date**	**Cal Interval (month)**
RE/CE	EMI Test receiver	ESU26	R&S	May.30, 2011	12
	Broadband Antenna	VULB 9163	SCHWARZBECK	May.16, 2011	12
	Horn Antenna	HF906	R&S	May.16, 2011	12
	Artificial Mains Network	ENV216	R&S	May.30, 2011	12
Software Information					
Test Item	Software Name	Manufacturer	Version		
RE/CE	ES-K1	R&S	1.7.1		

6 System Measurement Uncertainty

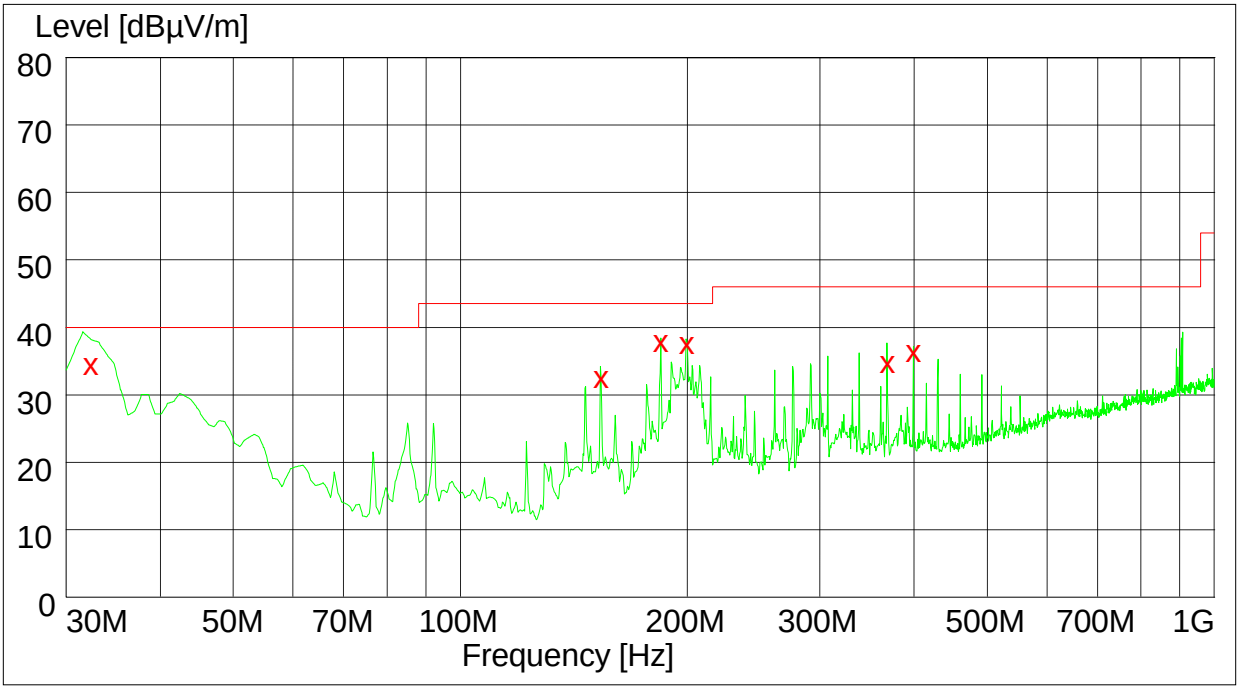
For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 were:

System Measurement Uncertainty		
Items		**Extended Uncertainty**
RE(30MHz-1GHz,)	Field strength (dBμV/m)	U=4.1dB; k=2
RE(1GHz-18GHz)	Field strength (dBμV/m)	U=4.1dB; k=2
CE	Disturbance Voltage (dBμV)	U=3.4dB; k=2

7 Graph and Data of Emission Test

7.1 Radiated Disturbance

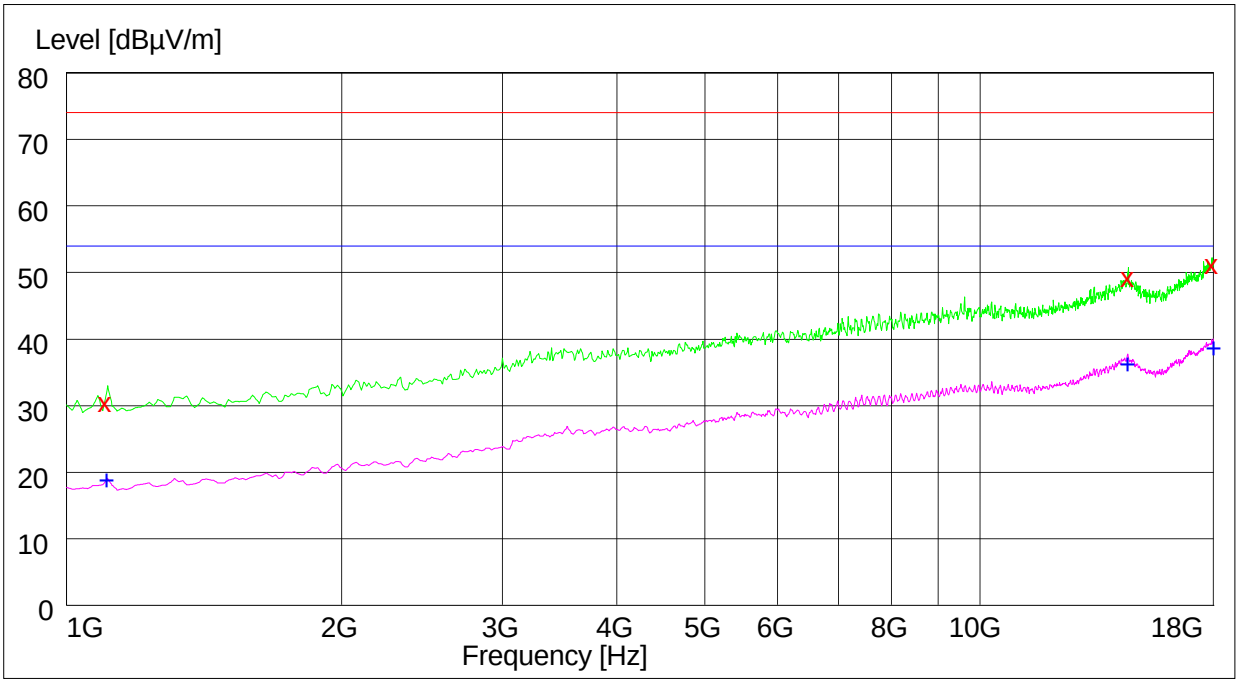
7.1.1 30MHz~1GHz



MEASUREMENT RESULT: QP Detector

Frequency	Level	Transd	Limit	Margin	Height	Azimuth	Polarisation
MHz	dBµV/m	dB	dBµV/m	dB	cm	deg	
32.340000	35.60	11.7	40.0	4.4	100.0	76.00	VERTICAL
153.600000	33.70	9.2	43.5	9.8	100.0	0.00	VERTICAL
184.320000	39.00	11.4	43.5	4.5	100.0	182.00	VERTICAL
199.680000	38.80	12.1	43.5	4.7	149.0	339.00	HORIZONTAL
368.640000	36.00	17.4	46.0	10.0	100.0	236.00	HORIZONTAL
399.360000	37.60	18.2	46.0	8.4	100.0	235.00	HORIZONTAL

7.1.2 1GHz~18GHz



MEASUREMENT RESULT: PK Detector

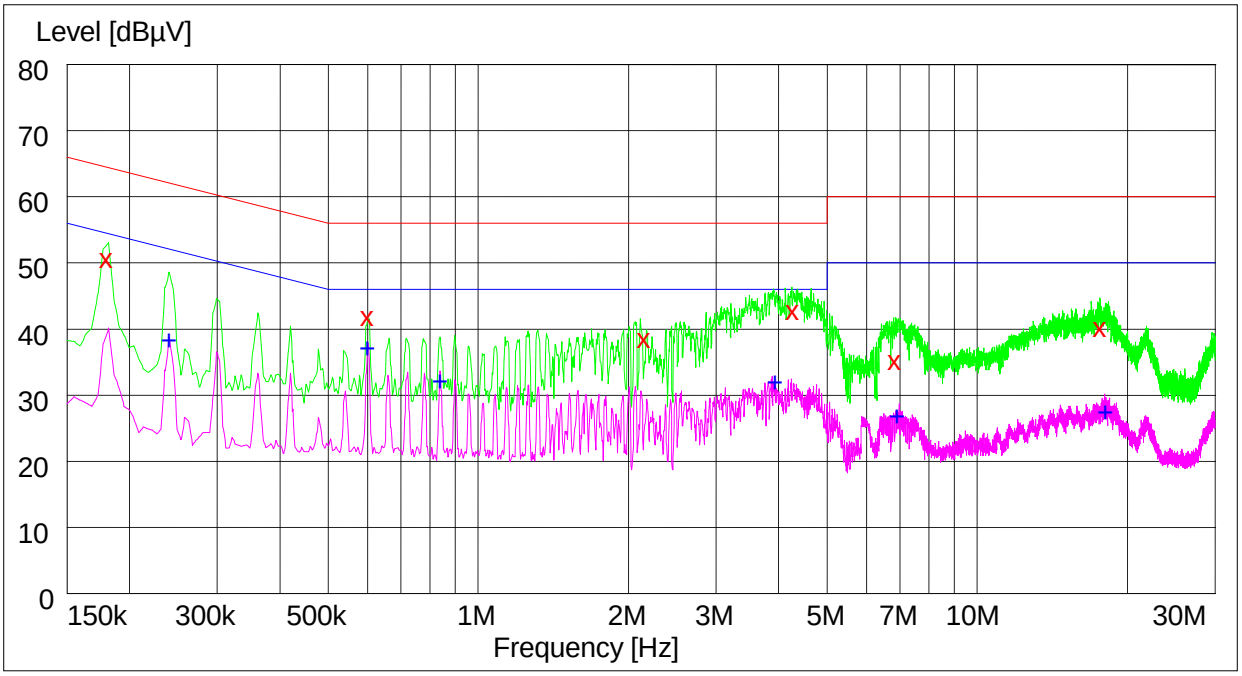
Frequency	Level	Transd	Limit	Margin	Height	Azimuth	Polarisation
MHz	dBµV/m	dB	dBµV/m	dB	cm	deg	
1102.500000	31.30	-16.1	74.0	42.7	150.0	97.00	VERTICAL
14511.500000	50.10	14.7	74.0	23.9	150.0	248.00	VERTICAL
17932.000000	52.10	19.3	74.0	21.9	103.0	317.00	HORIZONTAL

MEASUREMENT RESULT: AV Detector

Frequency	Level	Transd	Limit	Margin	Height	Azimuth	Polarisation
MHz	dBµV/m	dB	dBµV/m	dB	cm	deg	
1106.000000	19.60	-16.1	54.0	34.4	107.0	31.00	VERTICAL
14484.500000	37.00	14.5	54.0	17.0	100.0	42.00	VERTICAL
18000.000000	39.50	19.5	54.0	14.5	144.0	352.00	VERTICAL

7.2 Conducted Disturbance

7.2.1 AC Port Test Data



MEASUREMENT RESULT: QP Detector

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.180000	51.60	10.1	65	13.4	N	FLO
0.600000	40.40	10.1	56	15.6	N	FLO
2.156000	38.30	10.1	56	17.7	N	FLO
4.276000	41.60	10.2	56	14.4	L1	FLO
6.840000	34.20	10.2	60	25.8	N	FLO
17.680000	40.80	10.3	60	19.2	N	FLO

MEASUREMENT RESULT: AV Detector

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.240000	38.60	10.0	52	13.4	N	FLO
0.598000	37.40	10.1	46	8.6	N	FLO
0.838000	33.00	10.1	46	13.0	L1	FLO
3.924000	31.30	10.2	46	14.7	N	FLO
6.898000	27.70	10.2	50	22.3	N	FLO
18.006000	28.20	10.3	50	21.8	L1	FLO

----------**END**----------