

EMC TEST REPORT

Applicant: Quanzhou SKYDROID Technology Co., Ltd.

Address of Applicant: 2nd Floor, Building A, Yucheng Base, Fengze District, Quanzhou City, Fujian Province, China

Manufacturer/Factory: Quanzhou SKYDROID Technology Co., Ltd.

Address of Manufacturer/Factory: 2nd Floor, Building A, Yucheng Base, Fengze District, Quanzhou City, Fujian Province, China

Equipment Under Test (EUT)

Product Name: 2.4G Video Transmitter

Model No.: T12

Applicable standards: ETSI EN 301 489-1 V2.2.3 (2019-11)
ETSI EN 301 489-17 V3.2.4 (2020-09)

Date of sample receipt: March 30, 2021

Date of Test: March 31, 2021-April 13, 2021

Date of report issue: April 14, 2021

Test Result : PASS *

* In the configuration tested, the EUT complied with the standards specified above.

The CE mark as shown below can be used, under the responsibility of the manufacturer, after completion of an EC Declaration of Conformity and compliance with all relevant EC Directives. The protection requirements with respect to electromagnetic compatibility contained in Directive 2014/53/EU are considered.



Robinson Luo

Laboratory Manager



This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver

2 Version

Version No.	Date	Description
00	April 14, 2021	Original

Prepared By:

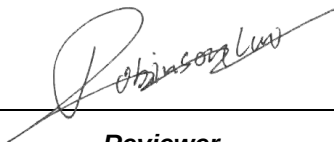


Project Engineer

Date:

April 14, 2021

Check By:



Reviewer

Date:

April 14, 2021

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4 Test Summary

EMI Test				
Test Item	Test Requirement	Test Method	Application	Result
Radiated Emission	ETSI EN 301 489-17	ETSI EN301 489-1	Enclosure	Pass
Conducted Emission	ETSI EN 301 489-17	ETSI EN301 489-1	AC port	N/A
Harmonic Current Emissions	ETSI EN 301 489-17	ETSI EN301 489-1	AC port	N/A
Voltage Fluctuations and Flicker	ETSI EN 301 489-17	ETSI EN301 489-1	AC port	N/A
EMS Test				
ESD (Electrostatic Discharge)	ETSI EN 301 489-17	EN 61000-4-2	Enclosure	Pass
Radio frequency electromagnetic field (80 MHz to 6 000 MHz)	ETSI EN 301 489-17	EN 61000-4-3	Enclosure	Pass
EFT (Electrical Fast Transients)	ETSI EN 301 489-17	EN 61000-4-4	AC port	N/A
Surge Immunity	ETSI EN 301 489-17	EN 61000-4-5	AC port	N/A
Radio frequency, common mode	ETSI EN 301 489-17	EN 61000-4-6	AC port	N/A
Voltage Dips and Interruptions	ETSI EN 301 489-17	EN 61000-4-11	AC port	N/A

Remark:

Pass: The EUT complies with the essential requirements in the standard.

N/A: not applicable

5 General Information

5.1 General Description of EUT

Product Name:	2.4G Video Transmitter
Model No.:	T12
Power Supply:	DC 3.7V, 4000mAh, 14.8Wh Li-ion Battery
Bluetooth:	
Operation Frequency:	2402~2480MHz
Channel numbers:	BT EDR:79 BLE: 40
Channel separation:	BT EDR:1MHz BLE: 2MHz
Modulation technology:	BT EDR:GFSK, $\pi/4$ -DQPSK, 8-DPSK BLE: GFSK
Antenna Type:	PCB Antenna
Antenna gain:	2dBi(Declare by applicant)
2.4G:	
Operation Frequency:	2420MHz~2480MHz
Channel numbers:	31
Channel separation:	2MHz
Modulation technology:	GFSK
Antenna Specification:	External antenna
Antenna Gain:	ANT1/2: 2.0dBi(Max)

5.2 Operating Modes

Operating mode	Detail description
Bluetooth mode	Keep the EUT in communications with Bluetooth function.
2.4G mode	Keep the EUT in 2.4G connection mode.

5.3 Description of Support Units

None.

5.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations: • FCC —Registration No.: 381383 Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 381383. • IC —Registration No.: 9079A The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A • NVLAP (LAB CODE:600179-0) Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP). LAB CODE:600179-0

5.5 Test Location

RI test was performed at:
SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.
All other tests were performed at:
Global United Technology Services Co., Ltd. Address: No. 123- 128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102 Tel: 0755-27798480 Fax: 0755-27798960

5.6 Deviation from Standards

None.

5.7 Abnormalities from Standard Conditions

None.

5.8 Other Information Requested by the Customer

None.

5.9 Monitoring of EUT for All Immunity Test

Visual:	Monitored the light and work status of the EUT
Audio:	Monitored the sound of the EUT

6 Equipment Used during Test

Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	July. 02 2020	July. 01 2025
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	June. 25 2020	June. 24 2021
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June. 25 2020	June. 24 2021
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June. 25 2020	June. 24 2021
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June. 25 2020	June. 24 2021
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	June. 25 2020	June. 24 2021
9	Coaxial Cable	GTS	N/A	GTS211	June. 25 2020	June. 24 2021
10	Coaxial cable	GTS	N/A	GTS210	June. 25 2020	June. 24 2021
11	Coaxial Cable	GTS	N/A	GTS212	June. 25 2020	June. 24 2021
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June. 25 2020	June. 24 2021
13	Amplifier(2GHz-20GHz)	HP	84722A	GTS206	June. 25 2020	June. 24 2021
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June. 25 2020	June. 24 2021
15	Band filter	Amindeon	82346	GTS219	June. 25 2020	June. 24 2021
16	Power Meter	Anritsu	ML2495A	GTS540	June. 25 2020	June. 24 2021
17	Power Sensor	Anritsu	MA2411B	GTS541	June. 25 2020	June. 24 2021
18	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	June. 25 2020	June. 24 2021
19	Splitter	Agilent	11636B	GTS237	June. 25 2020	June. 24 2021
20	Loop Antenna	ZHINAN	ZN30900A	GTS534	June. 25 2020	June. 24 2021
21	Breitband hornantenne	SCHWARZBECK	BBHA 9170	GTS579	Oct. 18 2020	Oct. 17 2021
22	Amplifier	TDK	PA-02-02	GTS574	Oct. 18 2020	Oct. 17 2021
23	Amplifier	TDK	PA-02-03	GTS576	Oct. 18 2020	Oct. 17 2021
24	PSA Series Spectrum Analyzer	Rohde & Schwarz	FSP	GTS578	June. 25 2020	June. 24 2021

ESD						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	ESD Simulator	KIKUSUI	KES4021A	GTS242	June. 25 2020	June. 24 2021
2	Thermo meter	KTJ	TA328	GTS243	June. 25 2020	June. 24 2021

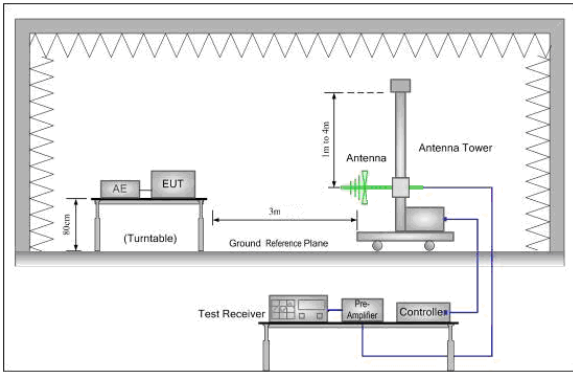
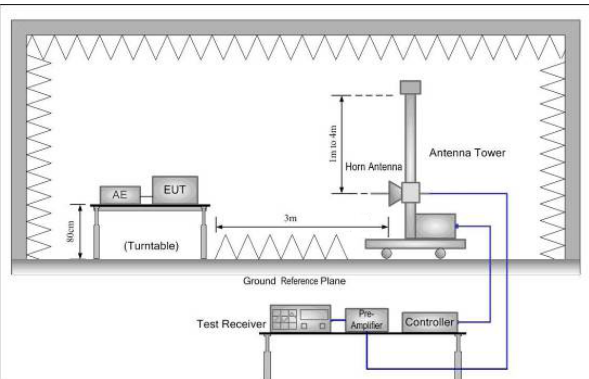
Radiated Immunity						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Fully-Anechoic Chamber 2	Chang Zhou Zhong Shuo	854	SEM001-05	2020-05-09	2023-05-08
2	Power Sensor	Rohde & Schwarz	NRP-Z91	SEM009-09	2021-03-31	2022-03-30
3	Stacked Log.-Per.-Broadband Antenna (70MHz-10GHz)	Schwarzbeck	STLP 9129	SEM003-25	N/A	N/A
4	Signal Generator (9kHz-6GHz)	Rohde & Schwarz	SMB100A	SEM006-11	2021-03-31	2022-03-30
5	Broadband Amplifier (80MHz-1GHz)	Rohde & Schwarz	BBA150-BC250	SEM005-12	2020-09-23	2021-09-22
6	Broadband Amplifier(800MHz-3GHz)	Rohde & Schwarz	BBA150-D110	SEM005-13	2021-03-31	2022-03-30
7	Broadband Amplifier(2.5GHz-6GHz)	Rohde & Schwarz	BBA150-E60	SEM005-16	2021-04-10	2022-04-09
8	Measurement Software	Rohde & Schwarz	EMC32 V9.25.00	N/A	N/A	N/A

General used equipment:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Humidity/ Temperature Indicator	KTJ	TA328	GTS243	June. 25 2020	June. 24 2021
2	Barometer	ChangChun	DYM3	GTS255	June. 25 2020	June. 24 2021

7 EMC Requirements Specification in ETSI EN 301 489-17

7.1 EMI (Emission)

7.1.1 Radiated Emission

Test Requirement:	ETSI EN 301 489-17				
Test Method:	ETSI EN 301 489-1 and EN 55032				
Test Frequency Range:	30MHz to 6GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	30MHz-1GHz	Quasi-peak	100kHz	300kHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		AV	1MHz	3MHz	Average Value
Limit:	Frequency		Limit (dBuV/m @3m)		Remark
	30MHz-230MHz		40.00		Quasi-peak Value
	230MHz-1GHz		47.00		Quasi-peak Value
	1GHz-3GHz		50.00		Average Value
			70.00		Peak Value
	3GHz-6GHz		54.00		Average Value
74.00			Peak Value		
Test setup:	Below 1GHz				
					
	Above 1GHz				
					

Test Procedure:	■ From 30MHz to 1GHz: 1. The radiated emissions test was conducted in a semi-anechoic chamber. 2. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation. 3. Before final measurements of radiated emissions, a pre-scan was performed in the spectrum mode with the peak detector to find out the maximum emissions spectrum plots of the EUT. 4. The frequencies of maximum emission were determined in the final radiated emissions measurement. At each frequency, the EUT was rotated 360°, and the antenna was raised and lowered from 1 to 4 meters in order to determine the maximum disturbance. Measurements were performed for both horizontal and vertical antenna polarization. ■ Above 1GHz: 1. The radiated emissions test was conducted in a fully-anechoic chamber. 2. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation. 3. Before final measurements of radiated emissions, a pre-scan was performed in the spectrum mode with the peak detector to find out the maximum emission spectrum plots of the EUT. 4. The frequencies of maximum emission were determined in the final radiated emissions measurement. At each frequency, the EUT was rotated 360°, and the antenna was raised and lowered from 1 to 4 meters in order to determine the maximum disturbance. Measurements were performed for both horizontal and vertical antenna polarization.					
Test environment:	Temp.:	25 °C	Humid.:	50%	Press.:	1 010mbar
Measurement Record:	Uncertainty: 3.8039dB (30MHz-200MHz) 3.9679dB (200MHz-1GHz) 4.29dB (1GHz-18GHz)					
Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details.					
Test results:	Pass					

Remark:

1. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Measurement Data

Below 1GHz

BLE mode

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarity
71.83	57.06	7.48	0.96	36.46	29.04	40.00	-10.96	Vertical
143.83	57.99	7.47	1.53	37.04	29.95	40.00	-10.05	Vertical
157.01	61.02	8.10	1.61	37.12	33.61	40.00	-6.39	Vertical
232.53	53.98	11.60	2.03	37.36	30.25	47.00	-16.75	Vertical
263.82	49.74	12.58	2.19	37.39	27.12	47.00	-19.88	Vertical
468.88	43.24	16.73	3.18	37.51	25.64	47.00	-21.36	Vertical
71.83	51.66	7.48	0.96	36.46	23.64	40.00	-16.36	Horizontal
156.46	57.74	8.10	1.61	37.11	30.34	40.00	-9.66	Horizontal
235.82	58.67	11.71	2.05	37.37	35.06	47.00	-11.94	Horizontal
265.68	56.73	12.65	2.20	37.39	34.19	47.00	-12.81	Horizontal
504.71	49.83	17.41	3.33	37.51	33.06	47.00	-13.94	Horizontal
709.18	46.56	19.79	4.12	37.63	32.84	47.00	-14.16	Horizontal

BT mode

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarity
71.83	55.68	7.48	0.96	36.46	27.66	40.00	-12.34	Vertical
154.28	60.42	7.95	1.59	37.10	32.86	40.00	-7.14	Vertical
270.38	50.37	12.76	2.22	37.40	27.95	47.00	-19.05	Vertical
468.88	43.86	16.73	3.18	37.51	26.26	47.00	-20.74	Vertical
684.75	40.42	19.58	4.04	37.62	26.42	47.00	-20.58	Vertical
878.32	40.54	22.09	4.77	37.60	29.80	47.00	-17.20	Vertical
71.83	51.38	7.48	0.96	36.46	23.36	40.00	-16.64	Horizontal
154.82	57.52	7.95	1.60	37.10	29.97	40.00	-10.03	Horizontal
234.99	58.68	11.67	2.05	37.37	35.03	47.00	-11.97	Horizontal
265.68	53.92	12.65	2.20	37.39	31.38	47.00	-15.62	Horizontal
504.71	48.28	17.41	3.33	37.51	31.51	47.00	-15.49	Horizontal
709.18	45.72	19.79	4.12	37.63	32.00	47.00	-15.00	Horizontal

2.4G mode

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarity
71.83	57.91	7.48	0.96	36.46	29.89	40.00	-10.11	Vertical
153.20	61.54	7.85	1.59	37.10	33.88	40.00	-6.12	Vertical
235.82	54.62	11.71	2.05	37.37	31.01	47.00	-15.99	Vertical
263.82	49.73	12.58	2.19	37.39	27.11	47.00	-19.89	Vertical
420.58	43.80	15.75	2.95	37.52	24.98	47.00	-22.02	Vertical
709.18	41.16	19.79	4.12	37.63	27.44	47.00	-19.56	Vertical
71.83	50.98	7.48	0.96	36.46	22.96	40.00	-17.04	Horizontal
143.83	54.58	7.47	1.53	37.04	26.54	40.00	-13.46	Horizontal
234.17	58.45	11.64	2.04	37.37	34.76	47.00	-12.24	Horizontal
300.37	51.39	13.60	2.36	37.42	29.93	47.00	-17.07	Horizontal
504.71	50.24	17.41	3.33	37.51	33.47	47.00	-13.53	Horizontal
709.18	45.58	19.79	4.12	37.63	31.86	47.00	-15.14	Horizontal

Above 1GHz

BLE mode

Peak measurement

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarity
1700.00	38.43	25.65	2.40	36.31	30.17	70.00	-39.83	Vertical
2560.00	36.55	27.79	3.08	36.99	30.43	70.00	-39.57	Vertical
3010.00	36.60	28.40	3.42	37.30	31.12	74.00	-42.88	Vertical
3330.00	38.36	28.40	3.63	37.34	33.05	74.00	-40.95	Vertical
4170.00	33.93	30.11	3.99	37.47	30.56	74.00	-43.44	Vertical
4670.00	32.68	30.98	4.54	37.68	30.52	74.00	-43.48	Vertical
2105.00	37.23	26.47	2.62	36.60	29.72	70.00	-40.28	Horizontal
2760.00	37.06	28.08	3.19	37.13	31.20	70.00	-38.80	Horizontal
3405.00	38.35	28.40	3.64	37.34	33.05	74.00	-40.95	Horizontal
3540.00	36.96	28.52	3.77	37.36	31.89	74.00	-42.11	Horizontal
4320.00	33.70	30.39	4.20	37.54	30.75	74.00	-43.25	Horizontal
4840.00	33.11	31.26	4.65	37.74	31.28	74.00	-42.72	Horizontal

BT mode

Peak measurement

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarity
1610.00	38.53	25.50	2.34	36.25	30.12	70.00	-39.88	Vertical
2280.00	36.86	27.04	2.77	36.76	29.91	70.00	-40.09	Vertical
2975.00	36.90	28.37	3.38	37.28	31.37	70.00	-38.63	Vertical
3285.00	38.42	28.40	3.62	37.33	33.11	74.00	-40.89	Vertical
4050.00	34.23	29.89	3.94	37.42	30.64	74.00	-43.36	Vertical
4670.00	33.74	30.98	4.54	37.68	31.58	74.00	-42.42	Vertical
1715.00	37.44	25.68	2.42	36.32	29.22	70.00	-40.78	Horizontal
2625.00	36.54	27.89	3.13	37.04	30.52	70.00	-39.48	Horizontal
3270.00	37.75	28.40	3.62	37.33	32.44	74.00	-41.56	Horizontal
3595.00	36.91	28.70	3.84	37.36	32.09	74.00	-41.91	Horizontal
4210.00	34.27	30.18	4.04	37.49	31.00	74.00	-43.00	Horizontal
4605.00	33.44	30.87	4.51	37.65	31.17	74.00	-42.83	Horizontal

2.4G mode

Peak measurement

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarity
1735.00	37.79	25.71	2.43	36.34	29.59	70.00	-40.41	Vertical
2645.00	36.79	27.92	3.13	37.05	30.79	70.00	-39.21	Vertical
3285.00	38.05	28.40	3.62	37.33	32.74	74.00	-41.26	Vertical
3495.00	36.82	28.40	3.74	37.35	31.61	74.00	-42.39	Vertical
4275.00	34.36	30.32	4.15	37.52	31.31	74.00	-42.69	Vertical
4825.00	33.07	31.24	4.63	37.74	31.20	74.00	-42.80	Vertical
1775.00	38.44	25.77	2.47	36.36	30.32	70.00	-39.68	Horizontal
2670.00	37.07	27.96	3.14	37.07	31.10	70.00	-38.90	Horizontal
3315.00	37.78	28.40	3.63	37.33	32.48	74.00	-41.52	Horizontal
3415.00	38.20	28.40	3.66	37.35	32.91	74.00	-41.09	Horizontal
4170.00	33.78	30.11	3.99	37.47	30.41	74.00	-43.59	Horizontal
4580.00	33.54	30.83	4.50	37.64	31.23	74.00	-42.77	Horizontal

Remark:

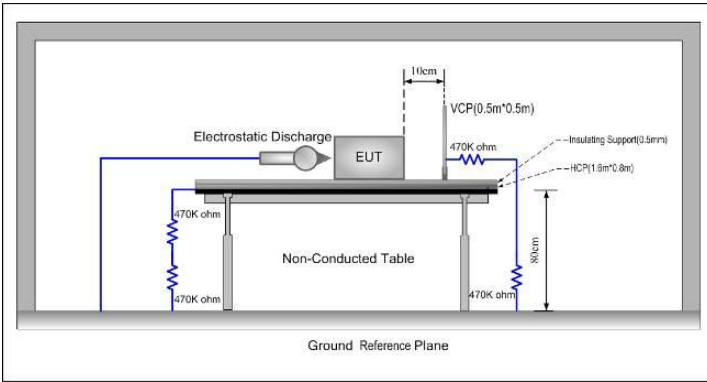
1. The EUT was test at 3m in field chamber.
2. If the average limit is met when using a Peak detector, the EUT shall be deemed to meet both peak and average limits. And measurement with the average detector is unnecessary.

7.2 Immunity

Performance Criteria of ETSI EN 301 489-1, clause 6	
6.0 Introduction	The performance criteria are used to take a decision on whether a radio equipment passes or fails immunity tests. For the purpose of the present document two categories of performance criteria apply: • Performance criteria for continuous phenomena. • Performance criteria for transient phenomena. NOTE: Normally, the performance criteria depends upon the type of radio equipment and/or its intended application. Thus, the present document only contains general performance criteria commonly used for the assessment of radio equipment.
6.1 Performance criteria for continuous phenomena	During the test, the equipment shall: • continue to operate as intended; • not unintentionally transmit; • not unintentionally change its operating state; • not unintentionally change critical stored data.
6.2 Performance criteria for transient phenomena	For all ports and transient phenomena with the exception described below, the following applies: • The application of the transient phenomena shall not result in a change of the mode of operation (e.g. unintended transmission) or the loss of critical stored data. • After application of the transient phenomena, the equipment shall operate as intended. For surges applied to symmetrically operated wired network ports intended to be connected directly to outdoor lines the following criteria applies: • For products with only one symmetrical port intended for connection to outdoor lines, loss of function is allowed, provided the function is self-recoverable, or can be otherwise restored. Information stored in non-volatile memory, or protected by a battery backup, shall not be lost. • For products with more than one symmetrical port intended for connection to outdoor lines, loss of function on the port under test is allowed, provided the function is self-recoverable. Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

Performance Criteria of ETSI EN 301 489-17, clause 6		
Criteria	During Test	After Test
A	Shall operate as intended. (see note). Shall be no loss of function. Shall be no unintentional transmissions.	Shall operate as intended. Shall be no degradation of performance. Shall be no loss of function. Shall be no loss of critical stored data.
B	May be loss of function .	Functions shall be self-recoverable. Shall operate as intended after recovering. Shall be no loss of critical stored data.
C	May be loss of function .	Functions shall be recoverable by the operator. Shall operate as intended after recovering. Shall be no loss of critical stored data.
Note:	Operate as intended during the test allows a level of degradation in accordance with clause 6.2.2.	
6.2.2	Minimum performance level For equipment that supports a PER or FER, the minimum performance level shall be a PER or FER less than or equal to 10 %. For equipment that does not support a PER or a FER, the minimum performance level shall be no loss of the wireless transmission function needed for the intended use of the equipment.	
6.3	Performance criteria for Continuous phenomena The performance criteria A shall apply. Where the EUT is a transmitter in standby mode, unintentional transmission shall not occur during the test. Where the EUT is a transceiver in receive mode, unintentional transmission shall not occur during the test.	
6.4	Performance criteria for Transient phenomena The performance criteria B shall apply, except for voltage dips greater than or equal to 100 ms and voltage interruptions of 5 000 ms duration, for which performance criteria C shall apply. Where the EUT is a transmitter in standby mode, unintentional transmission shall not occur as a result of the application of the test. Where the EUT is a transceiver in receive mode, unintentional transmission shall not occur as a result of the application of the test.	

7.2.1 Electrostatic Discharge

Test Requirement:	ETSI EN 301489-17
Test Method:	EN 61000-4-2
Discharge Voltage:	Contact Discharge: $\pm 4\text{kV}$ Air Discharge: $\pm 2\text{kV}$, $\pm 4\text{kV}$, $\pm 8\text{kV}$ HCP/VCP: $\pm 4\text{kV}$
Polarity:	Positive & Negative
Number of Discharge:	Contact Discharge: Minimum 10 times at each test point, Air Discharge: Minimum 10 times at each test point.
Discharge Mode:	Single Discharge
Discharge Period:	1 second minimum
Limit:	Criteria B
Test setup:	
Test Procedure:	Air discharge: 1. The test was applied on non-conductive surfaces of EUT. 2. The round discharge tip of the discharge electrode was approached as fast as possible to touch the EUT. 3. After each discharge, the discharge electrode was removed from the EUT. 4. The generator was re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. 5. This procedure was repeated until all the air discharge completed Contact Discharge: 1. The test was applied on conductive surfaces of EUT. 2. the generator was re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. 3. the tip of the discharge electrode was touch the EUT before the discharge switch was operated. Indirect discharge for horizontal coupling plane 1. At least 10 single discharges shall be applied at the front edge of each HCP opposite the centre point of each unit of the EUT and 0.1m from the front of the EUT. 2. The long axis of the discharge electrode shall be in the plane of the HCP and perpendicular to its front edge during the discharge. 3. Consideration should be given to exposing all sides of the EUT.

	Indirect discharge for vertical coupling plane 1. At least 10 single discharges were applied to the center of one vertical edge of the coupling plane. 2. The coupling plane, of dimensions 0.5m X 0.5m, was placed parallel to, and positioned at a distance of 0.1m from the EUT. 3. Discharges were applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.					
Test environment:	Temp.:	24 °C	Humid.:	51%	Press.:	1 010mbar
Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details					
Test results:	Pass					

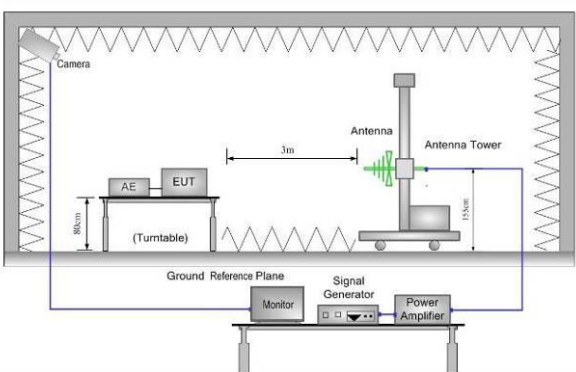
Measurement Record:

Measurement Record:				
Test points:	I: All metallic parts			
	II: All plastic seams			
Direct discharge				
Discharge Voltage (KV)	Type of discharge	Test points	Observations Performance	Result
± 4	Contact	I	A	Pass
± 2, ± 4,± 8	Air	II	A	Pass
Indirect discharge				
Discharge Voltage (KV)	Type of discharge	Test points	Observation Performance	Result
± 4	HCP-Bottom/Top/ Front/Back/Left/Right	Edge of the HCP	A	Pass
± 4	VCP-Front/Back /Left/Right	Center of the VCP	A	Pass

Remark:

A: Normal performance within the specification limits.

7.2.2 Radiated Immunity

Test Requirement:	ETSI EN 301489-17
Test Method:	EN 61000-4-3
Frequency range:	80MHz to 6GHz
Test Level:	3V/m
Modulation:	80%, 1kHz Amplitude Modulation
Performance Criterion:	Criteria A
Test setup:	
Test Procedure:	1. For table-top equipment, the EUT was placed in the chamber on a non-conductive table 0.8m high. For arrangement of floor-standing equipment, the EUT was mounted on a non-conductive support 0.1m above the supporting plane. For human body-mounted equipment, the EUT may be tested in the same manner as table top items. 2. If possible, a minimum of 1 m of cable is exposed to the electromagnetic field. Excess length of cables interconnecting units of the EUT shall be bundled low-inductively in the approximate center of the cable to form a bundle 30 cm to 40 cm in length. 3. The EUT was initially placed with one face coincident with the calibration plane. The EUT face being illuminated was contained within the UFA (Uniform Field Area). 4. The frequency ranges to be considered were swept with the signal modulated and pausing to adjust the RF signal level or to switch oscillators and antennas as necessary. Where the frequency range was swept incrementally, the step size was not exceed 1 % of the preceding frequency value. 5. The dwell time of the amplitude modulated carrier at each frequency was not be less than the time necessary for the EUT to be exercised and to respond, and was not less than 0,5 s. 6. The test normally was performed with the generating antenna facing each side of the EUT. 7. The polarization of the field generated by each antenna necessitates testing each selected side twice, once with the antenna positioned vertically and again with the antenna positioned horizontally. 8. The EUT was performed in a configuration to actual installation conditions, a video camera and/or a audio monitor were used to monitor the performance of the EUT.
Test monitor:	Traffic mode:

	1. The test system shall simulate a Base Station (BS) with Broadcast Control Channel/Common Control Channel (BCCH/CCCH) on one carrier. 2. The EUT shall be synchronized to the BCCH, listening to the CCCH and able to respond to paging messages.					
	Idle mode: 1. The test system shall simulate a Base Station (BS) with Broadcast Control Channel/Common Control Channel (BCCH/CCCH) on one carrier. 2. The EUT shall be synchronized to the BCCH, listening to the CCCH and able to respond to paging messages.					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1 010mbar
Test Instruments:	Refer to section 6.0 for details					
Test results:	Pass					

Measurement Record:

Frequency	Level	Modulation	Operating Mode	Antenna Polarization	EUT Face	Observations (Performance Criterion)
80 MHz-6 GHz	3 V/m	1 kHz, 80 % Amp. Mod, 1 % increment	All modes	V	Front	A
				H		A
				V	Rear	A
				H		A
				V	Left	A
				H		A
				V	Right	A
				H		A
				V	Top	A
				H		A
				V	Bottom	A
				H		A

Remarks:

A: normal performance within the specification limits

8 Test Setup Photo

Reference to the **appendix I** for details.

9 EUT Constructional Details

Reference to the **appendix II** for details

-----End-----