

TEST REPORT

FCC ID: 2AKIN-CNMD0016

Product: CINEMOOD STORYTELLER

Model No.: CNMD0016

Additional Model No.: CNMD0016XX

Trade Mark: CINEMOOD

Report No.: TCT180628E031

Issued Date: Jul. 06, 2018

Issued for:

CINEMOOD Trendsetters co.
2711 Centerville Road, Suite 400, Wilmington, New Castle County, Delaware,
19808 United States

Issued By:

Shenzhen Tongce Testing Lab.

1B/F., Building 1, Yibaolai Industrial Park, Qiaotou, Fuyong, Baoan District, Shenzhen, Guangdong, China

TEL: +86-755-27673339 FAX: +86-755-27673332

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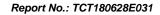




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1. Test Certification

Product:	CINEMOOD STORYTELLER
Model No.:	CNMD0016
Additional Model:	CNMD0016XX
Trade Mark:	CINEMOOD
Applicant:	CINEMOOD Trendsetters co.
Address:	2711 Centerville Road, Suite 400, Wilmington, New Castle County, Delaware, 19808 United States
Manufacturer:	Jiuzhou Group(Hong Kong)Holdings Limited
Address:	Jiuzhou Industrial Park, Gongming, Guangming New District, Shenzhen, China
Date of Test:	Jun. 29, 2018 – Jul. 06, 2018
Applicable Standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.225

The above equipment has been tested by Shenzhen Tongce Testing Lab. and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Tested By:

Jin Wang

Reviewed By:

Beryl Zhao

Approved By:

Date: Jul. 06, 2018

Date: Jul. 06, 2018

Tomsin



2. Test Result Summary

Requirement	CFR 47 Section IC Paragraph	Result
Antenna requirement	§15.203	PASS
AC Power Line Conducted Emission	§15.207	PASS
Spurious emissions	§15.225/ §15.209 §2.1053, §2.1057	PASS
Occupied Bandwidth	§15.215 (c) §2.1049	PASS
Frequency stability	§15.225 §2.1055	PASS

Note:

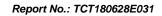
- 1. PASS: Test item meets the requirement.
- 2. Fail: Test item does not meet the requirement.
- 3. N/A: Test case does not apply to the test object.
- 4. The test result judgment is decided by the limit of test standard.





3. EUT Description

Product Name:	CINEMOOD STORYTELLER		
Model:	CNMD0016		
Additional Model:	CNMD0016XX: XX – It's regional code like US/RU/EU, etc.		
Trade Mark:	CINEMOOD		
Hardware Version:	Main Board: V1.6.2 Key Board: V1.3		
Software Version:	1239		
Operation Frequency:	13.56MHz		
Modulation Technology:	ASK		
Antenna Type:	Internal Antenna		
Antenna Gain:	2dBi		
Power Supply:	Rechargeable Li-ion battery DC 3.7V		
AC adapter:	Adapter Information: MODEL: KA1517-0502000USU INPUT: AC 100-240V, 50/60Hz, 0.35A OUTPUT: 5V, 2.0A		
Remark:	All models above are identical in interior structure, electrical circuits and components, and just model names are different for the marketing requirement.		





4. Genera Information

4.1. Test Environment and Mode

Operating Environment:					
Temperature:	24.0 °C				
Humidity:	54 % RH				
Atmospheric Pressure:	1010 mbar				
Test Mode:					
Operation mode:	Keep the EUT in continuous transmitting with modulation				

The sample was placed (0.8m below 1GHz, 1.5m above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.

4.2. Description of Support Units

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.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
(3)	1 (6)	/	(6)	

Note:

- 1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
- Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

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5. Facilities and Accreditations

5.1. Facilities

The test facility is recognized, certified, or accredited by the following organizations:

• FCC - Registration No.: 645098

Shenzhen Tongce Testing Lab

The 3m Semi-anechoic chamber has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

IC - Registration No.: 10668A-1

The 3m Semi-anechoic chamber of Shenzhen TCT Testing Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

5.2. Location

Shenzhen Tongce Testing Lab

Address: 1B/F., Building 1, Yibaolai Industrial Park, Qiaotou, Fuyong, Baoan District,

Shenzhen, Guangdong, China

TEL: +86-755-27673339

5.3. 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 %.

No.	Item	MU
1	Conducted Emission	±2.56dB
2	RF power, conducted	±0.12dB
3	Spurious emissions, conducted	±0.11dB
4	All emissions, radiated(<1G)	±3.92dB
5	All emissions, radiated(>1G)	±4.28dB
6	Temperature	±0.1°C
7	Humidity	±1.0%





6. Test Results and Measurement Data

6.1. Antenna Requirement

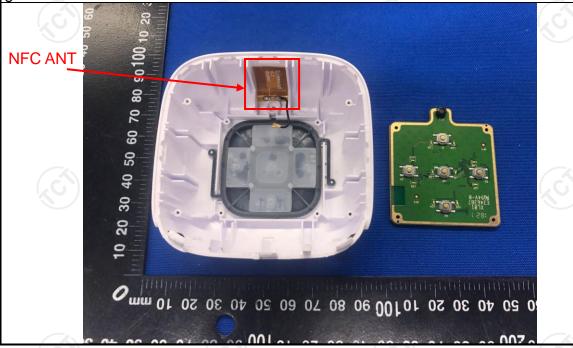
Standard requirement: FCC Part15 C Section 15.203

15.203 requirement:

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

E.U.T Antenna:

The NFC antenna is internal antenna which permanently attached, and the best case gain of the antenna is 2dBi.





6.2. Conducted Emission

6.2.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.207							
Test Method:	ANSI C63.10:2013							
Frequency Range:	150 kHz to 30 MHz							
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto							
Limits:	Frequency range (MHz) 0.15-0.5 0.5-5 5-30	Limit (c Quasi-peak 66 to 56* 56 60	BuV) Average 56 to 46* 46 50					
Test Setup:	Reference Plane LISN 40cm 80cm Filter AC power Equipment Test table/Insulation plane Remark E.U.T: Equipment Under Test LISN: Line Impedence Stabilization Network							
Test Mode:	Refer to section 4.1 for	details						
Test Procedure:	 The E.U.T is connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10:2013 on conducted measurement. 							
Test Result:	PASS							



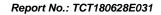
6.2.2. Test Instruments

Conducted Emission Shielding Room Test Site (843)												
Equipment	Equipment Manufacturer Model Serial Number											
EMI Test Receiver	R&S	ESCS30	100139	Sep. 27, 2018								
LISN	Schwarzbeck	NSLK 8126	8126453	Sep. 27, 2018								
Coax cable (9kHz-40GHz)	тст	CE-05	N/A	Sep. 27, 2018								
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A								

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

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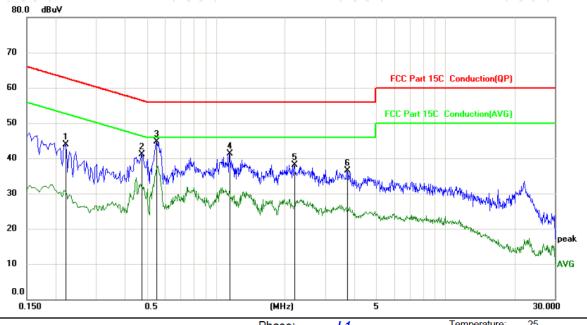




6.2.3. Test data

Please refer to following diagram for individual

Conducted Emission on Line Terminal of the power line (150 kHz to 30MHz)



Site	Phase:	L1	remperature.	25
Limit: ECC Part 1EC Conduction(OD)	Dower:	AC 120V/60Hz	Humidity: 5	5 %

-	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
ξ-			MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
_	1		0.2220	42.40	1.46	43.86	62.74	-18.88	peak	
_	2		0.4740	39.88	1.32	41.20	56.44	-15.24	peak	
-	3	*	0.5500	43.40	1.28	44.68	56.00	-11.32	peak	
	4		1.1420	40.02	1.28	41.30	56.00	-14.70	peak	
-	5		2.1900	36.55	1.63	38.18	56.00	-17.82	peak	
-	6		3.7340	35.39	1.07	36.46	56.00	-19.54	peak	

Note:

Freq. = Emission frequency in MHz

Reading level $(dB\mu V)$ = Receiver reading

Corr. Factor (dB) = Antenna factor + Cable loss

Measurement $(dB\mu V)$ = Reading level $(dB\mu V)$ + Corr. Factor (dB)

Limit (dBµV) = Limit stated in standard

 $Margin (dB) = Measurement (dB\mu V) - Limits (dB\mu V)$

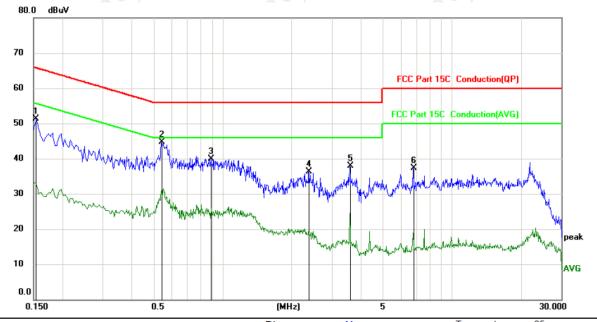
Q.P. =Quasi-Peak, AVG =average

 $^{^{\}star}$ is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz





Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz)



Site Phase: N Temperature: 25
Limit: FCC Part 15C Conduction(QP) Power: AC 120V/60Hz Humidity: 55 %

No	. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1539	49.86	1.49	51.35	65.79	-14.44	peak	
2	*	0.5420	43.32	1.29	44.61	56.00	-11.39	peak	
3		0.8900	38.63	1.21	39.84	56.00	-16.16	peak	
4		2.3740	34.77	1.56	36.33	56.00	-19.67	peak	
5		3.5900	36.71	1.13	37.84	56.00	-18.16	peak	
6		6.7860	36.44	0.91	37.35	60.00	-22.65	peak	

Note:

Freq. = Emission frequency in MHz

Reading level $(dB\mu V)$ = Receiver reading

Corr. Factor (dB) = Antenna factor + Cable loss

Measurement (dB μ V) = Reading level (dB μ V) + Corr. Factor (dB)

 $Limit (dB\mu V) = Limit stated in standard$

 $Margin (dB) = Measurement (dB\mu V) - Limits (dB\mu V)$

Q.P. =Quasi-Peak

AVG =average

* is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz

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6.3. Radiated Emission Measurement

6.3.1. Test Specification

Test Requirement:	FCC Part15	C Section	15.22	25				
Test Method:	ANSI C63.10	ANSI C63.10: 2013						
Frequency Range:	9 kHz to 100	9 kHz to 1000 MHz						
Measurement Distance:	3 m	3 m						
Antenna Polarization:	Horizontal &	Horizontal & Vertical						
	Frequency	Detector	RB	SW	VBW		Remark	
Receiver Setup:	9kHz- 150kHz 150kHz- 30MHz	Quasi-peak Quasi-peak			1kHz 30kHz		asi-peak Value asi-peak Value	
	30MHz-1GHz	Quasi-peak			300kHz	Qu	asi-peak Value	
	FCC Part15 Frequer (MHz	псу	15.22 Lim (uV/ @30	it m	Limit (dBuV/n @3m)	n	Detector	
	13.110-13	3.410	106	3	80.5		QP	
	13.410-13		334	1	90.5		QP	
	13.553-13		1584		124.0		QP	
	13.567-13.7110 13.710-14.010		224 90.5 106 80.5			QP QP		
	FCC Part15 Frequency Rar (MHz)			Fiel	d strength Bµ V/m)		Detector	
	0.009-0.490	3		201	og 2400/F Hz) + 80		QP	
Limit:	0.490-1.705	3		20lc	og 24000/F Hz) + 40		QP	
	1.705-30	3		2010	og 30 + 40		QP	
	30-88	3			40.0		40.0	
	88-216	3			43.5		43.5	
	216-960	3	3 46.0		46.0		46.0	
	Above 960		3 54.0			54.0		
	2. In the Ab 3. Distance instrument 4. The radia (Lying, S worse ra	antenna and ated emissior ide, and Stan diated emissi	e tighte distand the EU ns shou d), Afte on was	er limit ee in n T Id be r pre- get a	tapplies at a neters betw tested unde test. It was t the lying p	een er 3-a four oositi	the measuring axes position and that the	



	distance is adjusted by using the formula Ld1 = Ld2 * (d2/d1)
Test Procedure:	 The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber in below 1GHz. The table was rotated 360 degrees to determine the position of the highest radiation. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. The antenna 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. 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. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
	For radiated emissions below 30MHz
Test setup:	Distance = 3m Computer Pre -Amplifier Receiver 30MHz to 1GHz
	Antenna Tower Search Antenna RF Test Receiver Turn Table Ground Plane





Test Mode:	Refer to section 4.1 for details
Test results:	PASS

6.3.2. Test Instruments

	Radiated Em	ission Test Site	e (966)	
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
ESPI Test Receiver	ROHDE&SCHW ARZ	ESVD	100008	Sep. 27, 2018
Spectrum Analyzer	ROHDE&SCHW ARZ	FSEM	848597/001	Sep. 27, 2018
Pre-amplifier	EM Electronics Corporation CO.,LTD	EM30265	07032613	Sep. 27, 2018
Pre-amplifier	HP	8447D	2727A05017	Sep. 27, 2018
Loop antenna	ZHINAN	ZN30900A	12024	Sep. 27, 2018
Broadband Antenna	Schwarzbeck	VULB9163	340	Sep. 27, 2018
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Sep. 27, 2018
Coax cable (9kHz-40GHz)	тст	N/A	N/A	Sep. 27, 2018
Coax cable (9kHz-40GHz)	тст	N/A	N/A	Sep. 27, 2018
Coax cable (9kHz-40GHz)	тст	N/A	N/A	Sep. 27, 2018
Coax cable (9kHz-40GHz)	TCT	N/A	N/A	Sep. 27, 2018
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

6.3.3. Test Data

Field Strength of Fundamental

Frequency	Emission	Limits	Margin
(MHz)	(dBuV/m)	(dBuV/m)	(dB)
13.56	78.50	124	





Spurious Emissions

Frequency (MHz)	Emission Level (dBuV/m)	Horizontal /Vertical	Limit Line (dBuV/m)	Detector	Margin (dB)
5.38	26.44	V	69.54	QP	-43.10
27.12	25.68	V	69.54	QP	-43.86
40.68	28.32	Н	40.00	QP	-11.68
40.68	35.37	V	40.00	QP	-4.63
54.24	32.35	H	40.00	QP	-7.65
54.24	29.46	V	40.00	QP	-10.54

Note: 1) QP= Quasi-peak

2) Emission Level = Reading Level + Antenna Factor + Cable Loss.



6.4. Occupied Bandwidth

6.4.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.215(c)
Test Method:	ANSI C63.10: 2013
Limit:	N/A
Test Procedure:	 According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT. Set to the maximum power setting and enable the EUT transmit continuously. Use the following spectrum analyzer settings for 20dB Bandwidth measurement. Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel; RBW ≥ 1% of the 20 dB bandwidth; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold. Measure and record the results in the test report.
Test setup:	Spectrum Analyzer EUT
Test Mode:	Refer to section 4.1 for details
Test results:	PASS

6.4.2. Test Instruments

RF Test Room							
Equipment Manufacturer Model Serial Number Calibration Du							
Spectrum Analyzer	R&S	FSU	200054	Sep. 27, 2018			

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

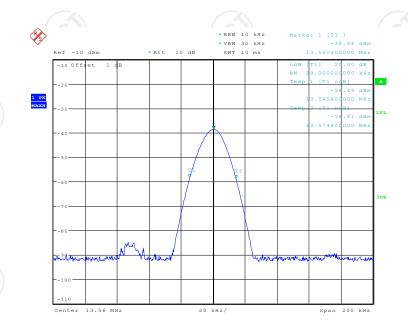
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6.4.3. Test data

)	Frequency(MHz)	20dB Occupy Bandwidth (kHz)	Limit (kHz)	Conclusion
	13.56	29		PASS

Test plots as follows:



Date: 6,JyL,2918, 10:24:12





6.5. Frequency stability

6.5.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.225					
Test Method:	ANSI C63.10 : 2013					
Operation mode:	Refer to item 4.1	(0)	((0))			
Limit:	+/-0.01%					
Test Setup:	Spectrum Analyzer	EUT				
	Thermal Chamber					
Test Procedure:	 The equipment under test was connected to an external DC power supply and input rated voltage. RF output was connected to a spectrum analyzer. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to 0°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +45°C reached. 					
Test Result:	PASS	CK				

6.5.2. Test Instruments

RF Test Room						
Equipment	Manufacturer	Model	Serial Number	Calibration Due		
Spectrum Analyzer	R&S	FSU	200054	Sep. 27, 2018		
DC Power	GW	GPR-6030D	1 60	Sep. 27, 2018		



6.5.3. Test Data

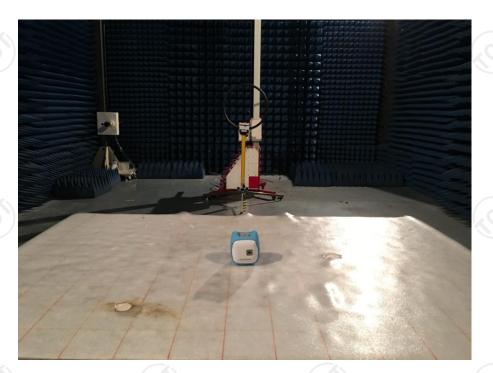
Voltage (Vdc)	Temperature (°C)	Frequency (MHz)	Deviation (%)	Limit (%)
3.7	0	13.560139	0.00103	
3.7	10	13.56026	0.00192	
3.7	20	13.560154	0.00114	(C,C)
3.7	30	13.560288	0.00212	+/-0.01%
3.7	40	13.560203	0.00150	1 /-0.01/0
3.7	45	13.560208	0.00153	
4.25	20	13.560167	0.00123	
3.0	20	13.560154	0.00114	7

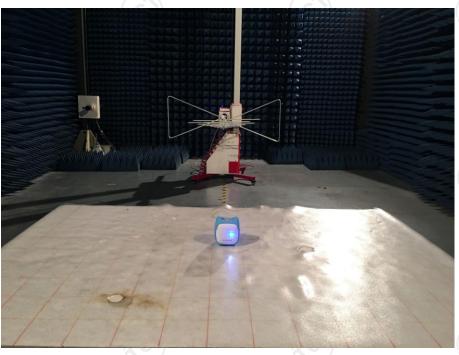




Appendix A: Photographs of Test Setup Product: CINEMOOD STORYTELLER

Product: CINEMOOD STORYTELLER
Model: CNMD0016
Radiated Emission











Appendix B: Photographs of EUT

