## FCC PART 15C TEST REPORT FOR CERTIFICATION On Behalf of

## HUIZHOU FORYOU GENERAL ELECTRONICS CO.,LTD.

Car Multimedia Player

Model Number: VX3026

FCC ID:2AEIN-VX3026

Prepared By: HUIZHOU FORYOU GENERAL ELECTRONICS CO.,LTD.

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Prepared By: EST Technology Co., Ltd.

San Tun Management Zone, Houjie Town, Dongguan,

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Tel: 86-769-83081888-808

Report Number: ESTE-R1704027

Date of Test : March 09,2017~ April 06,2017

Date of Report : April 11,2017



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## **Test Report Verification**

HUIZHOU FORYOU GENERAL ELECTRONICS CO.,LTD. **Applicant:** North Shangxia Road, Dongjiang Hi tech Industry Park Huizhou Address: China HUIZHOU FORYOU GENERAL ELECTRONICS CO.,LTD. Manufacturer North Shangxia Road, Dongjiang Hi tech Industry Park Huizhou Address: China E.U.T: Car Multimedia Player **Model Number:** VX3026 **Power Supply: DC 12V Test Voltage: DC 12V** Trade Name: **JENSEN** Serial No.: **Date of Receipt:** Date of Test: March 09,2017 March 09,2017~ April 06,2017 FCC Rules and Regulations Part 15 Subpart C:2016 Test Specification: ANSI C63.10:2013 The device described above is tested by EST Technology Co., Ltd.. The measurement results were contained in this test report and EST **Test Result:** Technology Co., Ltd. was assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliance with the FCC Rules and Regulations Part 15 Subpart C requirements This report applies to above tested sample only and shall not be reproduced in part without written approval of EST Technology Ltd. Prepared by: Tested by: Approved by: Amy / Assistant Tony.Tang/ Engineer IcemanHu / Manager Other Aspects: None. Abbreviations: OK/P=passed fail/F=failed *n.a/N*=*not applicable E.U.T*=*equipment under* This test report is based on a single evaluation of one sample of above mentioned products, It is not permitted to be duplicated in extracts without written approval of EST Technology Co., Ltd.



## 1. GENERAL INFORMATION

1.1. Description of Device (EUT)

**Product Name** : Car Multimedia Player

**Model Number** : VX3026

**FCC ID** : 2AEIN-VX3026

**Operation frequency** : 2402MHz~2480MHz

**Number of channel**: 79

**Antenna** : Internal antenna, 0 dBi gain

**Modulation** : FHSS (GFSK,  $\pi/4$ -DQPSK, 8-DPSK)

**Sample Type** : Prototype production



## 2. SUMMARY OF TEST

# 2.1. Summary of test result

Description of Test Item	Standard	Results
Maximum Peak Output Power	FCC Part 15: 15.247(b)(1) DA 00-705	PASS
20dB Bandwidth	FCC Part 15: 15.215 DA 00-705	PASS
Carrier Frequency Separation	FCC Part 15: 15.247(a)(1) DA 00-705	PASS
Number Of Hopping Channel	FCC Part 15: 15.247(a)(1)(iii) DA 00-705	PASS
Dwell Time	FCC Part 15: 15.247(a)(1)(iii) DA 00-705	PASS
Radiated Emission	FCC Part 15: 15.209 FCC Part 15: 15.247(d) ANSI C63.10: 2013 DA 00-705	PASS
Band Edge Compliance	FCC Part 15: 15.247(d) DA 00-705	PASS
Power Line Conducted Emissions	FCC Part 15: 15.207 ANSI C63.10: 2013 DA 00-705	N/A
Antenna requirement	FCC Part 15: 15.203	PASS

Note: 15.207 only signals conducted onto the AC power lines are required to be measured. The equipment is only DC power supply, so "Power Line Conducted Emissions" is not required.



#### 2.2. Test Facilities

EMC Lab : Certificated by CNAS, CHINA

Registration No.: L5288

Date of registration: December 07, 2015

Certificated by FCC, USA Registration No.: 989591

Date of registration: November 15, 2016

Certificated by Industry Canada Registration No.: 9405A-1

Date of registration: December 30, 2015

Certificated by VCCI, Japan

Registration No.: R-3663 & C-4103 Date of registration: July 25, 2011

Certificated by TUV Rheinland, Germany Registration No.: UA 50195514 0001 Date of registration: January 07, 2011

Certificated by TUV/PS, Shenzhen

Registration No.: SCN1017

Date of registration: January 27, 2011

Certificated by Intertek ETL SEMKO Registration No.: 2011-RTL-L1-18 Date of registration: April 28, 2011

Certificated by Siemic, Inc. Registration No.: SLCN021

Date of registration: November 8, 2011

Certificated by Nemko, Hong Kong

Registration No.: 175193

Date of registration: May 4, 2011

Name of Firm : EST Technology Co., Ltd.

Site Location : San Tun Management Zone, Houjie Town, Dongguan,

Guangdong, China



## 2.3. Measurement uncertainty

Test Item	Uncertainty
Uncertainty for Conduction emission test	2.54dB
Uncertainty for Radiation Emission test (30MHz-1GHz)	3.62dB
Uncertainty for Radiation Emission test (1GHz to 18GHz)	4.86dB
Uncertainty for radio frequency	7×10-8
Uncertainty for conducted RF Power	0.20dB
Uncertainty for Power density test	0.26dB

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

## 2.4. Assistant equipment used for test

#### 2.4.1.

Trade Name	Model Number	Power Supply
YUASA	NPW45-12FR	DC12/45W

## 2.5. Block Diagram

For radiated emissions test: EUT was placed on a turn table, which is 0.8 or 1.5 meter high above ground.EUT was be set into BT test mode by software before test.



(EUT: Car Multimedia Player)



### 2.6. Test mode

The test software was used to control EUT work in Continuous TX mode, and select test channel, wireless mode

Mode	Channel	Frequency
	Low	2402MHz
GFSK	Middle	2441MHz
	High	2480MHz
	Low	2402MHz
8-DPSK	Middle	2441MHz
	High	2480MHz

## 2.7. Channel List for Bluetooth

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
No.	(MHz)	No.	(MHz)	No.	(MHz)	No.	(MHz)
1	2402	2	2403	3	2404	4	2405
5	2406	6	2407	7	2408	8	2409
9	2410	10	2411	11	2412	12	2413
13	2414	14	2415	15	2416	16	2417
17	2418	18	2419	19	2420	20	2421
21	2422	22	2423	23	2424	24	2425
25	2426	26	2427	27	2428	28	2429
29	2430	30	2431	31	2432	32	2433
33	2434	34	2435	35	2436	36	2437
37	2438	38	2439	39	2440	40	2441
41	2442	42	2443	43	2444	44	2445
45	2446	46	2447	47	2448	48	2449
49	2450	50	2451	51	2452	52	2453
53	2454	54	2455	55	2456	56	2457
57	2458	58	2459	59	2460	60	2461
61	2462	62	2463	63	2464	64	2465
65	2466	66	2467	67	2468	68	2469
69	2470	70	2471	71	2472	72	2473
73	2474	74	2475	75	2476	76	2477
77	2478	78	2479	79	2480	-	-



## 2.8. Test Equipment

## 2.8.1. For conducted emission test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESHS30	832354	June,28,16	1 Year
Artificial Mains Networ	Rohde & Schwarz	ENV216	101260	June,28,16	1 Year
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	101100	June,28,16	1 Year
Battery	YUASA	NPW45-12FR	12032239	N/A	N/A

## 2.8.2. For radiated emission test(30-1000MHz)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESVS10		June,28,16	
Spectrum Analyzer	Agilent	E4411B	MY5014069 7	June,28,16	1 Year
Bilog Antenna	Teseq	CBL 6111D	27090	June,28,16	1 Year
Signal Amplifier	Agilent	310N	187037	June,28,16	1 Year
Battery	YUASA	NPW45-12FR	12032239	N/A	N/A

## 2.8.3. For radiated emission test(above 1GHz)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA9120D1	June,28,16	1 Year
			002	Julie, 28, 10	1 Teal
Signal Amplifier	SCHWARZBECK	BBV9718	9718-212	June,28,16	1 Year
Spectrum Analyzer	Agilent	E4408B	MY44211139	June,28,16	1 Year
Battery	YUASA	NPW45-12FR	12032239	N/A	N/A



## 3. MAXIMUM PEAK OUTPUT POWER

#### 3.1. Limit

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts, the e.i.r.p shall not exceed 4W

#### 3.2. Test Procedure

The transmitter output (antenna port) was connected to the spectrum analyzer

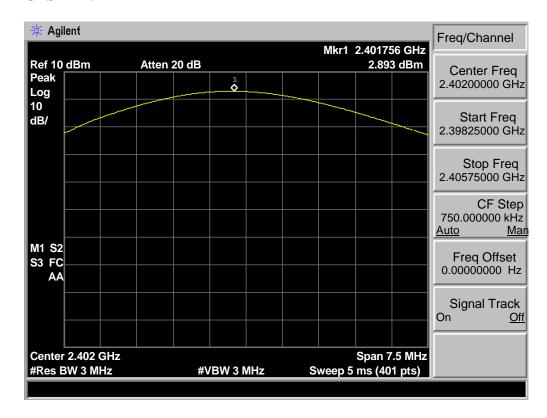
### 3.3. Test Result

EUT: Car Multimedia Player						
M/N:VX302	6	<del>_</del>				
Test date: 20	17-03-18	Test site: RF site	Tested b	y: Tony Tang	5	
Mode	Freq	Result	Li	Margin		
Mode	(MHz) (dB	(dBm)	dBm	W	(dB)	
	2402	2.893	30.00	1	27.107	
GFSK	2441	2.313	30.00	1	27.687	
	2480	2.202	30.00	1	27.798	
	2402	2.856	30.00	1	27.144	
8-DPSK	2441	2.336	30.00	1	27.664	
	2480	1.476	30.00	1	28.524	
Conclusion: PASS						

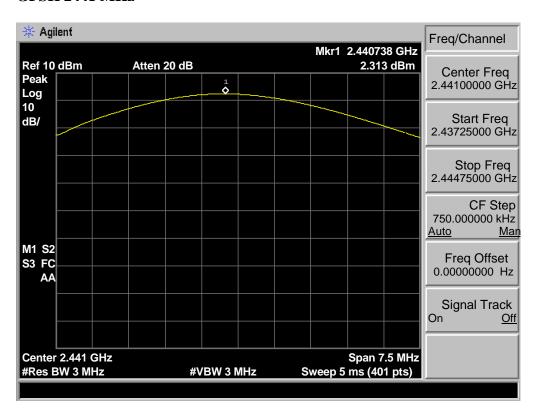


#### 3.4. Test Data

#### GFSK 2402 MHz

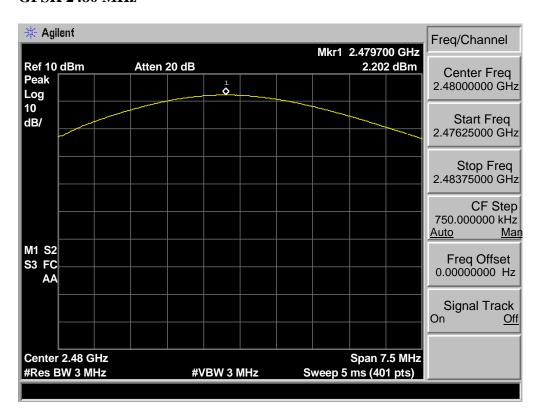


#### **GFSK 2441 MHz**



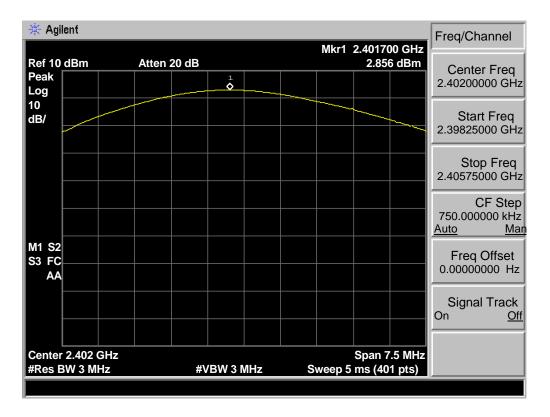


#### GFSK 2480 MHz

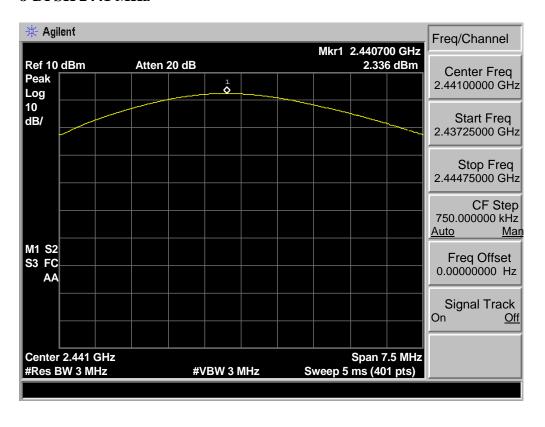




#### 8-DPSK 2402 MHz

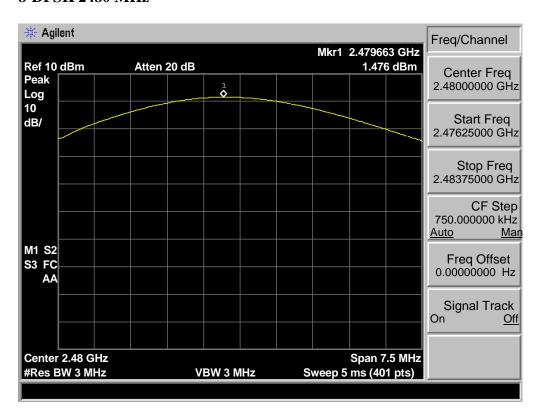


#### 8-DPSK 2441 MHz





#### 8-DPSK 2480 MHz





### 4. 20 DB BANDWIDTH

#### 4.1. Limit

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

#### 4.2. Test Procedure

The transmitter output was coupled to a spectrum analyzer via a antenna. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 30kHz RBW and 100kHz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

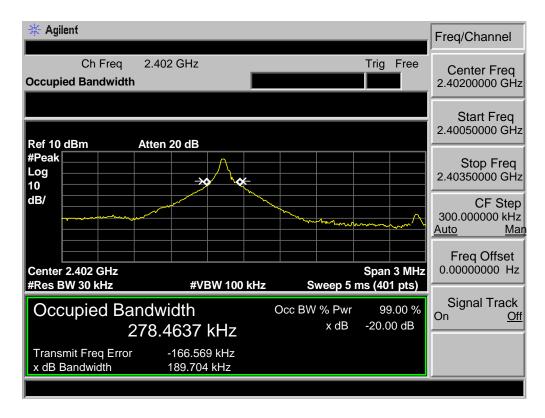
#### 4.3. Test Result

EUT: Car Multimedia Player							
M/N:VX3026							
Test date: 20	17-03-18	Test site: RF site	Tested by: Tony Tar				
Mode	Freq (MHz)	20dB Bandwidth (MHz)	Limit (kHz)	Conclusion			
	2402	0.190	/	PASS			
GFSK	2441	0.191	/	PASS			
	2480	0.186	/	PASS			
	2402	0.193	/	PASS			
8-DPSK	2441	0.195	/	PASS			
	2480	0.187	/	PASS			

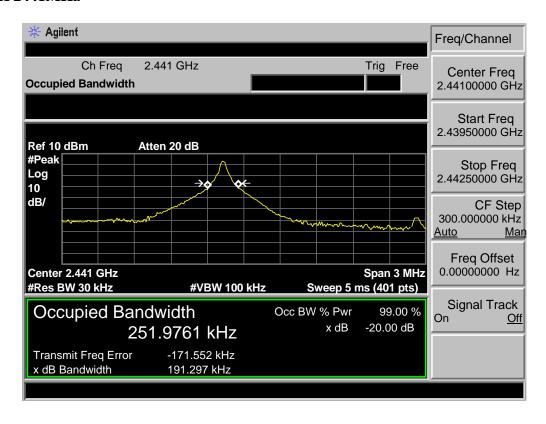


#### 4.4. Test Data

#### GFSK 2402MHz

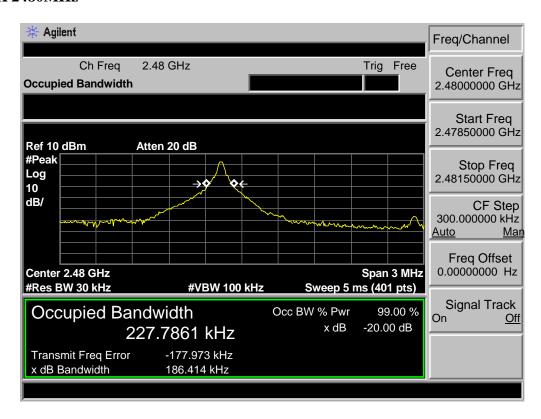


#### GFSK 2441MHz



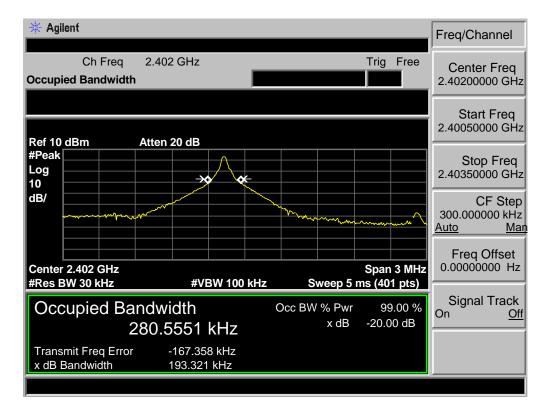


#### GFSK 2480MHz

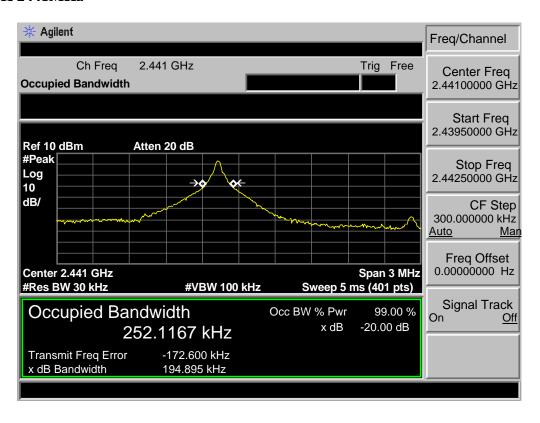




#### 8-DPSK 2402MHz

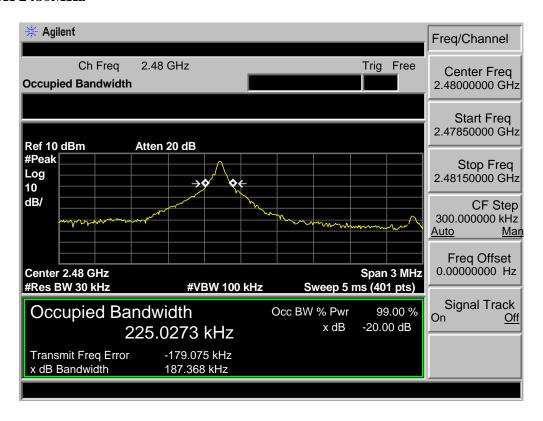


#### 8-DPSK 2441MHz





#### 8-DPSK 2480MHz





## 5. CARRIER FREQUENCY SEPARATION

#### 5.1. Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, 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, provided the systems operate with an output power no greater than 125 mW

#### 5.2. Test Procedure

The transmitter output was coupled to a spectrum analyzer via a antenna. The carrier frequency was measured by spectrum analyzer with 100kHz RBW and 100kHz VBW.

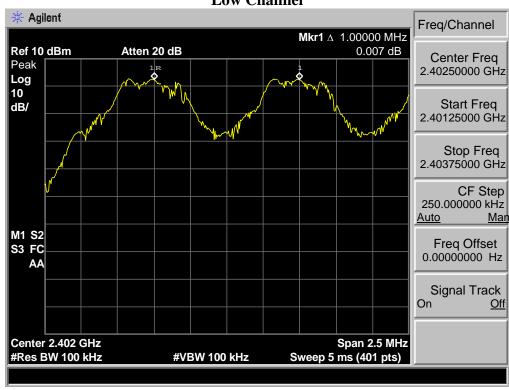
#### 5.3. Test Result

EUT: Car Multimedia Player				
M/N:VX3026				
Test date: 2017-03-18			Test site: RF site Tested by: Tony Tang	
Mode	Channel	Channel separation (MHz)	Limit	Conclusion
GFSK	Low CH	1.000	0.190MHz	PASS
	Mid CH	1.000	0.191MHz	PASS
	High CH	1.000	0.186MHz	PASS
8-DPSK	Low CH	1.000	0.193MHz	PASS
	Mid CH	1.000	0.195MHz	PASS
	High CH	1.000	0.187MHz	PASS

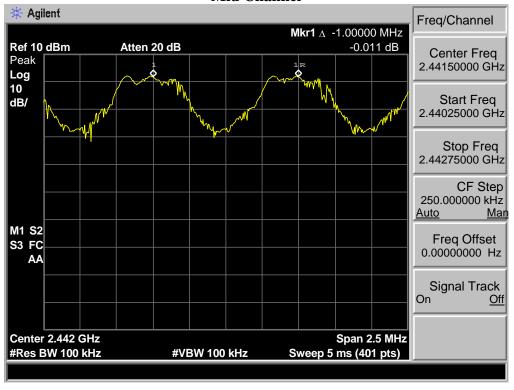


#### 5.4. Test Data

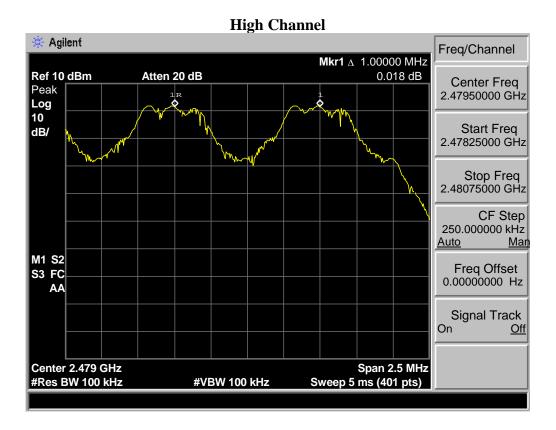
**GFSK**Low Channel



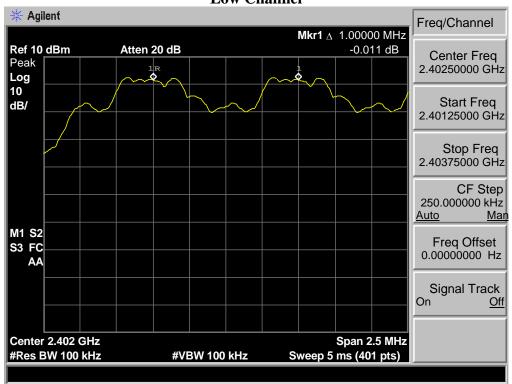
#### **Mid Channel**



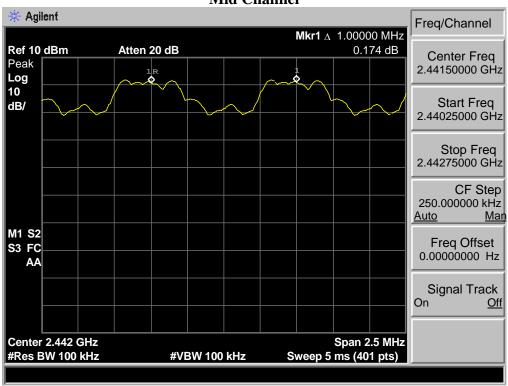




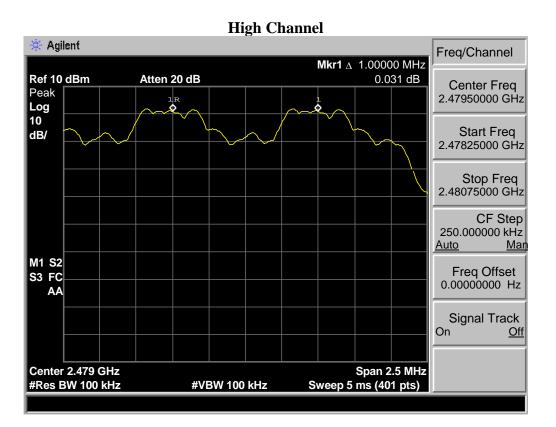
8-DPSK Low Channel



#### **Mid Channel**









## 6. NUMBER OF HOPPING CHANNEL

### 6.1. Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels

## 6.2. Test Procedure

The transmitter output was coupled to a spectrum analyzer via a antenna. The number of hopping channel was measured by spectrum analyzer with 300kHz RBW and 300kHz VBW.

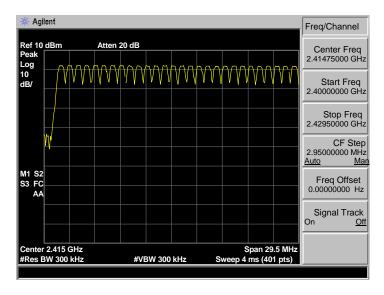
### 6.3. Test Result

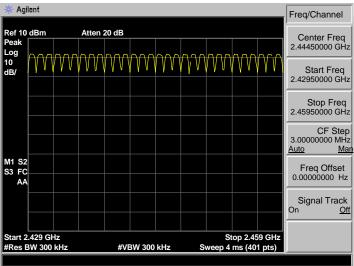
EUT: Car Multimedia Player M/N:VX3026					
Test date: 2017-03-18		Test site: RF site	Tested by: To	Tested by: Tony.Tang	
Mode	Number of hopping channel		Limit	Conclusion	
GFSK	79		>15	PASS	
8-DPSK	79		>15	PASS	

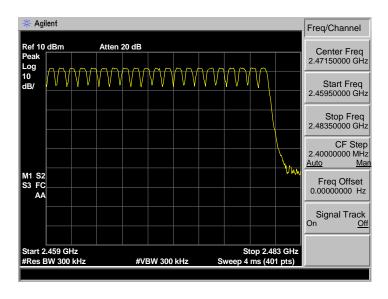


#### 6.4. Test Data

#### **GFSK**

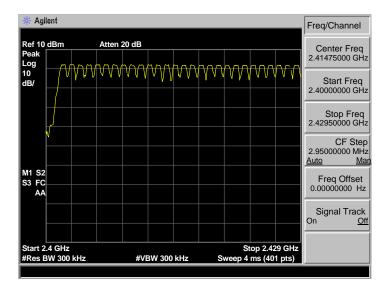


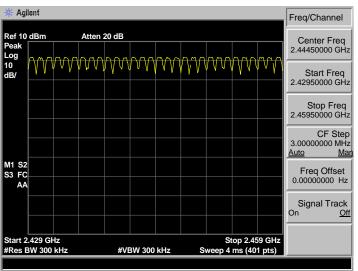


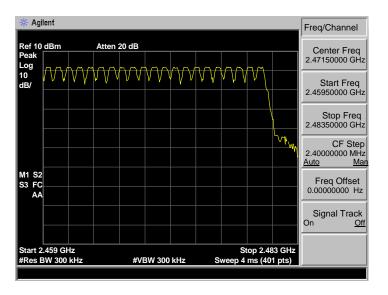




#### 8-DPSK









### 7. DWELL TIME

#### 7.1. Limit

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

#### 7.2. Test Procedure

- 1. Connect the antenna port of the EUT to the spectrum analyzer by a low lost cable.
- 2. Set the EUT to proper test mode with relative test software and hardware.
- 3. Spectrum analyzer setting: Centered Frequency = measured channel, RBW = 1MHz, VBW= 1MHz, Frequency Span = 0 Hz.
- 4. Set sweep time properly to capture the entire dwell time per hopping channel.
- 5. Set detector type to Peak and trace mode to Max Hold and make the measurement.
- 6. Repeat step 3-5 until all channels measured were complete.

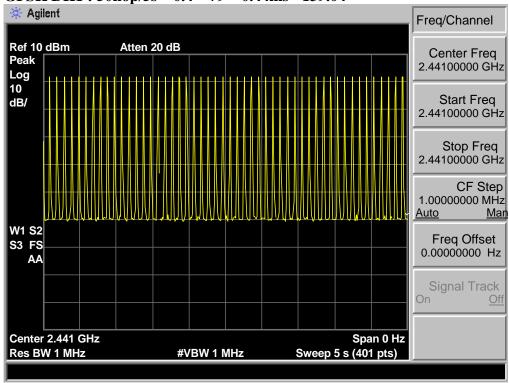
#### 7.3. Test Result

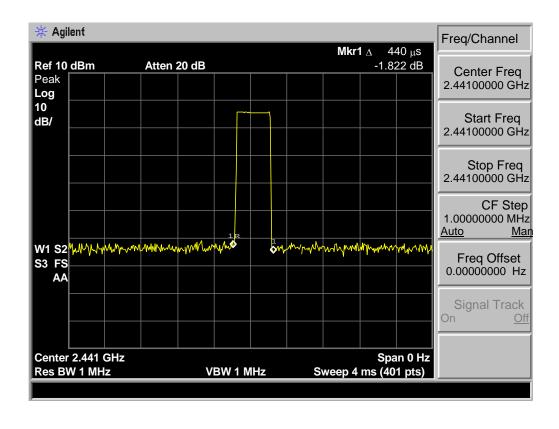
EUT: Car Multimedia Player M/N:VX3026				
Test date: 2017-03-18	Test site: RF site	Tested by: To	ony Tang	
Mode	Dwell time (ms)	Limit	Conclusion	
GFSK DH1	139.04	<400ms	PASS	
GFSK DH3	270.18	<400ms	PASS	
GFSK DH5	318.02	<400ms	PASS	
8-DPSK 3DH1	142.20	<400ms	PASS	
8-DPSK 3DH3	267.02	<400ms	PASS	
8-DPSK 3DH5	318.02	<400ms	PASS	



#### 7.4. Test Data

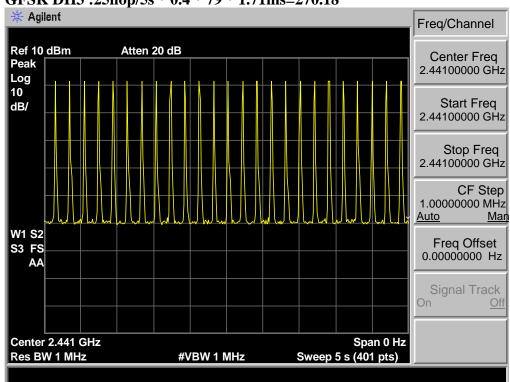
GFSK DH1: 50hop/5s \* 0.4 \* 79 \* 0.44ms = 139.04

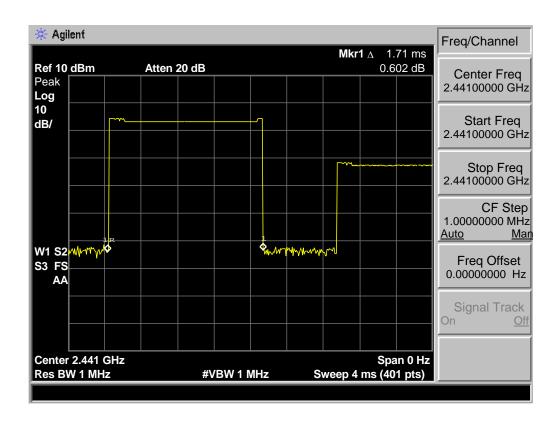




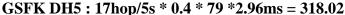


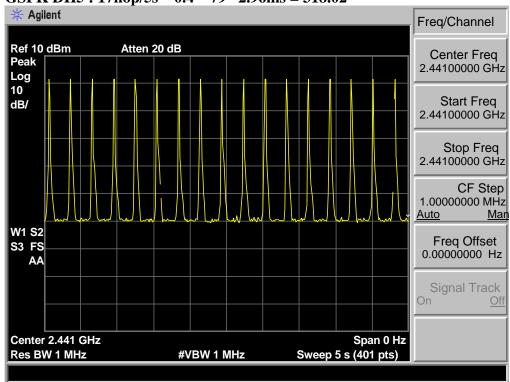


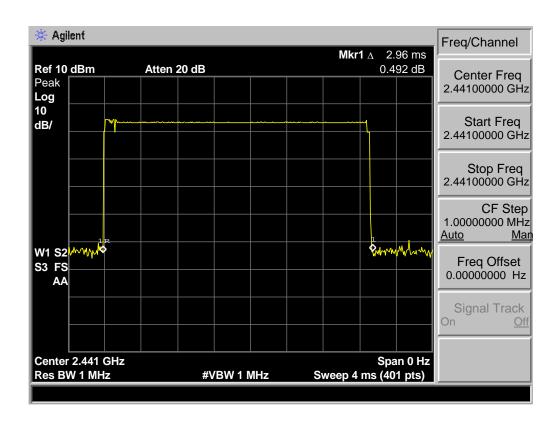






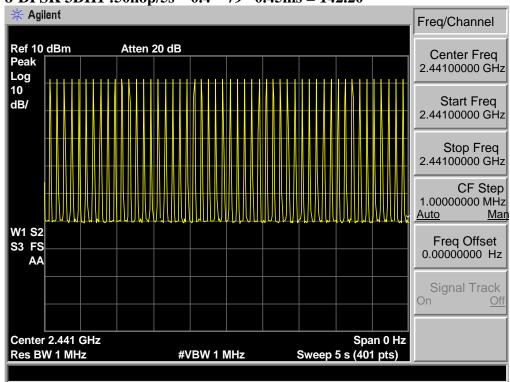


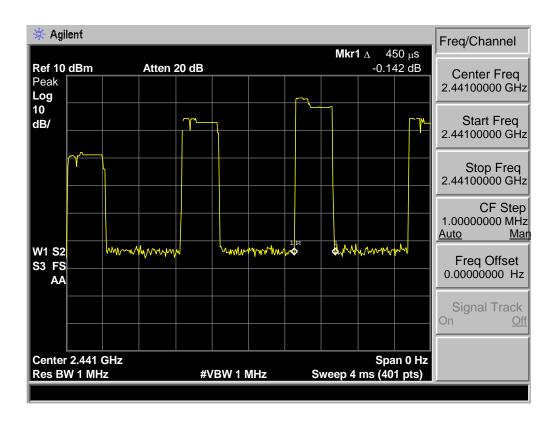






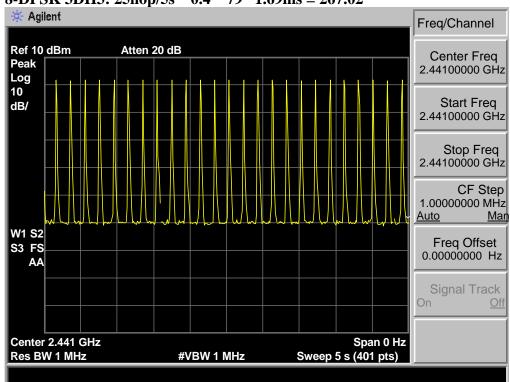
#### 8-DPSK 3DH1 :50hop/5s \* 0.4 \* 79 \*0.45ms = 142.20

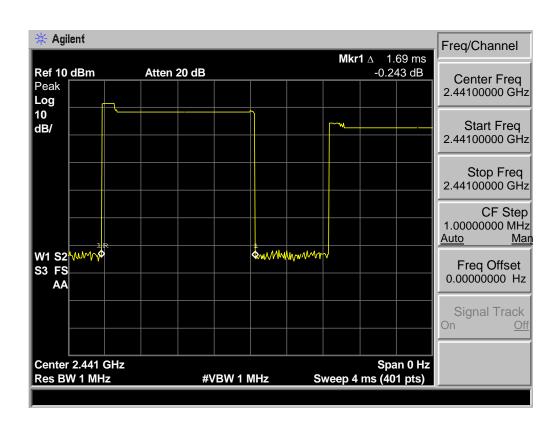






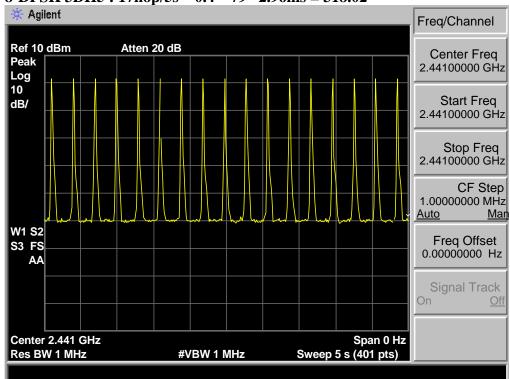
#### 8-DPSK 3DH3: 25hop/5s \* 0.4 \* 79 \*1.69ms = 267.02

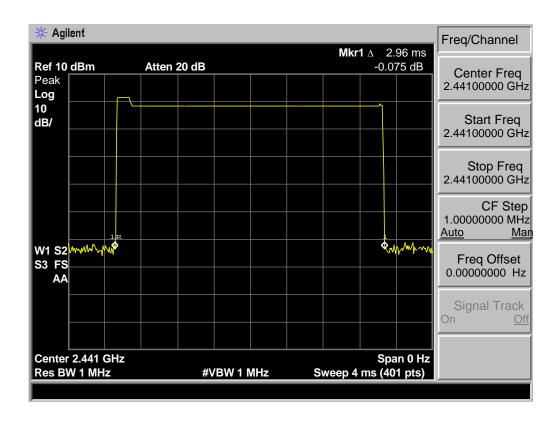






#### 8-DPSK 3DH5: 17hop/5s \* 0.4 \* 79 \*2.96ms = 318.02







## 8. RADIATED EMISSIONS

### 8.1. Limit

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

## 15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
<sup>1</sup> 0.495 - 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)

### 15.209 Limit

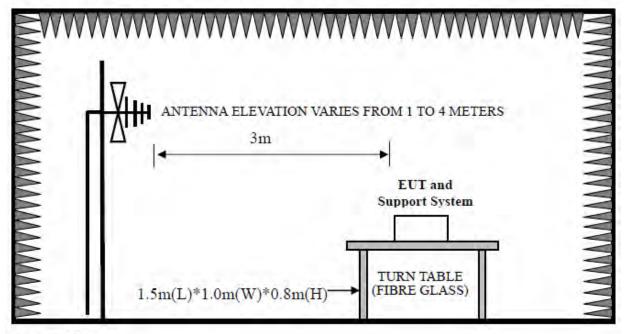
FREQ	UENCY	DISTANCE	FIELD STRENGTHS LIMIT	
MHz		Meters	μV/m	$dB(\mu V)/m$
30 ~ 88		3	100	40.0
88 ~ 216		3	150	43.5
216 ~ 960		3	200	46.0
960 ~ 1000		3	500	54.0
Above	1000	3	74.0 dB(μV)/m (Peak)	
AUUVE			54.0 dB(μV)/m (Average)	

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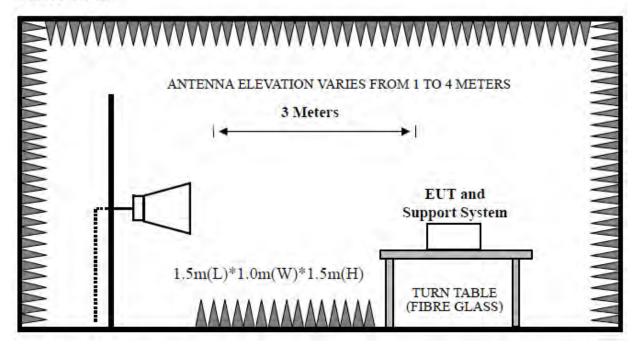


# 8.2. Block Diagram of Test setup

30~1000MHz



Above 1GHz



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## 8.3. Test Procedure

EUT was placed on a turn table, which is 0.8 meter high above ground for 30~1000MHz test, and wiich is 1.5 meter high above ground for above 1GHz test. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

The bandwidth of the EMI test receiver (R&S ESVS10) is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The bandwidth of the Spectrum's VBW is set at 1MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emissions measure above 1GHz

PEAK detector, 1MHz/1MHz for PAEK measurement, PEAK detector, 1MHz/10Hz for Average measurement

The frequency range from 30MHz to 10th harmonic (25GHz) are checked.

## 8.4. Test Result

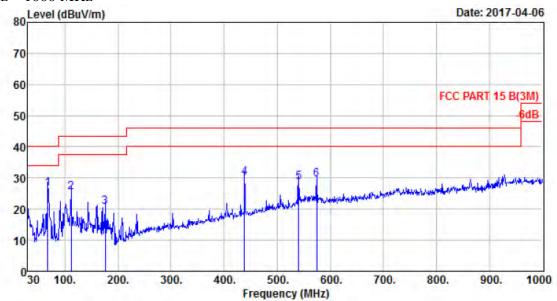
30MHz—	-25GHz Radiated emissison Test resul	t
EUT: Car Multimedia Player	r	
M/N:VX3026		
Power: DC 12V		
Test date: 2017-04-06	Test site: 3m Chamber Tested by:	Tony Tang
Test mode: Tx Mode		
	Pass	

- Note: 1. For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.
  - 2. The frequency 2402MHz \ 2441MHz and 2480MHz is fundamental frequency which no limit, the limit on plots is automatically generated by the software, it's not fundamental limit, we can't remove it.

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# 8.5. Test Data

## 30 MHz - 1000 MHz



Site no. : 1# 966 Chamber Data no. : 497
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL

Limit : FCC PART 15 B(3M)

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Tony

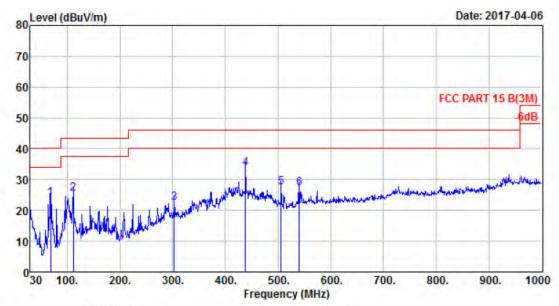
EUT : Car multimedia player

Power : DC 12V M/N : VX3026

Test Mode : GKSK TX 2402MHz

	Freq.	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	67.83	5.39	1.13	19.97	26.49	40.00	13.51	QP
2	111.48	10.60	1.44	13.24	25.28	43.50	18.22	QP
3	175.50	8.98	1.68	9.90	20.56	43.50	22.94	QP
4	438.37	16.22	2.87	11.02	30.11	46.00	15.89	QP
5	540.22	19.46	3.26	6.04	28.76	46.00	17.24	QP
6	574.17	19.56	3.37	6.54	29.47	46.00	16.53	QP





Site no. : 1# 966 Chamber Data no. : 498
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B (3M)

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Tony

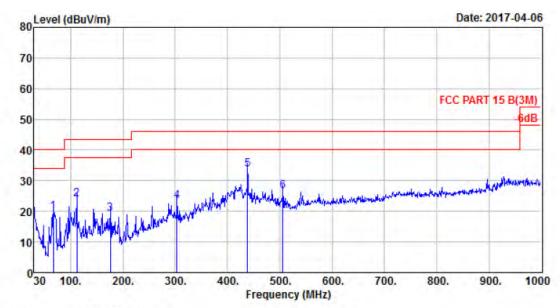
EUT : Car multimedia player

Power : DC 12V M/N : VX3026

Test Mode : GKSK TX 2402MHz

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	68.80	5.51	1.10	17.23	23.84	40.00	16.16	QP
2	111.48	10.60	1.44	13.25	25.29	43.50	18.21	QP
3	303.54	13.08	2.43	6.94	22.45	46.00	23.55	QP
4	438.37	16.22	2.87	14.57	33.66	46.00	12.34	QP
5	506.27	17.92	3.17	6.32	27.41	46.00	18.59	QP
6	540.22	19.46	3.26	4.55	27.27	46.00	18.73	QP





Site no. : 1# 966 Chamber Data no. : 499

Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B(3M)

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Tony

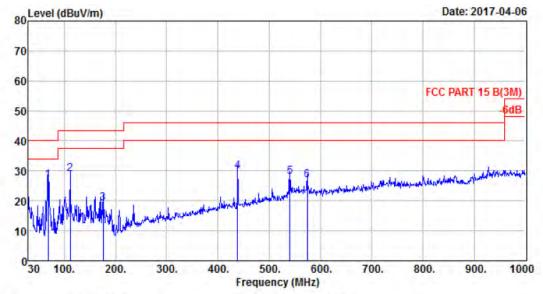
EUT : Car multimedia player

Power : DC 12V M/N : VX3026

Test Mode : GKSK TX 2441MHz

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	66.86	5.28	1.06	13.30	19.64	40.00	20.36	QP
2	111.48	10.60	1.44	11.84	23.88	43.50	19.62	QP
3	175.50	8.98	1.68	8.48	19.14	43.50	24.36	QP
4	303.54	13.08	2.43	7.90	23.41	46.00	22.59	QP
5	438.37	16.22	2.87	14.52	33.61	46.00	12.39	QP
6	506.27	17.92	3.17	5.56	26.65	46.00	19.35	QP





Site no. : 1# 966 Chamber Data no. : 500
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL

Limit : FCC PART 15 B(3M)

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Tony

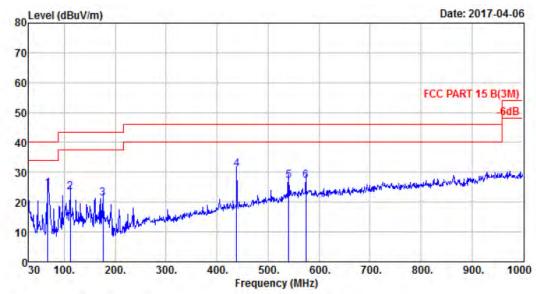
EUT : Car multimedia player

Power : DC 12V M/N : VX3026

Test Mode : GKSK TX 2441MHz

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	68.80	5.51	1.10	20.24	26.85	40.00	13.15	QP
2	111.48	10.60	1.44	16.91	28.95	43.50	14.55	QP
3	175.50	8.98	1.68	8.43	19.09	43.50	24.41	QP
4	438.37	16.22	2.87	10.68	29.77	46.00	16.23	QP
5	540.22	19.46	3.26	5.23	27.95	46.00	18.05	QP
6	574.17	19.56	3.37	3.99	26.92	46.00	19.08	QP





Site no. : 1# 966 Chamber Data no. : 501
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL

Limit : FCC PART 15 B (3M)

Env. / Ins. : Temp:23.6'; Humi; 56%; Press:101.52kPa

Engineer : Tony

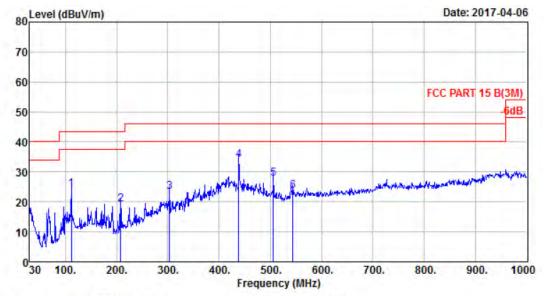
EUT : Car multimedia player

Power : DC 12V M/N : VX3026

Test Mode : GKSK TX 2480MHz

******	Freq.	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	67.83	5.39	1.13	18.08	24.60	40.00	15.40	QP
2	111.48	10.60	1.44	11.22	23.26	43.50	20.24	QP
3	175.50	8.98	1.68	10.45	21.11	43.50	22.39	QP
4	438.37	16.22	2.87	11.82	30.91	46.00	15.09	QP
5	540.22	19.46	3.26	4.51	27.23	46.00	18.77	QP
6	574.17	19.56	3.37	4.34	27.27	46.00	18.73	QP





Site no. : 1# 966 Chamber Data no. : 502
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B(3M)

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Tony

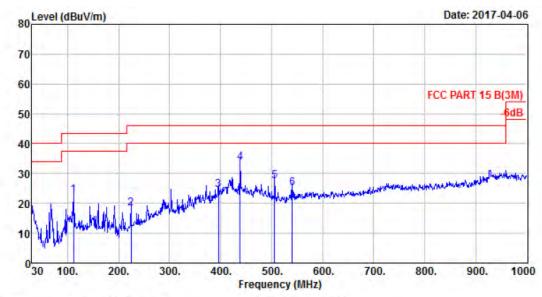
EUT : Car multimedia player

Power : DC 12V M/N : VX3026

Test Mode : GKSK TX 2480MHz

	Freq.	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	111.48	10.60	1.44	12.25	24.29	43.50	19.21	QP
2	207.51	8.18	1.88	9.17	19.23	43.50	24.27	QP
3	303.54	13.08	2.43	7.72	23.23	46.00	22.77	QP
4	438.37	16.22	2.87	15.00	34.09	46.00	11.91	QP
5	506.27	17.92	3.17	6.62	27.71	46.00	18.29	QP
6	544.10	19.46	3.20	1.05	23.71	46.00	22.29	QP





Site no. : 1# 966 Chamber Data no. : 503
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B(3M)

Env. / Ins. : Temp:23.6'; Humi; 56%; Press:101.52kPa

Engineer : Tony

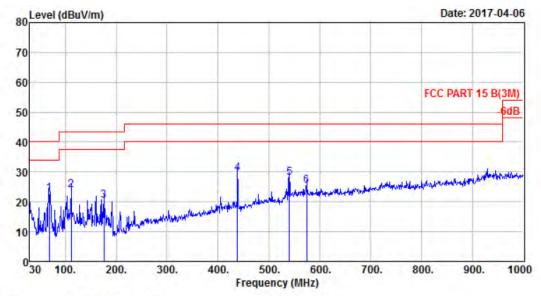
EUT : Car multimedia player

Power : DC 12V M/N : VX3026

Test Mode : 8-DPSK TX 2402MHz

	Freq.	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	111.48	10.60	1.44	10.79	22.83	43.50	20.67	QP
2	224.00	9.42	2.01	6.97	18.40	46.00	27.60	QP
3	395.69	15.87	2.59	5.95	24.41	46.00	21.59	QP
4	438.37	16.22	2.87	14.45	33.54	46.00	12.46	QP
5	506.27	17.92	3.17	6.39	27.48	46.00	18.52	QP
6	540.22	19.46	3.26	2.24	24.96	46.00	21.04	QP





Site no. : 1# 966 Chamber Dis. / Ant. : 3m 27137 Data no. : 504 Ant. pol. : VERTICAL

: FCC PART 15 B(3M) Limit

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer

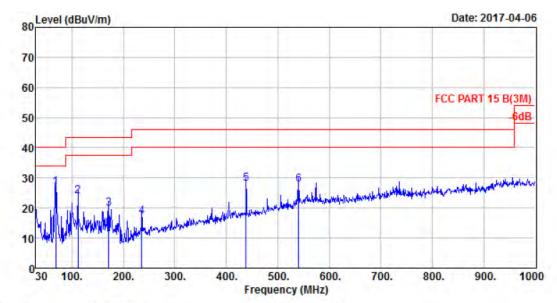
: Tony : Car multimedia player EUT

Power : DC 12V M/N : VX3026

Test Mode : 8-DPSK TX 2402MHz

	Freq.	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	68.80	5.51	1.10	16.17	22.78	40.00	17.22	QP
2	111.48	10.60	1.44	11.79	23.83	43.50	19.67	QP
3	175.50	8.98	1.68	9.82	20.48	43.50	23.02	QP
4	438.37	16.22	2.87	10.47	29.56	46.00	16.44	QP
5	540.22	19.46	3.26	5.20	27.92	46.00	18.08	QP
6	574.17	19.56	3.37	2.56	25.49	46.00	20.51	QP





Site no. : 1# 966 Chamber Dis. / Ant. : 3m 27137 Data no. : 505 Ant. pol. : VERTICAL

Limit : FCC PART 15 B(3M)

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Tony

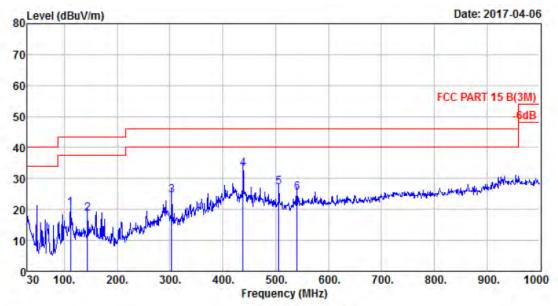
EUT : Car multimedia player

Power : DC 12V M/N : VX3026

Test Mode : 8-DPSK TX 2441MHz

	Freq.	ANT Factor	Cable Loss	Reading	Emission Level	Limit	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	68.80	5.51	1.10	20.22	26.83	40.00	13.17	QP
2	111.48	10.60	1.44	11.77	23.81	43.50	19.69	QP
3	171.62	9.12	1.68	8.92	19.72	43.50	23.78	QP
4	235.64	9.80	2.09	5.32	17.21	46.00	28.79	QP
5	438.37	16.22	2.87	9.03	28.12	46.00	17.88	QP
6	540.22	19.46	3.26	4.98	27.70	46.00	18.30	QP





Limit : FCC PART 15 B(3M)

Env, / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Tony

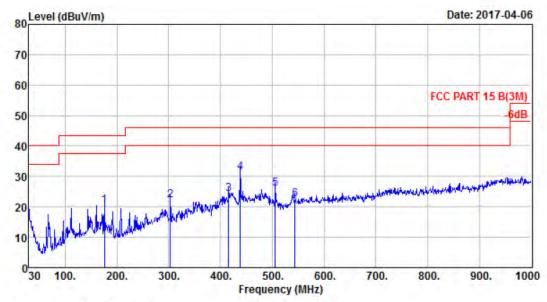
EUT : Car multimedia player

Power : DC 12V M/N : VX3026

Test Mode : 8-DPSK TX 2441MHz

	Freq.	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	111.48	10.60	1.44	8.25	20.29	43.50	23.21	QP
2	143.49	11.29	1.55	5.67	18.51	43.50	24.99	QP
3	303.54	13.08	2.43	8.95	24.46	46.00	21.54	QP
4	438.37	16.22	2.87	14.00	33.09	46.00	12.91	QP
5	506.27	17.92	3.17	6.12	27.21	46.00	18.79	QP
6	540.22	19.46	3.26	2.71	25.43	46.00	20.57	QP





Site no. : 1# 966 Chamber Data no. : 507
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B(3M)

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Tony

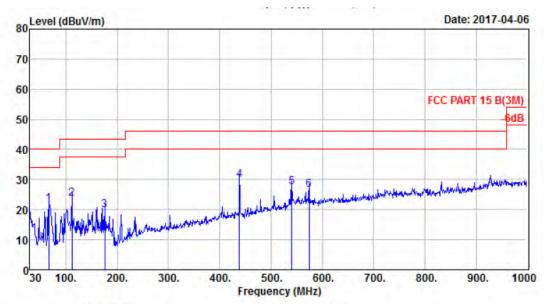
EUT : Car multimedia player

Power : DC 12V M/N : VX3026

Test Mode : 8-DPSK TX 2480MHz

	Freq.	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	175.50	8.98	1.68	9.81	20.47	43.50	23.03	QP
2	303.54	13.08	2.43	6.78	22.29	46.00	23.71	QP
3	416.06	16.30	2.75	5.29	24.34	46.00	21.66	QP
4	438.37	16.22	2.87	12.30	31.39	46.00	14.61	QP
5	506.27	17.92	3.17	4.89	25.98	46.00	20.02	QP
6	544.10	19.46	3.20	-0.12	22.54	46.00	23.46	QP





Site no. : 1# 966 Chamber Data no. : 508
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL

Limit : FCC PART 15 B(3M)

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Tony

EUT : Car multimedia player

Power : DC 12V M/N : VX3026

Test Mode : 8-DPSK TX 2480MHz

	Freq.	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	66.86	5.28	1.06	15.36	21.70	40.00	18.30	QP
2	111.48	10.60	1.44	11.62	23.66	43.50	19.84	QP
3	175.50	8.98	1.68	9.09	19.75	43.50	23.75	QP
4	438.37	16.22	2.87	10.70	29.79	46.00	16.21	QP
5	540.22	19.46	3.26	4.82	27.54	46.00	18.46	QP
6	574.17	19.56	3.37	3.59	26.52	46.00	19.48	QP



#### 1000 MHz - 18000MHz

Site no. : 1# 966 Chamber Data no. : 239 Dis. / Ant. : 3m ANT 1-18G Ant. pol Limit : FCC PART 15C PEAK Env. / Ins. : Temp:23.6'; Humi: 56%; Press:101.52kPa Ant. pol. : HORIZONTAL

Engineer : Tony

: Car multimedia player : DC 12V EUT

Power : VX3026 M/N

Test Mode : GFSK TX 2402MHz

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.00	27.61	6.62	34.64	83.93	83.52	74.00	-9.52	Peak
2	4804.00	31.25	11.77	35.64	38.49	45.87	74.00	28,13	Peak
3	7206.00	36.52	11.54	33.95	33.32	47.43	74.00	26.57	Peak
4	8684.00	37.32	11.45	33.66	31.07	46.18	74.00	27.82	Peak
5	10775.00	39.28	11.30	34.02	29.78	46.34	74.00	27.66	Peak
6	14090.00	41.54	10.91	33.13	27.99	47.31	74.00	26.69	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

2. The emission levels that are 20dB below the official limit are not reported.

Site no. : 1# 966 Chamber Data no. : 240
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL

Dis. / Ant. : 3m ANT 1-18G Ant. pol Limit : FCC PART 15C PEAK Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa

Engineer : Tony

EUT : Car multimedia player

Power : DC 12V M/N : VX3026 Test Mode : GFSK TX 2402MHz

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.00	27.61	6.62	34.64	88.28	87.87	74.00	-13.87	Peak
2	4804.00	31.25	11.77	35.64	38.36	45.74	74.00	28.26	Peak
3	7206.00	36.52	11.54	33.95	33.88	47.99	74.00	26.01	Peak
4	8684.00	37.32	11.45	33.66	31.74	46.85	74.00	27.15	Peak
5	10214.00	38.48	11.47	34.50	29.35	44.80	74.00	29.20	Peak
6	13665.00	40.55	11.30	32.75	27.62	46.72	74.00	27.28	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.



#### FCC ID: 2AEIN-VX3026

Site no. : 1# 966 Chamber Data no. : 241
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORI
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa Ant. pol. : HORIZONTAL

Engineer : Tony
EUT : Car multimedia player

: DC 12V : VX3026 Power M/N

Test Mode : GFSK TX 2441MHz

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.00	27.60	6.67	34.85	82.10	81.52	74.00	-7.52	Peak
2	4882.00	31.37	12.07	35.76	39.30	46.98	74.00	27.02	Peak
3	7323.00	36.55	11.57	34.14	32.26	46.24	74.00	27.76	Peak
4	8684.00	37.32	11.45	33.66	31.92	47.03	74.00	26.97	Peak
5	11200.00	39.39	11.14	33.24	27.60	44.89	74.00	29.11	Peak
6	14090.00	41.54	10.91	33.13	27.63	46.95	74.00	27.05	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

2. The emission levels that are 20dB below the official limit are not reported.

Site no. : 1# 966 Chamber Data no. : 242
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERI Ant. pol. : VERTICAL

: FCC PART 15C PEAK Limit

: Temp:23.6'; Humi:56%; Press:101.52kPa Env. / Ins.

Engineer

: Tony : Car multimedia player EUT

Power : DC 12V

M/N : VX3026 Test Mode : GFSK TX 2441MHz

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.00	27.60	6.67	34.85	86.78	86.20	74.00	-12.20	Peak
2	4882.00	31.37	12.07	35.76	40.99	48.67	74.00	25.33	Peak
3	7323.00	36.55	11.57	34.14	33.20	47.18	74.00	26.82	Peak
4	8684.00	37.32	11.45	33.66	28.63	43.74	74.00	30.26	Peak
5	11200.00	39.39	11.14	33.24	27.69	44.98	74.00	29.02	Peak
6	12645.00	38.80	11.06	33.30	28.89	45.45	74.00	28.55	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.



Site no. : 1# 966 Chamber Dis. / Ant. : 3m ANT 1-18G Data no. : 243 Ant. pol. : VERTICAL

: FCC PART 15C PEAK

: Temp:23.6';Humi:56%;Press:101.52kPa Env. / Ins.

Engineer : Tony
EUT : Car multimedia player EUT

: DC 12V Power

M/N : VX3026 Test Mode : GFSK TX 2480MHz

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	35.11	85.97	85.15	74.00	-11.15	Peak
2	4960.00	31.49	12.44	36.01	37.89	45.81	74.00	28.19	Peak
3	7440.00	36.54	11.61	34.22	33.09	47.02	74.00	26.98	Peak
4	8684.00	37.32	11.45	33.66	33.92	49.03	74.00	24.97	Peak
5	10044.00	38.18	11.56	34.85	30.66	45.55	74.00	28.45	Peak
6	14090.00	41.54	10.91	33.13	26.38	45.70	74.00	28.30	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

2. The emission levels that are 20dB below the official limit are not reported.

Site no. : 1# 966 Chamber Data no. : 244
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Tony
EUT : Car multimedia player
Power : DC 12V

M/N : VX3026 Test Mode : GFSK TX 2480MHz

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	35.11	81.82	81.00	74.00	-7.00	Peak
2	4960.00	31.49	12.44	36.01	36.68	44.60	74.00	29.40	Peak
3	7440.00	36.54	11.61	34.22	29.51	43.44	74.00	30.56	Peak
4	8684.00	37.32	11.45	33.66	29.12	44.23	74.00	29.77	Peak
5	10996.00	39.52	11.29	34.11	28.41	45.11	74.00	28.89	Peak
6	13954.00	41.35	10.96	32.99	28.10	47.42	74.00	26.58	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.



Site no. : 1# 966 Chamber Data no.
Dis. / Ant. : 3m ANT 1-18G Ant. pol
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa Data no. : 245 Ant. pol. : VERTICAL

Engineer

: Tony : Car multimedia player : DC 12V EUT

Power : VX3026 M/N

Test Mode : 8-DPSK TX 2402MHz

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.00	27.61	6.62	34.64	84.75	84.34	74.00	-10.34	Peak
2	4804.00	31.25	11.77	35.64	36.98	44.36	74.00	29.64	Peak
3	7206.00	36.52	11.54	33.95	29.57	43.68	74.00	30.32	Peak
4	8565.00	37.10	11.45	33.92	29.20	43.83	74.00	30.17	Peak
5	11234.00	39.37	11.12	33.25	26.28	43.52	74.00	30.48	Peak
6	13206.00	39.38	11.46	32.79	27.25	45.30	74.00	28.70	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

2. The emission levels that are 20dB below the official limit are not reported.

Site no. : 1# 966 Chamber Dis. / Ant. : 3m ANT 1-18G Data no. : 246 Ant. pol. : HORIZONTAL

: FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Tony
EUT : Car multimedia player
Power : DC 12V
M/N : VX3026
Test Mode : 8-DPSK TX 2402MHz

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.00	27.61	6.62	34.64	84.97	84.56	74.00	-10.56	Peak
2	4804.00	31.25	11.77	35.64	36.02	43.40	74.00	30.60	Peak
3	7206.00	36.52	11.54	33.95	30.72	44.83	74.00	29.17	Peak
4	8684.00	37.32	11.45	33.66	31.78	46.89	74.00	27.11	Peak
5	10894.00	39.41	11.29	34.05	28.13	44.78	74.00	29.22	Peak
6	13614.00	40.40	11.36	32.68	26.93	46.01	74.00	27.99	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.



Site no. : 1# 966 Chamber Data no. : 247

Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Tony

: Car multimedia player : DC 12V EUT

Power : VX3026 M/N

Test Mode : 8-DPSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.00	27.60	6.67	34.85	85.77	85.19	74.00	-11.19	Peak
2	4882.00	31.37	12.07	35.76	39.85	47.53	74.00	26.47	Peak
3	7323.00	36.55	11.57	34.14	32.31	46.29	74.00	27.71	Peak
4	8684.00	37.32	11.45	33.66	31.41	46.52	74.00	27.48	Peak
5	11064.00	39.48	11.24	33.83	29.00	45.89	74.00	28.11	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

2. The emission levels that are 20dB below the official limit are not reported.

Site no. : 1# 966 Chamber Data no. : 248
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORI Ant. pol. : HORIZONTAL

: FCC PART 15C PEAK Limit

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Tony

: Car multimedia player : DC 12V EUT

Power M/N : VX3026
Test Mode : 8-DPSK TX 2441MHz M/N

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.00	27.60	6.67	34.85	81.68	81.10	74.00	-7.10	Peak
2	4882.00	31.37	12.07	35.76	39.69	47.37	74.00	26.63	Peak
3	7323.00	36.55	11.57	34.14	31.73	45.71	74.00	28.29	Peak
4	8735.00	37.40	11.45	33.76	29.68	44.77	74.00	29.23	Peak
5	11115.00	39.44	11.20	33.55	27.67	44.76	74.00	29.24	Peak
6	13784.00	40.88	11.16	33.05	27.48	46.47	74.00	27.53	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

2. The emission levels that are 20dB below the official

limit are not reported.



#### FCC ID: 2AEIN-VX3026

Site no. : 1# 966 Chamber
Dis. / Ant. : 3m ANT 1-18G
Limit : FCC PART 15C PEAK Data no. : 249 Ant. pol. : HORIZONTAL

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Env. / Ins. : Temp:23.6°; humi:36%; Fr
Engineer : Tony
EUT : Car multimedia player
Power : DC 12V
M/N : VX3026
Test Mode : 8-DPSK TX 2480MHz

	Freq.	Ant, Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	35.11	81.66	80.84	74.00	-6.84	Peak
2	4960.00	31.49	12.44	36.01	36.22	44.14	74.00	29.86	Peak
3	7440.00	36.54	11.61	34.22	31.90	45.83	74.00	28.17	Peak
4	8684.00	37.32	11.45	33.66	31.62	46.73	74.00	27.27	Peak
5	11030.00	39.50	11.27	33.98	29.17	45.96	74.00	28.04	Peak
6	12985.00	38.89	11.41	33.04	28.74	46.00	74.00	28.00	Peak

Remarks: 1, Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

2. The emission levels that are 20dB below the official limit are not reported.

Data no. : 250 Site no. : 1# 966 Chamber Dis. / Ant. : 3m ANT 1-18G Site no. Ant. pol. : VERTICAL

: FCC PART 15C PEAK Limit

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Tony
EUT : Car multimedia player EUT

Power : DC 12V : VX3026 M/N

Test Mode : 8-DPSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	35.11	84.01	83.19	74.00	-9.19	Peak
2	4960.00	31.49	12.44	36.01	36.72	44.64	74.00	29.36	Peak
3	7440.00	36.54	11.61	34.22	31.46	45.39	74.00	28.61	Peak
4	8684.00	37.32	11.45	33.66	31.87	46.98	74.00	27.02	Peak
5	11285.00	39.33	11.08	33.32	28.64	45.73	74.00	28.27	Peak
6	13376.00	39.78	11.48	32.91	29.43	47.78	74.00	26.22	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.



# 18000MHz - 25000MHz

Pass

Note: The amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.



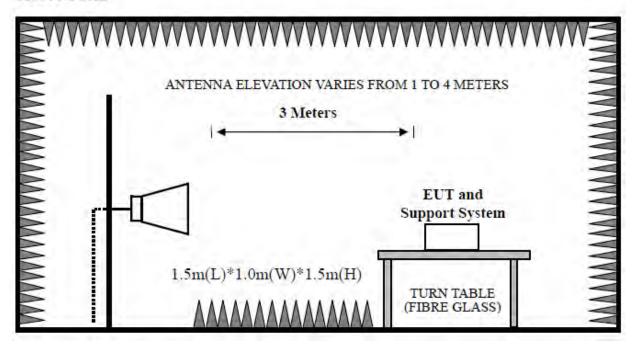
# 9. BAND EDGE COMPLIANCE

## 9.1. Limit

All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

# 9.2. Block Diagram of Test setup

Above 1GHz



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## 9.3. Test Procedure

EUT was placed on a turn table, which is 1.5 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of emissions

(a) Peak : RBW = 1MHz, VBW = 1MHz, Detector=PEAK detector, Sweep time = auto

(b) AV: RBW = 1MHz, VBW = 10Hz, Detector=PEAK detector, Sweep time = auto.

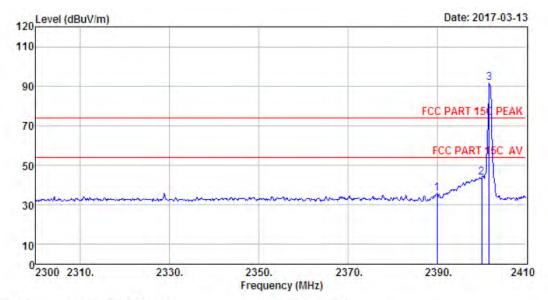
## 9.4. Test Result

EUT: Car Multimedia Player								
M/N:VX3026								
Power: DC 12V								
Test date: 2017-03-13 Test site: 3m Chamber Tested by: Tony Tang								
Test mode: Tx Mode (Hopping On & No Hopping)								
Pass								

- Note: 1. For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.
  - 2. The frequency 2402MHz \ 2441MHz and 2480MHz is fundamental frequency which no limit, the limit on plots is automatically generated by the software, it's not fundamental limit, we can't remove it.

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# 9.5. Test Data



Site no. : 1# 966 Chamber
Dis. / Ant, : 3m ANT 1-18G
Limit : FCC PART 15C PEAK Data no. : 259 Ant. pol. : VERTICAL

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

: Tony Engineer

EUT : Car multimedia player

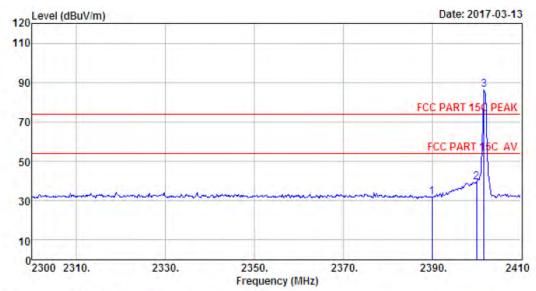
Power : DC 12V M/N : VX3026

Test Mode : GFSK TX 2402MHz (No Hopping)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.64	6.62	34.62	36.03	35.67	74.00	38.33	Peak
2	2400.00	27.61	6.62	34.64	44.14	43.73	74.00	30.27	Peak
3	2401.75	27.61	6.62	34.64	91.88	91.47	74.00	-17.47	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





Site no. : 1# 966 Chamber Data no. : 260
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Fress:101.52kPa

Engineer : Tony

EUT : Car multimedia player

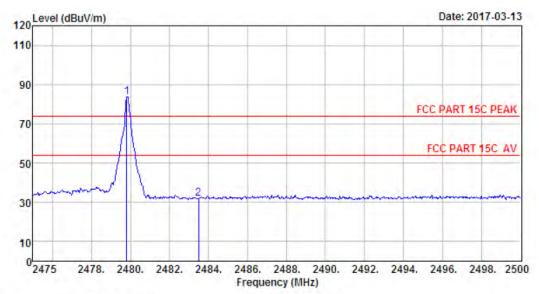
Power : DC 12V M/N : VX3026

Test Mode : GFSK TX 2402MHz (No Hopping)

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.64	6.62	34.62	32.19	31.83	74.00	42.17	Peak
2	2400.00	27.61	6.62	34.64	39.69	39.28	74.00	34.72	Peak
3	2401.75	27.61	6.62	34.64	86,66	86.25	74.00	-12.25	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





Site no. : 1# 966 Chamber Data no. : 261
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Tony

EUT : Car multimedia player

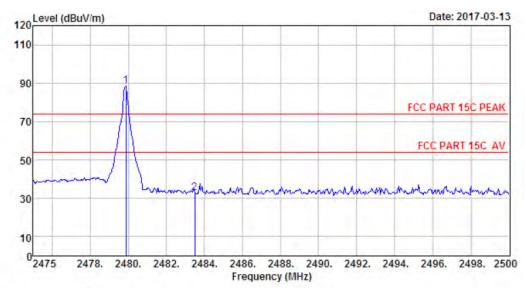
Power : DC 12V M/N : VX3026

Test Mode : GFSK TX 2480MHz (No Hopping)

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	-	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.80	27.58	6.71	35.11	84.42	83.60	74.00	-9,60	Peak
2	2483.50	27.58	6.71	35.11	32.80	31.98	74.00	42.02	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





Site no. : 1# 966 Chamber
Dis. / Ant. : 3m ANT 1-18G
Limit : FCC PART 15C PEAK Data no. : 262 Ant. pol. : VERTICAL

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

: Tony Engineer

EUT : Car multimedia player

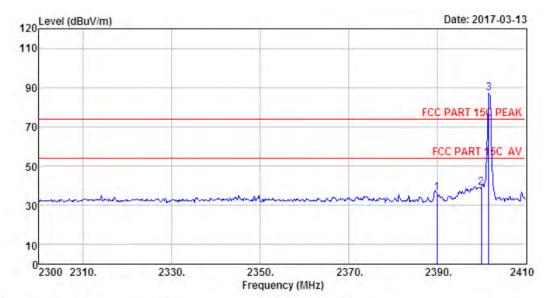
Power : DC 12V : VX3026 M/N

Test Mode : GFSK TX 2480MHz (No Hopping)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479,88	27.58	6.71	35.11	89.24	88.42	74.00	-14.42	Peak
2	2483.50	27.58	6.71	35.11	33.42	32.60	74.00	41.40	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





Site no. : 1# 966 Chamber Data no. : 264
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Tony

EUT : Car multimedia player

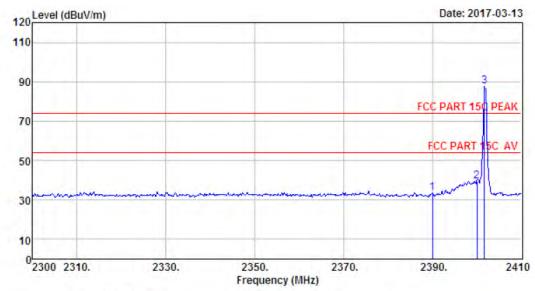
Power : DC 12V M/N : VX3026

Test Mode : 8-DPSK TX 2402MHz (No Hopping)

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.64	6.62	34.62	36.59	36.23	74.00	37.77	Peak
2	2400.00	27.61	6.62	34.64	39.57	39.16	74.00	34.84	Peak
3	2401.75	27.61	6.62	34.64	87.56	87.15	74.00	-13.15	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





Site no. : 1# 966 Chamber Data no. : 263
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Tony

EUT : Car multimedia player

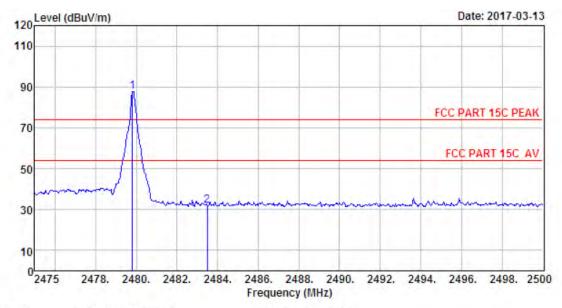
Power : DC 12V M/N : VX3026

Test Mode : 8-DPSK TX 2402MHz (No Hopping)

	Freq.	Ant, Factor (dB/m)	Cable Loss (dB)		Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.64	6.62	34.62	33.84	33.48	74.00	40.52	Peak
2	2400.00	27.61	6.62	34.64	39.72	39.31	74.00	34.69	Peak
3	2401.75	27.61	6.62	34.64	88.01	87.60	74.00	-13.60	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





Site no. : 1# 966 Chamber Dis. / Ant. : 3m ANT 1-18G Data no. : 265 Ant. pol. : VERTICAL

: FCC PART 15C PEAK Limit

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer

: Tony : Car multimedia player EUT

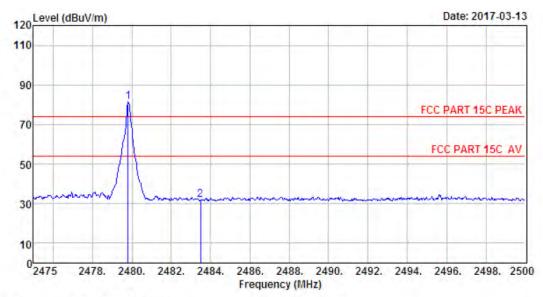
: DC 12V Power M/N : VX3026

Test Mode : 8-DPSK TX 2480MHz (No Hopping)

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.80	27.58	6.71	35.11	88.37	87.55	74.00	-13.55	Peak
2	2483.50	27.58	6.71	35.11	32.71	31.89	74.00	42.11	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





Site no. : 1# 966 Chamber Data no. : 266
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Tony

EUT : Car multimedia player

Power : DC 12V M/N : VX3026

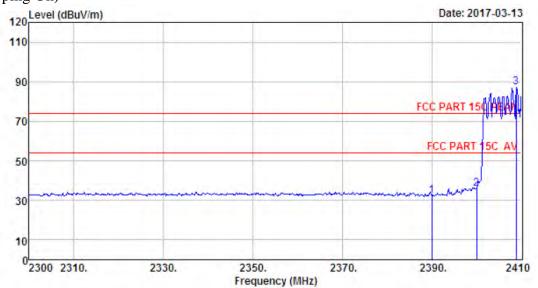
Test Mode : 8-DPSK TX 2480MHz (No Hopping)

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.80	27.58	6.71	35.11	82.09	81.27	74.00	-7.27	Peak
2	2483.50	27.58	6.71	35.11	32.81	31.99	74.00	42.01	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.



# (Hopping On)



Site no. : 1# 966 Chamber Data no. : 251

Dis. / Ant. : 3m ANT 1-18G Limit : FCC PART 15C PEAK Ant. pol. : HORIZONTAL

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

: Tony Engineer

: Car multimedia player : DC 12V EUT

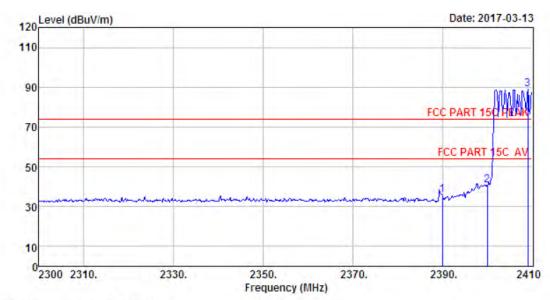
Power M/N : VX3026

Test Mode : GFSK TX 2402MHz (Hopping On)

-52164	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.64	6.62	34.62	32.83	32.47	74.00	41.53	Peak
2	2400.00	27.61	6.62	34.64	36.16	35.75	74.00	38.25	Peak
3	2408.90	27.60	6.64	34.64	87.50	87.10	74.00	-13.10	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading,





Site no. : 1# 966 Chamber Data no. : 252
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Tony

EUT : Car multimedia player

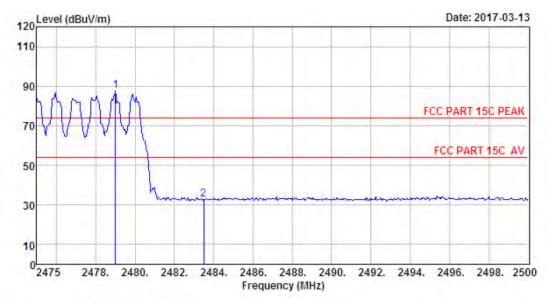
Power : DC 12V M/N : VX3026

Test Mode : GFSK TX 2402MHz (Hopping On)

	Freq.	Ant. Factor (dB/m)			Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.64	6.62	34.62	36.30	35.94	74.00	38.06	Peak
2	2400.00	27.61	6.62	34.64	40.96	40.55	74.00	33.45	Peak
3	2409.12	27.60	6.64	34.64	89.54	89.14	74.00	-15.14	Feak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





Site no. : 1# 966 Chamber Data no. : 253
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Tony

EUI : Car multimedia player

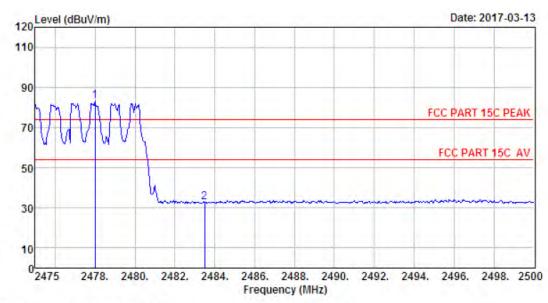
Power : DC 12V M/N : VX3026

Test Mode : GFSK TX 2480MHz (Hopping On)

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)		Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark	
1	2479.00	27.58	6.71	35.11	88.45	87.63	74.00	-13.63	Peak	
2	2483.50	27.58	6.71	35.11	33.63	32.81	74.00	41.19	Peak	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





Site no. : 1# 966 Chamber Data no. : 254

Dis. / Ant. : 3m ANT 1-18G Limit : FCC PART 15C PEAK Ant. pol. : HORIZONTAL

Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa

Engineer : Tony

EUT : Car multimedia player

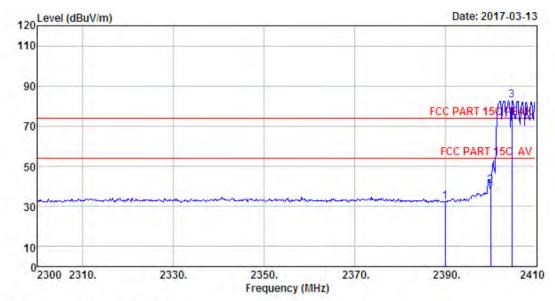
: DC 12V Power M/N : VX3026

: GFSK TX 2480MHz (Hopping On) Test Mode

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2478.00	27.58	6.71	35.11	84.00	83,18	74.00	-9.18	Peak
2	2483.50	27.58	6.71	35.11	33.41	32,59	74.00	41.41	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





Data no. : 255

Site no. : 1# 966 Chamber Dis. / Ant. : 3m ANT 1-18G Limit : FCC PART 15C PEAK Ant. pol. : HORIZONTAL

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

: Tony Engineer

EUT : Car multimedia player

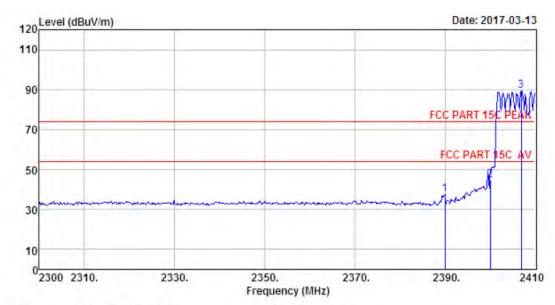
: DC 12V Power : VX3026 M/N

Test Mode : 8-DPSK TX 2402MHz (Hopping On)

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.64	6.62	34.62	32.62	32.26	74.00	41.74	Peak
2	2400.00	27.61	6.62	34.64	40.69	40.28	74.00	33.72	Peak
3	2404.72	27.61	6.64	34.64	83.25	82.86	74.00	-8.86	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





Site no. : 1# 966 Chamber Data no. : 256
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

Engineer : Tony

EUT : Car multimedia player

Power : DC 12V M/N : VX3026

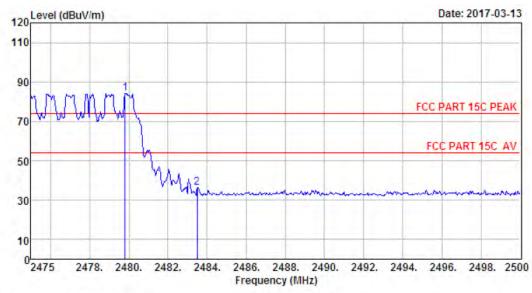
Test Mode : 8-DPSK TX 2402MHz (Hopping On)

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.64	6.62	34.62	37.97	37.61	74.00	36.39	Peak
2	2400.00	27.61	6.62	34.64	45.29	44.88	74.00	29.12	Peak
3	2406.92	27.61	6.64	34.64	89.72	89.33	74.00	-15.33	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

The emission levels that are 20dB below the official limit are not reported.





Site no. : 1# 966 Chamber
Dis. / Ant. : 3m ANT 1-18G
Limit : FCC PART 15C PEAK Data no. : 257 Ant. pol. : VERTICAL

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

: Tony Engineer

EUT : Car multimedia player

: DC 12V Power

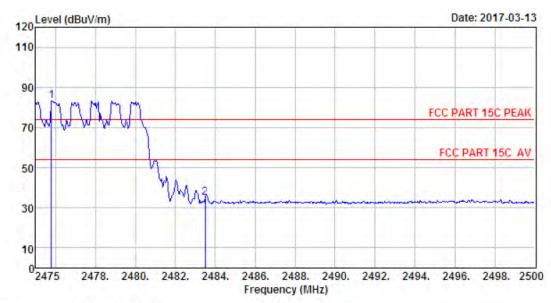
M/N : VX3026 Test Mode : 8-DPSK TX 2480MHz (Hopping On)

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.80	27.58	6.71	35.11	85.12	84.30	74.00	-10.30	Peak
2	2483.50	27.58	6.71	35.11	37.00	36.18	74.00	37.82	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

2. The emission levels that are 20dB below the official limit are not reported.





Site no. : 1# 966 Chamber Data no. : 258

Dis. / Ant. : 3m ANT 1-18G Limit : FCC PART 15C PEAK Ant. pol. : HORIZONTAL

Env. / Ins. : Temp:23.6'; Humi:56%; Press:101.52kPa

: Tony Engineer

EUT : Car multimedia player

: DC 12V Power M/N : VX3026

: 8-DPSK TX 2480MHz (Hopping On) Test Mode

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)		Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2475.80	27.58	6.71	35.11	84.00	83.18	74.00	-9.18	Peak
2	2483.50	27.58	6.71	35.11	35.58	34.76	74.00	39.24	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

2. The emission levels that are 20dB below the official limit are not reported.



## 10. ANTENNA REQUIREMENTS

#### 10.1.Limit

For intentional device, according to FCC 47 CFR Section 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. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

#### 10.2.Result

The antennas used for this product are Integrated PCB antenna and that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is only 0 dBi.

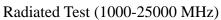
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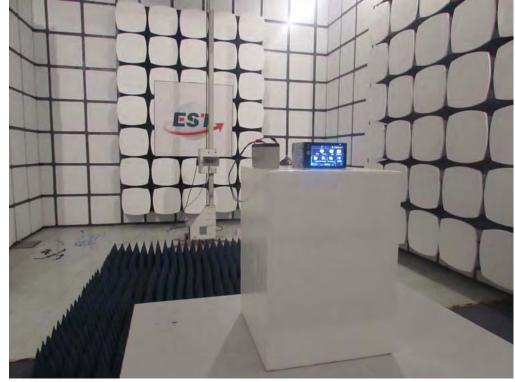


## 11. TEST SETUP PHOTO

Radiated Test (30-1000 MHz)



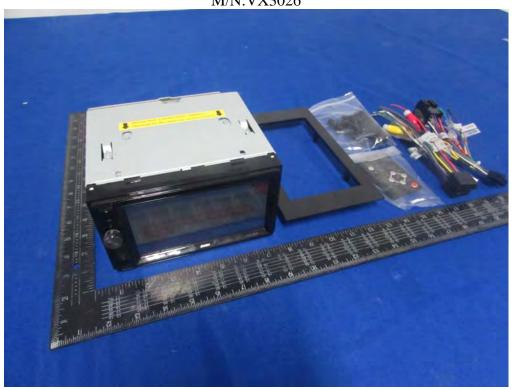




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## 12. PHOTOS OF EUT

External Photos M/N:VX3026





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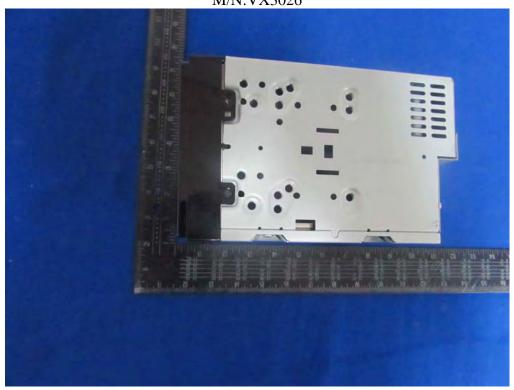
External Photos M/N:VX3026

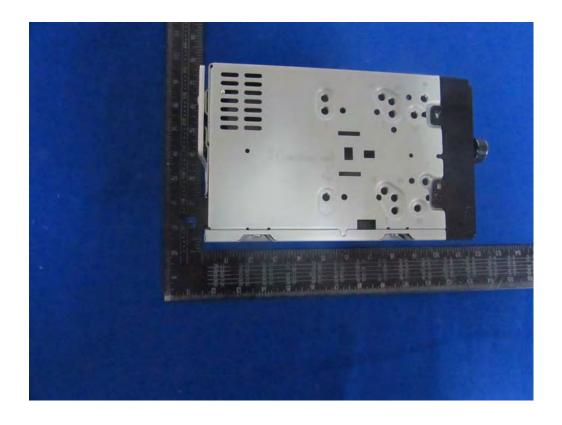




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External Photos M/N:VX3026

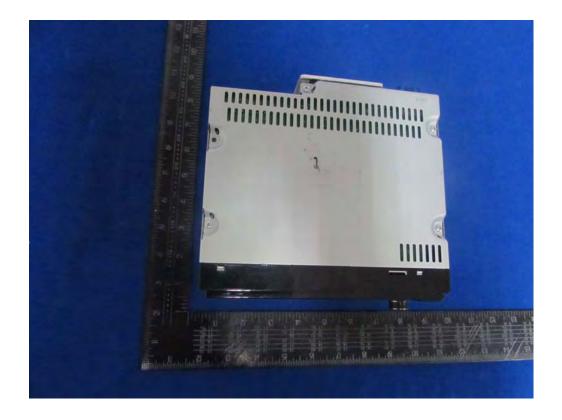




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External Photos M/N:VX3026





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Internal Photos M/N:VX3026





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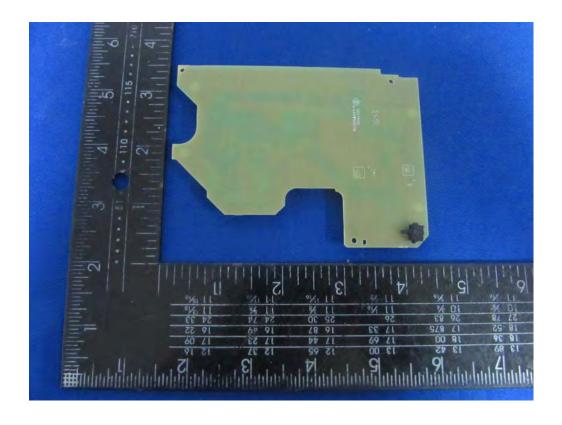
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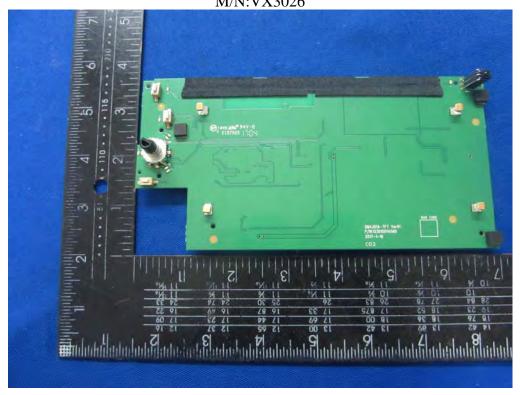


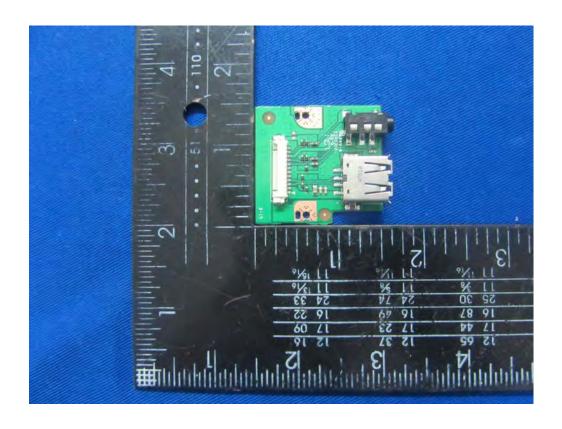
Bluetooth Antenna



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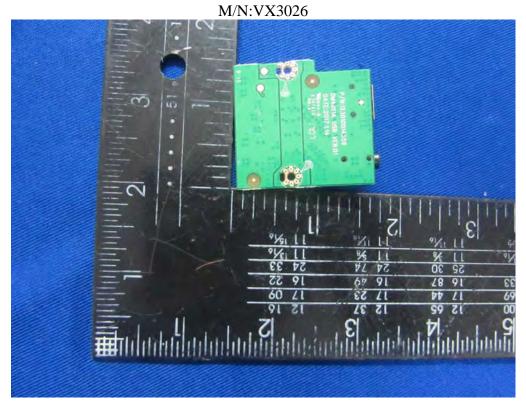






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# **Internal Photos**





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