



# FCC Test Report

**FCC ID: 2AI68-TTC1601**

**Product:** Car wireless charger

**Trade Name:** (TTC)

**Model Number:** TTC1601

**Serial Model:** TTCXXYY

**Report No.:** NTEK- 2016NT06066275F

**Prepared for**

Tsing Tech Co., Limited

Rm721 , Building B , Mingyou Industrial Products Exhibition&Purchasing  
Center , Baoyuan Road , Baoan District , China

**Prepared by**

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## TEST RESULT CERTIFICATION

**Applicant's name** ..... : Tsing Tech Co., Limited

Rm721, Building B, Mingyou Industrial Products

Address ..... : Exhibition&Purchasing Center, Baoyuan Road, Baoan District, China

**Manufacturer's Name** ..... : Tsing Tech Co., Limited

Rm721, Building B, Mingyou Industrial Products

Address ..... : Exhibition&Purchasing Center, Baoyuan Road, Baoan District, China

### Product description

Product name ..... : Car wireless charger

Model and/or type reference : TTC1601

FCC part 15C:2016

**Standards** ..... : ANSI C63.10:2013

This device described above has been tested by NTEK, and the test results show that the equipment under test (EUT) is in compliance with Part 15 of FCC Rules. And it is applicable only to the tested sample identified in the report.

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**Date of Test** ..... :

Date (s) of performance of tests ..... : 23 May.2016 ~ 26 Aug.2016

Date of Issue ..... : 27 Aug.2016

Test Result ..... : **Pass**

Testing Engineer : 

(Susan Su)

Technical Manager : 

(Jason Chen)

Authorized Signatory : 

(Sam Chen)

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## 1. TEST SUMMARY

Test procedures according to the technical standards:

EMC Emission					
Standard	Test Item	FCC Rules	Limit	Judgment	Remark
FCC part 15C:2016 ANSI C63.10:2013	Conducted Emission	§15.207	Class B	PASS	
	Radiated Emission	§15.209	Class B	PASS	
	ANTENNA APPLICATION	§15.203	/	PASS	

NOTE:

- (1) 'N/A' denotes test is not applicable in this Test Report
- (2) For client's request and manual description, the test will not be executed.

### 1.1 TEST FACILITY

NTEK Testing Technology Co., Ltd

Add. : 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen P.R. China.

FCC Registration Number:238937; IC Registration Number:9270A-1

CNAS Registration Number:L5516

### 1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement  $y \pm U$ , where expended uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately **95 %**.

A. Conducted Measurement :

Test Site	Method	Measurement Frequency Range	U, (dB)	NOTE
NTEKC01	ANSI	150 KHz ~ 30MHz	3.2	

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	U, (dB)	NOTE
NTEKA01	ANSI	30MHz ~ 1000MHz	4.7	
		1GHz ~12.4GHz	5.0	

## Revision History

## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

Product Feature and Specification	
Equipment	Car wireless charger
Trade Name	
FCC ID	2AI68-TTC1601
Model No.	TTC1601
Serial Model	TTCXXYY
Model Difference	These models are identical in circuitry and electrical, mechanical and physical construction; the only differences is model no. For trading purpose.
Operating Frequency	110KHz~205KHz
Modulation Technique	Induction
Antenna Type	Induction coil
Power supply	<input checked="" type="checkbox"/> DC supply: DC 5V from USB Port.
HW Version	VER:01
SW Version	A1

### 2.1.1 DESCRIPTION OF TEST MODES

#### EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

#### EUT Exercise

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

The following summary table is showing all test modes to demonstrate in compliance with the standard.

<b>Test Cases</b>	
Test Item	Data Rate/ Modulation
AC Conducted Emission	Mode 1: Max load*
Radiated Test Cases	Mode 1: Max load

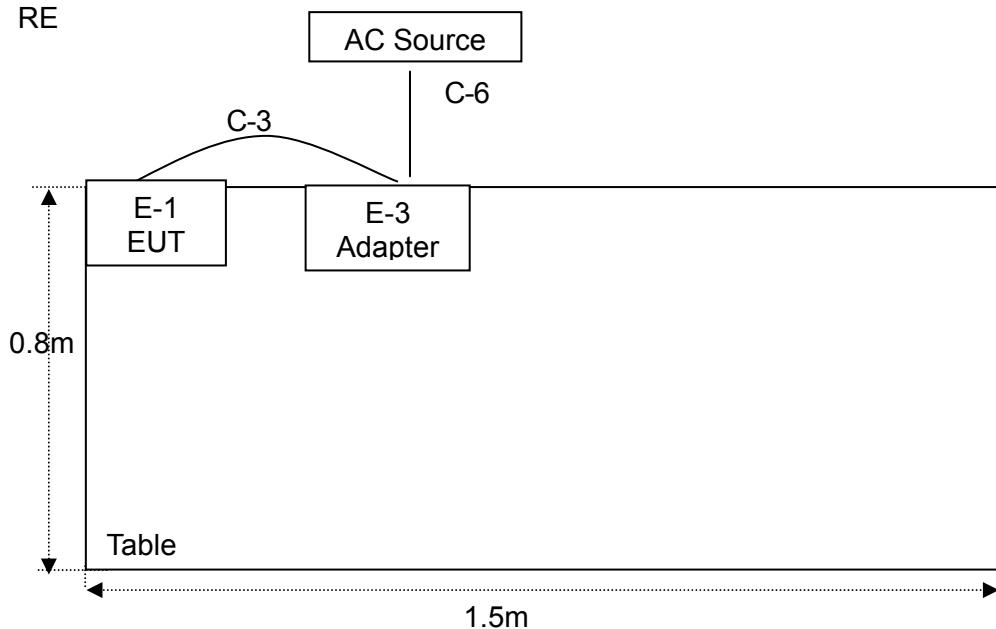
(\*)EUT can only access the specified load, can not adjust the size of the load

Carrier Frequency and Channel list:

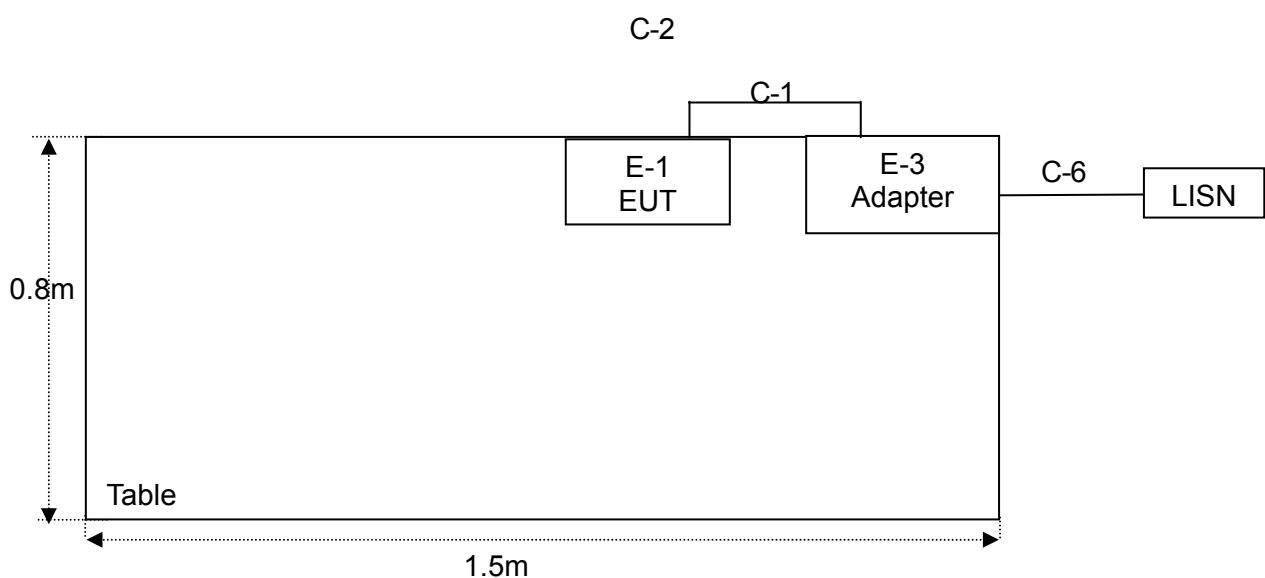
Channel	Frequency(MHz)
1	0.110
2	0.157
3	0.205

## 2.2 DESCRIPTION OF TEST SETUP

RE



CE



### 2.3 DESCRIPTION TEST PERIPHERAL AND EUT PERIPHERAL

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Brand	Model/Type No.	Series No.	Note
E-1	Car wireless charger	SIMTEL	TTC1601	N/A	EUT
E-2	Adapter	N/A	PS10A050K	N/A	
E-3	Phone	APPLE	iPhone 6	N/A	Note 4

Item	Cable Type	Shielded Type	Ferrite Core	Length	Note
C-1	USB Cable	unshielded	NO	1.2m	

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in «Length» column.
- (3) “YES” means “shielded” “with core”; “NO” means “unshielded” “without core”.
- (4) The mobile phone as the EUT's load is connected to the phone by charging the receiving end.

## 2.4 MEASUREMENT INSTRUMENTS LIST

### Radiation Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Spectrum Analyzer	Agilent	E4407B	MY45108040	2016.07.06	2017.07.05	1 year
2	EMI Test Receiver	Agilent	N9038A	MY53227146	2016.06.06	2017.06.05	1 year
3	Test Receiver	R&S	ESPI	101318	2016.06.07	2017.06.06	1 year
4	Bilog Antenna	TESEQ	CBL6111D	31216	2016.07.06	2017.07.05	1 year
5	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2016.06.07	2017.06.06	1 year
6	Spectrum Analyzer	ADVANTEST	R3132	150900201	2016.06.07	2017.06.06	1 year
9	Amplifier	EM	EM-30180	060538	2015.12.22	2016.12.21	1 year
10	Loop Antenna	ARA	PLA-1030/B	1029	2016.06.08	2017.06.07	1 year
11	Test Cable (9KHz-30MHz)	N/A	R-04	N/A	2016.06.06	2017.06.05	1 year
12	Test Cable (30MHz-1GHz)	N/A	R-01	N/A	2016.07.06	2017.07.05	1 year

### Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	R&S	ESCI	101160	2016.06.06	2017.06.05	1 year
2	LISN	R&S	ENV216	101313	2015.08.24	2016.08.23	1 year
3	LISN	EMCO	3816/2	00042990	2015.08.24	2016.08.23	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2016.06.07	2017.06.06	1 year
5	Passive Voltage Probe	R&S	ESH2-Z3	100196	2016.06.07	2017.06.06	1 year
6	Absorbing clamp	R&S	MOS-21	100423	2016.06.08	2017.06.07	1 year
7	Test Cable (9KHz-30MHz)	N/A	C01	N/A	2016.06.08	2017.06.07	1 year
8	Test Cable (9KHz-30MHz)	N/A	C02	N/A	2016.06.08	2017.06.07	1 year
9	Test Cable (9KHz-30MHz)	N/A	C03	N/A	2016.06.08	2017.06.07	1 year
10	Attenuation	MCE	24-10-34	BN9258	2016.06.08	2017.06.07	1 year

### 3. EMC EMISSION TEST

#### 3.1 CONDUCTED EMISSION MEASUREMENT

##### 3.1.1 POWER LINE CONDUCTED EMISSION (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

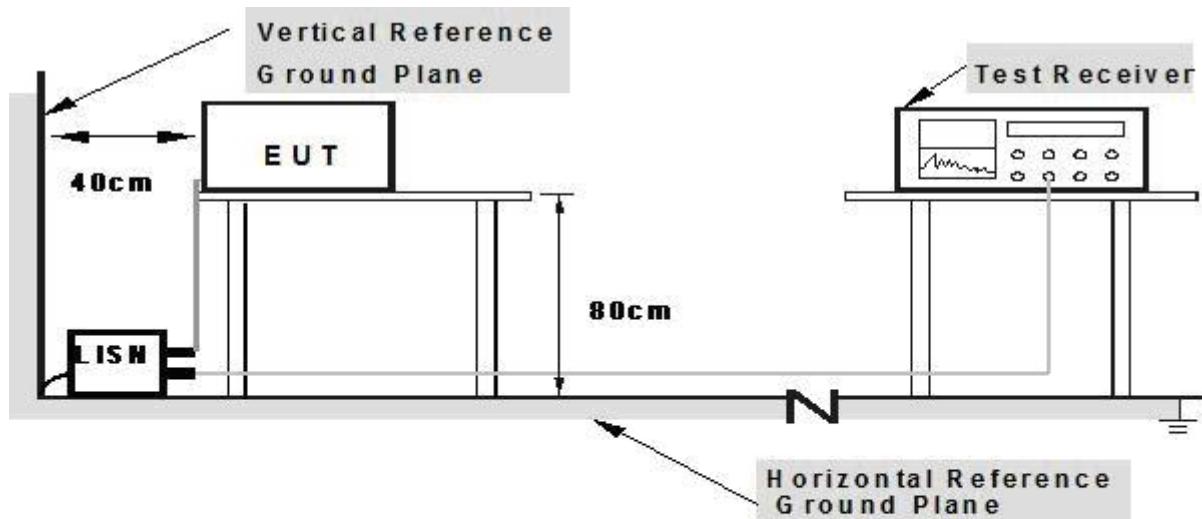
The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

### 3.1.2 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

### 3.1.3 TEST SETUP



**Note: 1. Support units were connected to second LISN.**

**2. Both of LISNs (AMH) are 80 cm from EUT and at least 80 cm from other units and other metal planes**

### 3.1.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **2.3** Unless otherwise a special operating condition is specified in the follows during the testing.

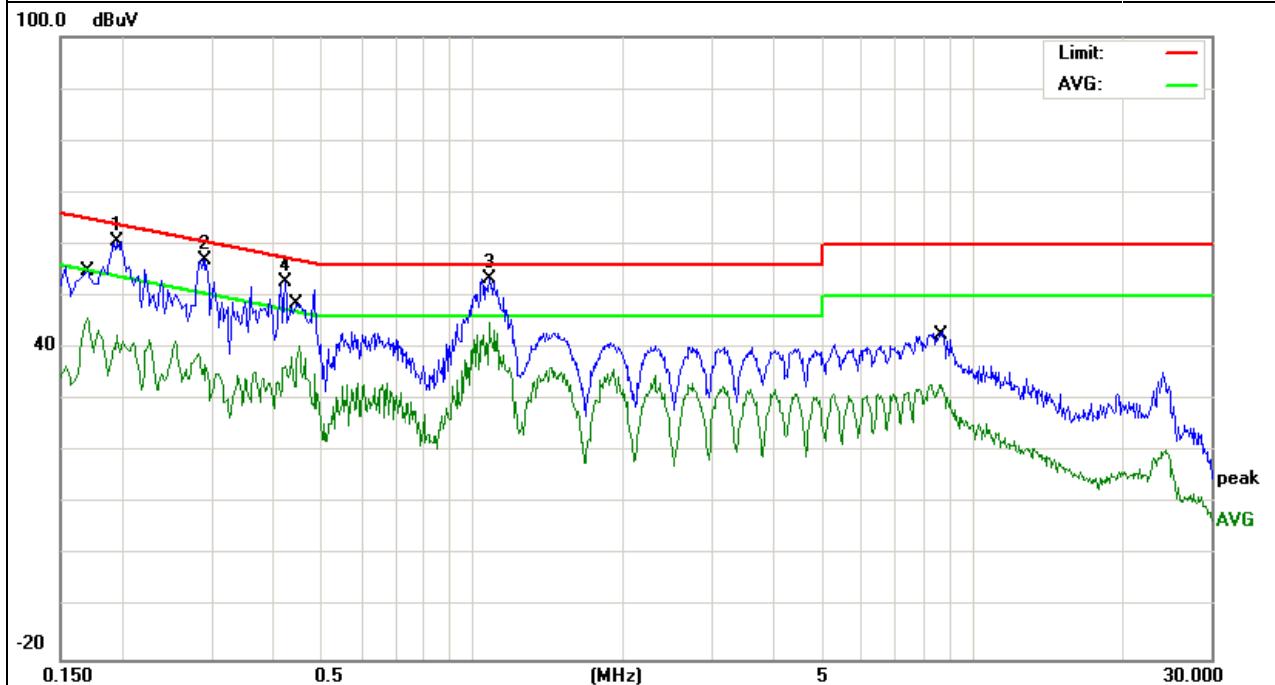
## 3.1.5 TEST RESULTS

EUT:	Car wireless charger	Model Name. :	TTC1601
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	1010hPa	Test Date:	2016-5-25
Test Mode:	Mode 1	Phase :	L
Test Voltage:	DC 5V From Adapter AC 120V/60Hz		

Frequency (MHz)	Reading Level (dB $\mu$ V)	Correct Factor (dB)	Measure-ment (dB $\mu$ V)	Limits (dB $\mu$ V)	Margin (dB)	Remark
0.1940	50.37	10.13	60.50	63.86	-3.36	peak
0.2908	46.96	10.14	57.10	60.50	-3.40	peak
1.0780	43.47	9.84	53.31	56.00	-2.69	peak
0.4218	42.69	9.99	52.68	57.41	-4.73	peak
0.1700	35.83	10.12	45.95	54.96	-9.01	AVG
0.4500	30.62	9.92	40.54	46.87	-6.33	AVG
1.0780	35.07	9.84	44.91	46.00	-1.09	AVG
8.5899	23.22	9.78	33.00	50.00	-17.00	AVG

## Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

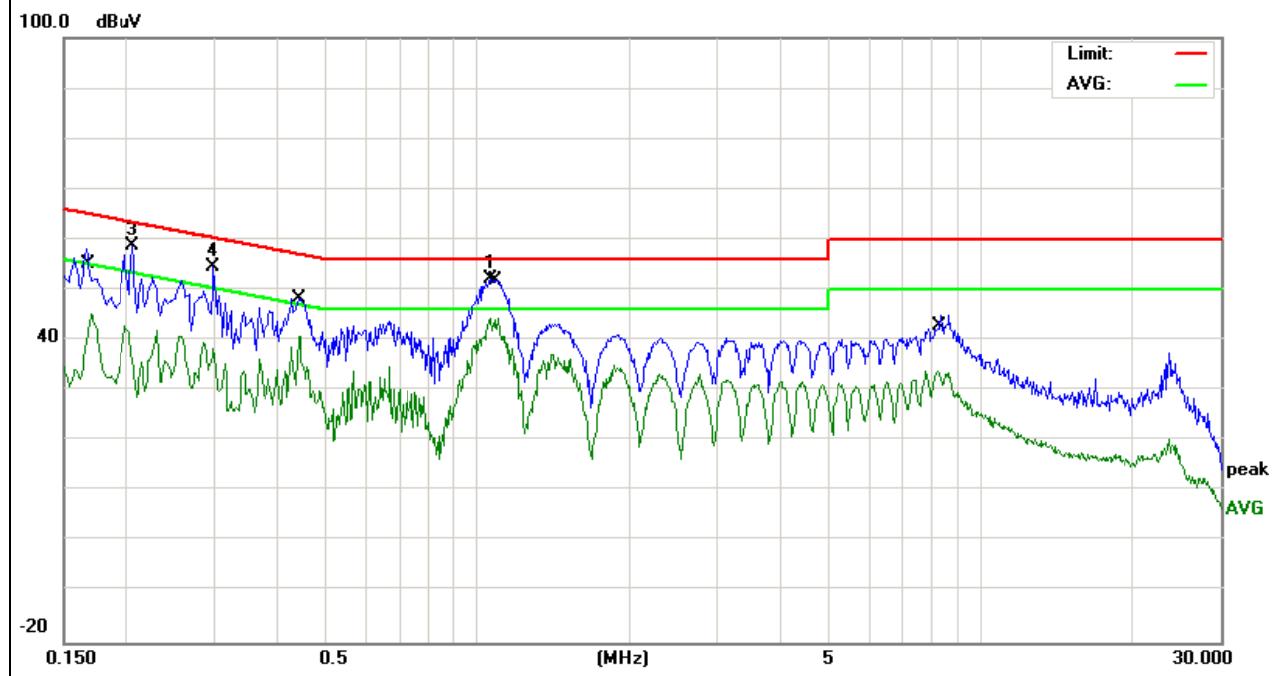


EUT:	Car wireless charger	Model Name. :	TTC1601
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	1010hPa	Test Date:	2016-5-25
Test Mode:	Mode 1	Phase :	N
Test Voltage:	DC 5V From Adapter AC 120V/60Hz		

Frequency (MHz)	Reading Level (dB $\mu$ V)	Correct Factor (dB)	Measure-ment (dB $\mu$ V)	Limits (dB $\mu$ V)	Margin (dB)	Remark
1.0620	42.33	9.86	52.19	56.00	-3.81	peak
1.0980	31.74	9.86	41.60	46.00	-4.40	AVG
0.2059	48.64	10.03	58.67	63.37	-4.70	peak
0.2979	44.50	10.13	54.63	60.30	-5.67	peak
0.1700	35.08	10.06	45.14	54.96	-9.82	AVG
0.4420	30.85	9.95	40.80	47.02	-6.22	AVG
8.1979	24.11	9.75	33.86	50.00	-16.14	AVG

## Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

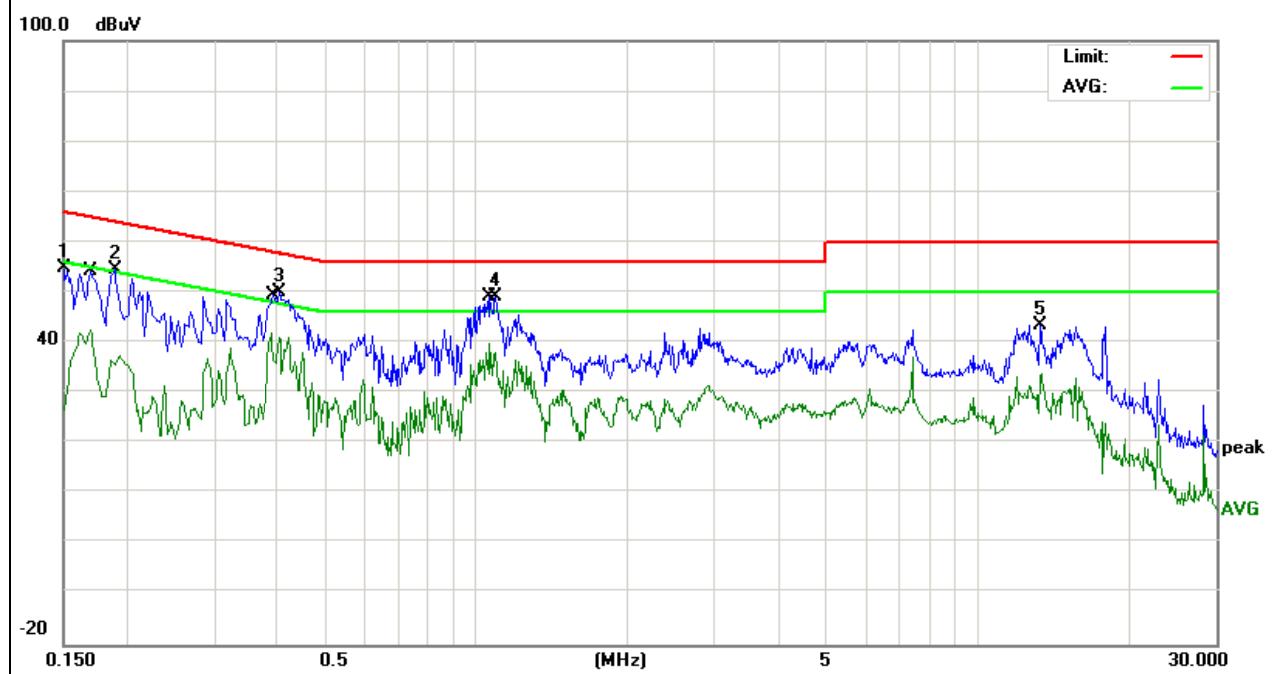


EUT:	Car wireless charger	Model Name. :	TTC1601
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	1010hPa	Test Date:	2016-5-25
Test Mode:	Mode 1	Phase :	L
Test Voltage:	DC 5V From Adapter AC 240V/60Hz		

Frequency (MHz)	Reading Level (dB $\mu$ V)	Correct Factor (dB)	Measure-ment (dB $\mu$ V)	Limits (dB $\mu$ V)	Margin (dB)	Remark
0.1499	44.58	10.12	54.70	66.00	-11.30	peak
0.1900	44.40	10.13	54.53	64.03	-9.50	peak
0.4060	39.96	10.03	49.99	57.73	-7.74	peak
1.0900	39.36	9.84	49.20	56.00	-6.80	peak
13.3579	33.58	9.83	43.41	60.00	-16.59	peak
0.1700	32.51	10.12	42.63	54.96	-12.33	AVG
0.3900	31.82	10.05	41.87	48.06	-6.19	AVG
1.0620	29.94	9.84	39.78	46.00	-6.22	AVG

## Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

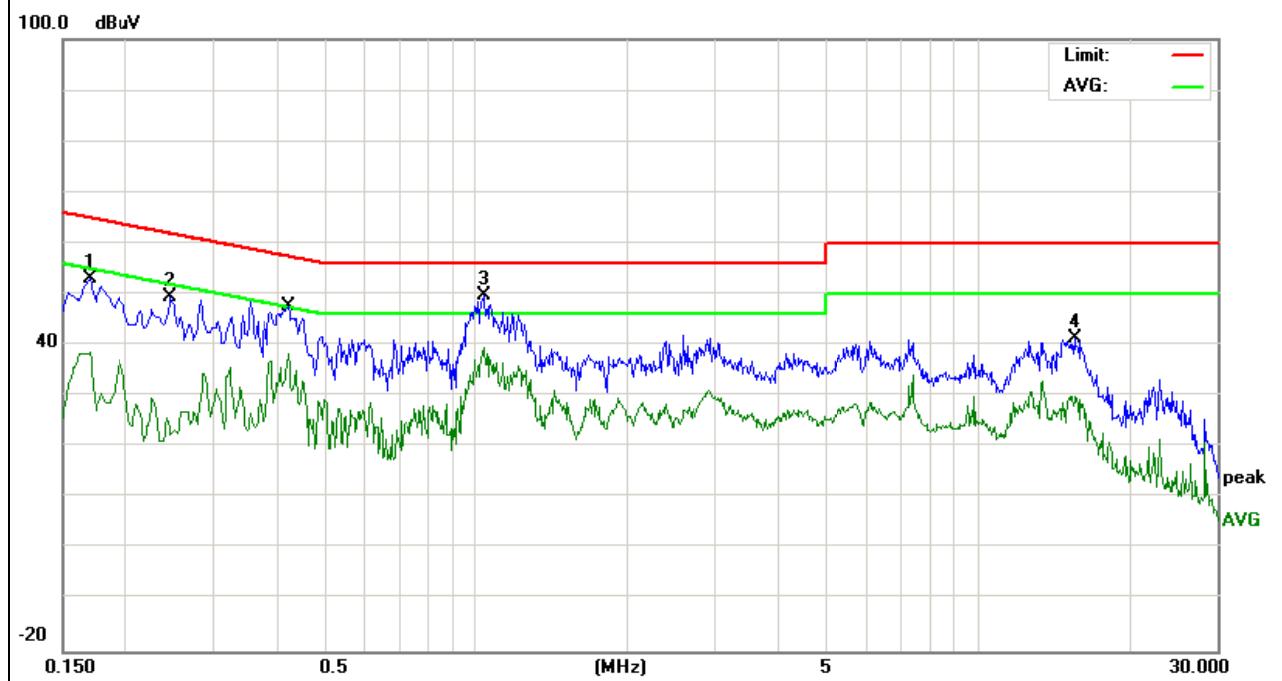


EUT:	Car wireless charger	Model Name. :	TTC1601
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	1010hPa	Test Date:	2016-5-25
Test Mode:	Mode 1	Phase :	N
Test Voltage:	DC 5V From Adapter AC 240V/60Hz		

Frequency (MHz)	Reading Level (dB $\mu$ V)	Correct Factor (dB)	Measure-ment (dB $\mu$ V)	Limits (dB $\mu$ V)	Margin (dB)	Remark
0.1700	42.93	10.06	52.99	64.96	-11.97	peak
0.2459	39.28	10.07	49.35	61.89	-12.54	peak
1.0340	40.00	9.87	49.87	56.00	-6.13	peak
15.5699	31.53	9.81	41.34	60.00	-18.66	peak
0.1700	28.47	10.06	38.53	54.96	-16.43	AVG
0.4218	28.40	10.00	38.40	47.41	-9.01	AVG
1.0340	29.68	9.87	39.55	46.00	-6.45	AVG

## Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



### 3.2 RADIATED EMISSION MEASUREMENT

#### 3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table 15.209(a):

FCC Part 15.209				
Frequency (MHz)	Field Strength Limitation		Field Strength Limitation Frequency at 3m Measurement Dist	
	(uV/m)	Dist	(uV/m)	(dBuV/m)
0.009 – 0.490	2400 / F(KHz)	300m	10000 * 2400/F(KHz)	20log 2400/F(KHz) + 80
0.490 – 1.705	24000 / F(KHz)	30m	100 * 24000/F(KHz)	20log 24000/F(KHz) + 40
1.705 – 30.00	30	30m	100* 30	20log 30 + 40
30.0 – 88.0	100	3m	100	20log 100
88.0 – 216.0	150	3m	150	20log 150
216.0 – 960.0	200	3m	200	20log 200
Above 960.0	500	3m	500	20log 500

#### 15.205 Restricted bands of operation

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
10.495-0.505	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			

Notes:

- (1) Measurement was performed at an antenna to the closed point of EUT distance of meters.
- (2) Emission level (dBuV/m)=20log Emission level (uV/m).
- (3) Only spurious frequency is permitted to locate within the Restricted Bands specified in provision of  $\S$  15.205, and the emissions located in restricted bands also comply with 15.209 limit.

### 3.2.2 TEST PROCEDURE

#### **Test Arrangement for Radiated Emissions up to 1 GHz**

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at an accredited test facility. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

Note: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for quasi-peak detection (QP) at frequency below 1GHz.

#### **Test Arrangement for Radiated Emissions above 1 GHz.**

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at an accredited chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna can be varied from one meter to four meters, the height of adjustment depends on the EUT height and the antenna 3dB beamwidth both, to detect the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

Note: For the hand-held device, the EUT should be measured for all 3 axes and only the worst case is recorded in the report

During the radiated emission test, the Spectrum Analyzer was set with the following configurations:

Use the following receiver/spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW=200Hz for 9KHz to 150KHz,

RBW=9kHz for 150KHz to 30MHz,

RBW=120KHz for 30MHz to 1GHz

VBW  $\geq$  3\*RBW

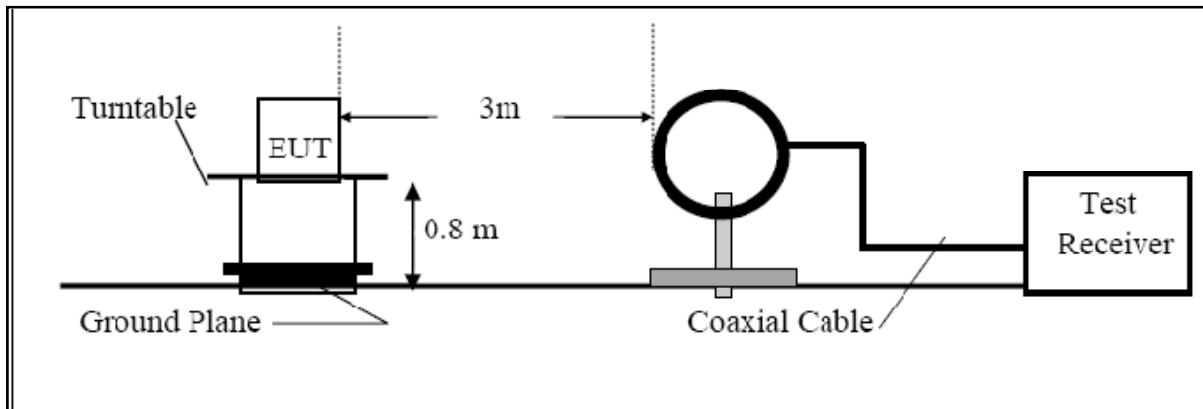
Sweep = auto

Detector function = QP

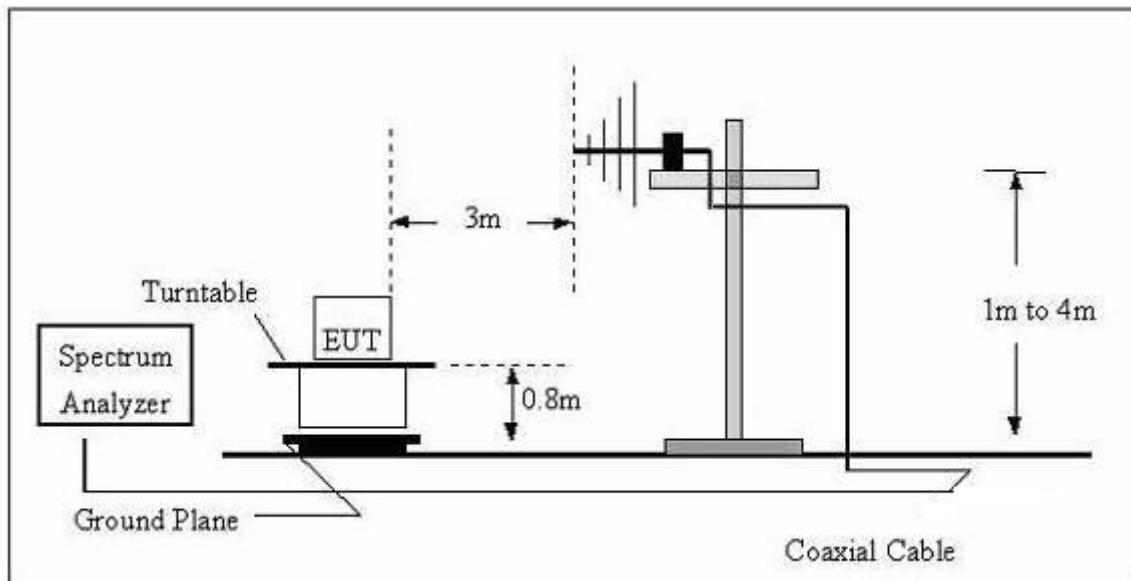
Trace = max hold

### 3.2.3 TEST SETUP

For Radiated Emission Test Set-Up, Frequency Below 30MHz



For Radiated Emission 30~1000MHz



## 3.2.4 TEST RESULTS

## TEST RESULTS (9KHz~30MHz)

EUT:	Car wireless charger	Model Name. :	TTC1601
Temperature:	24 °C	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2016-5-25
Test Mode :	Low frequency/Max Load	Polarization :	X
Test Power :	USB 5V From Adapter AC 120V/60Hz		

Frequency (MHz)	Ant.Pol.	Emissio n Level	Limits	Margin	Remark
		(dBuV/ m)	(dBuV/m )	(dB)	
0.031	X	44.65	117.777	-73.13	PK
0.110	X	80.35	106.776	-26.43	PK(fundamental frequency)
0.561	X	46.130	72.625	-26.49	PK
1.567	X	37.240	63.703	-26.46	PK
4.334	X	33.190	69.542	-36.35	PK
23.086	X	35.060	69.542	-34.48	PK

## Note:

Below 30MHz, Pre-test the X, Y, Z axis to find X axis is worst case, so only record X axis test data.

X: Field strength which this device generates since the position of the charging coil and loop antenna differ by 0 degrees.

Y: Field strength which this device generates since the position of the charging coil and loop antenna differ by 90 degrees.

Z: Field strength which this device generates since the position of the charging coil and loop antenna differ by 180 degrees.

EUT:	Car wireless charger	Model Name. :	TTC1601
Temperature:	24 °C	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2016-5-25
Test Mode :	Mid frequency/Max Load	Polarization :	X
Test Power :	USB 5V From Adapter AC 120V/60Hz		

Frequency (MHz)	Ant.Pol.	Emission Level	Limits	Margin	Remark
		(dBuV/m)	(dBuV/m)	(dB)	
0.046	X	38.031	114.3491	-76.32	PK
0.157	X	81.031	103.6862	-22.66	PK(fundamental frequency)
0.561	X	37.135	72.625	-35.49	PK
1.553	X	36.120	63.781	-27.66	PK
3.267	X	34.060	69.542	-35.48	PK
22.164	X	33.610	69.542	-35.93	PK

## Note:

Below 30MHz, Pre-test the X, Y, Z axis to find X axis is worst case, so only record X axis test data.

X: Field strength which this device generates since the position of the charging coil and loop antenna differ by 0 degrees.

Y: Field strength which this device generates since the position of the charging coil and loop antenna differ by 90 degrees.

Z: Field strength which this device generates since the position of the charging coil and loop antenna differ by 180 degrees.

EUT:	Car wireless charger	Model Name. :	TTC1601
Temperature:	24 °C	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2016-5-25
Test Mode :	High frequency/Max Load	Polarization :	X
Test Power :	USB 5V From Adapter AC 120V/60Hz		

Frequenc y (MHz)	Ant.Pol.	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
0.049	X	38.135	113.8003	-75.67	PK
0.203	X	79.125	101.4543	-22.33	PK(fundamental frequency)
0.513	X	37.165	73.402	-36.24	PK
1.114	X	36.035	66.667	-30.63	PK
5.135	X	33.158	69.542	-36.38	PK
21.030	X	36.035	69.542	-33.51	PK

## Note:

Below 30MHz, Pre-test the X, Y, Z axis to find X axis is worst case, so only record X axis test data.

X: Field strength which this device generates since the position of the charging coil and loop antenna differ by 0 degrees.

Y: Field strength which this device generates since the position of the charging coil and loop antenna differ by 90 degrees.

Z: Field strength which this device generates since the position of the charging coil and loop antenna differ by 180 degrees.

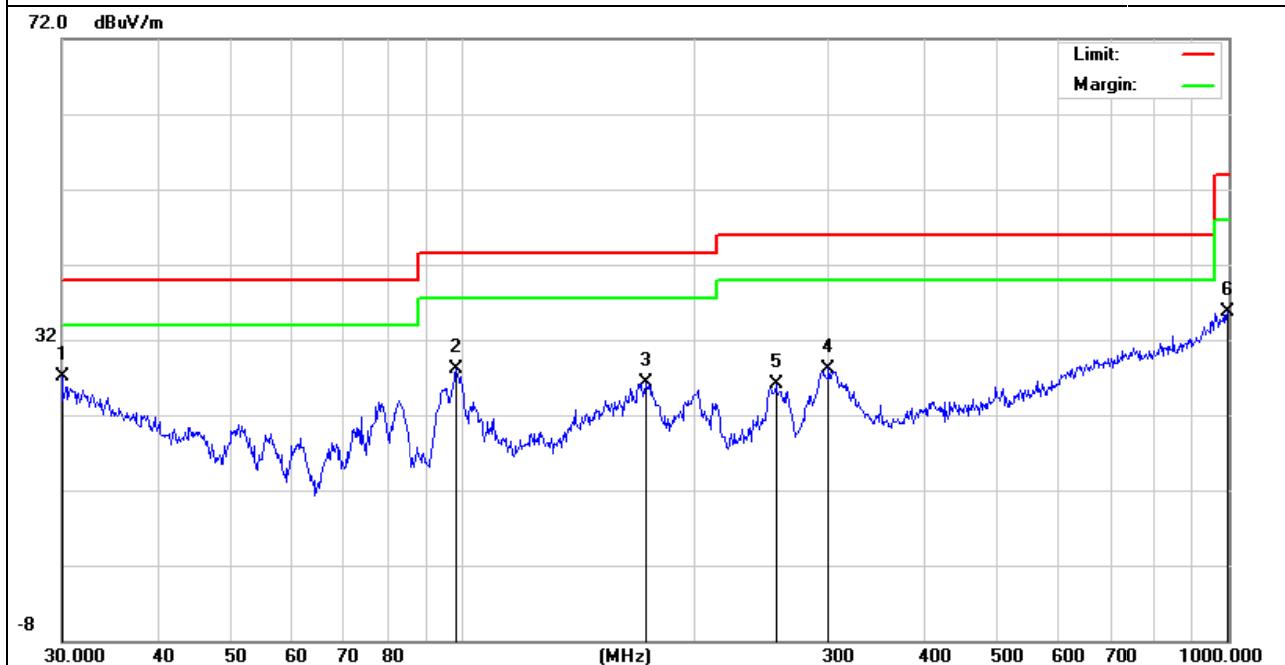
## TEST RESULTS (30MHz ~1000MHz)

EUT:	Car wireless charger	Model Name. :	TTC1601
Temperature:	24 °C	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2016-8-25
Test Mode :	Low frequency/Max Load	Polarization :	Horizontal
Test Power :	USB 5V From Adapter AC 120V/60Hz		

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
H	30.0000	6.95	20.24	27.19	40.00	-12.81	peak
H	98.1419	16.73	11.45	28.18	43.50	-15.32	peak
H	173.2050	12.70	13.52	26.22	43.50	-17.28	peak
H	300.3673	14.36	13.84	28.20	46.00	-17.80	peak
H	256.5210	13.69	12.39	26.08	46.00	-19.92	peak
H	996.4995	6.61	29.04	35.65	54.00	-18.35	peak

Remark:

Factor = Antenna Factor + Cable Loss - Amplifier.



EUT:	Car wireless charger	Model Name.:	TTC1601
Temperature:	24 °C	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2016-8-25
Test Mode :	Low frequency/Max Load	Polarization :	Vertical
Test Power :	USB 5V From Adapter AC 120V/60Hz		

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
V	39.2991	20.66	15.61	36.27	40.00	-3.73	peak
V	44.5867	23.99	12.78	36.77	40.00	-3.23	peak
V	50.9420	24.63	9.92	34.55	40.00	-5.45	peak
V	78.1389	22.22	10.41	32.63	40.00	-7.37	peak
V	97.7982	18.48	11.43	29.91	43.50	-13.59	peak
V	173.8135	16.66	13.51	30.17	43.50	-13.33	peak
V	201.3930	15.96	12.78	28.74	43.50	-14.76	peak

Remark:

Factor = Antenna Factor + Cable Loss - Amplifier.

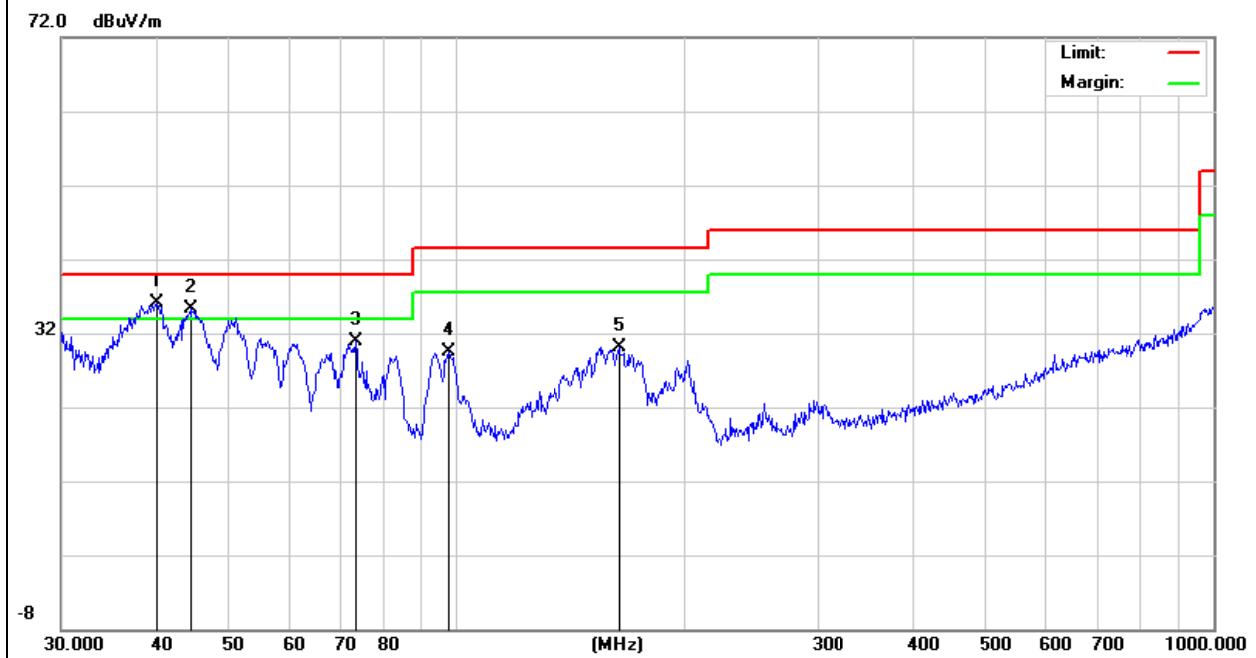


EUT:	Car wireless charger	Model Name. :	TTC1601
Temperature:	24 °C	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2016-8-25
Test Mode :	Mid frequency/Max Load	Polarization :	Horizontal
Test Power :	USB 5V From Adapter AC 120V/60Hz		

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
H	40.1347	20.93	15.11	36.04	40.00	-3.96	peak
H	44.5867	22.49	12.78	35.27	40.00	-4.73	peak
H	73.3593	20.22	10.64	30.86	40.00	-9.14	peak
H	97.7981	17.98	11.43	29.41	43.50	-14.09	peak
H	163.7548	17.44	12.71	30.15	43.50	-13.35	peak

Remark:

Factor = Antenna Factor + Cable Loss - Amplifier.



EUT:	Car wireless charger	Model Name.:	TTC1601
Temperature:	24 °C	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2016-8-25
Test Mode :	Mid frequency/Max Load	Polarization :	Vertical
Test Power :	USB 5V From Adapter AC 120V/60Hz		

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
V	51.4806	14.16	9.75	23.91	40.00	-16.09	peak
V	77.5926	14.31	10.45	24.76	40.00	-15.24	peak
V	98.1419	17.23	11.45	28.68	43.50	-14.82	peak
V	212.2693	14.15	12.31	26.46	43.50	-17.04	peak
V	300.3673	14.86	13.84	28.70	46.00	-17.30	peak

Remark:

Factor = Antenna Factor + Cable Loss - Amplifier.



EUT:	Car wireless charger	Model Name. :	TTC1601
Temperature:	24 °C	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2016-8-25
Test Mode :	High frequency/Max Load	Polarization :	Horizontal
Test Power :	USB 5V From Adapter AC 120V/60Hz		

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
H	39.2991	20.66	15.61	36.27	40.00	-3.73	peak
H	50.2325	24.45	10.16	34.61	40.00	-5.39	peak
H	60.9176	24.28	6.80	31.08	40.00	-8.92	peak
H	155.9099	18.35	12.86	31.21	43.50	-12.29	peak
H	201.3930	16.46	12.78	29.24	43.50	-14.26	peak

Remark:

Factor = Antenna Factor + Cable Loss - Amplifier.

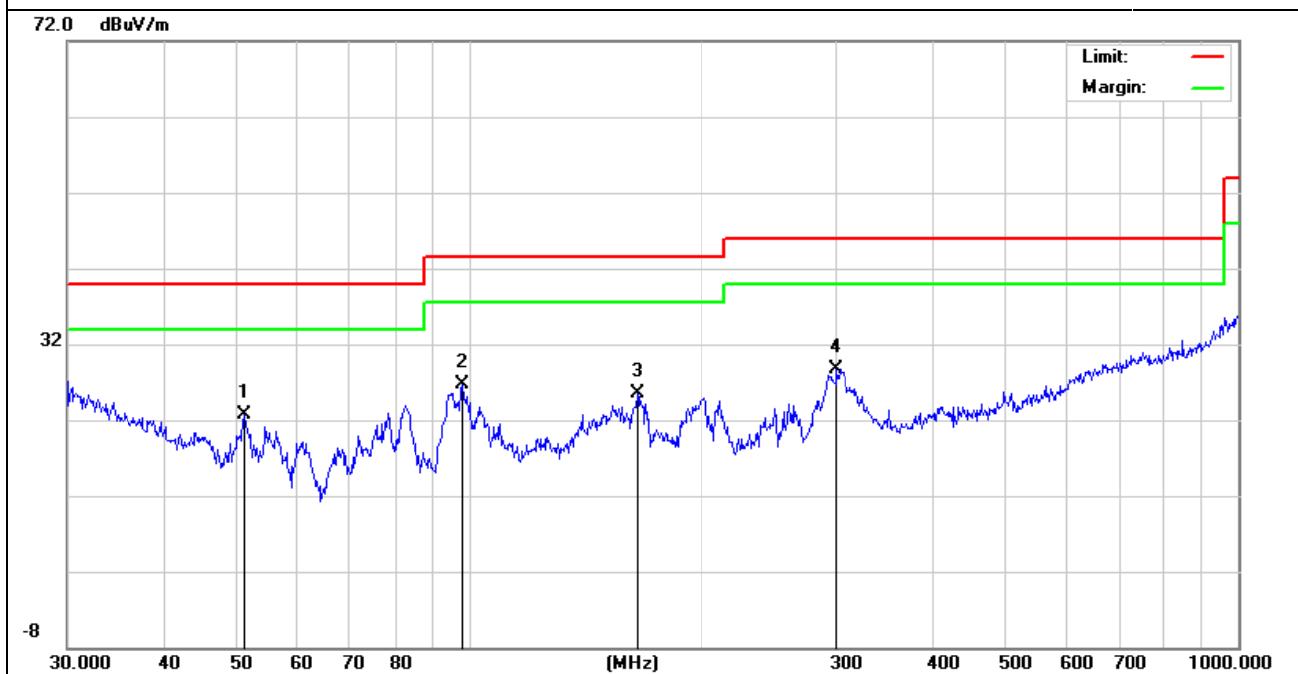


EUT:	Car wireless charger	Model Name.:	TTC1601
Temperature:	24 °C	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2016-8-25
Test Mode :	Mid frequency/Max Load	Polarization :	Vertical
Test Power :	USB 5V From Adapter AC 120V/60Hz		

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
V	50.9420	12.80	9.92	22.72	40.00	-17.28	peak
V	98.1419	15.23	11.45	26.68	43.50	-16.82	peak
V	165.4867	12.64	12.87	25.51	43.50	-17.99	peak
V	300.3673	14.86	13.84	28.70	46.00	-17.30	peak

Remark:

Factor = Antenna Factor + Cable Loss - Amplifier.



**4. ANTENNA APPLICATION****4.1 Antenna Requirement**

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

**4.2 Result**

The EUT antenna is permanent attached antenna. It comply with the standard requirement.

END REPORT