

FCC - TEST REPORT

Report Number : **68.760.15.504.01** Date of Issue: November 5, 2015

Model : **JioPay 3850**

Product Type : POS

Applicant : KanhaTech Solutions Pvt Ltd

Address : No 74, Prestige Feroze Building, 4th Floor, Cunningham road,
Bangalore

Production Facility : KanhaTech Solutions Pvt Ltd

Address : No 74, Prestige Feroze Building, 4th Floor, Cunningham road,
Bangalore

Test Result : ☒ **Positive** ☐ **Negative**

Total pages : 23

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2 Details about the Test Laboratory

Details about the Test Laboratory

Test Site 1:

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12&13, Zhiheng Wisdomland Business Park,
Nantou Checkpoint Road 2, Nanshan District,
Shenzhen City, 518052,
P. R. China

FCC Registration No.: 502708

IC Registration No: 10320A-1

Telephone: 86 755 8828 6998
Fax: 86 755 8828 5299

3 Description of the Equipment Under Test

Product: POS

Model no.: JioPay 3850

Brand Name: JioPay

FCC ID: 2AFXJ-JIOPAY3850

Rating: DC 3.7V by Li-ion Battery or
5VDC,2.0A (Charged by an external power adapter
Adapter input:100-240VAC, 50/60Hz, 0.5A
Adapter output:5.0V, 2.0A)

Description of the EUT: Class B Equipment

4 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart B 10-1-2014 Edition	Unintentional Radiators

5 Summary of Test Results

Emission Tests				
FCC Part 15 Subpart B 10-1-2014 Edition				
Test Condition	Pages	Test Result		
		Pass	Fail	N/A
Conducted Emission on AC 150kHz to 30MHz	9	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Radiated Emission 30MHz to 1000MHz	14	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Radiated Emission 1GHz to 6GHz	17	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6 General Remarks

Remarks

NIL

SUMMARY:

All tests according to the regulations cited on page 5 were

■ - Performed

□ - **Not** Performed

The Equipment under Test

■ - **Fulfills** the general approval requirements.

□ - **Does not** fulfill the general approval requirements.

Sample Received Date: August 11, 2015

Testing Start Date: August 12, 2015

Testing End Date: August 25, 2015

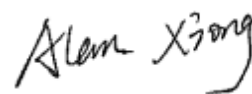
- TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch -

Reviewed by:

Prepared by:



John Zhi
EMC Project Manager



Alan Xiong
EMC Project Engineer

7 Systems test configuration

The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted according to the operation manual for use, more detailed description as follows:

Test Configuration List:

TEST MODE	DESCRIPTION	REMARK
TM1	Charging Mode	N/A
TM2	Data transmitter	Connect to PC

Auxiliary Equipment Used during Test:

Name	Model No	S/N	Manufacturer
PC	X240	---	LENOVO

The EUT has been tested under two frequencies of input voltage (50Hz, 60Hz), the worst test result are listed in the report.

8 Technical Requirement

8.1 Conducted Emission Test

Test Method

1. The EUT was placed on a table, which is 0.8m above ground plane
2. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.).
3. Maximum procedure was performed to ensure EUT compliance
4. A EMI test receiver is used to test the emissions from both sides of AC line

Limit

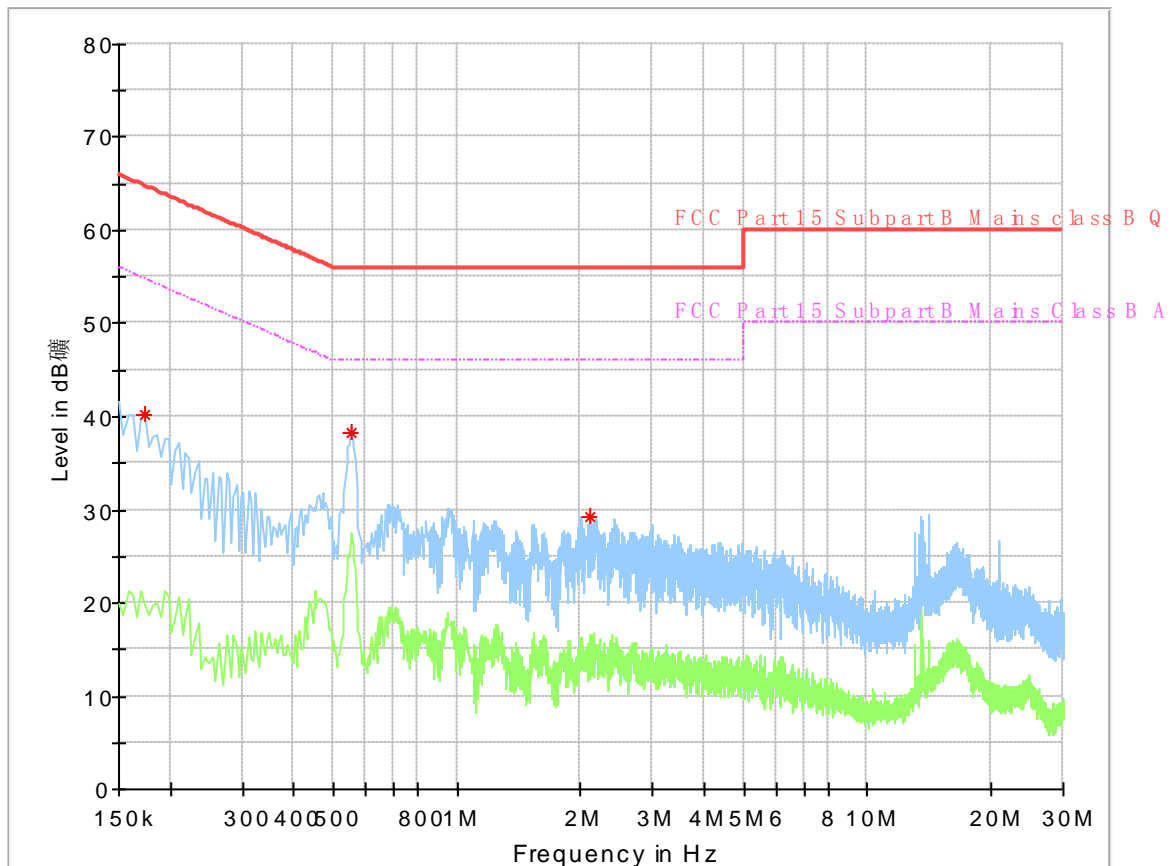
According to §15.107, conducted emissions limit as below:

Frequency MHz	QP Limit dB μ V	AV Limit dB μ V
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

Decreasing linearly with logarithm of the frequency

Conducted Emission

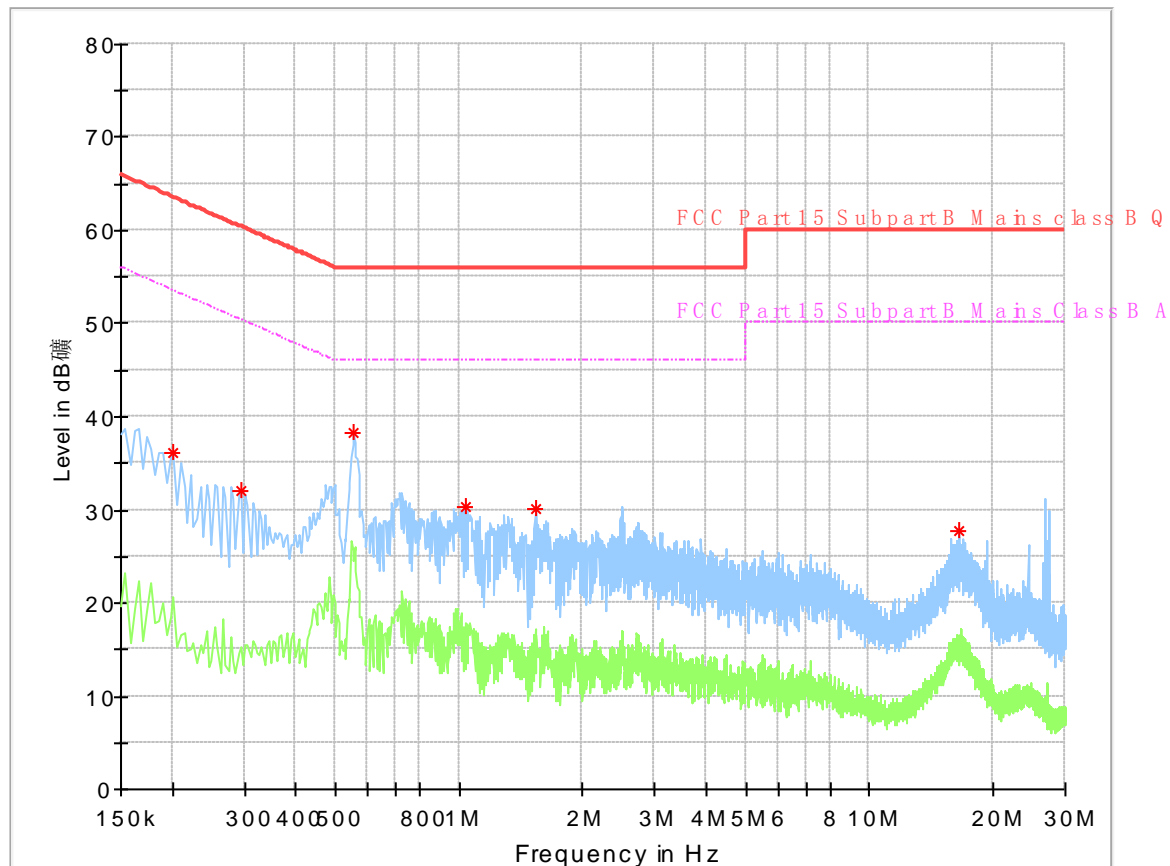
Product Type : POS
 M/N : JioPay 3850
 Operating Condition : TM1, Charging Mode
 Test Specification : Line
 Comment : AC 120V/60Hz



Frequency (MHz)	MaxPeak (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.174000	40.19	64.77	24.58	L1	9.6
0.554000	38.29	56.00	17.71	L1	10.1
2.106000	29.23	56.00	26.77	L1	9.8

Conducted Emission

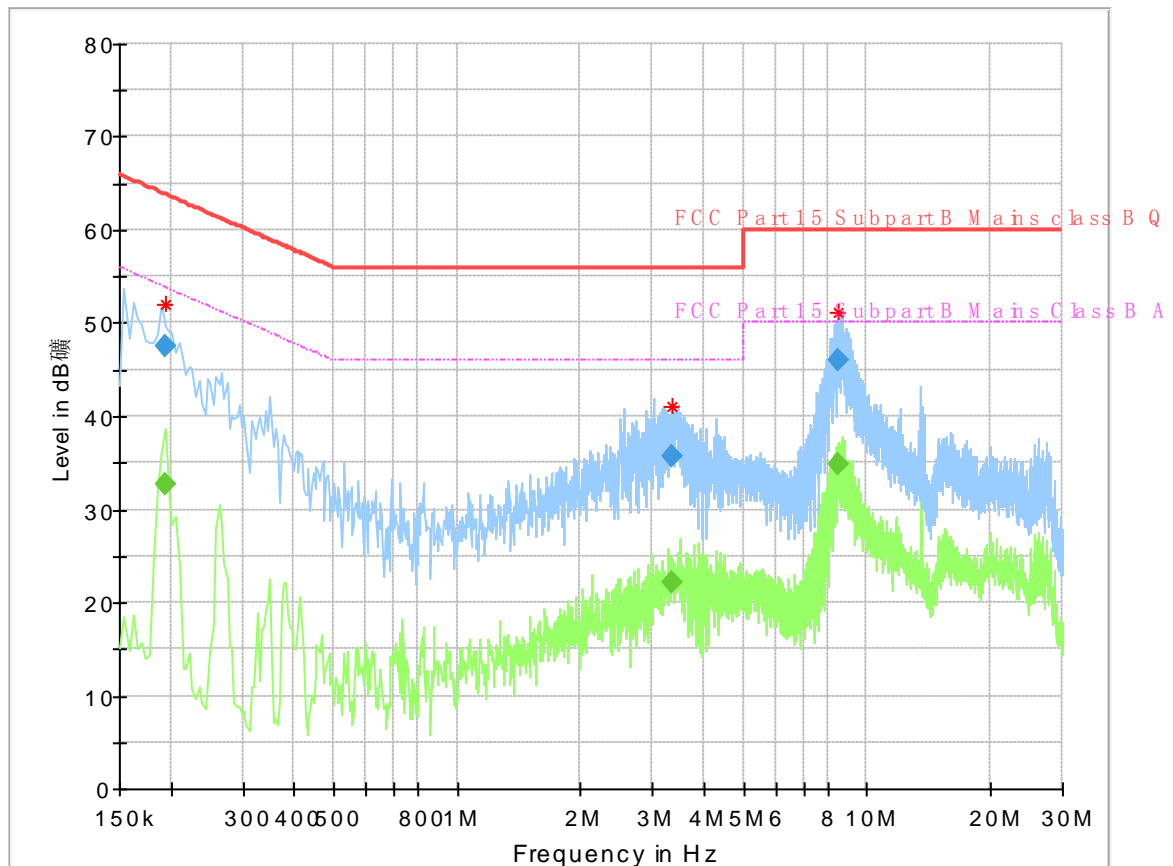
Product Type : POS
 M/N : JioPay 3850
 Operating Condition : TM1, Charging Mode
 Test Specification : Neutral
 Comment : AC 120V/60Hz



Frequency (MHz)	MaxPeak (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.202000	36.05	63.53	27.48	N	9.8
0.294000	31.97	60.41	28.44	N	10.1
0.554000	38.21	56.00	17.79	N	10.0
1.034000	30.23	56.00	25.77	N	9.8
1.546000	30.16	56.00	25.84	N	9.8
16.558000	27.81	60.00	32.19	N	10.0

Conducted Emission

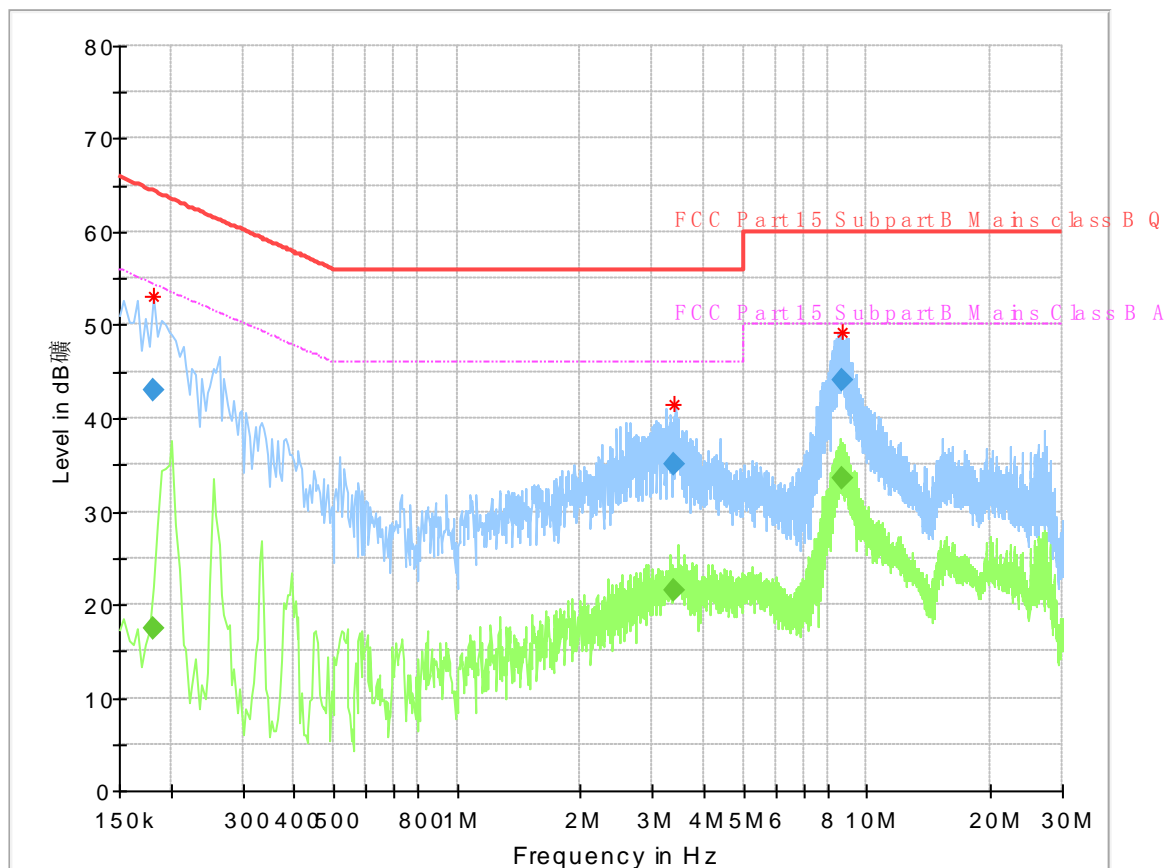
Product Type : POS
 M/N : JioPay 3850
 Operating Condition : TM2, Data Transmitter
 Test Specification : Line
 Comment : AC 120V/60Hz



Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.194500	---	32.65	53.84	21.19	L1	9.7
0.194500	47.62	---	63.84	16.22	L1	9.7
3.337500	---	22.18	46.00	23.82	L1	9.8
3.337500	35.63	---	56.00	20.37	L1	9.8
8.537500	---	34.92	50.00	15.08	L1	10.0
8.537500	46.02	---	60.00	13.98	L1	10.0

Conducted Emission

Product Type : POS
 M/N : JioPay 3850
 Operating Condition : TM2, Data Transmitter
 Test Specification : Neutral
 Comment : AC 120V/60Hz



Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.181500	---	17.45	54.42	36.97	N	9.7
0.181500	43.08	---	64.42	21.34	N	9.7
3.401500	---	21.61	46.00	24.39	N	9.8
3.401500	35.04	---	56.00	20.96	N	9.8
8.693500	---	33.50	50.00	16.50	N	9.9
8.693500	44.00	---	60.00	16.00	N	9.9

Test Equipment List**Conducted emission test**

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 3	101782	2016-7-24
LISN	Rohde & Schwarz	ENV4200	100249	2016-7-24
LISN	Rohde & Schwarz	ENV216	100326	2016-7-24
ISN	Rohde & Schwarz	ENY81	100177	2016-7-24
ISN	Rohde & Schwarz	ENY81-CA6	101664	2016-7-24
High Voltage Probe	Rohde & Schwarz	TK9420(VT9420)	9420-58	2016-7-24
RF Current Probe	Rohde & Schwarz	EZ-17	100816	2016-7-24

8.2 Radiated Emission Test

Test Method

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
3. Use the following spectrum analyzer settings:
Span = wide enough to fully capture the emission being measured, RBW = 1 MHz for $f \geq 1\text{GHz}$, 100 kHz for $f < 1\text{GHz}$, VBW \geq RBW, Sweep = auto, Detector function = peak, Trace = max hold
4. Follow the guidelines in ANSI C63.4-1992 with respect to maximizing the emission by rotating the EUT, adjusting the measurement antenna height and polarization, etc.
The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, submit this data. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

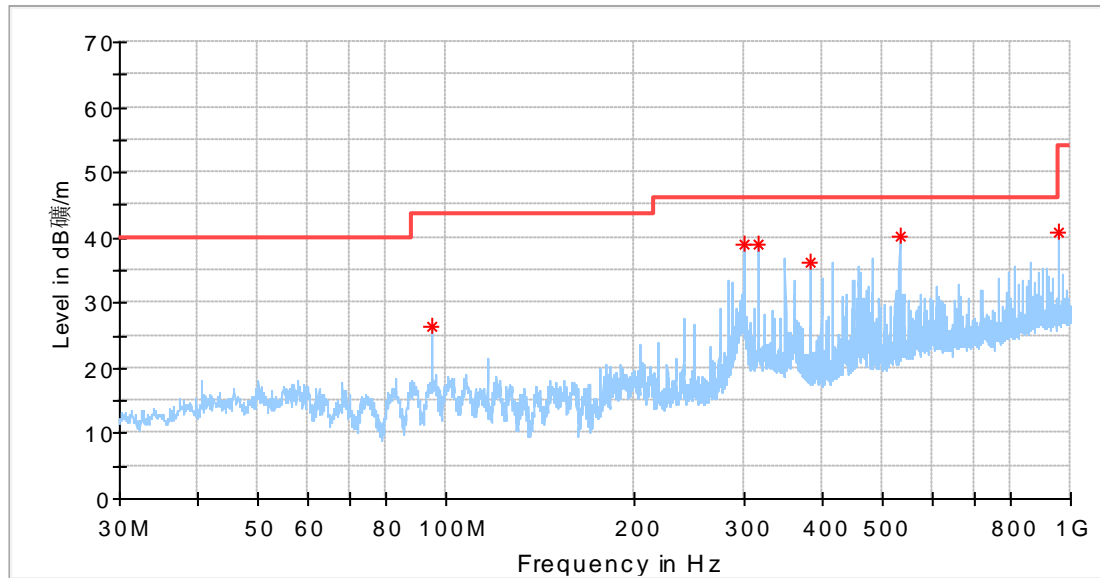
Limit

According to §15.109, conducted emissions limit as below:

Frequency MHz	Field Strength uV/m	Field Strength dB μ V/m	Detector
30-88	100	40	QP
88-216	150	43.5	QP
216-960	200	46	QP
960-1000	500	54	QP
Above 1000	500	54	AV
Above 1000	5000	74	PK

8.2.1 Radiated Emission Test 30MHz – 1000MHz

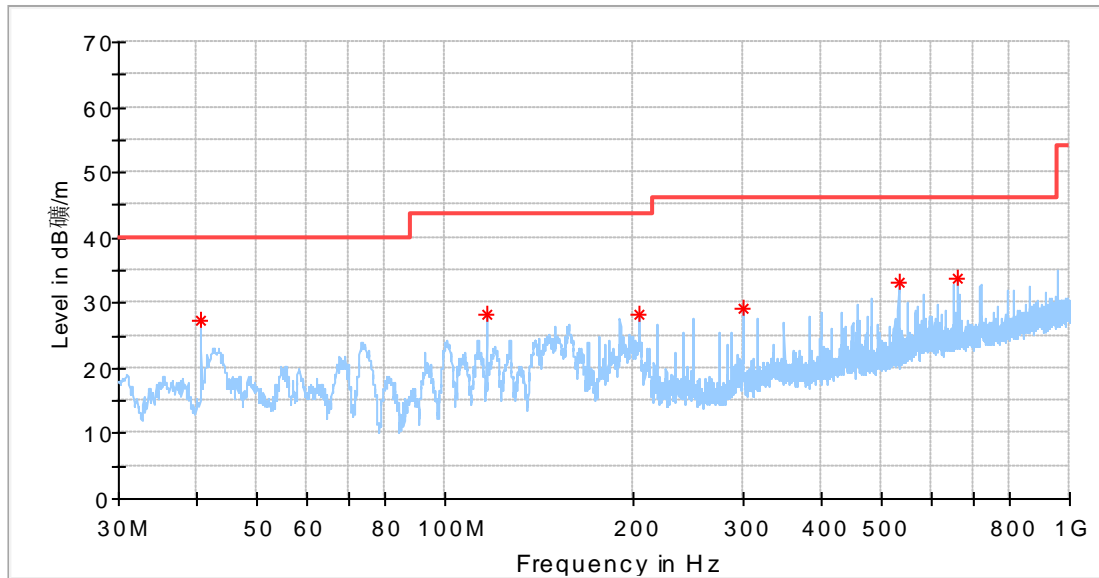
Product Type : POS
 M/N : JioPay 3850
 Operating Condition : TM1; Charging Mode
 Ant. Polarity : Horizontal
 Comment : 30-1000MHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)
94.868750	26.50	43.50	17.00	200.0	H	352.0
300.023750	38.87	46.00	7.13	100.0	H	317.0
315.846875	38.94	46.00	7.06	100.0	H	306.0
382.352500	36.38	46.00	9.62	100.0	H	118.0
532.035625	40.35	46.00	5.65	200.0	H	300.0
960.048125	40.82	54.00	13.18	100.0	H	285.0

Radiated Emission Test 30MHz – 1000MHz

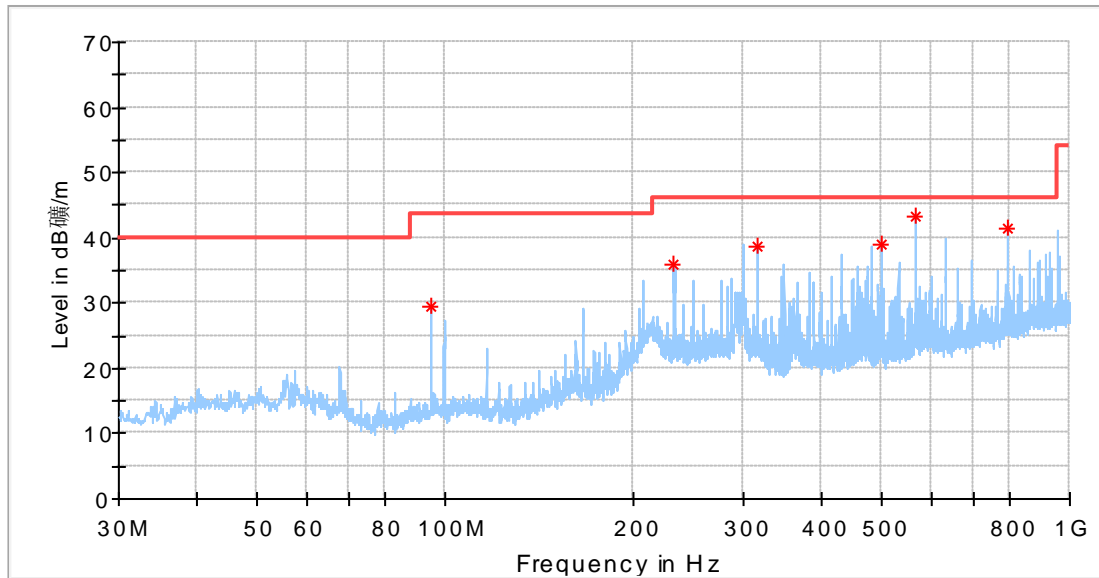
Product Type : POS
 M/N : JioPay 3850
 Operating Condition : TM1; Charging Mode
 Ant. Polarity : Vertical
 Comment : 30-1000MHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)
40.670000	27.30	40.00	12.70	100.0	V	131.0
116.390625	28.18	43.50	15.32	100.0	V	16.0
204.660625	28.32	43.50	15.18	100.0	V	337.0
300.023750	29.11	46.00	16.89	100.0	V	0.0
532.035625	33.02	46.00	12.98	100.0	V	10.0
659.954375	33.81	46.00	12.19	100.0	V	172.0

Radiated Emission Test 30MHz – 1000MHz

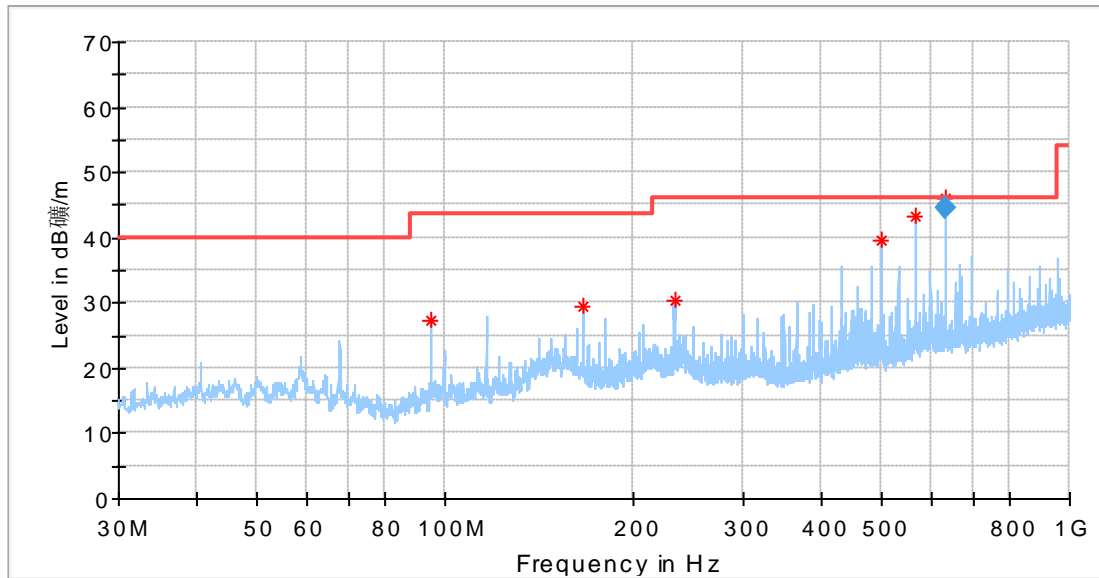
Product Type : POS
 M/N : JioPay 3850
 Operating Condition : TM2; Data Transmitter Mode
 Ant. Polarity : Horizontal
 Comment : 30-1000MHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)
94.868750	29.43	43.50	14.07	200.0	H	18.0
232.366250	35.90	46.00	10.10	100.0	H	66.0
315.846875	38.76	46.00	7.24	100.0	H	285.0
498.752500	38.92	46.00	7.08	100.0	H	191.0
565.258125	43.20	46.00	2.80	200.0	H	319.0
798.058125	41.38	46.00	4.62	100.0	H	0.0

Radiated Emission Test 30MHz – 1000MHz

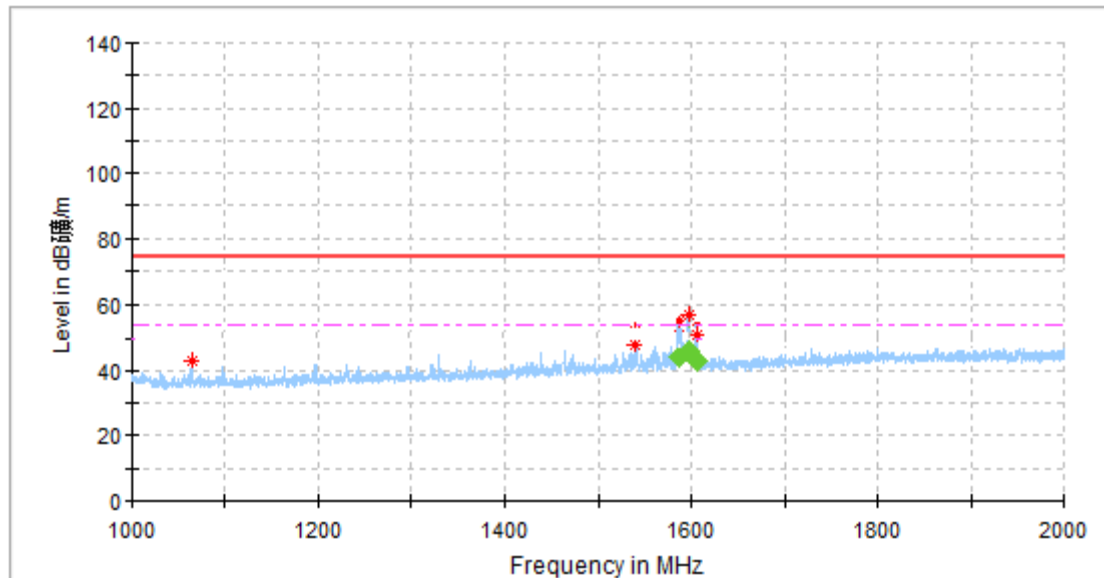
Product Type : POS
 M/N : JioPay 3850
 Operating Condition : TM2; Data Transmitter Mode
 Ant. Polarity : Vertical
 Comment : 30-1000MHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)
94.868750	27.28	43.50	16.22	100.0	V	0.0
166.285000	29.55	43.50	13.95	100.0	V	35.0
233.215000	30.48	46.00	15.52	200.0	V	35.0
498.752500	39.54	46.00	6.46	100.0	V	0.0
565.258125	43.39	46.00	2.61	100.0	V	35.0
631.748000	44.43	46.00	1.57	115.0	V	82.0

8.2.2 Radiated Emission Test 1GHz – 2GHz

Product Type : POS
 M/N : JioPay 3850
 Operating Condition : TM1; Charging Mode
 Ant. Polarity : Horizontal
 Comment : Above 1GHz

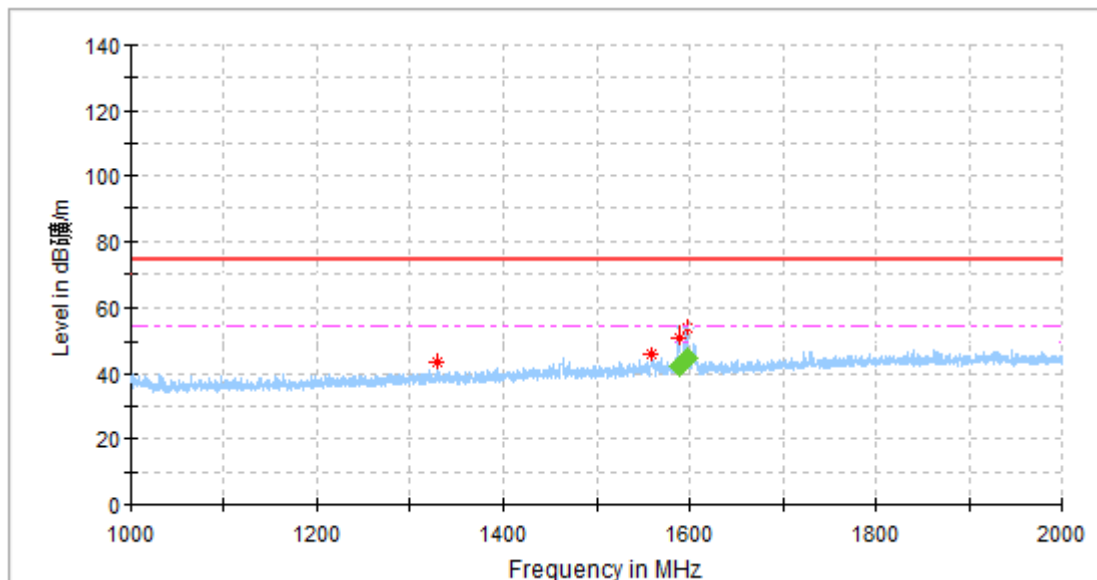


Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)
1064.000000	42.81	74.00	31.19	100.0	H	95.0
1538.750000	47.92	74.00	26.08	200.0	H	94.0
1586.500000	53.28	74.00	20.72	100.0	H	95.0
1596.000000	57.22	74.00	16.78	200.0	H	245.0
1604.750000	51.15	74.00	22.85	100.0	H	95.0

Frequency (MHz)	Ave (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)
1586.500000	44.50	54.00	9.50	16.7	H	95.0
1596.000000	46.00	54.00	8.00	12.8	H	245.0
1604.750000	43.20	54.00	10.80	18.9	H	95.0

Radiated Emission Test 1GHz – 6GHz

Product Type : POS
 M/N : JioPay 3850
 Operating Condition : TM1; Charging Mode
 Ant. Polarity : Vertical
 Comment : Above 1GHz



Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)
1330.000000	43.68	74.00	30.32	100.0	V	260.0
1558.250000	45.86	74.00	28.14	100.0	V	355.0
1588.000000	51.08	74.00	22.92	100.0	V	134.0
1596.500000	53.82	74.00	20.18	100.0	V	0.0

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)
1588.000000	42.70	54.00	11.30	100.0	V	134.0
1596.000000	44.80	54.00	9.20	100.0	V	0.0

Test Equipment List**Radiated Emission Test**

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 26	101269	2016-7-24
Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9163	707	2016-8-14
Horn Antenna	Rohde & Schwarz	HF907	102294	2016-7-24
Pre-amplifier	Rohde & Schwarz	SCU 18	102230	2016-7-24
3m Semi-anechoic chamber	TDK	9X6X6	----	2019-5-29

9 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	
Test Items	Extended Uncertainty
Uncertainty for Conducted Emission 150kHz-30MHz (for test using AMN ENV216 or ENV4200)	3.50dB
Uncertainty for Radiated Spurious Emission 25MHz-3000MHz	Horizontal: 4.95dB; Vertical: 5.02dB;
Uncertainty for Radiated Spurious Emission 3000MHz-18000MHz	Horizontal: 4.89dB; Vertical: 4.88dB;