

FCC RADIO TEST REPORT FCC ID:YIZRT-MWK28

Product: Android TV Remote

Trade Name: N/A

Model Name: RT-MWK28

RT-MWK28T,RT-MWK28RF,i28,Rii-ONE, K28,

Serial Model: RiiK28, Rii28, ZW-51028, ZW-51028BT,

ZW-51028-1,ZW-51028-2

Report No.: NTEK-2013NT0914221F

Prepared for

ShenZhen Riitek Technology Co., Ltd

Rm 1608 Baoyuanda Logistic and Information Buliding, Baoyunda Logistic Center, Acenue Xixiang, Baoan District, Shenzhen, China

Prepared by

Shenzhen NTEK Testing Technology Co., Ltd.

1/F, Building E, Fenda Science Park, Sanwei Community,Xixiang Street Bao'an District, Shenzhen P.R. China

Tel.: +86-0755-61156588 Fax.: +86-0755-61156599 Website:www.ntek.org.cn



TEST RESULT CERTIFICATION

Report No.: NTEK-2013NT0914221F

Applicant's name	. ShenZhen Rii	tek Technol	ogy Co.,Ltd	
Address	Rm 1608 Baoyuanda Logistic and Information Buliding, Baoyunda Logistic Center, Acenue Xixiang, Baoan District, Shenzhen, China			
Manufacture's Name	. ShenZhen Rii	tek Technol	ogy Co.,Ltd	
Address	Rm 1608 Baoyuanda Logistic and Information Buliding, Baoyunda Logistic Center, Acenue Xixiang, Baoan District, Shenzhen, China			
Product description				
Product name	. Android TV Re	emote		
Model and/or type reference	RT-MWK28			
Serial Model :	RT-MWK28T,F ZW-51028BT,		RF,i28,Rii-ONE,K28,RiiK28, 1,ZW-51028-2	Rii28,ZW-51028,
Standards	FCC Part15.2	49		
Test procedure	. ANSI C63.4-2	2003		
	Γ) is in compliar	nce with the	EK, and the test results show FCC requirements. And it is	
·	or revised by N		nout the written approval of Nanal only, and shall be noted	
Date (s) of performance of		Sep. 2013 ~	27 Sep. 2013	
Date of Issue			•	
Test Result				
Testing E	ingineer :		Apple Huong	
			(Apple Huang)	
Technica	l Manager :		Brown Ln	
			(Brown Lu)	

(Bovey Yang)

Authorized Signatory:

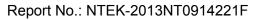




Table of Contents	Page
1 . SUMMARY OF TEST RESULTS	4
1.1 TEST FACILITY	5
1.2 MEASUREMENT UNCERTAINTY	5
2. GENERAL INFORMATION	6
2.1 GENERAL DESCRIPTION OF EUT	6
2.2 DESCRIPTION OF TEST MODES	8
2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTE	D 9
2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)	10
2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS	11
3 . ANTENNA REQUIREMENT	12
3.1 STANDARD REQUIREMENT	12
3.2 EUT ANTENNA	12
3.3 CONDUCTED EMISSION MEASUREMENT	13
3.3.1 POWER LINE CONDUCTED EMISSION LIMITS	13
3.3.2 TEST PROCEDURE 3.3.3 DEVIATION FROM TEST STANDARD	14 14
3.3.4 TEST SETUP	14
3.2.5 TEST RESULT	15
3.4 RADIATED EMISSION MEASUREMENT	17
3.4.1 RADIATED EMISSION LIMITS 3.4.2 TEST PROCEDURE	17 18
3.4.2 TEST PROCEDURE 3.4.3 DEVIATION FROM TEST STANDARD	18
3.4.4 TEST SETUP	19
3.4.5 TEST RESULTS (BELOW 30MHZ)	21
3.4.6 TEST RESULTS (BETWEEN 30 – 1000 MHZ) 3.4.7 TEST RESULTS (ABOVE 1000 MHZ)	22 24
3.4.8 TEST RESULTS (RESTRICTED BANDS REQUIREMENTS)	30
4 . BANDWIDTH TEST	34
4.1 TEST PROCEDURE	34
4.2 DEVIATION FROM STANDARD	34
4.3 TEST SETUP 4.4 TEST RESULTS	34 35
5 . EUT TEST PHOTO APPENDIX-PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS	38



1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15, Subpart C (15.249)					
Standard Section	Test Item	Judgment	Remark		
15.207	Conducted Emission	Pass			
15.203	Antenna Requirement	Pass			
15.249	Radiated Spurious Emission	Pass			
15.205	Band Edge Emission	Pass			
15.249	Occupied Bandwidth	Pass			

NOTE:

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



1.1 TEST FACILITY

NTEK Testing Technology Co., Ltd

Add.: 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen P.R. China.

FCC Registration No.:238937; IC Registration No.:9270A-1

CNAS Registration No.:L5516

1.2 MEASUREMENT UNCERTAINTY

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

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

•



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Android TV Remote			
Trade Name	N/A			
Model Name	RT-MWK28			
Serial Model		8RF,i28,Rii-ONE,K28,RiiK28,Rii 8BT,ZW-51028-1,ZW-51028-2		
Model Difference	All the models are the sexcept the model names	ame circuit and RF module, s.		
	The EUT is a Android T			
	Operation Frequency:	2403~2479MHz		
	Modulation Type:	GFSK		
	Antenna Designation:	PCB Antenna		
	Antenna Gain(Peak)	1.0 dBi		
Product Description	EIRP	84.65dBuv/m@3m(PEAK)		
	Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.			
Channel List	Please refer to the Note 2.			
Adapter	N/A			
Battery	DC 3.7V			

Note:

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



2.

Channel	Frequency (MHz)
01	2403
02	2408
03	2429
04	2430
05	2439
06	2450
07	2454
08	2462
09	2474
10	2479

Page 7 of 39

3.

Table for Filed Antenna

Ant	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	N/A	N/A	PCB Antenna	N/A	1.0	Antenna

•



2.2 DESCRIPTION OF TEST MODES

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

Pretest Mode	Description			
Mode 1	Link Mode			
Mode 2	TX CH 01			
Mode 3	TX CH 05			
Mode 4	TX CH 10			

For Conducted Emission			
Final Test Mode Description			
Mode 1 Link Mode			

For Radiated Emission				
Final Test Mode Description				
Mode 1	Link Mode			
Mode 2	TX CH 01			
Mode 3	TX CH 05			
Mode 4	TX CH 10			

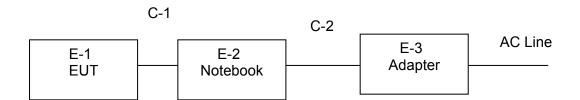
Note:

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



2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Conducted Emission Test:



Radiated Spurious Emission Test:

E-1 EUT

•



2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Brand	Model/Type No.	Series No.	Note
E-1	Android TV Remote	N/A	RT-MWK28	N/A	EUT
E-2	Notebook	DELL	PP10L	N/A	
E-3	Adapter	DELL	HA65NS1-00	N/A	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	0.8m	
C-2	NO	NO	1.5m	

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in <code>[Length]</code> column.



2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Spectrum Analyzer	Agilent	E4407B	MY4510804 0	2013.07.06	2014.07.05	1 year
2	Test Receiver	R&S	ESPI	101318	2013.06.07	2014.06.06	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2013.07.06	2014.07.05	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	620026441 6	2013.06.07	2014.06.06	1 year
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	2013.06.07	2014.06.06	1 year
6	Horn Antenna	EM	EM-AH-101 80	2011071402	2013.07.06	2014.07.05	1 year
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2013.07.06	2014.07.05	1 year
8	Amplifier	EM	EM-30180	060538	2012.12.22	2013.12.21	1 year
9	Loop Antenna	ARA	PLA-1030/B	1029	2013.06.08	2014.06.07	1 year
10	Power Meter	R&S	NRVS	100696	2013.07.06	2014.07.05	1 year
11	Power Sensor	R&S	URV5-Z4	0395.1619. 05	2013.07.06	2014.07.05	1 year

Conduction Test equipment

CONC	duction rest equipment						
Item	Kind of	Manufactu	Type No.	Serial No.	Last	Calibrated	Calibratio
	Equipment	rer			calibration	until	n period
1	Test Receiver	R&S	ESCI	101160	2013.06.06	2014.06.05	1 year
2	LISN	R&S	ENV216	101313	2013.08.24	2014.08.23	1 year
3	LISN	EMCO	3816/2	00042990	2013.08.24	2014.08.23	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	620026441 7	2013.06.07	2014.06.06	1 year
5	Passive Voltage Probe	R&S	ESH2-Z3	100196	2013.06.07	2014.06.06	1 year
6	Absorbing clamp	R&S	MOS-21	100423	2013.06.08	2014.06.07	1 year



3. ANTENNA REQUIREMENT

3.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

3.2 EUT ANTENNA

The EUT	antenna is	integral An	tenna. It	comply	with the	standard	requirement.
	antonia i	, ii itogi ai , ti i	torina. It	COLLIDIA	*****	olanaara	i ogali olliolit.



3.3 CONDUCTED EMISSION MEASUREMENT

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

	Class A	Class A (dBuV)		Class B (dBuV)	
FREQUENCY (MHz)	Quasi-peak	Average	Quasi-peak	Average	Standard
0.15 -0.5			66 - 56 *	56 - 46 *	CISPR
0.50 -5.0			56.00	46.00	CISPR
5.0 -30.0			60.00	50.00	CISPR

0.15 -0.5		66 - 56 *	56 - 46 *	LP002.
0.50 -5.0		56.00	46.00	LP002.
5.0 -30.0		60.00	50.00	LP002.

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz



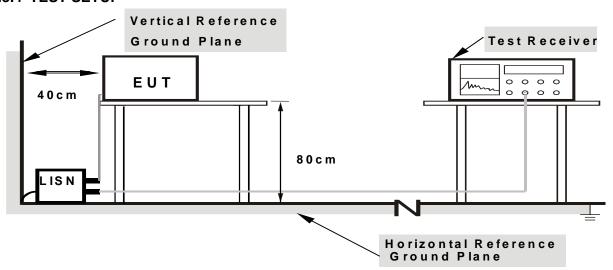
3.3.2 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item -EUT Test Photos.

3.3.3 DEVIATION FROM TEST STANDARD

No deviation

3.3.4 TEST SETUP



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

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

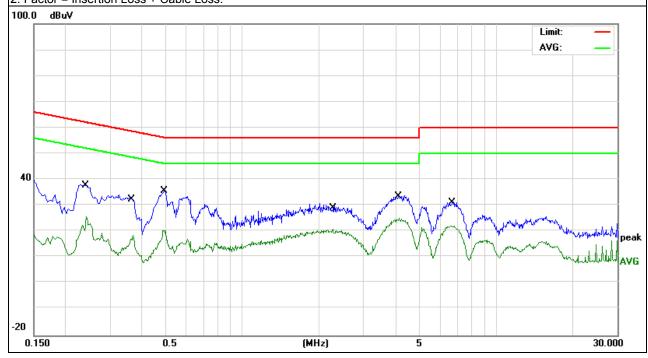


3.2.5 TEST RESULT

EUT:	Android TV Remote	Model Name. :	RT-MWK28
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	LIEST VOITAGE :	DC 5.0V from notebook AC 120V/60Hz
Test Mode :	Mode 1	Phase :	L

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Detector Type
0.2419	26.93	10.79	37.72	62.03	-24.31	QP
0.2419	14.82	10.79	25.61	52.03	-26.42	AVG
0.3699	21.47	10.78	32.25	58.50	-26.25	QP
0.3699	7.83	10.78	18.61	48.50	-29.89	AVG
0.4859	24.11	10.60	34.71	56.24	-21.53	QP
0.4859	9.79	10.60	20.39	46.24	-25.85	AVG
2.2620	17.45	10.53	27.98	56.00	-28.02	QP
2.2620	10.38	10.53	20.91	46.00	-25.09	AVG
4.1459	22.47	10.60	33.07	56.00	-22.93	QP
4.1459	14.47	10.60	25.07	46.00	-20.93	AVG
6.6418	19.50	10.73	30.23	60.00	-29.77	QP
6.6418	11.48	10.73	22.21	50.00	-27.79	AVG

Remark:



All readings are Quasi-Peak and Average values.
 Factor = Insertion Loss + Cable Loss.



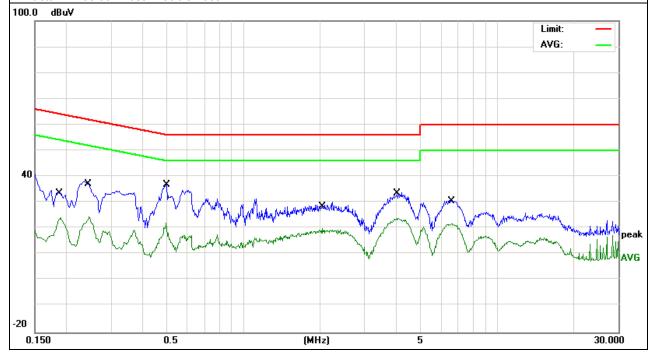
EUT: Android TV Remote Model Name. : RT-MWK28 Temperature : Relative Humidtity: 20 ℃ 48% DC 5.0V from notebook Test Voltage : Pressure: 1010 hPa AC 120V/60Hz Test Mode : Mode 1 Phase:

Page 16 of 39

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Datastar Tuna
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Detector Type
0.1900	22.46	10.83	33.29	64.03	-30.74	QP
0.1900	13.32	10.83	24.15	54.03	-29.88	AVG
0.2460	26.38	10.80	37.18	61.89	-24.71	QP
0.2460	13.84	10.80	24.64	51.89	-27.25	AVG
0.4940	26.16	10.58	36.74	56.10	-19.36	QP
0.4940	11.67	10.58	22.25	46.10	-23.85	AVG
2.0420	17.98	10.52	28.50	56.00	-27.50	QP
2.0420	9.43	10.52	19.95	46.00	-26.05	AVG
4.0858	22.41	10.60	33.01	56.00	-22.99	QP
4.0858	13.40	10.60	24.00	46.00	-22.00	AVG
6.6339	19.59	10.73	30.32	60.00	-29.68	QP
6.6339	11.02	10.73	21.75	50.00	-28.25	AVG

Remark:

- 1. All readings are Quasi-Peak and Average values.
- 2. Factor = Insertion Loss + Cable Loss.





3.4 RADIATED EMISSION MEASUREMENT

3.4.1 Radiated Emission Limits (FCC 15.209)

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

Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission level (dBuV/m)=20log Emission level (uV/m).

LIMITS OF RADIATED EMISSION MEASUREMENT (FCC 15.249)

Frequency of Emission (MHz)	Field Strength of fundamental ((millivolts /meter)	Field Strength of Harmonics (microvolts/meter)
2400 - 2483.5	50	500

Notes:

(1) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

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

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



3.4.2 TEST PROCEDURE

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

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

3.4.3 DEVIATION FROM TEST STANDARD

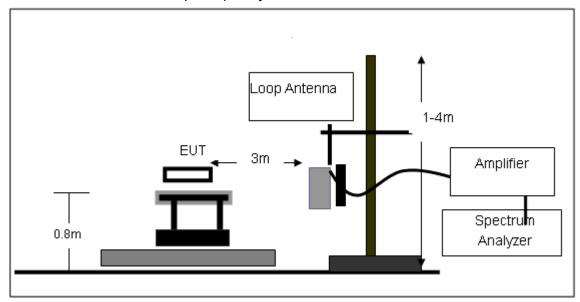
No deviation

.

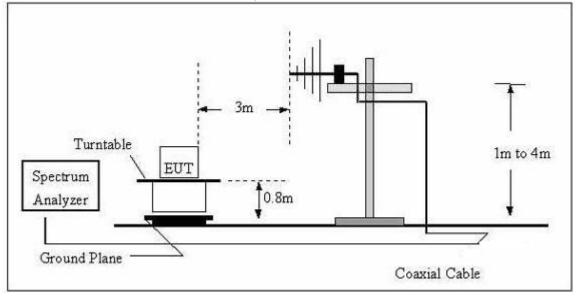


3.4.4 TEST SETUP

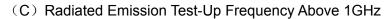
(A) Radiated Emission Test-Up Frequency Below 30MHz

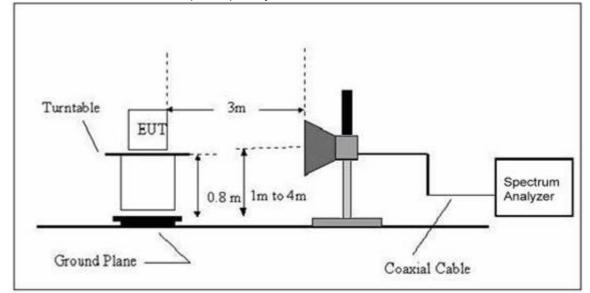


(B) Radiated Emission Test-Up Frequency 30MHz~1GHz









•



Test Mode :

3.4.5 TEST RESULTS (BELOW 30MHz)

TX

EUT:	Android TV Remote	Model Name. :	RT-MWK28
Temperature :	20 ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V

Polarization:

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

NOTE:

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

Distance extrapolation factor =20 log (specific distance/test distance)(dB);

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



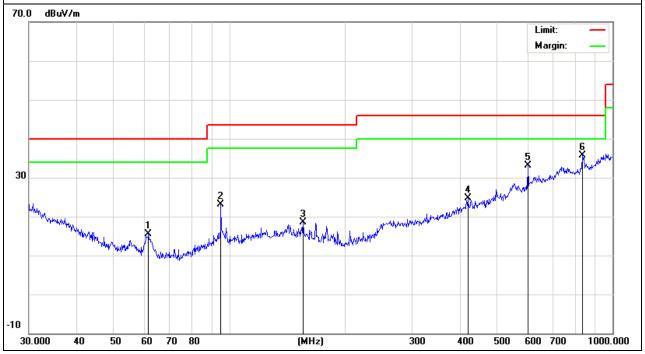
3.4.6 TEST RESULTS (BETWEEN 30 - 1000 MHZ)

EUT:	Android TV Remote	Model Name :	RT-MWK28
Temperature :	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
61.5617	-2.02	17.43	15.41	40.00	-24.59	QP
95.0930	0.79	22.24	23.03	43.50	-20.47	QP
155.9100	-4.93	23.50	18.57	43.50	-24.93	QP
419.1080	-6.36	31.13	24.77	46.00	-21.23	QP
601.4265	-1.95	35.00	33.05	46.00	-12.95	QP
833.3170	-3.77	39.41	35.64	46.00	-10.36	QP

Remark:

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



.



EUT: Android TV Remote Model Name: RT-MWK28

Temperature: 20 °C Relative Humidity: 48%

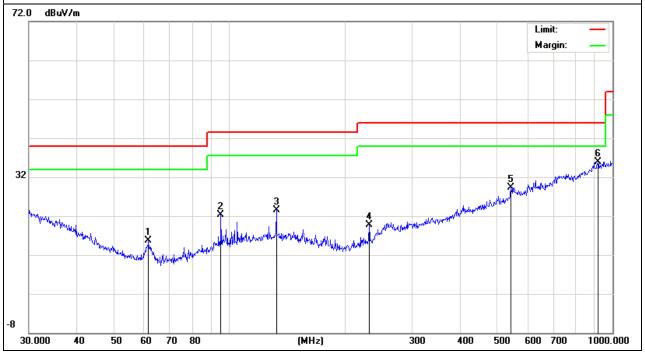
Pressure: 1010 hPa Test Voltage: DC 3.7V

Test Mode: TX Polarization: Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
61.5617	10.36	5.31	15.67	40.00	-24.33	QP
95.0930	12.22	10.12	22.34	43.50	-21.16	QP
132.6850	11.22	12.23	23.45	43.50	-20.05	QP
231.7179	8.72	10.90	19.62	46.00	-26.38	QP
543.2741	6.66	22.72	29.38	46.00	-16.62	QP
916.0687	7.42	28.48	35.90	46.00	-10.10	QP

Remark:

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



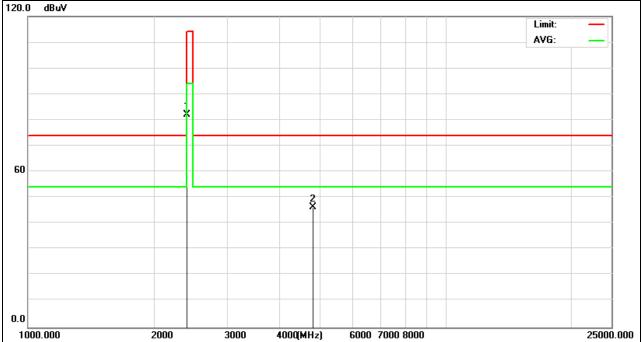
.



3.4.7 TEST RESULTS (ABOVE 1000 MHZ)

EUT:	Android TV Remote	Model Name :	RT-MWK28
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX /2403MHz	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2403	95.16	-12.99	82.17	114	-31.83	peak
4806	50.09	-3.64	46.45	74	-27.55	peak
2403	87.87	-12.99	74.88	94	-19.12	Av
4806	45.75	-3.64	42.11	54	-11.89	Av



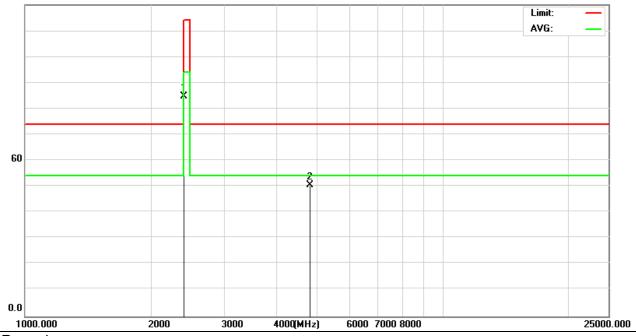
Remark:

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



EUT:	Android TV Remote	Model Name :	RT-MWK28
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX /2403MHz	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2403.000	97.64	-12.99	84.65	114.0	-29.35	peak
4806.000	54.13	-3.64	50.49	74.00	-23.51	peak
2403.000	88.75	-12.99	75.76	94	-18.24	Av
4806.000	47.87	-3.64	44.23	54	-9.77	Av
120.0 dBuV					•	•



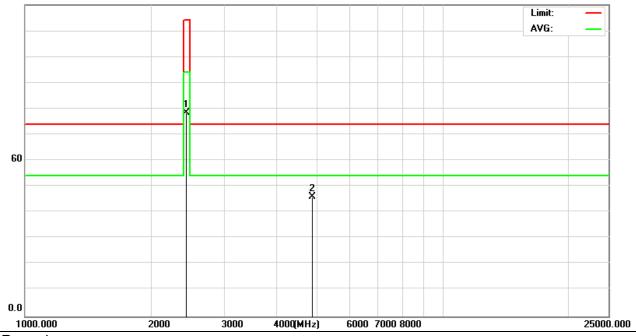
Remark:

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



EUT:	Android TV Remote	Model Name :	RT-MWK28
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX /2439MHz	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2439	91.28	-12.94	78.34	114	-35.66	peak
4878	49.72	-3.65	46.07	74	-27.93	peak
2439	84.65	-12.94	71.71	94	-22.29	Av
4878	41.86	-3.65	38.21	54	-15.79	Av
120.0 dBuV						

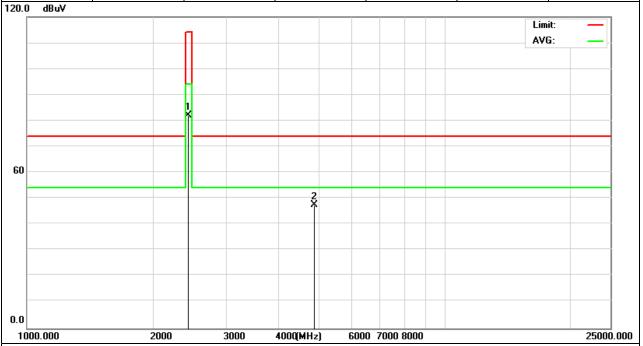


Remark:

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



Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2439	94.99	-12.94	82.05	114.0	-31.95	peak
4878	51.07	-3.65	47.42	74.00	-26.58	peak
2439	83.78	-12.94	70.84	94	-23.16	Av
4878	44.75	-3.65	41.1	54	-12.9	Av



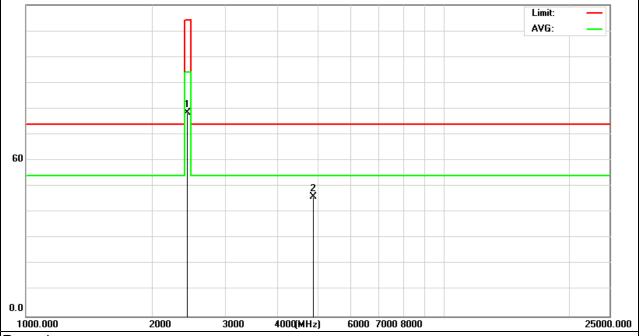
Remark:

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



EUT:	Android TV Remote	Model Name :	RT-MWK28
Temperature :	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX /2479MHz	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2439.000	91.28	-12.94	78.34	114	-35.66	peak
4878.000	49.72	-3.65	46.07	74	-27.93	peak
2439.000	83.65	-12.94	70.71	94	-23.29	Av
4878.000	40.87	-3.65	37.22	54	-16.78	Av
120.0 dBuV	•					



Remark:

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



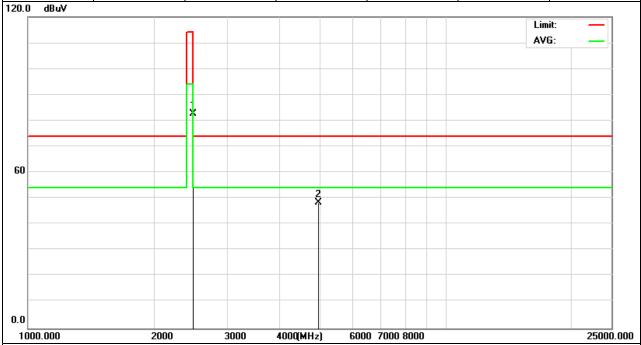
EUT: Android TV Remote Model Name: RT-MWK28

Temperature: 20 °C Relative Humidity: 48%

Pressure: 1010 hPa Test Voltage: DC 3.7V

Test Mode: TX /2479MHz Polarization: Vertical

	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
ſ	2479.000	95.44	-12.81	82.63	114	-31.37	peak
	4958.000	52.01	-3.58	48.43	74	-25.57	peak
ſ	2479.000	87.77	-12.81	74.96	94	-19.04	Av
	4958.000	46.87	-3.58	43.29	54	-10.71	Av



Remark:

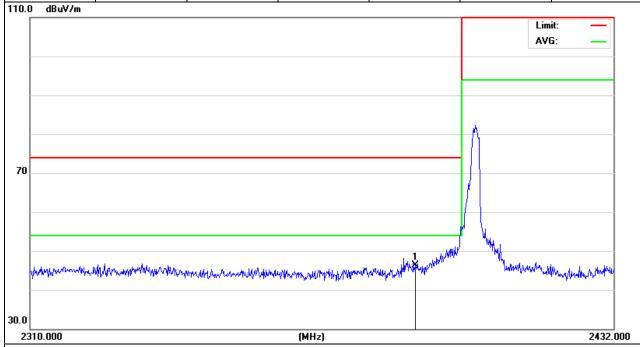
Factor = Antenna Factor + Cable Loss - Pre-amplifier.



3.4.8 TEST RESULTS (RESTRICTED BANDS REQUIREMENTS)

EUT:	Android TV Remote	Model Name :	RT-MWK28
Temperature :	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX /2403MHz	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2390	59.36	-13.06	46.30	74	-27.70	peak
2390	52.67	-13.06	39.61	54	-14.39	Av



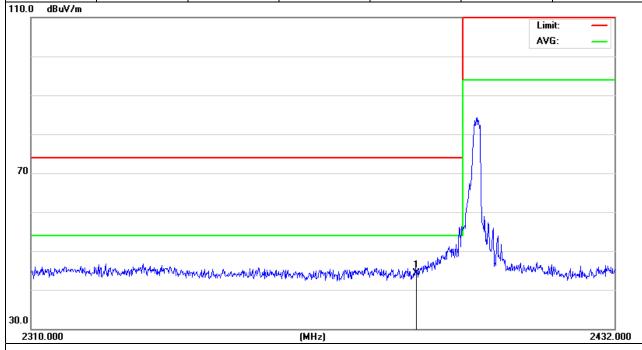
Remark:

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



EUT:	Android TV Remote	Model Name :	RT-MWK28
Temperature :	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX /2403MHz	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2390.000	57.46	-13.06	44.40	74	-29.60	peak
2390.000	59.87	-13.06	46.81	54	-7.19	Av



Remark:

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



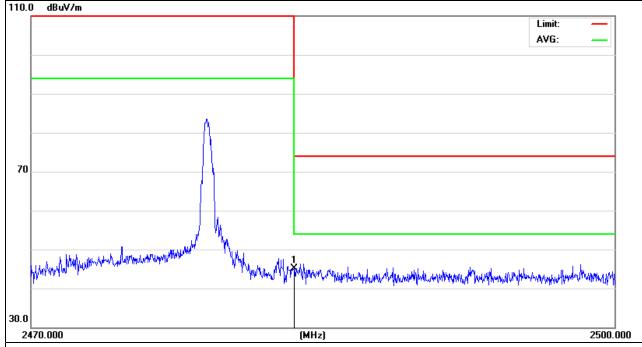
EUT: Android TV Remote Model Name: RT-MWK28

Temperature: 20 °C Relative Humidity: 48%

Pressure: 1010 hPa Test Voltage: DC 3.7V

Test Mode: TX /2479MHz Polarization: Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.5	57.88	-12.78	45.10	74	-28.90	peak
2483.5	50.64	-12.78	37.86	54	-16.14	Av



Remark:

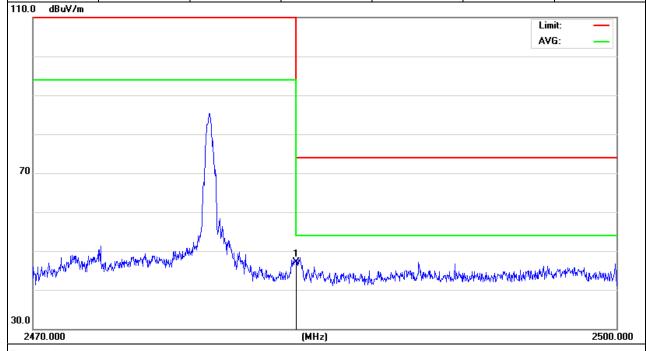
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT:	Android TV Remote	Model Name :	RT-MWK28
Temperature:	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX /2479MHz	Polarization :	Vertical

Page 33 of 39

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.5	59.88	-12.78	47.10	74	-26.90	peak
2483.5	52.75	-12.78	39.97	54	-14.03	Av



Remark:

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



4. BANDWIDTH TEST

4.1 TEST PROCEDURE

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

4.2 DEVIATION FROM STANDARD

No deviation.

4.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

•



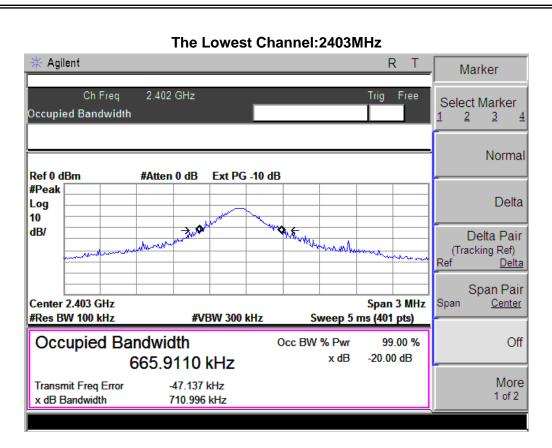
4.4 TEST RESULTS

EUT:	Android TV Remote	Model Name :	RT-MWK28
Temperature :	26 ℃	Relative Humidity:	53%
Pressure:	1020 hPa	Test Power :	DC 3.7V
Test Mode :	TX CH 01/05/10		

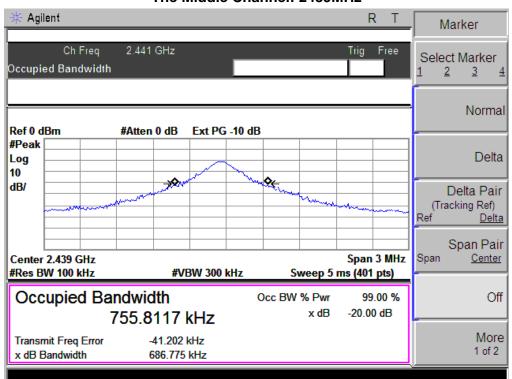
Test Channel	Frequency (MHz)	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
CH01	2403	0.711	0.666
CH05	2439	0.687	0.756
CH10	2479	0.730	0.720

•

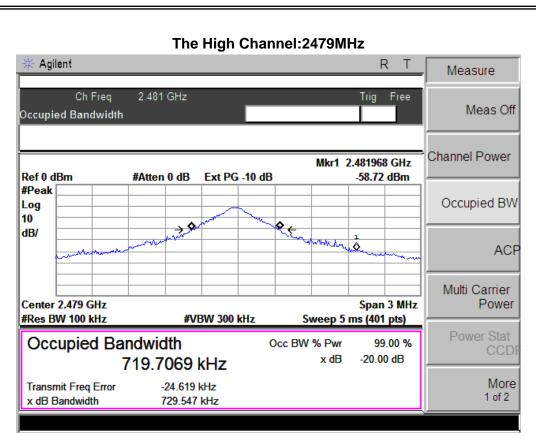




The Middle Channel: 2439MHz







Page 37 of 39

•



5. EUT TEST PHOTO



