



FCC Radio Test Report

FCC ID: 2A7ZM-Q4MIC

Report No. : TBR-C-202209-0005-30
Applicant : JBU GLOBAL LLC
Equipment Under Test (EUT)
EUT Name : Illuminato Q4 Microphone
Model No. : Illuminato Q4 Microphone
Series Model No. : ----
Brand Name : MASINGO
Sample ID : RW-C-202209-0005-20-1#&RW-C-202209-0005-20-2#
Receipt Date : 2022-11-28
Test Date : 2022-11-28 to 2023-01-14
Issue Date : 2023-01-16
Standards : FCC Part 15, Subpart C (15.236)
Test Method : ANSI C63.10: 2013
Conclusions : **PASS**

In the configuration tested, the EUT complied with the standards specified above,
The EUT technically complies with the FCC requirements

Test/Witness Engineer :

Wade Lv

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Engineer Supervisor :

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Engineer Manager :

Ray Lai

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This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

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1. General Information about EUT

1.1 Client Information

Applicant	:	JBU GLOBAL LLC
Address	:	19416 NE 26th Ave, 114B, Miami, Florida 33180, United States
Manufacturer	:	SHENZHEN SVR TECHNOLOGY CO., LTD.
Address	:	706B, Haosheng Business Center, 4096 Dongbin Road, Nanshan District, Shenzhen. China.

1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	Illuminato Q4 Microphone	
Models No.	:	Illuminato Q4 Microphone	
Model Difference	:	----	
Product Description	:	Operation Frequency: 598MHz~603MHz	
	:	Number of Channel: 6 Channels	
	:	Antenna Gain:	1.34dBi PCB Antenna
	:	Equipment System:	Digital systems
Power Rating	:	1.5V AA*2 battery	
Software Version	:	V1.0	
Hardware Version	:	V1.0	
Remark	:	The antenna gain provided by the applicant, the verified for the RF conduction test and adapter provided by TOBY test lab.	

Note:

Applicable Standards: FCC CFR 47 Part 2, & 15, KDB 206256 D01 v02, ANSI C63.10- 2013, ANSI C63.26 2015

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



(2) Channel List:

Channel	Frequency (MHz)
01	598
02	599
03	600
04	601
05	602
06	603

TX Mode

EUT



1.4 Description of Support Units

Equipment Information				
Name	Model	FCC ID/SDOC	Manufacturer	Used “√”
----	----	----	----	----
Cable Information				
Number	Shielded Type	Ferrite Core	Length	Note
----	----	----	----	----

1.5 Description of Test Mode

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 follow was evaluated respectively.

For Radiated Test	
Final Test Mode	Description
Mode 1	TX Mode(Channel 01/03/06)

Note:

For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with all kinds of data rate.

- (1)According to ANSI C63.10 standards, the measurements are performed at the highest, middle, lowest available channels.
- (2)During the testing procedure, the continuously transmitting with the maximum power mode was programmed by the customer.
- (3) The EUT is considered a portable unit; it was pre-tested on the positioned of each 3 axis, X-plane, Y-plane and Z-plane. The worst case was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.

1.6 Description of Test Software Setting

Control by pressing the button. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of RF mode.



1.7 Measurement Uncertainty

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

Test Item	Parameters	Expanded Uncertainty (U_{Lab})
Conducted Emission	Level Accuracy: 9kHz~150kHz 150kHz to 30MHz	± 3.50 dB ± 3.10 dB
Radiated Emission	Level Accuracy: 9kHz to 30 MHz	± 4.60 dB
Radiated Emission	Level Accuracy: 30MHz to 1000 MHz	± 4.50 dB
Radiated Emission	Level Accuracy: Above 1000MHz	± 4.20 dB

1.8 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1/F., Building 6, Rundongsheng Industrial Zone, Longzhu, Xixiang, Bao'an District, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

CNAS (L5813)

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

A2LA Certificate No.: 4750.01

The laboratory has been accredited by American Association for Laboratory Accreditation(A2LA) to ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories for the technical competence in the field of Electrical Testing. And the A2LA Certificate No.: 4750.01.FCC Accredited Test Site Number: 854351. Designation Number: CN1223.

IC Registration No.: (11950A)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A. CAB identifier: CN0056.



2. Test Summary

FCC Part 15 Subpart C(15.236)				
Standard Section	Test Item	Test Sample(s)	Judgment	Remark
15.207(a)	Conducted Emission	RW-C-202209-0005-20-1#	PASS	N/A
15.236(d)(2)	RF Power Output	RW-C-202209-0005-20-2#	PASS	N/A
15.236(f)(2)	Occupied Bandwidth	RW-C-202209-0005-20-2#	PASS	N/A
15.236(g) 8.3 of ETSI EN 300 422-1	Emission Mask	RW-C-202209-0005-20-2#	PASS	N/A
15.236(g) 8.4 of ETSI EN 300 422-1	(1) Radiated Spurious Emission	RW-C-202209-0005-20-2#	PASS	N/A
15.236(f)(3)	Frequency Stability vs. Temperature Frequency Stability vs. Voltage	RW-C-202209-0005-20-2#	PASS	N/A

Note: N/A is an abbreviation for Not Applicable.

3. Test Software

Test Item	Test Software	Manufacturer	Version No.
Conducted Emission	EZ-EMC	EZ	CDI-03A2
Radiation Emission	EZ-EMC	EZ	FA-03A2RE



4. Test Equipment

Conducted Emission Test					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
EMI Test Receiver	Rohde & Schwarz	ESCI	100321	Jun. 23, 2022	Jun. 22, 2023
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Jun. 23, 2022	Jun. 22, 2023
AMN	SCHWARZBECK	NNBL 8226-2	8226-2/164	Jun. 22, 2022	Jun. 21, 2023
LISN	Rohde & Schwarz	ENV216	101131	Jun. 22, 2022	Jun. 21, 2023
Radiation Emission Test					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102197	Jun. 23, 2022	Jun. 22, 2023
MXA Signal Analyzer	Agilent	N9020A	MY47380425	Sep. 01, 2022	Aug. 31, 2023
EMI Test Receiver	Rohde & Schwarz	ESPI	100010/007	Jun. 23, 2022	Jun. 22, 2023
EMI Test Receiver	Rohde & Schwarz	ESU-8	100472	Feb. 26, 2022	Feb.25, 2023
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Feb. 27, 2022	Feb. 26, 2024
Bilog Antenna	SCHWARZBECK	VULB 9168	1225	Dec. 05, 2021	Dec. 04, 2023
Horn Antenna	ETS-LINDGREN	3117	00143207	Feb. 26, 2022	Feb. 25, 2024
Horn Antenna	SCHWARZBECK	BBHA 9120 D	2463	May 20, 2021	May 19, 2023
Horn Antenna	SCHWARZBECK	BBHA 9170	1118	Feb. 26, 2022	Feb. 25, 2024
Loop Antenna	SCHWARZBECK	FMZB 1519 B	1519B-059	Jun. 26, 2022	Jun.25, 2024
Pre-amplifier	SONOMA	310N	185903	Feb. 26, 2022	Feb. 25, 2023
Pre-amplifier	HP	8449B	3008A00849	Feb. 26, 2022	Feb.25, 2023
HF Amplifier	Tonscend	TAP9E6343	AP21C806117	Sep. 01, 2022	Aug. 31, 2023
HF Amplifier	Tonscend	TAP051845	AP21C806141	Sep. 01, 2022	Aug. 31, 2023
HF Amplifier	Tonscend	TAP0184050	AP21C806129	Sep. 01, 2022	Aug. 31, 2023
Antenna Conducted Emission					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jun. 23, 2022	Jun. 22, 2023
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102197	Jun. 23, 2022	Jun. 22, 2023
MXA Signal Analyzer	Agilent	N9020A	MY49100060	Sep. 01, 2022	Aug. 31, 2023
Spectrum Analyzer	KEYSIGT	N9020B	MY60110172	Sep. 01, 2022	Aug. 31, 2023
RF Power Sensor	DARE!! Instruments	RadiPowerRPR3006W	17100015SNO26	Sep. 01, 2022	Aug. 31, 2023
	DARE!! Instruments	RadiPowerRPR3006W	17100015SNO29	Sep. 01, 2022	Aug. 31, 2023
	DARE!! Instruments	RadiPowerRPR3006W	17100015SNO31	Sep. 01, 2022	Aug. 31, 2023
	DARE!! Instruments	RadiPowerRPR3006W	17100015SNO33	Sep. 01, 2022	Aug. 31, 2023
RF Control Unit	Tonsced	JS0806-2	21F8060439	Sep. 01, 2022	Aug. 31, 2023



5. Conducted Emission Test

5.1 Test Standard and Limit

5.1.1 Test Standard

FCC Part 15.207

5.1.2 Test Limit

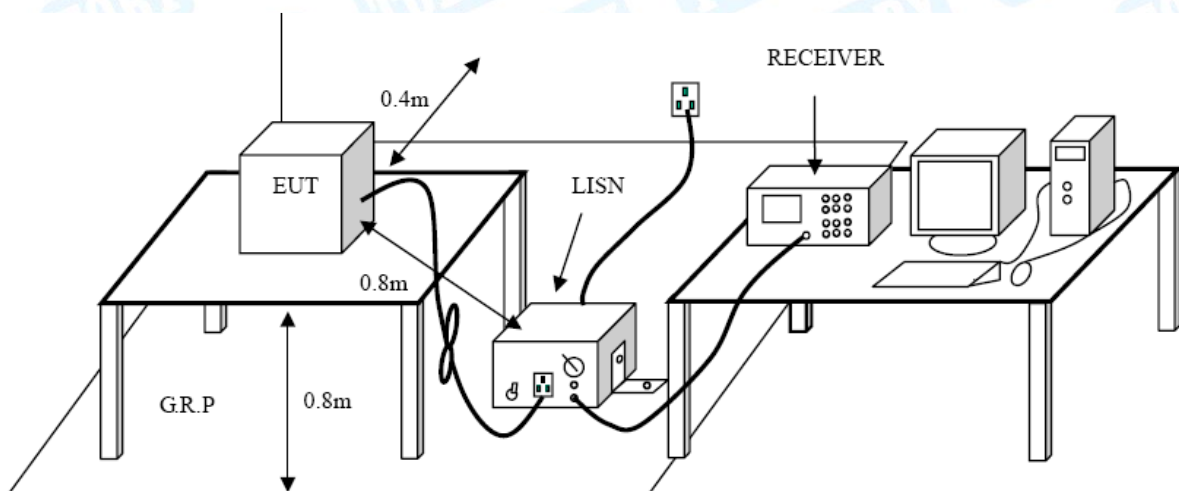
Conducted Emission Test Limit

Frequency	Maximum RF Line Voltage (dB μ V)	
	Quasi-peak Level	Average Level
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
500kHz~5MHz	56	46
5MHz~30MHz	60	50

Notes:

- (1) *Decreasing linearly with logarithm of the frequency.
- (2) The lower limit shall apply at the transition frequencies.
- (3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

5.2 Test Setup



5.3 Test Procedure

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.

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.

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.

LISN is at least 80 cm from nearest part of EUT chassis.

The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

5.4 Deviation From Test Standard

No deviation

5.5 EUT Operating Mode

Please refer to the description of test mode.

5.6 Test Data

Not applicable.



6. RF Output Power Test

6.1 Test Standard and Limit

6.1.1 Test Standard:

FCC Part 15.236(d)(2)

6.1.2 Test Limit

§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.

(d) The maximum radiated power shall not exceed the following values:

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

Procedure: KDB 971168 D01 Average Power Measurements section 5.2.1

Power Limit 50mW= 17dBm

6.2 Test Setup



6.3 Test Procedure

The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above.

- (2) Set the RBW \geq Bandwidth
- (3) Set VBW $\geq 3 \times$ RBW
- (4) Set Span $\geq 3 \times$ RBW
- (5) Sweep time=auto
- (6) Measurement points ≥ 2 span / RBW
- (7) Detector=Average
- (8) Trace mode= max hold.

Allow trace to fully stabilize, and then use peak marker function to determine the Average amplitude level.

- (9) Radiated RF power= Conduction measurement Level + Ant. Gain



6.4 Deviation From Test Standard

No deviation

6.5 EUT Operating Condition

The EUT was set to Continual Transmitting in maximum power, and new batteries are used during testing.

6.6 Test Data

Please refer to the Attachment A.



7. Bandwidth Test

7.1 Test Standard and Requirement

7.1.1 Test Standard

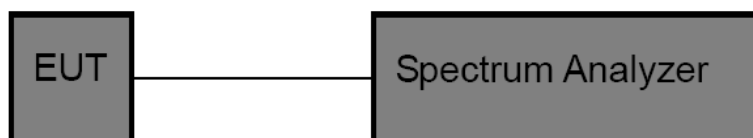
FCC Part 15.236(f)(2)

7.1.2 Test 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.

7.1.3 Requirement: ANSI C63.26 sec. 5.4.3

7.2 Test Setup



7.2 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Spectrum Setting:
Bandwidth: RBW=30 kHz, VBW=100kHz.
- (3) The bandwidth is measured at an amplitude level reduced 20dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst -case (i.e the widest) bandwidth.

7.4 Deviation From Test Standard

No deviation

7.5 EUT Operating Condition

The EUT was set to continuously transmitting for the Bandwidth Test.

7.6 Test Data

Please refer to the Attachment B.



8. Emission Mask Test

8.1 Test Standard

(g) Emissions within the band from one megahertz below to one megahertz above the carrier frequency shall comply with the emission mask in §8.3 of ETSI EN 300 422-1 V1.4.2 (2011-08), *Electromagnetic compatibility and Radio spectrum Matters (ERM); Wireless microphones in the 25 MHz to 3 GHz frequency range; Part 1: Technical characteristics and methods of measurement*. Emissions outside of this band shall comply with the limits specified in section 8.4 of ETSI EN 300 422-1 V1.4.2 (2011-08).

8.2 Test Limit

The transmitter output spectrum shall be within the mask defined in figure 4. This mask may also be used for analogue.

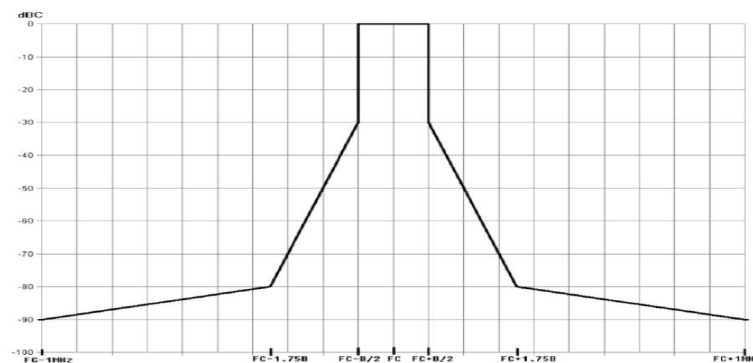
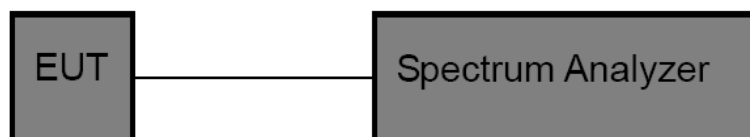


Figure 4: Spectrum mask for digital systems below 1 GHz

8.3 Test Setup



8.4 Test Procedure

Measure the "Maximum Relative Level (dBc) at Specified Carrier Offsets" with the following spectrum analyser setup:

- Centre Frequency = fc
- Span $\geq 5 \times B$
- Detector = RMS
- Trace Mode = Peak Hold
- RBW&VBW = 1 kHz
- Sweep time ≥ 2 s



8.5 Deviation From Test Standard

No deviation

8.6 Test Data

Please refer to the Attachment C.



9. Radiated Spurious Emission Test

9.1 Test Standard and Limit

9.1.1 Test Standard: FCC Part 15.236(g)

Requirement: ETSI EN 300 422-1 V1.4.2

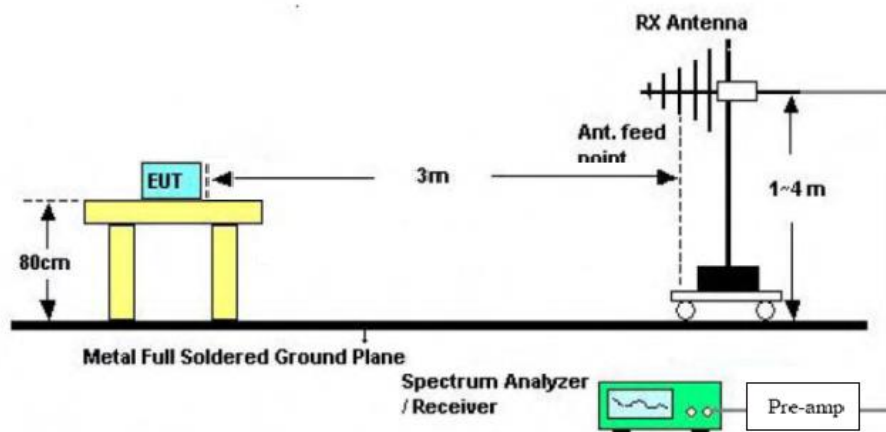
(g) Emissions within the band from one megahertz below to one megahertz above the carrier frequency shall comply with the emission mask in 58.3 of ETSI EN 300 422-1 V1.4.2 (2011-08), *Electromagnetic compatibility and Radio spectrum Matters (ERM); Wireless microphones in the 25 MHz to 3 GHz frequency range; Part 1: Technical characteristics and methods of measurement*. Emissions outside of this band shall comply with the limits specified in section 8.4 of ETSI EN 300 422-1 V1.4.2 (2011-08).

9.1.2 Limits

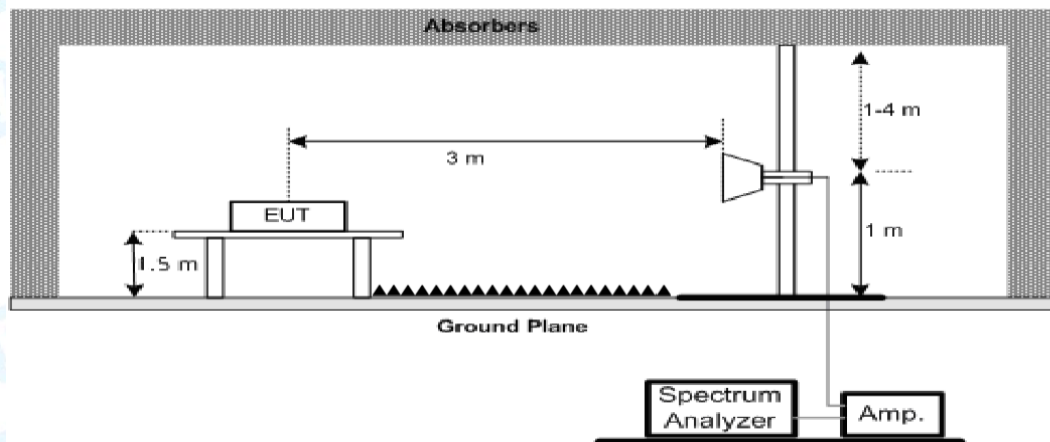
State	Frequency		
	47 MHz to 74 MHz 87,5 MHz to 137 MHz 174 MHz to 230 MHz 470 MHz to 862 MHz	Other Frequencies below 1 000 MHz	Frequencies above 1 000 MHz
Operation	4 nW	250 nW	1 μ W
Standby	2 nW	2 nW	20 nW

9.2 Test Setup

A. Radiated Emission Test Set-Up Frequency Below 1 GHz.



B. Radiated Emission Test Set-Up Frequency Above 1 GHz.



9.3 Test Procedure

1. The EUT was placed on the top of the turntable in chamber.
2. The test shall be made in the transmitting mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. This measurement shall be repeated with the transmitter in standby mode where applicable.
4. For spurious emissions measurement, the broad band bi-log receiving antenna was placed 3 meters far away from the turntable.
5. The broadband receiving antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization. Each recorded suspected value is indicated as Read Level (Raw).
6. Replace the EUT by standard antenna and feed the RF port by signal generator.
7. Adjust the frequency of the signal generator to the suspected emission and slightly rotate the turntable to locate the position with maximum reading.
8. Adjust the power level of the signal generator to reach the same reading with Read Level (Raw).
9. The level of the spurious emission is the power level of (8) plus the gain of the standard antenna in dBi and minus the loss of the cable used between the signal generator and the standard antenna.
10. The measurement shall be repeated at the lowest and the highest channel of the stated frequency range.

9.4 Deviation From Test Standard

No deviation

9.5 Test Data

Please refer to the Attachment C.



10. Frequency stability

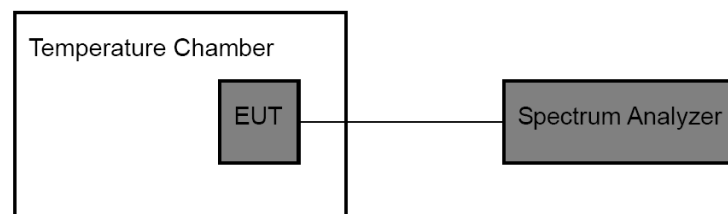
10.1 Test Standard and Limit

10.1.1 Test Standard: FCC 15.236(f)(3)

10.1.2 Test 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. Battery operated equipment shall be tested using a new battery.

10.2 Test Setup



10.3 Test Procedure

The test was conducted as follows: The transmitter was placed in the temperature chamber at 25 °C and allowed to stabilize for one hour. The transmitter was keyed ON for one minute during which four frequency readings were recorded at 15-second intervals. The worst case number used in the table below. The assigned channel frequency was considered to be the reference frequency. The temperature was then reduced to -20 °C after which the transmitter was again allowed to stabilize for one hour. The transmitter was keyed ON for one minute, and again frequency readings were noted at 15-second intervals. The worst-case number was again used in the table below. This procedure was repeated in 10-degree increments up to $+50$ °C.

10.4 Deviation From Test Standard

No deviation

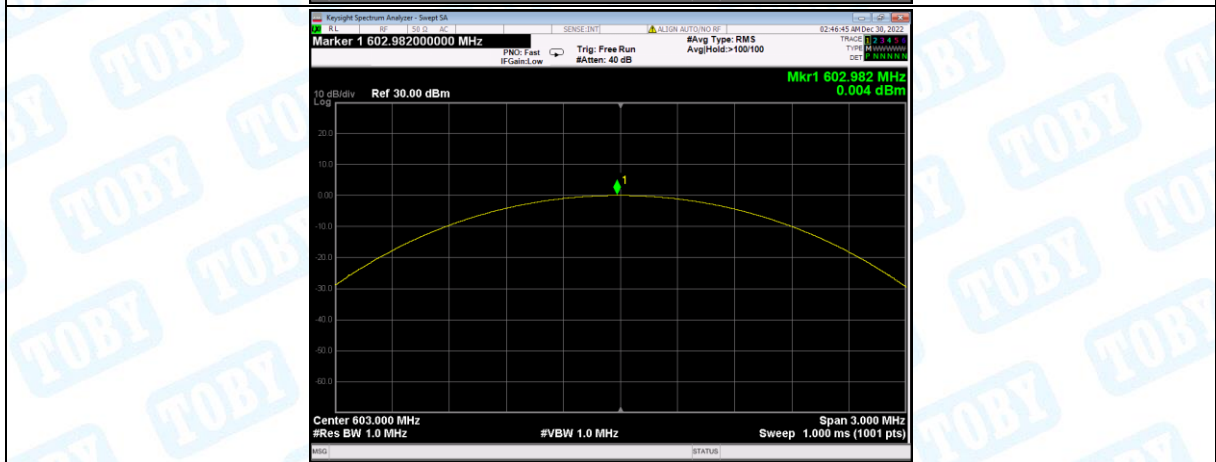
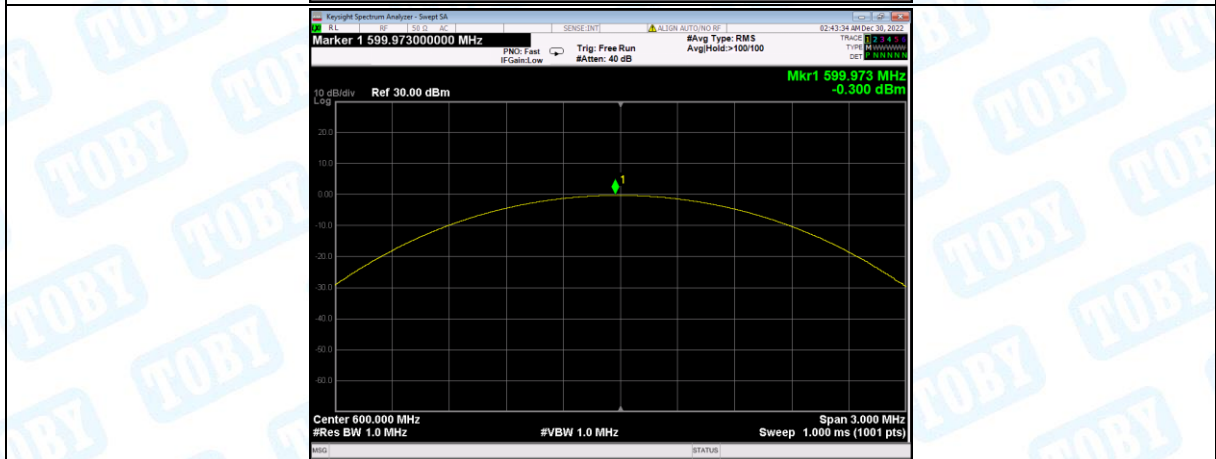
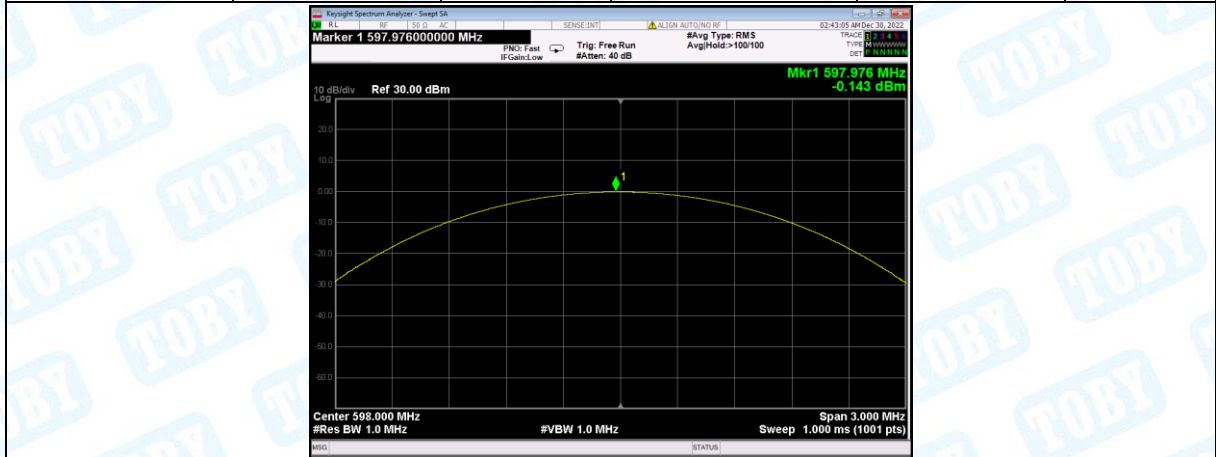
10.5 Test Data

Please refer to the Attachment D.



Attachment A--Power Output Test Data

Frequency (MHz)	Conduction measurement Level (dBm)	Ant. Gain(dBi)	Radiated RF power(dBm)	Limit(dBm)	Margin (dB)
598	-0.143	1.34	1.197	50mw(17dBm)	-15.803
600	-0.300	1.34	1.04	50mw(17dBm)	-15.96
603	0.004	1.34	1.344	50mw(17dBm)	-15.656



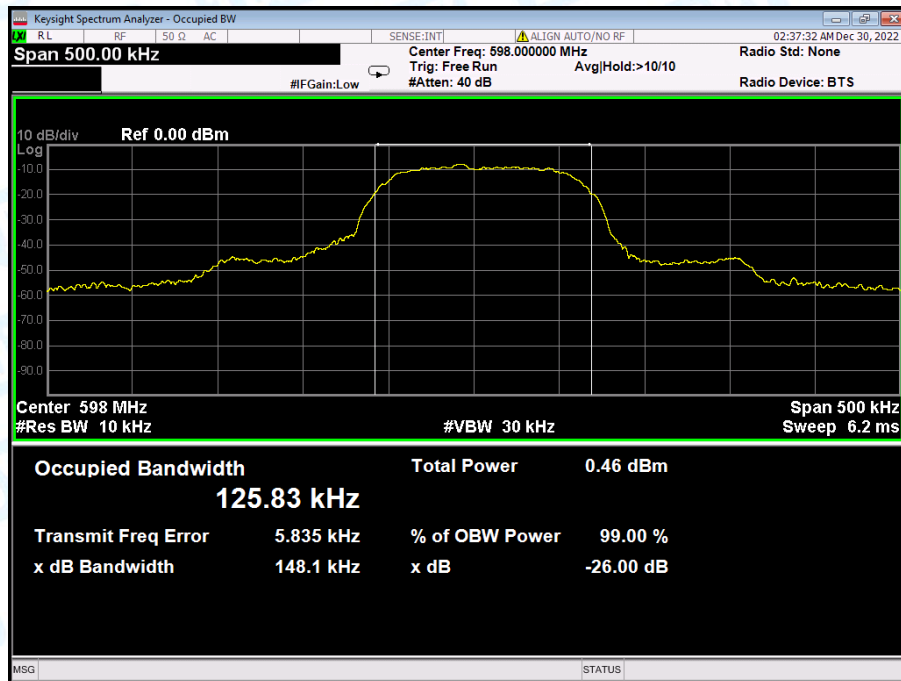
Note: Radiated RF power= Conduction measurement Level + Ant. Gain



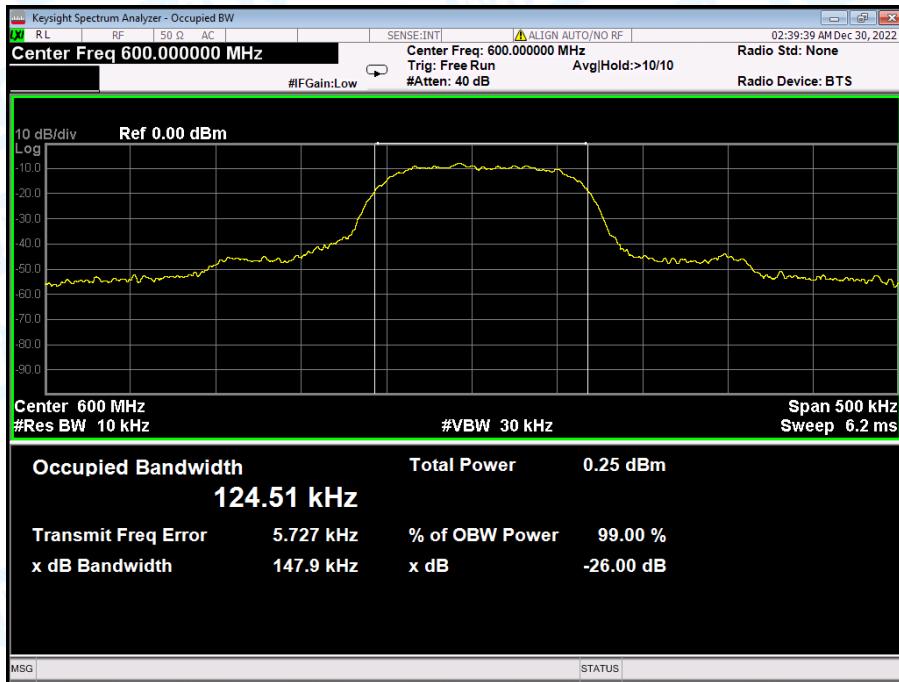
Attachment B--Bandwidth Test Data

Channel Frequency (MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)
598	125.83	148.1
600	124.51	147.9
603	125.25	146.9

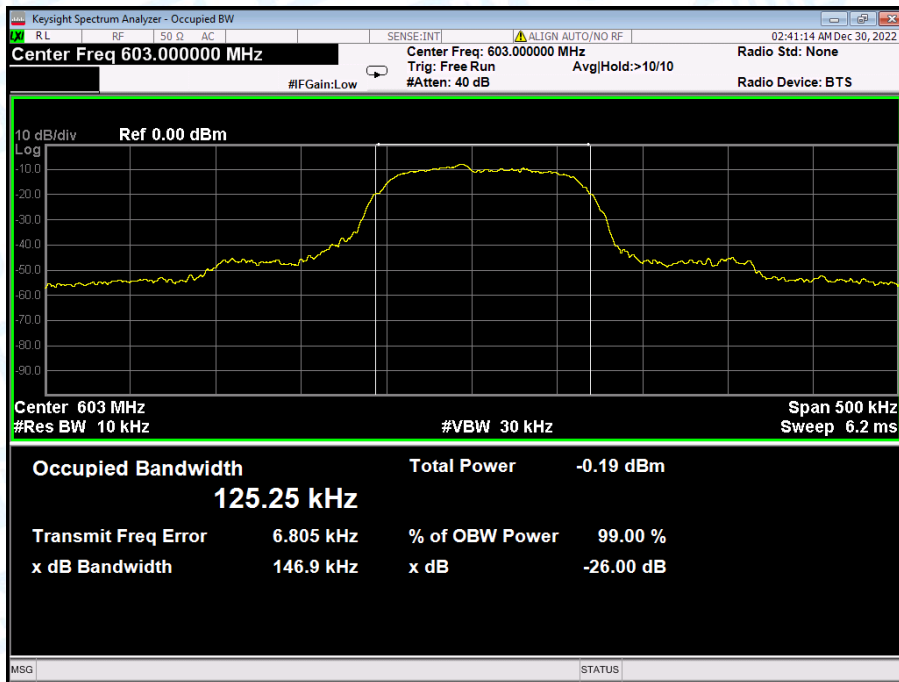
598MHz



600MHz

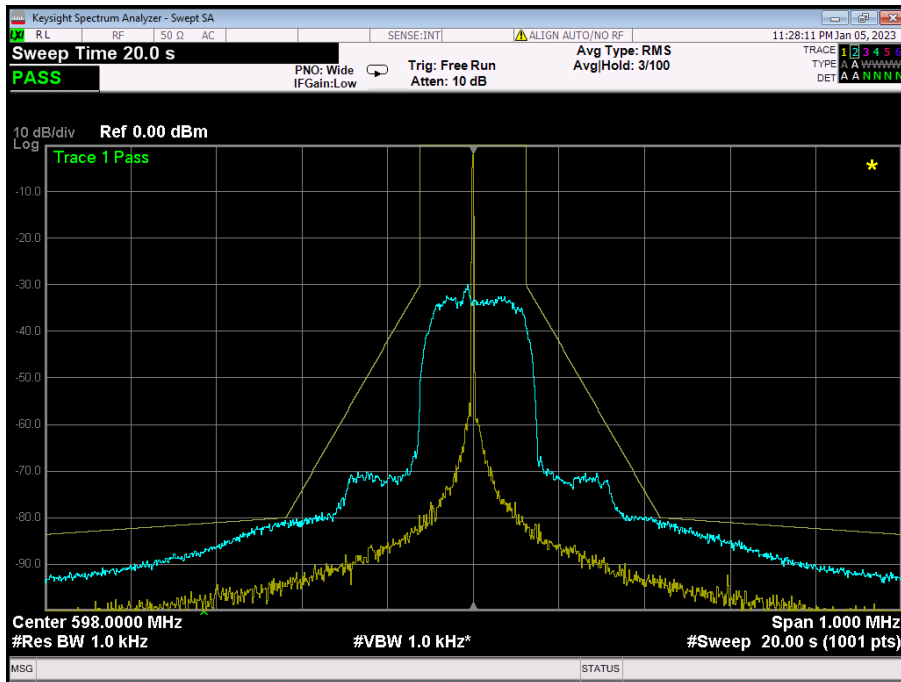


603MHz

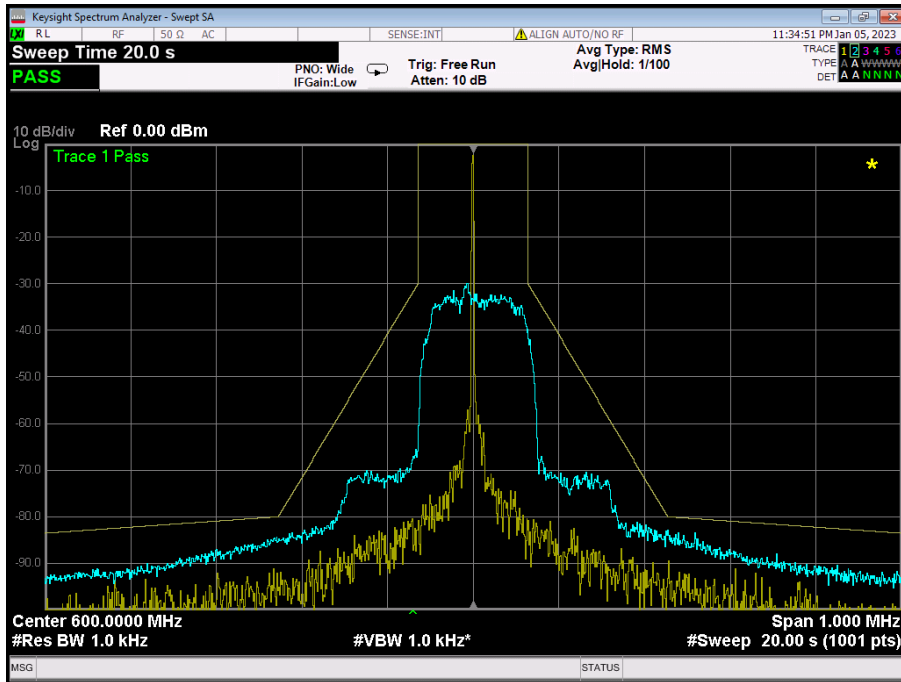


Attachment C--Emission Mask Test Data

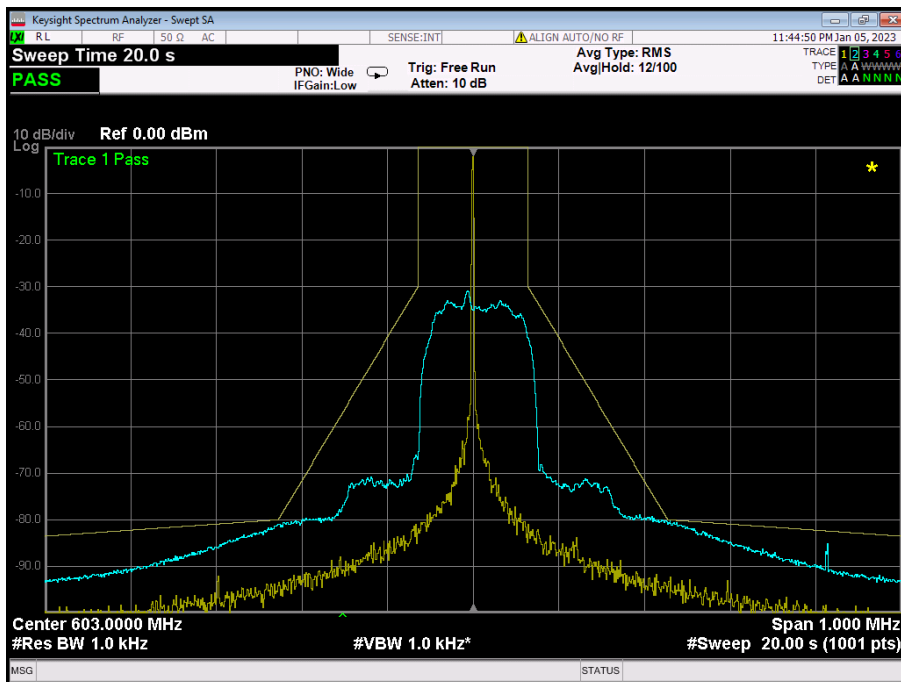
Temperature:	26°C	Relative Humidity:	60%
Pressure:	1010hPa	Test Voltage :	DC 3V (Normal)
Result:	PASS		
Test Mode :	TX 598MHz		



600MHz



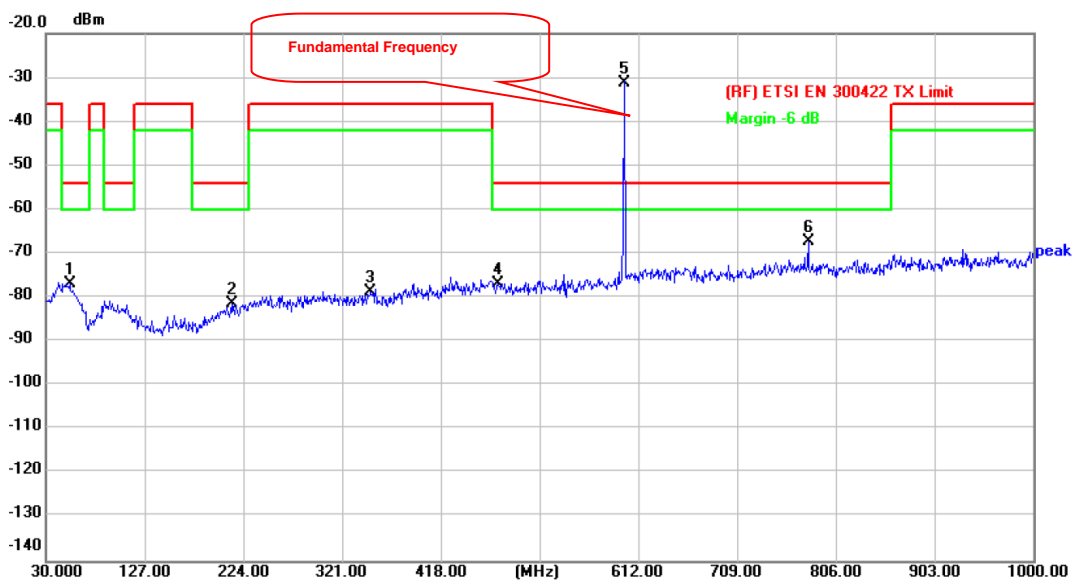
603MHz



Attachment D--Radiated Spurious Emission Test Date

Below 1 GHz

Temperature:	23.1 °C	Relative Humidity:	53%
Test Voltage:	DC 3V		
Ant. Pol.	Horizontal		
Test Mode:	TX Mode 598MHz		
Remark:	All channels were tested and only the worst channels were shown in the report.		

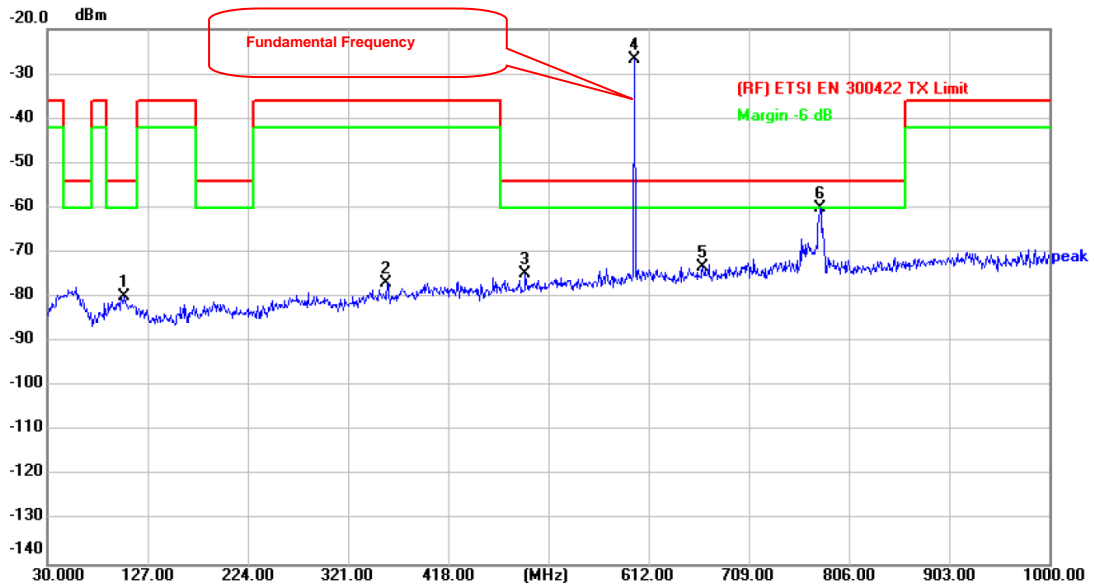


No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector
1	53.2800	-68.79	-8.06	-76.85	-54.00	-22.85	peak
2	212.3600	-69.81	-11.51	-81.32	-54.00	-27.32	peak
3	349.1300	-70.68	-7.88	-78.56	-36.00	-42.56	peak
4	474.2600	-71.43	-5.35	-76.78	-54.00	-22.78	peak
5 *	598.4200	-28.09	-3.01	-31.10	Fundamental Frequency		peak
6	778.8400	-66.65	-0.72	-67.37	-54.00	-13.37	peak

Emission Level= Read Level+ Correct Factor



Temperature:	23.1 °C	Relative Humidity:	53%
Test Voltage:	DC 3V		
Ant. Pol.	Vertical		
Test Mode:	TX Mode 598MHz		
Remark:	All channels were tested and only the worst channels were shown in the report.		

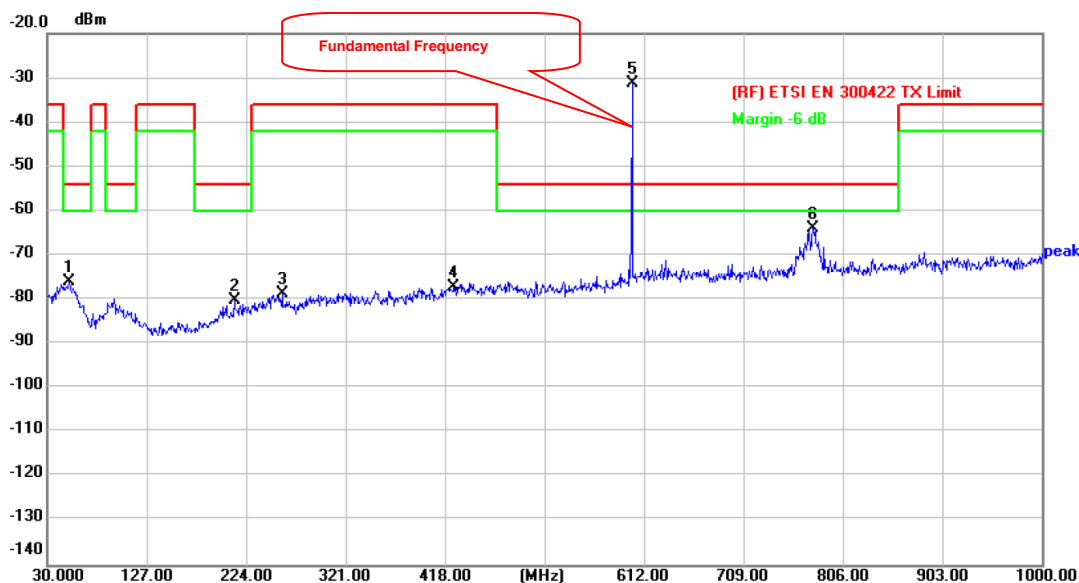


No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector
1	104.6900	-69.09	-10.74	-79.83	-54.00	-25.83	peak
2	358.8299	-69.07	-7.92	-76.99	-36.00	-40.99	peak
3	492.6900	-69.08	-5.71	-74.79	-54.00	-20.79	peak
4 *	598.4200	-23.84	-2.78	-26.62	Fundamental Frequency		peak
5	664.3800	-70.80	-2.51	-73.31	-54.00	-19.31	peak
6	777.8700	-59.28	-0.77	-60.05	-54.00	-6.05	peak

Emission Level= Read Level+ Correct Factor



Temperature:	23.1 °C	Relative Humidity:	53%
Test Voltage:	DC 3V		
Ant. Pol.	Horizontal		
Test Mode:	TX Mode 600MHz		
Remark:	All channels were tested and only the worst channels were shown in the report.		

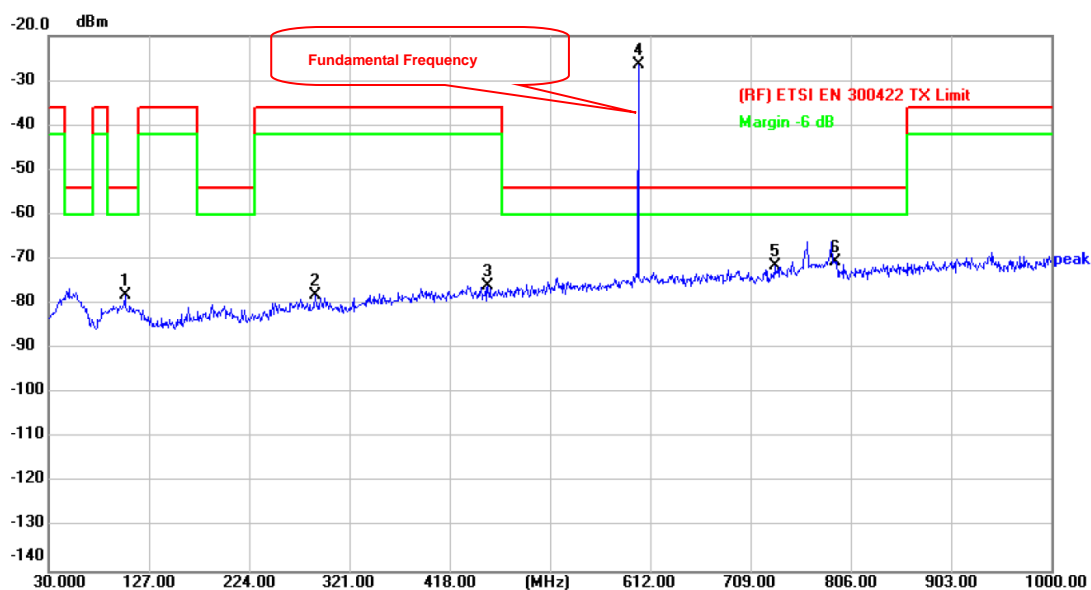


No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector
1	51.3400	-68.56	-7.52	-76.08	-54.00	-22.08	peak
2	212.3600	-68.71	-11.51	-80.22	-54.00	-26.22	peak
3	258.9200	-69.06	-9.54	-78.60	-36.00	-42.60	peak
4	426.7300	-71.27	-5.94	-77.21	-36.00	-41.21	peak
5 *	600.3600	-28.44	-2.91	-31.35	Fundamental Frequency		peak
6	776.9000	-63.27	-0.71	-63.98	-54.00	-9.98	peak

Emission Level= Read Level+ Correct Factor



Temperature:	23.1 °C	Relative Humidity:	53%
Test Voltage:	DC 3V		
Ant. Pol.	Vertical		
Test Mode:	TX Mode 600MHz		
Remark:	All channels were tested and only the worst channels were shown in the report.		

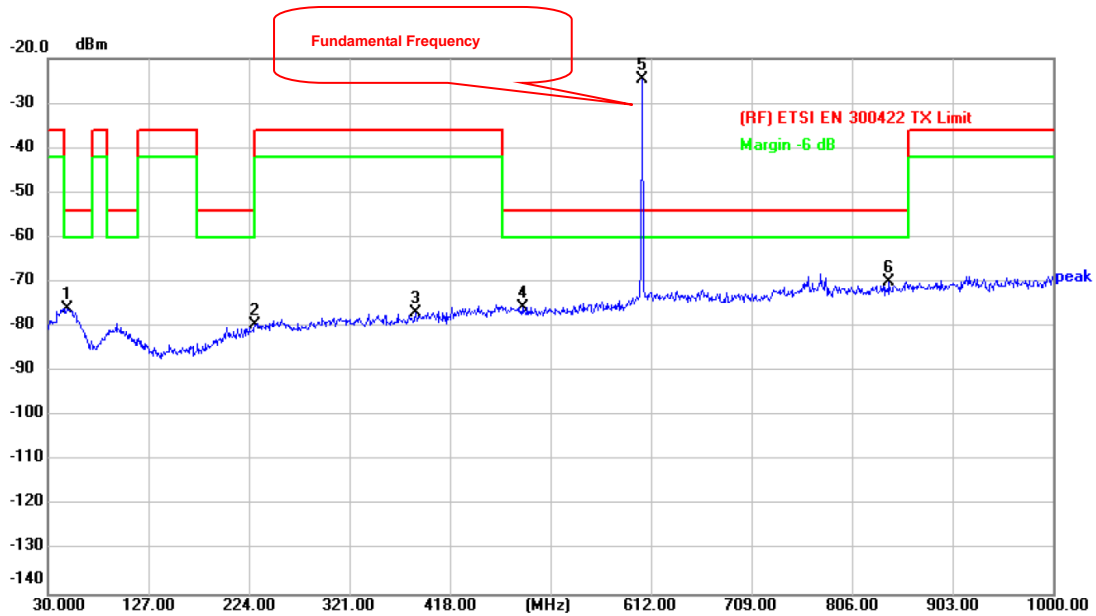


No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector
1	103.7200	-67.17	-10.73	-77.90	-54.00	-23.90	peak
2	288.0200	-68.86	-9.24	-78.10	-36.00	-42.10	peak
3	454.8600	-69.49	-6.33	-75.82	-36.00	-39.82	peak
4 *	600.3600	-23.86	-2.72	-26.58	Fundamental Frequency		peak
5	732.2800	-70.18	-1.40	-71.58	-54.00	-17.58	peak
6	791.4500	-69.53	-0.89	-70.42	-54.00	-16.42	peak

Emission Level= Read Level+ Correct Factor



Temperature:	23.1 °C	Relative Humidity:	53%
Test Voltage:	DC 3V		
Ant. Pol.	Horizontal		
Test Mode:	TX Mode 603MHz		
Remark:	All channels were tested and only the worst channels were shown in the report.		

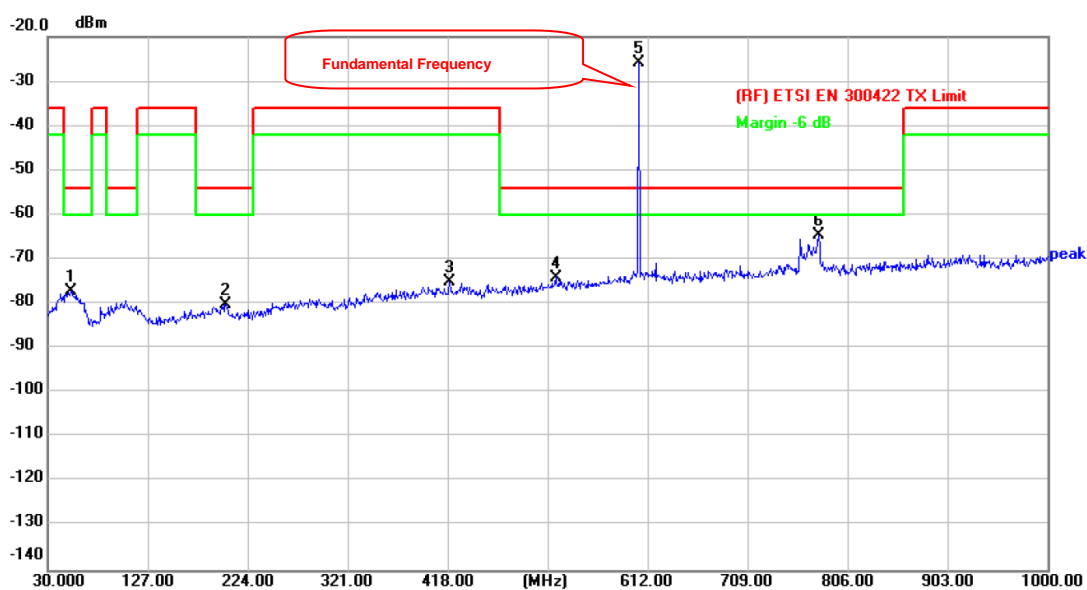


No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector
1	48.4300	-68.62	-7.29	-75.91	-54.00	-21.91	peak
2	229.8200	-69.53	-9.93	-79.46	-54.00	-25.46	peak
3	385.0200	-69.46	-7.31	-76.77	-36.00	-40.77	peak
4	487.8400	-69.93	-5.61	-75.54	-54.00	-21.54	peak
5 *	603.2700	-22.01	-2.71	-24.72	Fundamental Frequency		peak
6	841.8900	-69.55	-0.28	-69.83	-54.00	-15.83	peak

Emission Level= Read Level+ Correct Factor



Temperature:	23.1 °C	Relative Humidity:	53%
Test Voltage:	DC 3V		
Ant. Pol.	Vertical		
Test Mode:	TX Mode 603MHz		
Remark:	All channels were tested and only the worst channels were shown in the report.		



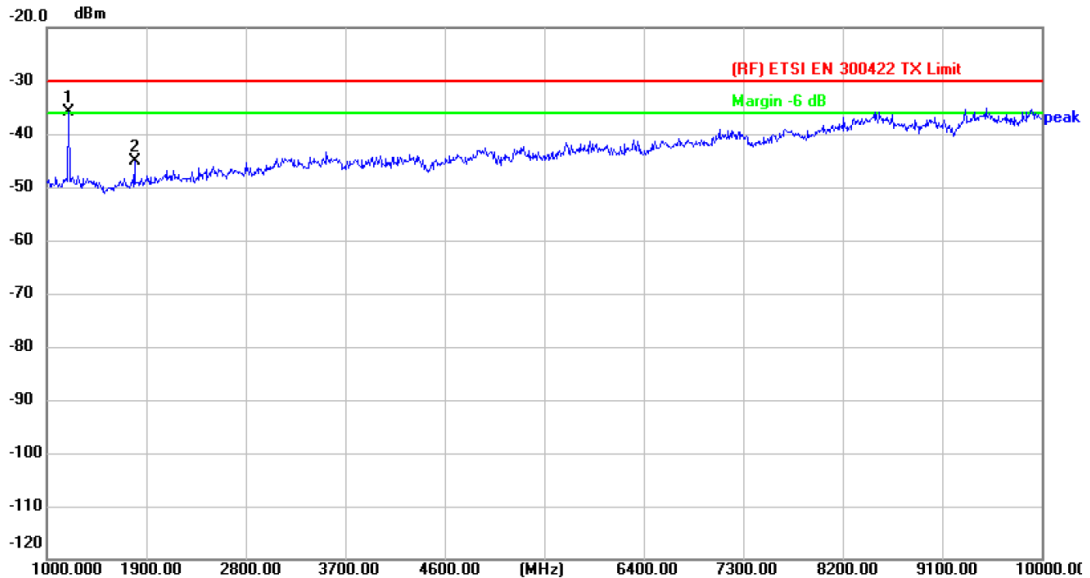
No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector
1	52.3100	-68.26	-8.88	-77.14	-54.00	-23.14	peak
2	202.6600	-68.84	-11.23	-80.07	-54.00	-26.07	peak
3	419.9400	-68.65	-6.54	-75.19	-36.00	-39.19	peak
4	522.7600	-69.23	-4.77	-74.00	-54.00	-20.00	peak
5 *	603.2700	-23.31	-2.61	-25.92	Fundamental Frequency		peak
6	777.8700	-63.68	-0.77	-64.45	-54.00	-10.45	peak

Emission Level= Read Level+ Correct Factor



Above 1 GHz

Temperature:	23.1 °C	Relative Humidity:	53%
Test Voltage:	DC 3V		
Ant. Pol.	Horizontal		
Test Mode:	TX Mode 598MHz		
Remark:	All channels were tested and only the worst channels were shown in the report.		

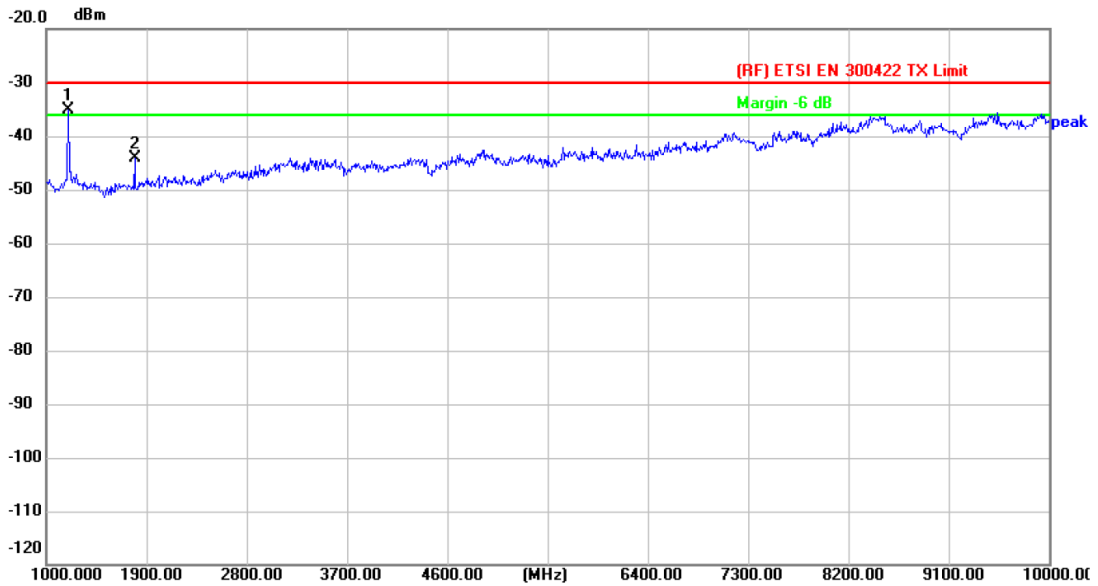


No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector
1 *	1198.000	-40.10	4.13	-35.97	-30.00	-5.97	peak
2	1792.000	-48.73	3.55	-45.18	-30.00	-15.18	peak

Emission Level= Read Level+ Correct Factor



Temperature:	23.1 °C	Relative Humidity:	53%
Test Voltage:	DC 3V		
Ant. Pol.	Vertical		
Test Mode:	TX Mode 598MHz		
Remark:	All channels were tested and only the worst channels were shown in the report.		

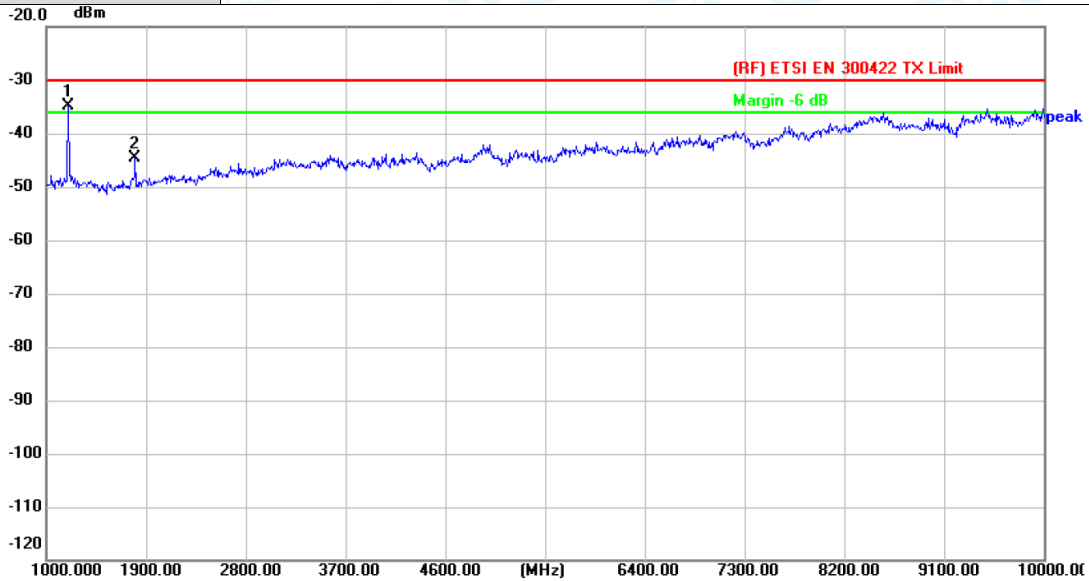


No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector
1 *	1198.000	-39.85	4.68	-35.17	-30.00	-5.17	peak
2	1792.000	-47.64	3.43	-44.21	-30.00	-14.21	peak

Emission Level= Read Level+ Correct Factor



Temperature:	23.1 °C	Relative Humidity:	53%
Test Voltage:	DC 3V		
Ant. Pol.	Horizontal		
Test Mode:	TX Mode 600MHz		
Remark:	All channels were tested and only the worst channels were shown in the report.		

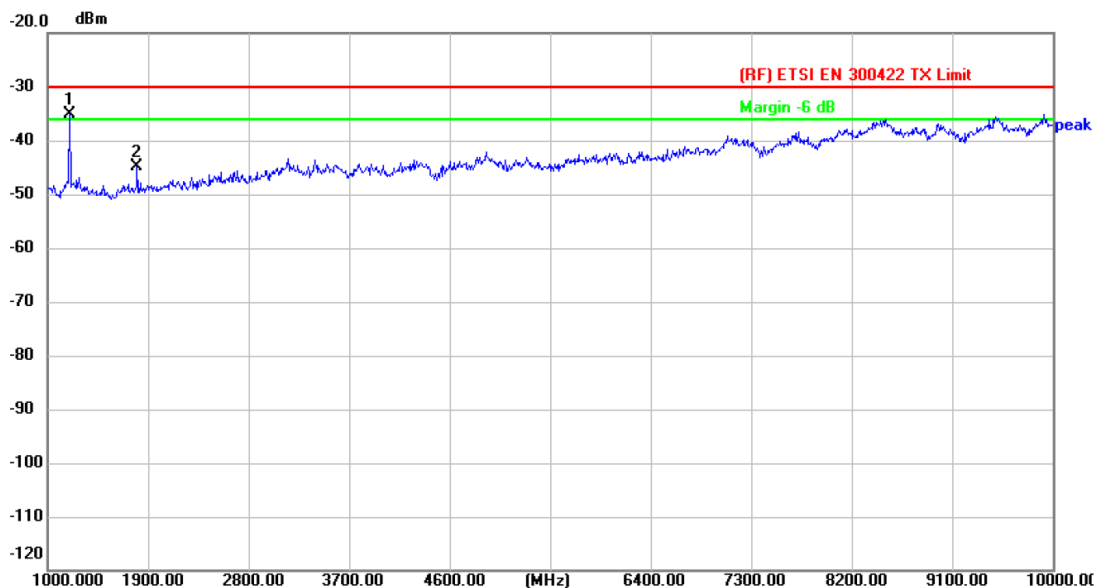


No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector
1 *	1198.000	-38.91	4.13	-34.78	-30.00	-4.78	peak
2	1801.000	-48.08	3.58	-44.50	-30.00	-14.50	peak

Emission Level= Read Level+ Correct Factor



Temperature:	23.1 °C	Relative Humidity:	53%
Test Voltage:	DC 3V		
Ant. Pol.	Vertical		
Test Mode:	TX Mode 600MHz		
Remark:	All channels were tested and only the worst channels were shown in the report.		

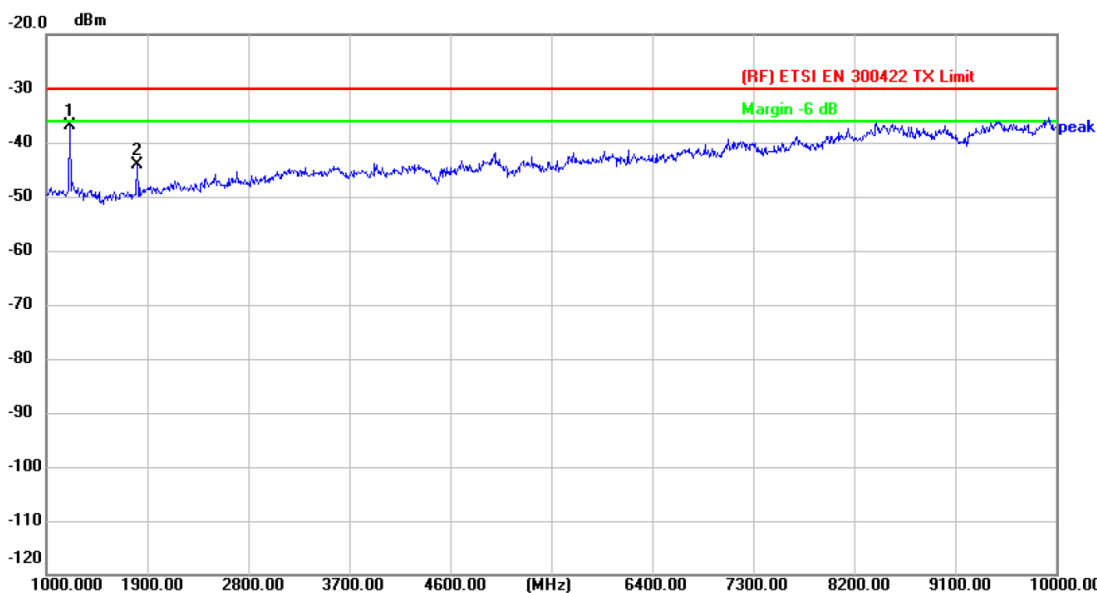


No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector
1 *	1198.000	-39.89	4.68	-35.21	-30.00	-5.21	peak
2	1801.000	-48.33	3.41	-44.92	-30.00	-14.92	peak

Emission Level= Read Level+ Correct Factor



Temperature:	23.1 °C	Relative Humidity:	53%
Test Voltage:	DC 3V		
Ant. Pol.	Horizontal		
Test Mode:	TX Mode 603MHz		
Remark:	All channels were tested and only the worst channels were shown in the report.		

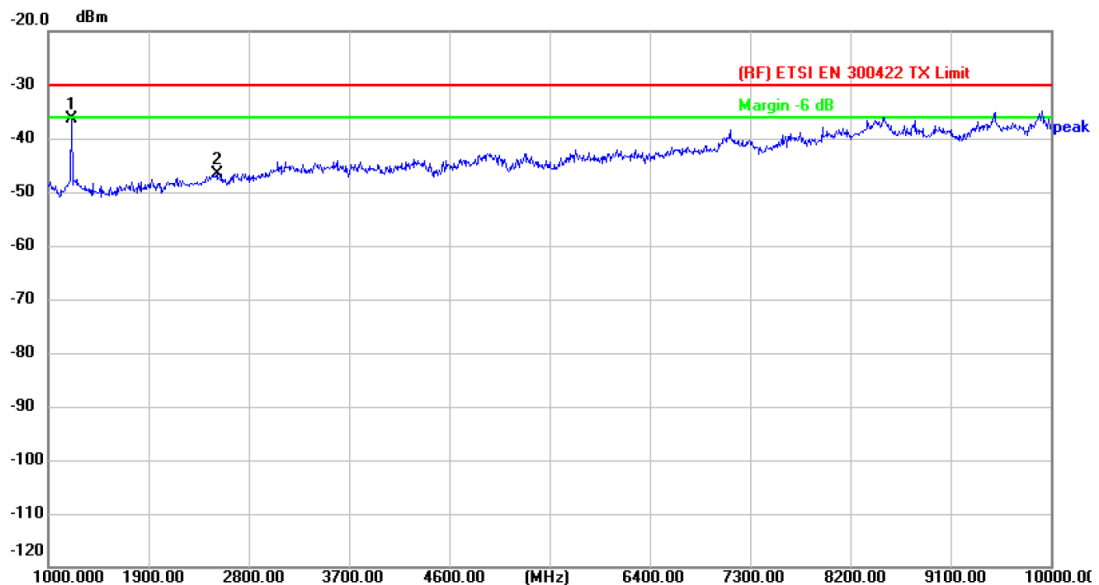


No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector
1 *	1207.000	-40.83	4.07	-36.76	-30.00	-6.76	peak
2	1810.000	-47.82	3.64	-44.18	-30.00	-14.18	peak

Emission Level= Read Level+ Correct Factor



Temperature:	23.1 °C	Relative Humidity:	53%
Test Voltage:	DC 3V		
Ant. Pol.	Vertical		
Test Mode:	TX Mode 603MHz		
Remark:	All channels were tested and only the worst channels were shown in the report.		



No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector
1 *	1207.000	-41.01	4.65	-36.36	-30.00	-6.36	peak
2	2512.000	-53.17	6.59	-46.58	-30.00	-16.58	peak

Emission Level= Read Level+ Correct Factor



Attachment E--Frequency Stability Test Data

Pressure:	1010hPa	Test Voltage :	DC 3V (Normal)		
Test Mode :	TX 598MHz (Modulation)				
Remark:	All channels were tested and only the worst channels were shown in the report.				
Test Conditions		Measurement	Test Conditions		Measurement
Test Temperature	Test Voltage	Frequency(MHz)	Test Voltage	Test Temperature	Frequency(MHz)
-20°C	DC 3V	598	85%	20°C	598.013
-10°C		598	95%		598.012
0°C		598	100%		598.015
10°C		598	105%		598.015
20°C		598	110%		598.014
30°C		598	115%		598.015
40°C		598			
50°C		598			
Max. Deviation Frequency					0.015
Max. Frequency Error					0.003%
Limits					±0.005%
Result					PASS
Note: The frequency tolerance of the carrier signal shall be maintained within ±0.005% of the operating frequency.					



Pressure:	1010hPa		Test Voltage :		DC 3V (Normal)
Test Mode :	TX 600MHz (Modulation)				
Remark:	All channels were tested and only the worst channels were shown in the report.				
Test Conditions		Measurement	Test Conditions		Measurement
Test Temperature	Test Voltage	Frequency(MHz)	Test Voltage	Test Temperature	Frequency(MHz)
-20°C	DC 3V	600	85%	20°C	600.012
-10°C		600	95%		600.011
0°C		600	100%		600.012
10°C		600	105%		600.012
20°C		600	110%		600.015
30°C		600	115%		600.015
40°C		600			
50°C		600			
Max. Deviation Frequency					0.015
Max. Frequency Error					0.003%
Limits					±0.005%
Result					PASS
Note: The frequency tolerance of the carrier signal shall be maintained within ±0.005% of the operating frequency.					



Pressure:	1010hPa	Test Voltage :		DC 3V (Normal)	
Test Mode :	TX 603MHz (Modulation)				
Remark:	All channels were tested and only the worst channels were shown in the report.				
Test Conditions		Measurement	Test Conditions		Measurement
Test Temperature	Test Voltage	Frequency(MHz)	Test Voltage	Test Temperature	Frequency(MHz)
-20°C	DC 3V	603	85%	20°C	603.012
-10°C		603	95%		603.013
0°C		603	100%		603.012
10°C		603	105%		603.017
20°C		603	110%		603.013
30°C		603	115%		603.014
40°C		603			
50°C		603			
Max. Deviation Frequency					0.017
Max. Frequency Error					0.003%
Limits					±0.005%
Result					PASS
Note: The frequency tolerance of the carrier signal shall be maintained within ±0.005% of the operating frequency.					

-----END OF REPORT-----

