Prüfbericht-Nr.: *Test Report No.*:	**50285837 001**	**Auftrags-Nr.:** *Order No.*:	238108322	Seite 1 von 20 *Page 1 of 20*
Kunden-Referenz-Nr.: *Client Reference No.*:	N/A	**Auftragsdatum:** *Order date*:	23-Jul-2019	
Auftraggeber: *Client*:	Kingston Technology Company, Inc., 17600 Newhope St, Fountain Valley, CA 92708, USA			
Prüfgegenstand: *Test item*:	HyperX ChargePlay Clutch Mobile			
Bezeichnung / Typ-Nr.: *Identification / Type No.*:	HX-CPCM-U,HX-CPCM********** (*= 0-9, A-Z, a-z, - or blank; to indicate different colors, packaging and shipping locations)			
Auftrags-Inhalt: *Order content*:	FCC Part 15C			
Prüfgrundlage: *Test specification*:	FCC 47CFR Part 15: Subpart C Section 15.209			

Wareneingangsdatum: *Date of receipt*:	1-Aug-2019
Prüfmuster-Nr.: *Test sample No.*:	A000967941-002
Prüfzeitraum: *Testing period*:	13-Aug-2019 - 22-Aug-2019
Ort der Prüfung: *Place of testing*:	EMC/RF Laboratory Taipei
Prüflaboratorium: *Testing laboratory*:	TUV Rheinland Taiwan Ltd.
Prüfergebnis*: *Test result**:	Pass

geprüft von / *tested by*:

04-Oct-2019 Mars Y.J. Lin/Project Engineer

Datum *Date*	**Name / Stellung** *Name / Position*	**Unterschrift** *Signature*

kontrolliert von / *reviewed by*:

04-Oct-2019 Arvin Ho/Vice General Manager

Datum *Date*	**Name / Stellung** *Name / Position*	**Unterschrift** *Signature*

Sonstiges / *Other*:

Zustand des Prüfgegenstandes bei Anlieferung: Prüfmuster vollständig und unbeschädigt
Condition of the test item at delivery: *Test item complete and undamaged*

* Legende:	1 = sehr gut	2 = gut	3 = befriedigend	4 = ausreichend	5 = mangelhaft
	P(ass) = entspricht o.g. Prüfgrundlage(n)		F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
Legend:	*1 = very good*	*2 = good*	*3 = satisfactory*	*4 = sufficient*	*5 = poor*
	P(ass) = passed a.m. test specification(s)		*F(ail) = failed a.m. test specification(s)*	*N/A = not applicable*	*N/T = not tested*

TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT
RESULT: Passed

5.1.2 FIELD STRENGTH OF FUNDAMENTAL
RESULT: Passed

5.1.3 20DB BANDWIDTH
RESULT: Passed

5.1.4 SPURIOUS EMISSION
RESULT: Passed

5.2.1 CONDUCTED EMISSIONS LINE AND NEUTRAL
RESULT: Passed

Contents

1. General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix P: Photo Documentation
(File Name: 50285837APPENDIX P)
Appendix D: Test Result of Radiated Emissions
(File Name: 50285837APPENDIX D)
Appendix X: Test Setup Photo
(File Name: 50232957APPENDIX X)

Test Specifications
The following standards were applied .

Table 1: Applied Standard and Test Levels

Radio
FCC CFR47 Part 15: Subpart C Section 15. 209 ANSI C63.10:2013

1.2 Decision Rule of conformity

The decision rule of conformity of this test report is following the requirements of the requested standard in the quotation, and agreed among testing laboratory and manufacturer (applicant) to exclude the consideration of Measurement Uncertainty, unless it is required by the specific standard

2. Test Sites

2.1 Test Laboratory

TUV Rheinland Taiwan Ltd.
Taipei Testing Laboratories

11F. No.758, Sec. 4, Bade Rd., Songshan Dist.
Taipei City 105
Taiwan (R.O.C.)

2.2 Test Facility

TUV Rheinland Taiwan Ltd.

11F. No.758, Sec. 4, Bade Rd., Songshan Dist.
Taipei City 105
Taiwan (R.O.C.)

FCC Registration No.: 180491
IC Canada Registration No.: 9465A
TAF Accredited NCC Test Lab. No.:3567
TAF ISO17025 Certification effective period: 6th-May-2019 to 05th-May-2022

Testing Laboratory
3567

2.3 List of Test and Measurement Instruments

Table 2: List of Test and Measurement Equipment

Kind of Equipment	Manu-facturer	Type	S/N	Last Calibration	Next Calibration
Test Software	Audix	e3	Ver.9	N/A	N/A
EMI Test Receiver	R&S	ESR 7	101549	2018/11/12	2019/11/10
Spectrum Analyzer	R&S	FSV 40	101514	2019/02/07	2020/02/07
Preamplifier (30MHz -1GHz)	Hewlett Packard	8447D	2944A06641	2018/08/31	2019/08/31
Preamplifier (18 GHz -40 GHz)	EMC Instruments	EMC184045SE	980652	2019/02/25	2020/02/25
Pre-Amplifier (1GHz~18GHz)	EM Electronics	EM01G18G	60649	2018/08/24	2019/08/24
Bilog Antenna	TESEQ	CBL 6111D	40101	2018/10/03	2019/10/03
Horn Antenna	ETS-Lindgren	3117	218931	2018/12/27	2019/12/27
Horn Antenna (18GHz~40GHz)	COM-POWER	AH-840	101029	2018/12/22	2019/12/22
Loop Antenna	Schwarzbeck	FMZB 1513	1513-076	2019/07/11	2020/07/11
EMI Test Receiver	R&S	ESR 7	101549	2018/11/12	2019/11/10
Temp. & Humid. Chamber	Giant Force	GCT-099-40-S	MAF0103-007	2019/04/16	2020/04/15
LISN (1 phase)	R&S	ENV216	101243	2019/06/23	2020/06/23
EXA Signal Analyzer	KEYSIGHT	N9010A	MY53470241	2019/02/15	2020/02/15
power Meter	Anritsu	ML2495A	1901008	2019/04/29	2020/04/28
Power Sensor	Anritsu	MA2411B	1725269	2019/04/29	2020/04/28

2.4 Traceability

All measurement equipment calibrations are traceable to NML(Taiwan)/NIST(USA) or where calibration is performed outside Taiwan, to equivalent nationally recognized standards organizations.

2.5 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basics using in house standards or comparisons.

2.6 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements are ±3dB.

Table 3: Emission Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	± 1 x 10^{-7}
RF power, conducted	± 1.5 dB
RF power density, conducted	± 3 dB
spurious emissions, conducted	± 3 dB
all emissions, radiated	± 6 dB
Temperature	± 1 ºC
Humidity	± 5 %

3. General Product Information

3.1 Product Function and Intended Use

The EUT is a Wireless charge game handle. It contains a Qi compatible module enabling the user to communicate data through a Wireless interface.
For details refer to the User Guide, Data Sheet and Circuit Diagram.

3.2 Ratings and System Details

Table 4: Basic Information of EUT

Item	EUT information
Kind of Equipment	HyperX ChargePlay Clutch Mobile
Brand Name	HyperX
Type Designation	HX-CPCM-U,HX-CPCM**********
FCC ID	JIC-CPCM

Table 5: Technical Specification of EUT

Item	Value
Operating Frequency	110~205kHz
Operation Voltage	5Vdc
Modulation	FSK

3.3 Independent Operation Modes

Basic operation modes are:

A. Transmitting and receiving at fundamental frequency

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Circuit Diagram
- Instruction Manual
- Rating Label
- Technical Description

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum emission level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Setup for testing: Test samples are provided with a normal interface which makes it possible to control them through a receiver load.

The charging pad is tested together with a load device simulator provided by the client. The load device has an internal load resistor and two external leads to monitor the voltage generated in the load device.

Test procedure:
Power on the EUT and put Load device on it. EUT will start providing wireless power. Power transmission and load status detection is done simultaneously using the fundamental frequency in the range of 110~205kHz.

4.3 Special Accessories and Auxiliary Equipment

The product has been tested together with the following additional accessories:

Kind of Equipment	Manufacturer	Model Name	S/N
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4.4 Countermeasures to achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test

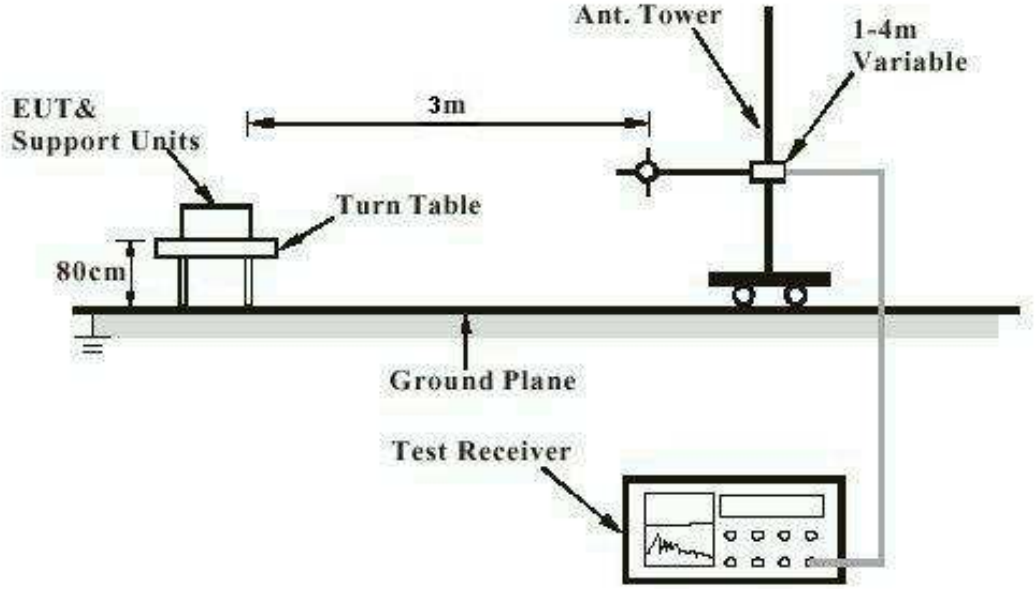
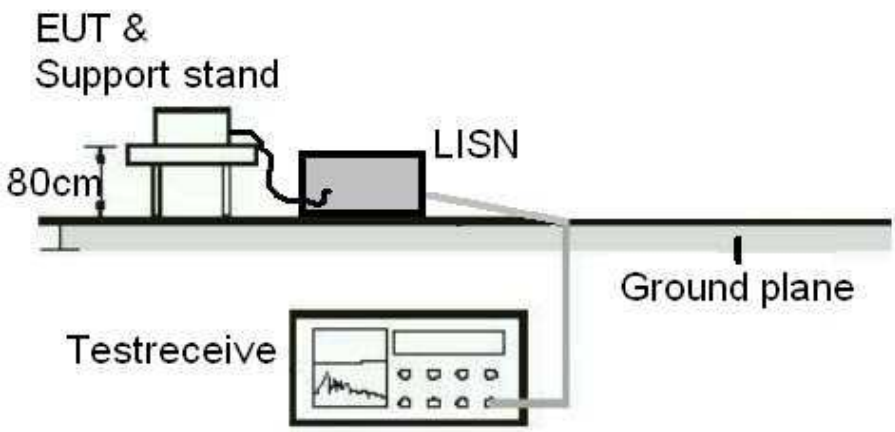


Diagram of Measurement Equipment Configuration for Mains Conduction Measurement (if applicable)



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT: **Passed**

Standard	:	Part 15.203
Requirement	:	Manufacturer must

The antenna is a Coil Antenna soldered to the PCB with no possibility of replacement with a non-approved antenna by the end-user. Therefore, the EUT is considered to comply with this provision.

Refer to EUT photo for details.

5.1.2 Field strength of fundamental

RESULT: **Passed**

Test standard : Part 15.209
Basic standard : ANSI C63.10:2013

Test setup

Test Channel : Fundamental Frequency near Middle of Band
Operation Mode : A

Atmospheric pressure : 100-103 kPa

Table 6: Field strength of fundamental

Frequency (kHz)	Level(3m) (dBuV/m)	Detector	Limit(3m) (dBuV/m)	Level(300m) (dBuV/m)	Limit(300m) (dBuV/m)	Remark	Result
148	63.09	Peak	104.21	-16.91	24.21	--	Pass
148	61.15	QP	104.21	-18.85	24.21	--	Pass

Level (300m)(dBuV/m)=Level(3m)(dBuV/m)+40log(300m/3m)

For details refer to Appendix D.

5.1.3 20dB Bandwidth

RESULT: **Passed**

Test standard : FCC Part 15.209
Basic standard : ANSI C63.10:2013

Test setup

Test Channel : Fundamental Frequency near Middle of Band
Operation Mode : A

Table 7: Test result of 20 dB Bandwidth

Frequency (MHz)	20dB Bandwidth (Hz)
0.147	850

Test Plot of 20 dB Bandwidth

5.1.4 Spurious Emission

RESULT: **Passed**

Test standard	:	FCC Part 15.209
Basic standard	:	ANSI C63.10:2013
Limits	:	Radiated emissions must comply with the radiated emission limits specified in FCC 15.209
Kind of test site	:	3m Semi-Anechoic Chamber

Test setup

Test Channel	:	Fundamental Frequency near Middle of Band
Operation mode	:	A

Factor (dB/m)=Antenna Factor(dB/m)+Cable loss (dB)

Level(dBuV/m)=Reading(dBuV)+ Factor(dB/m)

Remark: Testing was carried out within frequency range 9kHz to the tenth harmonic.

For details refer to Appendix D.

5.2 Mains Conducted Emissions

5.2.1 Conducted Emissions Line and Neutral

RESULT: **Passed**

Test standard	:	FCC Part 15.207 FCC Part 15.107
Limits	:	Mains Conducted emissions as defined in Part 15.107(a), must comply with the mains conducted emission.
Kind of test site	:	Shielded Room

Test setup

Test Channel	:	Fundamental Frequency near Middle of Band
Operation mode	:	A

Remark: For details refer to Appendix D.

6. List of Tables