Shenzhen CTL Testing Technology Co., Ltd.
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TEST REPORT

FCC PART 15.236

Report Reference No.: **CTL1805246043-WF**

Compiled by: (position+printed name+signature)	Happy Guo (File administrators)	Happy Guo
Tested by: (position+printed name+signature)	Nice Nong (Test Engineer)	Nice Nong
Approved by: (position+printed name+signature)	Ivan Xie (Manager)	Ivan Xie

Product Name.....:	Wireless microphone system
Model/Type reference .....:	UK-4000
Listed Models .....:	See next page
Trade Mark.....:	PRORECK/RECK
FCC ID .....:	**YEB-UK-4000**
Applicant's name .....:	**OPALUX ELECTRONICS MFY. CO., LTD.**
Address of applicant .....:	21F, NO.86 LONGWAN NEW RESIDENTIAL QUARTERS, NINGBO, CHINA
Test Firm .....:	**Shenzhen CTL Testing Technology Co., Ltd.**
Address of Test Firm .....:	Floor 1-A, Baisha Technology Park, No.3011, Shahexi Road, Nanshan District, Shenzhen, China 518055
Test specification.....:	
Standard.....:	**FCC Part 15.236:** Operation of wireless microphones in the bands 54-72 MHz, 76-88 MHz, 174-216 MHz, 470-608 MHz and 614-698 MHz
TRF Originator .....:	Shenzhen CTL Testing Technology Co., Ltd.
Master TRF .....:	Dated 2011-01
Date of receipt of test item.....:	Mar. 03, 2019
Date of sampling .....:	Mar. 03, 2019
Date of Test Date.....:	Mar. 03, 2019–Mar. 18, 2019
Data of Issue.....:	Mar. 18, 2019
Result.....:	**Pass**

TEST REPORT

Test Report No. :	CTL1805246043-WF	Mar. 18, 2019 Date of issue

Equipment under Test	:	Wireless microphone system
Model /Type	:	UK-4000
Listed Models	:	UK-6000*(*=A~J), UK-4000*(*=A~J), UK-2000*(*=A~J), UK-1000*(*=A~J)
Applicant	:	**OPALUX ELECTRONICS MFY. CO., LTD.**
Address	:	21F, NO.86 LONGWAN NEW RESIDENTIAL QUARTERS, NINGBO, CHINA
Manufacturer	:	**OPALUX ELECTRONICS MFY. CO., LTD.**
Address	:	21F, NO.86 LONGWAN NEW RESIDENTIAL QUARTERS, NINGBO, CHINA

Test result	Pass *

*In the configuration tested, the EUT complied with the standards specified page 5.

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the issuing testing laboratory.

** Modified History **

Revisions	Description	Issued Data	Report No.	Remark
Version 1.0	Initial Test Report Release	2019-03-18	CTL1805246043-WF	Tracy Qi

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1. SUMMARY

1.1. TEST STANDARDS

The tests were performed according to following standards:
FCC Rules Part 15.236: Operation of wireless microphones in the bands 54-72 MHz, 76-88 MHz, 174-216 MHz, 470-608 MHz and 614-698 MHz

ANSI C63.10: 2013: American National Standard for Testing Unlicensed Wireless Devices

1.2. Test Description

FCC PART 15.247		
FCC Part 15.207	AC Power Conducted Emission	N/A
FCC Part 15.236(d)	RF Power Output	PASS
FCC Part 15.236(f)	Occupied Bandwidth	PASS
FCC Part 15.236(g) ETSI EN 300 422-1 v1.4.2	Necessary Bandwidth Spurious emissions	PASS
FCC Part 15.209	Radiated Emissions	PASS
FCC Part 15.236(f)(3)	Frequency Stability	PASS
FCC Part 15.203	Antenna Requirement	PASS

Note: N/A mean not applicable.

1.3. Test Facility

1.3.1 Address of the test laboratory

Shenzhen CTL Testing Technology Co., Ltd.
Floor 1-A, Baisha Technology Park, No. 3011, Shahexi Road, Nanshan, Shenzhen 518055 China

There is one 3m semi-anechoic chamber and two line conducted labs for final test. The Test Sites meet the requirements in documents ANSI C63.4 and CISPR 32/EN 55032 requirements.

1.3.2 Laboratory accreditation

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L7497

Shenzhen CTL Testing Technology Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No. 4343.01

Shenzhen CTL Testing Technology Co., Ltd, EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

IC Registration No.: 9518B

CAB identifier: CN0041

The 3m alternate test site of Shenzhen CTL Testing Technology Co., Ltd. EMC Laboratory has been registered by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements with Registration No.: 9518B on Jan. 22, 2019.

FCC-Registration No.: 399832

Designation No.: CN1216

Shenzhen CTL Testing Technology Co., Ltd. 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 our files. Registration 399832, December 08, 2017.

1.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements“ and is documented in the Shenzhen CTL Testing Technology Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for CTL laboratory is reported:

Test	Measurement Uncertainty	Notes
Transmitter power conducted	±0.57 dB	(1)
Transmitter power Radiated	±2.20 dB	(1)
Conducted spurious emission 9KHz-40 GHz	±2.20 dB	(1)
Occupied Bandwidth	±0.01ppm	(1)
Radiated Emission 30~1000MHz	±4.10dB	(1)
Radiated Emission Above 1GHz	±4.32dB	(1)

Conducted Disturbance 0.15~30MHz	±3.20dB	(1)

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

2. GENERAL INFORMATION

2.1. Environmental conditions

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

Normal Temperature:	25°C
Relative Humidity:	55 %
Air Pressure:	101 kPa

2.2. General Description of EUT

Product Name:	Wireless microphone system
Model/Type reference:	UK-4000
Power supply:	DC 3.0V from battery
Modulation:	4FSK
Operation frequency:	500MHz~599.5MHz
Channel number:	200
Channel spacing:	500 KHz
Antenna type:	Internal antenna
Antenna gain:	1.0dBi

Note: For more details, please refer to the user's manual of the EUT.

2.3. Description of Test Modes and Test Frequency

The Applicant provides software tools to control the EUT for staying in continuous transmitting (Duty Cycle more than 98%) and receiving mode for testing .There are 200 channels provided to the EUT and Channel 01/101/200 were selected to test.

Operation Frequency：

Channel	Frequency (MHz)
01	500.00
02	500.50
03	501.00
***	***
101	550.00
***	***
198	598.50
199	599.00
200	599.50

2.4. Equipments Used during the Test

Test Equipment	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Due Date
LISN	R&S	ENV216	3560.6550.12	2018/05/25	2019/05/24
LISN	R&S	ESH2-Z5	860014/010	2018/05/25	2019/05/24
Bilog Antenna	Sunol Sciences Corp.	JB1	A061713	2018/05/25	2019/05/24
EMI Test Receiver	R&S	ESCI	1166.5950.03	2018/05/25	2019/05/24
Spectrum Analyzer	Agilent	E4407B	MY41440676	2018/05/25	2019/05/24
Spectrum Analyzer	Agilent	N9020	US46220290	2018/05/25	2019/05/24
Power Sensor	Agilent	U2021XA	MY55130004	2018/05/25	2019/05/24
Power Meter	Agilent	U2021XA	MY55130006	2018/05/25	2019/05/24
Controller	EM Electronics	EM 1000	060859	2018/05/21	2019/05/20
Horn Antenna	Sunol Sciences Corp.	DRH-118	A062013	2018/05/25	2019/05/24
Active Loop Antenna	Da Ze	ZN30900A	/	2018/05/25	2019/05/24
Amplifier	Agilent	8449B	3008A02306	2018/05/25	2019/05/24
Amplifier	Agilent	8447D	2944A10176	2018/05/25	2019/05/24
Temperature/Humidity Meter	Gangxing	CTH-608	02	2018/05/17	2019/05/16
High-Pass Filter	micro-tranics	HPM50108	G174	2018/05/17	2019/05/16
High-Pass Filter	micro-tranics	HPM50111	G142	2018/05/17	2019/05/16
Coaxial Cables	HUBER+SUHNER	SUCOFLEX 104PEA-10M	10m	2018/05/17	2019/05/16
Coaxial Cables	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	2018/05/17	2019/05/16
Coaxial Cables	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	2018/05/17	2019/05/16
RF Cable	Megalon	RF-A303	N/A	2018/05/17	2019/05/16

The calibration interval was one year

2.5. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended to comply with Section 15.236 of the FCC Part 15, Subpart C Rules.

2.6. Modifications

No modifications were implemented to meet testing criteria.

3. TEST CONDITIONS AND RESULTS

3.1. Radiated Emissions and Band Edge

Limit

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emission out of authorized band shall not exceed the following table at a 3 meters measurement distance.

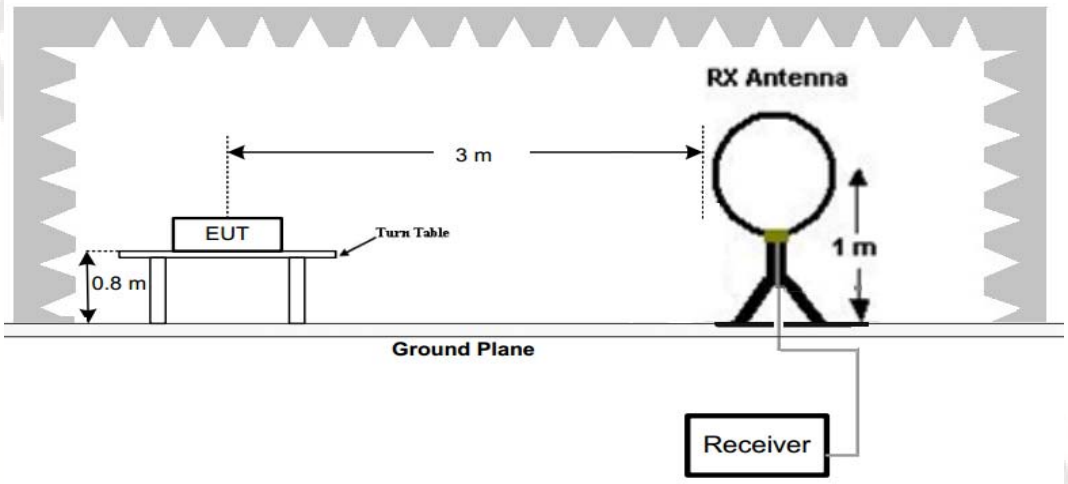
In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a)

Radiated emission limits

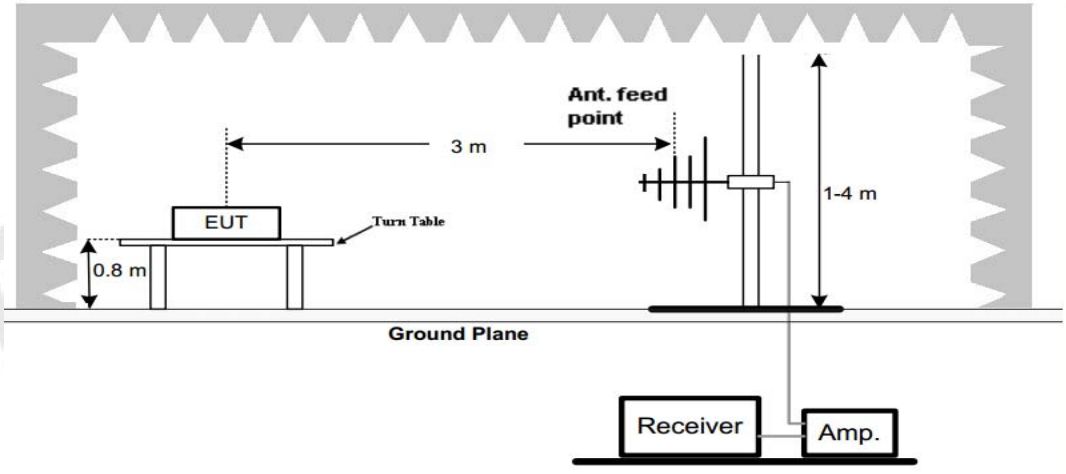
Frequency (MHz)	Distance (Meters)	Radiated (dBμV/m)	Radiated (μV/m)
0.009-0.49	3	20log(2400/F(KHz))+40log(300/3)	2400/F(KHz)
0.49-1.705	3	20log(24000/F(KHz))+ 40log(30/3)	24000/F(KHz)
1.705-30	3	20log(30)+ 40log(30/3)	30
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

TEST CONFIGURATION

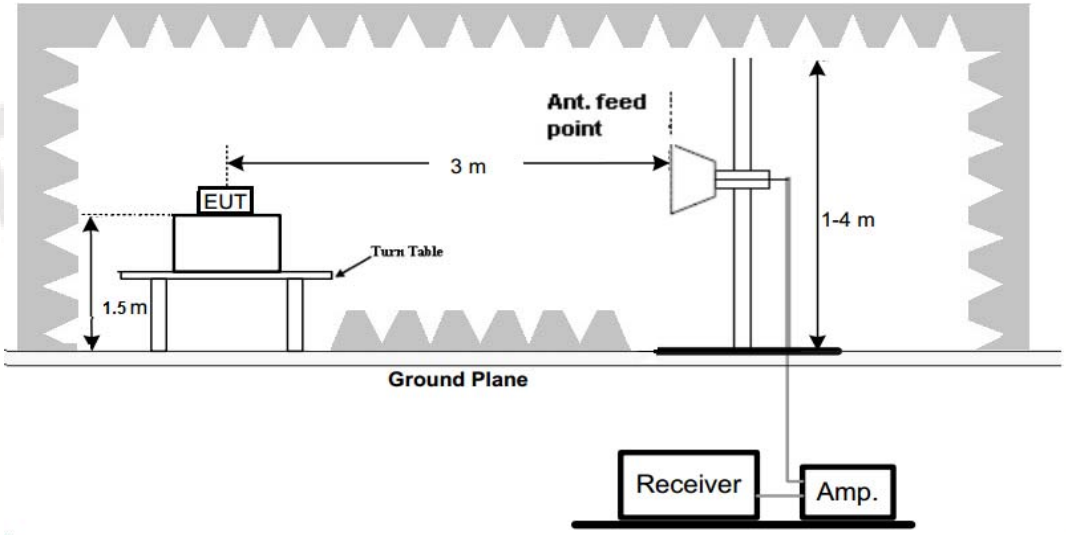
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



(B) Radiated Emission Test Set-Up, Frequency below 1000MHz



(C) Radiated Emission Test Set-Up, Frequency above 1000MHz



Test Procedure

1. Below 1GHz measurement the EUT is placed on a turntable which is 0.8m above ground plane, and above 1GHz measurement EUT was placed on a low permittivity and low loss tangent turn table which is 1.5m above ground plane.
2. Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0℃ to 360℃ to acquire the highest emissions from EUT
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measurements have been completed.

TEST RESULTS

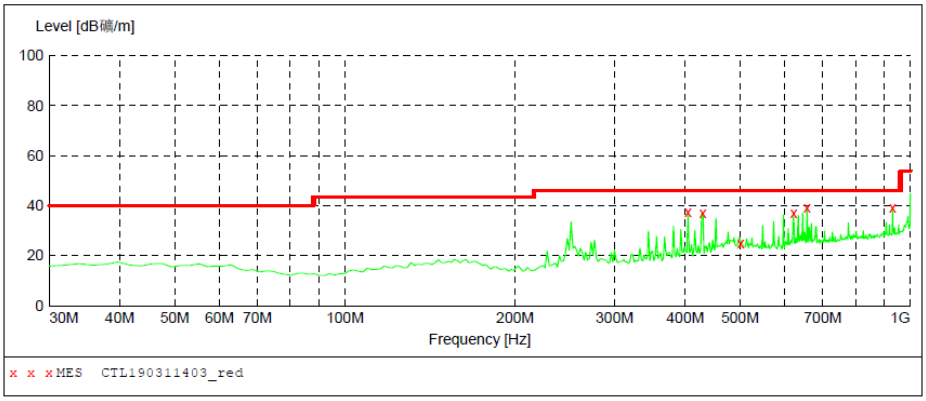
Remark:
1. We measured Radiated Emission at all mode Low, Middle, and High channel from 9 KHz to 25GHz and recorded worst case at low channel.
2. For below 1GHz testing recorded worst at low channel.
3. Radiated emission test from 9 KHz to 10th harmonic of fundamental was verified, and no emission found except system noise floor in 9 KHz to 30MHz and not recorded in this report.

For 30MHz-1GHz

Horizontal

SWEEP TABLE: "test (30M-1G)"

Short Description:			Field Strength		
Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
30.0 MHz	1.0 GHz	MaxPeak	200.0 ms	120 kHz	VULB 9168



MEASUREMENT RESULT: "CTL190311403_red"

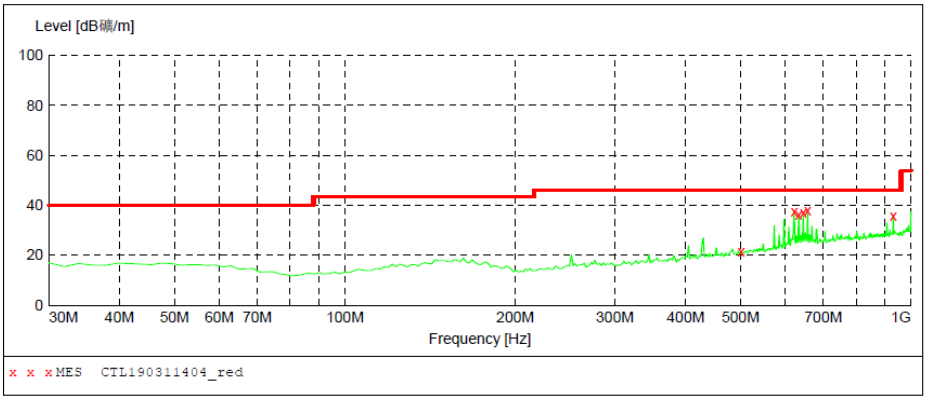
2019-3-11 15:07

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
404.420000	37.40	17.0	46.0	8.6	---	0.0	0.00	HORIZONTAL
429.640000	37.20	17.7	46.0	8.8	---	0.0	0.00	HORIZONTAL
501.420000	25.20	19.0	46.0	20.8	---	0.0	0.00	HORIZONTAL
621.700000	37.10	21.6	46.0	8.9	---	0.0	0.00	HORIZONTAL
656.620000	39.40	22.2	46.0	6.6	---	0.0	0.00	HORIZONTAL
930.160000	39.10	25.7	46.0	6.9	---	0.0	0.00	HORIZONTAL

Vertical

SWEEP TABLE: "test (30M-1G)"

Short Description:			Field Strength		
Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
30.0 MHz	1.0 GHz	MaxPeak	200.0 ms	120 kHz	VULB 9168



MEASUREMENT RESULT: "CTL190311404_red"

2019-3-11 15:08

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
501.420000	21.70	19.0	46.0	24.3	---	0.0	0.00	VERTICAL
621.700000	37.30	21.6	46.0	8.7	---	0.0	0.00	VERTICAL
633.340000	36.00	21.8	46.0	10.0	---	0.0	0.00	VERTICAL
644.980000	37.00	22.0	46.0	9.0	---	0.0	0.00	VERTICAL
656.620000	38.10	22.2	46.0	7.9	---	0.0	0.00	VERTICAL
930.160000	35.90	25.7	46.0	10.1	---	0.0	0.00	VERTICAL

Note: Above 1-6GHz have been tested and found no emission except floor noise.

3.2. Maximum Output Power

Limit

The maximum radiated power shall not exceed the following values:

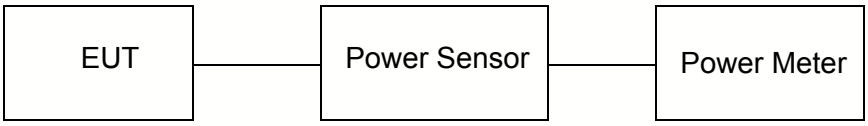
(1) In the bands allocated and assigned for broadcast television and in the 600 MHz service band: 50 mW EIRP

(2) In the 600 MHz guard band and the 600 MHz duplex gap: 20 mW EIRP.

Test Procedure

Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power sensor.

Test Configuration



Test Results

Type	Channel	Output power (dBm)	Ant. Gain (dBi)	EIRP (dBm)	Limit (dBm)	Result
4FSK	CH01	-0.091	1.0	0.909	17	Pass
	CH101	-0.145	1.0	0.855	17	Pass
	CH200	0.935	1.0	1.935	17	Pass

Note: 1.The test results including the cable lose.

3.3. Occupied Bandwidth

Limit

One or more adjacent 25 kHz segments within the assignable frequencies may be combined to form a channel whose maximum bandwidth shall not exceed 200 kHz. The operating bandwidth shall not exceed 200 kHz.

Test Procedure

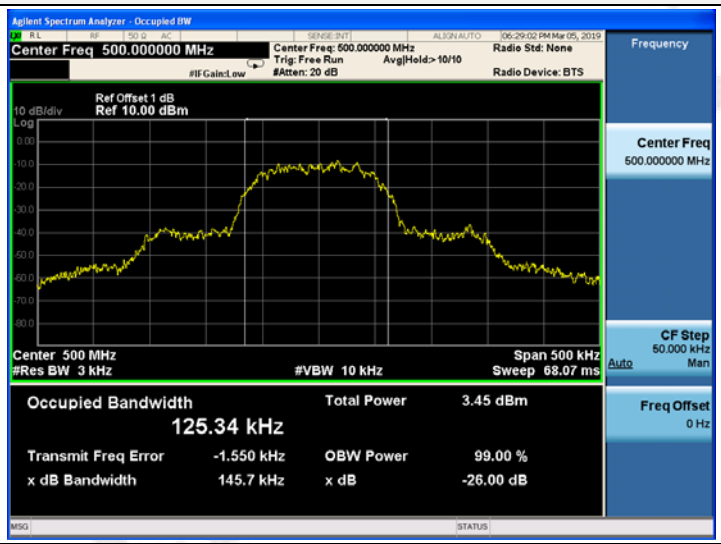
The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 3 KHz RBW and 10 KHz VBW.

Test Configuration

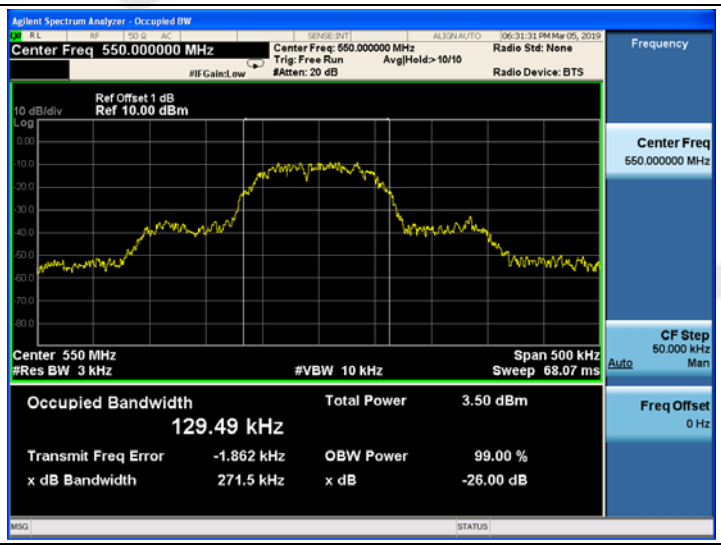
Test Results

Modulation	Channel	99% OBW (KHz)	Limit (KHz)	Result
4FSK	CH01	125.34	200	Pass
	CH101	129.49	200	
	CH200	126.43	200	

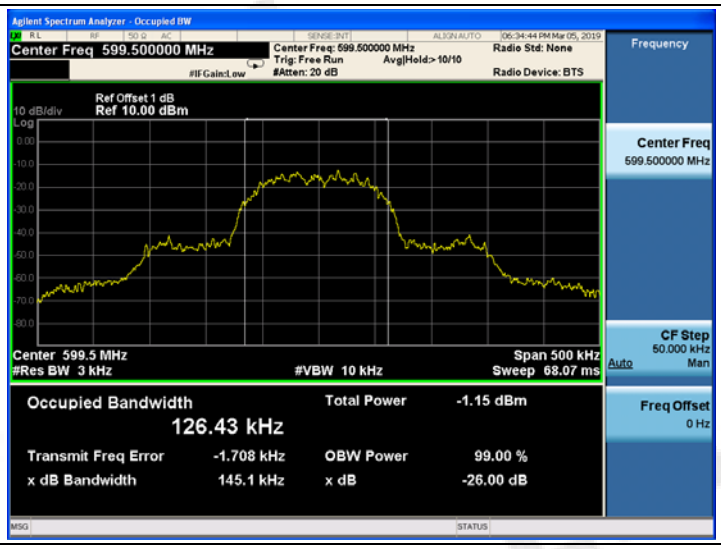
Test plot as follows:



CH01



CH101



CH200

3.4. Necessary Bandwidth

LIMIT

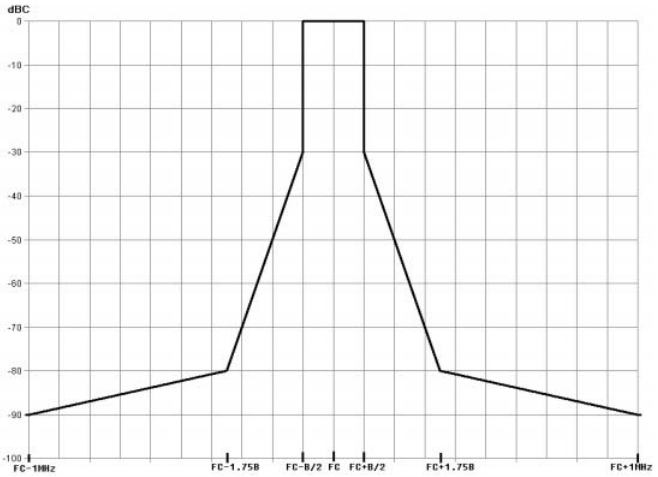
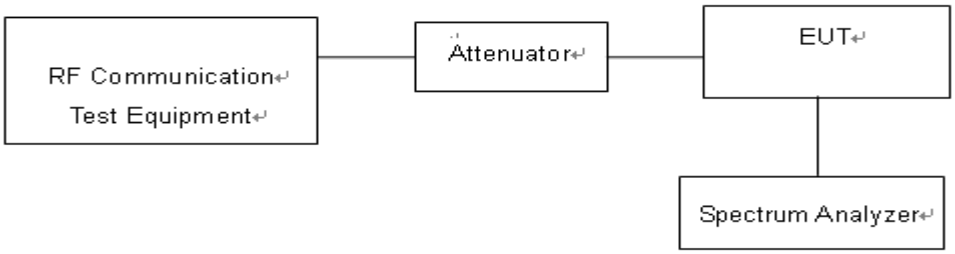


Figure 4: Spectrum mask for digital systems below 1 GHz

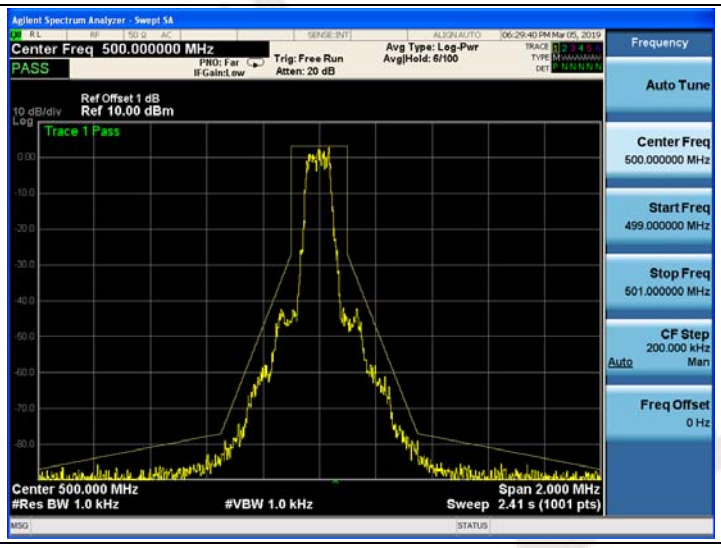
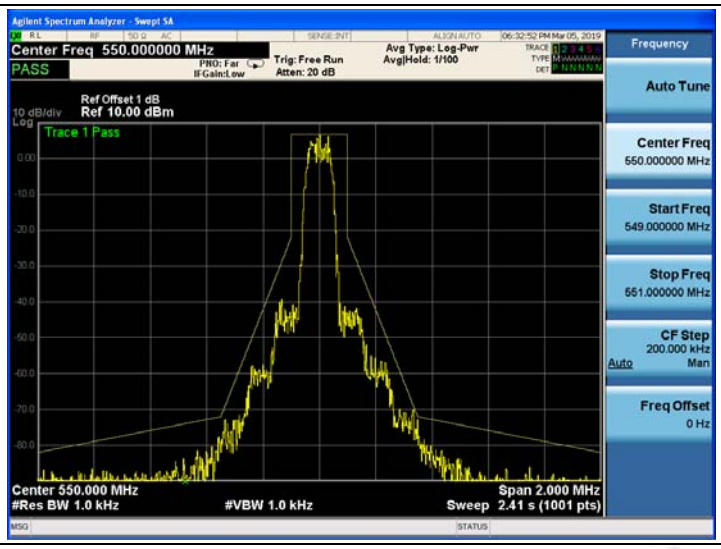
TEST PROCEDURE

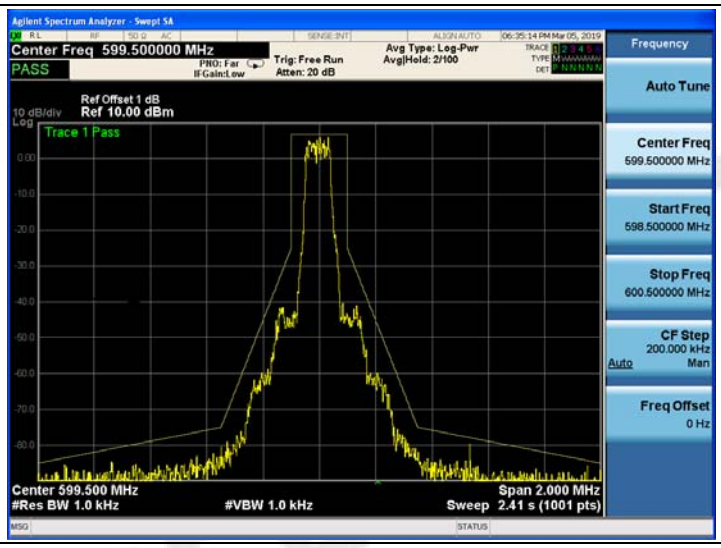
The transmitter shall be modulated with the test signals defined in clause 7.1.2. In any case the mask shall not be exceeded.
- Step 1: Measure the "Carrier Power" with the spectrum analyzer setup:
• Center Frequency = fc
• Span = Zero span
• Detector = RMS
• Trace Mode = Average
• RBW&VBW = 5 x B
• Sweep time ≥ 2 s
- Step 2: Measure the "Maximum Relative Level (dBc) at Specified Carrier Offsets" with the following spectrum analyzer setup:
• Center Frequency = fc
• Span ≥ 5 x B
• Detector = RMS
• Trace Mode = Peak Hold
• RBW&VBW = 1 kHz
• Sweep time ≥ 2 s
Limits: Mask shall not be exceeded.
- Step 3: Measure the "transmitter wide band noise floor": The measurement of transmitter broad band noise floor shall be carried out according to clause 8.3.1.1.
• Start Frequency = fc + 1,75B and fc - 1 MHz below 1 GHz,
Start Frequency = fc + B and fc - 1 MHz above 1 GHz.
• Stop Frequency = fc + 1 MHz and fc - 1,75 B below 1 GHz,
Stop Frequency = fc + 1 MHz and fc -B above 1 GHz.
• Detector = RMS
• Trace Mode = Average
• RBW&VBW = 1 kHz
• Sweep time ≥ 2 s
NOTE 2: Two spectrum ranges are to be measured!
Limits: Mask shall not be exceeded.

TEST CONFIGURATION



TEST RESULTS


CH01

CH101


Agilent Spectrum Analyzer - Swept SA
Center Freq 599.500000 MHz
PASS
PNO: Far
IFGain:Low
Trig: Free Run
Atten: 20 dB
Avg Type: Log-Pwr
Avg|Hold: 2/100
Ref Offset 1 dB
10 dB/div
Log
Ref 10.00 dBm
Trace 1 Pass
Center 599.500 MHz
#Res BW 1.0 kHz
#VBW 1.0 kHz
Span 2.000 MHz
Sweep 2.41 s (1001 pts)
Frequency
Auto Tune
Center Freq
599.500000 MHz
Start Freq
598.500000 MHz
Stop Freq
600.500000 MHz
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz

CH200

3.5. Transmitter spurious emissions

Limit

Spurious emissions are emissions outside the frequency range(s) of the equipment. The power of the spurious emissions shall not exceed the limits of table as below:

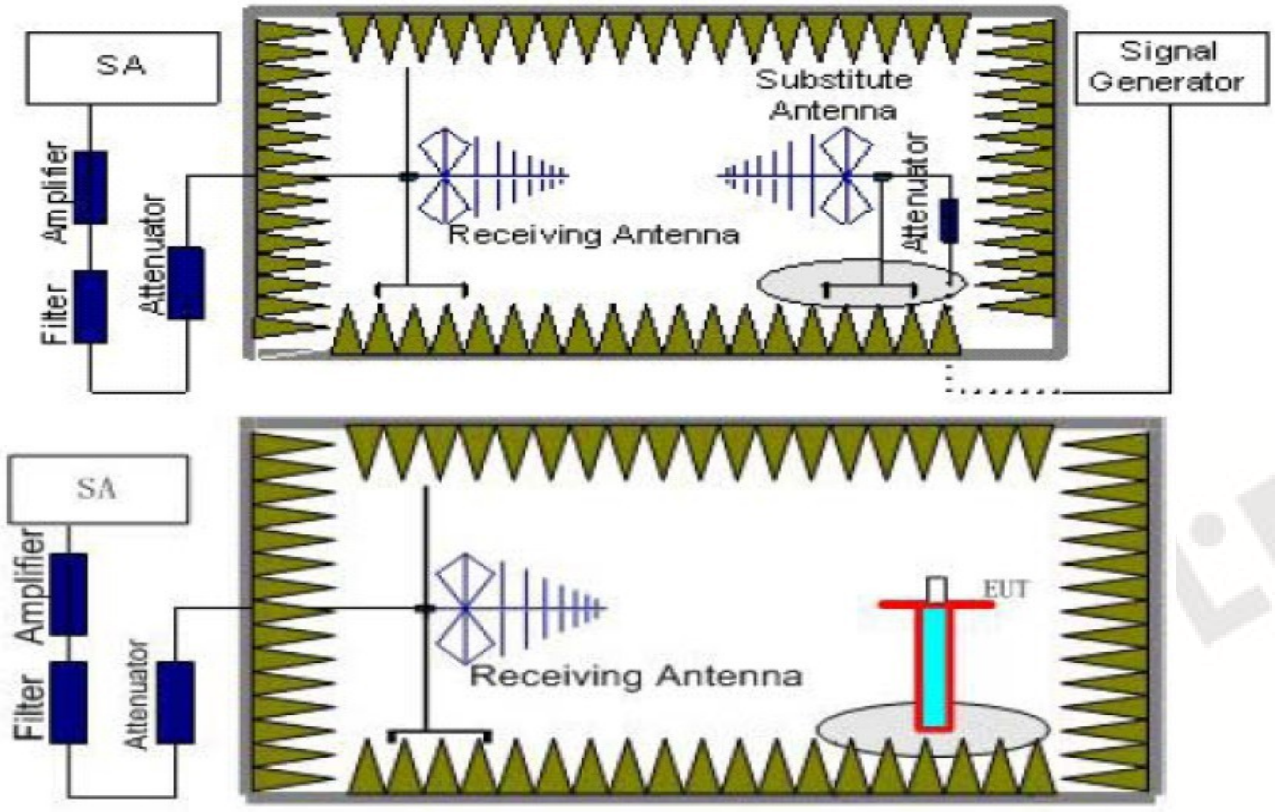
State	Frequency		
	47 MHz to 74 MHz 87,5 MHz to 137 MHz 174 MHz to 230 MHz 470 MHz to 862 MHz	Other Frequencies below 1 000 MHz	Frequencies above 1 000 MHz
Operation	4 nW	250 nW	1 µW
Standby	2 nW	2 nW	20 nW

Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. Set spectrum analyzer start 2400MHz to 2483.5MHz with 100 KHz RBW and 300 KHz VBW.

Test Configuration

Effective Radiated Power measurement (30 MHz to 12.75 GHz)

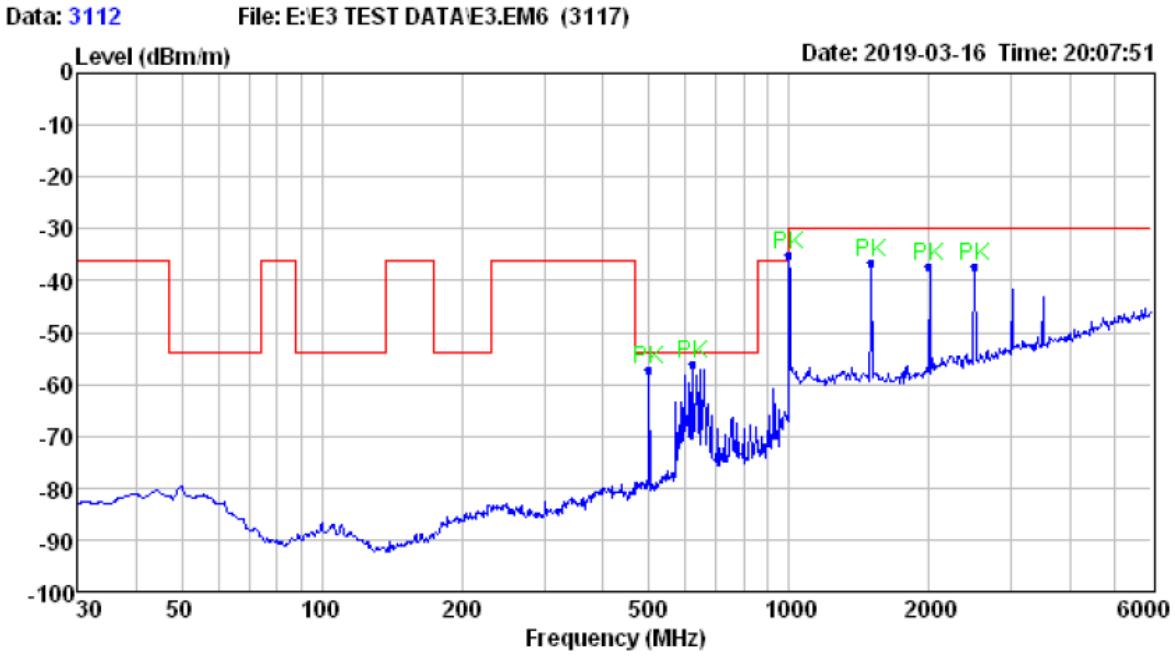


TEST PROCEDURE

1. Please refer to ETSI EN 300 422-1 V1.4.2 (2011-08) clause 6.1 for the test conditions.
2. Please refer to ETSI EN 300 422-1 V1.4.2 (2011-08) clause 8.4.2 for the measurement method.

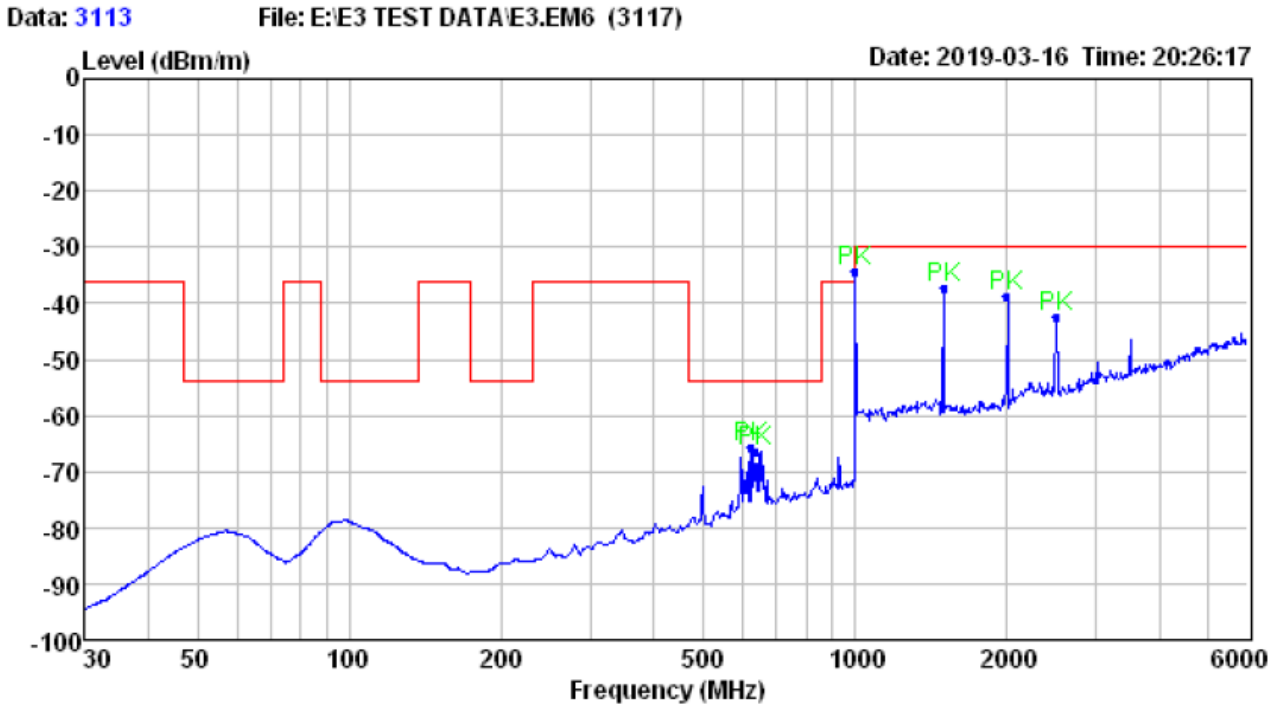
Test Results

Comment: TX 500.5



Mark	Frequency MHz	Level dBm	Factor dB	Reading dBm	Limit dB	Margin dB	Det.	Polarization
1	500.45	-57.27	0.14	-57.41	-53.99	3.28	Peak	HORIZONTAL
2	620.73	-56.16	2.99	-59.15	-53.99	2.17	Peak	HORIZONTAL
3	1000.01	-34.90	1.65	-36.55	-29.99	4.91	Peak	HORIZONTAL
4	1500.51	-36.65	3.08	-39.73	-29.99	6.66	Peak	HORIZONTAL
5	2001.01	-37.26	4.79	-42.05	-29.99	7.27	Peak	HORIZONTAL
6	2501.51	-37.22	7.13	-44.35	-29.99	7.23	Peak	HORIZONTAL

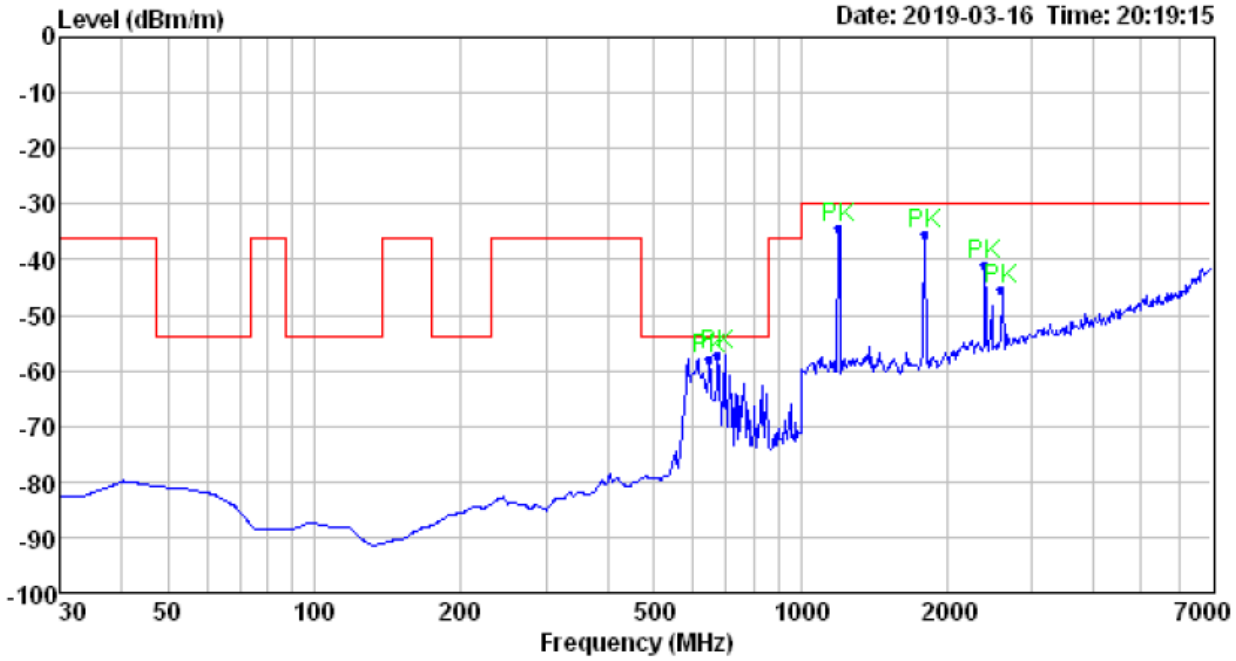
Comment: TX 500.5



Mark	Frequency MHz	Level dBm	Factor dB	Reading dBm	Limit dB	Margin dB	Det.	Polarization
1	620.73	-65.64	2.85	-68.49	-53.99	11.65	Peak	VERTICAL
2	633.34	-66.28	3.25	-69.53	-53.99	12.29	Peak	VERTICAL
3	1000.01	-34.45	1.32	-35.77	-29.99	4.46	Peak	VERTICAL
4	1500.51	-37.34	3.02	-40.36	-29.99	7.35	Peak	VERTICAL
5	2001.01	-38.89	4.53	-43.42	-29.99	8.90	Peak	VERTICAL
6	2501.51	-42.32	6.93	-49.25	-29.99	12.33	Peak	VERTICAL

Comment: TX 599.5

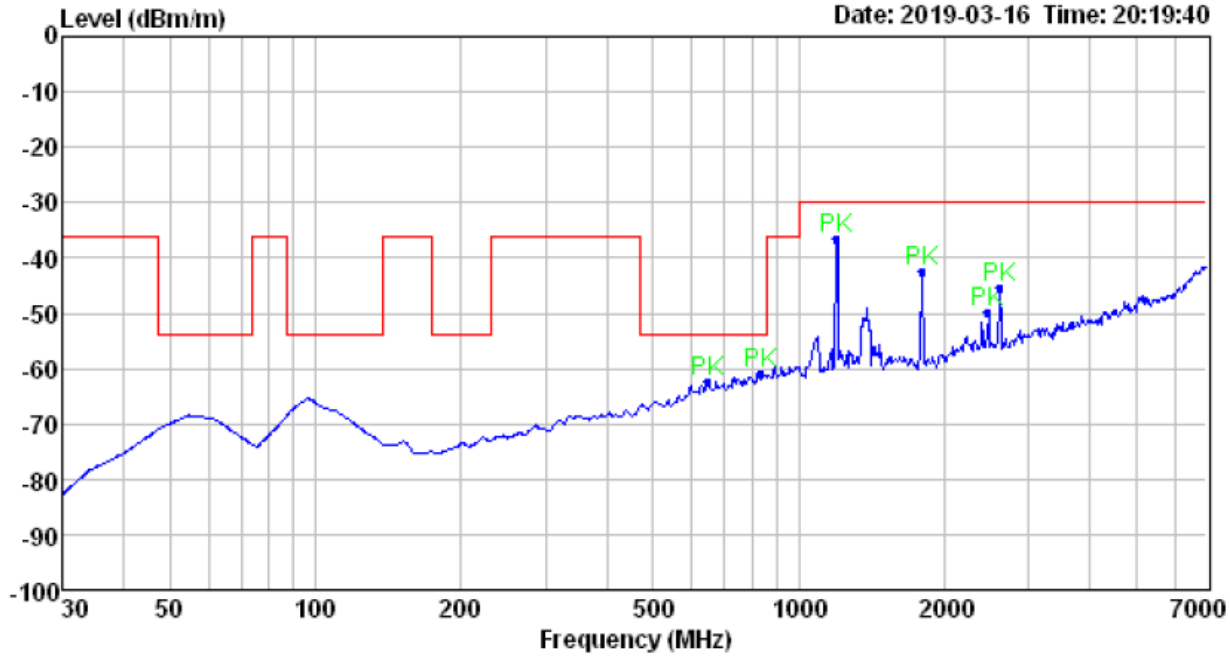
Data: 3116 File: E:\E3 TEST DATA\E3.EM6 (3117)



Mark	Frequency MHz	Level dBm	Factor dB	Reading dBm	Limit dB	Margin dB	Det.	Polarization
1	647.89	-57.85	3.12	-60.97	-53.99	3.86	Peak	HORIZONTAL
2	672.14	-57.25	3.05	-60.30	-53.99	3.26	Peak	HORIZONTAL
3	1193.17	-34.30	2.18	-36.48	-29.99	4.31	Peak	HORIZONTAL
4	1799.67	-35.33	3.85	-39.18	-29.99	5.34	Peak	HORIZONTAL
5	2394.17	-41.10	6.90	-48.00	-29.99	11.11	Peak	HORIZONTAL
6	2592.33	-45.42	7.47	-52.89	-29.99	15.43	Peak	HORIZONTAL

Comment: TX 599.5

Data: 3117 File: E:\E3 TEST DATA\E3.EM6 (3117)



Mark	Frequency MHz	Level dBm	Factor dB	Reading dBm	Limit dB	Margin dB	Det.	Polarization
1	647.89	-62.19	3.41	-65.60	-53.99	8.20	Peak	VERTICAL
2	832.19	-60.93	5.71	-66.64	-53.99	6.94	Peak	VERTICAL
3	1199.17	-36.35	1.86	-38.21	-29.99	6.36	Peak	VERTICAL
4	1799.67	-42.55	3.55	-46.10	-29.99	12.56	Peak	VERTICAL
5	2460.22	-49.84	6.73	-56.57	-29.99	19.85	Peak	VERTICAL
6	2610.35	-45.26	6.97	-52.23	-29.99	15.27	Peak	VERTICAL

3.6. Frequency Stability

Limit

The frequency tolerance of the carrier signal shall be maintained within ±0.005% of the operating frequency over a temperature variation of −20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. Battery operated equipment shall be tested using a new battery.

Test Procedure

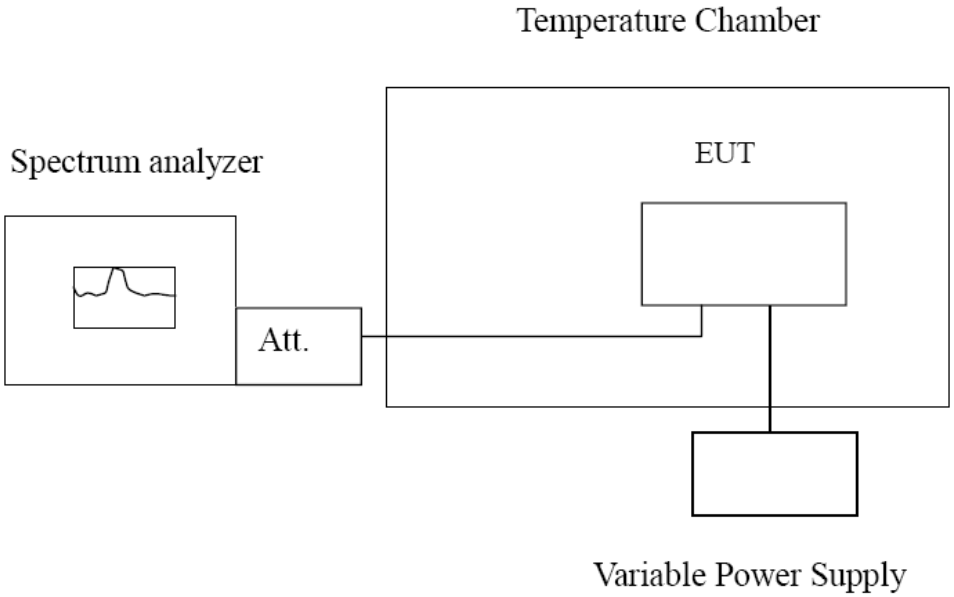
a) Frequency stability versus environmental temperature

1. Setup asTest Configuration for frequencies measured at ambient temperature if it is within 15℃to 25℃. Otherwise, an environmental chamber set for a temperature of 20℃shall be used.
2. Turn on EUT and set SA center frequency to the right frequency needs to be measured. Then set SA RBW to 3 kHz, VBW to 10kHz and frequency span to 500 kHz. Record this frequency to be a reference.
3. Set the temperature of chamber to 50℃. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize. While maintaining a constant temperature inside the chamber, turn the EUT on and measure the EUT operating frequency.
4. Repeat step 2 with a 10℃decreased per stage until the lowest temperature -20℃is measured, record all measurement frequencies.

b) Frequency stability versus input voltage

1. Setup asTest Configuration for frequencies measured at ambient temperature if it is within 15℃to 25℃. Otherwise, an environmental chamber set for a temperature of 20℃shall be used. Install new batteries in the EUT.
2. Set SA center frequency to the right frequency needs to be measured. Then set SA RBW to 3kHz, VBW to 10kHz and frequency span to 500 kHz. Record this frequency to be a reference.
3. For non hand carried, battery operated device, supply the EUT primary voltage with 85 and 115 percent of the nominal value and record the frequency.

Test Configuration



Test Results

Reference Frequency: 550.00MHz					
Voltage (V)	Temperature (℃)	Frequency error (MHz)	Frequency Tolerance (%)	Limit (%)	Result
3.0	-20	0.01426	0.00259	±0.005	PASS
	-10	0.00921	0.00167		
	0	0.00765	0.00139		
	10	0.00498	0.00091		
	20	0.00143	0.00026		
	30	0.00322	0.00059		
	40	0.00899	0.00163		
	50	0.01754	0.00319		
3.45	25	0.01041	0.00189		
2.55	25	0.01123	0.00204		

3.7. Antenna Requirement

Standard Applicable

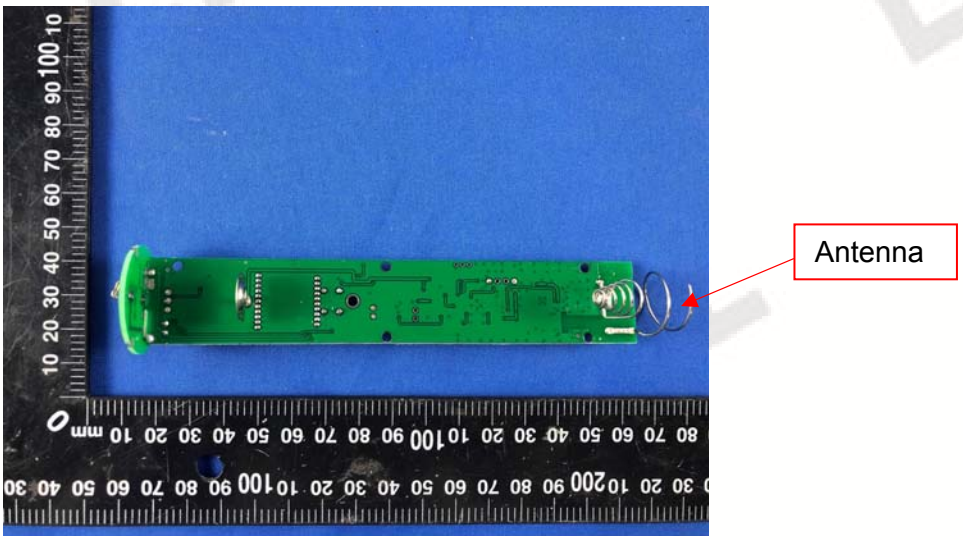
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

Refer to statement below for compliance

The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

Antenna Connected Construction

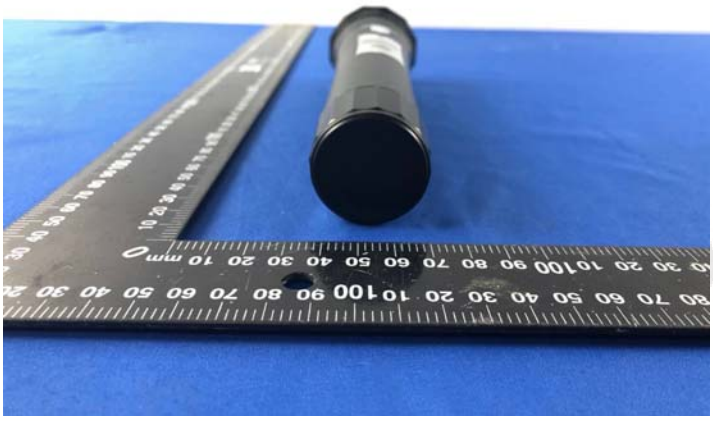
The maximum gain of antenna was 1.0dBi.

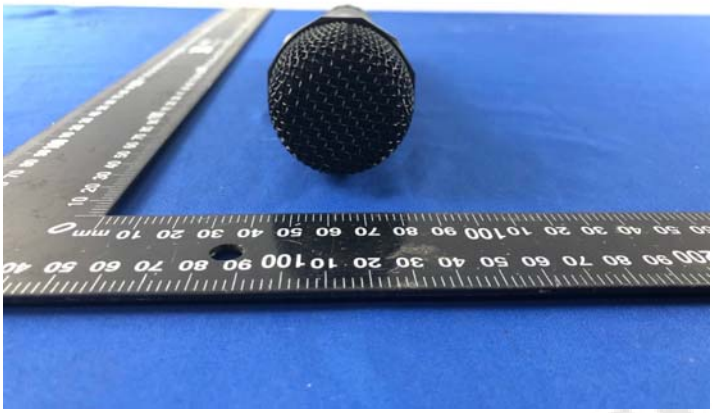


4. Test Setup Photos of the EUT

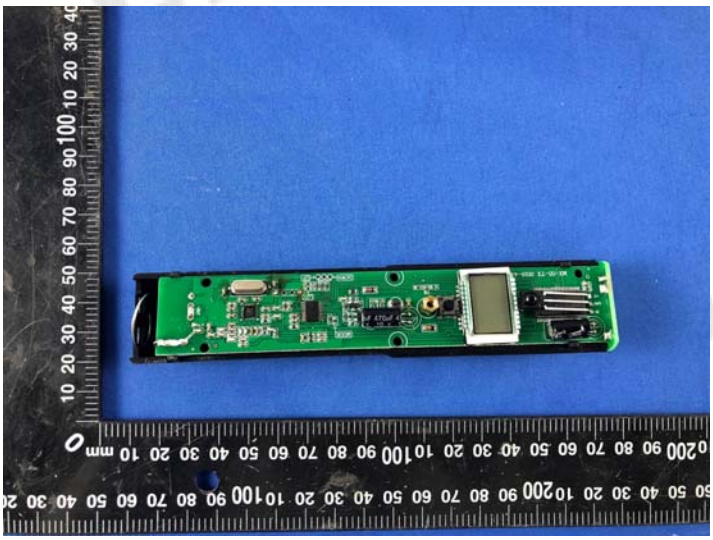
5. Photos of the EUT

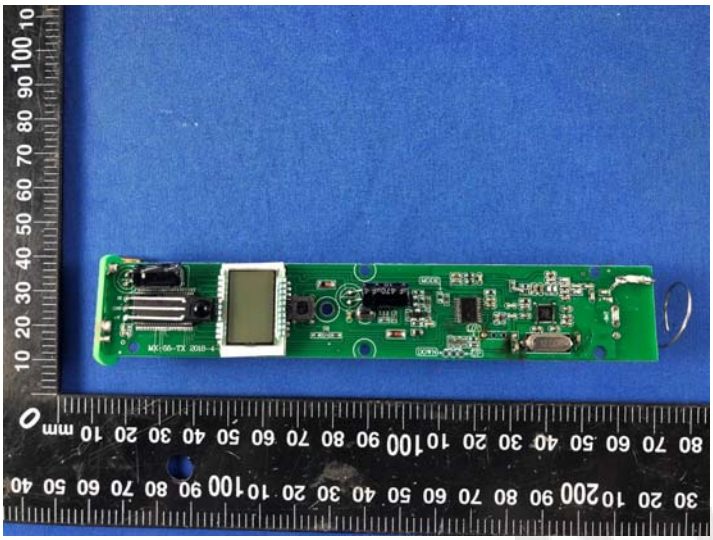
External Photos

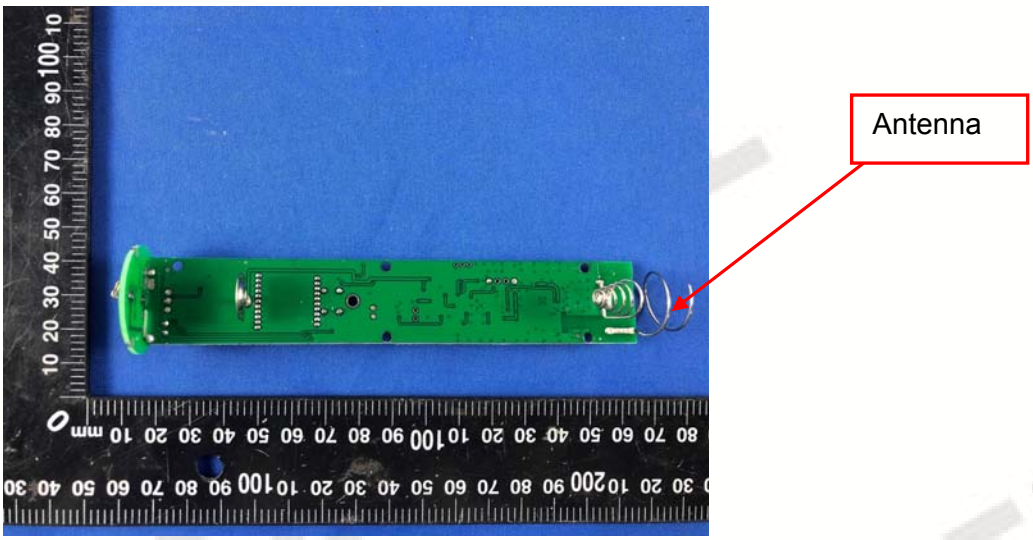


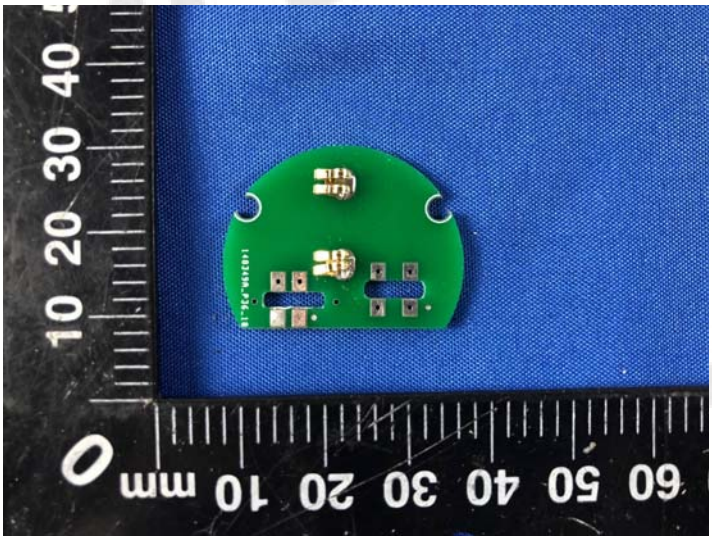


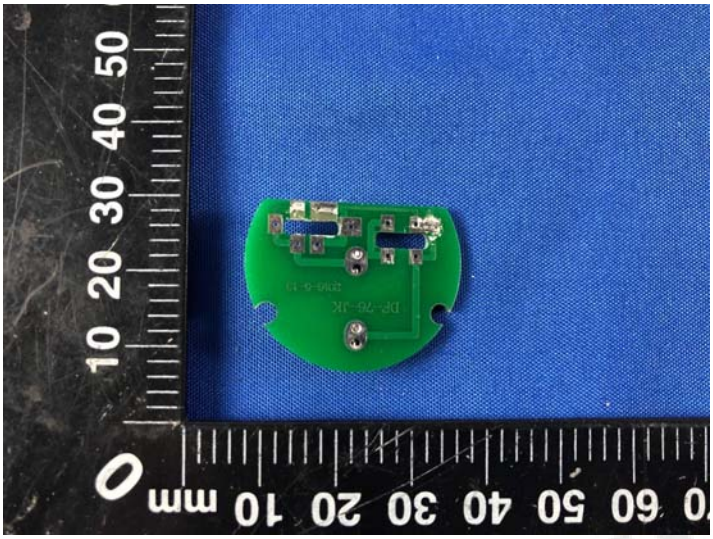
Internal Photos











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