





TEST REPORT No: (5216)250-0435(A)

TEST REPORT

To:	ROYAL REGENT PRODUCTS (H.K.) LIMITED	To:	-
Attn:	Ray Chen / Coco	Attn:	-
Address:	Flat C, 12/F, Ford Glory Plaza, 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon, H.K.	Address:	-
Fax:	--	Fax:	-
E-mail:	raychan@royalregenthk.com / wtcocoyu@yeah.net	E-mail:	-
Folder No.:	--		
Factory name:	--		
Location:	--		
Product:	SW RC MOUSE DROID Model No.: U116-HK-01013		
Please see the exhibit "External Photo"	Sample No:	(5216)250-0435	
	Date of Receipt:	September 06, 2016	
	Test date:	September 28, 2016 to October 28, 2016	
	Test Requested:	FCC Part 15 - 2015	
	Test Method:	ANSI C63.10 - 2013	
	FCC ID:	2AES5-U116HK01013R	
The results given in this report are related to the tested specimen of the described electrical apparatus.			
CONCLUSION: The submitted sample was found to <u>COMPLY</u> with requirement of FCC Part 15 Subpart C.			
Authorized Signature:			
			
Reviewed by: Keith Yeung		Approved by: Law Man Kit	
Date: November 09, 2016		Date: November 09, 2016	



TEST REPORT No: (5216)250-0435(A)
Test Result Summary

EMISSION TEST			
Test requirement: FCC Part 15 - 2015			
Test Condition	Test Method	Test Result	
		Pass	Failed
Radiated Emission Test, 9kHz to 24GHz	ANSI C63.10	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Frequency range of Fundamental Emission	ANSI C63.10	<input checked="" type="checkbox"/>	<input type="checkbox"/>
26dB Bandwidth of Fundamental Emission	ANSI C63.10	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Duty Cycle Correction During 100msec	ANSI C63.10	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Report Revision & Sample Re-submit History:

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Location of the test laboratory

Radiated and Conducted emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.10 – 2013. An Open Area Test Site and Full Anechoic Chamber are set up for investigation and located at :

BUREAU VERITAS HONG KONG LIMITED, EMC CENTRE

No. 2106-2107, 21/F., Westin Centre,
26 Hung To Road,
Kwun Tong, Kowloon,
Hong Kong

List of measuring equipment

Radiated Emission

EQUIPMENT	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DATE	CAL. DUE DATE
EMI TEST RECEIVER	R&S	ESCI	100379	23-FEB-2016	22-FEB-2017
SIGNAL ANALYZER 40GHZ	R&S	FSV 40	100977	29-JUN-2016	28-JUN-2017
BILOG ANTENNA	SCHAFFNER	CBL6112D	25229	27-FEB-2016	26-FEB-2018
OPEN AREA TEST SITE	BVCPS	N/A	N/A	18-JUN-2016	17-FEB-2017
ANECHOIC CHAMBER	ALBATROSS	M-CDC	80374004499B	11-MAY-2016	10-MAY-2017
BICONICAL ANTENNA	R&S	HK116	100179	14-APR-2016	13-APR-2018
LOG-PERIODIC DIPOLE ARRAY ANTENNA	R&S	HL223	832369/001	07-APR-2016	06-APR-2018
LOOP ANTENNA	ETS-LINDGREN	6502	00102266	06-NOV-2015	05-NOV-2017
HORN ANTENNA (1-18GHZ)	SCHWARZBECK	BBHA9120D	9120D-692	05-NOV-2016	04-NOV-2018
HORN ANTENNA (7.5 – 18GHZ)	SCHWARZBECK	HWRD 750	00015	17-JUN-2016	16-JUN-2018
WIDEBAND HORN ANTENNA	STEATITE	QWH-SL-18-40- K-SG	12688	03-SEP-2015	02-SEP-2017
COAXIAL CABLE	SUHNER	N/A	N/A	07-JAN-2016	06-JAN-2017
COAXIAL CABLE	HUBER + SUHNER	RG214	N/A	04-OCT-2016	03-OCT-2017

Measurement Uncertainty

MEASUREMENT	FREQUENCY	UNCERTAINTY
Radiated emissions	9kHz to 30MHz	4.2dB
	30MHz to 200MHz	4.5dB
	200MHz to 1GHz	5.6dB
	1GHz to 18GHz	4.7dB
	18GHz to 40GHz	5.2dB

Remarks:-

N/A : Not Applicable or Not Available

The measurement instrumentation uncertainty would be taking into consideration on each of the test result



TEST REPORT No: (5216)250-0435(A)

Equipment Under Test [EUT]

Description of Sample:

Model Name: SW RC MOUSE DROID
Model Number: U116-HK-01013
Additional Model Name: --
Additional Model Number: --
Additional Model information: --
Rating: 3.7Vd.c. ("rechargeable battery" x 1)

Description of EUT Operation:

The Equipment Under Test (EUT) is a **ROYAL REGENT PRODUCTS (H.K.) LIMITED**. of Remote Control Transceiver. It is a 1 switch and operating at 2408MHz to 2480MHz. The lowest, middle and highest frequencies were tested and the results are shown in the report. The EUT transmit while corresponding remote controller buttons are being pressed, Modulation by IC, and type is GFSK.

There are total 73 channels and below is the frequency list (MHz):

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

The transmitter has different control:

1. ON/OFF switch – power on/off control

Antenna Requirement (Section 15.203)

The EUT is use of a permanently antenna. It is soldered on the PCB. The antenna consists of 3cm long wire The antenna is not replaceable or user serviceable. The requirements of S15.203 are met. There are no deviations or exceptions to the specifications.

Photo of Antenna

Please see the exhibit "Internal Photo"

TEST REPORT No: (5216)250-0435(A)

Test Results

Radiated Emissions (Fundamental)

Test Requirement: FCC Part 15 Section 15.249
Test Method: ANSI C63.10
Test Date(s): 2016-10-28
Temperature: 30.0 °C
Humidity: 73.0 %
Atmospheric Pressure: 100.1 kPa
Mode of Operation: Transmission mode
Tested Voltage: 3.7Vd.c. ("rechargeable battery" x 1)

Test Procedure:

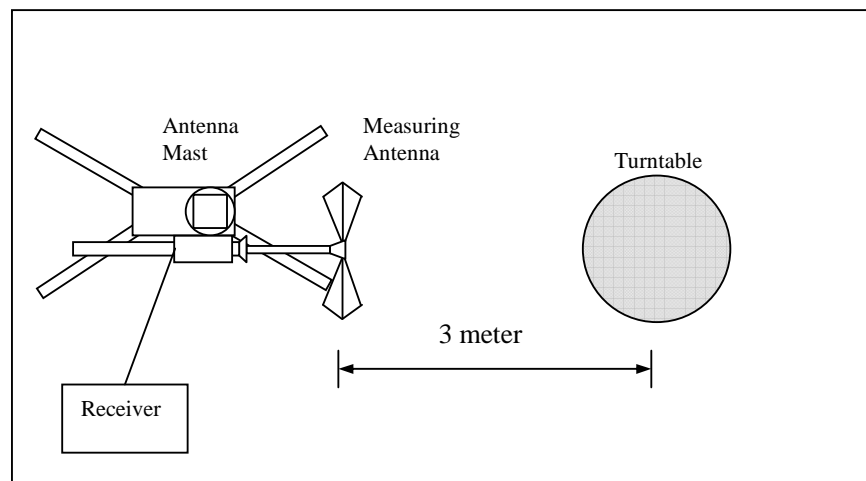
Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.10 – 2013.

The equipment under test (EUT) was placed on a non-conductive turntable with dimensions of 1.5m x 1m and 0.8m high above the ground for measurement frequency below 1GHz and 1.5m high above the ground for measurement frequency above 1GHz. 3m from the EUT, a broadband antenna mounting on the mast received the signal strength. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, For battery operated equipment, the equipment tests shall be performed using new battery. The turntable was rotated to maximize the emission level. The antenna was then moving along the mast from 1m up to 4m until no more higher value was found. Both horizontal and vertical polarization of the antenna were placed and investigated.

For below 30MHz, a loop antenna with its vertical plane is placed 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. And the centre of the loop shall be 1m above the ground.

Location: The Roof, Westin Centre, 26 Hung To Road, Kwun Tong, Kowloon, Hong Kong

Test Setup: Open Area Test Site



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Limits for Field Strength of Fundamental Emissions [FCC 47CFR 15.249]:

Frequency Range of Fundamental [MHz]	Field Strength of Fundamental Emission (Average) [mV/m]	Field Strength of Harmonics Emission (Average) [μV/m]
2400-2483.5	50	500

Measurement Data

Test Result of (Transmission mode, Lowest frequency): PASS

Frequency (MHz)	Polarity (H/V)	Antenna Factor & Cable Loss (dB/m)	Duty-cycle correction (dB)	Field Strength at 3m – Peak (dBμV/m)	Limit at 3m – Peak (dBμV/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dBμV/m)	Limit at 3m – Average (dBμV/m)	Margin - Average (dB)
2408.14	H	-3.5	-15.9	89.8	114.0	-24.2	**73.9	94.0	-20.1
2408.14	V	-3.5	-15.9	92.8	114.0	-21.2	**76.9	94.0	-17.1

Test Result of (Transmission mode, Middle frequency): PASS

Frequency (MHz)	Polarity (H/V)	Antenna Factor & Cable Loss (dB/m)	Duty-cycle correction (dB)	Field Strength at 3m – Peak (dBμV/m)	Limit at 3m – Peak (dBμV/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dBμV/m)	Limit at 3m – Average (dBμV/m)	Margin - Average (dB)
2444.14	H	-3.5	-15.9	87.9	114.0	-26.1	**72.0	94.0	-22.0
2444.14	V	-3.5	-15.9	91.4	114.0	-22.6	**75.5	94.0	-18.5

Test Result of (Transmission mode, Highest frequency): PASS

Frequency (MHz)	Polarity (H/V)	Antenna Factor & Cable Loss (dB/m)	Duty-cycle correction (dB)	Field Strength at 3m – Peak (dBμV/m)	Limit at 3m – Peak (dBμV/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dBμV/m)	Limit at 3m – Average (dBμV/m)	Margin - Average (dB)
2480.14	H	-3.5	-15.9	83.1	114.0	-30.9	**67.2	94.0	-26.8
2480.14	H	-3.5	-15.9	88.5	114.0	-25.5	**72.6	94.0	-21.4

For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.

**Duty Cycle Correction = $20\log(0.16) = -15.9\text{dB}$.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz



TEST REPORT No: (5216)250-0435(A)

Radiated Emissions (Spurious Emission)

Test Requirement: FCC Part 15 Section 15.249
 Test Method: ANSI C63.10
 Test Date(s): 2016-10-28
 Temperature: 30.0 °C
 Humidity: 73.0 %
 Atmospheric Pressure: 100.1 kPa
 Mode of Operation: Transmission mode
 Tested Voltage: 3.7Vd.c. ("rechargeable battery" x 1)

Measurement Data

Test Result of (Transmission mode, Lowest frequency): PASS

Frequency (MHz)	Polarity (H/V)	Antenna Factor & Cable Loss (dB/m)	Duty-cycle correction (dB)	Field Strength at 3m – Peak (dBμV/m)	Limit at 3m – Peak (dBμV/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dBμV/m)	Limit at 3m – Average (dBμV/m)	Margin - Average (dB)
2400.00	H	-3.5	-15.9	58.7	74.0	-15.3	**42.8	54.0	-11.2
4816.28	H	1.6	-15.9	49.0	74.0	-25.0	**33.1	54.0	-20.9
7224.42	H	10.7	-15.9	55.6	74.0	-18.4	**39.7	54.0	-14.3
9632.56	H	15.5	-15.9	47.4	74.0	-26.6	**31.5	54.0	-22.5
12040.70	H	18.0	-15.9	49.9	74.0	-24.1	**34.0	54.0	-20.0
14448.84	H	24.0	-15.9	52.9	74.0	-21.1	**37.0	54.0	-17.0
16856.98	H	19.1	-15.9	54.7	74.0	-19.3	**38.8	54.0	-15.2
19265.12	H	46.5	-15.9	61.7	74.0	-12.3	**45.8	54.0	-8.2
21673.26	H	46.8	-15.9	62.1	74.0	-11.9	**46.2	54.0	-7.8
24081.40	H	47.6	-15.9	63.1	74.0	-10.9	**47.2	54.0	-6.8
26489.54	H	48.6	-15.9	64.5	74.0	-9.5	**48.6	54.0	-5.4

For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.

**Duty Cycle Correction = $20\log(0.16) = -15.9\text{dB}$.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz

TEST REPORT No: (5216)250-0435(A)

Measurement Data

Test Result of (Transmission mode, Lowest frequency): PASS

Frequency (MHz)	Polarity (H/V)	Antenna Factor & Cable Loss (dB/m)	Duty-cycle correction (dB)	Field Strength at 3m – Peak (dBμV/m)	Limit at 3m – Peak (dBμV/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dBμV/m)	Limit at 3m – Average (dBμV/m)	Margin - Average (dB)
2400.00	V	-3.5	-15.9	60.2	74.0	-13.8	**44.3	54.0	-9.7
4816.28	V	1.6	-15.9	48.4	74.0	-25.6	**32.5	54.0	-21.5
7224.42	V	10.7	-15.9	50.4	74.0	-23.6	**34.5	54.0	-19.5
9632.56	V	15.5	-15.9	47.5	74.0	-26.5	**31.6	54.0	-22.4
12040.70	V	18.0	-15.9	50.1	74.0	-23.9	**34.2	54.0	-19.8
14448.84	V	24.0	-15.9	53.4	74.0	-20.6	**37.5	54.0	-16.5
16856.98	V	19.1	-15.9	54.8	74.0	-19.2	**38.9	54.0	-15.1
19265.12	V	46.5	-15.9	61.5	74.0	-12.5	**45.6	54.0	-8.4
21673.26	V	46.8	-15.9	62.1	74.0	-11.9	**46.2	54.0	-7.8
24081.40	V	47.6	-15.9	63.2	74.0	-10.8	**47.3	54.0	-6.7
26489.54	V	48.6	-15.9	64.5	74.0	-9.5	**48.6	54.0	-5.4

For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.

**Duty Cycle Correction = $20\log(0.16) = -15.9\text{dB}$.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz

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Measurement Data

Test Result of (Transmission mode, Middle frequency): PASS

Frequency (MHz)	Polarity (H/V)	Antenna Factor & Cable Loss (dB/m)	Duty-cycle correction (dB)	Field Strength at 3m – Peak (dBμV/m)	Limit at 3m – Peak (dBμV/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dBμV/m)	Limit at 3m – Average (dBμV/m)	Margin - Average (dB)
4888.28	H	1.6	-15.9	46.6	74.0	-27.4	**30.7	54.0	-23.3
7332.42	H	10.7	-15.9	52.2	74.0	-21.8	**36.3	54.0	-17.7
9776.56	H	15.8	-15.9	47.6	74.0	-26.4	**31.7	54.0	-22.3
12220.70	H	17.9	-15.9	48.1	74.0	-25.9	**32.2	54.0	-21.8
14664.84	H	25.2	-15.9	54.4	74.0	-19.6	**38.5	54.0	-15.5
17108.98	H	22.1	-15.9	57.3	74.0	-16.7	**41.4	54.0	-12.6
19553.12	H	46.5	-15.9	61.6	74.0	-12.4	**45.7	54.0	-8.3
21997.26	H	47.1	-15.9	62.6	74.0	-11.4	**46.7	54.0	-7.3
24441.40	H	47.8	-15.9	63.6	74.0	-10.4	**47.7	54.0	-6.3
26885.54	H	48.6	-15.9	64.3	74.0	-9.7	**48.4	54.0	-5.6

Frequency (MHz)	Polarity (H/V)	Antenna Factor & Cable Loss (dB/m)	Duty-cycle correction (dB)	Field Strength at 3m – Peak (dBμV/m)	Limit at 3m – Peak (dBμV/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dBμV/m)	Limit at 3m – Average (dBμV/m)	Margin - Average (dB)
4888.28	V	1.6	-15.9	51.9	74.0	-22.1	**36.0	54.0	-18.0
7332.42	V	10.7	-15.9	50.4	74.0	-23.6	**34.5	54.0	-19.5
9776.56	V	15.8	-15.9	47.7	74.0	-26.3	**31.8	54.0	-22.2
12220.70	V	17.9	-15.9	50.6	74.0	-23.4	**34.7	54.0	-19.3
14664.84	V	25.2	-15.9	54.4	74.0	-19.6	**38.5	54.0	-15.5
17108.98	V	22.1	-15.9	57.9	74.0	-16.1	**42.0	54.0	-12.0
19553.12	V	46.5	-15.9	61.5	74.0	-12.5	**45.6	54.0	-8.4
21997.26	V	47.1	-15.9	62.6	74.0	-11.4	**46.7	54.0	-7.3
24441.40	V	47.8	-15.9	63.5	74.0	-10.5	**47.6	54.0	-6.4
26885.54	V	48.6	-15.9	64.2	74.0	-9.8	**48.3	54.0	-5.7

For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.

**Duty Cycle Correction = $20\log(0.16) = -15.9\text{dB}$.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz

TEST REPORT No: (5216)250-0435(A)

Measurement Data

Test Result of (Transmission mode, Highest frequency): PASS

Frequency (MHz)	Polarity (H/V)	Antenna Factor & Cable Loss (dB/m)	Duty-cycle correction (dB)	Field Strength at 3m – Peak (dBμV/m)	Limit at 3m – Peak (dBμV/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dBμV/m)	Limit at 3m – Average (dBμV/m)	Margin - Average (dB)
2483.50	H	-3.5	-15.9	59.2	74.0	-14.8	**43.3	54.0	-10.7
4960.28	H	1.7	-15.9	48.1	74.0	-25.9	**32.2	54.0	-21.8
7440.42	H	10.7	-15.9	52.4	74.0	-21.6	**36.5	54.0	-17.5
9920.56	H	15.9	-15.9	46.8	74.0	-27.2	**30.9	54.0	-23.1
12400.70	H	17.6	-15.9	47.9	74.0	-26.1	**32.0	54.0	-22.0
14880.84	H	24.6	-15.9	54.1	74.0	-19.9	**38.2	54.0	-15.8
17360.98	H	23.5	-15.9	59.1	74.0	-14.9	**43.2	54.0	-10.8
19841.12	H	46.6	-15.9	61.6	74.0	-12.4	**45.7	54.0	-8.3
22321.26	H	47.1	-15.9	62.4	74.0	-11.6	**46.5	54.0	-7.5
24801.40	H	47.8	-15.9	63.3	74.0	-10.7	**47.4	54.0	-6.6
27281.54	H	48.6	-15.9	64.2	74.0	-9.8	**48.3	54.0	-5.7

Frequency (MHz)	Polarity (H/V)	Antenna Factor & Cable Loss (dB/m)	Duty-cycle correction (dB)	Field Strength at 3m – Peak (dBμV/m)	Limit at 3m – Peak (dBμV/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dBμV/m)	Limit at 3m – Average (dBμV/m)	Margin - Average (dB)
2483.50	V	-3.5	-15.9	62.2	74.0	-11.8	**46.3	54.0	-7.7
4960.28	V	1.7	-15.9	53.2	74.0	-20.8	**37.3	54.0	-16.7
7440.42	V	10.7	-15.9	50.6	74.0	-23.4	**34.7	54.0	-19.3
9920.56	V	15.9	-15.9	47.8	74.0	-26.2	**31.9	54.0	-22.1
12400.70	V	17.6	-15.9	48.4	74.0	-25.6	**32.5	54.0	-21.5
14880.84	V	24.6	-15.9	55.2	74.0	-18.8	**39.3	54.0	-14.7
17360.98	V	23.5	-15.9	58.9	74.0	-15.1	**43.0	54.0	-11.0
19841.12	V	46.6	-15.9	61.9	74.0	-12.1	**46.0	54.0	-8.0
22321.26	V	47.1	-15.9	62.7	74.0	-11.3	**46.8	54.0	-7.2
24801.40	V	47.8	-15.9	63.0	74.0	-11.0	**47.1	54.0	-6.9
27281.54	V	48.6	-15.9	64.0	74.0	-10.0	**48.1	54.0	-5.9

For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.

**Duty Cycle Correction = $20\log(0.16) = -15.9\text{dB}$.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz



TEST REPORT No: (5216)250-0435(A)

Radiated Emissions (30MHz – 2.4GHz)

Test Requirement: FCC Part 15 Section 15.209
Test Method: ANSI C63.10
Test Date(s): 2016-09-28
Temperature: 29.0 °C
Humidity: 71.0 %
Atmospheric Pressure: 99.7 kPa
Mode of Operation: On mode
Tested Voltage: 3.7Vd.c. ("rechargeable battery" x 1)

Limits for Radiated Emissions [FCC 47 CFR 15.209]:

Frequency Range [MHz]	Quasi-Peak Limits [μV/m]	Measurement Distance m
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above960	500	3

Measurement Data

Test Result of (On mode): PASS

Detection mode: Quasi-Peak

Frequency	Polarity (H/V)	Field Strength	Limit	Margin (dB)
Emissions detected are more than 20 dB below the limit line(s) in 9kHz to 30MHz				

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 200Hz
VBW = 200Hz



TEST REPORT No: (5216)250-0435(A)

Measurement Data

Test Result of (On mode): PASS

Detection mode: Quasi-Peak

Frequency (MHz)	Polarity (H/V)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
52.28	H	22.2	40.0	-17.8
75.92	H	21.0	40.0	-19.0
225.88	H	21.7	46.0	-24.3
256.48	H	22.4	46.0	-23.6
318.00	H	23.2	46.0	-22.8
427.52	H	26.1	46.0	-19.9

Frequency (MHz)	Polarity (H/V)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
52.28	V	22.7	40.0	-17.3
75.92	V	20.6	40.0	-19.4
225.88	V	21.5	46.0	-24.5
256.48	V	21.9	46.0	-24.1
318.00	V	23.8	46.0	-22.2
427.52	V	26.3	46.0	-19.7

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 120KHz
VBW = 120KHz



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Frequency range of Fundamental Emission

Test Requirement: FCC 47 CFR 15.249
Test Method: ANSI C63.10 Clause 6.10
Test Date(s): 2016-10-28
Temperature: 30.0 °C
Humidity: 73.0 %
Atmospheric Pressure: 100.1 kPa
Mode of Operation: Transmission mode
Tested Voltage: 3.7Vd.c. ("rechargeable battery" x 1)

Test Method:

The bandwidth is measured at an amplitude level reduced from the reference level by a specified ratio. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst-case (i.e. the widest) bandwidth.

Limits for Frequency range of Fundamental Emission:

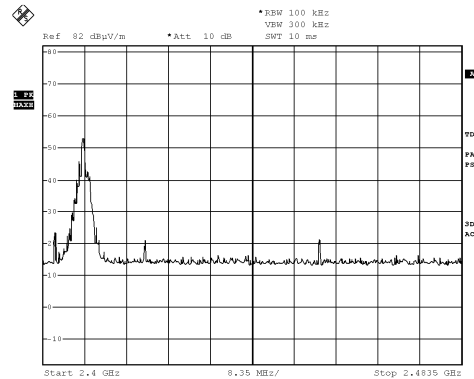
Frequency [MHz]	FCC Limits [MHz]
2406.22 – 2480.88	2400 – 2483.5

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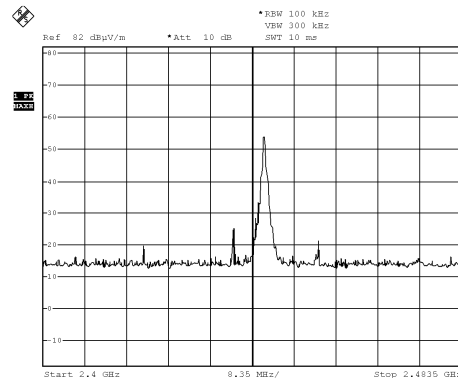
Measurement Data :

Test Result of Frequency Range of Fundamental Emission: PASS

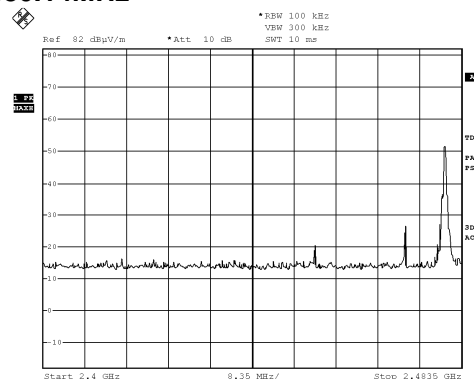
Lowest Frequency – 2408.14MHz



Middle Frequency – 2444.14MHz



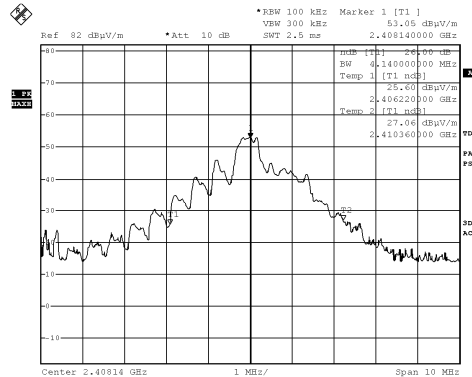
Highest Frequency – 2480.14MHz



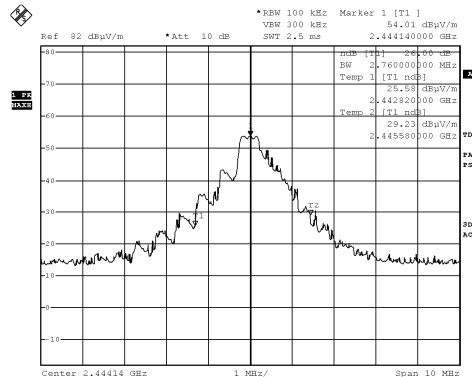
TEST REPORT No: (5216)250-0435(A)
Measurement Data :

Test Result of 26dB Bandwidth of Fundamental Emission: PASS

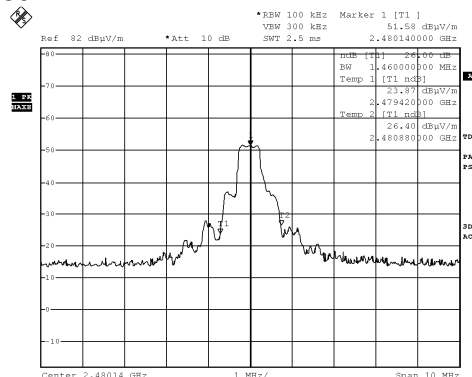
Lowest Frequency – 2408.14MHz



Middle Frequency – 2444.14MHz



Highest Frequency – 2480.14MHz





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Duty Cycle Correction During 100msec:

Each function key sends a different series of characters, but each packet period (100msec) never exceeds a series of 16 pulses (1 msec). Assuming any combination of short or long pulses may be obtained due to encoding the worst case transmit duty cycle would be considered $16 \times (1 \text{ msec})$ per 100msec = 16% duty cycle. Figure A shows the characteristics of the pulse train for one of these functions

Remarks:

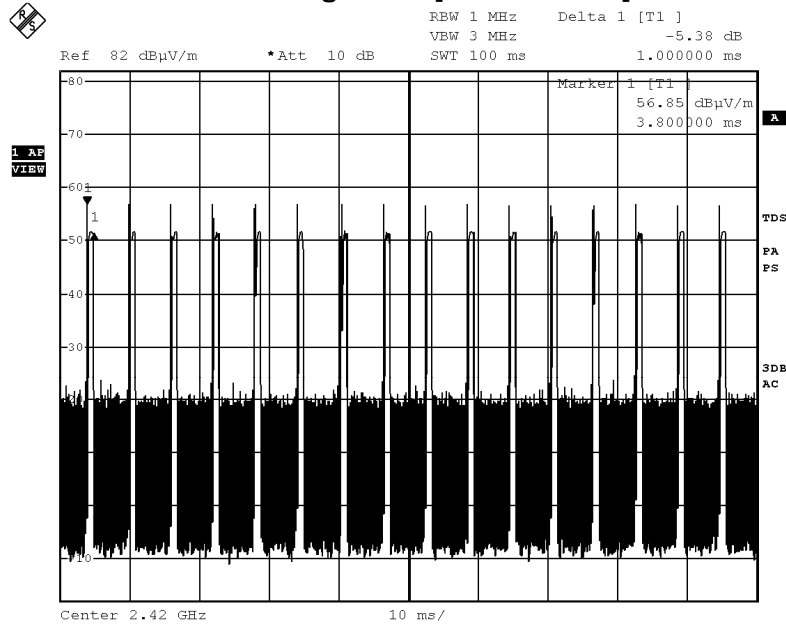
Duty Cycle Correction = $20\text{Log}(0.16) = -15.9\text{dB}$

The following figures [Figure A] show the characteristics of the pulse train for one of these functions.

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Measurement Data :

Figure A [Pulse Train]





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Photographs of EUT

Please see the exhibit “External Photo” & “ Internal Photo”

Test Set Up

Please see the exhibit “Test setup Photo”

******* End of Report *******