TEST REPORT

Issued By: Dongguan New Testing Centre Co., Ltd

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5. Objections to the test report must be submitted to NTC within 15 days.
6. The test report is valid for the tested samples only.
7. As for test verdict, "—"means is "no need for judgment" "N/A" means is "not applicable", "P" means "pass", "F" means "fail".

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TEST REPORT DECLARE

IC ID	:	25977-25004
FCC ID	:	2AUJF-25004
Applicant	:	Diecast Masters Company Limited
Address	:	Room 1801-5, 18/F., King Palace Plaza, 52A Sha Tsui Road, Tsuen Wan, N.T., Hong Kong
Equipment under Test	:	1:24 RC Cat 745 Articulated Truck
Model No	:	25004
Trade Mark	:	Diecast-Masters
Manufacturer	:	Guang Dong Yu Lee Technology Corporation Limited
Address	:	Jinlong Industrial District,Sanzhong Village,Qingxi Town, Dongguan City,Guangdong Province, China

Test Standard Used:

FCC Rules and Regulations Part 15 Subpart C: 2019, ANSI C63.10:2013.

RSS-210: Issue 10 December 2019, RSS-Gen: March 6, 2019.

We Declare:

The equipment described above is tested by Dongguan New Testing Centre Co., Ltd and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Dongguan New Testing Centre Co., Ltd is assumed of full responsibility for the accuracy and completeness of these tests.

After test and evaluation, our opinion is that the equipment provided for test compliance with the requirement of the above standards.

Report No.:	NTC-ER2003031		
Date of Test:	Feb.18, 2020 to Oct.19, 2020	**Date of Report**:	Oct.20, 2020

Prepared By: ***Approved By:***

Jeffrey Zhang

Jeffrey Zhang/Engineer ***Dave Gao/LAB Manager***

pNote: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Dongguan New Testing Centre Co., Ltd

1. Summary of test results

Description of Test Item	Standard	Results
-20dB Bandwidth and 99% occupied bandwidth	FCC Part 15 Subpart C:2019 ANSI C63.10:2013 RSS-210:2019; RSS-Gen:2019	PASS
Conducted emission test	FCC Part 15 Subpart C:2019 ANSI C63.10:2013 RSS-210:2019; RSS-Gen:2019	N/A
Radiated emission test	FCC Part 15 Subpart C:2019 ANSI C63.10:2013 RSS-210:2019; RSS-Gen:2019	PASS
Antenna requirement	FCC 15.203; RSS-GEN	PASS
Restricted band and band-edge	FCC 15.249,15.209; RSS-210,RSS-GEN	PASS

2. General test information

2.1. Description of EUT

EUT* Name	:	1:24 RC Cat 745 Articulated Truck
Test model	:	25004
EUT function description	:	Please reference user manual of this device
Power supply	:	DC 3V (New battery is used; Battery AAA 1.5V * 2Pcs)
Trade mark	:	Diecast-Masters
Operation frequency	:	2410-2473MHz
Modulation Type	:	GFSK
Channel Space	:	1MHz
Channel Number	:	64
Antenna Type	:	Wire antenna
Antenna Gain	:	0 dBi
Hardware Version	:	V1.0
Software Version	:	V1.0

Note: 1,EUT is the ab. of equipment under test.
2,model 25004 are the same 25003 except model name and product name, the test data from the 25003.

Channel List:

Channels	Frequency (MHz)	Channels	Frequency (MHz)	Channels	Frequency (MHz)
0	2410	22	2432	44	2454
1	2411	23	2433	45	2455
2	2412	24	2434	46	2456
3	2413	25	2435	47	2457
4	2414	26	2436	48	2458
5	2415	27	2437	49	2459
6	2416	28	2438	50	2460
7	2417	29	2439	51	2461
8	2418	30	2440	52	2462
9	2419	31	2441	53	2463
10	2420	32	2442	54	2464
11	2421	33	2443	55	2465
12	2422	34	2444	56	2466
13	2423	35	2445	57	2467
14	2424	36	2446	58	2468
15	2425	37	2447	59	2469
16	2426	38	2448	60	2470
17	2427	39	2449	61	2471
18	2428	40	2450	62	2472
19	2429	41	2451	63	2473
20	2430	42	2452	--	--
21	2431	43	2453	--	--

2.2. Description of test modes

The transmitter module was tested while in a continuous transmitter/receiver mode.
The EUT was tuned to a low, middle, and high channel for all tests. For all test case pre/scans were completed in all modes to determine worst case levels.

Entry test mode steps of transmitter:
1. At the same time, press and hold the demo + light button to start up, enter the test mode;
2. After entering the test mode, press the light button to select mode and frequency:
2410MHz (modulation) -- > 2442 MHz (modulation) -- > 2473 MHz (modulation) -- > 2410 MHz (Un-modulation) -- > 2442 MHz (Un-modulation)-- > 2473 MHz (Un-modulation).

Test Software Version	950M V1.0		
Tx power	Fixed		
Test Frequency	2410MHz	2442MHz	2473MHz

2.3. Block diagram EUT configuration for test

2.4. Test environment conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature range:	21-24℃
Humidity range:	40-75%
Pressure range:	86-106kPa

2.5. Measurement uncertainty

Test Item	Uncertainty
Uncertainty for Conduction emission test	2.44dB
Uncertainty for Radiation Emission test (30MHz – 1GHz)	3.14 dB (Polarize: V)
	3.16 dB (Polarize: H)
Uncertainty for Radiation Emission test (1GHz – 26GHz)	4.27 dB (Polarize: V)
	4.51 dB (Polarize: H)
Uncertainty for Radiation Emission test (26GHz – 40GHz)	4.60 dB (Polarize: V)
	4.60 dB (Polarize: H)
Bandwidth	±1.2%
Stop Transmitting Time Test	±0.5%
Frequency error	5.8×10^{-8}

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

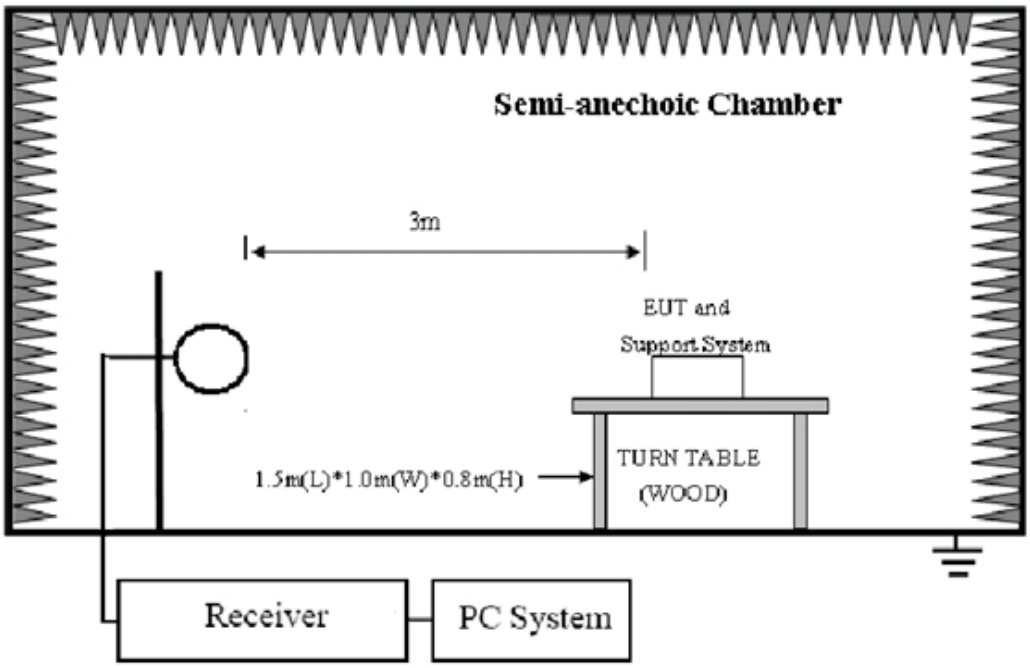
3. Radiated emission test

3.1. Test equipment

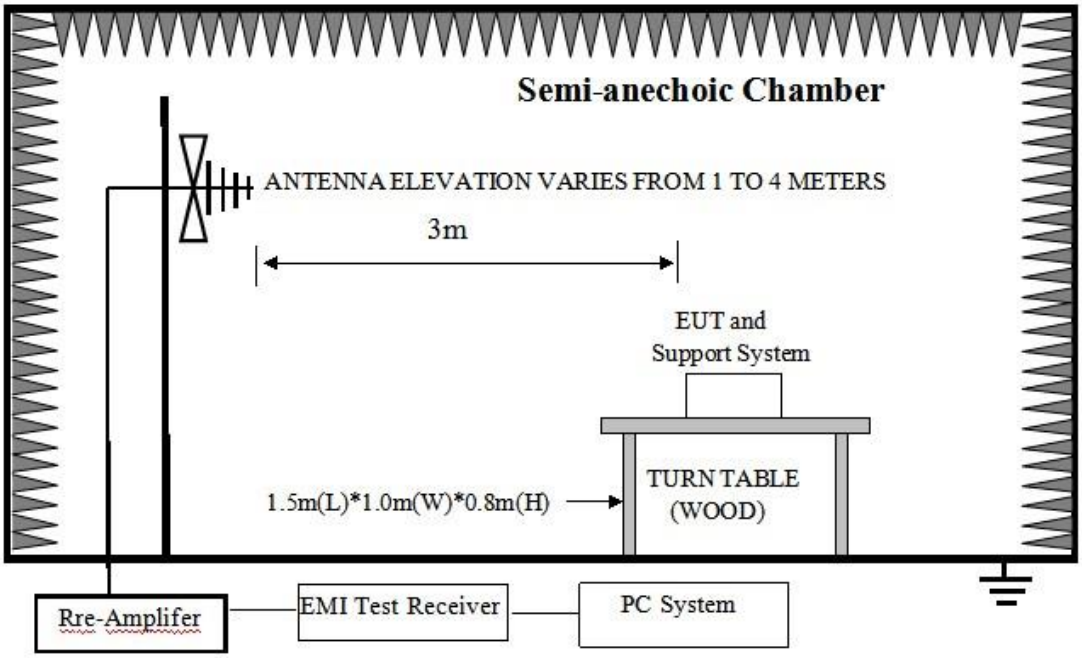
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	EMI Test Receiver	R&S	ESR	7250-304067528	2019-05-23	1 Year
					2020-05-25	1 Year
2	Trilog Broadband Antenna	Schwarzbeck	VULB9168	00969	2019-03-28	2 Year
3	Active Loop antenna	Schwarzbeck	FMZB-1519	1519-038	2019-05-23	2 Year
4	Horn antenna	Schwarzbeck	BBHA9120D	453	2019-05-16	2 Year
5	Pre-amplifier	R&S	SCU18	105326	2019-05-23	1 Year
					2020-05-25	1 Year
6	RF Cable	GORE	OSQ01Q01078.7	SN15458473	2019-05-23	2 Year
7	RF Cable	ESCO	ETS-LINGREN	RFC-SMS-100-SMS-340-IN	2019-05-23	2 Year
8	Measurement software	Farad	EZ-EMC(VER:1.1.4.2)	N/A	N/A	N/A

3.2. Block diagram of test setup

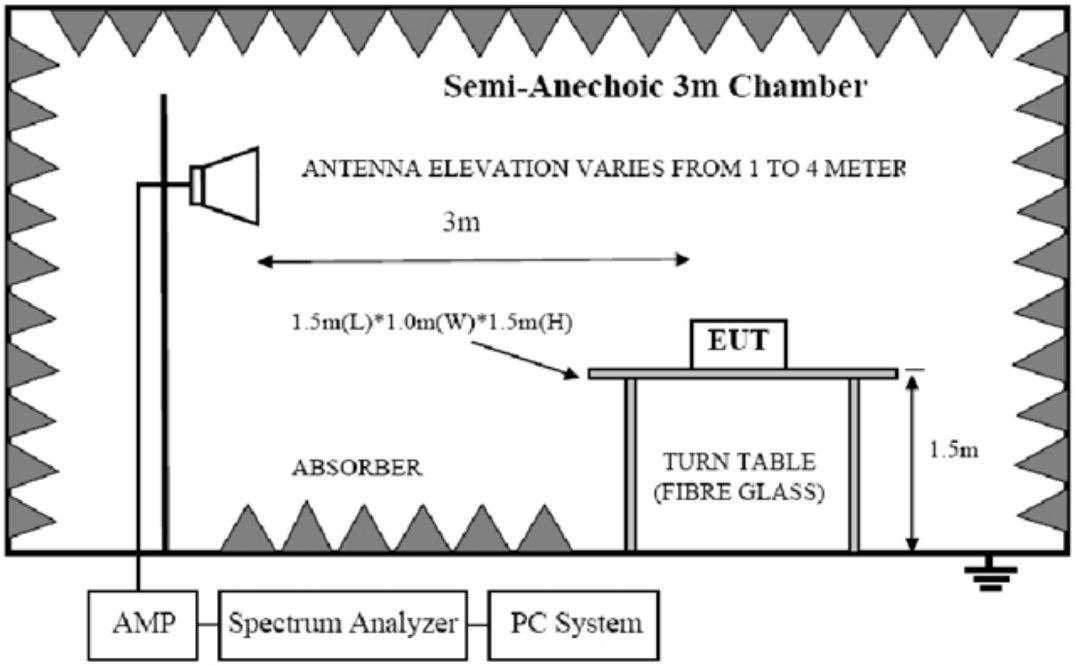
In 3m Anechoic Chamber Test Setup Diagram for 9KHz to 30MHz:



In 3m Anechoic Chamber Test Setup Diagram for 30MHz to 1GHz:



In 3m Anechoic Chamber Test Setup Diagram for frequency above 1GHz:



3.3. Limit

Rss-gen restricted frequency band:

Table 6 – Restricted Frequency Bands*

MHz
0.090-0.110
2.1735-2.1905
3.020-3.026
4.125-4.128
4.17725-4.17775
4.20725-4.20775
5.677-5.683
6.215-6.218
6.26775-6.26825
6.31175-6.31225
8.291-8.294
8.362-8.366
8.37625-8.38675
8.41425-8.41475
12.29-12.293
12.51975-12.52025
12.57675-12.57725
13.36-13.41
16.42-16.423
16.69475-16.69525
16.80425-16.80475
25.5-25.67
37.5-38.25
73-74.6
74.8-75.2
108-138
156.52475-156.52525
156.7-156.9

MHz
240-285
322-335.4
399.9-410
608-614
960-1427
1435-1626.5
1645.5-1646.5
1660-1710
1718.8-1722.2
2200-2300
2310-2390
2655-2900
3260-3267
3332-3339
3345.8-3358
3500-4400
4500-5150
5350-5460
7250-7750
8025-8500

GHz
9.0-9.2
9.3-9.5
10.6-12.7
13.25-13.4
14.47-14.5
15.35-16.2
17.7-21.4
22.01-23.12
23.6-24.0
31.2-31.8
36.43-36.5
Above 38.6

* Certain frequency bands listed in Table 6 and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to the devices are set out in the 200- and 300-series of RSSs, such as RSS-210 and RSS-310, which contain the requirements that apply to licence-exempt radio apparatus.

FCC 15.205 Restricted frequency band:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]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])

FCC 15.209 and rss-gen table 4 Limit

Frequency (MHz)	Distance (Meters)	Field Strengths Limits dB(μV)/m
30--88	3	40.0
88--216	3	43.5
216--960	3	46.0
960--1000	3	54.0
Above 1GHz	3	Peak: 74.0
	3	Average:54.0

Note: (1) The smaller limit shall apply at the cross point between two frequency bands.

(2)Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

(3)The emission limits shown in the above table are based on measurements employing a CISPR QP detector except for the frequency bands 9-90KHz, 110-490KHz and above 1000MHz.Radiated emissions limits in these three bands are based on measurements employing an average detector.

(4) At frequencies below 30MHz, measurement may be performed at a distance closer then that specified, and the limit at closer measurement distance can be extrapolated by below formula:

Limit3m(dBuV/m)= Limit30m(dBuV/m) + 40Log(30m/3m)

(5)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.

3.4. Test Procedure

Procedure of Preliminary Test

Configuration EUT to simulate typical usage as described in clause 2.3 and test equipment as described in clause 4.2 of this report.

Mains cables, telephone lines or other connections to auxiliary equipment located outside the test are shall drape to the floor, be fitted with ferrite clamps or ferrite tubes placed on the floor at the point where the cable reaches the floor and then routed to the place where they leave the turntable. No extension cords shall be used to mains receptacle.

EUT height should be 0.8m for below 1GHz and 1.5m for above 1GHz at ground with absorbers.

The antenna was placed at 3 meter away from the EUT as stated in ANSI C63.10. The antenna connected to the Spectrum Analyzer via a cable and at times a pre-amplifier would be used.

The Analyzer / Receiver quickly scanned from 30MHz to 25GHz. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.

The X, Y, Z three axial are tested and the report only the worst case.

The emissions from 9KHz to 1GHz, QP or average values were measured with EMI receiver with below RBW:

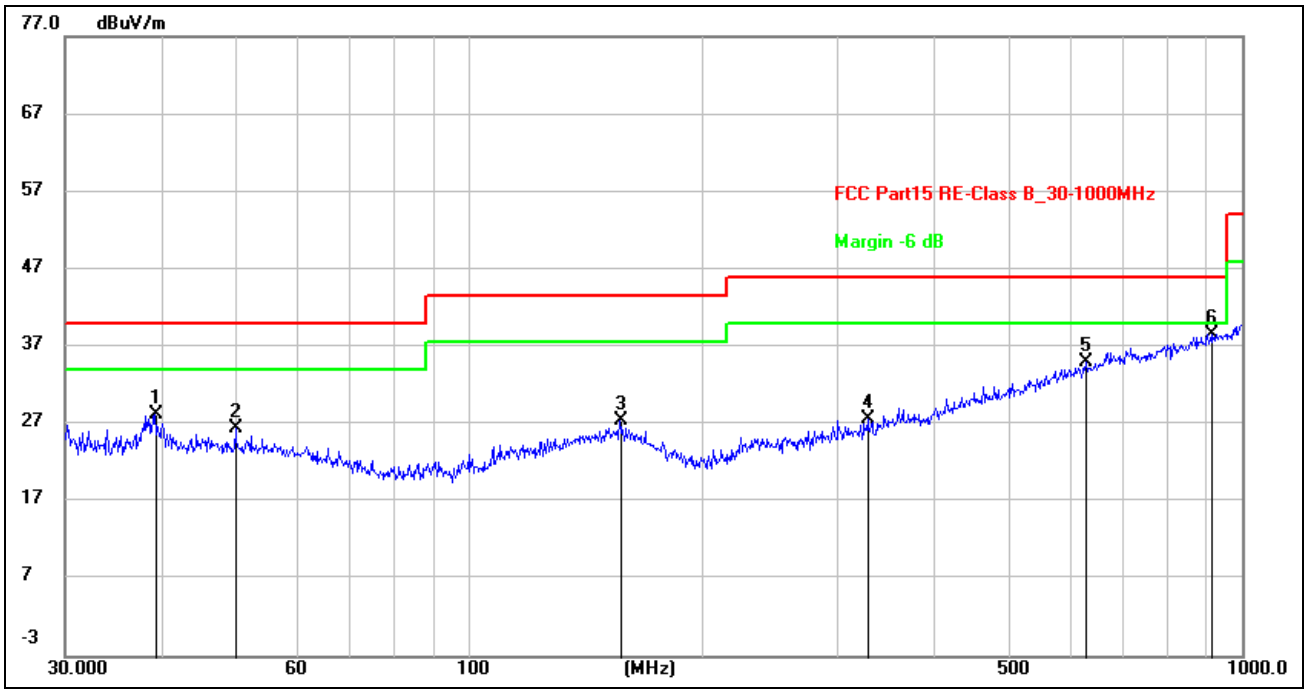
Frequency band	RBW
9KHz-150KHz	200Hz
150KHz-30MHz	9KHz
30MHz-1GHz	120KHz

For emissions above 1GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1MHz, VBW is set at 3MHz for Peak measure; RMS detector RBW 1MHz VBW 3MHz for Average measure.

3.5. Test result

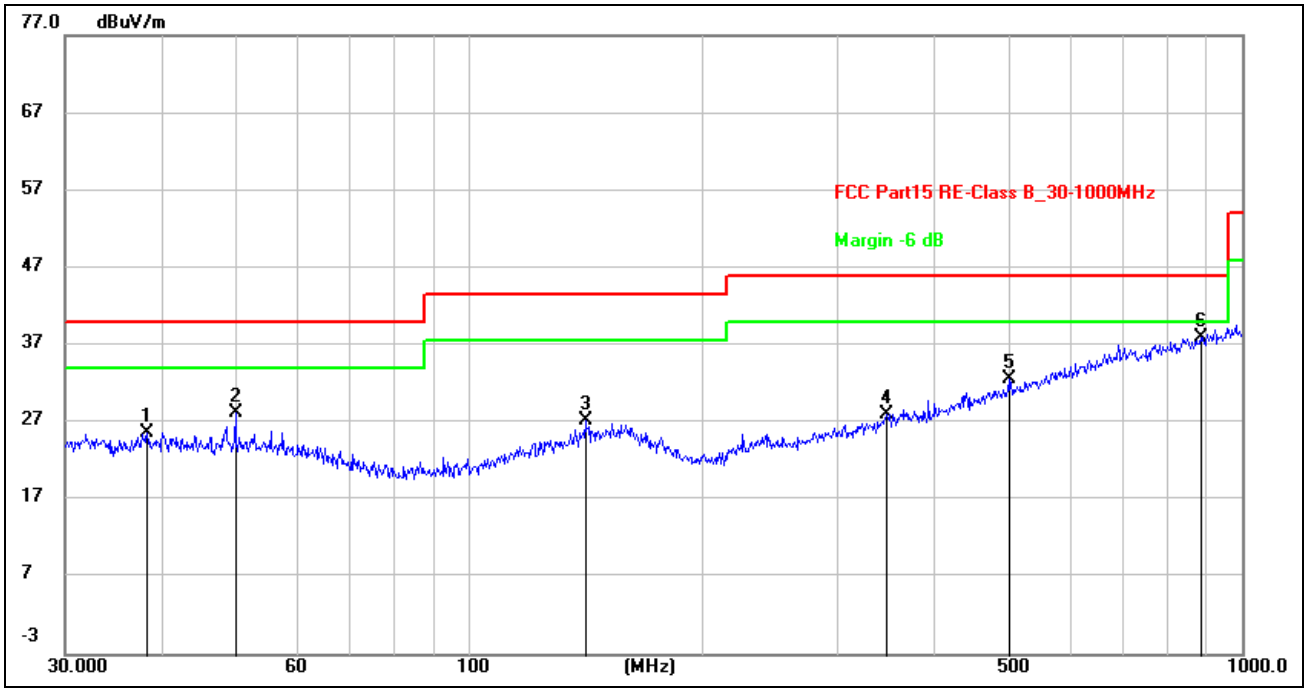
PASS. (See below detailed test result)

9K-30MHz: Emission detected are more than 20dB below the limit line.



Site:	**966 LAB**	**Antenna::Vertical**	**Temperature(C):24(C)**
Limit:	**FCC Part15 RE-Class B_3m**		**Humidity(%):60%**
EUT:	**1:24 RC Cat 745 Articulated Truck**	**Test Time:**	**2020/3/11 9:18:16**
M/N.:	**25004**	**Power Rating:**	**DC 3V**
Mode:	**Tx mode**	**Test Engineer:**	**Taylor_Chen**
Note:			

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)	Remark
1	39.1616	13.47	14.72	28.19	40.00	-11.81	peak	200	215	
2	49.8814	12.18	14.34	26.52	40.00	-13.48	peak	100	3	
3	156.4578	12.09	15.46	27.55	43.50	-15.95	peak	100	193	
4	327.8873	12.43	15.26	27.69	46.00	-18.31	peak	100	3	
5	629.4772	13.59	21.46	35.05	46.00	-10.95	peak	200	293	
6 *	912.8620	13.54	24.99	38.53	46.00	-7.47	peak	200	78	



Site:	**966 LAB**	**Antenna::Horizontal**	**Temperature(C):24(C)**
Limit:	**FCC Part15 RE-Class B_3m**		**Humidity(%):60%**
EUT:	**1:24 RC Cat 745 Articulated Truck**	**Test Time:**	**2020/3/11 9:25:49**
M/N.:	**25004**	**Power Rating:**	**DC 3V**
Mode:	**Tx mode**	**Test Engineer:**	**Taylor_Chen**
Note:			

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)	Remark
1	38.3462	11.13	14.60	25.73	40.00	-14.27	peak	200	277	
2	49.8814	13.84	14.34	28.18	40.00	-11.82	peak	200	3	
3	141.3296	12.43	14.86	27.29	43.50	-16.21	peak	200	57	
4	346.8092	12.53	15.59	28.12	46.00	-17.88	peak	200	3	
5	499.4246	13.79	18.81	32.60	46.00	-13.40	peak	100	71	
6 *	884.5028	13.51	24.56	38.07	46.00	-7.93	peak	100	114	

Site:	**966 LAB**	**Antenna::H / V**	**Temperature(C):24(C)**
Limit:	**FCC Part 15.249**		**Humidity(%):60%**
EUT:	**1:24 RC Cat 745 Articulated Truck**	**Test Time:**	**2020/02/28**
M/N.:	**25004**	**Power Rating:**	**DC 3V**
Mode:	**Tx mode (2410MHz)**	**Test Engineer:**	
Note:			

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Pre-amp (dB)	Cable lost (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detect	Antenna polarization
2410.00	99.52	26.37	40.19	8.51	94.21	114.00	-19.79	Peak	H
2410.00	89.15	26.37	40.19	8.51	83.84	94.00	-10.16	AVG	H
2390.00	57.62	26.33	40.23	8.46	52.18	74.00	-21.82	Peak	H
2390.00	50.98	26.33	40.23	8.46	45.54	54.00	-8.46	AVG	H
2400.00	56.74	26.38	40.20	8.49	51.41	74.00	-22.59	Peak	H
2400.00	40.38	26.38	40.20	8.49	35.05	54.00	-18.95	AVG	H
4820.00	58.47	31.00	40.19	9.53	58.81	74.00	-15.19	Peak	H
4820.00	45.56	31.00	40.19	9.53	45.90	54.00	-8.10	AVG	H
2410.00	89.66	26.37	40.19	8.51	84.35	114.00	-29.65	Peak	V
2410.00	80.48	26.37	40.21	8.51	75.15	94.00	-18.85	AVG	V
2390.00	47.58	26.33	40.23	8.46	42.14	74.00	-31.86	Peak	V
2390.00	39.36	26.33	40.23	8.46	33.92	54.00	-20.08	AVG	V
2400.00	46.82	26.38	40.20	8.49	41.49	74.00	-32.51	Peak	V
2400.00	48.75	26.38	40.20	8.49	43.42	54.00	-10.58	AVG	V
4820.00	52.44	31.00	40.19	9.53	52.78	74.00	-21.22	Peak	V
4820.00	45.25	31.00	40.19	9.53	45.59	54.00	-8.41	AVG	V

Note: 1. Result Level = Reading Level + Antenna Factor + Cable loss – Pre-amp Factor.

2. Antenna polarization: “H” means Horizontal, “V” means Vertical.

Site:	**966 LAB**	**Antenna::H / V**	**Temperature(C):24(C)**
Limit:	**FCC Part 15.249**		**Humidity(%):60%**
EUT:	**1:24 RC Cat 745 Articulated Truck**	**Test Time:**	**2020/02/28**
M/N.:	**25004**	**Power Rating:**	**DC 3V**
Mode:	**Tx mode (2442MHz)**	**Test Engineer:**	
Note:			

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Pre-amp (dB)	Cable lost (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detect	Antenna polarization
2442.00	98.45	26.43	40.21	8.53	93.20	114.00	-20.80	Peak	H
2442.00	87.73	26.43	40.21	8.53	82.48	94.00	-11.52	AVG	H
4884.00	56.98	31.04	40.19	9.59	57.42	74.00	-16.58	Peak	H
4884.00	45.88	31.04	40.19	9.59	46.32	54.00	-7.68	AVG	H
2442.00	88.98	26.43	40.21	8.53	83.73	114.00	-30.27	Peak	V
2442.00	80.63	26.43	40.21	8.53	75.38	94.00	-18.62	AVG	V
4884.00	61.86	31.04	40.19	9.59	62.30	74.00	-11.70	Peak	V
4884.00	46.98	31.04	40.19	9.59	47.42	54.00	-6.58	AVG	V

Note: 1. Result Level = Reading Level + Antenna Factor + Cable loss – Pre-amp Factor.

2. Antenna polarization: “H” means Horizontal, “V” means Vertical.

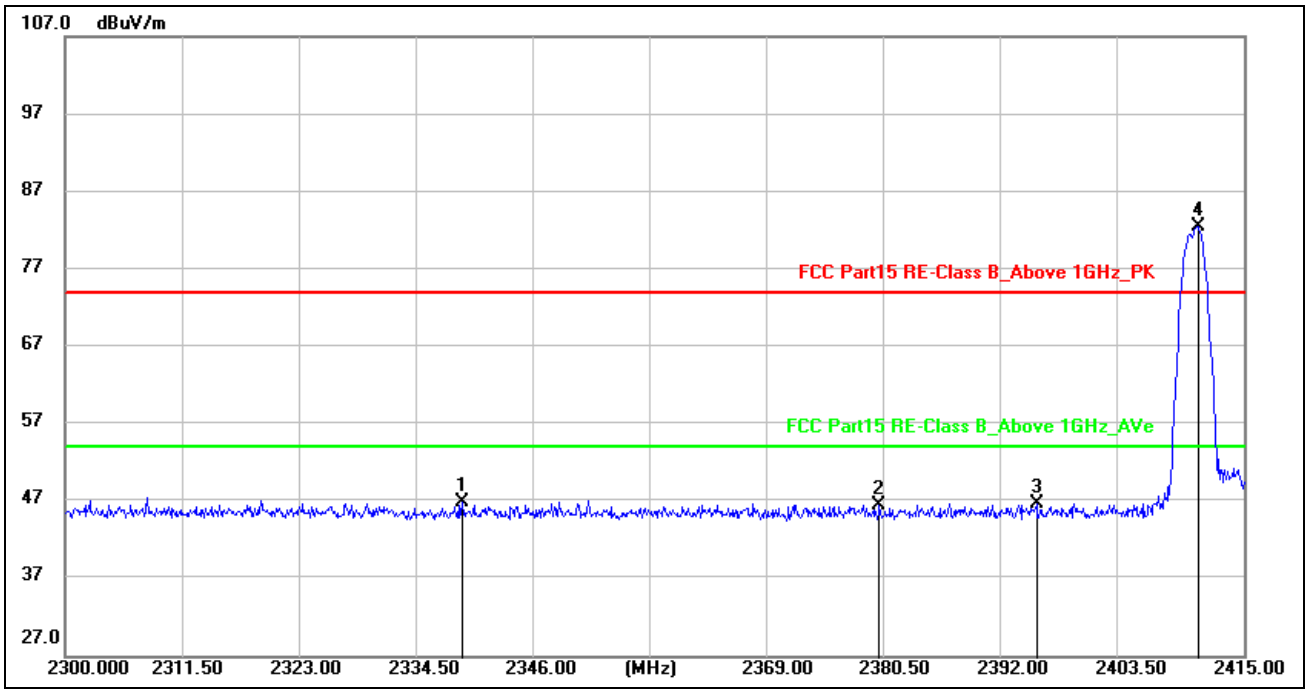
Site:	**966 LAB**	**Antenna::H / V**	**Temperature(C):24(C)**
Limit:	**FCC Part 15.249**		**Humidity(%):60%**
EUT:	**1:24 RC Cat 745 Articulated Truck**	**Test Time:**	**2020/02/28**
M/N.:	**25004**	**Power Rating:**	**DC 3V**
Mode:	**Tx mode (2473MHz)**	**Test Engineer:**	
Note:			

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Pre-amp (dB)	Cable lost (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detect	Antenna polarization
2473.00	96.73	26.50	40.21	8.54	91.56	114.00	-22.44	Peak	H
2473.00	88.14	26.50	40.21	8.54	82.97	94.00	-11.03	AVG	H
2483.50	56.91	26.56	40.29	8.65	51.83	74.00	-22.17	Peak	H
2483.50	44.33	26.56	40.29	8.65	39.25	54.00	-14.75	AVG	H
4946.00	54.11	31.02	40.19	9.62	54.56	74.00	-19.44	Peak	H
4946.00	45.67	31.02	40.19	9.62	45.12	54.00	-8.88	AVG	H
2473.00	88.19	26.50	40.21	8.54	83.02	114.00	-30.98	Peak	V
2473.00	77.03	26.50	40.21	8.54	71.86	94.00	-22.14	AVG	V
2483.50	52.93	26.56	40.29	8.65	47.85	74.00	-26.15	Peak	V
2483.50	36.44	26.56	40.29	8.65	31.36	54.00	-22.64	AVG	V
4946.00	54.27	31.02	40.19	9.62	54.72	74.00	-19.28	Peak	V
4946.00	44.75	31.02	40.19	9.62	45.20	54.00	-8.80	AVG	V

Note: 1. Result Level = Reading Level + Antenna Factor + Cable loss – Pre-amp Factor.

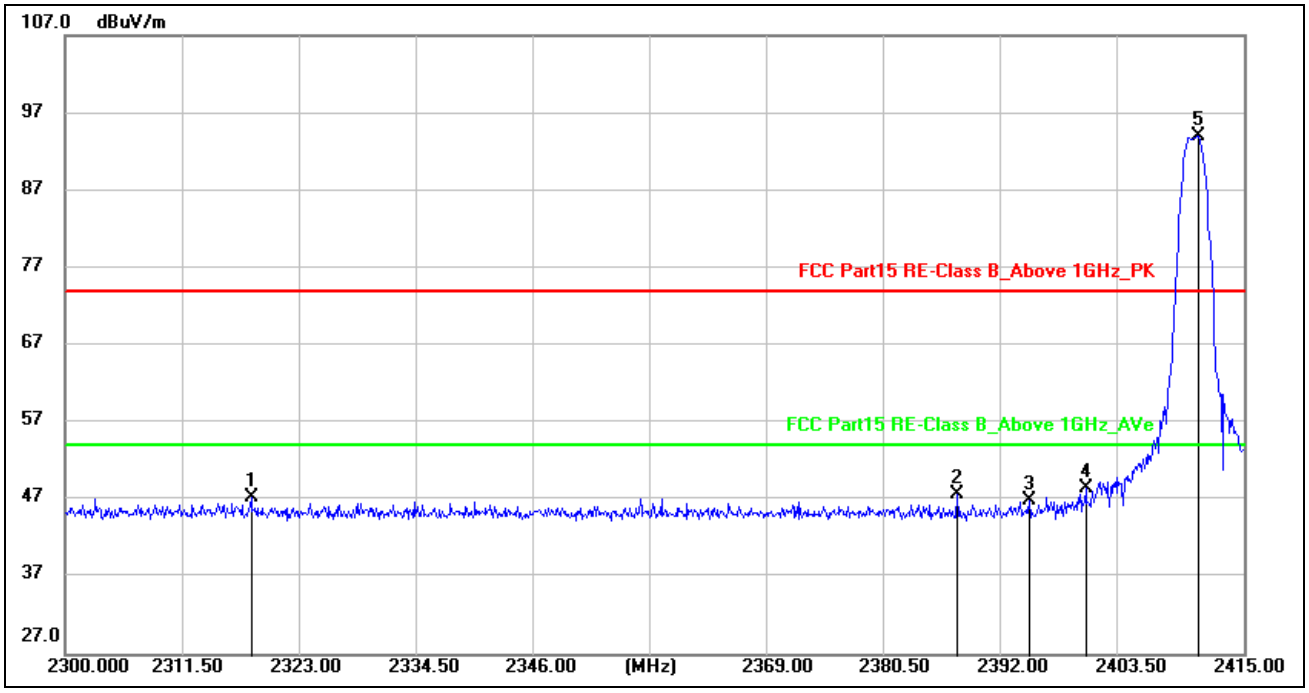
2. Antenna polarization: “H” means Horizontal, “V” means Vertical.

Test plots for band-edge



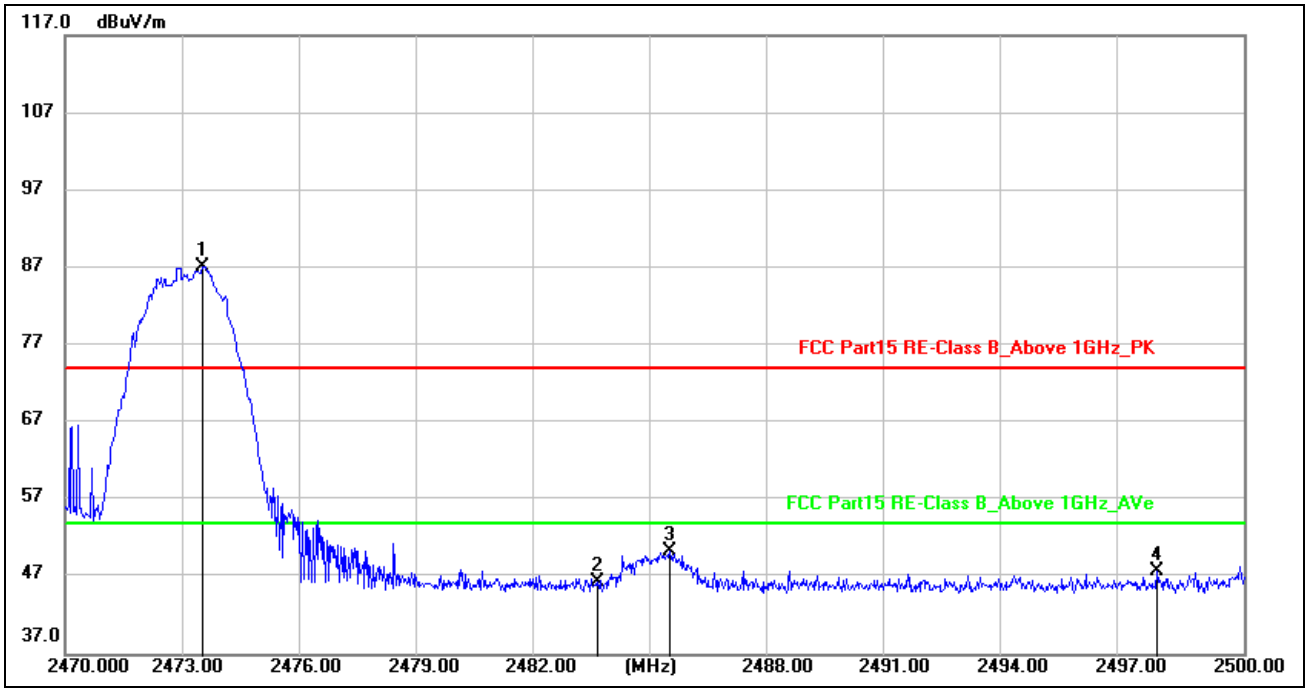
Site:		**Antenna::Vertical**	**Temperature(C):24(C)**
Limit:	**FCC Part 15.249**		**Humidity(%):60%**
EUT:	**1:24 RC Cat 745 Articulated Truck**	**Test Time:**	**2020/10/12 10:47:43**
M/N.:	**25004**	**Power Rating:**	**DC 3V**
Mode:	**Tx mode (2410MHz)**	**Test Engineer:**	
Note:			

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)	Remark
1	2338.76	52.32	-5.30	47.02	74.00	-26.98	peak			
2	2379.47	51.87	-5.30	46.57	74.00	-27.43	peak			
3	2394.76	52.15	-5.30	46.85	74.00	-27.15	peak			
4 *	2410.52	87.79	-5.31	82.48	114.00	-31.52	peak			



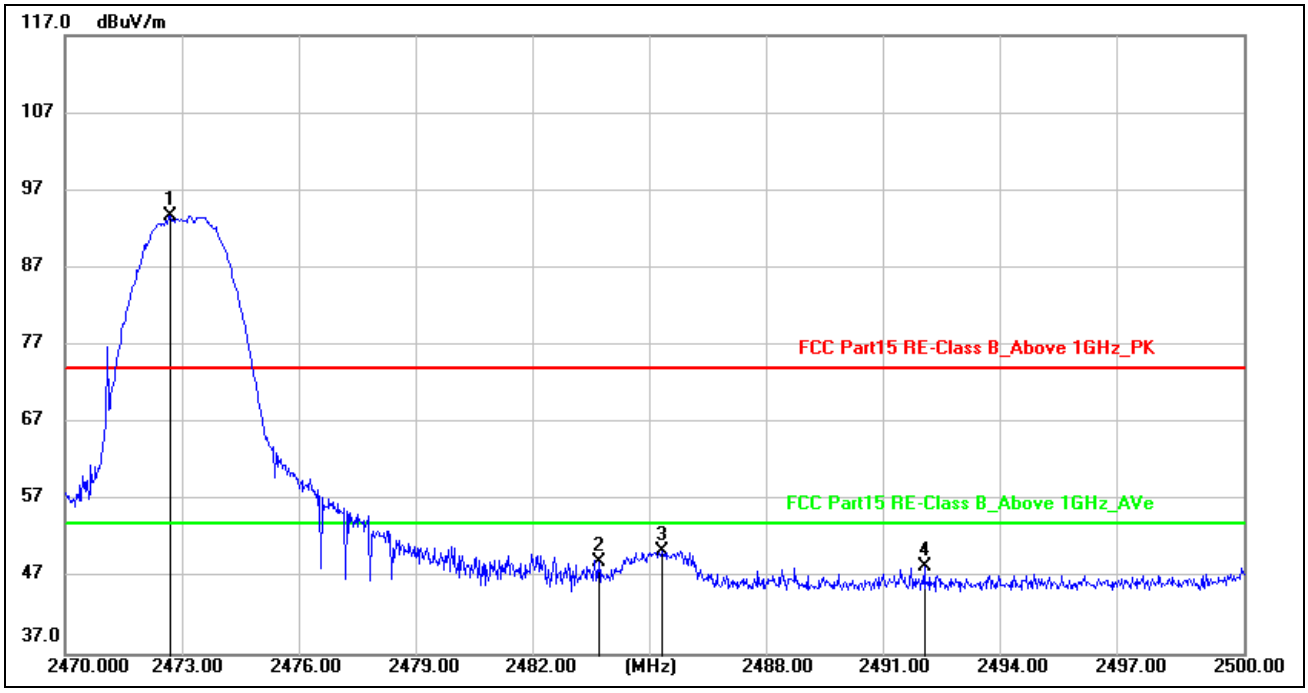
Site:		**Antenna::Horizontal**	**Temperature(C):24(C)**
Limit:	**FCC Part 15.249**		**Humidity(%):60%**
EUT:	**1:24 RC Cat 745 Articulated Truck**	**Test Time:**	**2020/10/12 10:53:17**
M/N.:	**25004**	**Power Rating:**	**DC 3V**
Mode:	**Tx mode (2410MHz)**	**Test Engineer:**	
Note:			

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)	Remark
1	2318.17	52.63	-5.30	47.33	74.00	-26.67	peak			
2	2387.06	53.11	-5.30	47.81	74.00	-26.19	peak			
3	2394.07	52.31	-5.30	47.01	74.00	-26.99	peak			
4	2399.59	53.78	-5.30	48.48	74.00	-25.52	peak			
5 *	2410.52	99.33	-5.31	94.02	114.00	-19.98	peak			



Site:		**Antenna::Vertical**	**Temperature(C):24(C)**
Limit:	**FCC Part 15.249**		**Humidity(%):60%**
EUT:	**1:24 RC Cat 745 Articulated Truck**	**Test Time:**	**2020/10/12 10:58:52**
M/N.:	**25004**	**Power Rating:**	**DC 3V**
Mode:	**Tx mode (2473MHz)**	**Test Engineer:**	
Note:			

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)	Remark
1 *	2473.01	92.25	-5.17	87.08	114.00	-26.92	peak			
2	2483.56	51.56	-5.08	46.48	74.00	-27.52	peak			
3	2485.39	55.45	-5.08	50.37	74.00	-23.63	peak			
4	2497.78	52.93	-5.08	47.85	74.00	-26.15	peak			



Site:		**Antenna::Horizontal**	**Temperature(C):24(C)**
Limit:	**FCC Part 15.249**		**Humidity(%):60%**
EUT:	**1:24 RC Cat 745 Articulated Truck**	**Test Time:**	**2020/10/12 11:06:45**
M/N.:	**25004**	**Power Rating:**	**DC 3V**
Mode:	**Tx mode (2473MHz)**	**Test Engineer:**	
Note:			

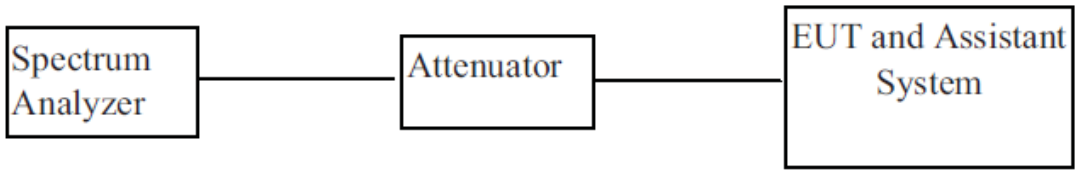
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)	Remark
1 *	2472.67	98.85	-5.17	93.68	114.00	-20.32	peak			
2	2483.59	54.05	-5.08	48.97	74.00	-25.03	peak			
3	2485.18	55.50	-5.08	50.42	74.00	-23.58	peak			
4	2491.87	53.54	-5.08	48.46	74.00	-25.54	peak			

4. -20dB & 99% Bandwidth

4.1. Test equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Signal Analyzer	Agilent	N9020A	MY54510476	2019-05-23	1 Year

4.2. BLOCK DIAGRAM OF TEST SETUP



4.3. 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.

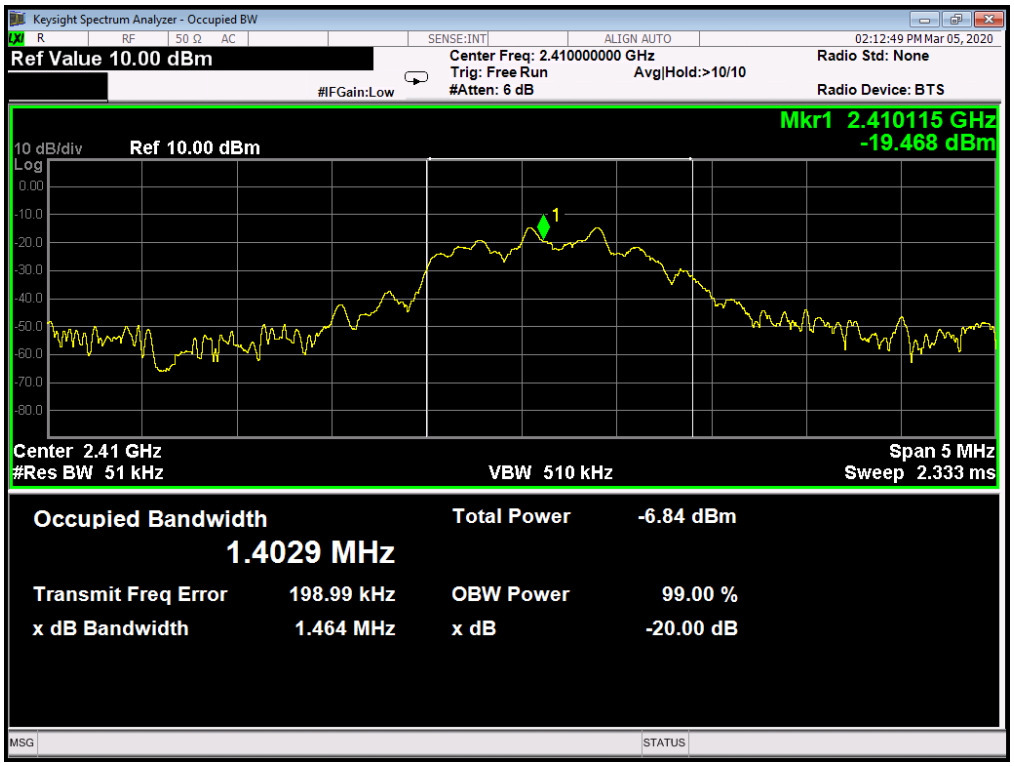
4.4. Test Procedure

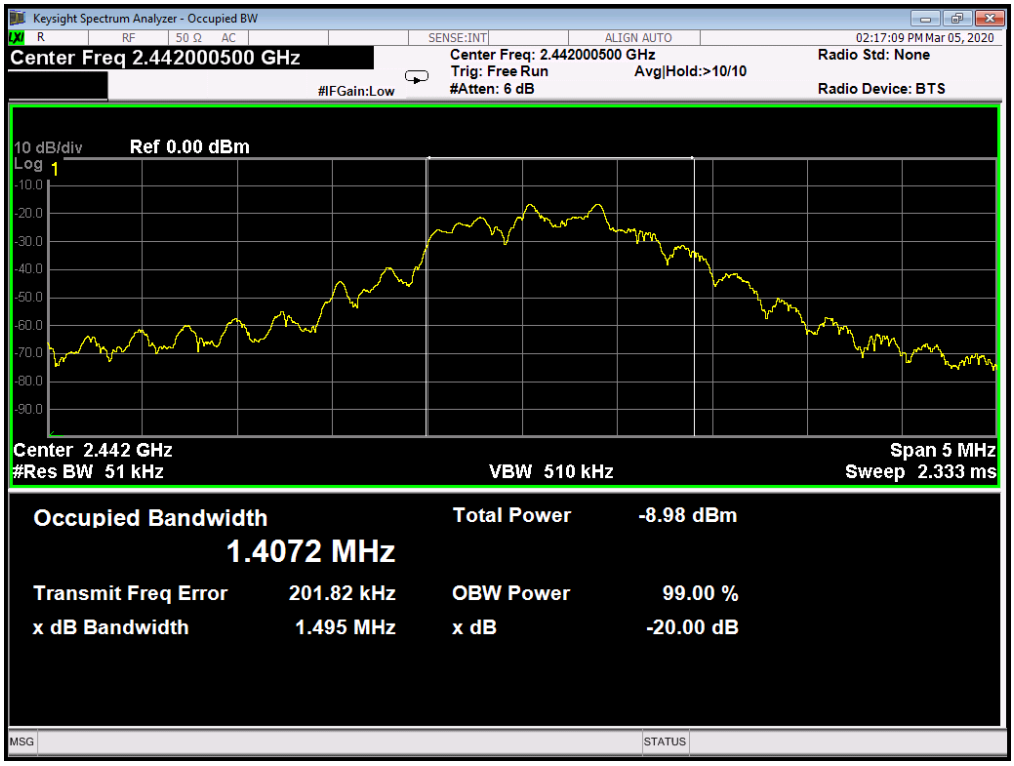
(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

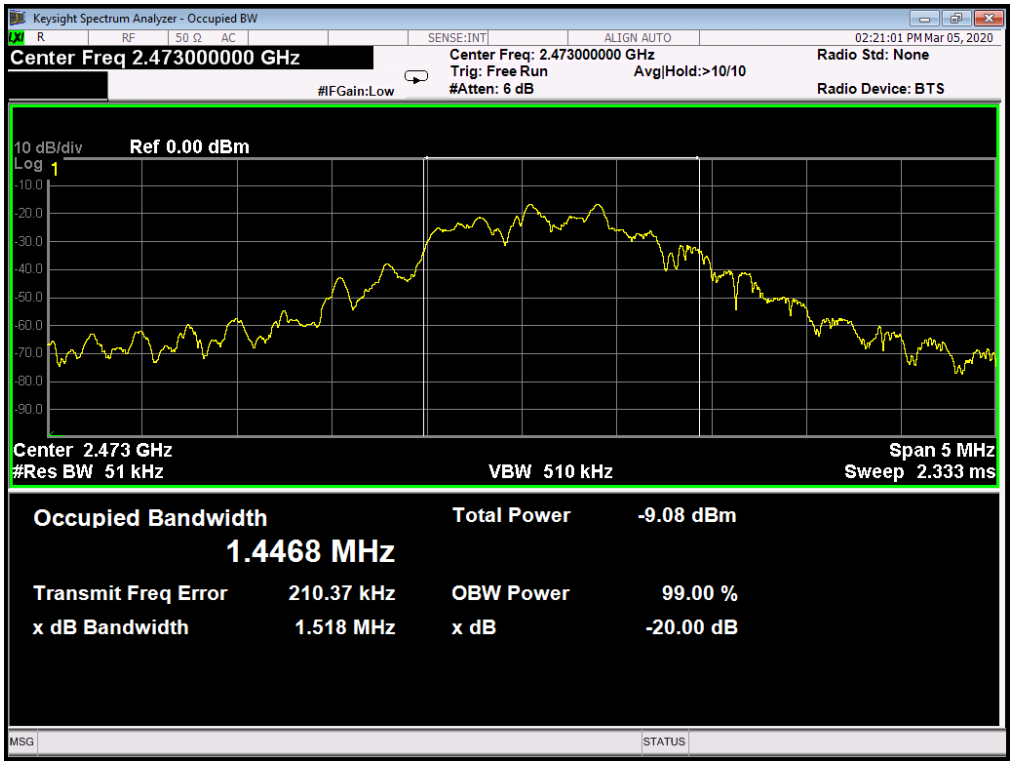
(2) The bandwidth of the fundamental frequency was measured by spectrum analyzer with 51 kHz RBW and 510 kHz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

4.5. Test result

Frequency (MHz)	99% OBW (MHz)	-20 dB Bandwidth (MHz)	Verdict
2410	1.4029	1.464	Pass
2442	1.4072	1.495	Pass
2473	1.4468	1.518	Pass




Keysight Spectrum Analyzer - Occupied BW
Center Freq 2.442000500 GHz
Center Freq: 2.442000500 GHz
Trig: Free Run
Avg|Hold:>10/10
#IFGain:Low
#Atten: 6 dB
Radio Std: None
Radio Device: BTS
02:17:09 PM Mar 05, 2020
10 dB/div
Log
Ref 0.00 dBm
Center 2.442 GHz
#Res BW 51 kHz
VBW 510 kHz
Span 5 MHz
Sweep 2.333 ms
Occupied Bandwidth
1.4072 MHz
Total Power -8.98 dBm
Transmit Freq Error 201.82 kHz
OBW Power 99.00 %
x dB Bandwidth 1.495 MHz
x dB -20.00 dB
MSG
STATUS


Keysight Spectrum Analyzer - Occupied BW
Center Freq 2.473000000 GHz
Center Freq: 2.473000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#IFGain:Low
#Atten: 6 dB
Radio Std: None
Radio Device: BTS
02:21:01 PM Mar 05, 2020
10 dB/div
Log
Ref 0.00 dBm
Center 2.473 GHz
#Res BW 51 kHz
VBW 510 kHz
Span 5 MHz
Sweep 2.333 ms
Occupied Bandwidth
1.4468 MHz
Total Power -9.08 dBm
Transmit Freq Error 210.37 kHz
OBW Power 99.00 %
x dB Bandwidth 1.518 MHz
x dB -20.00 dB
MSG
STATUS

ANTENNA REQUIREMENTS

4.6. Limit

For intentional device, according to FCC 47 CFR Section 15.203 and RSS-GEN, 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 15.249 (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.

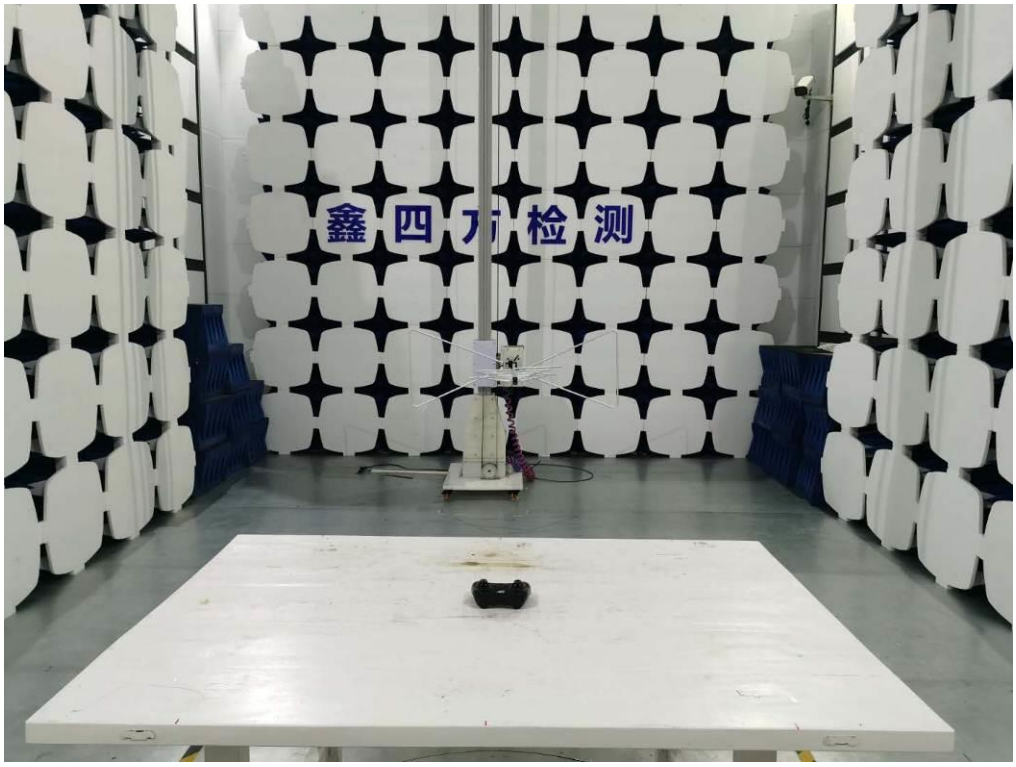
4.7. Result

The EUT has an internal wire antenna permanently soldering on the printed circuit board, which complied with 15.203 and RSS-GEN, the maximum gain was 0 dBi.

5. Test setup photograph

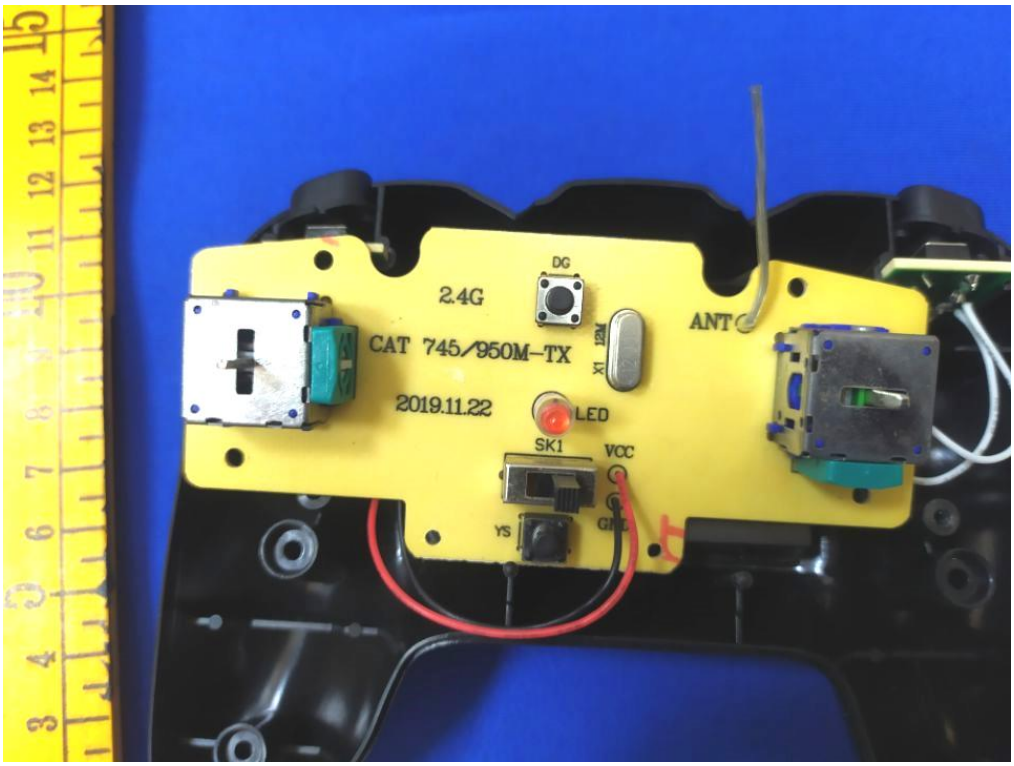
5.1. Photos of radiated emission test

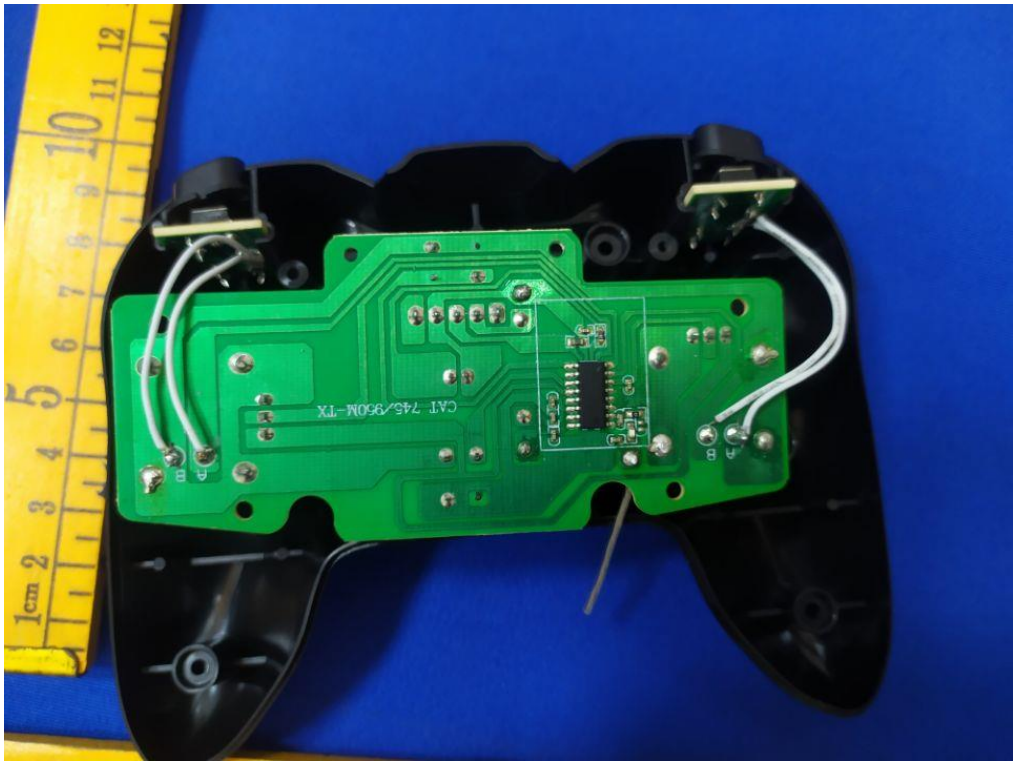
30MHz – 1GHz



Above 1GHz

6. Photos of the EUT





--END OF REPORT--