



FCC Test Report

Report No: FCS202205006W01

Issued for

Applicant:	SHENZHEN ENGETE DIANZI KEJI YOUXIAN GONGSI
Address:	E207 hedong mansion haoyunlai square xixiang road baoan area, Shenzhen, Guangdong, China
Product Name:	VHF Wireless Microphone
Brand Name:	BOMGE
Model Name:	V-410
Series Model:	V-102, V-103,V-104, V-210,V-220, V-230, V-240, V-250, V-260, V-270,V-280, V-420, V-430, V-440, V-450, V-460
FCC ID:	2A624-V-410
Issued By: Flux Compliance Service Laboratory Add: Room 105 Floor Bao hao Technology Building 1 NO.15 Gong ye West Road Hi-Tech Industrial, Song shan lake Dongguan Tel: 769-27280901 Fax:769-27280901 http://www.fcs-lab.com	

TEST RESULT CERTIFICATION

Applicant's Name.....: SHENZHEN ENGETE DIANZI KEJI YOUXIAN GONGSI

Address.....: E207 hedong mansion haoyunlai square xixiang road baoan area, Shenzhen, Guangdong, China

Manufacture's Name.....: Enping Xiehe Audio Equipment Factory

Address.....: Enping Xiehe Professional Audio Equipment Factory, DongAn Industrial Zone, Enping City, Guangdong Province,China, 529400

Product Description

Product Name.....: VHF Wireless Microphone

Brand Name: BOMGE

Model Name.....: V-410

Series Model.....: Refer to page 1 of the report

Test Standards.....: FCC Rules and Regulations Part 15 Subpart C section 15.236

Test Procedure.....: ANSI C63.10:2013

This device described above has been tested FCS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

This report shall not be reproduced except in full, without the written approval of FCS, this document may be altered or revised by FCS, personal only, and shall be noted in the revision of the document..

Date of Test.....:

Date (s) of performance of tests.: 05 May ,2022 ~ 09 May ,2022

Date of Issue.....: 11 May ,2022

Test Result.....: Pass

Tested by

:

Scott Shen

(Scott Shen)

Reviewed by

:

Duke Qian

(Duke Qian)

Approved by

:

Jack Wang

(Jack Wang)



Table of Contents

	Page
1. SUMMARY OF TEST RESULTS.....	5
1.1 TEST LABORATORY	6
1.2 MEASUREMENT UNCERTAINTY.....	6
2. GENERAL INFORMATION.....	7
2.1 GENERAL DESCRIPTION OF THE EUT.....	7
2.2 DESCRIPTION OF THE TEST MODES.....	9
2.3 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS.....	10
2.4 EQUIPMENTS LIST.....	11
3 MAXIMUM RADIATED POWER.....	12
3.1 LIMIT.....	12
3.3 TEST SETUP.....	12
3.4 TEST RESULTS.....	13
4. OCCUPIED BANDWIDTH.....	14
4.1 LIMIT.....	14
4.2 TEST PROCEDURE.....	14
4.3 TEST SETUP.....	14
4.4 TEST RESULTS.....	14
5 NECESSARY BANDWITH.....	17
5.1 LIMIT.....	17
5.2 TEST PROCEDURE.....	17
5.3 TEST SETUP.....	17
6. TRANSMITTER UNWANTED EMISSIONS.....	19
6.1 LIMIT.....	19
5.2 TEST PROCEDURE.....	19
5.3 TEST SETUP.....	19
6.4 TEST RESULTS.....	20
7. FREQUENCY STABILITY.....	31
7.1 LIMIT.....	31
7.2 TEST PROCEDURE.....	31
7.3 TEST SETUP.....	31
7.4 TEST RESULTS.....	32

Revision History

Rev.	Issue Date	Effect Page	Contents
00	11 May. 2022	N/A	Initial Issue

1. SUMMARY OF TEST RESULTS

FCC Part 15 Subpart C section 15.236			
Standard Section	Test Item	Judgment	Remark
FCC Part 15.236(d)	Maximum Radiated Power	☒ PASS ☐ N/A	--
FCC Part 15.236(f)(2)	Occupied Bandwidth	☒ PASS ☐ N/A	--
FCC Part 15.236(g)	Necessary bandwidth	☒ PASS ☐ N/A	--
FCC Part 15.236(f)(3)	Frequency stability	☒ PASS ☐ N/A	--
FCC Part 15.236(g)	Emission within the band and outside this band	☒ PASS ☐ N/A	--
FCC Part 207(a)	Conducted Emission	☐ PASS ☒ N/A	--
FCC Part 15.203	Antenna Requirement	☒ PASS ☐ N/A	

NOTE:

- (1) "N/A" denotes test is not applicable in this Test Report
- (2) All tests are according to ANSI C63.10:2013

1.1 TEST LABORATORY

Company Name:	Flux Compliance Service Laboratory
Address:	Room 105 Floor Bao hao Technology Building 1 NO.15 Gong ye West Road Hi-Tech Industrial, Song shan lake Dongguan
Telephone:	+86-769-27280901
Fax:	+86-769-27280901
Laboray Accreditations	
FCC Test Firm Registration Number: 514908 Designation number: CN0127 A2LA accreditation number: 5545.01 ISED Number: 25801 CAB ID : CN0097	

Organization	CAB identifier	Scope / Recognition Date (yyyy-mm-dd)	Expiration (yyyy-mm-dd)
FLUX COMPLIANCE SERVICE LABORATORY Baohao Technology Building 1 No. 15 Gongye West Road Hi-Tech Industrial Park Songsham Lake Dongguan, Guangdong. 523808 PRC. ISED#: 25801 Contact: Andy Yue andv-vue@fcs-lab.com	CN0097	RSS-102(RFExp) (2020-01-09) RSS-GEN (2020-01-09) RSS-210 (2020-01-09) RSS-247 (2020-01-09)	RECOGNIZED UNTIL: 2023-12-31 A2LA ISO/IEC 17025: 2017 Expires: 2023-12-31

1.2 MEASUREMENT UNCERTAINTY

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

No.	Item	Uncertainty
1	RF output power, conducted	± 0.71 dB
2	Unwanted Emissions, conducted	± 2.98 dB
3	Conducted Emission (9KHz-150KHz)	± 4.13 dB
4	All emissions radiated (9KHz -30MHz)	± 3.1 dB
5	Conducted Emission (150KHz-30MHz)	± 4.74 dB
6	All emissions,radiated(<1G) 30MHz-1000MHz	± 3.2 dB
7	All emissions,radiated (1GHz -18GHz)	± 3.66 dB
8	All emissions,radiated (18GHz -40GHz)	± 4.31 dB

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	VHF Wireless Microphone
Brand Name	BOMGE
Model Name	V-410
Series Model	Refer to page 1 of the report
Model differences	The above product with same circuit, PCB layout, electrical parts, materials and wiring structures, Appearance shape, the materials of decorative accessories is same, only different color.
Channel List	Please refer to the Note 2.
Operation frequency	Band A: 185.7MHz Band B: 192.4MHz Band C: 201.2MHz Band D: 206.3MHz
Channel Interval	☒ 1Mps ☐ 2Mps
Modulation Type	DQPSK ☒ FM
Antenna Type	☒ Integral Antenna ☐ PCB antenna
Antenna Gain (dBi)	1.0(dBi)
Power Supply	DC 3V
Battery	DC 3V
Hardware version number	V1.0
Software version number	V1.0
Connecting I/O Port(s)	Please refer to the User's Manual

Note:

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

2. Channel List

Channel List for Band A					
Channel	Frequency (MHz)				
01	185.7				
Channel List for Band B					
Channel	Frequency (MHz)				
01	192.4				
Channel List for Band C					
Channel	Frequency (MHz)				
01	201.2				
Channel List for Band C					
Channel	Frequency (MHz)				
01	206.3				

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

2.2 DESCRIPTION OF THE 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.

Test software:FCC tools

The test software was used to control EUT work in continuous TX mode, and select test channel, Wireless mode as below table, the following operating modes were applied for the related test items. All test modes were tested, only the result of the worst case was recorded in the report.

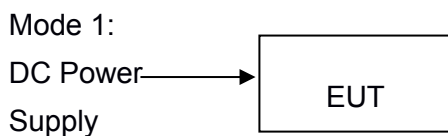
Test Channel List for Band A		
Mode	Channel	Frequency (MHz)
Channel	CH 01	185.7

Test Channel List for Band B		
Mode	Channel	Frequency (MHz)
Channel	CH 01	192.4

Test Channel List for Band C		
Mode	Channel	Frequency (MHz)
Channel	CH 01	201.2

Test Channel List for Band D		
Mode	Channel	Frequency (MHz)
Channel	CH 01	206.3

Note: that use new battery during the test



2.3 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

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.

Necessary accessories

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note
N/A	N/A	N/A	N/A	N/A	N/A

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note
N/A	N/A	N/A	N/A	N/A	N/A

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 『Length』 column.
- (3) “YES” is means “shielded” “with core”; “NO” is means “unshielded” “without core”.

2.4 EQUIPMENTS LIST

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESRP 3	FCS-E001	2022.02.10	2023.02.09
Signal Analyzer	R&S	FSV40-N	FCS-E012	2022.02.10	2023.02.09
Active loop Antenna	ZHINAN	ZN30900C	FCS-E013	2022.02.10	2023.02.09
Bilog Antenna	SCHWARZBECK	VULB 9168	FCS-E002	2022.02.10	2023.02.09
Horn Antenna	SCHWARZBECK	BBHA 9120D	FCS-E003	2022.02.10	2023.02.09
SHF-EHF Horn Antenna (18G-40GHz)	A-INFO	LB-180400-KF	FCS-E018	2022.02.10	2023.02.09
Pre-Amplifier(0.1M-3G Hz)	EMCI	EM330N	FCS-E004	2022.02.10	2023.02.09
Pre-Amplifier (1G-18GHz)	N/A	TSAMP-0518SE	FCS-E014	2022.02.10	2023.02.09
Pre-Amplifier (18G-40GHz)	TERA-MW	TRLA-0400	FCS-E019	2022.02.10	2023.02.09
Temperature & Humidity	HTC-1	victor	FCS-E005	2022.02.10	2023.02.09
Signal generator	Agilent	E4421B	FCS-E025	2022.02.10	2023.02.09

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESPI	FCS-E020	2022.02.10	2023.02.09
LISN	R&S	ENV216	FCS-E007	2022.02.10	2023.02.09
LISN	ETS	3810/2NM	FCS-E009	2022.02.10	2023.02.09
Temperature & Humidity	HTC-1	victor	FCS-E008	2022.02.10	2023.02.09

RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
Spectrum Analyzer	Keysight	N9020A	FCS-E015	2022.02.10	2023.02.09
Spectrum Analyzer	Agilent	E4447A	MY50180039	2022.02.10	2023.02.09
Spectrum Analyzer	R&S	FSV-40	101499	2022.02.10	2023.02.09
Power meter	Agilent	U2021XA	MY55150021	2022.02.10	2023.02.09

3 MAXIMUM RADIATED POWER

3.1 LIMIT

Refer to FCC 15.236(d)

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

3.2 TEST PROCEDURE

- A. Connect each EUT's antenna output to power sensor by RF cable and attenuator

3.3 TEST SETUP



3.4 TEST RESULTS

Channel List for Band A								
Test mode	Channel	Frequency (MHz)	Peak Output Power (dBm)	Cable loss(dB m)	Atnenna Gain (dBi)	EIRP(d Bm)	Limit(dB m)	Verdict
Channel	01	185.7	2.17	1.0	1.0	4.17	16.99	PASS

Channel List for Band B								
Test mode	Channel	Frequency (MHz)	Peak Output Power (dBm)	Cable loss(dB m)	Atnenna Gain (dBi)	EIRP(d Bm)	Limit(dB m)	Verdict
Channel	01	192.4	2.13	1.0	1.0	4.13	16.99	PASS

Channel List for Band C								
Test mode	Channel	Frequency (MHz)	Peak Output Power (dBm)	Cable loss(dB m)	Atnenna Gain (dBi)	EIRP(d Bm)	Limit(dB m)	Verdict
Channel	01	201.2	2.19	1.0	1.0	4.19	16.99	PASS

Channel List for Band D								
Test mode	Channel	Frequency (MHz)	Peak Output Power (dBm)	Cable loss(dB m)	Atnenna Gain (dBi)	EIRP(d Bm)	Limit(dB m)	Verdict
Channel	01	206.3	2.21	1.0	1.0	4.21	16.99	PASS

Note:EIRP(dBm)=Peak Output Power(dBm)+Cable loss(dBm)+Atnenna Gain(dBi)

4. OCCUPIED BANDWIDTH

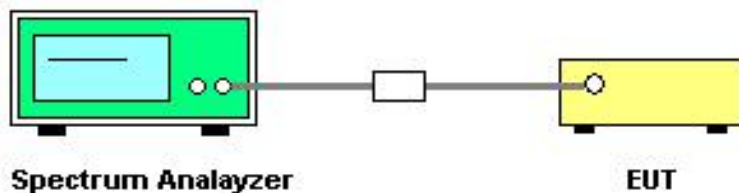
4.1 LIMIT

One or more adjacent 25KHz 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

4.2 TEST PROCEDURE

Parameter	Setting
Detector	Peak/AV
Sweep time	Auto
Resolution bandwidth	1 % to 5 % of the occupied bandwidth
Video bandwidth:	3 x resolution bandwidth
Span:	2 x emission bandwidth
Trace mode:	Max. hold
Analyzer function:	99% power occupied bandwidth function
EUT:	Modulated signal with max(FM,2.5kHz tone). frequency deviation

4.3 TEST SETUP



4.4 TEST RESULTS

Channel List for Band A					
Test mode	Channel	Frequency (MHz)	99% Bandwidth (KHz)	Limit(KHz)	Verdict
Channel	01	185.7	63.739	200	PASS

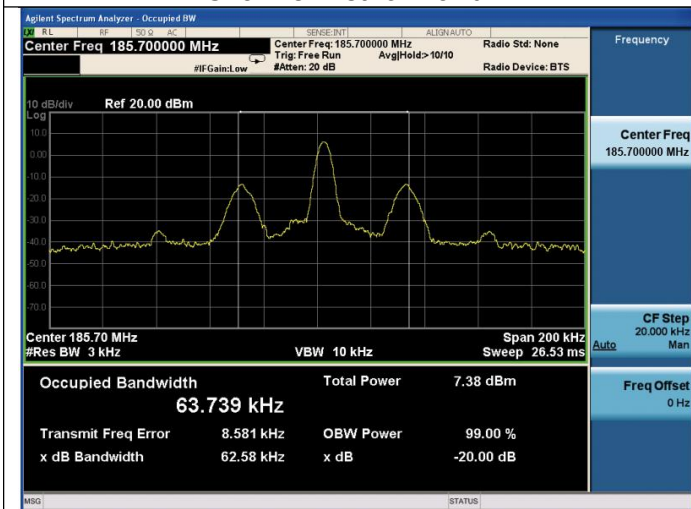
Channel List for Band B					
Test mode	Channel	Frequency (MHz)	99% Bandwidth (KHz)	Limit(KHz)	Verdict
Channel	01	192.4	66.873	200	PASS

Channel List for Band C					
Test mode	Channel	Frequency (MHz)	99% Bandwidth (KHz)	Limit(KHz)	Verdict
Channel	01	201.2	73.736	200	PASS

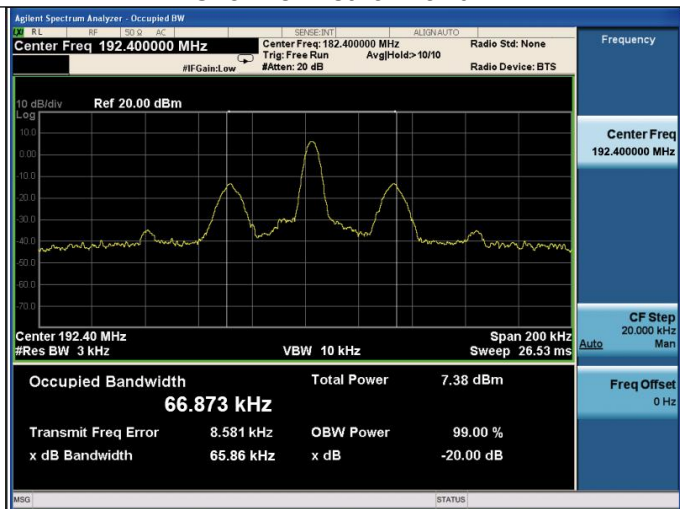
Channel List for Band D					
Test mode	Channel	Frequency (MHz)	99% Bandwidth (KHz)	Limit(KHz)	Verdict
Channel	01	206.3	77.879	200	PASS

Channel List

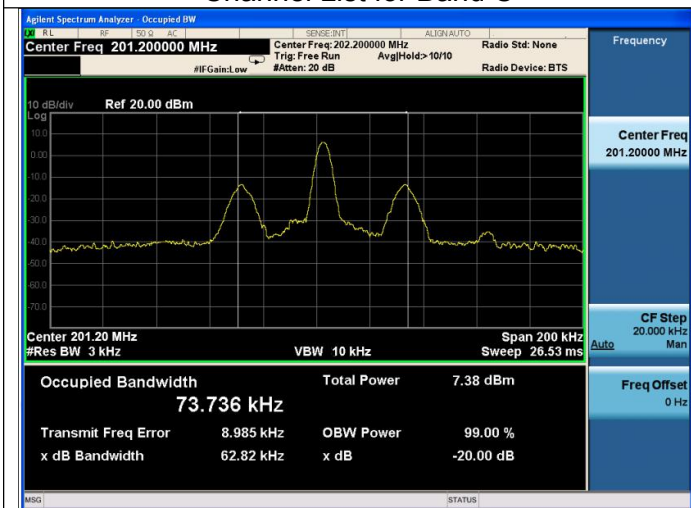
Channel List for Band A



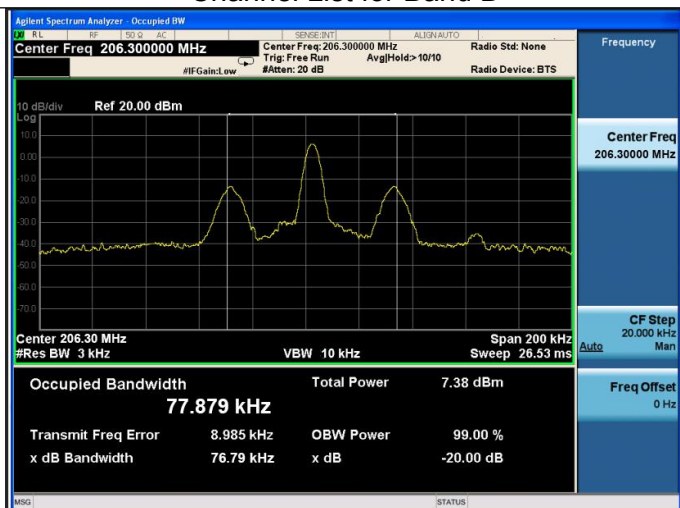
Channel List for Band B



Channel List for Band C



Channel List for Band D



5 NECESSARY BANDWIDTH

5.1 LIMIT

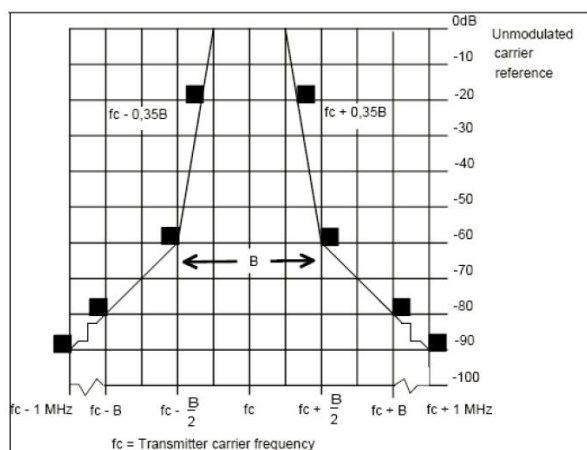
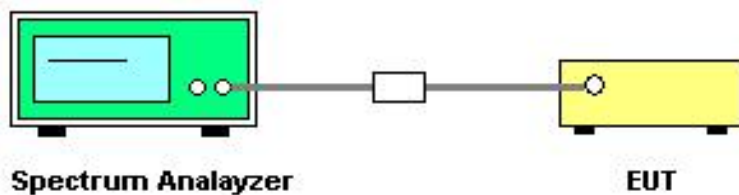


Figure 1: Spectrum mask for analogue systems in all bands

5.2 TEST PROCEDURE

EN300422-1 V1.4.2 Clause 8.3.

5.3 TEST SETUP

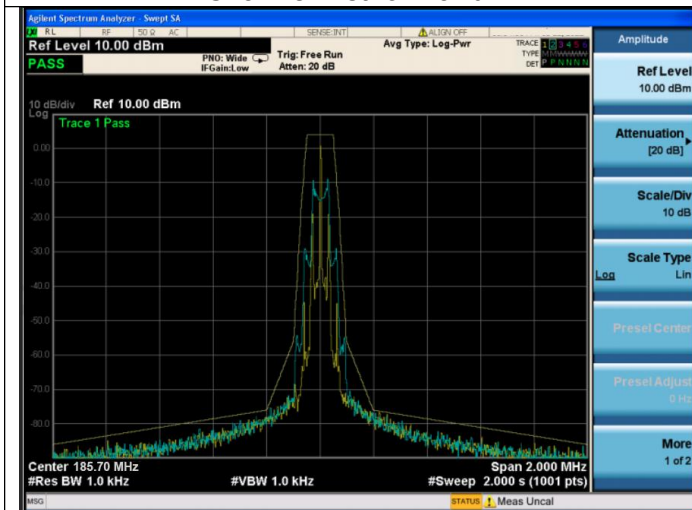


5.4 TEST RESULT

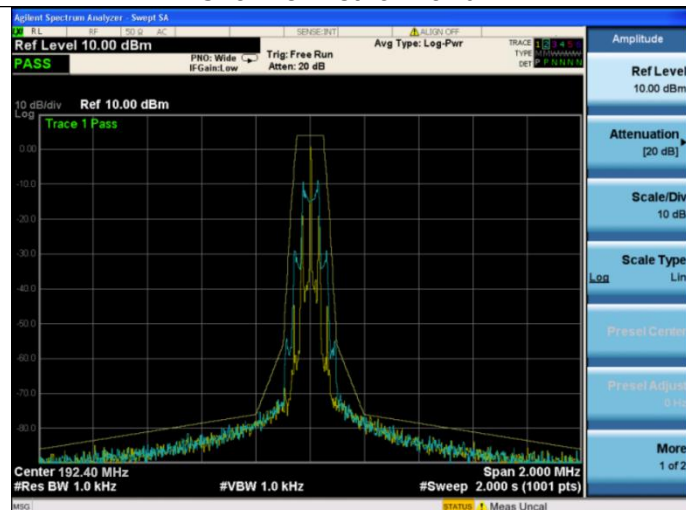
Emission Mask Channel List

Channel List

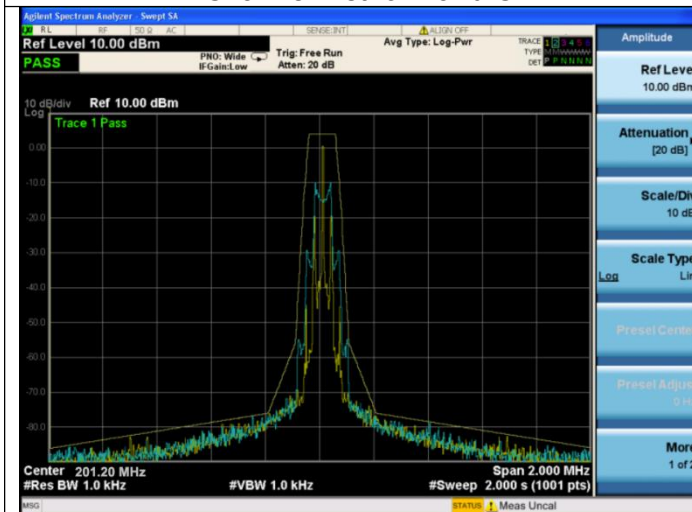
Channel List for Band A



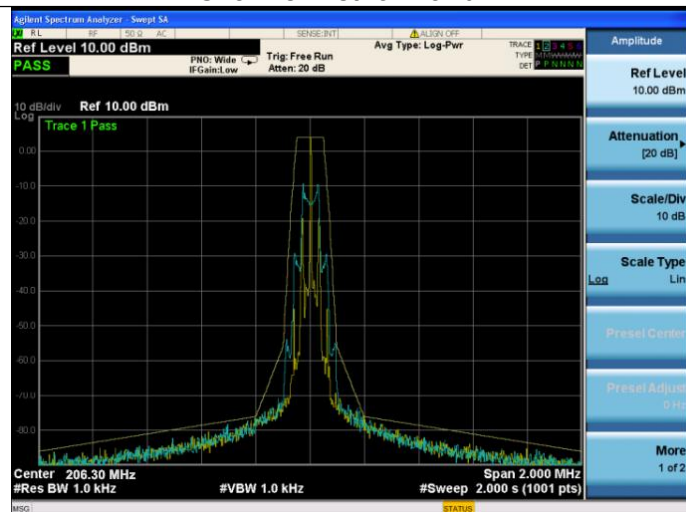
Channel List for Band B



Channel List for Band C



Channel List for Band D



6. TRANSMITTER UNWANTED EMISSIONS

6.1 LIMIT

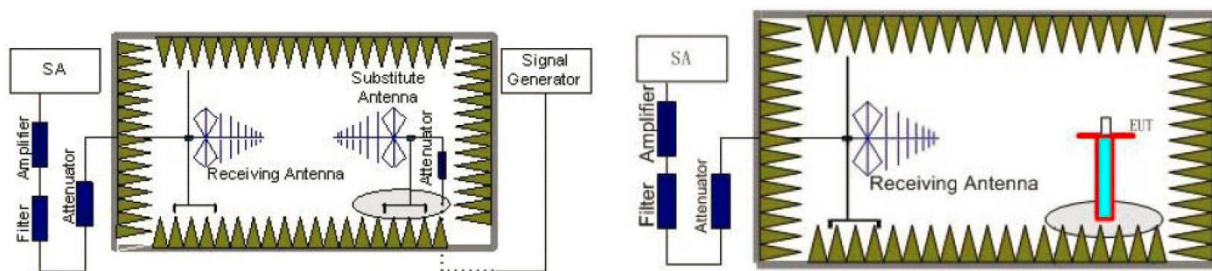
Spurious emissions are emissions outside the frequency range(s) of the equipment. The power of the spurious emissions shall not exceed the limits of table as below:

State	Frequency		
	47MHz to 74MHz, 87.5MHz to 137MHz 174MHz to 230MHz, 470MHz to 862MHz	Other Frequencies below 1000MHz	Frequencies above 1000MHz
Operation	4nW	250nW	1uW
Standby	2nW	2nW	20nW

5.2 TEST PROCEDURE

- The transmitter output was connected to the spectrum analyzer through an attenuator. Set spectrum analyzer start 30MHz to 6000MHz with 100 KHz RBW and 300 KHz VBW
- Please refer to ETSI EN 300 422-1 V2.1.2 (2017-01) clause 6.1 for the test conditions.
- Please refer to ETSI EN 300 422-1 V2.1.1 (2017-02) clause 8.4.2 for the measurement method.

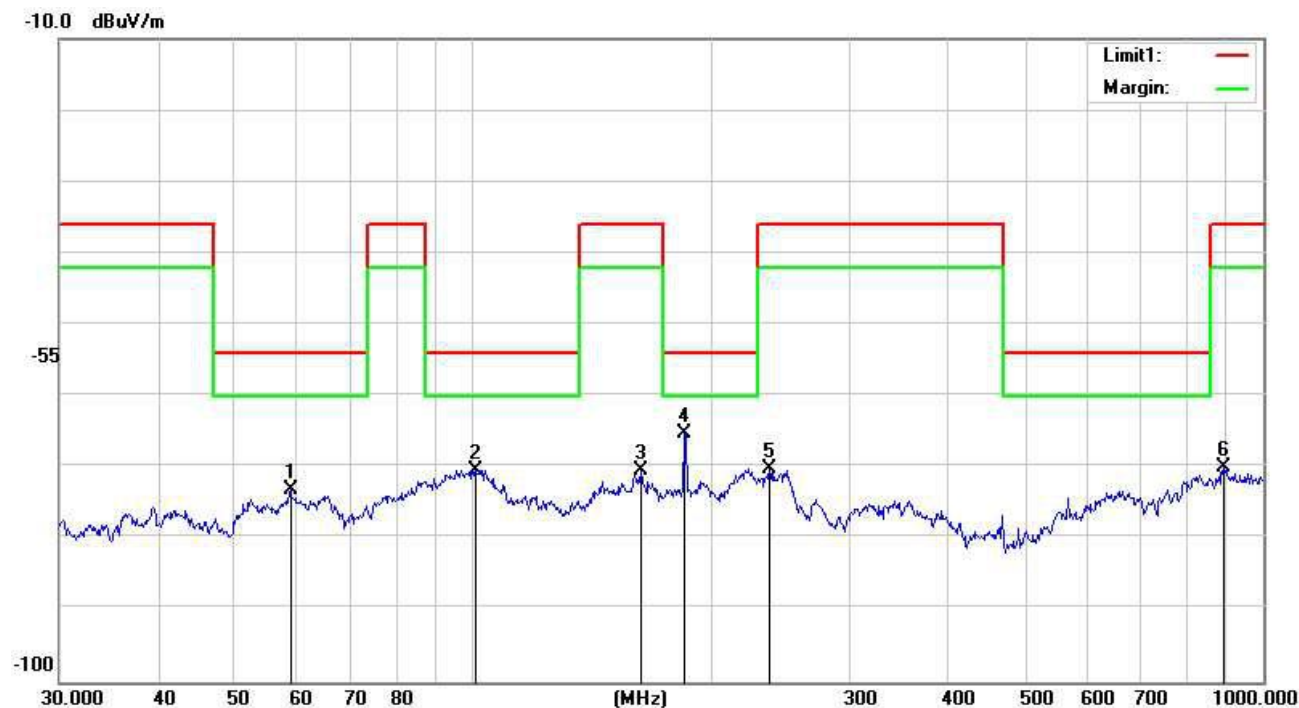
5.3 TEST SETUP



6.4 TEST RESULTS

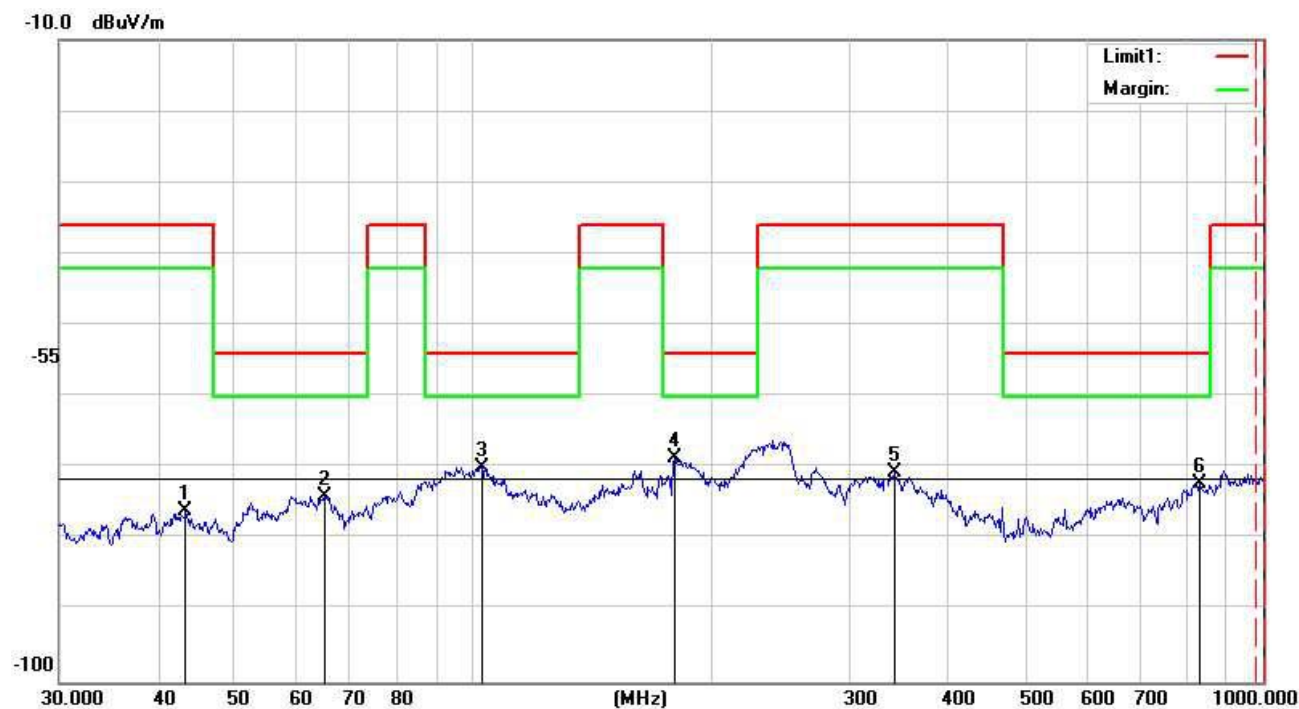
CHNNEL 30MHZ-1000MHZ (BAND A)

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	58.8185	-56.18	-16.91	-73.09	-54.00	-19.09	peak
2	100.9340	-52.63	-17.78	-70.41	-54.00	-16.41	peak
3	163.1818	-51.77	-18.68	-70.45	-36.00	-34.45	peak
4	185.1380	-46.79	-18.41	-65.20	-54.00	-11.20	peak
5	237.4760	-54.78	-15.34	-70.12	-36.00	-34.12	peak
6	890.7278	-66.47	-3.43	-69.90	-36.00	-33.90	peak

Vertical



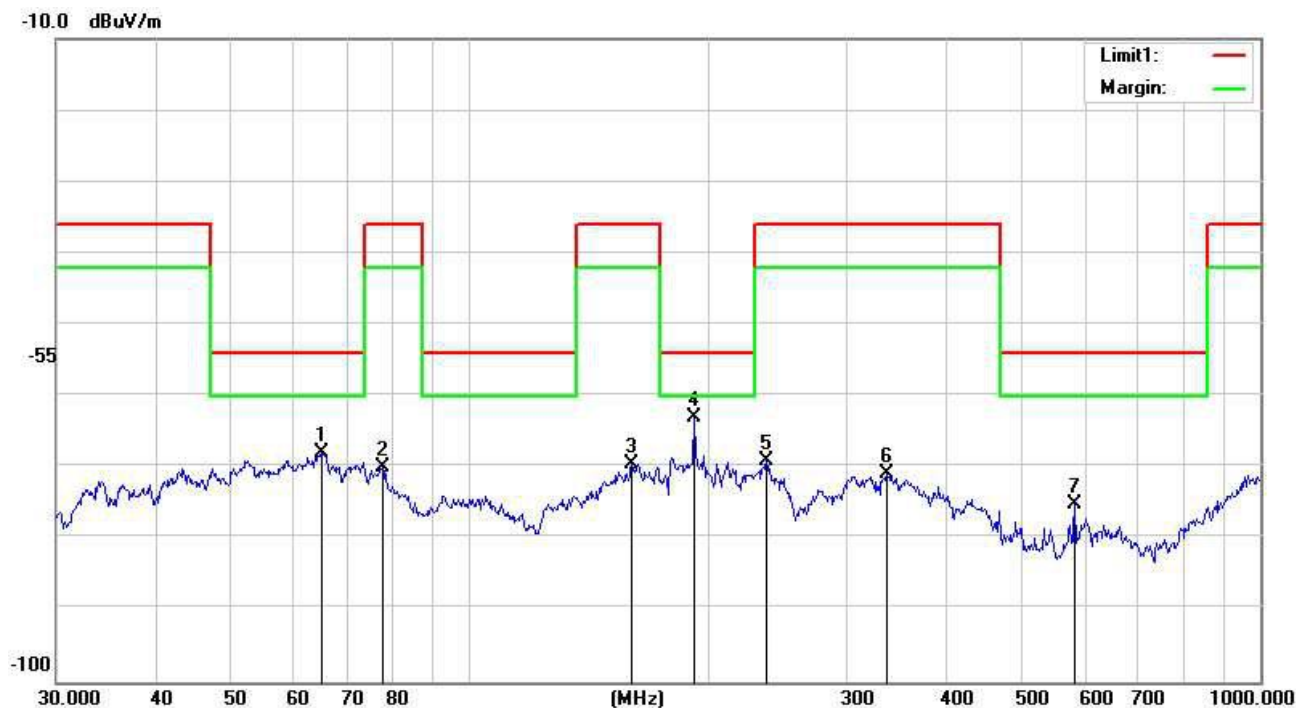
No.	Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	43.3534	-59.20	-16.92	-76.12	-36.00	-40.12	peak
2	65.1145	-54.58	-19.38	-73.96	-54.00	-19.96	peak
3	102.7192	-52.34	-17.58	-69.92	-54.00	-15.92	peak
4	180.0165	-49.26	-19.44	-68.70	-54.00	-14.70	peak
5	341.9786	-57.92	-12.78	-70.70	-36.00	-34.70	peak
6	830.4002	-67.88	-4.26	-72.14	-54.00	-18.14	peak

Note :

1. Result = Reading + Corrected Factor Note :
2. The fundamental wave filtered out during the test.

CHANNEL 30MHZ-1000MHZ (BAND B)

Horizontal

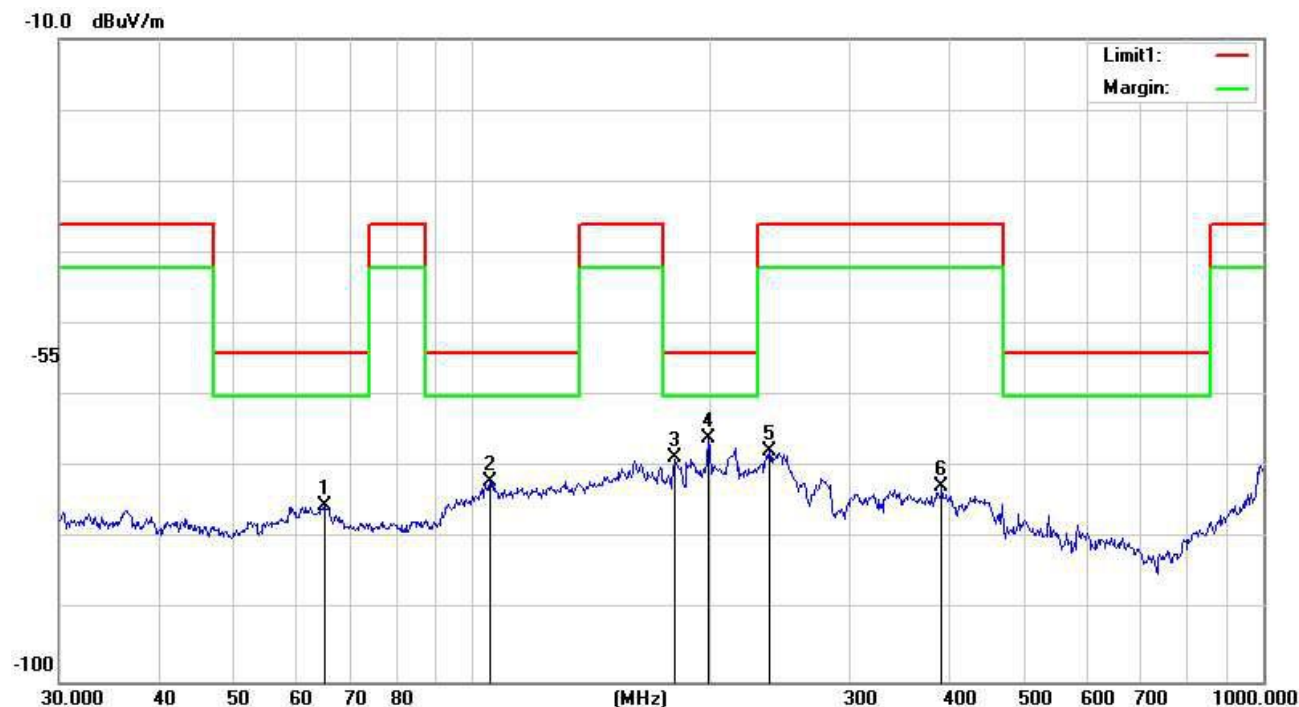


No.	Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	65.1145	-48.58	-19.38	-67.96	-54.00	-13.96	peak
2	77.5926	-48.38	-21.65	-70.03	-36.00	-34.03	peak
3	160.3454	-50.95	-18.57	-69.52	-36.00	-33.52	peak
4	192.4182	-46.01	-16.99	-63.00	-54.00	-9.00	peak
5	237.4760	-53.78	-15.34	-69.12	-36.00	-33.12	peak
6	337.2155	-57.91	-12.88	-70.79	-36.00	-34.79	peak
7	582.7423	-66.59	-8.58	-75.17	-54.00	-21.17	peak

Note :

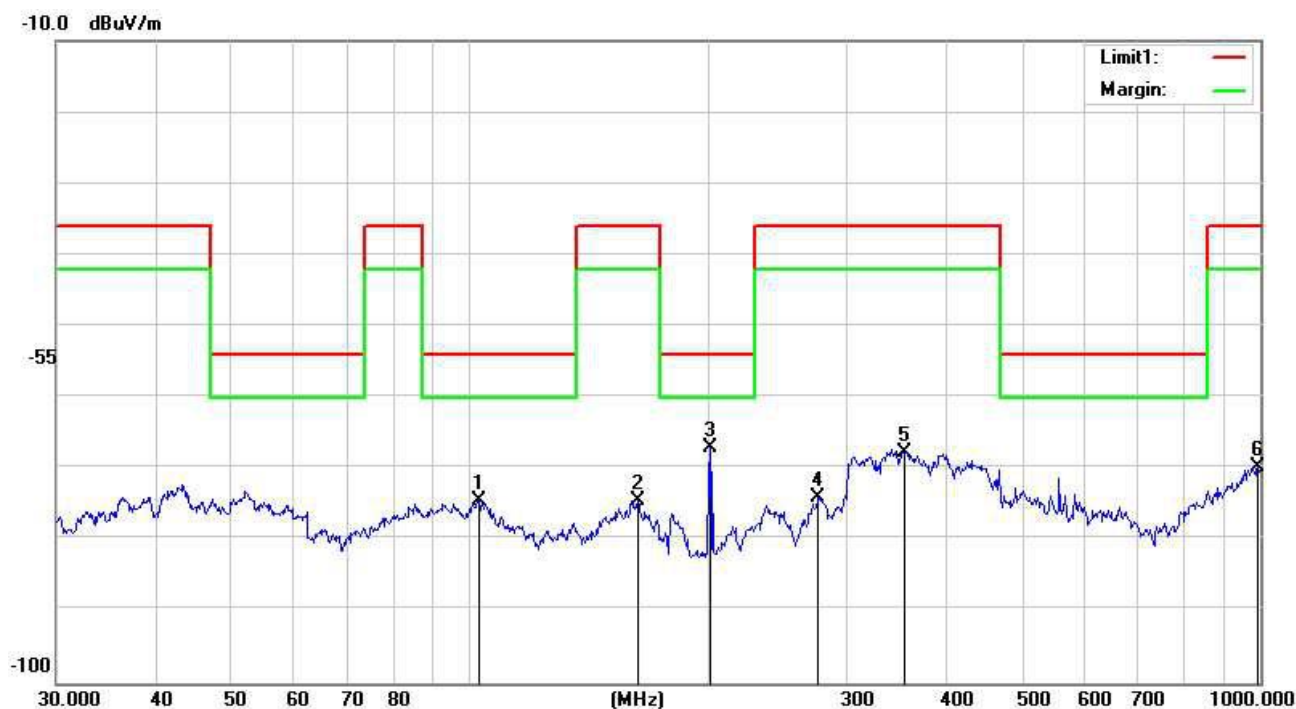
1. Result = Reading + Corrected Factor Note :
2. The fundamental wave filtered out during the test.

Vertical



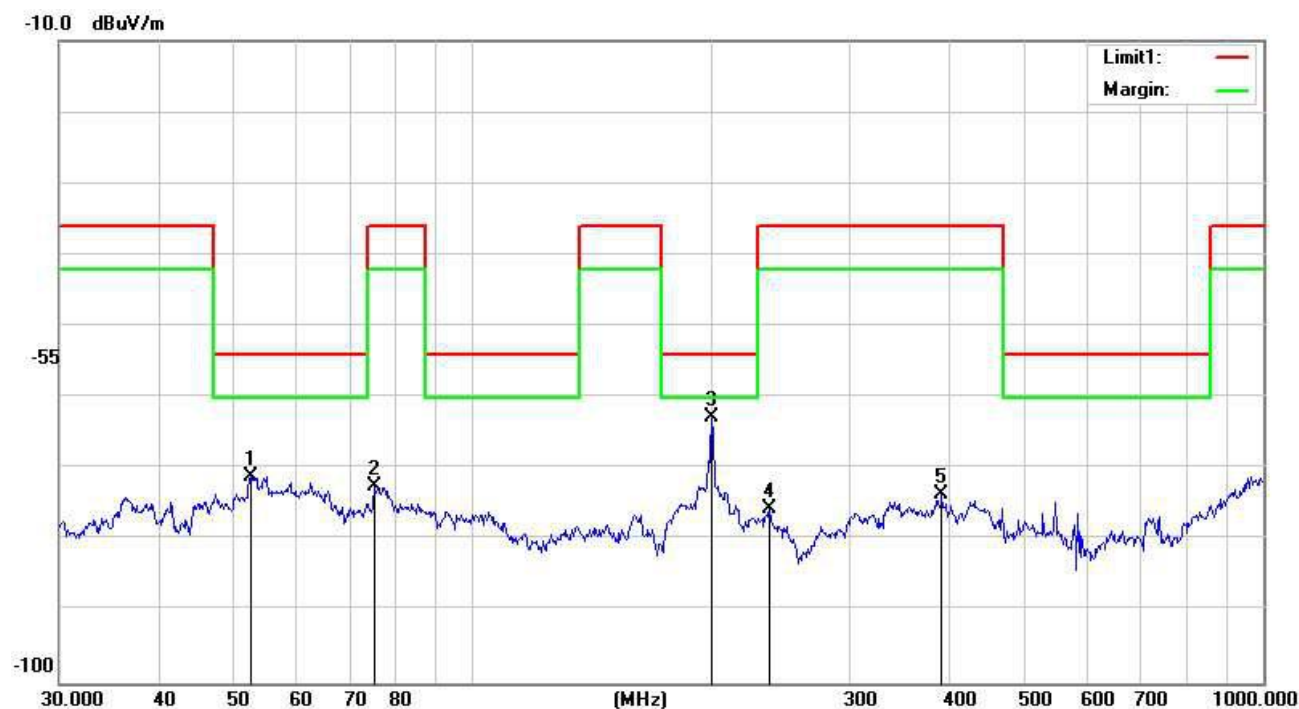
No.	Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	65.1145	-56.08	-19.38	-75.46	-54.00	-21.46	peak
2	105.2716	-54.73	-17.30	-72.03	-54.00	-18.03	peak
3	180.0165	-49.26	-19.44	-68.70	-54.00	-14.70	peak
4	198.5880	-50.11	-15.76	-65.87	-54.00	-11.87	peak
5	237.4760	-52.28	-15.34	-67.62	-36.00	-31.62	peak
6	392.0951	-59.74	-12.84	-72.58	-36.00	-36.58	peak

CHNNEL 30MHZ-1000MHZ (BAND C)



No.	Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	102.7192	-56.84	-17.58	-74.42	-54.00	-20.42	peak
2	163.1818	-55.77	-18.68	-74.45	-36.00	-38.45	peak
3	201.3930	-51.68	-15.46	-67.14	-54.00	-13.14	peak
4	276.1235	-59.64	-14.47	-74.11	-36.00	-38.11	peak
5	355.4273	-55.02	-12.64	-67.66	-36.00	-31.66	peak
6	993.0113	-67.95	-1.87	-69.82	-36.00	-33.82	peak

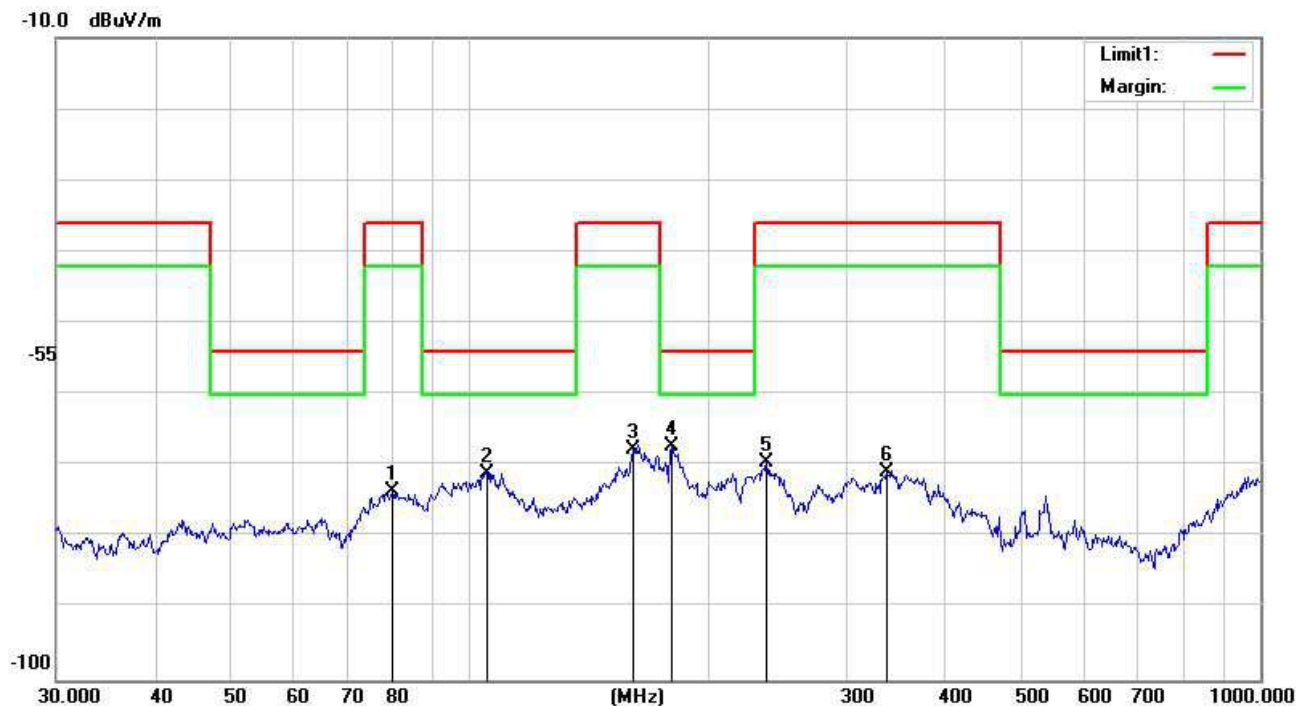
Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	52.3913	-54.47	-16.54	-71.01	-54.00	-17.01	peak
2	75.1821	-51.07	-21.38	-72.45	-36.00	-36.45	peak
3	200.6880	-47.29	-15.48	-62.77	-54.00	-8.77	peak
4	237.4760	-60.28	-15.34	-75.62	-36.00	-39.62	peak
5	392.0951	-60.74	-12.84	-73.58	-36.00	-37.58	peak

CHANNEL 30MHZ-1000MHZ (BAND D)

Horizontal



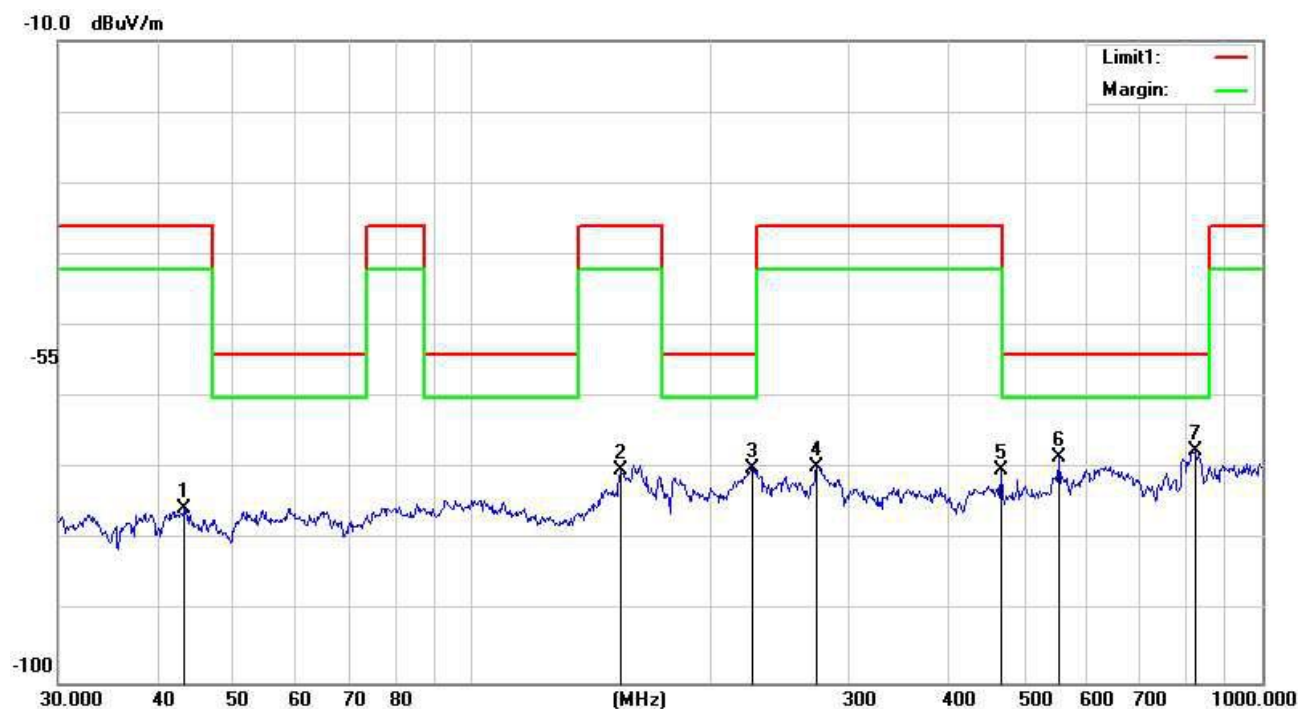
No.	Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	79.8002	-51.75	-21.90	-73.65	-36.00	-37.65	peak
2	105.2716	-53.73	-17.30	-71.03	-54.00	-17.03	peak
3	160.9088	-49.15	-18.60	-67.75	-36.00	-31.75	peak
4	180.0165	-47.76	-19.44	-67.20	-54.00	-13.20	peak
5	237.4760	-54.28	-15.34	-69.62	-36.00	-33.62	peak
6	337.2155	-57.91	-12.88	-70.79	-36.00	-34.79	peak

Note :

1. Result = Reading + Corrected Factor Note :
2. The fundamental wave filtered out during the test.

CHANNEL 30MHZ-1000MHZ (BAND D)

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	43.3534	-58.70	-16.92	-75.62	-36.00	-39.62	peak
2	154.2786	-50.85	-19.28	-70.13	-36.00	-34.13	peak
3	226.0994	-54.61	-15.39	-70.00	-54.00	-16.00	peak
4	273.2341	-55.11	-14.55	-69.66	-36.00	-33.66	peak
5	467.2348	-59.53	-10.60	-70.13	-36.00	-34.13	peak
6	552.8831	-59.07	-9.30	-68.37	-54.00	-14.37	peak
7	821.7104	-62.95	-4.46	-67.41	-54.00	-13.41	peak

Note :

1. Result = Reading + Corrected Factor Note :
2. The fundamental wave filtered out during the test.

6.5 (ABOVE 1GHZ) SPURIOUS EMISSION REQUIREMENTS

185.7 MHz (BAND A)

Frequency (MHz)	Meter Reading (dBμV)	Amplifier (dB)	Loss (dB)	Antenna Factor (dB/m)	Corrected Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type	Comment
(185.7MHz)										
1117.82	62.57	43.80	5.40	25.90	-12.50	50.07	74.00	-23.93	Pk	Vertical
1117.82	52.87	43.80	5.40	25.90	-12.50	40.37	54.00	-13.63	AV	Vertical
1118.01	63.05	43.80	5.40	25.90	-12.50	50.55	74.00	-23.45	Pk	Horizontal
1118.01	49.88	43.80	5.40	25.90	-12.50	37.38	54.00	-16.62	AV	Horizontal
1411.27	66.52	44.40	6.20	27.60	-10.60	55.92	74.00	-18.08	Pk	Vertical
1411.27	50.81	44.40	6.20	27.60	-10.60	40.21	54.00	-13.79	AV	Vertical
1411.28	64.69	44.40	6.20	27.60	-10.60	54.09	74.00	-19.91	Pk	Horizontal
1411.28	49.90	44.40	6.20	27.60	-10.60	39.30	54.00	-14.70	AV	Horizontal
1701.63	62.85	44.70	6.70	28.20	-9.80	53.05	74.00	-20.95	Pk	Vertical
1701.63	50.85	44.70	6.70	28.20	-9.80	41.05	54.00	-12.95	AV	Vertical
1701.61	62.42	44.70	6.70	28.20	-9.80	52.62	74.00	-21.38	Pk	Horizontal
1701.61	51.11	44.70	6.70	28.20	-9.80	41.31	54.00	-12.69	AV	Horizontal
2084.75	64.41	44.20	7.90	29.70	-6.60	57.81	74.00	-16.19	Pk	Vertical
2084.75	48.22	44.20	7.90	29.70	-6.60	41.62	54.00	-12.38	AV	Vertical
2084.72	67.60	44.20	7.90	29.70	-6.60	61.00	74.00	-13.00	Pk	Horizontal
2084.72	48.48	44.20	7.90	29.70	-6.60	41.88	54.00	-12.12	AV	Horizontal

192.4 MHz (BAND B)

(192.4 MHz)										
1390.46	63.60	43.80	5.40	25.90	-12.50	51.10	74.00	-22.90	Pk	Vertical
1390.46	53.17	43.80	5.40	25.90	-12.50	40.67	54.00	-13.33	AV	Vertical
1390.45	63.63	43.80	5.40	25.90	-12.50	51.13	74.00	-22.87	Pk	Horizontal
1390.45	50.01	43.80	5.40	25.90	-12.50	37.51	54.00	-16.49	AV	Horizontal
1778.71	66.55	44.40	6.20	27.60	-10.60	55.95	74.00	-18.05	Pk	Vertical
1778.71	50.74	44.40	6.20	27.60	-10.60	40.14	54.00	-13.86	AV	Vertical
1778.88	64.74	44.40	6.20	27.60	-10.60	54.14	74.00	-19.86	Pk	Horizontal
1778.88	51.07	44.40	6.20	27.60	-10.60	40.47	54.00	-13.53	AV	Horizontal
2116.63	62.95	44.70	6.70	28.20	-9.80	53.15	74.00	-20.85	Pk	Vertical
2116.63	50.82	44.70	6.70	28.20	-9.80	41.02	54.00	-12.98	AV	Vertical
2116.56	62.21	44.70	6.70	28.20	-9.80	52.41	74.00	-21.59	Pk	Horizontal
2116.56	50.64	44.70	6.70	28.20	-9.80	40.84	54.00	-13.16	AV	Horizontal
2592.93	65.63	44.20	7.90	29.70	-6.60	59.03	74.00	-14.97	Pk	Vertical
2592.93	48.55	44.20	7.90	29.70	-6.60	41.95	54.00	-12.05	AV	Vertical
2592.93	67.99	44.20	7.90	29.70	-6.60	61.39	74.00	-12.61	Pk	Horizontal
2592.93	48.86	44.20	7.90	29.70	-6.60	42.26	54.00	-11.74	AV	Horizontal

201.2 MHz (BAND C)

(201.3 MHz)										
1404.38	63.59	43.80	5.40	25.90	-12.50	51.09	74.00	-22.91	Pk	Vertical
1404.38	53.39	43.80	5.40	25.90	-12.50	40.89	54.00	-13.11	AV	Vertical
1404.55	62.68	43.80	5.40	25.90	-12.50	50.18	74.00	-23.82	Pk	Horizontal
1404.55	49.46	43.80	5.40	25.90	-12.50	36.96	54.00	-17.04	AV	Horizontal
1822.24	67.24	44.40	6.20	27.60	-10.60	56.64	74.00	-17.36	Pk	Vertical
1822.24	51.26	44.40	6.20	27.60	-10.60	40.66	54.00	-13.34	AV	Vertical
1822.29	65.18	44.40	6.20	27.60	-10.60	54.58	74.00	-19.42	Pk	Horizontal
1822.29	51.16	44.40	6.20	27.60	-10.60	40.56	54.00	-13.44	AV	Horizontal
2137.97	63.43	44.70	6.70	28.20	-9.80	53.63	74.00	-20.37	Pk	Vertical
2137.97	50.74	44.70	6.70	28.20	-9.80	40.94	54.00	-13.06	AV	Vertical
2138.01	62.18	44.70	6.70	28.20	-9.80	52.38	74.00	-21.62	Pk	Horizontal
2138.01	51.32	44.70	6.70	28.20	-9.80	41.52	54.00	-12.48	AV	Horizontal
2619.17	65.04	44.20	7.90	29.70	-6.60	58.44	74.00	-15.56	Pk	Vertical
2619.17	47.78	44.20	7.90	29.70	-6.60	41.18	54.00	-12.82	AV	Vertical
2619.29	67.20	44.20	7.90	29.70	-6.60	60.60	74.00	-13.40	Pk	Horizontal
2619.29	48.41	44.20	7.90	29.70	-6.60	41.81	54.00	-12.19	AV	Horizontal

206.3 MHz (BAND D)

(206.3 MHz)										
1406.32	63.59	43.80	5.40	25.90	-12.50	52.31	74.00	-21.69	Pk	Vertical
1406.32	53.39	43.80	5.40	25.90	-12.50	43.98	54.00	-10.02	AV	Vertical
1408.55	62.68	43.80	5.40	25.90	-12.50	52.19	74.00	-21.81	Pk	Horizontal
1408.55	49.46	43.80	5.40	25.90	-12.50	38.78	54.00	-15.22	AV	Horizontal
1824.24	67.24	44.40	6.20	27.60	-10.60	58.60	74.00	-15.40	Pk	Vertical
1824.24	51.26	44.40	6.20	27.60	-10.60	43.68	54.00	-10.32	AV	Vertical
1826.29	65.18	44.40	6.20	27.60	-10.60	56.59	74.00	-17.41	Pk	Horizontal
1826.29	51.16	44.40	6.20	27.60	-10.60	42.59	54.00	-11.41	AV	Horizontal
2138.97	63.43	44.70	6.70	28.20	-9.80	57.35	74.00	-16.62	Pk	Vertical
2138.97	50.74	44.70	6.70	28.20	-9.80	43.90	54.00	-10.10	AV	Vertical
2140.01	62.18	44.70	6.70	28.20	-9.80	54.08	74.00	-19.92	Pk	Horizontal
2140.01	51.32	44.70	6.70	28.20	-9.80	44.23	54.00	-9.77	AV	Horizontal
2620.17	65.04	44.20	7.90	29.70	-6.60	59.04	74.00	-14.96	Pk	Vertical
2620.17	47.78	44.20	7.90	29.70	-6.60	43.81	54.00	-10.19	AV	Vertical
2625.29	67.20	44.20	7.90	29.70	-6.60	58.09	74.00	-15.91	Pk	Horizontal
2625.29	48.41	44.20	7.90	29.70	-6.60	42.18	54.00	-11.82	AV	Horizontal

7. FREQUENCY STABILITY

7.1 LIMIT

The frequency tolerance of the carrier signal shall be maintained within $\pm 0.005\%$ 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

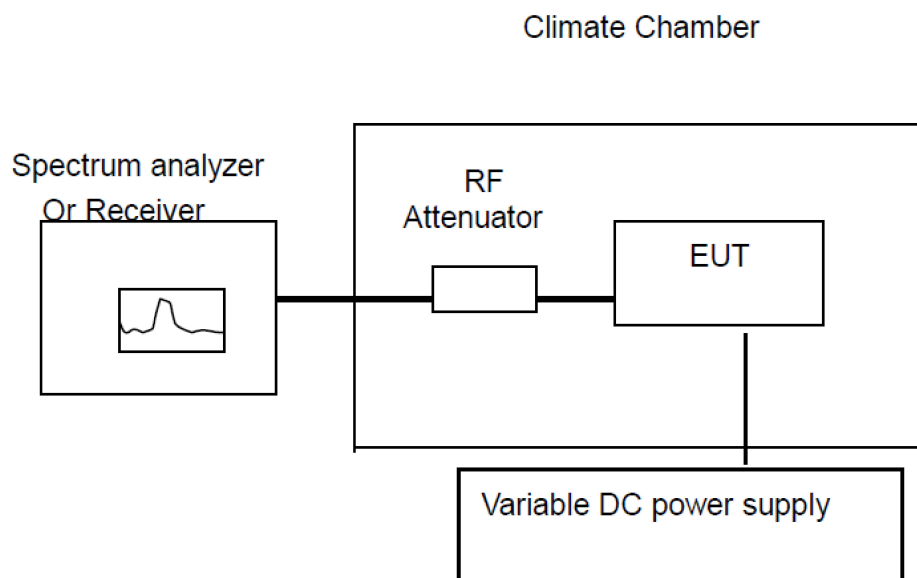
7.2 TEST PROCEDURE

a. The EUT was connected to an external DC power supply and the RF output was connected to a frequency counter via feed through attenuators. The EUT was placed inside the temperature chamber. The DC leads and the RF output cable, exited the chamber through an opening made for that purpose.

After the temperature stabilized the frequency output was recorded from the counter. An external variable DC power supply was connected to the battery terminals of the equipment under test.

b. For hand carried, battery powered equipment primary supply voltage was reduced to the battery operating end point as specified by the manufacturer. The output frequency was recorded for each battery voltage.

7.3 TEST SETUP



7.4 TEST RESULTS

- (1) Frequency stability versus input voltage (Supply Nominal voltage is DC 3V)
- (2) Frequency stability versus input voltage (Supply battery operating end point which shall be specified by the manufacturer DC 3V)

Refernce Frequency: 185.7MHz			
Power supply	Environment Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)
DC 2.55V	20	1010	5.44
DC 3V	20	1008	5.43
DC 3.45V	20	1015	5.47

Refernce Frequency: 185.7MHz				
Frequency Deviation measured with time Elapse(30 minutes)				
Environment Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)	Results
50	1021	5.50	50	Pass
40	1008	5.43		
30	1005	5.41		
20	1008	5.43		
10	1007	5.42		
0	1009	5.43		
-10	1008	5.43		
-20	1009	5.43		

Refernce Frequency: 192.4MHz			
Power supply	Environment Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)
DC 2.55V	20	1009	5.24
DC 3V	20	1006	5.23
DC 3.45V	20	1010	5.25

Refernce Frequency: 192.4MHz				
Frequency Deviation measured with time Elapse(30 minutes)				
Environment Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)	Results
50	1011	5.25	50	Pass
40	1006	5.23		
30	1006	5.23		
20	1008	5.24		
10	1007	5.23		
0	1008	5.24		
-10	1008	5.24		
-20	1006	5.23		

Refernce Frequency: 201.2MHz			
Power supply	Environment Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)
DC 2.55V	20	1009	5.01
DC 3V	20	1006	5.00
DC 3.45V	20	1010	5.02

Refernce Frequency: 201.2MHz				
Frequency Deviation measured with time Elapse(30 minutes)				
Environment Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)	Results
50	1011	5.02	50	Pass
40	1006	5.00		
30	1006	5.00		
20	1008	5.01		
10	1007	5.01		
0	1008	5.01		
-10	1008	5.01		
-20	1006	5.00		

Refernce Frequency: 206.3MHz			
Power supply	Environment Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)
DC 2.55V	20	1009	4.89
DC 3V	20	1006	4.88
DC 3.45V	20	1010	4.90

Refernce Frequency: 206.3MHz				
Frequency Deviation measured with time Elapse(30 minutes)				
Environment Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)	Results
50	1011	4.90	50	Pass
40	1006	4.88		
30	1006	4.88		
20	1008	4.89		
10	1007	4.88		
0	1008	4.89		
-10	1008	4.89		
-20	1006	4.88		

7.5 ANTENNA REQUIREMENT

7.5.1 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.

7.5.2 EUT ANTENNA

The antennas used for this product are Integral antenna and other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is 1.0 dBi.

*****END OF THE REPORT*****