

FCC RADIO TEST REPORT FCC ID: 2ANKEKECAGDIANZI

Product: CD PLAYER

Trade Name: KECAG

Model Name: KC-808

Serial Model: KC-606, KC-607, KC-608, KC-688,

KC-809

Report No.: POCE- 201707012R

Prepared for

Shenzhen Kecag Electronic Co.,Ltd

Xiange Industry Estate, Jiuwei Community, Hangcheng Street Baoan District, Shenzhen, China

Prepared by

Shenzhen POCE Technology Co.,Ltd.

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TEST RESULT CERTIFICATION

Applicant's name Shenzhen Kecag Electronic Co.,Ltd
Address: Xiange Industry Estate, Jiuwei Community, Hangcheng Street
Baoan District, Shenzhen, China
Manufacture's Name: Shenzhen Kecag Electronic Co.,Ltd
Address: Xiange Industry Estate, Jiuwei Community, Hangcheng Street
Baoan District, Shenzhen, China
Product description
Product name CD PLAYER
Standards FCC Part15.247
Test procedure ANSI C63.10-2013
This device described above has been tested by POCE, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.
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the document.
Date of Test:
Date (s) of performance of tests : 23 June 2017 ~ 09 July 2017
Date of Issue : 09 July 2017
Test Result : Pass
Testing Engineer : Ken C:
Technical Manager : (Ken Li) (Jimmy Yao)
Authorized Signatory:

(Terry Yang)



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1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C				
Standard Section	Test Item	Judgment	Remark	
15.207	Conducted Emission	PASS		
15.247(a)(1)	Hopping Channel Separation	PASS		
15.247(b)(1)	Peak Output Power	PASS		
15.247(c)	Radiated Spurious Emission	PASS		
15.247(a)(iii)	Number of Hopping Frequency	PASS		
15.247(a)(iii)	Dwell Time	PASS		
15.247(a)(1)	Bandwidth	PASS		
15.205	Band Edge Emission	PASS		
15.203	Antenna Requirement	PASS		

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

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1.1 TEST FACILITY

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China

FCC-Registration No.: 222278

1.2 MEASUREMENT UNCERTAINTY

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

No.	Item	Uncertainty
1	Conducted Emission Test	±1.38dB
2	RF power,conducted	±0.16dB
3	Spurious emissions,conducted	±0.21dB
4	All emissions,radiated(<1G)	±4.68dB
5	All emissions,radiated(>1G)	±4.89dB
6	Temperature	±0.5°C
7	Humidity	±2%



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	CD PLAYER		
Trade Name	KECAG		
Model Name	KC-808		
Serial Model	KC-606, KC-607, KC-60	98, KC-688, KC-809	
Model Difference	N/A		
	The EUT is a CD PLAY!	ER	
	Operation Frequency:	2402~2480 MHz	
	Modulation Type:	GFSK	
	Bit Rate of Transmitter	1Mbps	
	Number Of Channel	79 CH	
	Antenna Designation:	Please see Note 3.	
Product Description	Output	3.628dBm	
	Power(Conducted):		
	Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.		
Channel List	Please refer to the Note 2.		
	Model:RLBYA10-US0502	2	
Adapter	AC Power Input: 100-240V~, 50/60Hz, 0.2A		
	Output: 5V === 2A		
Connecting I/O Port(s)	Please refer to the User	's Manual	

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



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	Channel List					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	
00	2402	27	2429	54	2456	
01	2403	28	2430	55	2457	
02	2404	29	2431	56	2458	
03	2405	30	2432	57	2459	
04	2406	31	2433	58	2460	
05	2407	32	2434	59	2461	
06	2408	33	2435	60	2462	
07	2409	34	2436	61	2463	
08	2410	35	2437	62	2464	
09	2411	36	2438	63	2465	
10	2412	37	2439	64	2466	
11	2413	38	2440	65	2467	
12	2414	39	2441	66	2468	
13	2415	40	2442	67	2469	
14	2416	41	2443	68	2470	
15	2417	42	2444	69	2471	
16	2418	43	2445	70	2472	
17	2419	44	2446	71	2473	
18	2420	45	2447	72	2474	
19	2421	46	2448	73	2475	
20	2422	47	2449	74	2476	
21	2423	48	2450	75	2477	
22	2424	49	2451	76	2478	
23	2425	50	2452	77	2479	
24	2426	51	2453	78	2480	
25	2427	52	2454			
26	2428	53	2455			

3. Table for Filed Antenna

Ant	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	N/A	N/A	PCB Antenna	N/A	0	BT Antenna



2.2 DESCRIPTION OF TEST MODES

operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT

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Pretest Mode	Description
Mode 1	CH00
Mode 2	CH39
Mode 3	CH78
Mode 4	BT Link

For Conducted Emission		
Final Test Mode Description		
Mode 4	BT Link	

For Radiated Emission		
Final Test Mode	Description	
Mode 1	CH00	
Mode 2	CH39	
Mode 3	CH78	

Note:

- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) The EUT use new battery.

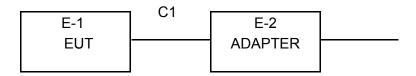
2.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of FHSS

Test software Version	Test program: Broadcom				
Frequency	2402 MHz	2480 MHz			
Parameters(1/2/3Mbps)	DEF	DEF	DEF		



2.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



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2.5 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

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	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	CD PLAYER	N/A	KC-808	KC-606, KC-607, KC-608, KC-688, KC-809	EUT
E-2	Adapter	N/A	RLBYA10-US0502	N/A	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	1.0 M	

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 <code>[Length]</code> column.
- (3) "YES" is means "shielded" "with core"; "NO" is means "unshielded" "without core".



2.6 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibratio n period
1	Spectrum Analyzer	Agilent	E4407B	MY4510804 0	2016.09.06	2017.09.05	1 year
2	Test Receiver	R&S	ESPI	101318	2016.09.07	2017.09.06	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2016.09.06	2017.09.05	1 year
4	50Ω Coaxial Switch	Anritsu	MKC-8089B	620026441 6	2016.09.07	2017.09.06	1 year
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	2016.09.07	2017.09.06	1 year
6	Horn Antenna	EM	EM-AH-101 80	2011071402	2016.09.06	2017.09.05	1 year
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2016.09.06	2017.09.05	1 year
8	Amplifier	EM	EM-30180	060538	2016.12.22	2017.12.21	1 year
9	Loop Antenna	ARA	PLA-1030/B	1029	2016.09.08	2017.09.07	1 year

Conduction Test equipment

Cond	Conduction rest equipment							
Item	Kind of	Manufactu	Type No.	Type No. Serial No.		Calibrated	Calibration	
Item	Equipment	rer	турстчо.	Ocharito.	calibration	until	period	
1	Test Receiver	R&S	ESCI	101160	2016.09.06	2017.09.05	1 year	
2	LISN	R&S	ENV216	101313	2016.09.24	2017.09.23	1 year	
3	LISN	EMCO	3816/2	00042990	2016.08.24	2017.09.23	1 year	
4	50Ω Coaxial Switch	Anritsu	MKC-8089B	6200264417	2016.09.07	2017.09.06	1 year	
5	Passive Voltage Probe	R&S	ESH2-Z3	100196	2016.09.07	2017.09.06	1 year	
6	Absorbing clamp	R&S	MOS-21	100423	2016.09.08	2017.09.07	1 year	



3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

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

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

0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	73.00	60.00	56.00	46.00	FCC
5.0 -30.0	73.00	60.00	60.00	50.00	FCC

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		



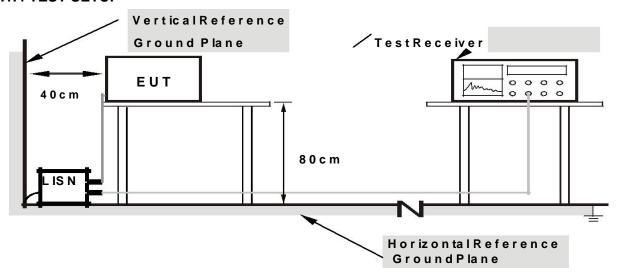
3.1.2 TEST PROCEDURE

- a. The EUT was placed 0.4 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 DEVIATION FROM TEST STANDARD

No deviation

3.1.4 TEST SETUP



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

2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 from otherunits and othermetal planes

3.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

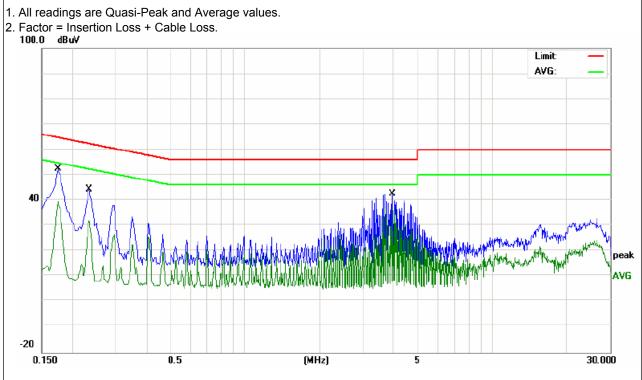
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3.1.6 TEST RESULTS

EUT:	CD PLAYER	Model Name :	KC-808
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	1010hPa	Phase :	L
Test Voltage :	AC120V	Test Mode:	Mode 4

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Detector Type
0.1740	41.42	11.10	52.52	64.76	-12.24	QP
0.1740	28.34	11.10	39.44	54.76	-15.32	AVG
0.2340	33.60	10.77	44.37	62.30	-17.93	QP
0.2340	21.25	10.77	32.02	52.30	-20.28	AVG
3.9580	31.96	10.60	42.56	56.00	-13.44	QP
3.9580	25.60	10.60	36.20	46.00	-9.80	AVG

Remark:



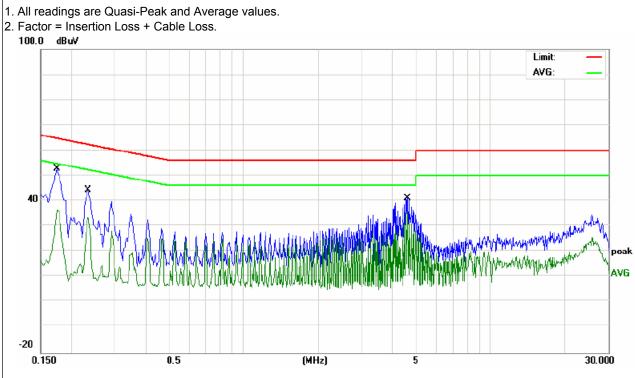


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EUT:	CD PLAYER	Model Name :	KC-808
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	1010hPa	Phase :	N
Test Voltage:	AC120V	Test Mode:	Mode 4

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Detector Type
0.1740	41.39	11.37	52.76	64.76	-12.00	QP
0.1740	25.00	11.37	36.37	54.76	-18.39	AVG
0.2340	33.28	11.01	44.29	62.30	-18.01	QP
0.2340	22.44	11.01	33.45	52.30	-18.85	AVG
4.5979	30.50	10.62	41.12	56.00	-14.88	QP
4.5979	25.15	10.62	35.77	46.00	-10.23	AVG

Remark:





3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies	Field Strength	Measurement Distance
(MHz)	(micorvolts/meter)	(meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Class A (dBuV/m) (at 3M)		Class B (dBuV/m) (at 3M)	
TREQUENCT (IVII 12)	PEAK AVERAGE		PEAK	AVERAGE
Above 1000	80	60	74	54

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5 th harmonic of the highest frequency or 40 GHz, whichever is lower

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Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average
band)	

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

3.2.2 TEST PROCEDURE

- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

3.2.3 DEVIATION FROM TEST STANDARD

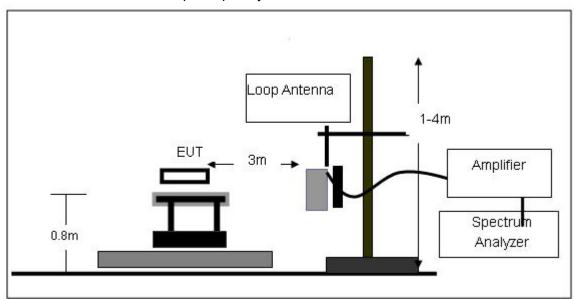
No deviation



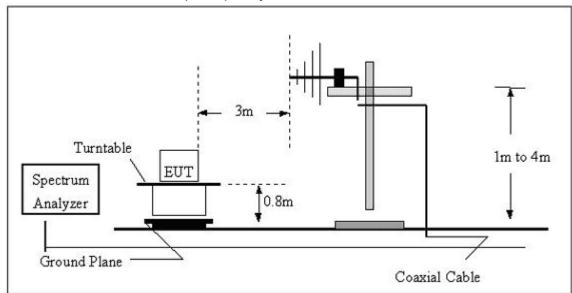
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3.2.4 TEST SETUP

(A) Radiated Emission Test-Up Frequency Below 30MHz

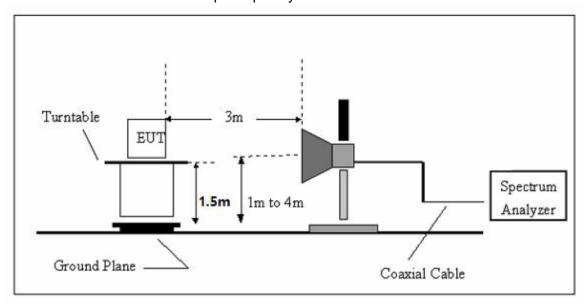


(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



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(C) Radiated Emission Test-Up Frequency Above 1GHz



3.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

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3.2.6 TEST RESULTS (BELOW 30 MHZ)

EUT:	CD PLAYER	Model Name :	KC-808
Temperature:	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	AC 120V
Test Mode:	TX	Polarization :	

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
				PASS
				PASS

NOTE:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor =40 log (specific distance/test distance)(dB);

Limit line = specific limits(dBuv) + distance extrapolation factor.



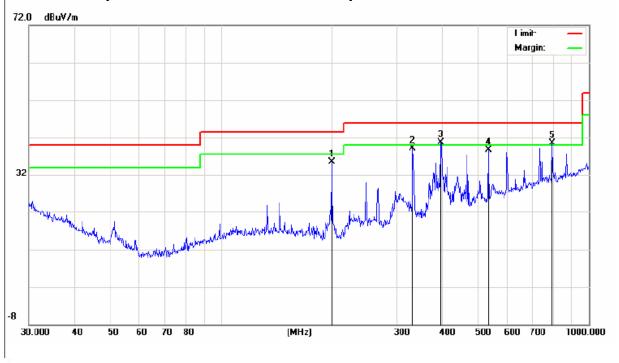
3.2.7 TEST RESULTS (BETWEEN 30M - 1000 MHZ)

EUT:	CD PLAYER	Model Name :	KC-808
Temperature:	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	AC 120V
Test Mode:	Model 4	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
199.2855	26.88	8.71	35.59	43.5	-7.91	QP
331.3546	24.23	14.97	39.2	46	-6.8	QP
394.8543	23.77	17.03	40.8	46	-5.2	QP
531.9633	18.85	19.76	38.61	46	-7.39	QP
793.3958	16.51	23.91	40.42	46	-5.58	QP

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier. Factor added by measurement software automatically.





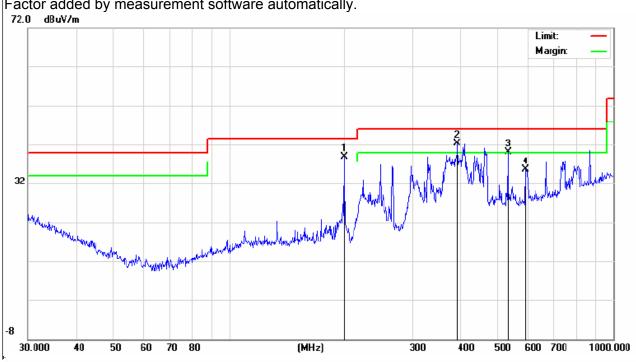
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EUT:	CD PLAYER	Model Name:	KC-808
Temperature:	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	AC 120V
Test Mode:	Mode 4	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
199.2855	30.12	8.71	38.83	43.5	-4.67	QP
392.0951	25.41	16.93	42.34	46	-3.66	QP
531.9633	20.35	19.76	40.11	46	-5.89	QP
590.9737	14.71	20.79	35.5	46	-10.5	QP

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier. Factor added by measurement software automatically.



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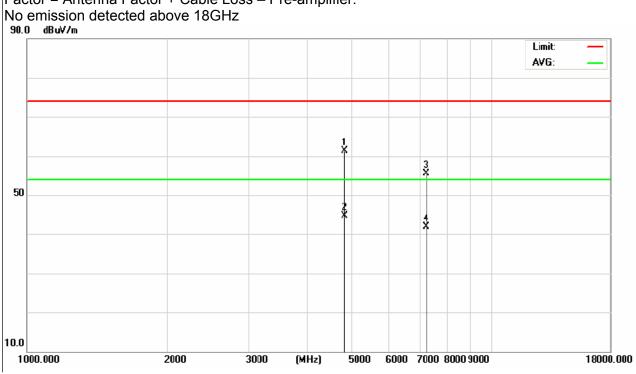
3.2.8 TEST RESULTS (ABOVE 1000 MHZ)

EUT:	CD PLAYER	Model Name :	KC-808
Temperature:	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	AC 120V
Test Mode:	TX 2402MHz – CH 00(1Mbps)	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4804.121	64.95	-3.64	61.31	74.00	-12.69	peak
4804.121	48.32	-3.64	44.68	54.00	-9.32	AVG
7206.132	56.42	-0.95	55.47	74.00	-18.53	peak
7206.132	42.78	-0.95	41.83	54.00	-12.17	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.





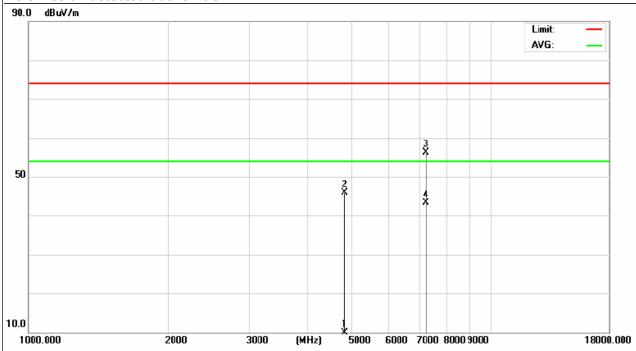
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EUT:	CD PLAYER	Model Name :	KC-808
Temperature:	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	AC 120V
Test Mode:	TX 2402MHz – CH 00(1Mbps)	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4804.115	6.06	-3.64	2.42	74.00	-71.58	peak
4804.115	49.56	-3.64	45.92	54.00	-8.08	AVG
7206.122	57.33	-0.95	56.38	74.00	-17.62	peak
7206.122	44.32	-0.95	43.37	54.00	-10.63	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.





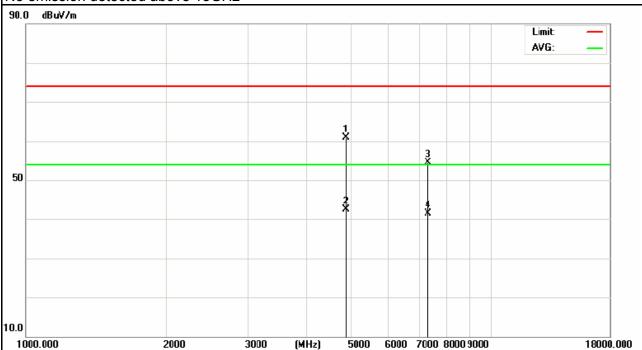
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EUT:	CD PLAYER	Model Name :	KC-808
Temperature:	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	AC 120V
Test Mode :	TX 2441MHz – CH 39(1Mbps)	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4882.163	64.64	-3.68	60.96	74.00	-13.04	peak
4882.163	46.26	-3.68	42.58	54.00	-11.42	AVG
7323.136	55.25	-0.82	54.43	74.00	-19.57	peak
7323.136	42.25	-0.82	41.43	54.00	-12.57	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.





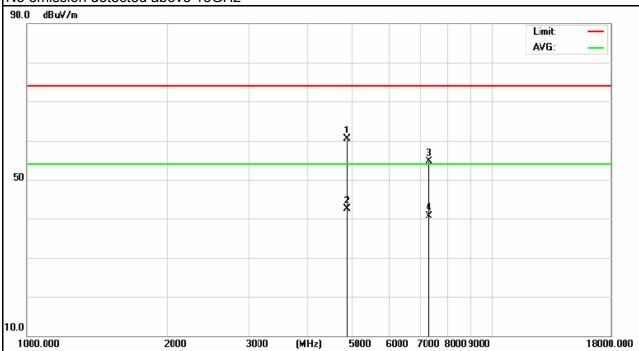
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EUT:	CD PLAYER	Model Name :	KC-808
Temperature:	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	AC 120V
Test Mode:	TX 2441MHz – CH 39(1Mbps)	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4882.123	64.24	-3.68	60.56	74.00	-13.44	peak
4882.123	46.23	-3.68	42.55	54.00	-11.45	AVG
7323.146	55.48	-0.82	54.66	74.00	-19.34	peak
7323.146	41.45	-0.82	40.63	54.00	-13.37	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.





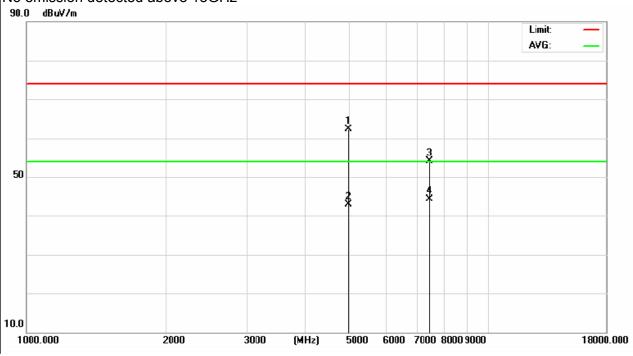
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EUT:	CD PLAYER	Model Name :	KC-808
Temperature:	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	AC 120V
Test Mode :	TX 2480MHz – CH 78(1Mbps)	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4960.156	65.86	-3.59	62.27	74.00	-11.73	peak
4960.156	46.58	-3.59	42.99	54.00	-11.01	AVG
7440.155	54.76	-0.68	54.08	74.00	-19.92	peak
7440.155	45.03	-0.68	44.35	54.00	-9.65	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.





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EUT:	CD PLAYER	Model Name :	KC-808
Temperature:	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	AC 120V
Test Mode:	TX 2480MHz – CH 78(1Mbps)	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4960.131	63.56	-3.59	59.97	74.00	-14.03	peak
4960.131	48.45	-3.59	44.86	54.00	-9.14	AVG
7440.150	56.26	-0.68	55.58	74.00	-18.42	peak
7440.150	44.56	-0.68	43.88	54.00	-10.12	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



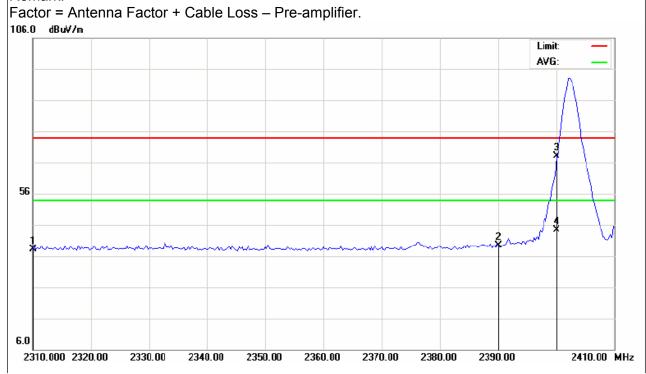
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3.2.9 TEST RESULTS (RESTRICTED BANDS REQUIREMENTS)

EUT:	CD PLAYER	Model Name :	KC-808
Temperature:	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	AC 120V
Test Mode:	TX /2402MHz-1Mbps	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2310.000	51.00	-12.89	38.11	74.00	-35.89	peak
2390.000	52.44	-13.06	39.38	74.00	-34.62	peak
2400.000	81.24	-12.99	68.25	74.00	-5.75	peak
2400.000	57.43	-12.99	44.44	54.00	-9.56	AVG







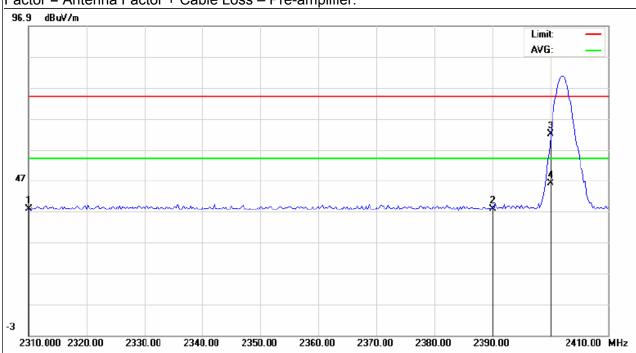
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EUT:	CD PLAYER	Model Name :	KC-808
Temperature:	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	AC 120V
Test Mode:	TX /2402MHz-1Mbps	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2310.000	50.76	-12.89	37.87	74.00	-36.13	peak
2390.000	50.75	-13.06	37.69	74.00	-36.31	peak
2400.000	74.95	-12.99	61.96	74.00	-12.04	peak
2400.000	59.01	-12.99	46.02	54.00	-7.98	AVG

Remark:

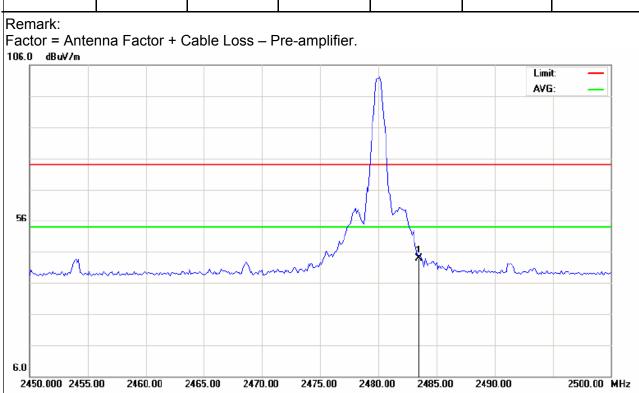
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



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EUT:	CD PLAYER	Model Name :	KC-808
Temperature:	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	AC 120V
Test Mode:	TX /2480MHz-1Mbps	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotoctor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.500	56.68	-12.78	43.90	74.00	-30.10	peak





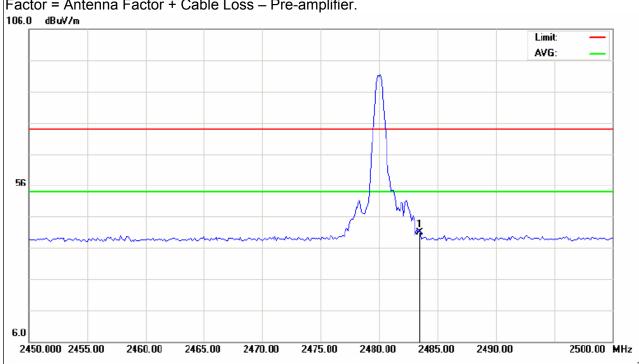
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EUT:	CD PLAYER	Model Name :	KC-808
Temperature:	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	AC 120V
Test Mode:	TX /2480MHz-1Mbps	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotoctor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.500	53.68	-12.78	40.90	74.00	-33.10	peak



Factor = Antenna Factor + Cable Loss – Pre-amplifier.



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4. NUMBER OF HOPPING CHANNEL

4.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C						
Section	Test Item	Limit	Frequency Range (MHz)	Result		
15.247 (a)(1)(iii)	Number of Hopping Channel	≥15	2400-2483.5	PASS		

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	= the frequency band of operation
RB	RBW ≥ 1% of the span
VB	VBW ≥ RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting: RBW= 1MHz, VBW=3MHz, Sweep time = Auto.

4.1.2 DEVIATION FROM STANDARD

No deviation.

4.1.3 TEST SETUP



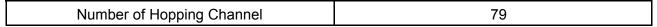
4.1.4 EUT OPERATION CONDITIONS

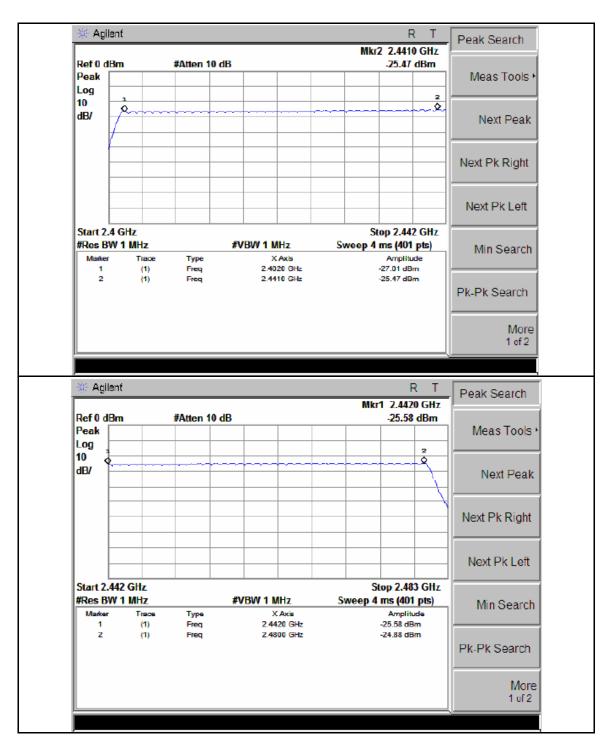
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



4.1.5 TEST RESULTS

EUT:	CD PLAYER	Model Name :	KC-808
Temperature:	25 ℃	Relative Humidity:	60%
Pressure:	1015 hPa	Test Voltage :	AC 120V
Test Mode:	Hopping Mode		







5. AVERAGE TIME OF OCCUPANCY

5.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C						
Section	Test Item	Limit	Frequency Range (MHz)	Result		
15.247 (a)(1)(iii)	Average Time of Occupancy	0.4sec	2400-2483.5	PASS		

5.1.1 TEST PROCEDURE

- a. The transmitter output (antenna port) was connected to the spectrum analyzer
- b. Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.
- c. Use a video trigger with the trigger level set to enable triggering only on full pulses.
- d. Sweep Time is more than once pulse time.
- e. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
- f. Measure the maximum time duration of one single pulse.
- g. Set the EUT for DH5, DH3 and DH1 packet transmitting.
- h. Measure the maximum time duration of one single pulse.
- i. A Period Time = (channel number)*0.4

 - DH1 Time Slot: Reading * (1600/2)*31.6/(channel number)
 DH3 Time Slot: Reading * (1600/4)*31.6/(channel number)
 - DH5 Time Slot: Reading * (1600/6)*31.6/(channel number)

5.1.2 DEVIATION FROM STANDARD

No deviation.

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5.1.3 TEST SETUP

	9
EUT	SPECTRUM
3000000000	ANALYZER

5.1.4 EUT OPERATION CONDITIONS

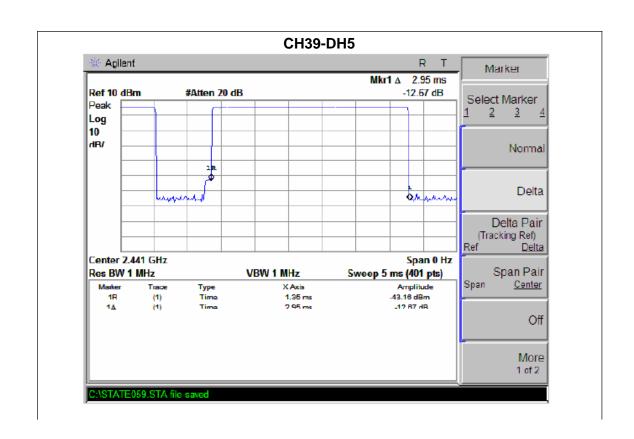
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



5.1.5 TEST RESULTS

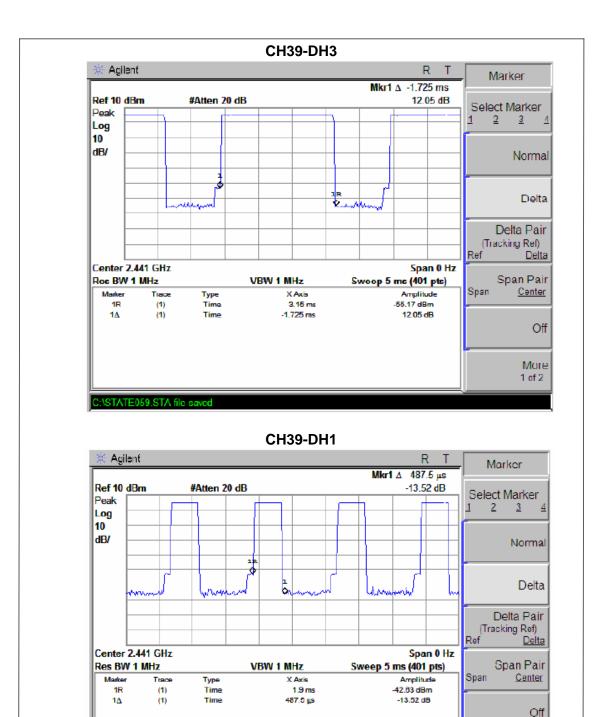
EUT:	CD PLAYER	Model Name :	KC-808
Temperature:	25 ℃	Relative Humidity:	60%
Pressure:	1012 hPa	Test Voltage :	AC 120V
Test Mode:	CH39-DH5 ,DH3,DH1		

Data	Frequency	Pulse Duration	Dwell Time	Limits
Packet	rrequericy	(ms)	(s)	(s)
DH5	2441	2.95	0.315	0.4
DH3	2441	1.725	0.276	0.4
DH1	2441	0.4875	0.156	0.4





More 1 of 2



:\STATE059.STA file saved



6. HOPPING CHANNEL SEPARATION MEASUREMENT

6.1 APPLIED PROCEDURES / LIMIT

Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	wide enough to capture the peaks of two adjacent channels
RB	≥ 1% of the span
VB	≥ RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

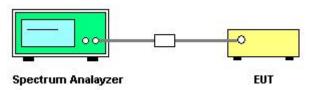
6.1.1 TEST PROCEDURE

- a. The transmitter output (antenna port) was connected to the spectrum analyser in peak hold mode.
- b. The resolution bandwidth of 30 kHz and the video bandwidth of 30 kHz were utilised for channel separation measurement.

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

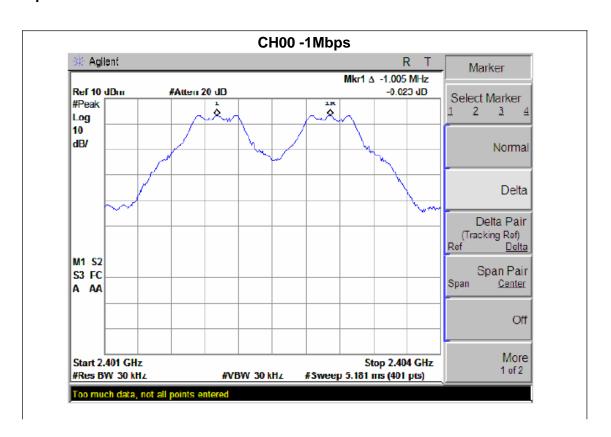


6.1.5 TEST RESULTS

EUT:	CD PLAYER	Model Name :	KC-808
Temperature:	25 ℃	Relative Humidity:	60%
Pressure:	012 hPa Test Voltage : AC 120V		
Test Mode:	CH00 / CH39 /CH78 (1Mbps Mode)		

Frequency	Ch. Separation(MHz)	Limit (MHz)	Result
2402 MHz	1.005	796.195	PASS
2441 MHz	1.005	734.692	PASS
2480 MHz	1.005	801.635	PASS

Ch. Separation Limits: >20dB bandwidth





S3 FC

A AA

Start 2.478 GHz

#Res BW 30 kHz

Report No.: POCE- 201707012R

Span Pair

Center

Off

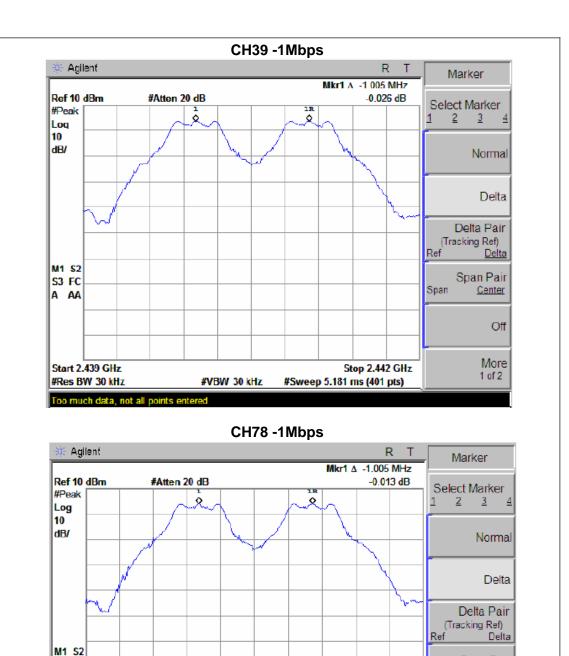
More

1 of 2

Span

Stop 2.481 GHz

#Sweep 5.181 ms (401 pts)



#VBW 30 kHz

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7. BANDWIDTH TEST

7.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247 (a)(1)	Bandwidth	(20dB bandwidth)	2400-2483.5	PASS

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth or Channel Separation
RB	30 kHz
VB	100 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

7.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting: RBW= 30KHz, VBW=100KHz, Sweep time = Auto.

7.1.2 DEVIATION FROM STANDARD

No deviation.

7.1.3 TEST SETUP



7.1.4 EUT OPERATION CONDITIONS

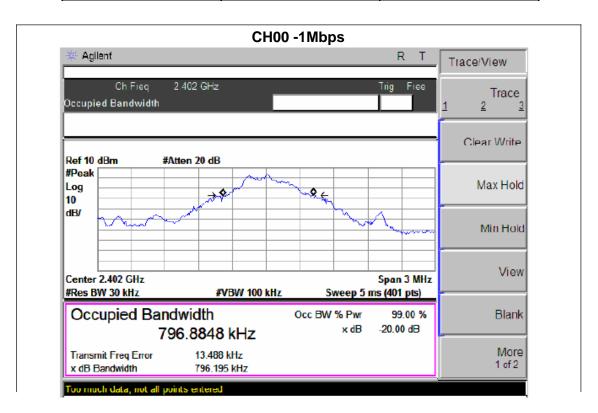
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



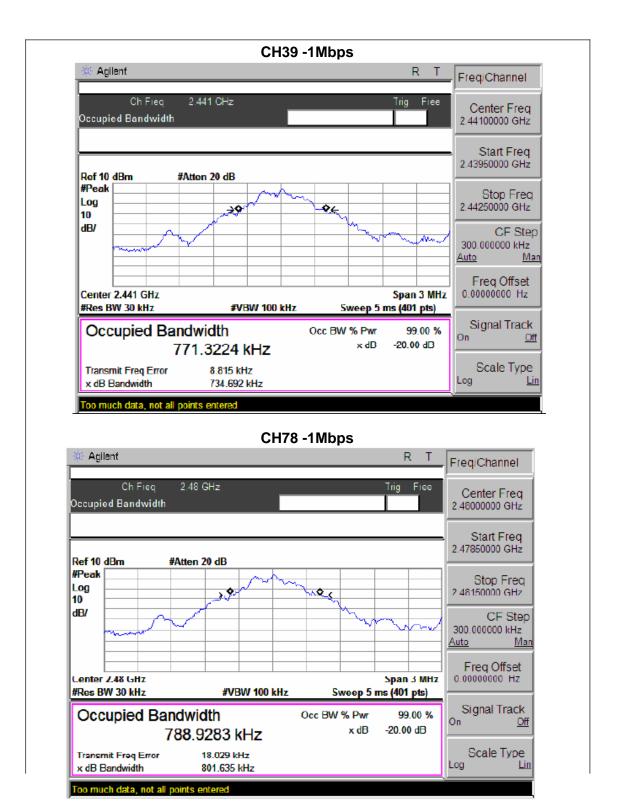
7.1.5 TEST RESULTS

EUT:	CD PLAYER	Model Name :	KC-808
Temperature:	25 ℃	Relative Humidity:	60%
Pressure:	1012 hPa	Test Voltage :	AC 120V
Test Mode:	CH00 / CH39 /C78(1Mbps)		

Frequency	20dB Bandwidth (kHz)	Result
2402 MHz	796.195	PASS
2441 MHz	734.692	PASS
2480 MHz	801.635	PASS







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8. PEAK OUTPUT POWER TEST

8.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247 (b)(i)	Peak Output Power	30dbm or 20.96dBm	2400-2483.5	PASS

8.1.1 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

h.

Spectrum Setting : RBW > the 20 dB bandwidth of the emission being measured Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel VBW \geq RBW

Sweep = auto

Detector function =

peak Trace = max hold

8.1.2 DEVIATION FROM STANDARD

No deviation.

8.1.3 TEST SETUP

EUT	SPECTRUM
3	ANALYZER

8.1.4 EUT OPERATION CONDITIONS

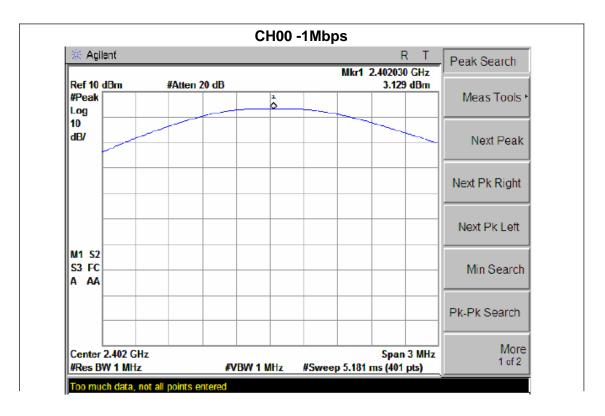
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



8.1.5 TEST RESULTS

EUT:	CD PLAYER	Model Name :	KC-808
Temperature:	25 ℃	Relative Humidity:	60%
Pressure:	1012 hPa	Test Voltage :	AC 120V
Test Mode:	CH00/ CH39 /CH78 (1M/2M/3Mbps Mode)		

1Mbps				
Test Channel	Frequency (MHz)	Peak Output Power (dBm)	LIMIT (dBm)	
CH00	2402	3.129	30	
CH39	2441	3.597	30	
CH78	2480	3.628	30	



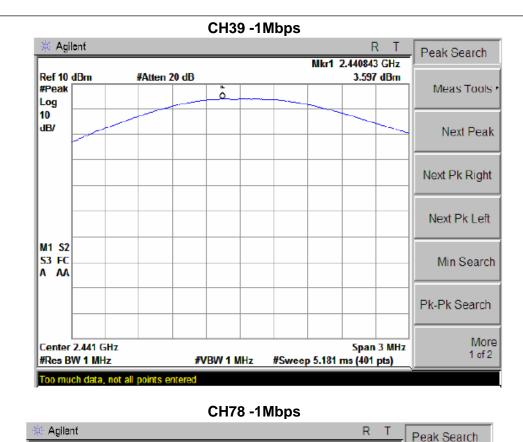


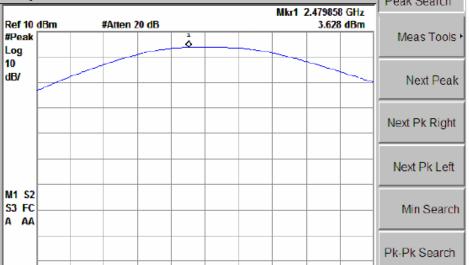
More

1 of 2

Span 3 MHz

#Sweep 5.181 ms (401 pts)





#VBW 1 MHz

Too much data, not all points entered

Center 2.48 GHz

#Res BW 1 MHz



9. ANTENNA REQUIREMENT

9.1 STANDARD 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.

9.2 EUT ANTENNA

The EUT antenna is Integrated(PCB) antenna. It comply with the standard requirement.

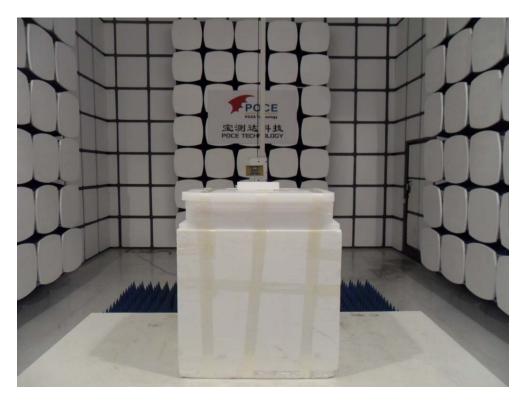


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10. EUT TEST PHOTO









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