



FCC&IC RADIO TEST REPORT

FCC ID: N7P-HRW01

IC: 10274A-HRW01

Product : C Series Free Living Monitor

Trade Name : LifeTrak, New Balance, Sync

Model Name : C400

Serial Model : C300,#2227,#3009,52570,52571,52572,
52573,525574,52575,C410,52537

Report No. : NTEK- 2013NT0517096F

Prepared for

Salutron Inc.

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Prepared by

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TEST RESULT CERTIFICATION**Applicant's name** : Salutron Inc.

Address : 47775 Fremont Blvd, Fremont, California, United States

Manufacturer's Name..... : Fairlegend Electronics, Ltd.Address : Shang Cun, Yuan Shan Industrial Zone B, Gongming,
Guangming New District, Shenzhen, China**Product description**

Product name : C Series Free Living Monitor

Model and/or type reference : C400

Serial Model : C300,#2227,#3009,52570,52571,52572,
52573,525574,52575,C410,52537**Standards** : FCC Part15.247, RSS-210

Test procedure ANSI C63.4-2003, RSS-Gen Issue 3

This device described above has been tested by NTEK, and 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.

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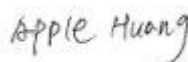
Date of Test

Date (s) of performance of tests: 26 Apr. 2013 ~14 May 2013

Date of Issue.....: 14 May 2013

Test Result.....: **Pass**

Testing Engineer :



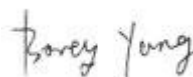
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Technical Manager :



(Tom Zhang)

Authorized Signatory :



(Bovey Yang)

Table of Contents

	Page
1 . SUMMARY OF TEST RESULTS	5
1.1 TEST FACILITY	6
1.2 MEASUREMENT UNCERTAINTY	6
2 . GENERAL INFORMATION	7
2.1 GENERAL DESCRIPTION OF EUT	7
2.2 DESCRIPTION OF TEST MODES	9
2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	10
2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)	11
2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS	12
3 . EMC EMISSION TEST	13
3.1 CONDUCTED EMISSION MEASUREMENT	13
3.1.1 POWER LINE CONDUCTED EMISSION LIMITS	13
3.1.2 TEST PROCEDURE	14
3.1.3 DEVIATION FROM TEST STANDARD	14
3.1.4 TEST SETUP	14
3.1.5 EUT OPERATING CONDITIONS	14
3.1.6 TEST RESULTS	15
3.2 RADIATED EMISSION MEASUREMENT	16
3.2.1 RADIATED EMISSION LIMITS	16
3.2.2 TEST PROCEDURE	17
3.2.3 DEVIATION FROM TEST STANDARD	17
3.2.4 TEST SETUP	18
3.2.5 EUT OPERATING CONDITIONS	19
3.2.6 TEST RESULTS (BETWEEN 9KHZ – 30 MHZ)	20
3.2.7 TEST RESULTS (BETWEEN 30MHZ – 1GHZ)	21
3.2.8 TEST RESULTS (ABOVE 1000 MHZ)	23
4 . POWER SPECTRAL DENSITY TEST	33
4.1 APPLIED PROCEDURES / LIMIT	33
4.1.1 TEST PROCEDURE	33
4.1.2 DEVIATION FROM STANDARD	33
4.1.3 TEST SETUP	33
4.1.4 EUT OPERATION CONDITIONS	33
4.1.5 TEST RESULTS	34
5 . BANDWIDTH TEST	36
5.1 APPLIED PROCEDURES / LIMIT	36
5.1.1 TEST PROCEDURE	36

Table of Contents

	Page
5.1.2 DEVIATION FROM STANDARD	36
5.1.3 TEST SETUP	36
5.1.4 EUT OPERATION CONDITIONS	36
5.1.5 TEST RESULTS	37
6 . PEAK OUTPUT POWER TEST	39
6.1 APPLIED PROCEDURES / LIMIT	39
6.1.1 TEST PROCEDURE	39
6.1.2 DEVIATION FROM STANDARD	39
6.1.3 TEST SETUP	39
6.1.4 EUT OPERATION CONDITIONS	39
6.1.5 TEST RESULTS	40
7 . ANTENNA REQUIREMENT	42
7.1 STANDARD REQUIREMENT	42
7.2 EUT ANTENNA	42
8 . EUT TEST PHOTO	43
APPENDIX-PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS	

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C RSS-210 Annex 8			
Standard Section	Test Item	Judgment	Remark
15.207&7.2.4	Conducted Emission	N/A	
15.247(a)(1)&A8.2	Hopping Channel Separation	PASS	
15.247(b)(1) & A8.4	Peak Output Power	PASS	
15.247(c) &A8.5	Radiated Spurious Emission	PASS	
15.247(a)(iii) &A8.1	Number of Hopping Frequency	PASS	
15.247(a)(iii) &A8.1	Dwell Time	PASS	
15.247(a)(1) &A8.1	Bandwidth	PASS	
15.205&A8.5	Band Edge Emission	PASS	
15.203	Antenna Requirement	PASS	

NOTE:

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

1.1 TEST FACILITY

NTEK Testing Technology Co., Ltd

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

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

CNAS Registration No.:L5516

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, 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 %** .

No.	Item	Uncertainty
1	Conducted Emission Test	$\pm 1.38\text{dB}$
2	RF power,conducted	$\pm 0.16\text{dB}$
3	Spurious emissions,conducted	$\pm 0.21\text{dB}$
4	All emissions,radiated(<1G)	$\pm 4.68\text{dB}$
5	All emissions,radiated(>1G)	$\pm 4.89\text{dB}$
6	Temperature	$\pm 0.5^{\circ}\text{C}$
7	Humidity	$\pm 2\%$

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	C Series Free Living Monitor	
Trade Name	LifeTrak, New Balance, Sync	
Model Name	C400	
Serial Model	C300,#2227,#3009,52570,52571,52572,52573,525574,52575,C410,52537	
Model Difference	All the model are the same circuit and RF module,except the model names.	
Product Description	The EUT is a C Series Free Living Monitor	
	Operation Frequency:	2402~2480 MHz
	Modulation Type:	GFSK(FHSS)
	Number Of Channel	40CH
	Antenna Designation:	Please see Note 3.
	Output Power(Peak):	-0.89dbm
	Antenna Gain (dBi)	0dbi
	Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.	
Channel List	Please refer to the Note 2.	
Ratings	DC 3.0V	
Battery	DC 3.0V	
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	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	10	2422	20	2442	30	2462
01	2404	11	2424	21	2444	31	2464
02	2406	12	2426	22	2446	32	2466
03	2408	13	2428	23	2448	33	2468
04	2410	14	2430	24	2450	34	2470
05	2412	15	2432	25	2452	35	2472
06	2414	16	2434	26	2454	36	2474
07	2416	17	2436	27	2456	37	2476
08	2418	18	2438	28	2458	38	2478
09	2420	19	2440	29	2460	39	2480

3.

Table for Filed Antenna

Ant .	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
A	N/A	N/A	PCB antenna	N/A	0	N/A

2.2 DESCRIPTION OF TEST MODES

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

Pretest Mode	Description
Mode 1	TX 2402
Mode 2	TX 2440
Mode 3	TX 2480
Mode 4	Link Mode

For Conducted Emission	
Final Test Mode	Description
Mode 4	Link Mode

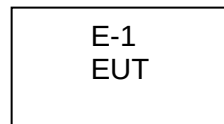
For Radiated Emission	
Final Test Mode	Description
Mode 1	TX 2402
Mode 2	TX 2440
Mode 3	TX 2480

Note:

- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated Spurious Emission Test



2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

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

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	C Series Free Living Monitor	LifeTrak	C400	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note

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.

2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Spectrum Analyzer	Agilent	E4407B	MY45108040	2012.07.06	2013.07.05	1 year
2	Test Receiver	R&S	ESPI	101318	2012.06.07	2013.06.06	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2012.07.06	2013.07.05	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2012.06.07	2013.06.06	1 year
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	2012.06.07	2013.06.06	1 year
6	Horn Antenna	EM	EM-AH-10180	2011071402	2012.07.06	2013.07.05	1 year
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2012.07.06	2013.07.05	1 year
8	Amplifier	EM	EM-30180	060538	2012.12.22	2013.12.21	1 year
9	Loop Antenna	ARA	PLA-1030/B	1029	2012.06.08	2013.06.07	1 year
10	Power Meter	R&S	NRVS	100696	2012.07.06	2013.07.05	1 year
11	Power Sensor	R&S	URV5-Z4	0395.1619.05	2012.07.06	2013.07.05	1 year

Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	R&S	ESCI	101160	2012.06.06	2013.06.05	1 year
2	LISN	R&S	ENV216	101313	2012.08.24	2013.08.23	1 year
3	LISN	EMCO	3816/2	00042990	2012.08.24	2013.08.23	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2012.06.07	2013.06.06	1 year
5	Passive Voltage Probe	R&S	ESH2-Z3	100196	2012.06.07	2013.06.06	1 year
6	Absorbing clamp	R&S	MOS-21	100423	2012.06.08	2013.06.07	1 year

3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

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

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)		Standard
	Quasi-peak	Average	Quasi-peak	Average	
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	CISPR
0.50 -5.0	73.00	60.00	56.00	46.00	CISPR
5.0 -30.0	73.00	60.00	60.00	50.00	CISPR

0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	73.00	60.00	56.00	46.00	FCC
5.0 -30.0	73.00	60.00	60.00	50.00	FCC

Note:

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

The following table is the setting of the receiver

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

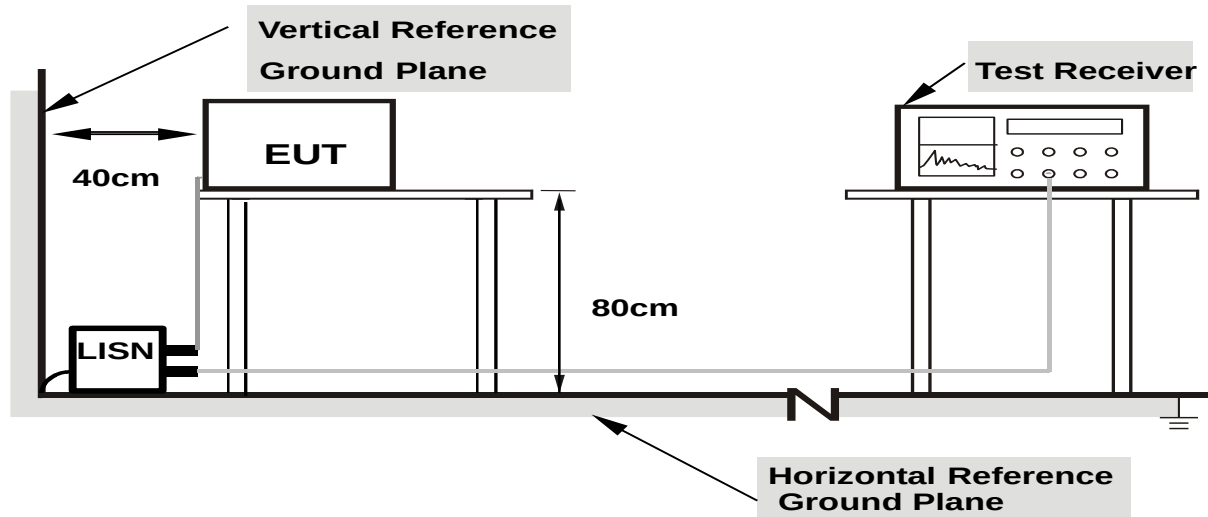
3.1.2 TEST PROCEDURE

- The EUT was placed 0.4 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 at least 80 cm from nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 DEVIATION FROM TEST STANDARD

No deviation

3.1.4 TEST SETUP



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

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

3.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

3.1.6 TEST RESULTS

EUT :	C Series Free Living Monitor	Model Name. :	C400
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	L
Test Voltage :	N/A	Test Mode :	N/A

3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Class A (dBuV/m) (at 3M)		Class B (dBuV/m) (at 3M)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80	60	74	54

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

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

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

3.2.2 TEST PROCEDURE

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

Note:

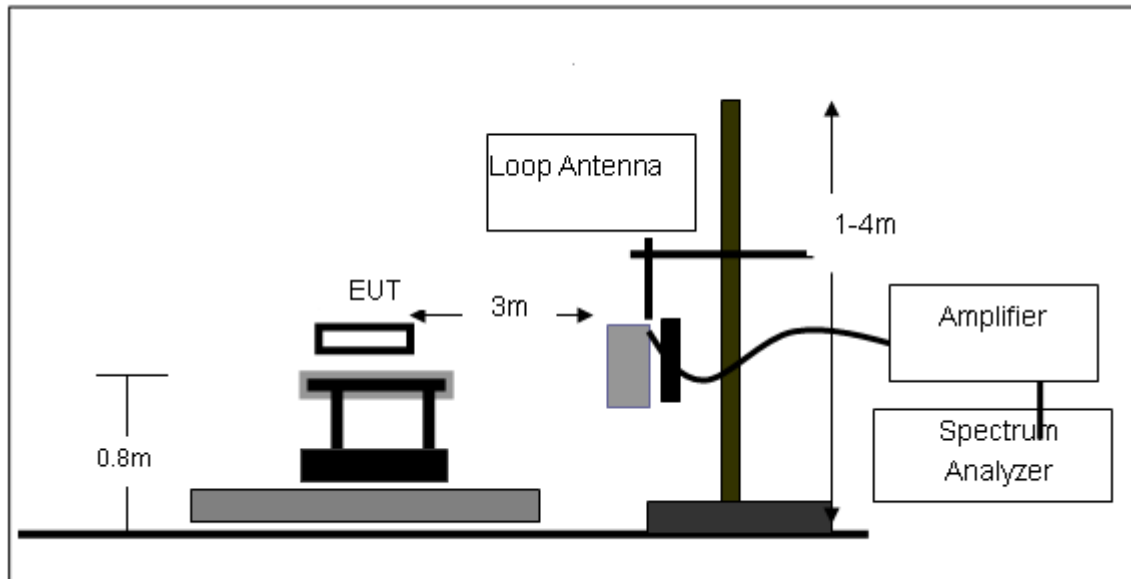
Both horizontal and vertical antenna polarities were tested
and performed pretest to three orthogonal axis. The worst case emissions were reported

3.2.3 DEVIATION FROM TEST STANDARD

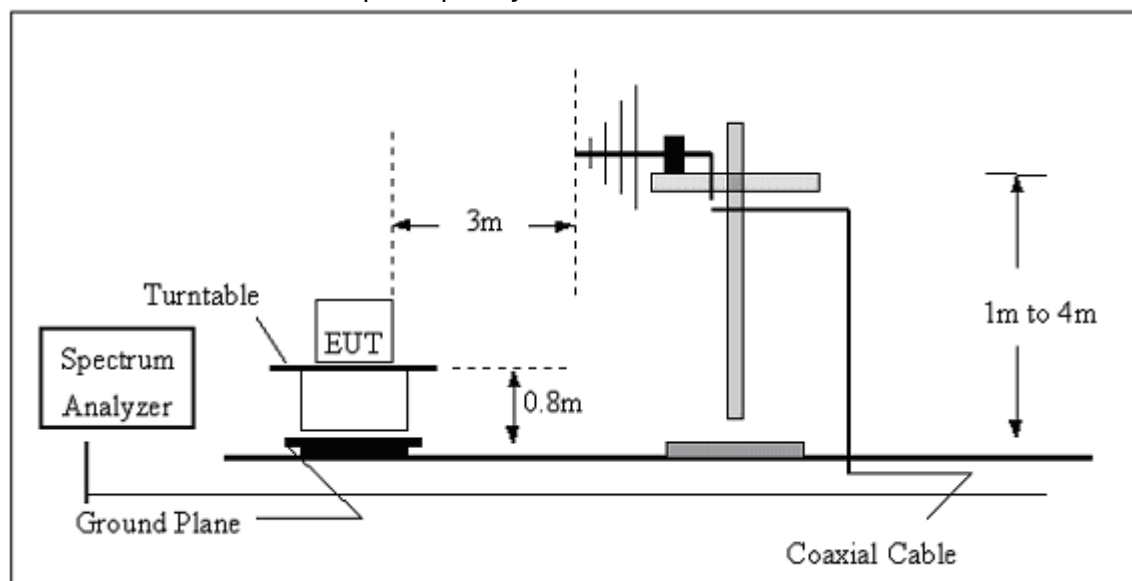
No deviation

3.2.4 TEST SETUP

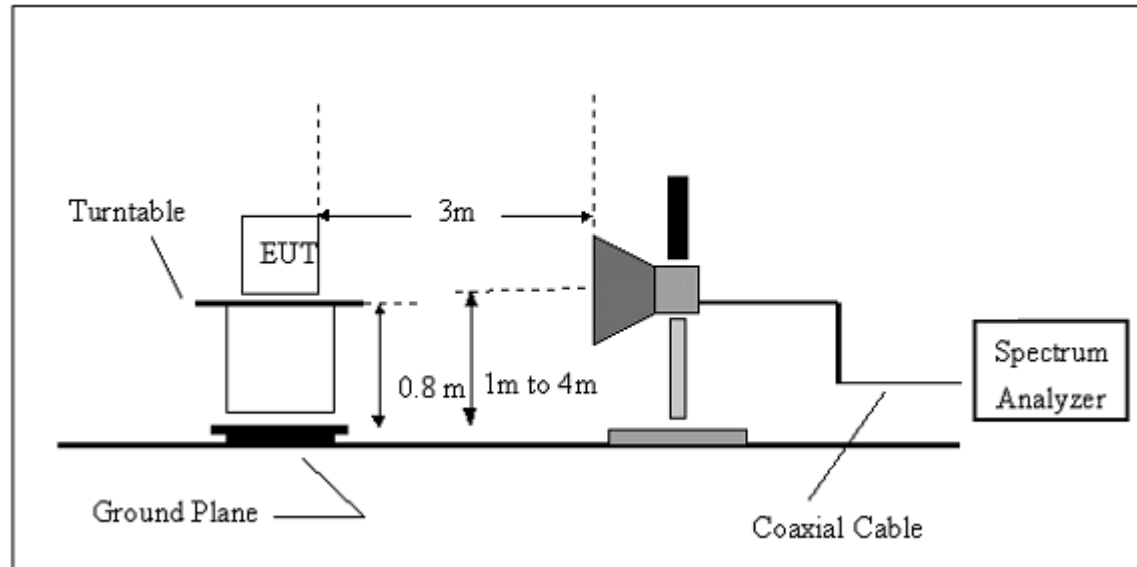
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



(C) Radiated Emission Test-Up Frequency Above 1GHz

**3.2.5 EUT OPERATING CONDITIONS**

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

3.2.6 TEST RESULTS (BETWEEN 9KHZ – 30 MHZ)

EUT:	C Series Free Living Monitor	Model Name. :	C400
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 3.0V
Test Mode :	TX	Polarization :	--

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

NOTE:

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

Distance extrapolation factor = $40 \log (\text{specific distance/test distance})(\text{dB})$;

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

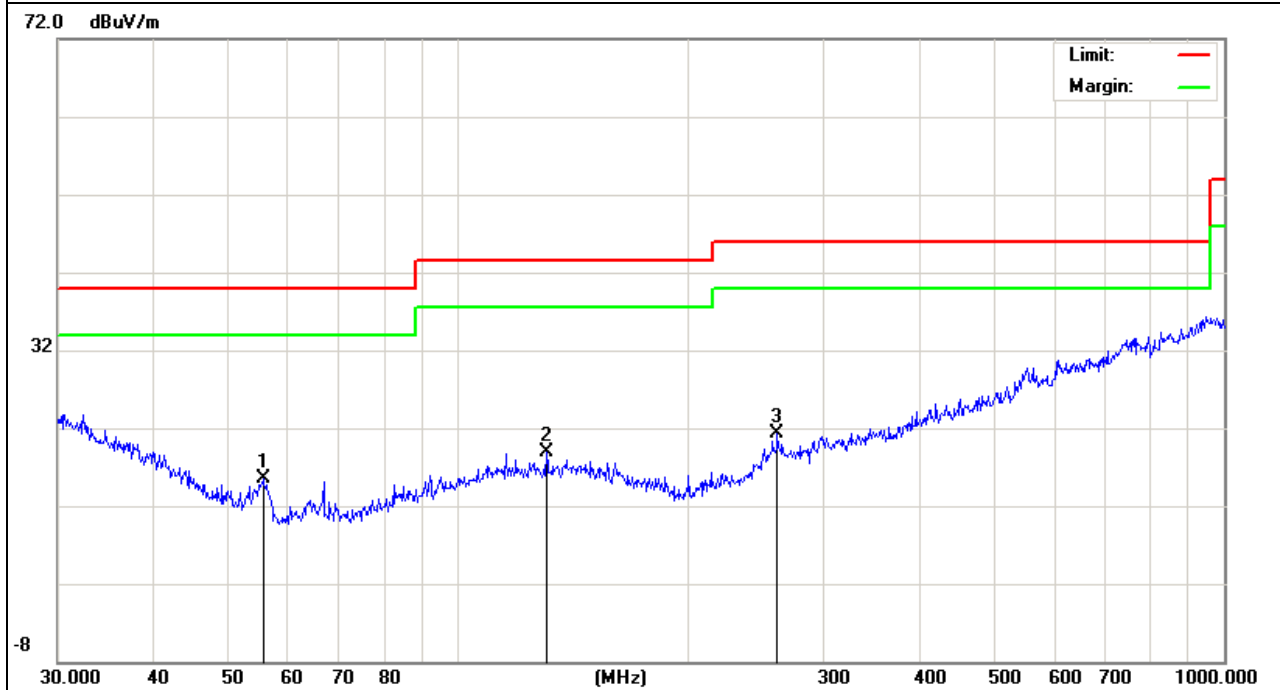
3.2.7 TEST RESULTS (BETWEEN 30MHZ – 1GHZ)

EUT :	C Series Free Living Monitor	Model Name :	C400
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.0V
Test Mode :	Mode 2	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
55.6094	9.32	6.1	15.42	40	-24.58	QP
130.3788	6.74	12.2	18.94	43.5	-24.56	QP
261.0582	6.45	14.85	21.3	46	-24.7	QP

Remark:

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

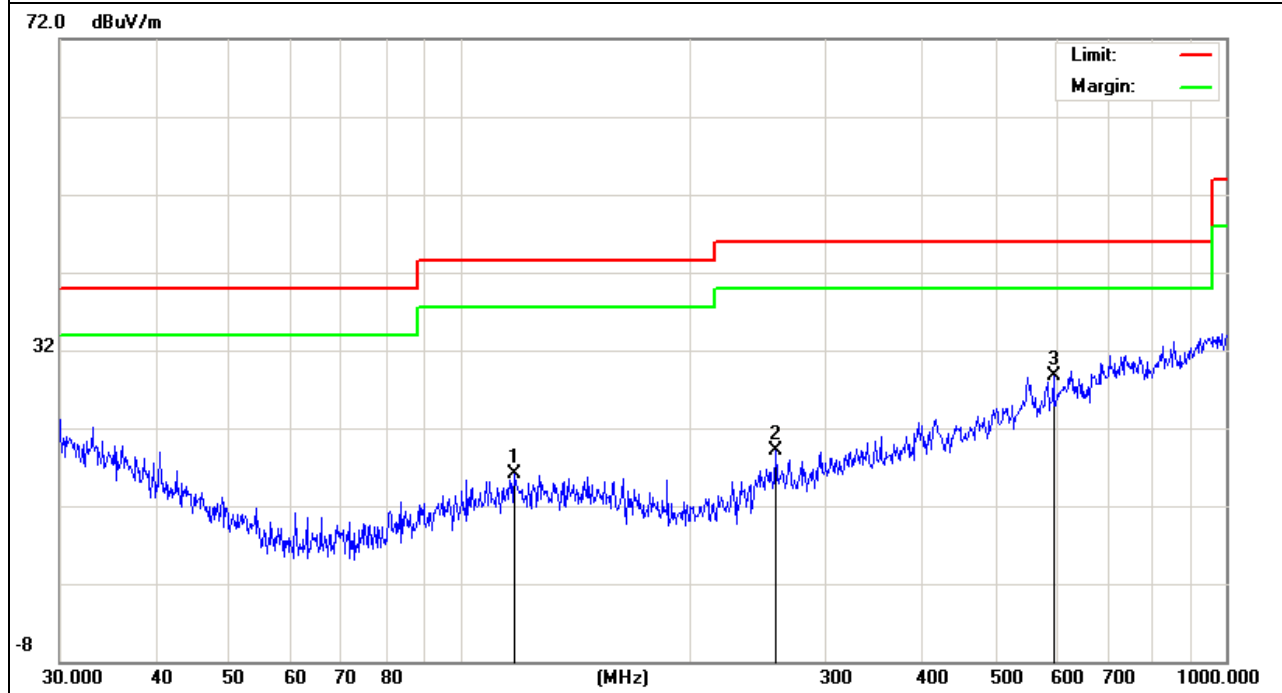


EUT :	C Series Free Living Monitor	Model Name :	C400
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.0V
Test Mode :	Mode 2	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
117.7724	4.01	12.04	16.05	43.5	-27.45	QP
258.3263	4.48	14.71	19.19	46	-26.81	QP
595.1327	6.07	22.6	28.67	46	-17.33	QP

Remark:

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



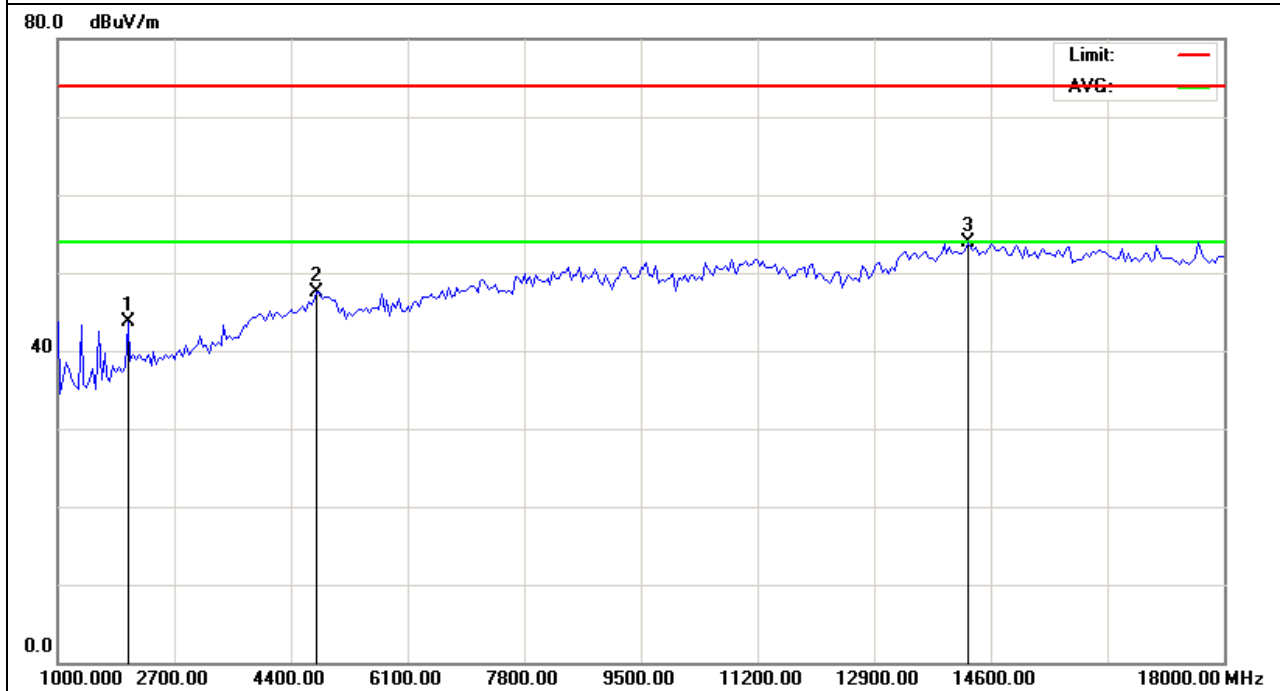
3.2.8 TEST RESULTS (ABOVE 1000 MHZ)

EUT :	C Series Free Living Monitor	Model Name :	C400
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.0V
Test Mode :	CH00	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2020	56.6	-12.92	43.68	74	-30.32	peak
4782.5	51.5	-3.91	47.59	74	-26.41	peak
14260.00 0	47.36	6.5	53.86	74	-20.14	peak

Remark:

- Factor = Antenna Factor + Cable Loss – Pre-amplifier.
- No emission detected above 18GHz

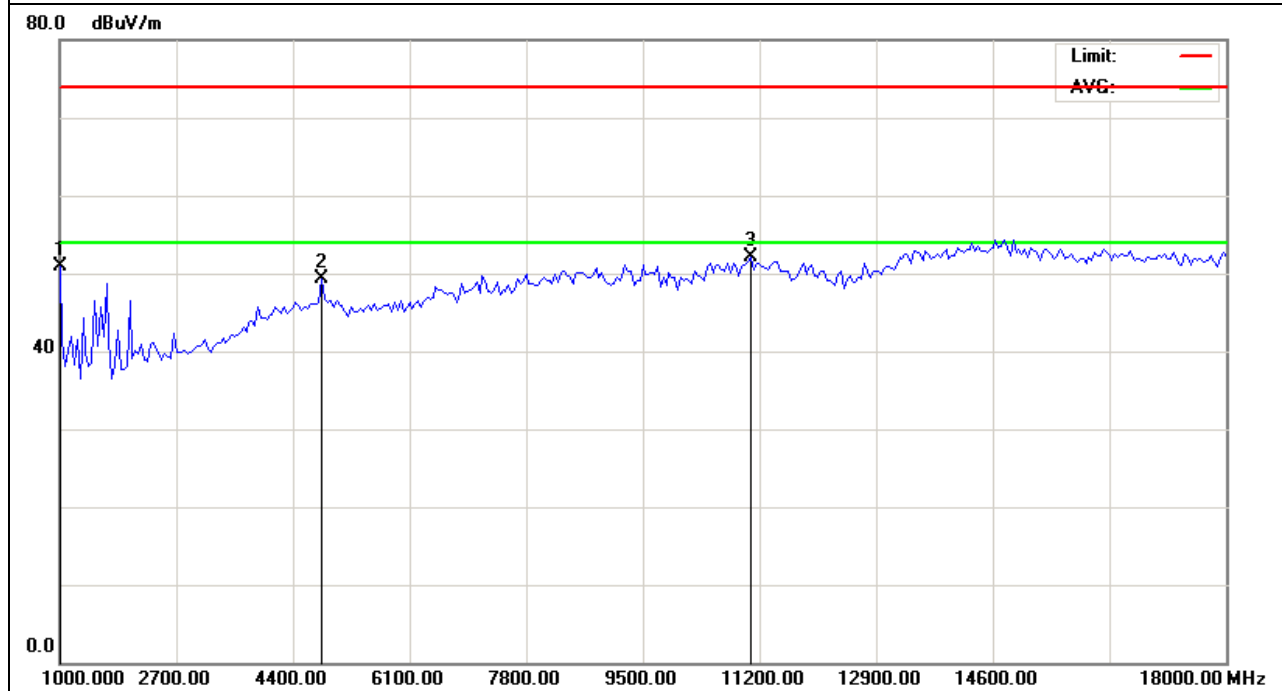


EUT :	C Series Free Living Monitor	Model Name :	C400
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.0V
Test Mode :	CH00	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
1000.000 0	70.93	-20.02	50.91	74	-23.09	peak
4825	52.96	-3.59	49.37	74	-24.63	peak
11072.50 0	48.46	3.56	52.02	74	-21.98	peak

Remark:

- Factor = Antenna Factor + Cable Loss – Pre-amplifier.
- No emission detected above 18GHz

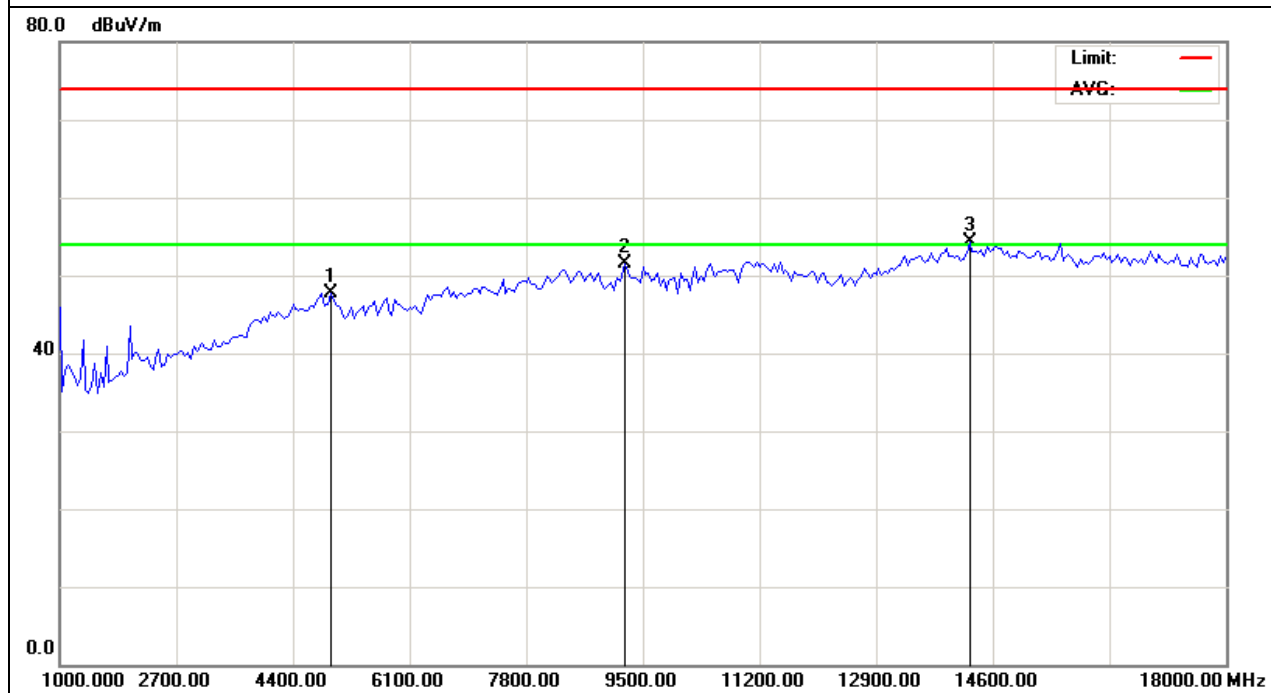


EUT :	C Series Free Living Monitor	Model Name :	C400
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.0V
Test Mode :	CH19	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4952.5	51.19	-3.55	47.64	74	-26.36	peak
9245	49.24	2.29	51.53	74	-22.47	peak
14260.00 0	47.72	6.5	54.22	74	-19.78	peak

Remark:

- Factor = Antenna Factor + Cable Loss – Pre-amplifier.
- No emission detected above 18GHz

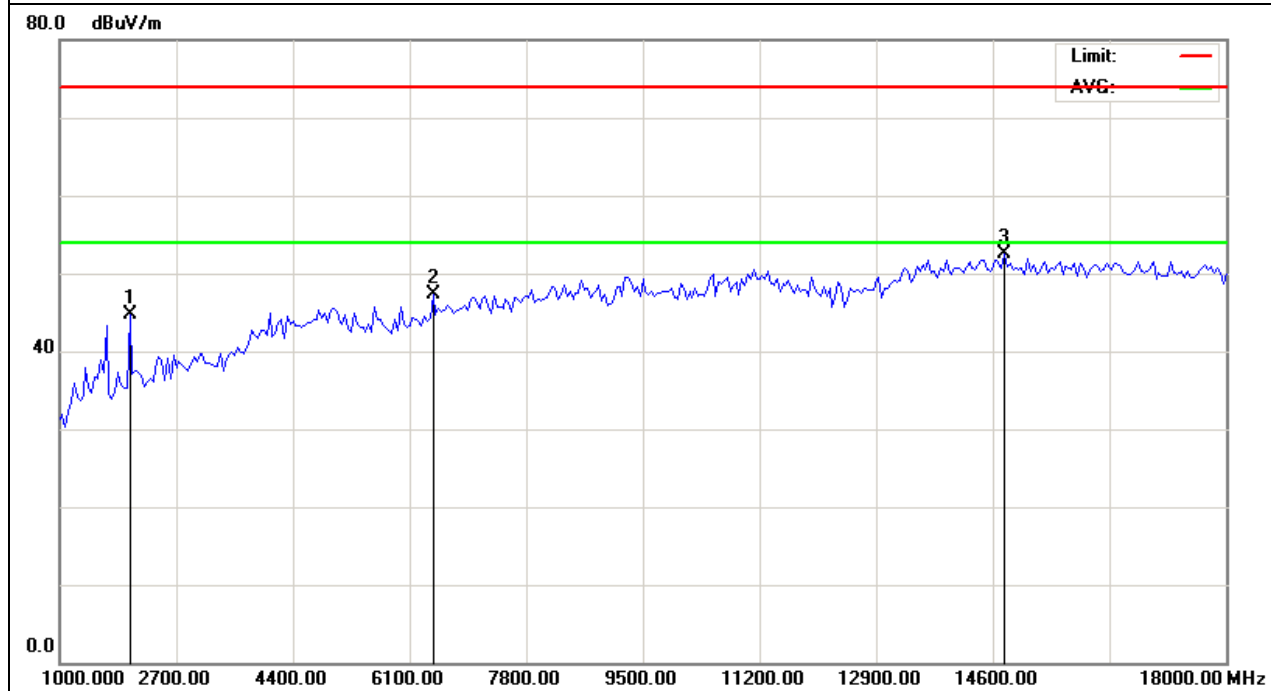


EUT :	C Series Free Living Monitor	Model Name :	C400
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.0V
Test Mode :	CH19	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2020	57.63	-12.92	44.71	74	-29.29	peak
6440	49.2	-1.98	47.22	74	-26.78	peak
14770.00 0	46.32	6.12	52.44	74	-21.56	peak

Remark:

- Factor = Antenna Factor + Cable Loss – Pre-amplifier.
- No emission detected above 18GHz

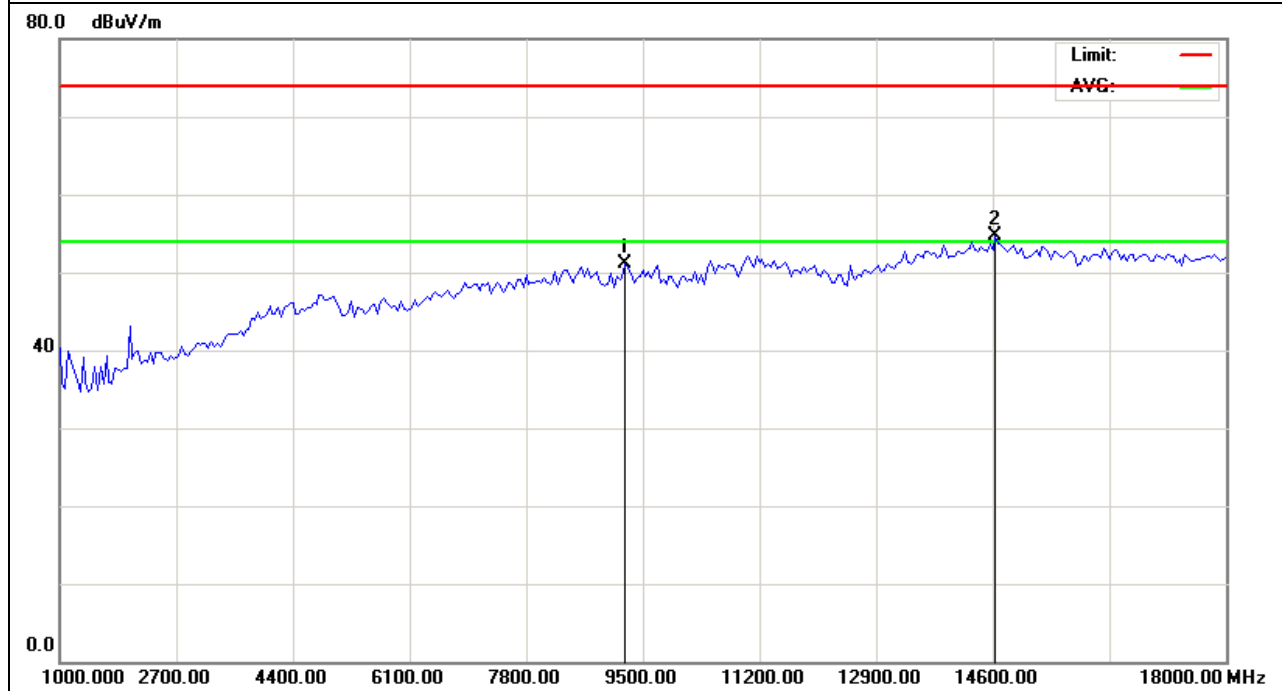


EUT :	C Series Free Living Monitor	Model Name :	C400
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.0V
Test Mode :	CH39	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
9245	48.73	2.29	51.02	74	-22.98	peak
14642.50 0	47.39	7.28	54.67	74	-19.33	peak

Remark:

- Factor = Antenna Factor + Cable Loss – Pre-amplifier.
- No emission detected above 18GHz

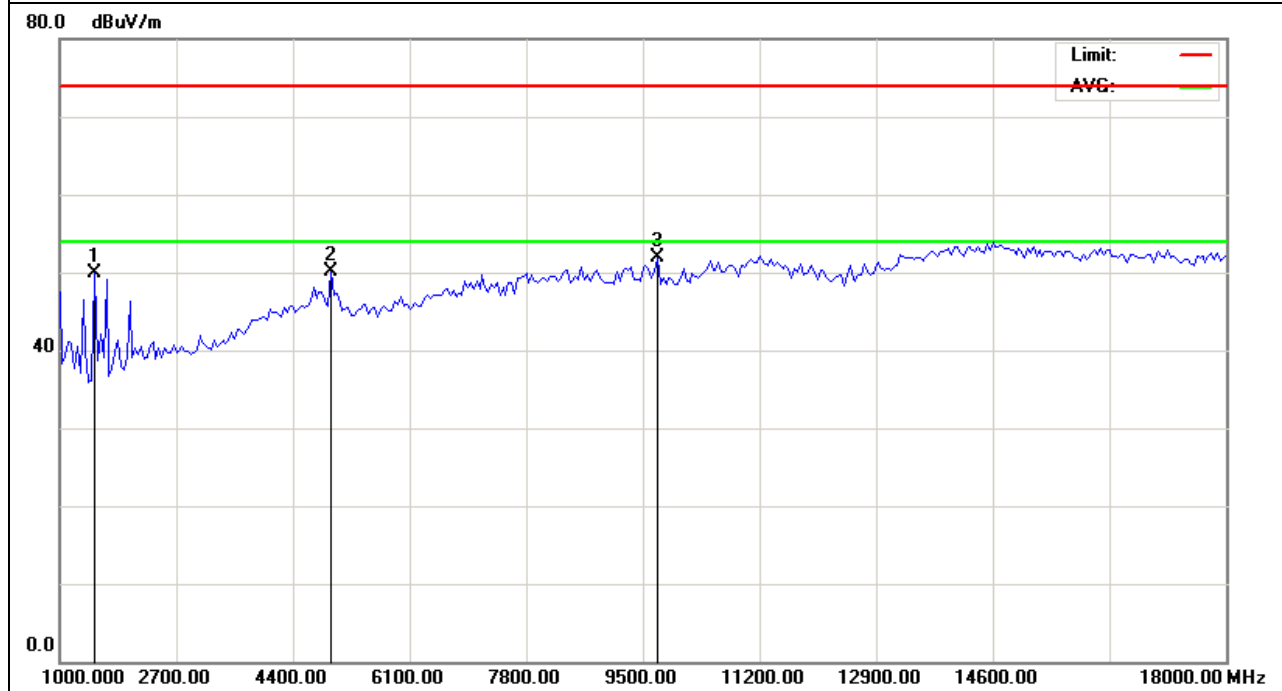


EUT :	C Series Free Living Monitor	Model Name :	C400
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.0V
Test Mode :	CH39	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
1510	66.93	-17.1	49.83	74	-24.17	peak
4952.5	53.6	-3.55	50.05	74	-23.95	peak
9712.5	50.62	1.37	51.99	74	-22.01	peak

Remark:

- Factor = Antenna Factor + Cable Loss – Pre-amplifier.
- No emission detected above 18GHz

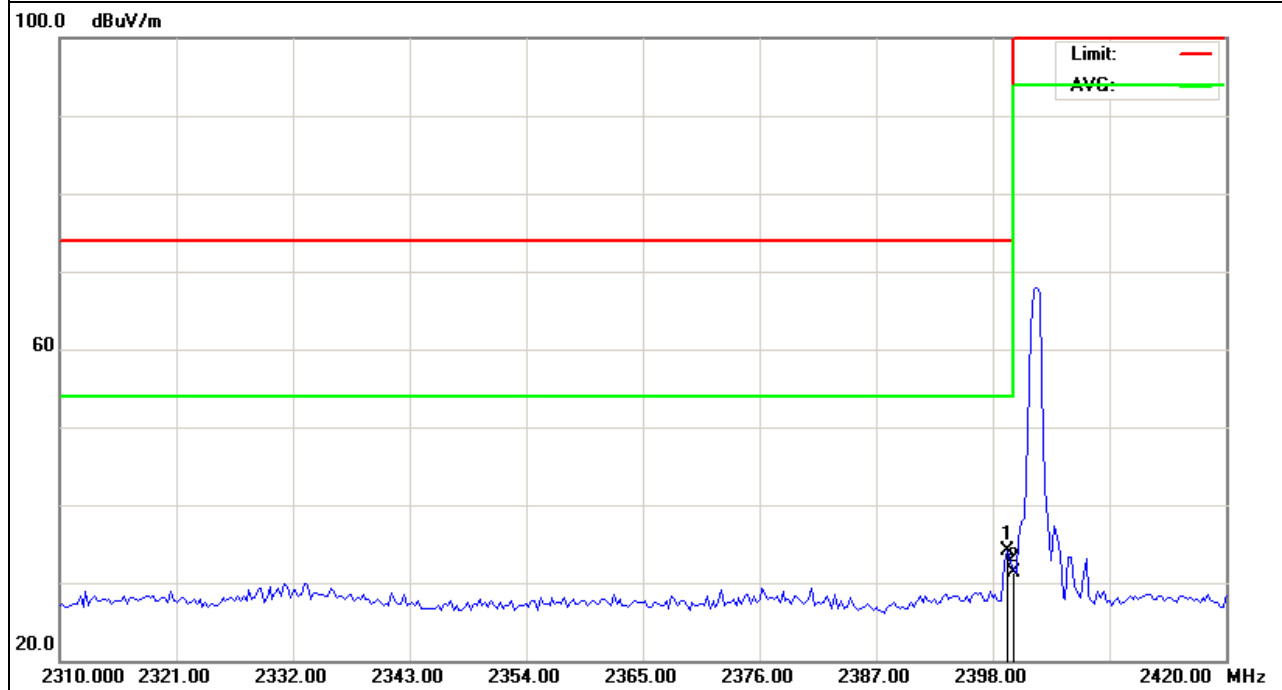


EUT :	C Series Free Living Monitor	Model Name :	C400
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.0V
Test Mode :	CH00	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2399.375	47.16	-12.99	34.17	74	-39.83	peak
2400	44.24	-12.99	31.25	74	-42.75	peak

Remark:

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

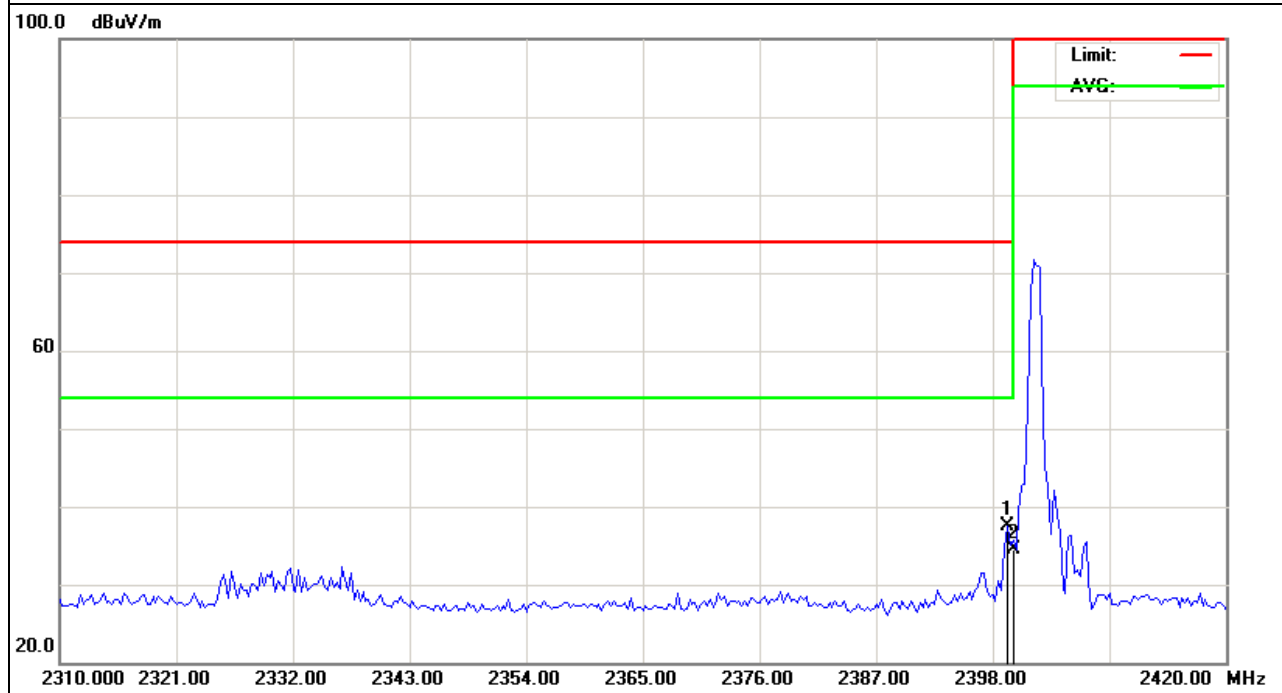


EUT :	C Series Free Living Monitor	Model Name :	C400
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.0V
Test Mode :	CH00	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2399.375	50.48	-12.99	37.49	74	-36.51	peak
2400	47.52	-12.99	34.53	74	-39.47	peak

Remark:

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

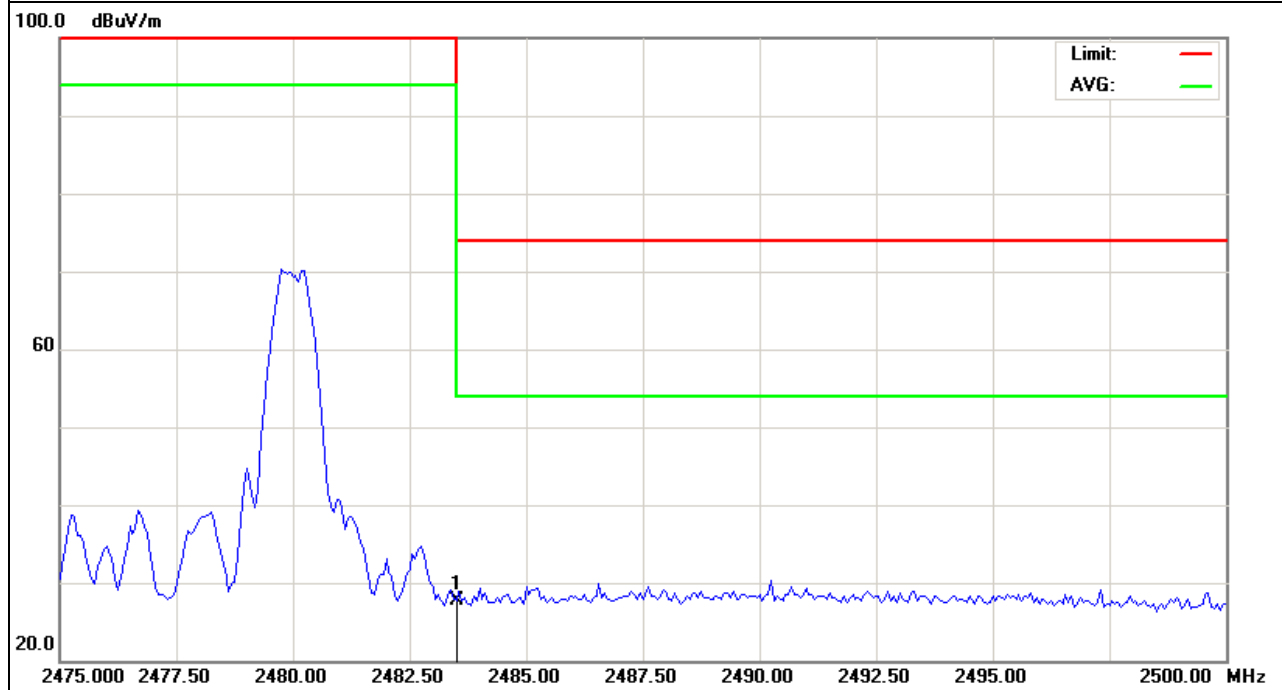


EUT :	C Series Free Living Monitor	Model Name :	C400
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.0V
Test Mode :	CH39	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2483.5	40.55	-12.78	27.77	74	-46.23	peak

Remark:

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

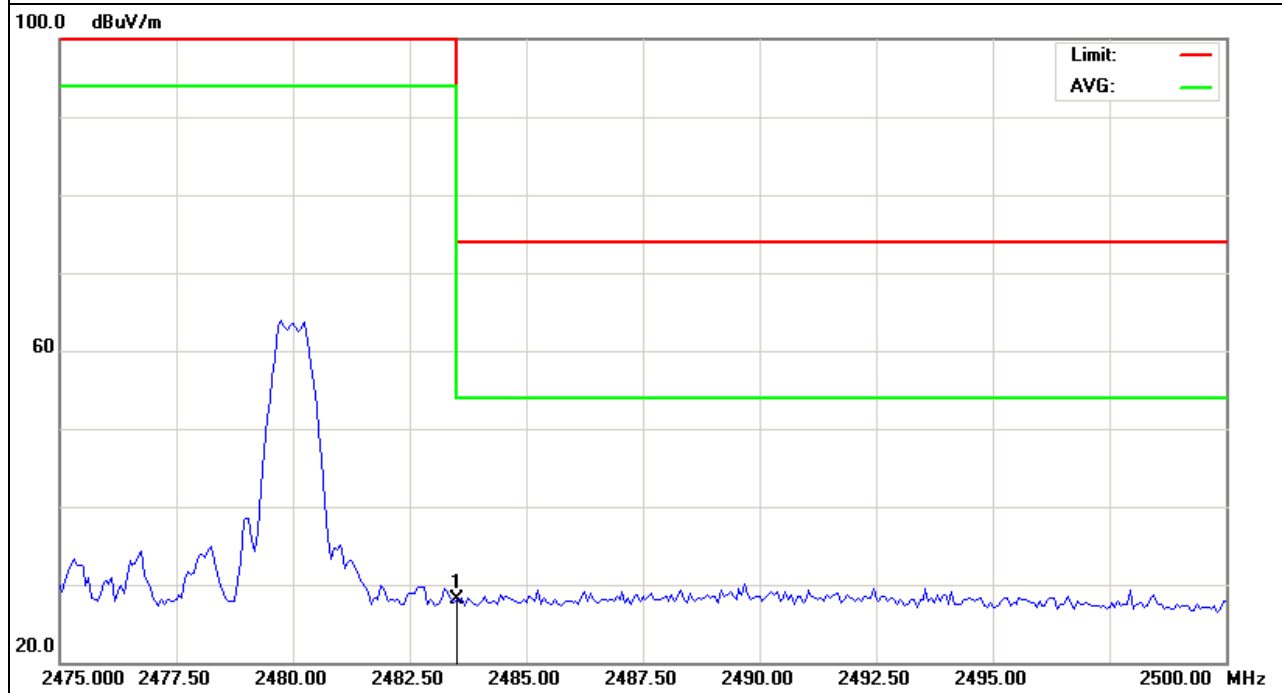


EUT :	C Series Free Living Monitor	Model Name :	C400
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.0V
Test Mode :	CH39	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	40.81	-12.78	28.03	74	-45.97	peak

Remark:

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



4. POWER SPECTRAL DENSITY TEST

4.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247	Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS

4.1.1 TEST PROCEDURE

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.
3. Set the RBW $\geq$ 3 kHz.
4. Set the VBW $\geq$ 3 x RBW.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

4.1.2 DEVIATION FROM STANDARD

No deviation.

4.1.3 TEST SETUP



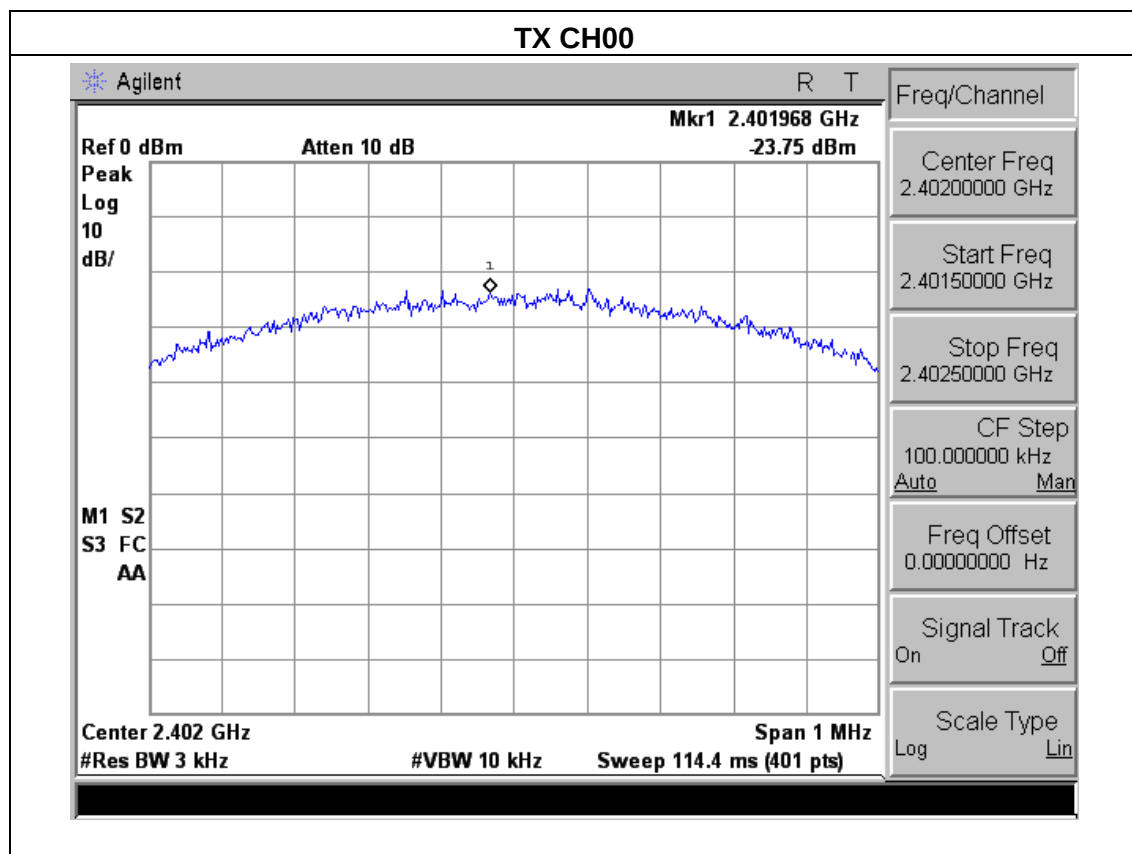
4.1.4 EUT OPERATION CONDITIONS

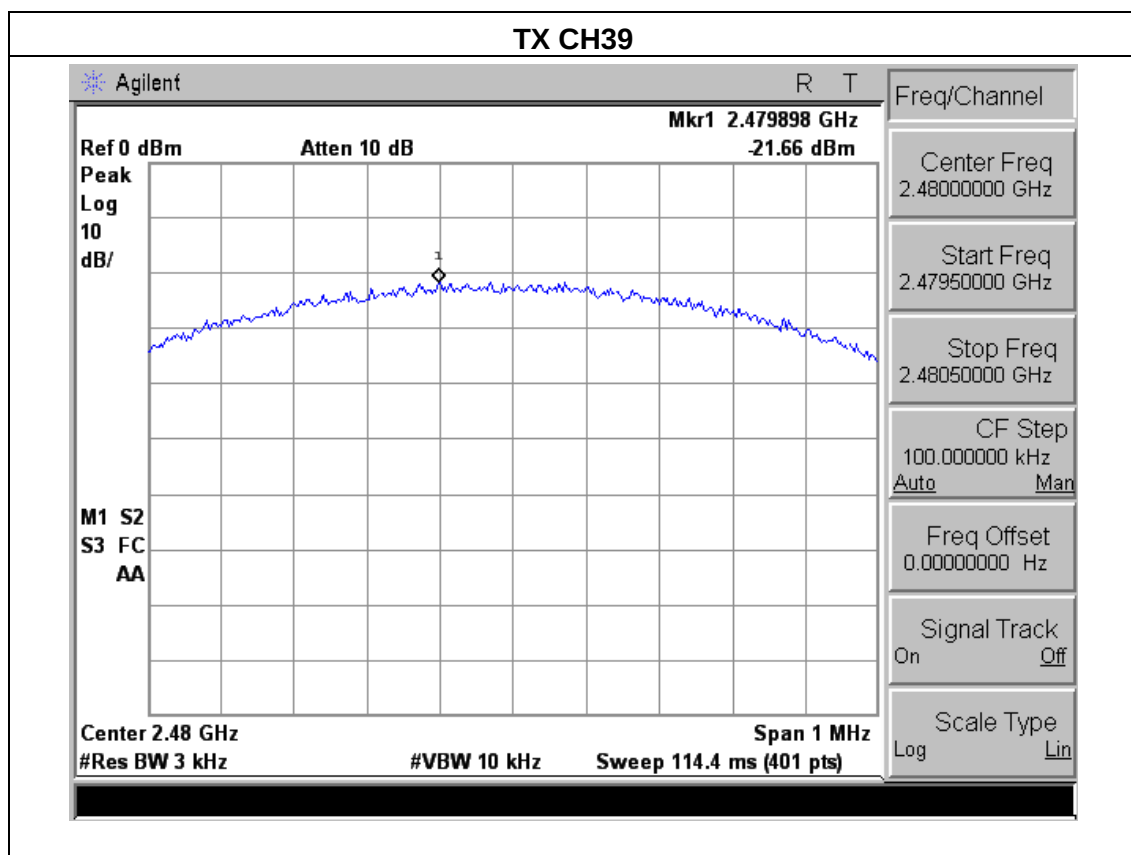
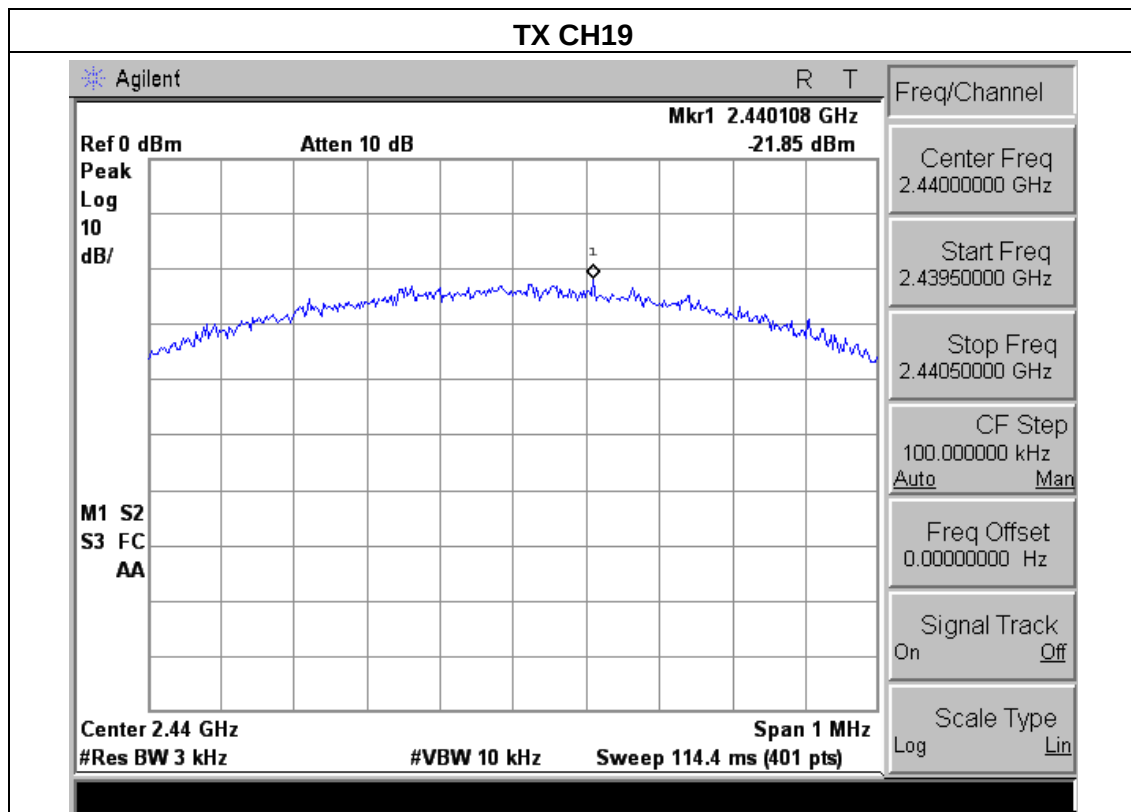
The EUT tested system was configured as the statements of 2.1 Unless otherwise a special operating condition is specified in the follows during the testing.

4.1.5 TEST RESULTS

EUT :	C Series Free Living Monitor	Model Name :	C400
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1015 hPa	Test Voltage :	DC 3.0V
Test Mode :	TX Mode /CH00, CH19, CH39		

Frequency	Power Density (dBm)	Limit (dBm)	Result
2402 MHz	-23.75	8	PASS
2440 MHz	-21.85	8	PASS
2480 MHz	-21.66	8	PASS





5. BANDWIDTH TEST

5.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	$\geq 500\text{KHz}$ (6dB bandwidth)	2400-2483.5	PASS

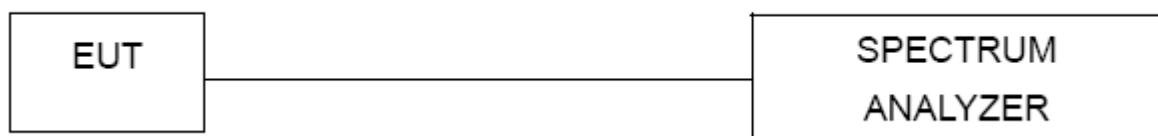
5.1.1 TEST PROCEDURE

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP



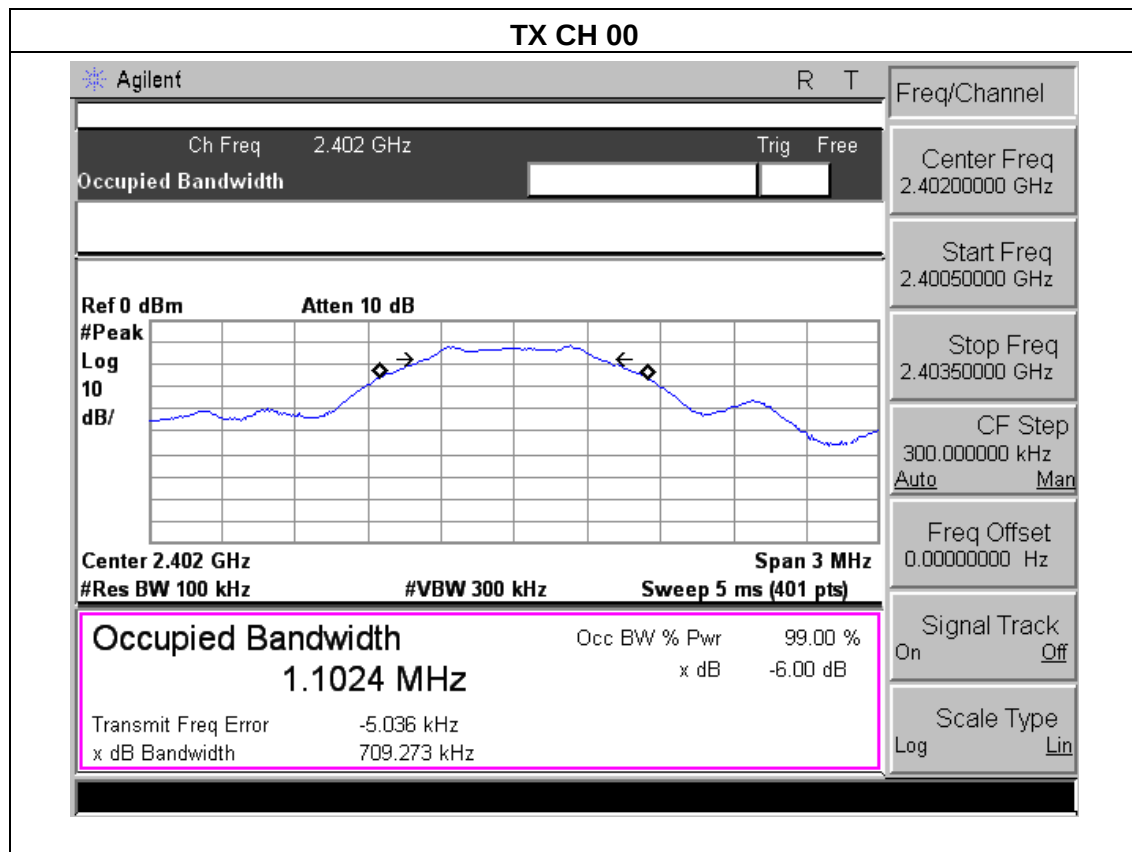
5.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

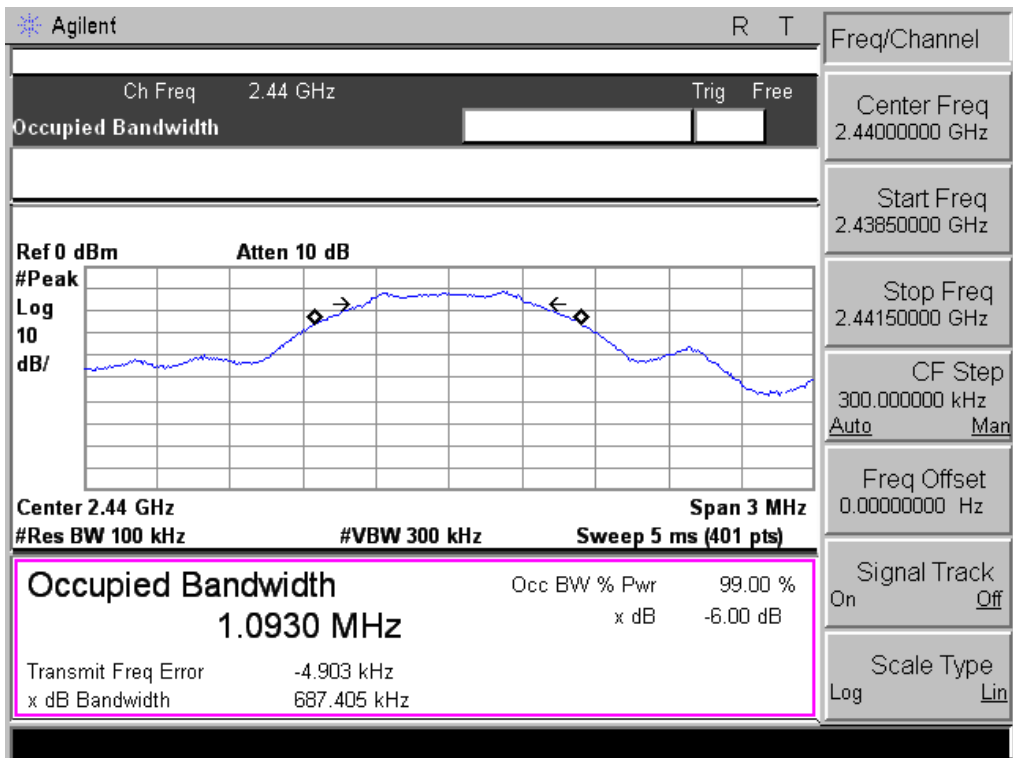
5.1.5 TEST RESULTS

EUT :	C Series Free Living Monitor	Model Name :	C400
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 3.0V
Test Mode :	TX Mode/CH00, CH19, CH39		

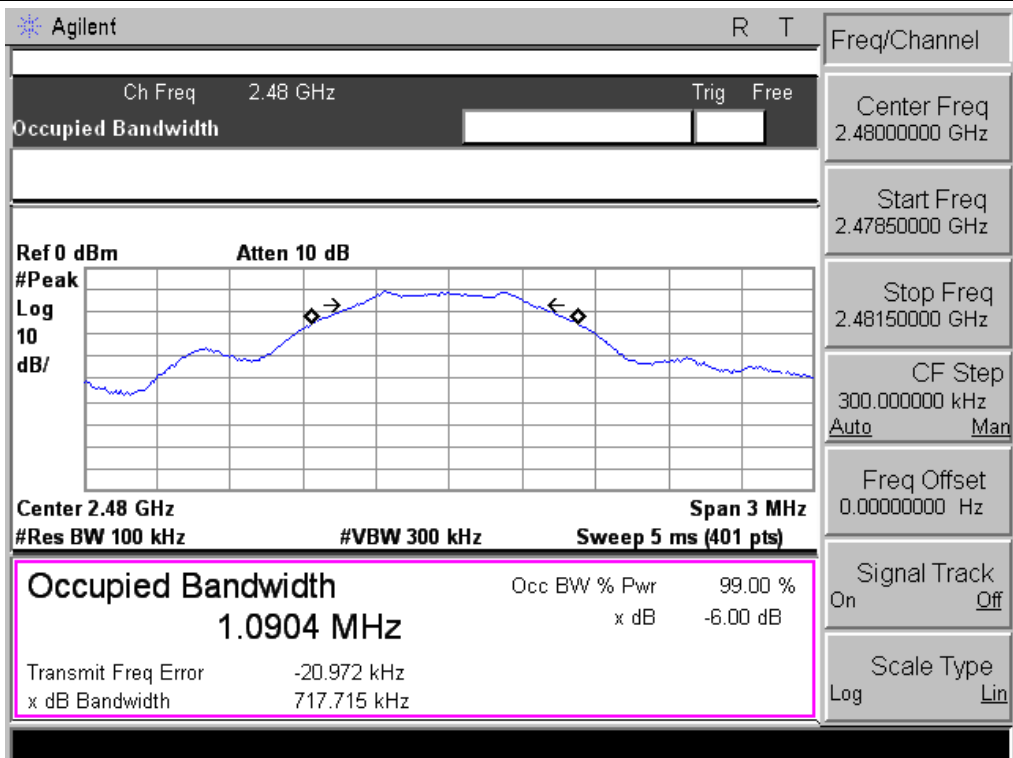
Frequency	6dB Bandwidth (kHz)	99% Bandwidth (MHz)	Channel Separation (MHz)	Result
2402 MHz	709.27	1.1024	>=500KHz	PASS
2440 MHz	687.41	1.0930	>=500KHz	PASS
2480 MHz	717.72	1.0904	>=500KHz	PASS



TX CH 19



TX CH 39



6. PEAK OUTPUT POWER TEST

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS

6.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the Power meter

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



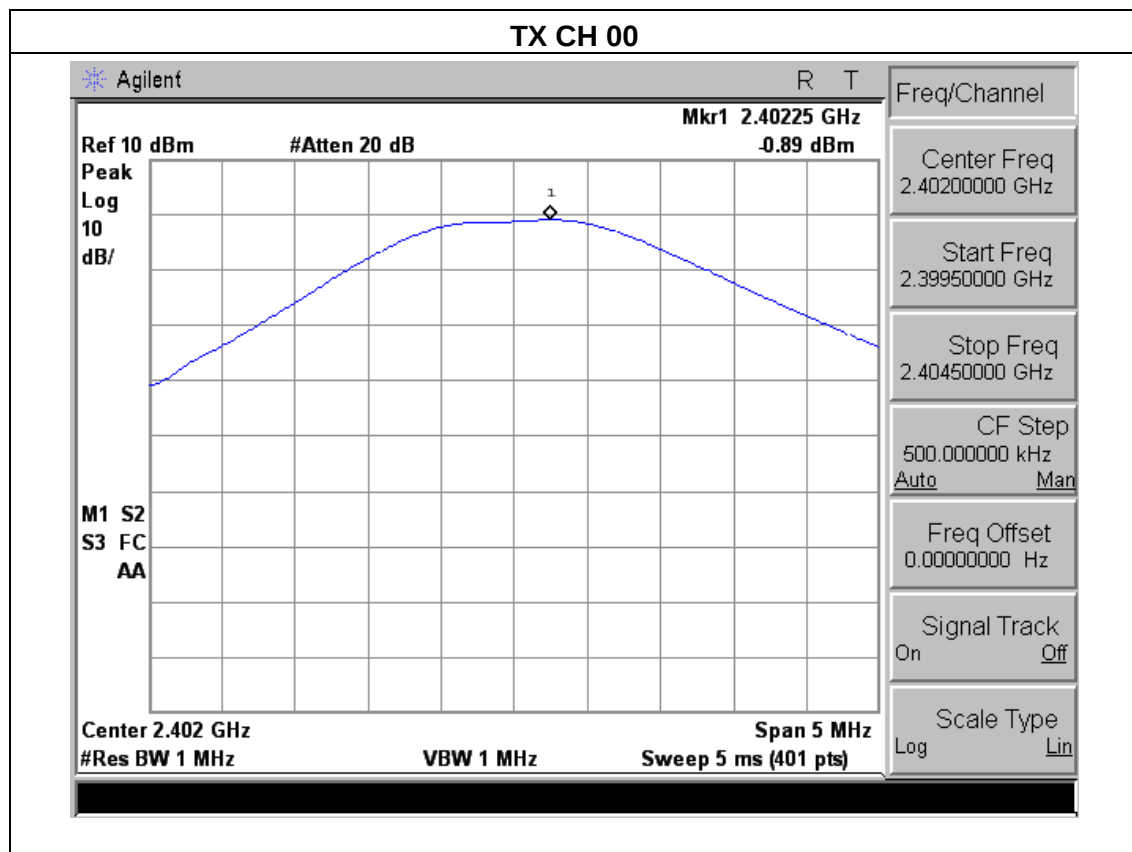
6.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

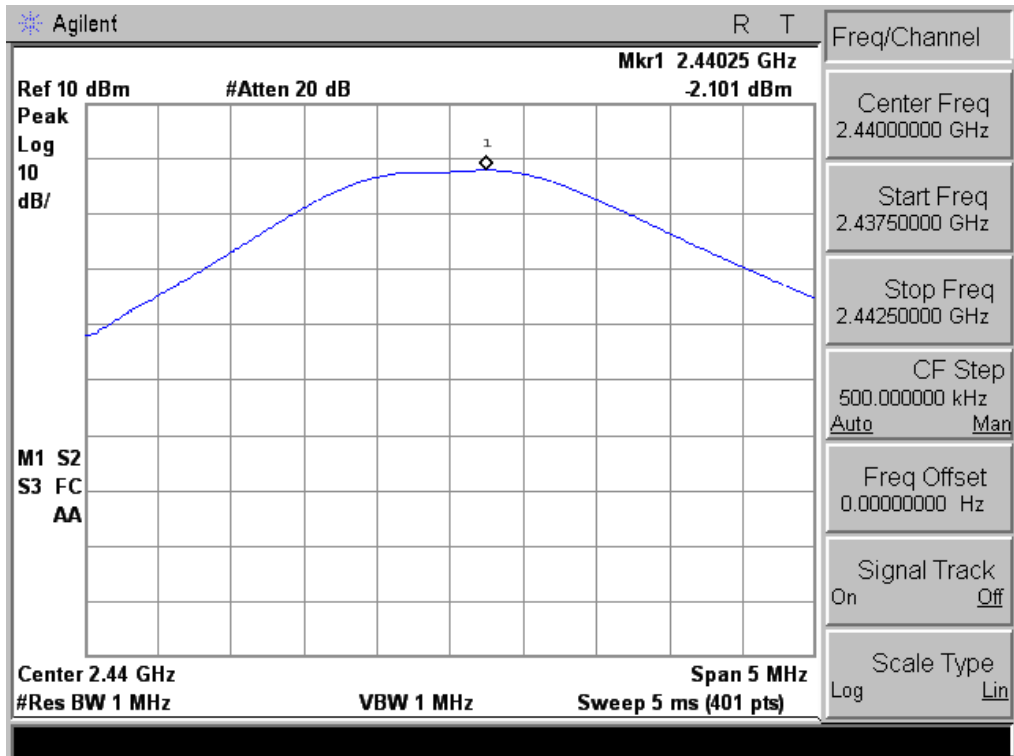
6.1.5 TEST RESULTS

EUT :	C Series Free Living Monitor	Model Name :	C400
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 3.0V
Test Mode :	TX Mode /CH00, CH19, CH39		

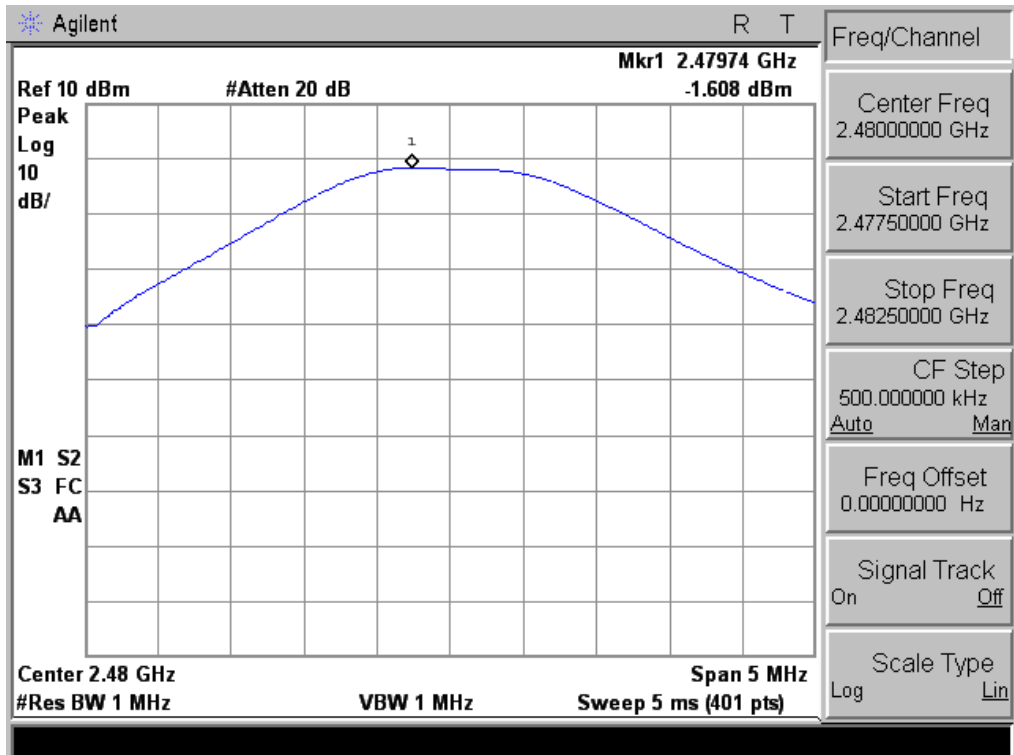
TX Mode				
Test Channe	Frequency	Maximum Peak Conducted Output Power	Maximum Conducted Output Power(AV)	LIMIT
	(MHz)	(dBm)	(dBm)	dBm
CH00	2402	-0.89	-2.38	30
CH19	2440	-2.10	-4.65	30
CH39	2480	-1.61	-3.57	30



TX CH 19



TX 39



7. ANTENNA REQUIREMENT

7.1 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.

7.2 EUT ANTENNA

The EUT antenna is PCB antenna. It comply with the standard requirement.

8. EUT TEST PHOTO

Radiated Measurement Photos

