

NCC RADIO TEST REPORT

Product name	CIRC ASL47 Transmitter CIRC ASL47 遙控器
Applicant	中光電智能機器人股份有限公司
Manufacture	思翼科技（深圳）有限公司 SIYI Technology (Shenzhen) Co., Ltd.
Rating(s)	DC5V from adapter or DC3.7V from battery
Trademark	CIRC
Model and/or type reference	CIRC ASL47
Standard	LP0002:2020
Test Result	Pass

Date of receipt : 04-20-2021

Date of Issue : 06-18-2021

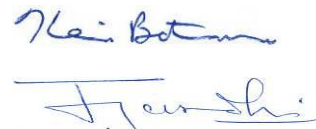
Signature :



NCC RADIO TEST REPORT**Report Reference No.** M210618N3-01

Compiled by (+ signature)..... Kevin Bothmann

Approved by (+ signature)..... Jay Gandhi



Date of issue 2021-06-18

Applicant's name..... 中光電智能機器人股份有限公司

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Manufacture's Name..... 思翼科技（深圳）有限公司

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Address..... 深圳市寶安區福永街道福圍社區 107 國道旁懷德銀山大廈 608、609、610

Room 608-610, Huaide-yinshan Mansion (beside national road 107),
Fuwei Community, Fuyong Community, Baoan District, Shenzhen,
China**Test specification:**

Standard..... LP0002: 2020

Test procedure..... EIA 603、ANSI、FCC/47 CFR/2.1046、2.1047、2.1049、2.1051、2.1053
and 2.1055

Non-standard test method... N/A

Test item description

Product name CIRC ASL47 Transmitter CIRC ASL47 遙控器

Trademark CIRC

Model and/or type reference CIRC ASL47

Rating(s) DC5V from adapter or DC3.7V from battery

Testing Laboratory information

Testing Laboratory Name Electro Magnetic Test, Inc.

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Testing.....

Date of receipt of test item..... Apr. 20, 2021

Date (s) of performance of tests Apr. 20~ May. 11, 2021

Date of Issue Jun. 18, 2021

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

GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Electro Magnetic Test, Inc., which is an independent testing and consulting firm. The test report is based on testing performed Electro Magnetic Test, Inc. personnel according to the measurement procedure described in the test specification given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced in any form unless done so in full.

This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Federal Government.

Electro Magnetic Test, Inc. is recognized by the following agencies for performing EMI/EMC testing:

COUNTRY	AGENCY	IDENTIFYING #
USA	Federal Communications Commission (FCC) (EMT's test site is recognized by the FCC)	Registration Number: 90576
USA, Canada, Taiwan, Australia/New Zealand, European Community	National Voluntary Lab Accreditation Program (NVLAP) (EMT is accredited by NVLAP. A copy of the NVLAP Scope Of Accreditation is available upon request.)	Lab Code: 200147-0
Canada	Industry Canada	File No.: IC 2804
Japan	Voluntary Control Council For Interference (VCCI)	See Below
	Open Field Test Site "A"	R-589
	Mains Conducted Emissions Test Site "A"	C-604
	Telecom Conducted Emissions Test Site "A"	T-1655
	3 Meter Semi-Anechoic Chamber Site "E"	R-3227
	3 Meter Semi-Anechoic Chamber Site "E" (1GHz – 6GHz)	G-219
	Mains Conducted Emissions Test Site "E"	C-35793
	Telecom Conducted Emissions Test Site "E"	T-1715
Korea	Ministry of Information and Communication's Radio Research Laboratory (RRL) under the Asia Pacific Economic Cooperation (APEC) Mutual Recognition Arrangement (A copy of the Scope Of Accreditation is available upon request)	US0036
Taiwan	Bureau Of Standards, Metrology and Inspection (BSMI)	Reference Number: SL2-IN-E-1024
Australia / New Zealand	Australian Communications Authority (AUSTEL)	*

***THESE AGENCIES DO NOT ISSUE AN IDENTIFYING NUMBER TO TEST LABS.**

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1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

LP0002 : 2020			
Standard Section	Test Item	Judgment	Remark
3.3	Conducted Emission	PASS	None
4.10.1.5/3.6	Radiated Spurious Emission	PASS	None
4.10.1.2	Peak Output Power	PASS	None
4.10.1.6	Occupied Bandwidth	PASS	None
4.10.1.6	Hopping Channel Separation	PASS	None
4.10.1.6	Number of Hopping Frequency	PASS	None
4.10.1.6	Dwell Time	PASS	None
4.10.1.5/3.6	Restricted Bands	PASS	None
4.10.1.3	Antenna Requirement	PASS	None

NOTE:

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

1.1 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	Conducted Emission Test	1.38dB
2	Radiated Emission Test	3.17dB
3	RF power,conducted	0.16dB
4	Spurious emissions,conducted	0.21dB
5	All emissions,radiated(<1G)	4.68dB
6	All emissions,radiated(>1G)	4.89dB

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	CIRC ASL47 Transmitter CIRC ASL47 遙控器	
Trade Name	CIRC	
Model Name	CIRC ASL47	
Serial Model Name	N/A	
Model Difference	N/A	
Product Description	The EUT is a CIRC ASL47 Transmitter CIRC ASL47 遙控器	
	Operation Frequency:	2402~2480 MHz
	Modulation Type:	GFSK
	Number Of Channel	20 CH
	Antenna Designation:	Please see Note 3.
	Antenna Gain(Peak)	5.7dBi
	Output Power:	14.778 dBm (Max.)
Channel List	Please refer to the Note 2.	
Power Rating	DC5V from adapter or DC3.7V from battery	
Connecting I/O Port(s)	Please refer to the User's Manual	
Products Covered	N/A	
EUT Modification(s)	N/A	
Model difference	N/A	

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)
01	2410	08	2438	15	2459
02	2414	09	2441	16	2462
03	2418	10	2444	17	2465
04	2422	11	2447	18	2468
05	2426	12	2450	19	2471
06	2430	13	2453	20	2474
07	2434	14	2456		

3.

Table for Filed Antenna

Ant	Manufacture Name	Model Name	Antenna Type	Connector	Gain (dBi)
BT ANT	CSR	BC417	PCB Antenna	N/A	1.0dBi
2.4G ANT 1	思翼科技(深圳)有限公司	YL-AN2400-1201BMN	External Antenna	N/A	5.7dBi
2.4G ANT 2	思翼科技(深圳)有限公司	YL-AN2400-1201BMN	External Antenna	N/A	5.7dBi
5.8G ANT 1	思翼科技(深圳)有限公司	YL-AN2400-1201BMN	External Antenna	N/A	5.7dBi
5.8G ANT 2	思翼科技(深圳)有限公司	YL-AN2400-1201BMN	External Antenna	N/A	5.7dBi

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	CH01/ CH10/ CH20
Mode 2	RX
Mode 3	CHARGE
Mode 4	Data transfer mode

For Conducted Emission	
Final Test Mode	Description
Mode 1	CH01/ CH10/ CH20
Mode 3	CHARGE

data transfer mode

For Radiated Emission	
Final Test Mode	Description
Mode 1	CH01/ CH10/ CH20
Mode 2	RX
Mode 3	CHARGE

Note:

- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) The highest internal source of the EUT is less than 108MHz in charging mode.

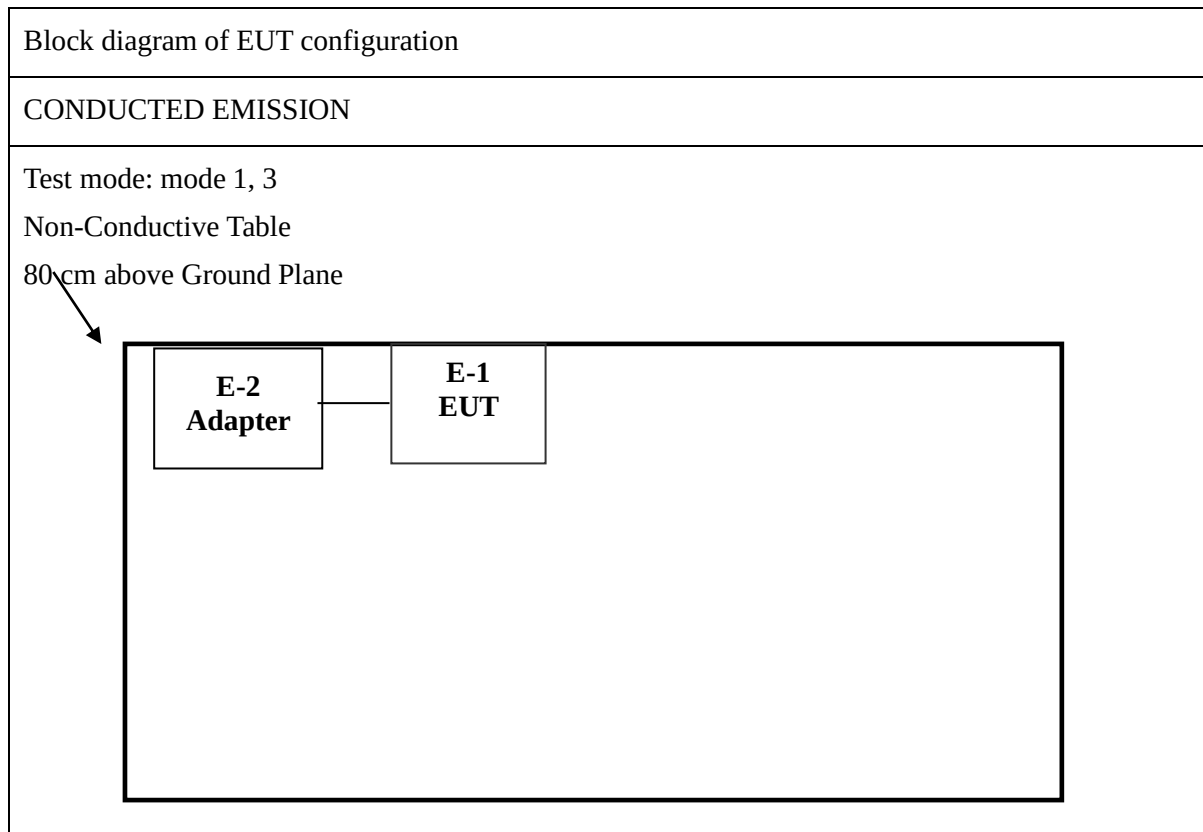
2.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. 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 FHSS

Power Set	default		
Test software Version	V1.2.0	Test program:	SIYI Assistant
Frequency	2410 MHz	2444 MHz	2474 MHz

1. Connect the EUT to the computer with USB port;
2. Open the " SIYI Assistant " test software after the connection, select the corresponding serial port connect and Input transmitting command ,And then click the "send" button.

2.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



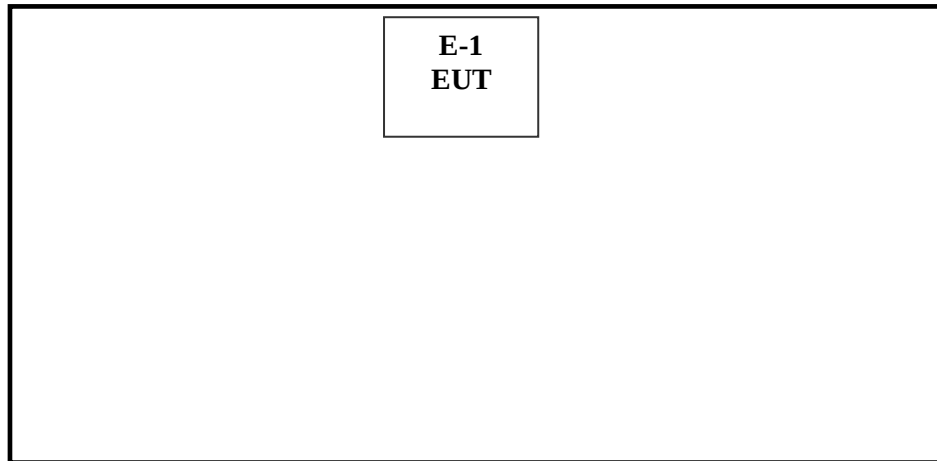
Block diagram of EUT configuration

RADIATED EMISSION

Test mode: mode 1, 2

Non-Conductive Table

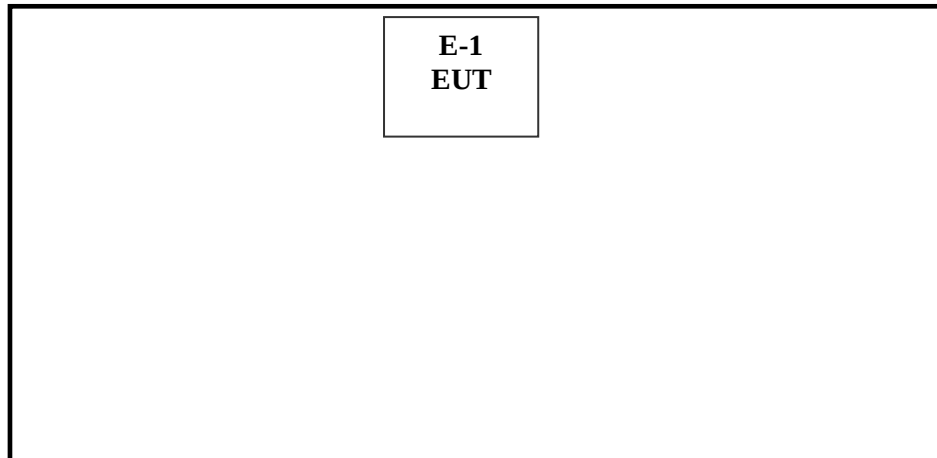
80 cm above Ground Plane



Test mode: mode 1, 2

Non-Conductive Table

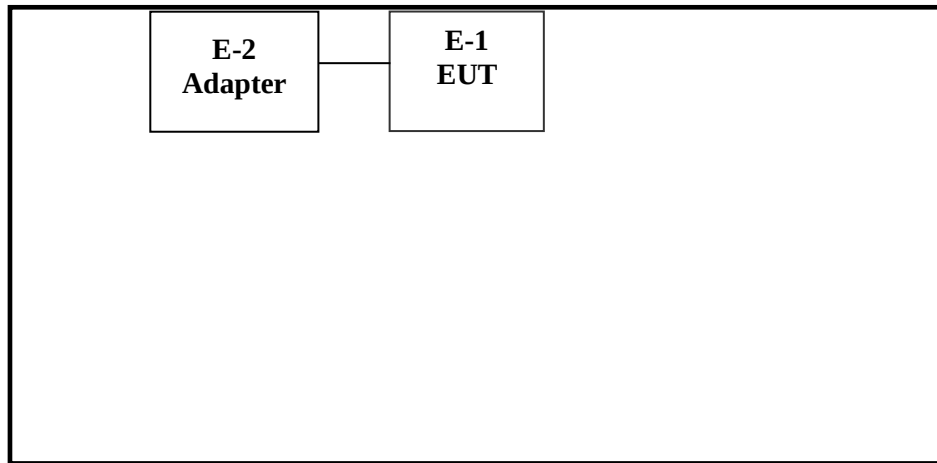
150 cm above Ground Plane



Test mode: mode 3

Non-Conductive Table

80 cm above Ground Plane



2.5 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.	FCC ID	Series No.	Note
E-1	CIRC ASL47 Transmitter CIRC ASL47 遙 控器	CIRC	CIRC ASL47	N/A	N/A	EUT
E-2	Adapter	NOKIA	FC0302	N/A	N/A	Test Accessory*

Item	Equipment	Mfr/Brand	Model/Type No.	Note
1	OTG USB Line	CIRC	CIRC ASL47	EUT Line length: 70cm
2	Rechargeable Li-ion Battery	DONGGUAN XINYANYANG ELECTRONICS CO., LTD.	P3464130*3P	EUT

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” means “shielded” or “with ferrite core”; “NO” means “unshielded” or “without ferrite core”
- (4) “*”: In this report, the applicant did not provide the accompanying accessories with the equipment. The accessories were provided by the laboratory (or the applicant) and inspected simultaneously.

2.6 EQUIPMENTS LIST FOR ALL TEST ITEMS

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. CYCLE
Spectrum Analyzer	Keysight	N9020A	MY53300466	April 29, 2021	1 Year
RF Preselector	Hewlett Packard	85685A	3010A01157	April 29, 2021	1 Year
Quasi-Peak Adapter	Hewlett Packard	85650	2521A00584	April 29, 2021	1 Year
Preamplifier	Com Power	PA-102	1482	April 29, 2021	1 Year
RF Attenuator	Mini-Circuits	CAT-10	Asset #1000	December 08, 2020	1 Year
LISN	Com Power	LI-200	12012	September 09, 2020	1 Year
LISN	Com Power	LI-200	12214	September 09, 2020	1 Year
LISN	Com Power	LI-200	1767	September 09, 2020	1 Year
LISN	Com Power	LI-200	1768	September 09, 2020	1 Year
Biconical Antenna	Com Power	AB-100	01557	December 29, 2020	1 Year
Log Periodic Antenna	Com Power	AL-100	16037	December 22, 2020	1 Year
Horn Antenna	Com Power	AHA-118	711054	December 22, 2020	1 Year
Antenna Mast	Com Power	AM-400	N/A	N/A	N/A
Turntable	Com Power	TT-100	N/A	N/A	N/A
Computer	Dell, Inc.	DHS	DNSV641	N/A	N/A

EMI Test Equipment (Continued)

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. CYCLE
EMI Receiver	Rohde & Schwarz	ESU40	100127	June 12, 2020	1 Year
BiConiLog Antenna	ETS-Lindgren	3142D	00102183	August 13, 2020	1 Year
Horn Antenna (1GHz-18GHz)	ETS-Lindgren	3117	00109294	May 6, 2021	1 Year
Horn Antenna (15GHz-40GHz)	SCHWARZBECK	BBHA 9170	BBHA9170242	May 6, 2021	1 Year
Preamplifier	Rohde & Schwarz	TS-PR18	100056	June 12, 2020	1 Year
Pre-Amplifier	Agilent	8449B	3008A00409	June 12, 2020	1 Year
Antenna Mast	ETS-Lindgren	2175	00095727	N/A	N/A
Turntable	ETS-Lindgren	2187-3.0	00118231	N/A	N/A
Computer	Acer	Aspire 8930	85100050123	N/A	N/A
Multi-Function Controller	ETS-Lindgren	2090	00102270	N/A	N/A
Loop Antenna	ARA	PLA-1030/B	1029	May 19, 2020	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			66 - 56 *	56 - 46 *	CISPR
0.50 -5.0			56.00	46.00	CISPR
5.0 -30.0			60.00	50.00	CISPR

0.15 -0.5			66 - 56 *	56 - 46 *	LP0002
0.50 -5.0			56.00	46.00	LP0002
5.0 -30.0			60.00	50.00	LP0002

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

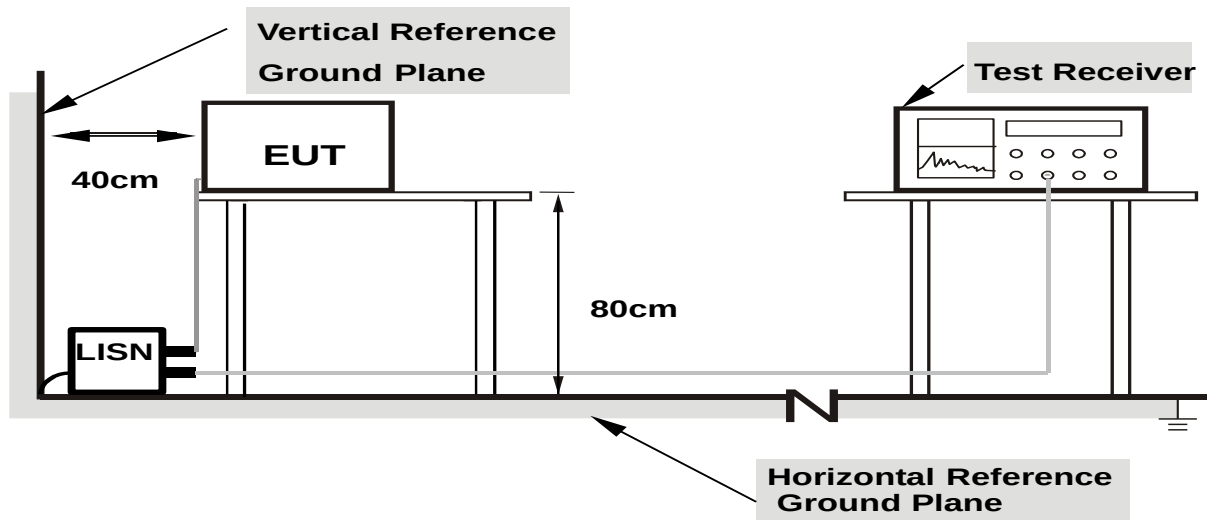
3.1.2 TEST PROCEDURE

- 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

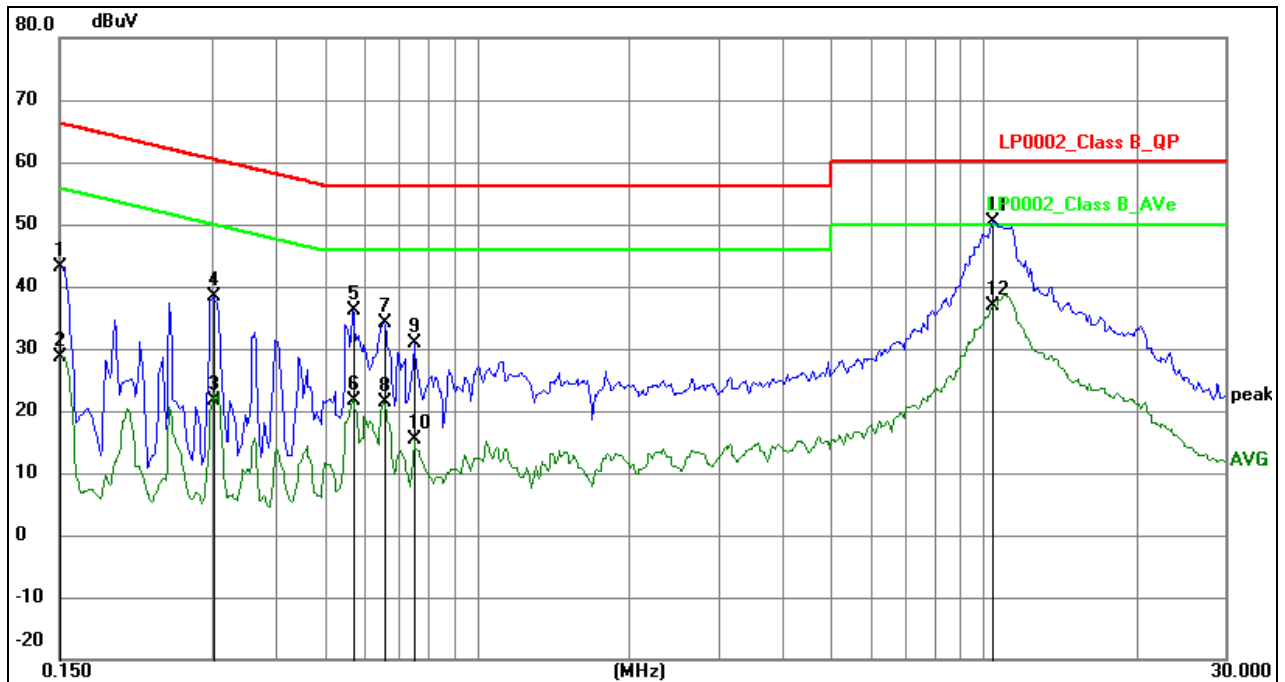


Note: 1.Support units were connected to second LISN.

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

3.1.5 TEST RESULTS

EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name. :	CIRC ASL47
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Test Date :	2021-04-27
Test Mode :	TX 2410MHz	Phase :	L
Test Voltage :	AC 110V/60Hz for Adapter		

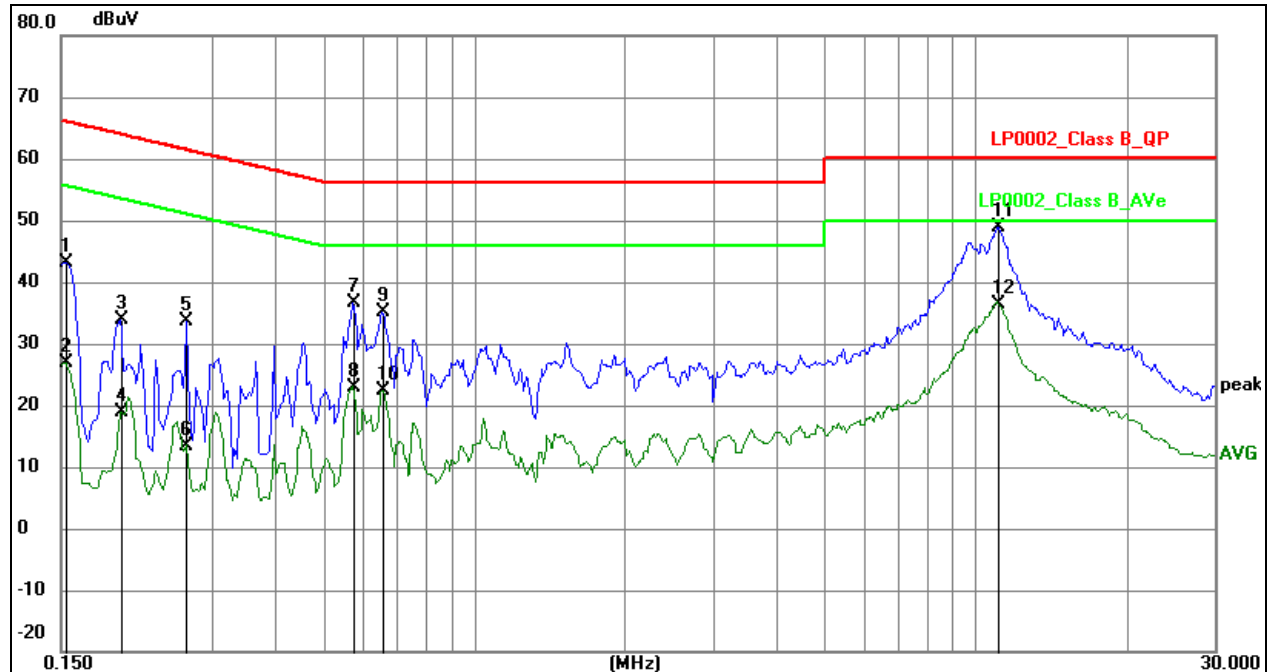


Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss + Pulse limit.
3. '*' means the worst case

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1500	33.36	9.79	43.15	66.00	-22.85	peak	P
2	0.1500	18.93	9.79	28.72	56.00	-27.28	AVG	P
3	0.3003	11.80	9.76	21.56	50.23	-28.67	AVG	P
4	0.3021	28.55	9.76	38.31	60.18	-21.87	peak	P
5	0.5673	26.36	9.77	36.13	56.00	-19.87	peak	P
6	0.5701	11.77	9.77	21.54	46.00	-24.46	AVG	P
7	0.6570	24.35	9.78	34.13	56.00	-21.87	peak	P
8	0.6570	11.60	9.78	21.38	46.00	-24.62	AVG	P
9	0.7545	21.14	9.78	30.92	56.00	-25.08	peak	P
10	0.7545	5.58	9.78	15.36	46.00	-30.64	AVG	P
11	10.4139	40.32	10.18	50.50	60.00	-9.50	peak	P
12	10.4524	26.68	10.18	36.86	50.00	-13.14	AVG	P

EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name. :	CIRC ASL47
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Test Date :	2021-04-27
Test Mode :	TX 2410MHz	Phase :	N
Test Voltage :	AC 110V/60Hz for Adapter		

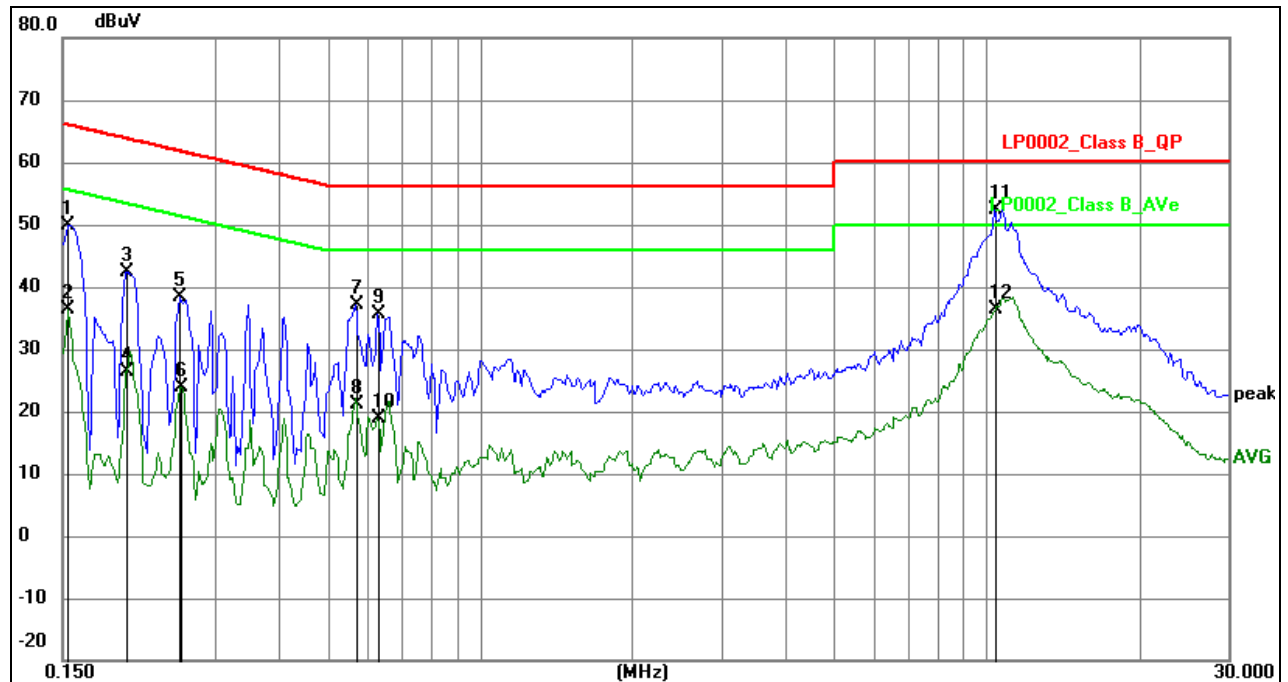


Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss + Pulse limit.
3. '*' means the worst case

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1539	33.46	9.78	43.24	65.79	-22.55	peak	P
2	0.1539	17.04	9.78	26.82	55.79	-28.97	AVG	P
3	0.1968	24.18	9.75	33.93	63.74	-29.81	peak	P
4	0.1968	9.15	9.75	18.90	53.74	-34.84	AVG	P
5	0.2670	23.79	9.75	33.54	61.21	-27.67	peak	P
6	0.2672	3.59	9.75	13.34	51.20	-37.86	AVG	P
7	0.5751	26.93	9.77	36.70	56.00	-19.30	peak	P
8	0.5751	13.11	9.77	22.88	46.00	-23.12	AVG	P
9	0.6570	25.32	9.78	35.10	56.00	-20.90	peak	P
10	0.6570	12.65	9.78	22.43	46.00	-23.57	AVG	P
11	11.1120	38.74	10.21	48.95	60.00	-11.05	peak	P
12	11.1385	26.16	10.21	36.37	50.00	-13.63	AVG	P

EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name. :	CIRC ASL47
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Test Date :	2021-04-27
Test Mode :	Mode 3	Phase :	L
Test Voltage :	AC 110V/60Hz for Adapter		

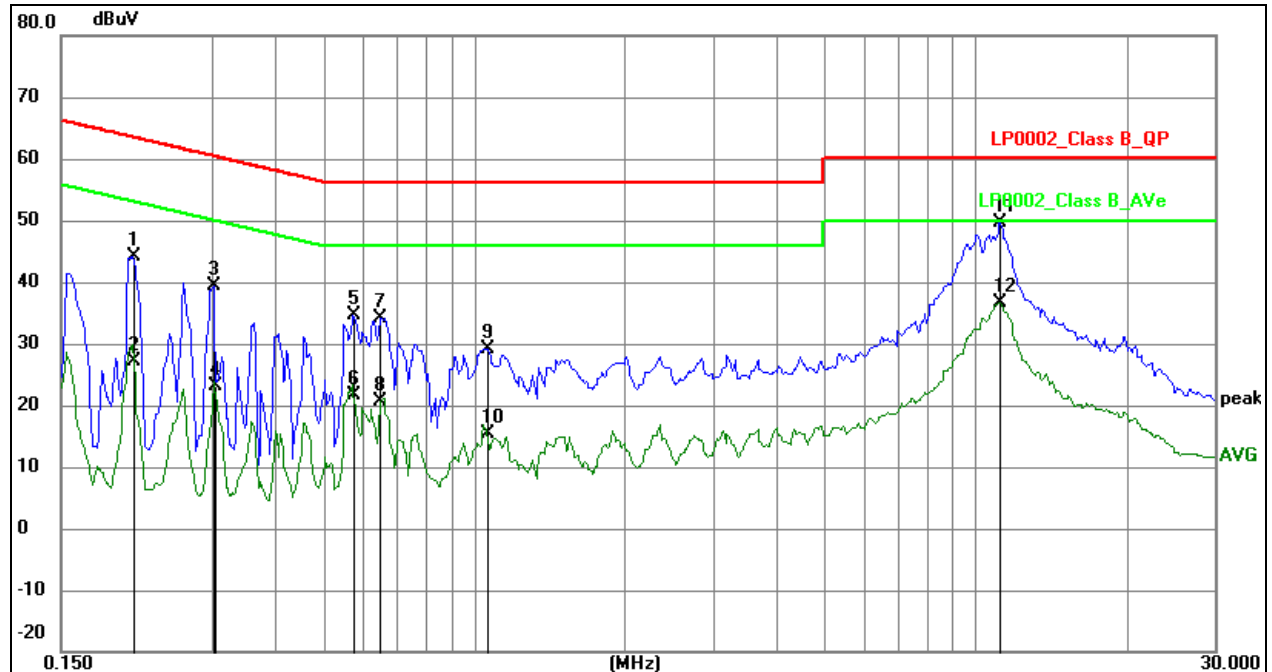


Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss + Pulse limit.
3. '*' means the worst case

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1539	40.21	9.78	49.99	65.79	-15.80	peak	P
2	0.1539	26.58	9.78	36.36	55.79	-19.43	AVG	P
3	0.2007	32.69	9.75	42.44	63.58	-21.14	peak	P
4	0.2007	16.70	9.75	26.45	53.58	-27.13	AVG	P
5	0.2553	28.60	9.75	38.35	61.58	-23.23	peak	P
6	0.2562	14.18	9.75	23.93	51.55	-27.62	AVG	P
7	0.5673	27.35	9.77	37.12	56.00	-18.88	peak	P
8	0.5701	11.36	9.77	21.13	46.00	-24.87	AVG	P
9	0.6297	25.75	9.78	35.53	56.00	-20.47	peak	P
10	0.6297	9.06	9.78	18.84	46.00	-27.16	AVG	P
11	10.3476	42.18	10.18	52.36	60.00	-7.64	peak	P
12	10.3972	26.26	10.18	36.44	50.00	-13.56	AVG	P

EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name. :	CIRC ASL47
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Test Date :	2021-04-27
Test Mode :	Mode 3	Phase :	N
Test Voltage :	AC 110V/60Hz for Adapter		



Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss + Pulse limit.
3. '*' means the worst case

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.2085	34.34	9.75	44.09	63.26	-19.17	peak	P
2	0.2094	17.49	9.75	27.24	53.23	-25.99	AVG	P
3	0.3021	29.72	9.76	39.48	60.18	-20.70	peak	P
4	0.3035	13.31	9.76	23.07	50.15	-27.08	AVG	P
5	0.5751	24.95	9.77	34.72	56.00	-21.28	peak	P
6	0.5751	11.86	9.77	21.63	46.00	-24.37	AVG	P
7	0.6492	24.39	9.78	34.17	56.00	-21.83	peak	P
8	0.6508	10.94	9.78	20.72	46.00	-25.28	AVG	P
9	1.0626	19.45	9.79	29.24	56.00	-26.76	peak	P
10	1.0626	5.63	9.79	15.42	46.00	-30.58	AVG	P
11	11.1899	39.41	10.21	49.62	60.00	-10.38	peak	P
12	11.1977	26.44	10.21	36.65	50.00	-13.35	AVG	P

Test result: The unit does meet the NCC requirements.

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 3.5, then the 3.6 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)	LIMITS (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

- (1) The limit for radiated test was performed according to LP0002.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

Frequency measurement range:

- 1, The spectrum shall be measured from the lowest radio frequency signal generated in the device (without going below 9 kHz), and the upper limit of the measurement range shall be decided according to the maximum operating frequency.
 - 1.1 Maximum operating frequency less than 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.
 - 1.2 Maximum operating frequency between 10 GHz~30 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.
 - 1.3 Maximum operating frequency over 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 200 GHz, whichever is lower.
- 2 Particular attention should be paid to harmonics and subharmonics of the carrier frequency as well as to those frequencies removed from the carrier by multiples of the oscillator frequency. Radiation at the frequencies of multiplier stages should also be checked.

Spectrum Parameter		Setting	
Attenuation		Auto	
Start Frequency		1000 MHz	
Stop Frequency		10th carrier harmonic	
Measurement	Duty cycle	RBW	Video B/W
PK	Any	1MHz	3MHz
AV	$\geq 98\%$	1MHz	10Hz
	$< 98\%$	1MHz	1/T

NOTE: KDB 558074 Zero-Span Spectrum Analyzer Method

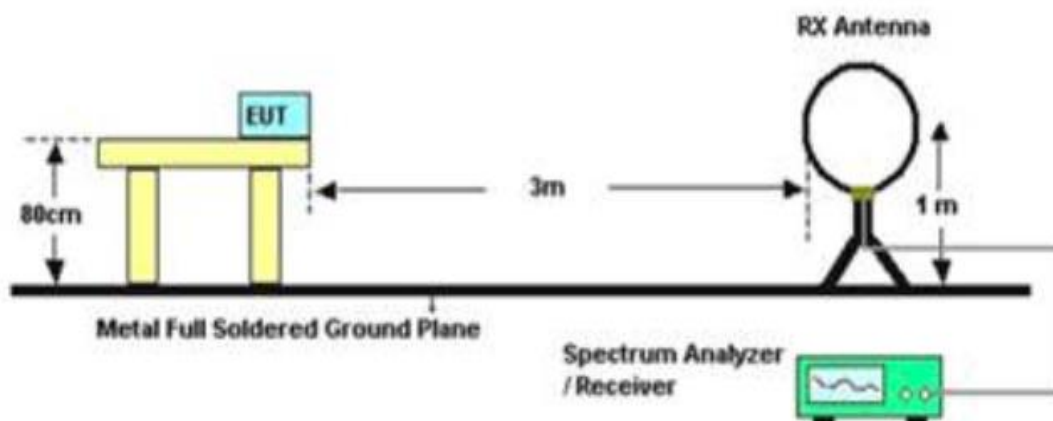
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

3.2.2 TEST PROCEDURE

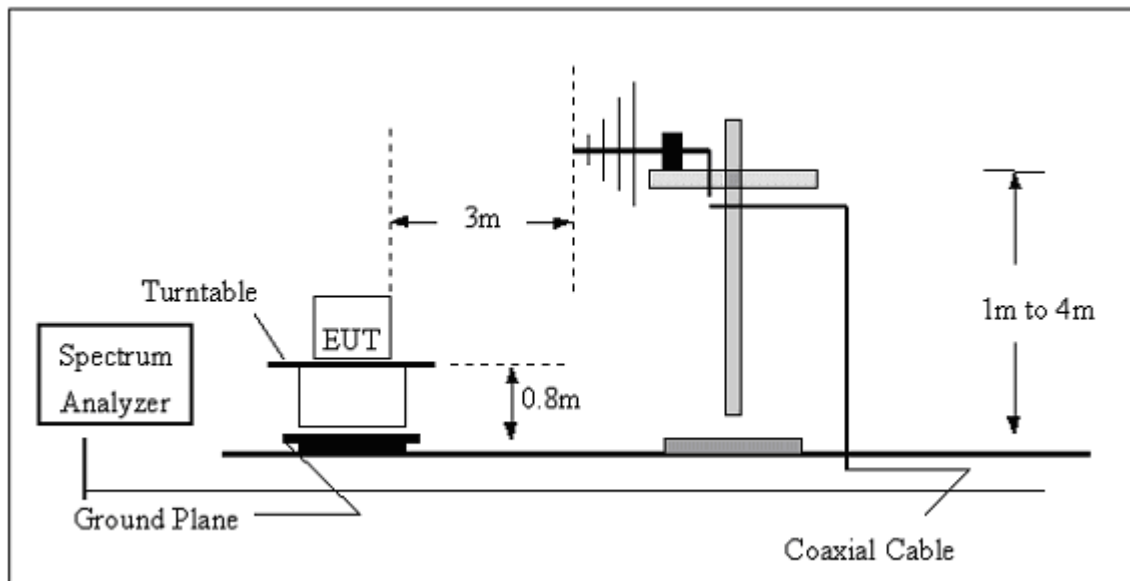
- The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- The EUT was placed on the top of a rotating table 0.8 meters (For frequencies above 1GHz, table 1.5 meters) above the ground at a 3 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- 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.
- 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.
- 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.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.2.3 TEST SETUP

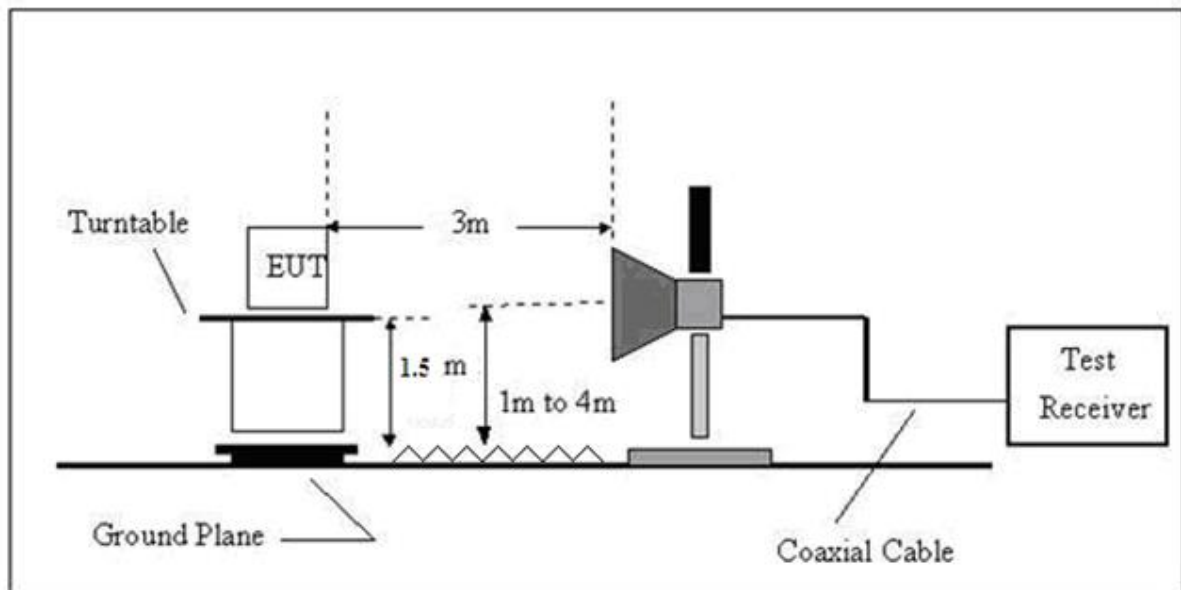
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



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



3.2.4 EUT OPERATING CONDITIONS

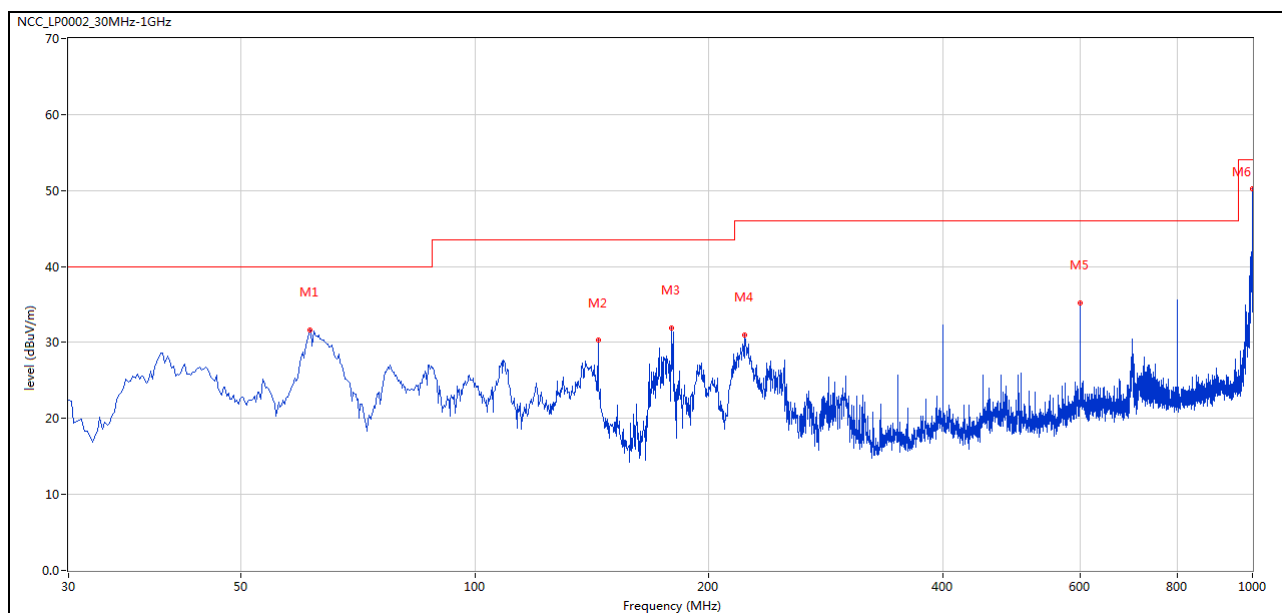
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

3.2.5 TEST RESULTS (BLOW 30 MHZ)

There is no detected blow 30MHz

3.2.6 TEST RESULTS (BETWEEN30 – 1000 MHZ)

EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	TX 2410MHz	Polarization :	Vertical
Test Power :	DC3.7V from battery		

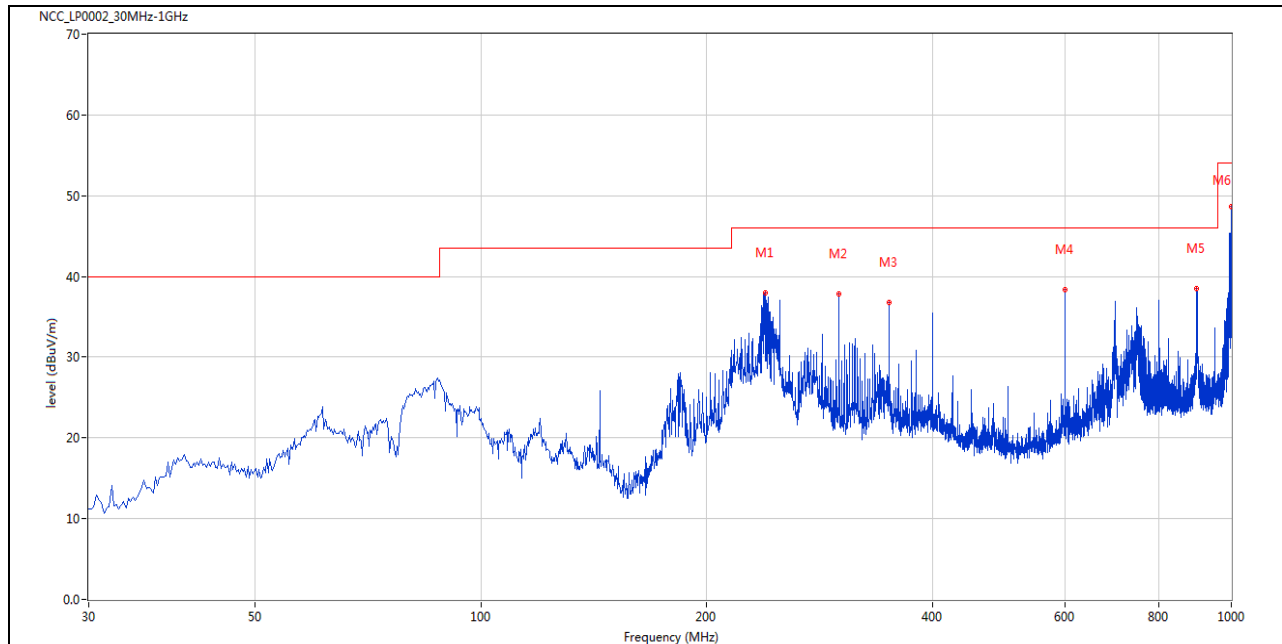


Remark:

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	ANT	Verdict
1	61.275	31.69	-13.14	40.0	-8.31	Peak	Vertical	Pass
2	143.947	30.33	-17.10	43.5	-13.17	Peak	Vertical	Pass
3	178.858	31.88	-15.41	43.5	-11.62	Peak	Vertical	Pass
4	222.497	31.02	-13.20	46.0	-14.98	Peak	Vertical	Pass
5	599.975	35.18	-4.95	46.0	-10.82	Peak	Vertical	Pass
6	1000.000	50.22	-1.24	54.0	-3.78	Peak	Vertical	Pass

EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	TX 2410MHz	Polarization :	Horizontal
Test Power :	DC3.7V from battery		

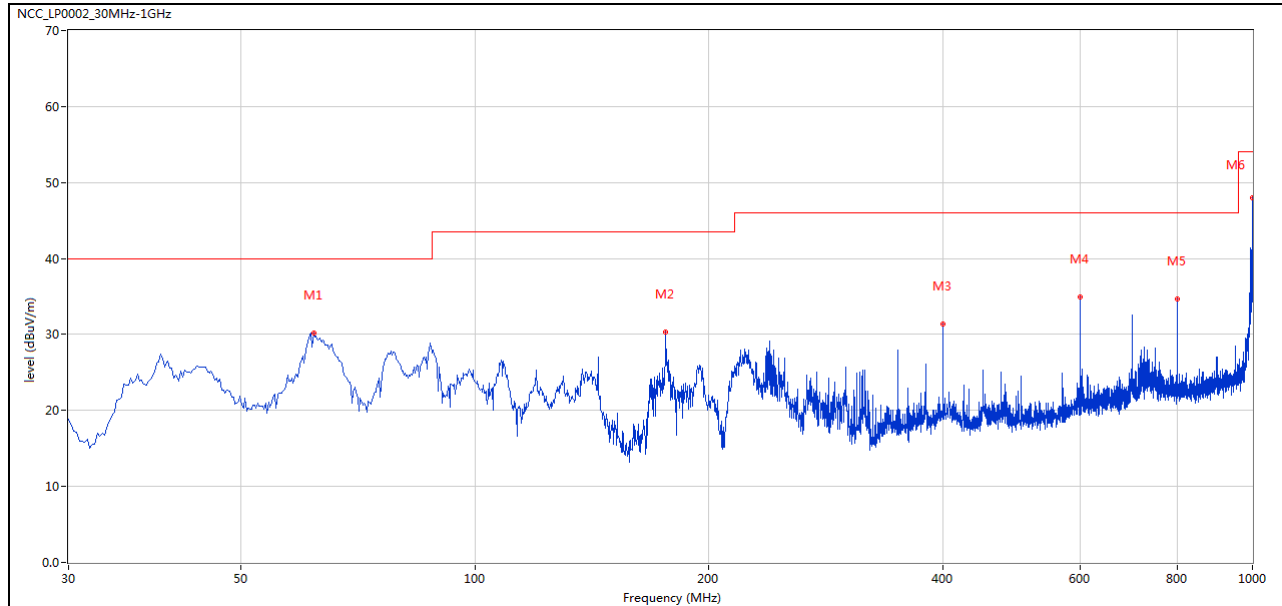


Remark:

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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	ANT	Verdict
1	239.225	37.91	-12.38	46.0	-8.09	Peak	Horizontal	Pass
2	299.835	37.79	-11.03	46.0	-8.21	Peak	Horizontal	Pass
3	349.778	36.77	-9.35	46.0	-9.23	Peak	Horizontal	Pass
4	599.975	38.38	-4.95	46.0	-7.62	Peak	Horizontal	Pass
5	899.873	38.44	-1.85	46.0	-7.56	Peak	Horizontal	Pass
6	1000.000	48.64	-1.24	54.0	-5.36	Peak	Horizontal	Pass

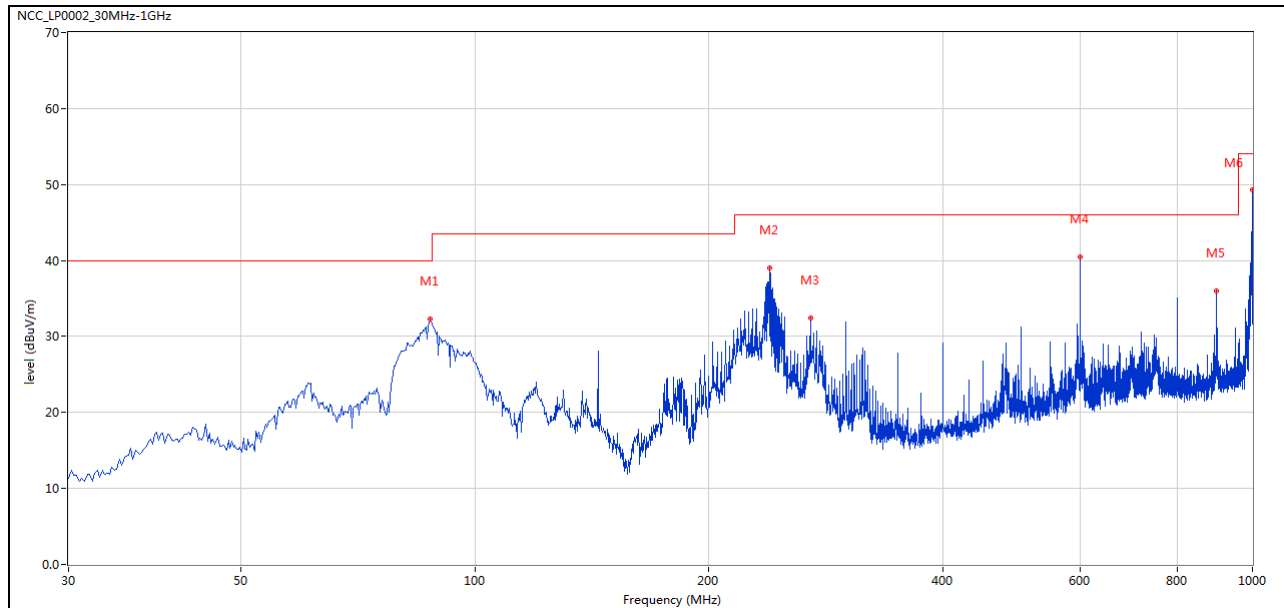
EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	RX	Polarization :	Vertical
Test Power :	DC3.7V from battery		



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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	ANT	Verdict
1	62.002	30.19	-13.26	40.0	-9.81	Peak	Vertical	Pass
2	175.949	30.28	-15.62	43.5	-13.22	Peak	Vertical	Pass
3	399.963	31.35	-8.57	46.0	-14.65	Peak	Vertical	Pass
4	599.975	34.90	-4.95	46.0	-11.10	Peak	Vertical	Pass
5	799.988	34.73	-2.96	46.0	-11.27	Peak	Vertical	Pass
6	1000.000	47.95	-1.24	54.0	-6.05	Peak	Vertical	Pass

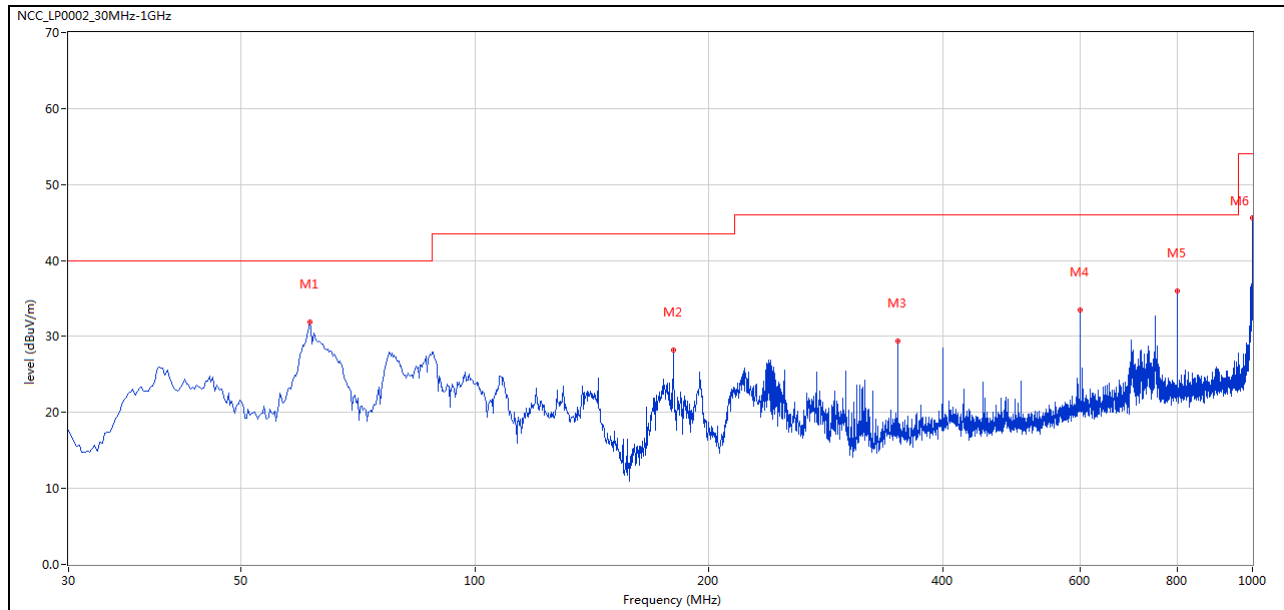
EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	RX	Polarization :	Horizontal
Test Power :	DC3.7V from battery		



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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	ANT	Verdict
1	87.458	32.33	-15.72	40.0	-7.67	Peak	Horizontal	Pass
2	239.225	39.06	-12.38	46.0	-6.94	Peak	Horizontal	Pass
3	270.015	32.49	-11.75	46.0	-13.51	Peak	Horizontal	Pass
4	599.975	40.43	-4.95	46.0	-5.57	Peak	Horizontal	Pass
5	899.630	36.02	-1.84	46.0	-9.98	Peak	Horizontal	Pass
6	1000.000	49.26	-1.24	54.0	-4.74	Peak	Horizontal	Pass

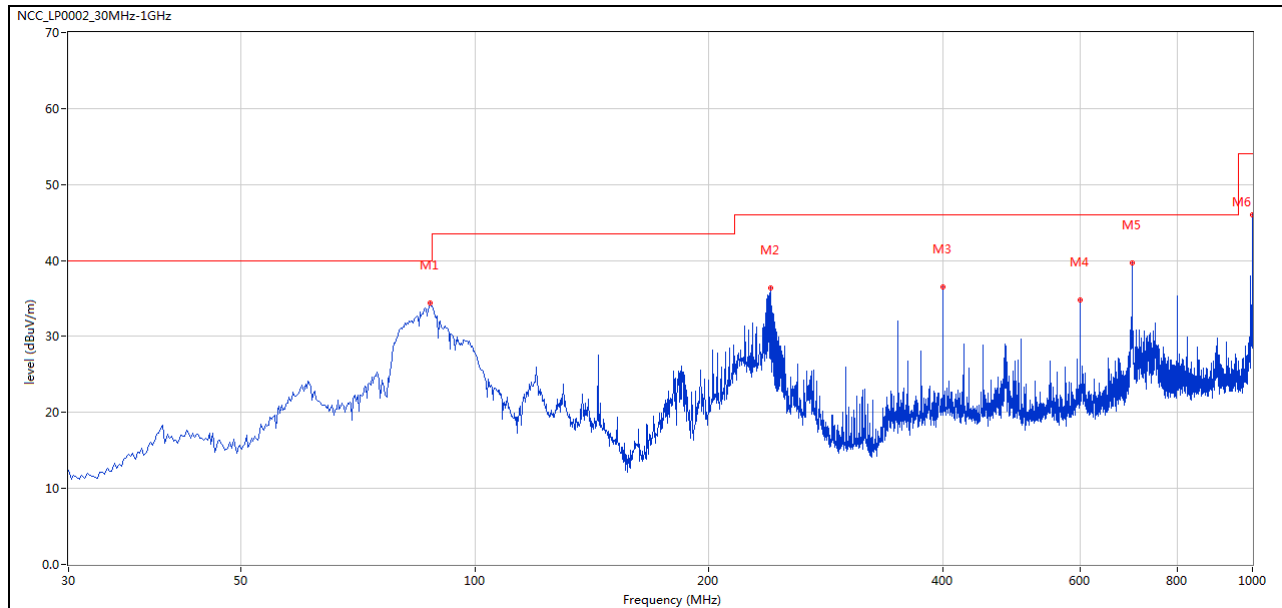
EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	Mode 3	Polarization :	Vertical
Test Power :	DC5V from adapter		



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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	ANT	Verdict
1	61.275	31.87	-13.14	40.0	-8.13	Peak	Vertical	Pass
2	179.828	28.26	-15.34	43.5	-15.24	Peak	Vertical	Pass
3	349.778	29.40	-9.35	46.0	-16.60	Peak	Vertical	Pass
4	599.975	33.47	-4.95	46.0	-12.53	Peak	Vertical	Pass
5	799.988	36.05	-2.96	46.0	-9.95	Peak	Vertical	Pass
6	1000.000	45.56	-1.24	54.0	-8.44	Peak	Vertical	Pass

EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	Mode 3	Polarization :	Horizontal
Test Power :	DC5V from adapter		



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

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	ANT	Verdict
1	87.458	34.38	-15.72	40.0	-5.62	Peak	Horizontal	Pass
2	239.953	36.39	-12.33	46.0	-9.61	Peak	Horizontal	Pass
3	399.963	36.55	-8.57	46.0	-9.45	Peak	Horizontal	Pass
4	599.975	34.83	-4.95	46.0	-11.17	Peak	Horizontal	Pass
5	699.860	39.66	-4.20	46.0	-6.34	Peak	Horizontal	Pass
6	1000.000	46.07	-1.24	54.0	-7.93	Peak	Horizontal	Pass

Test result: The unit does meet the NCC requirements.

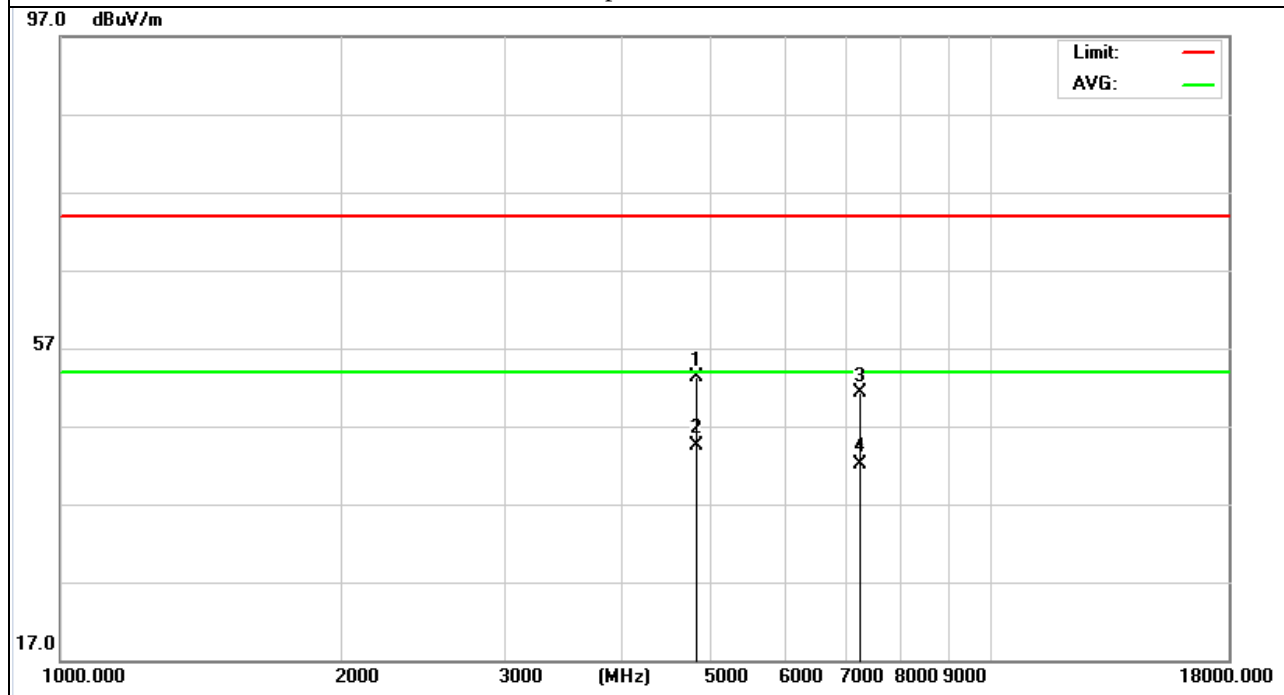
3.2.7 TEST RESULTS (FRENQUENCY RANGE 1000-25000 MHZ)

EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	TX 2410MHz	Polarization :	Horizontal
Test Power :	DC3.7V from battery		

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4820.000	49.68	5.08	54.76	74.00	-19.24	peak
4820.000	40.63	5.08	45.71	54.00	-8.29	AVG
7230.000	45.27	7.14	52.41	74.00	-21.59	peak
7230.000	36.08	7.14	43.22	54.00	-10.78	AVG

Remark:

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

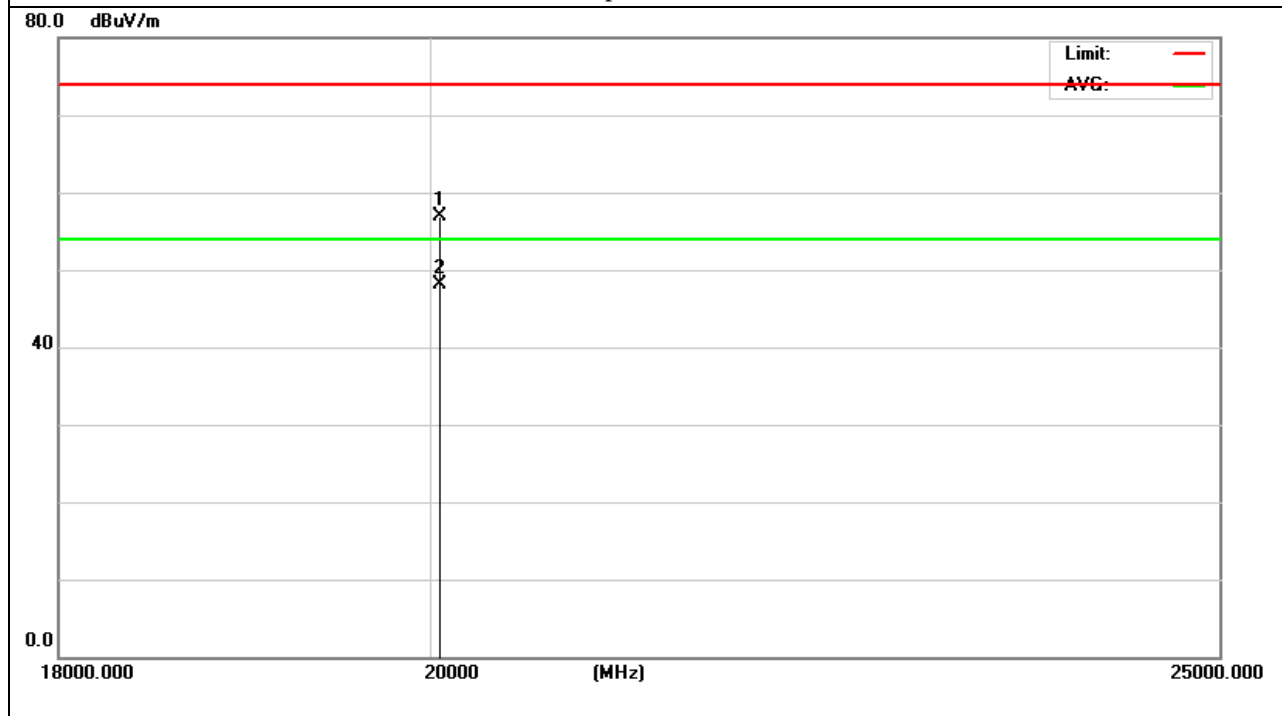


EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	TX 2410MHz	Polarization :	Horizontal
Test Power :	DC3.7V from battery		

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
20049.000	40.23	16.61	56.84	74.00	-17.16	peak
20049.000	31.52	16.61	48.13	54.00	-5.87	AVG

Remark:

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

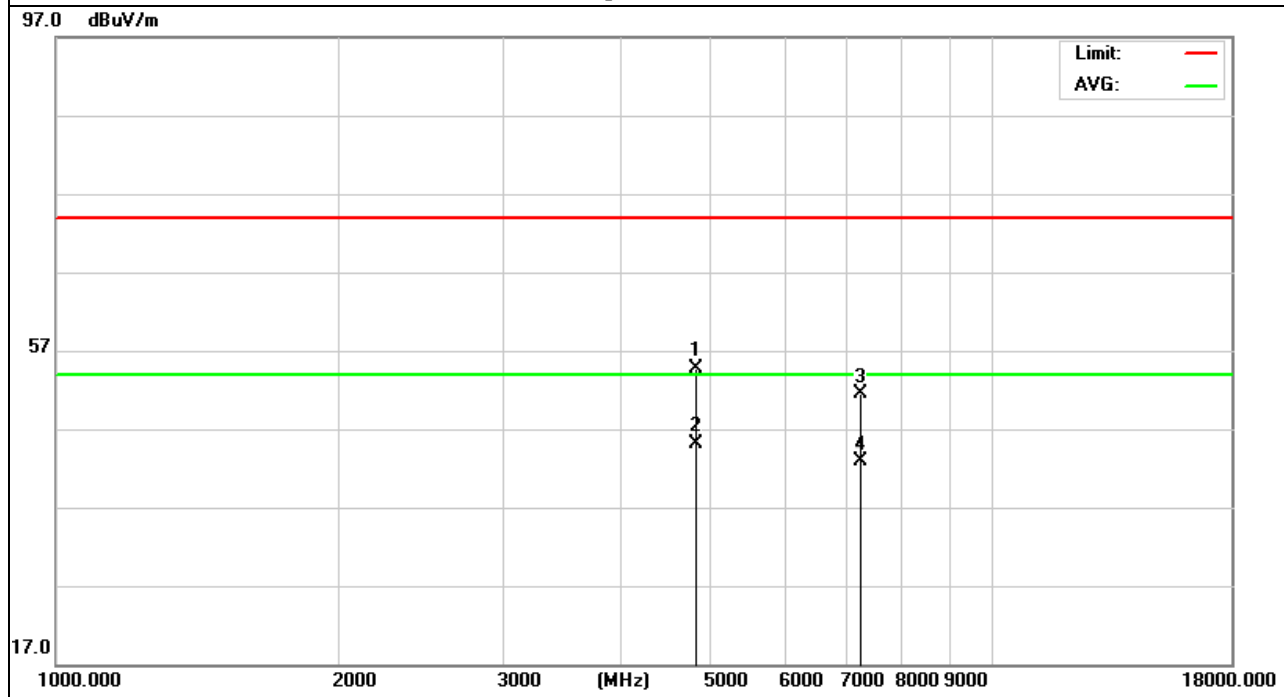


EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	TX 2410MHz	Polarization :	Vertical
Test Power :	DC3.7V from battery		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4820.000	49.68	5.08	54.76	74.00	-19.24	peak
4820.000	41.06	5.08	46.14	54.00	-7.86	AVG
7230.000	45.53	7.14	52.67	74.00	-21.33	peak
7230.000	36.89	7.14	44.03	54.00	-9.97	AVG

Remark:

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

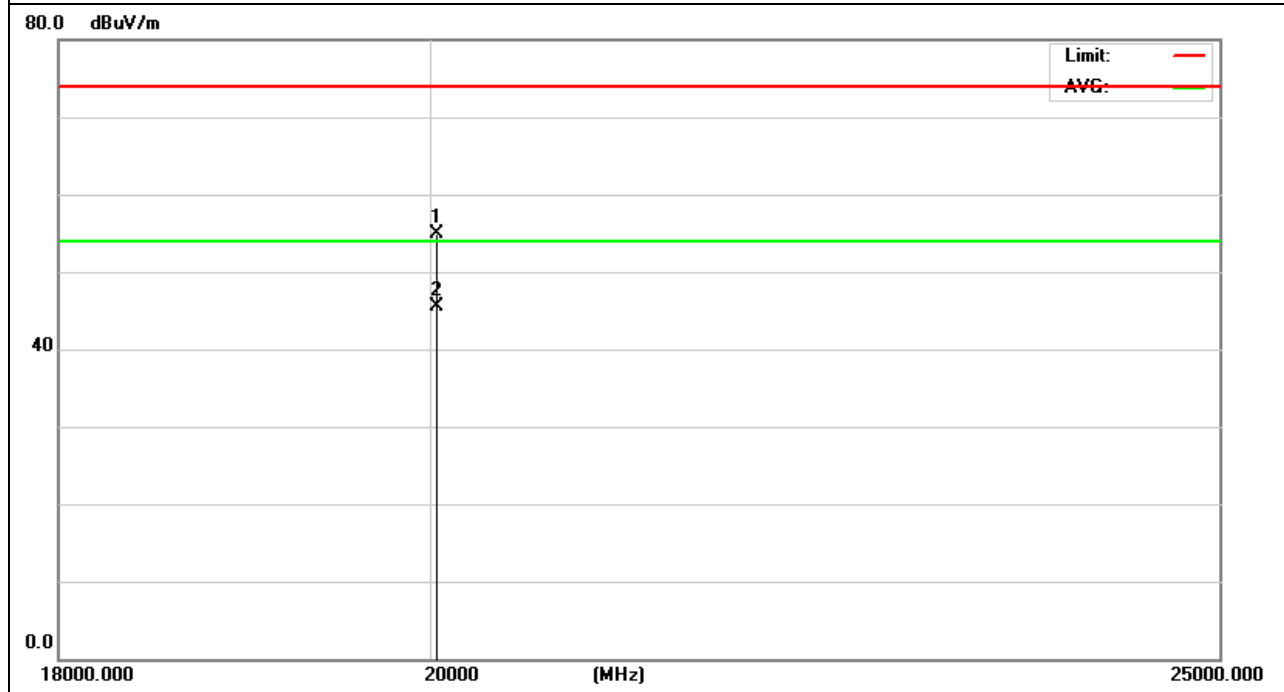


EUT :	CIRC ASL47 Transmitter CIRC ASL47 遥控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	TX 2410MHz	Polarization :	Vertical
Test Power :	DC3.7V from battery		

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
20033.000	38.36	16.61	54.97	74.00	-19.03	peak
20033.000	28.9	16.61	45.51	54.00	-8.49	AVG

Remark:

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

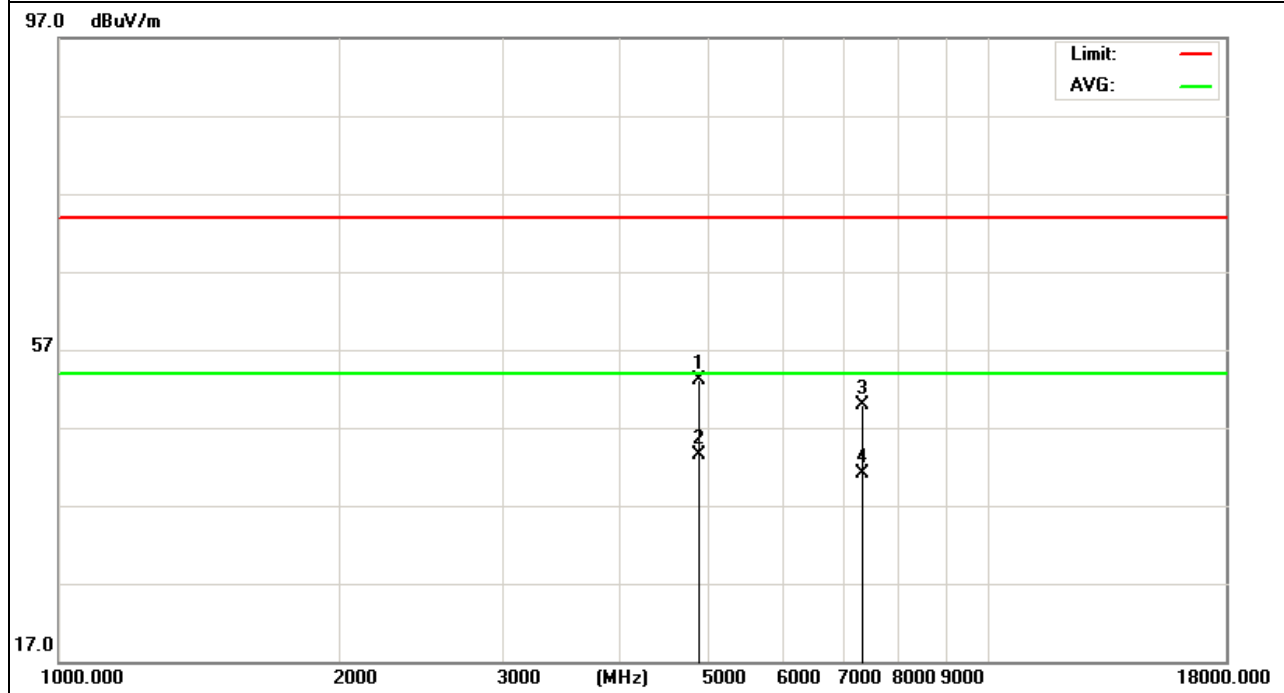


EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	TX 2444MHz	Polarization :	Horizontal
Test Power :	DC3.7V from battery		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4888.000	48.66	5.15	53.81	74.00	-20.19	peak
4888.000	39.57	5.15	44.72	54.00	-9.28	AVG
7332.000	44.03	7.58	51.61	74.00	-22.39	peak
7332.000	35.09	7.58	42.67	54.00	-11.33	AVG

Remark:

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

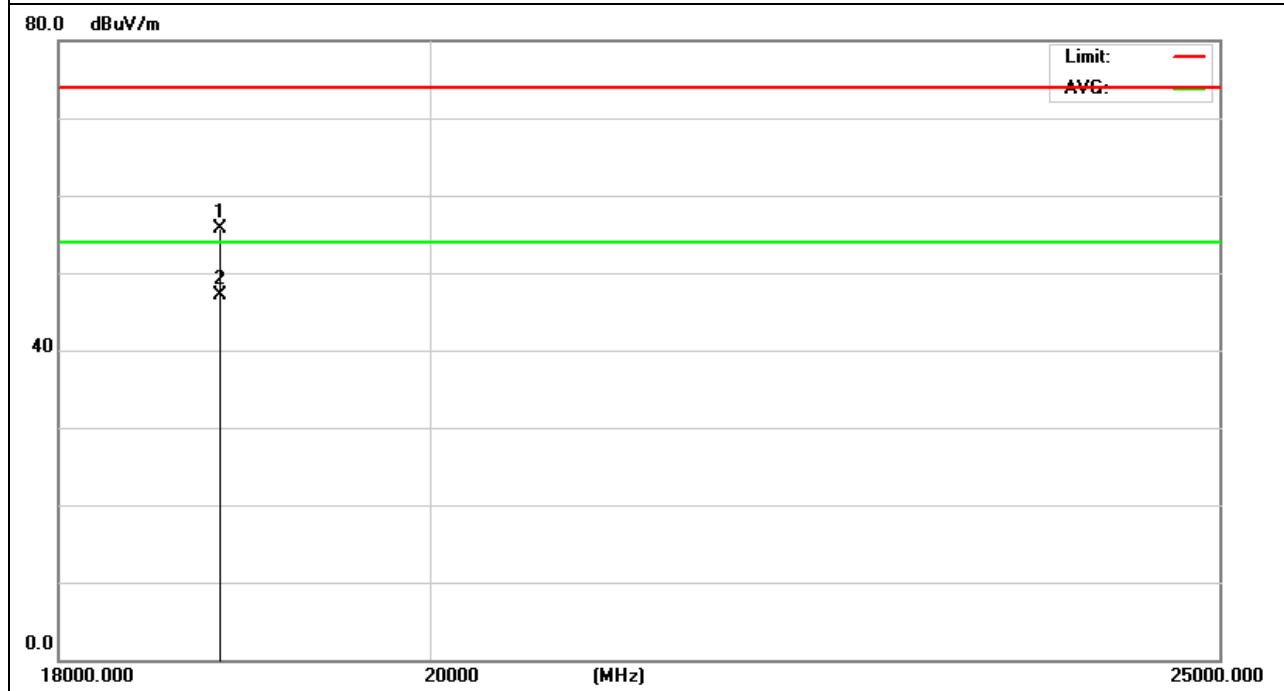


EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	TX 2444MHz	Polarization :	Horizontal
Test Power :	DC3.7V from battery		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
18845.000	39.52	16.25	55.77	74.00	-18.23	peak
18845.000	30.79	16.25	47.04	54.00	-6.96	AVG

Remark:

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

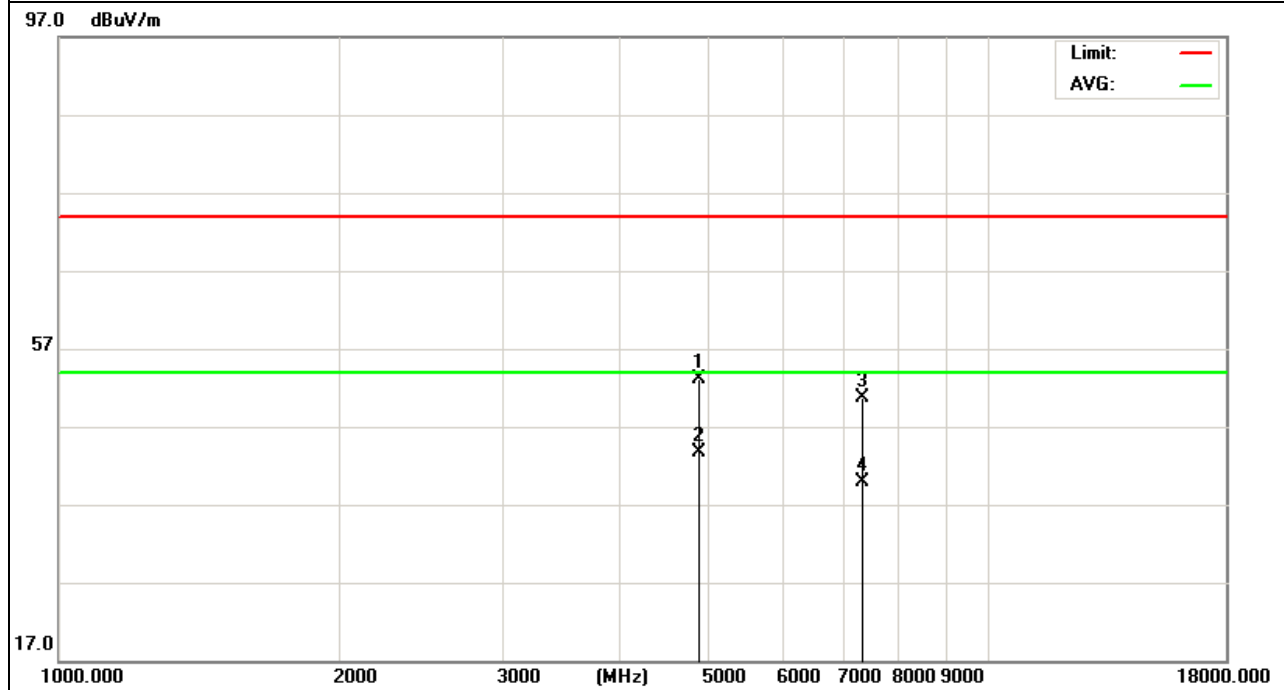


EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	TX 2444MHz	Polarization :	Vertical
Test Power :	DC3.7V from battery		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4888.000	48.52	5.15	53.67	74.00	-20.33	peak
4888.000	38.54	5.15	43.69	54.00	-10.31	AVG
7332.000	44.16	7.58	51.74	74.00	-22.26	peak
7332.000	32.45	7.58	40.03	54.00	-13.97	AVG

Remark:

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



EUT :	CIRC ASL47 Transmitter CIRC ASL47 遥控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	TX 2444MHz	Polarization :	Vertical
Test Power :	DC3.7V from battery		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
18844.000	37.77	16.25	54.02	74.00	-19.98	peak
18844.000	29.54	16.25	45.79	54.00	-8.21	AVG

Remark:

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

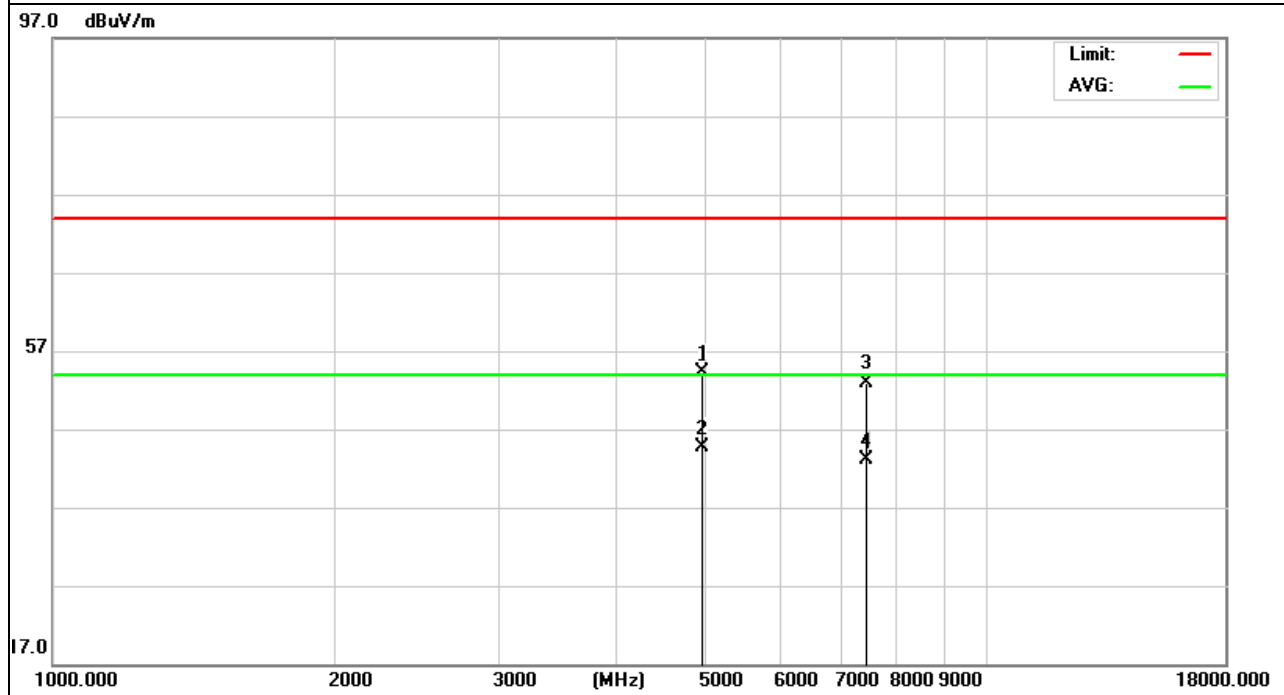


EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	TX 2474MHz	Polarization :	Horizontal
Test Power :	DC3.7V from battery		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4948.000	49.06	5.21	54.27	74.00	-19.73	peak
4948.000	39.93	5.21	45.14	54.00	-8.86	AVG
7422.000	45.11	7.98	53.09	74.00	-20.91	peak
7422.000	35.67	7.98	43.65	54.00	-10.35	AVG

Remark:

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

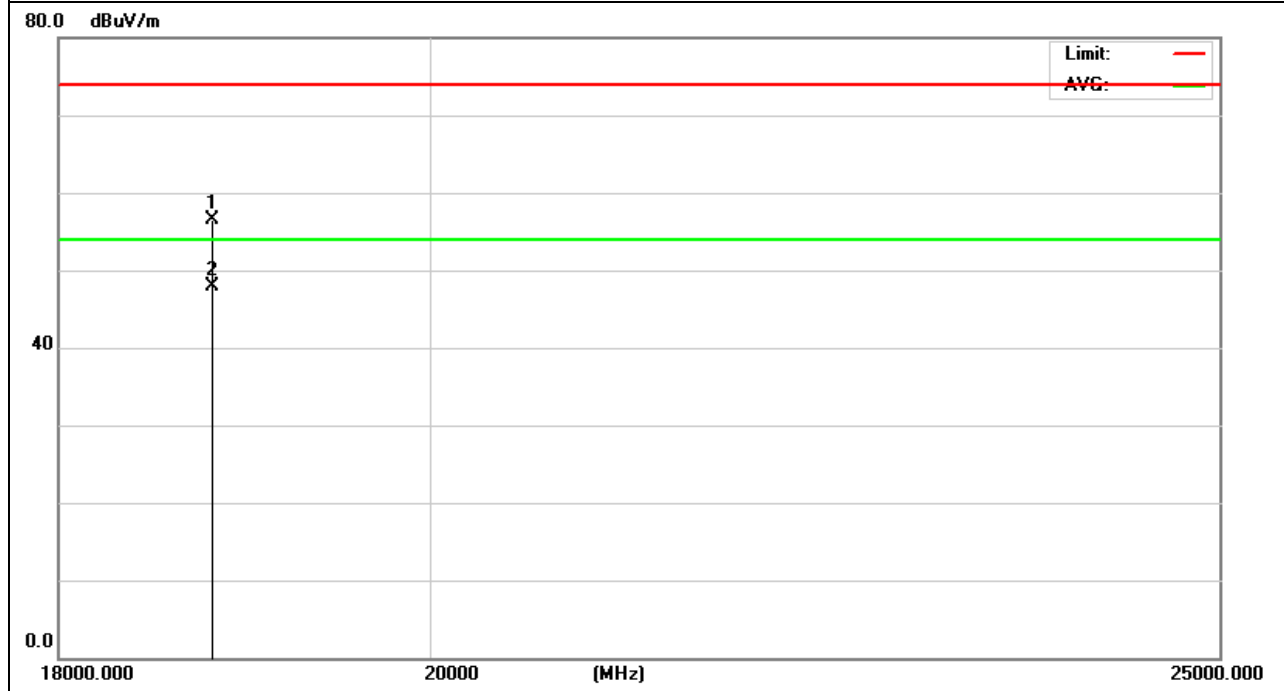


EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	TX 2474MHz	Polarization :	Horizontal
Test Power :	DC3.7V from battery		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
18799.000	40.31	16.21	56.52	74.00	-17.48	peak
18799.000	31.66	16.21	47.87	54.00	-6.13	AVG

Remark:

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

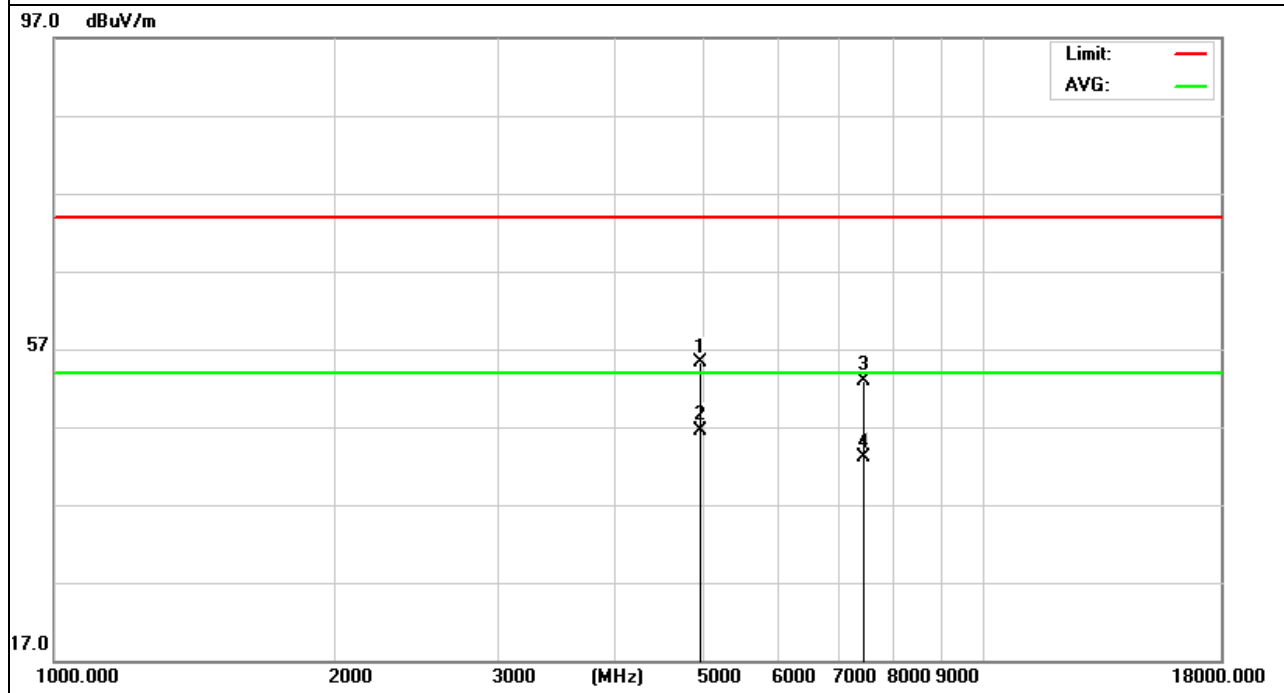


EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	TX 2474MHz	Polarization :	Vertical
Test Power :	DC3.7V from battery		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4948.000	51.02	5.21	56.23	74.00	-17.77	peak
4948.000	41.97	5.21	47.18	54.00	-6.82	AVG
7422.000	45.27	7.98	53.25	74.00	-20.75	peak
7422.000	36.61	7.98	44.59	54.00	-9.41	AVG

Remark:

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

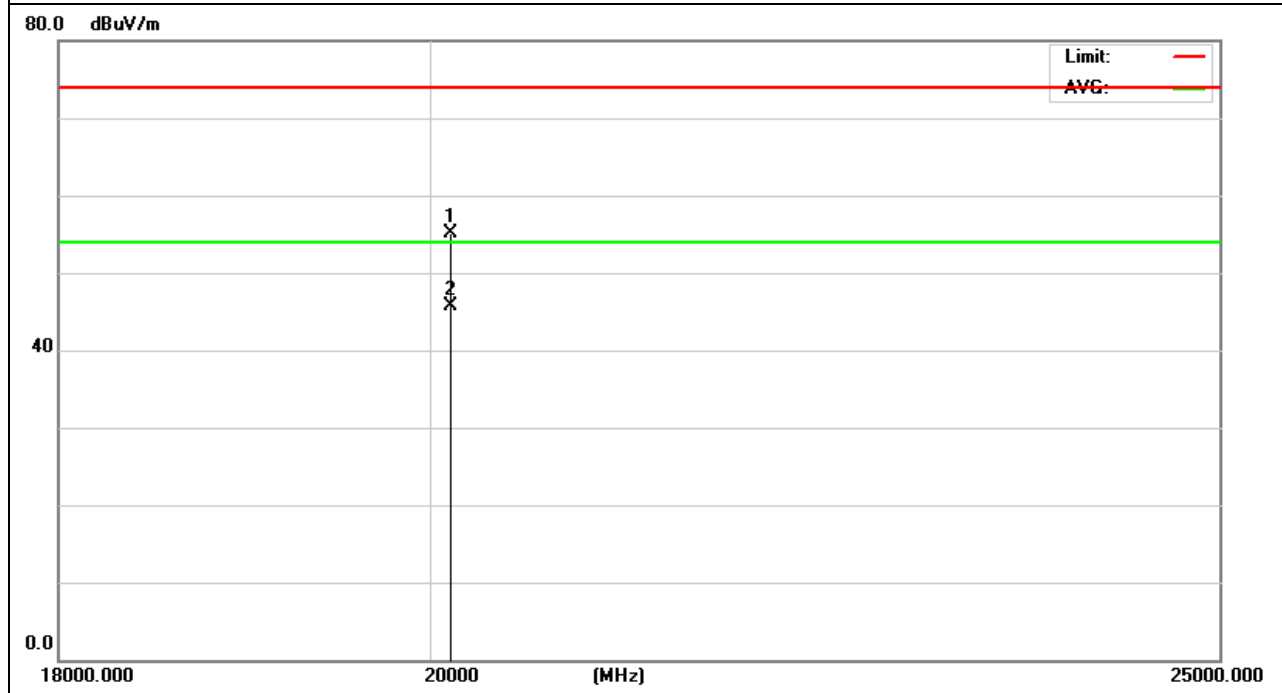


EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	TX 2474MHz	Polarization :	Vertical
Test Power :	DC3.7V from battery		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
20111.000	38.57	16.63	55.2	74.00	-18.8	peak
20111.000	29.13	16.63	45.76	54.00	-8.24	AVG

Remark:

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



Remark:

All the modes had been tested, but only the worst data recorded in the report.

In frequency ranges 1~25GHz no any other harmonic emissions detected which are tested to compliance with the limit. No recording in the test report.

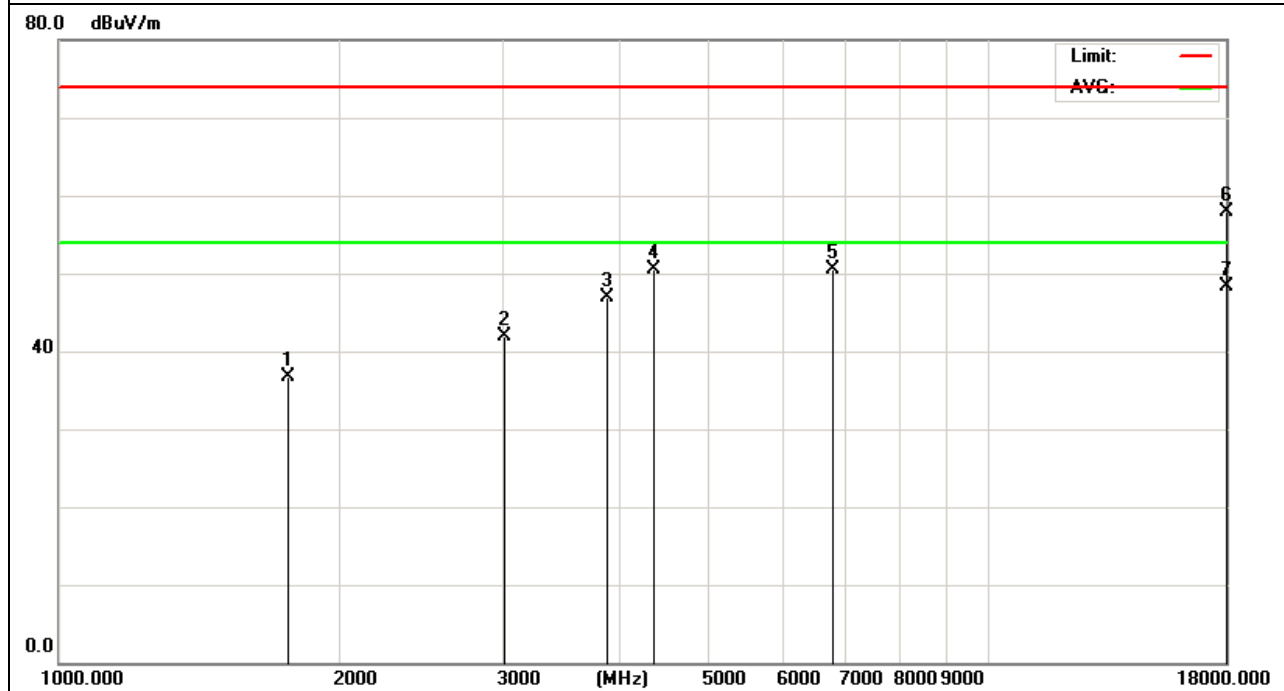
Test result: The unit does meet the NCC requirements.

EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	RX (worst case)	Polarization :	Horizontal
Measurement Distance	3 m	Frenqucy Range	1GHz to 18GHz
Test Power :	DC3.7V from battery		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
1758.635	47.21	-9.44	37.77	74.00	-36.23	peak
3019.240	43.57	-1.65	41.92	74.00	-32.08	peak
3881.663	44.59	2.96	47.55	74.00	-26.45	peak
4362.478	46.33	4.46	50.79	74.00	-23.21	peak
6781.226	44.33	6.05	50.38	74.00	-23.62	peak
17994.446	33.21	24.68	57.89	74.00	-16.11	peak
17994.446	23.81	24.68	48.49	54.00	-5.51	AVG

Remark:

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

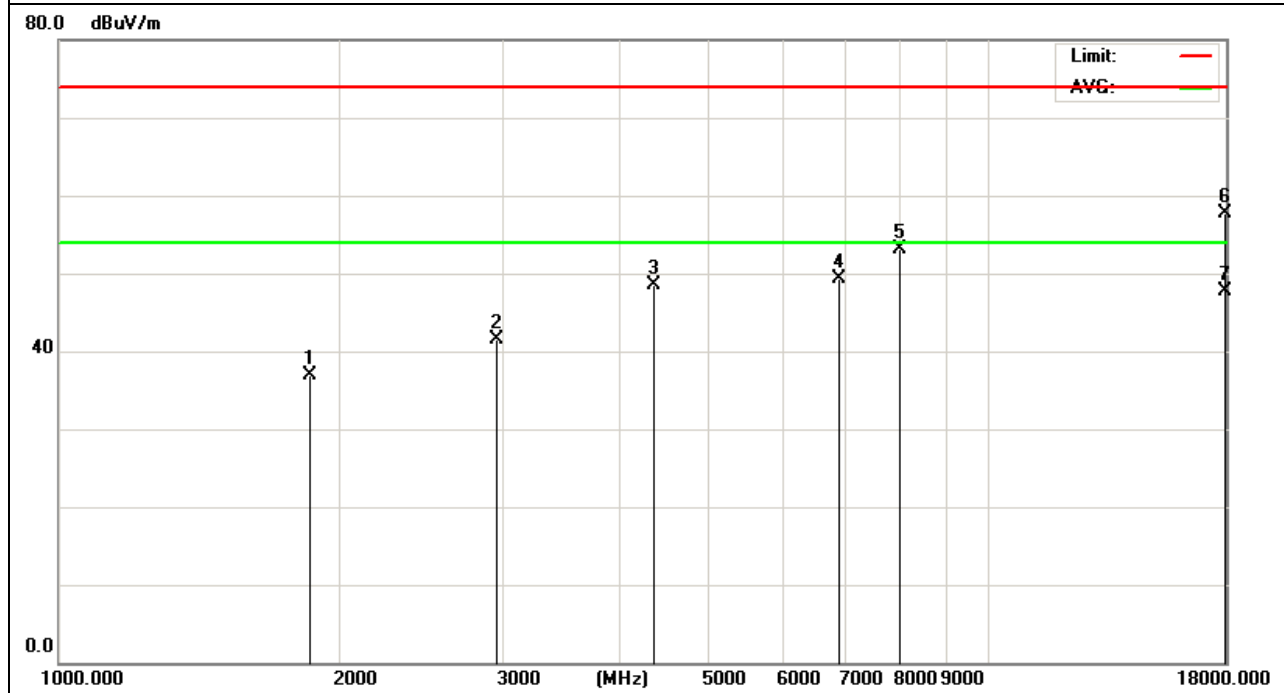


EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	RX (worst case)	Polarization :	Vertical
Measurement Distance	3 m	Frenqucy Range	1GHz to 18GHz
Test Power :	DC3.7V from battery		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
1864.251	46.12	-9.45	36.67	74.00	-37.33	peak
2949.256	43.55	-2.04	41.51	74.00	-32.49	peak
4351.752	44.61	4.45	49.06	74.00	-24.94	peak
6900.771	43.31	6.12	49.43	74.00	-24.57	peak
8000.662	43.22	10.40	53.62	74.00	-20.38	peak
17982.123	33.69	24.75	58.44	74.00	-15.56	peak
17982.123	23.07	24.75	47.82	54.00	-6.18	AVG

Remark:

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

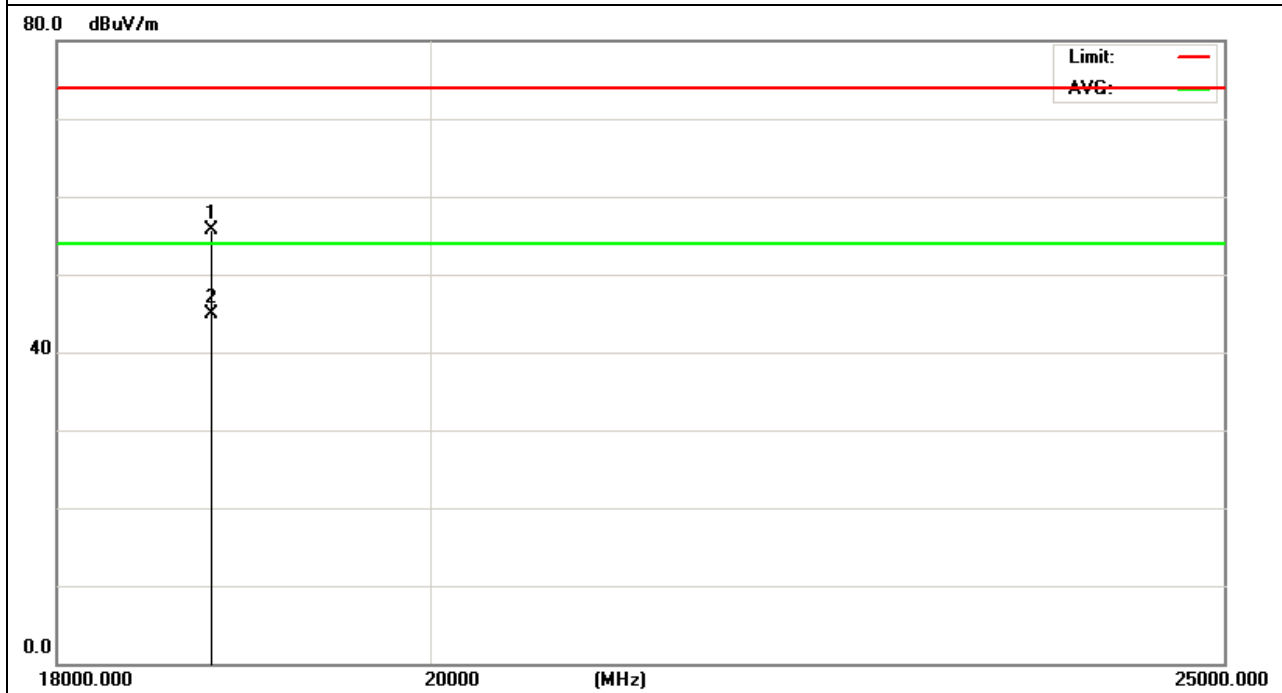


EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	RX (worst case)	Polarization :	Horizontal
Measurement Distance	3 m	Frenqucy Range	18GHz to 25GHz
Test Power :	DC3.7V from battery		

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
18791.00	39.85	16.20	56.05	74.00	-17.95	peak
18791.00	28.92	16.20	45.12	54.00	-8.88	AVG

Remark:

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

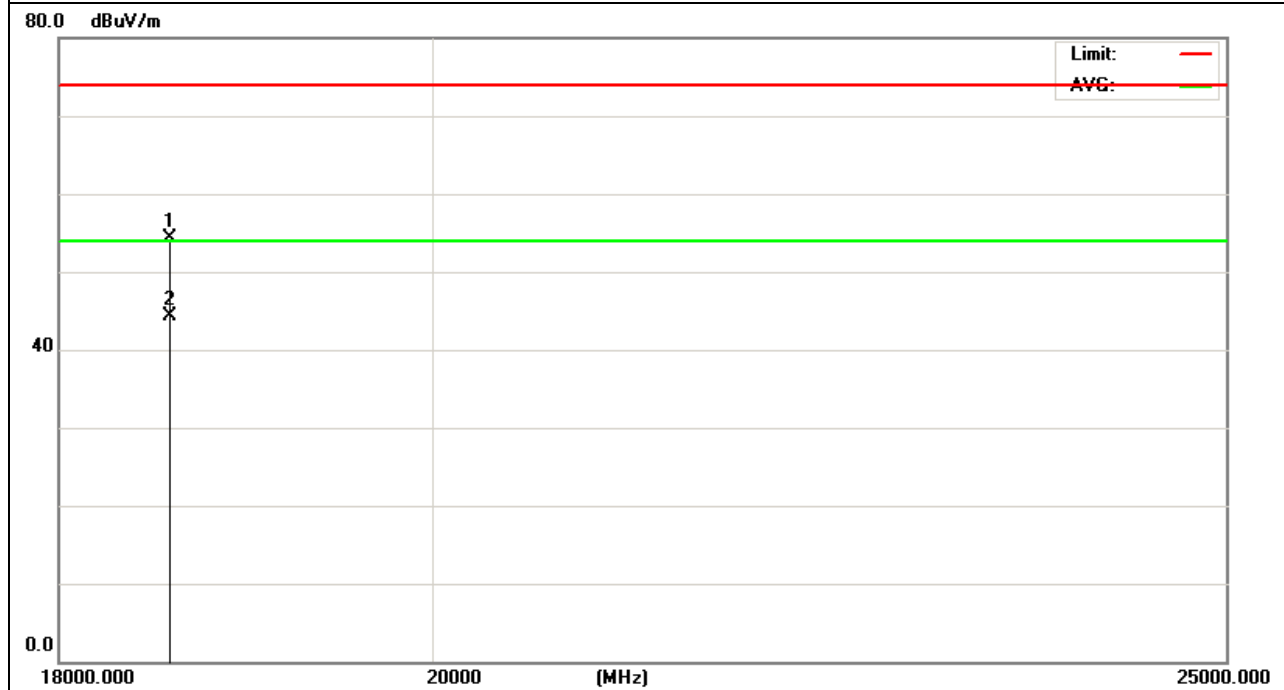


EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-04-27
Test Mode :	RX (worst case)	Polarization :	Vertical
Measurement Distance	3 m	Frenqucy Range	18GHz to 25GHz
Test Power :	DC3.7V from battery		

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
18568.00	38.51	15.97	54.48	74.00	-19.52	peak
18568.00	28.57	15.97	44.54	54.00	-9.46	AVG

Remark:

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



Remark:

All the modes had been tested, but only the worst data recorded in the report.

No any other emissions detected which are tested to compliance with the limit. No recording in the test report.

Test result: The unit does meet the NCC requirements.

3.2.8 TEST RESULTS (RESTRICTED BANDS REQUIREMENTS)

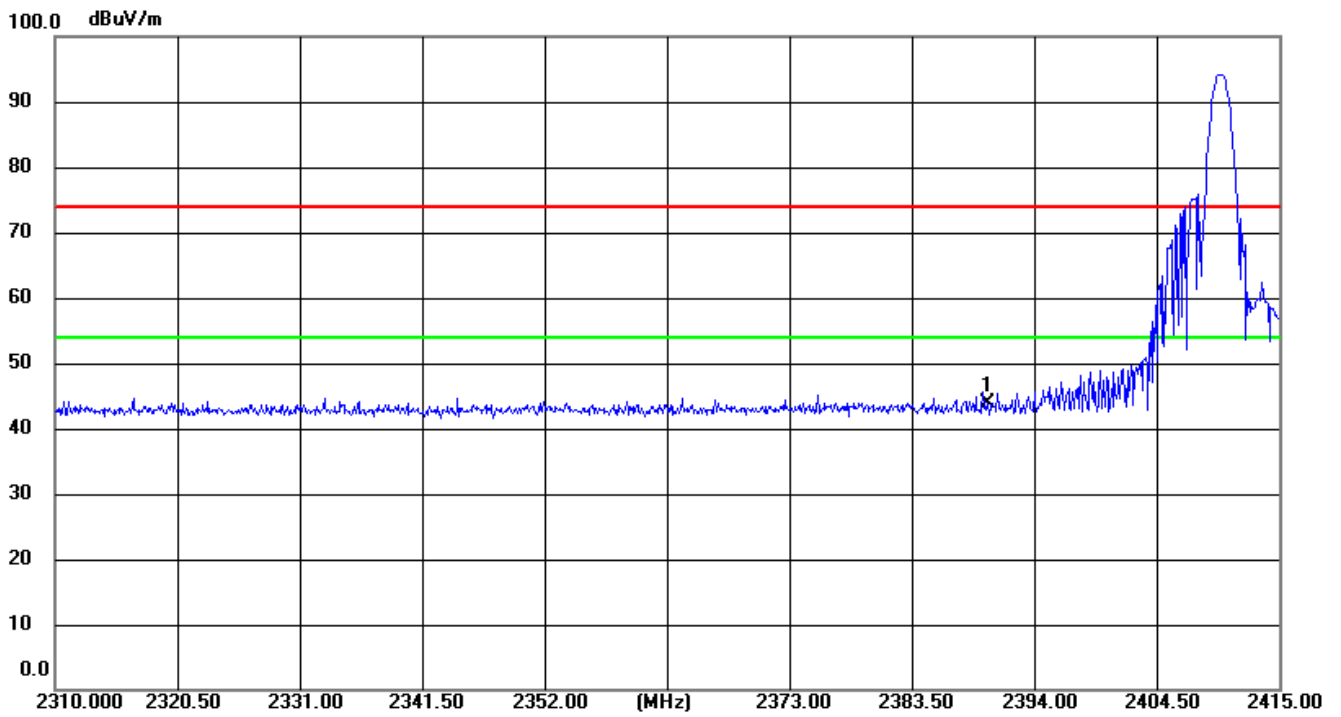
EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Voltage :	DC3.7V from battery
Test Mode :	TX 2410MHz/2474MHz		
Test Date :	2021-04-27		
Note :	1. The transmitter was setup to transmit at the lowest channel (CH00). Then the field strength was measured at 2310-2390 MHz. 2. The transmitter was setup to transmit at the highest channel (CH78). Then the field strength was measured at 2483.5-2500 MHz. 3. The data of 2390MHz and 2483.5MHz was the worst.		

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant/CF CF(dB)	Act		Limit		Note
		Peak (dBuv)	AV (dBuv)		Peak (dBuv/m)	AV (dBuv/m)	Peak (dBuv/m)	AV (dBuv/m)	
2390.00	H	49.67	--	-5.79	43.88	--	74.00	54.00	CH01
2390.00	V	48.89	--	-5.79	43.10	--	74.00	54.00	CH01
2483.50	H	50.47	--	-4.98	45.49	--	74.00	54.00	CH20
2483.50	V	48.23	--	-4.98	43.25	--	74.00	54.00	CH20

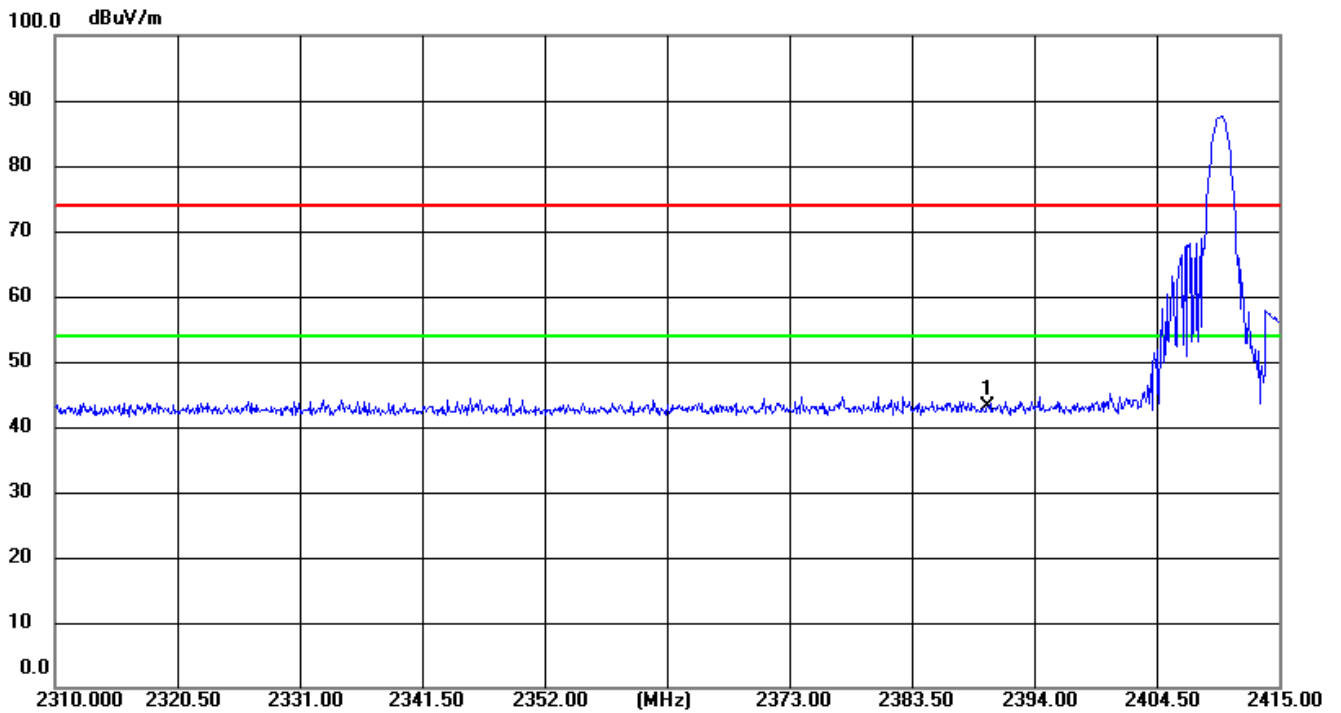
Remark :

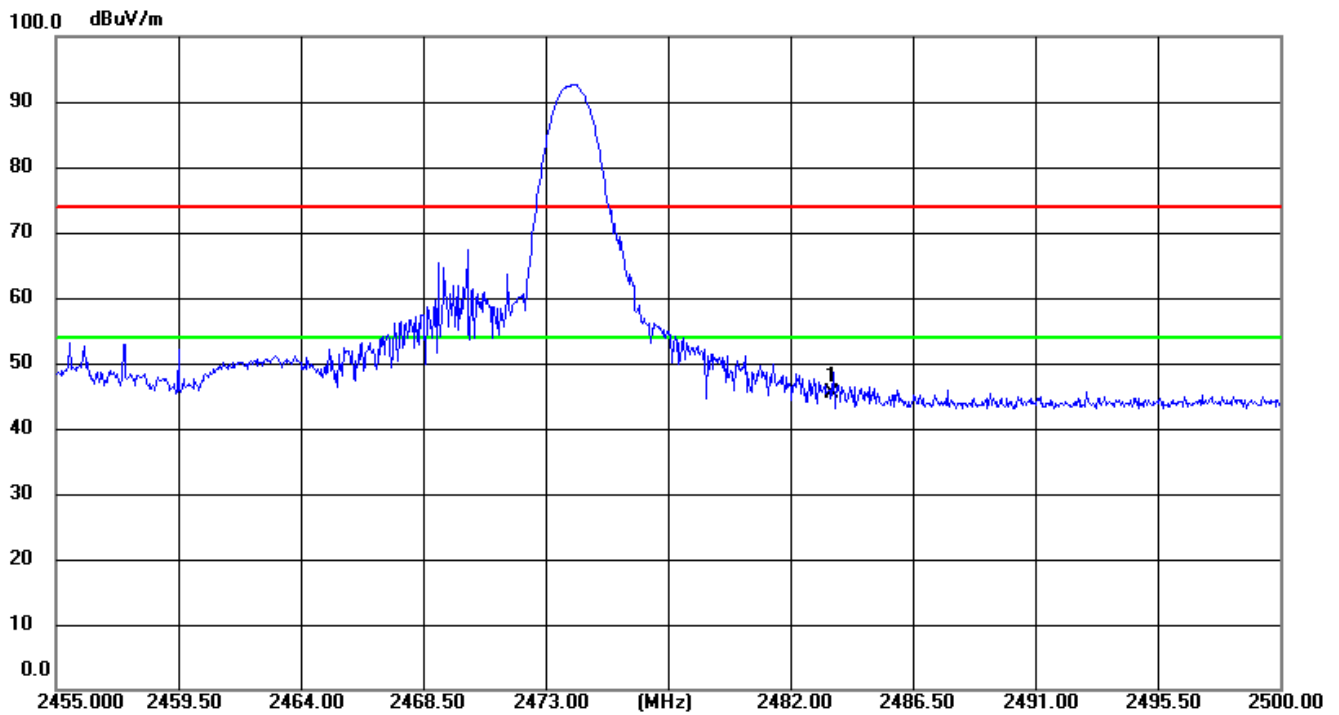
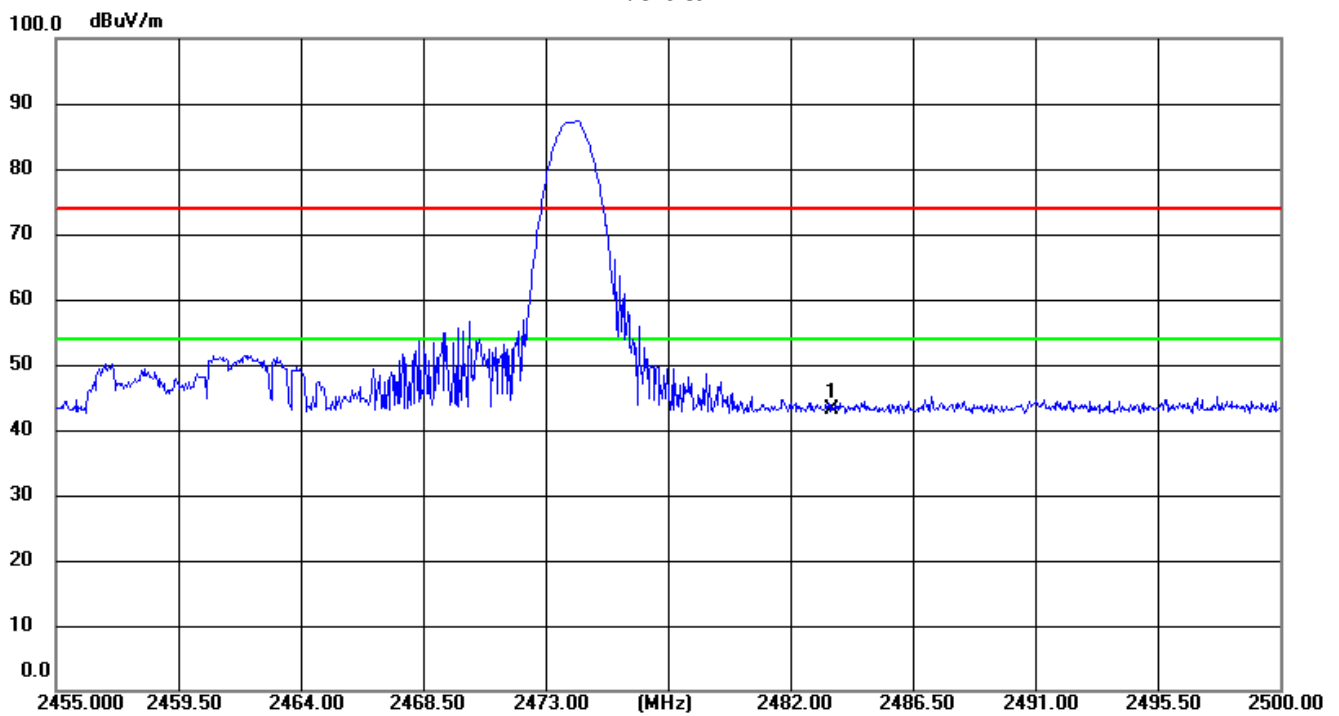
- (1) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode
- (2) EUT Orthogonal Axis :
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (3) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna
- (4) Corr.Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Horizontal



Vertical



Horizontal**Vertical**

Test result: The unit does meet the NCC requirements.

4. OCCUPIED BANDWIDTH TEST

4.1 APPLIED PROCEDURES / LIMIT

LP0002				
Section	Test Item	Limit	Frequency Range (MHz)	Result
4.10.1.6(1)	Bandwidth	N/A	2402-2480	PASS

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	wide enough to capture the peaks of two adjacent channels.
RB	10 kHz
VB	30 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting: RBW= 10KHz, VBW=30KHz, Sweep time = Auto, Span=2MHz.

4.1.2 TEST SETUP



4.1.3 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.

4.1.4 TEST RESULTS

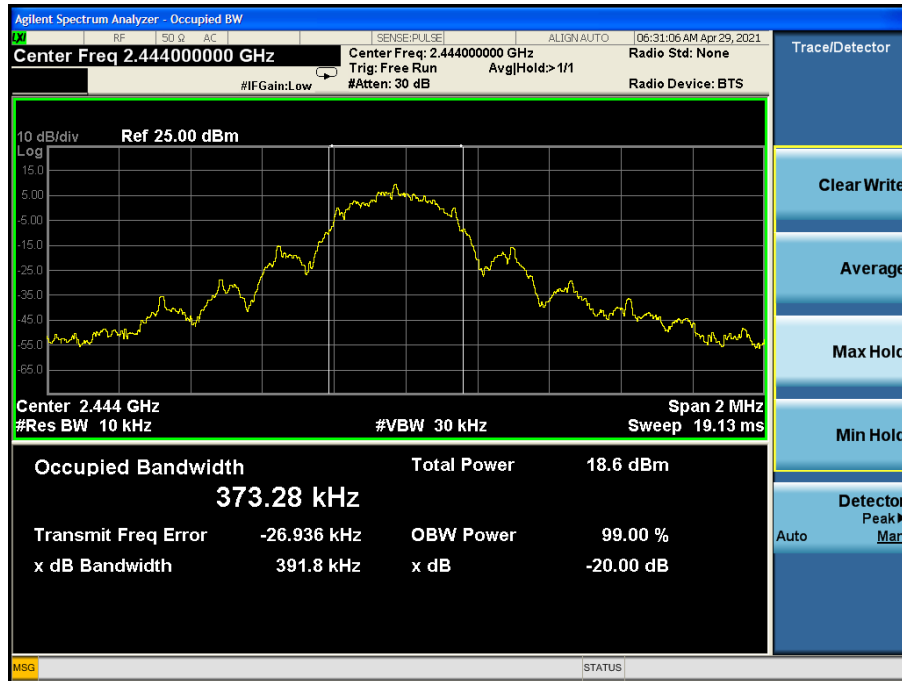
EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC3.7V from battery
Test Mode :	CH01 / CH10 /CH20 –ANT1		
Test Date :	2021-04-29		

Frequency	20dB Bandwidth (KHz)	Result
2410 MHz	392.4	Pass
2444 MHz	391.8	Pass
2474 MHz	381.0	Pass

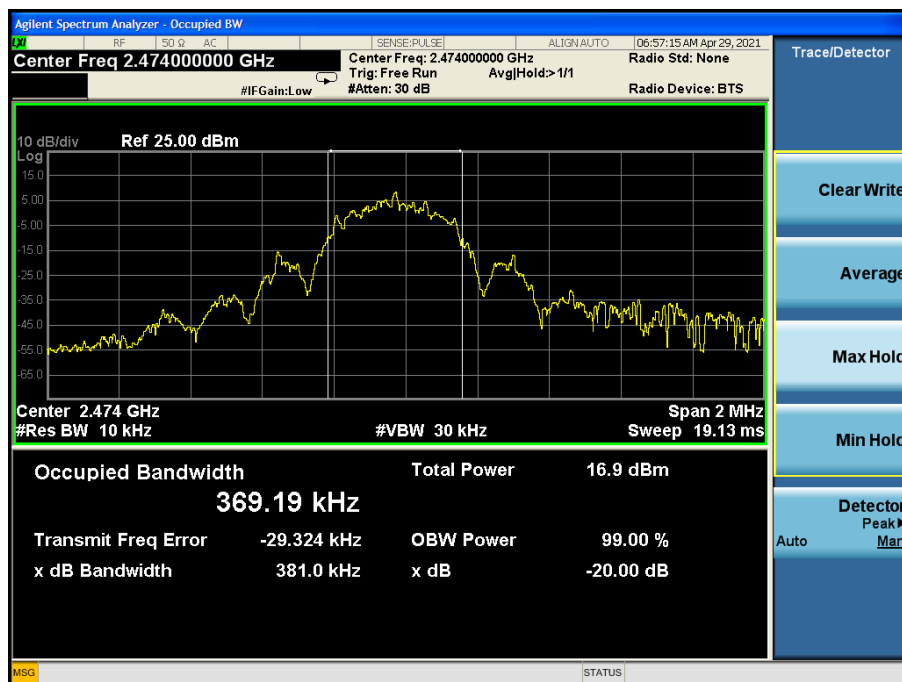
CH 01



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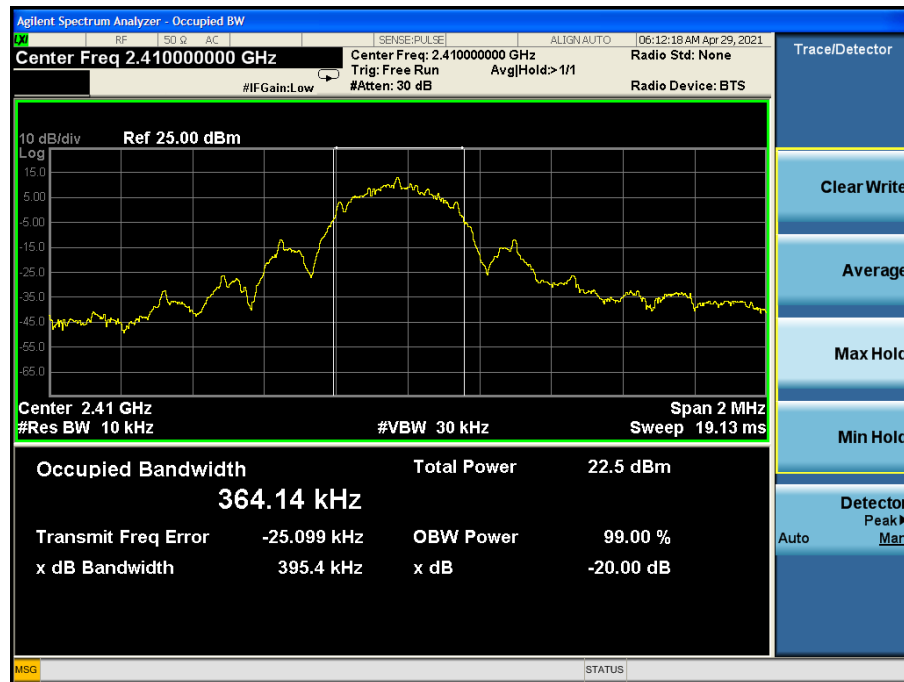
CH 20



EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC3.7V from battery
Test Mode :	CH01 / CH10 /CH20 –ANT2		
Test Date :	2021-04-29		

Frequency	20dB Bandwidth (KHz)	Result
2410 MHz	395.4	Pass
2444 MHz	401.2	Pass
2474 MHz	393.5	Pass

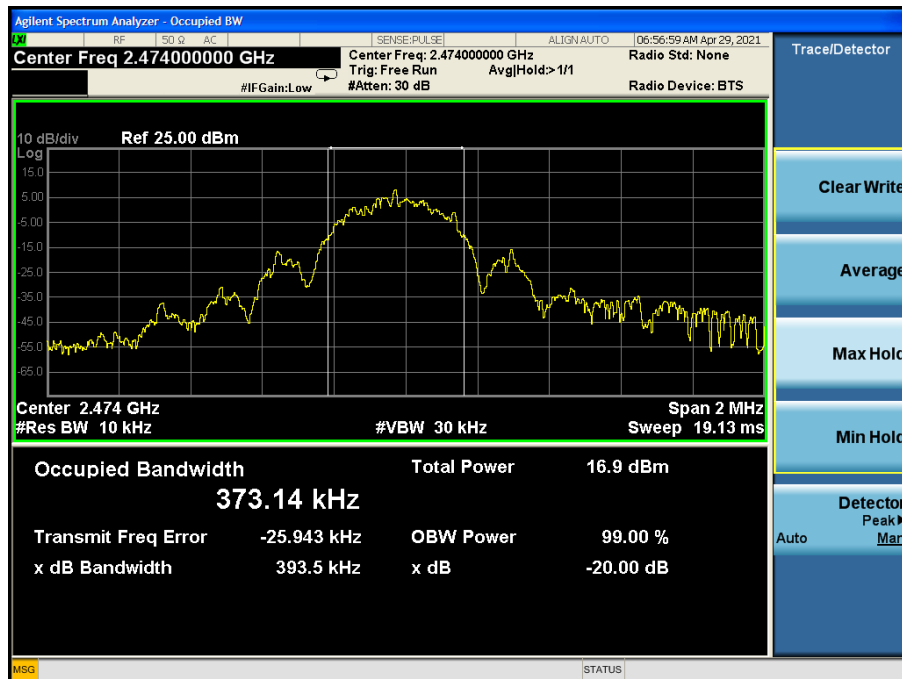
CH 01



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5. NUMBER OF HOPPING CHANNEL

5.1 APPLIED PROCEDURES / LIMIT

LP0002			
Section	Test Item	Frequency Range (MHz)	Result
4.10.1.6(1)	Number of Hopping Channel	2400-2483.5	PASS

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	the frequency band of operation
RB	300kHz
VB	1 MHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

5.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 300kHz, VBW=1 MHz, Sweep time = Auto.

5.1.2 TEST SETUP



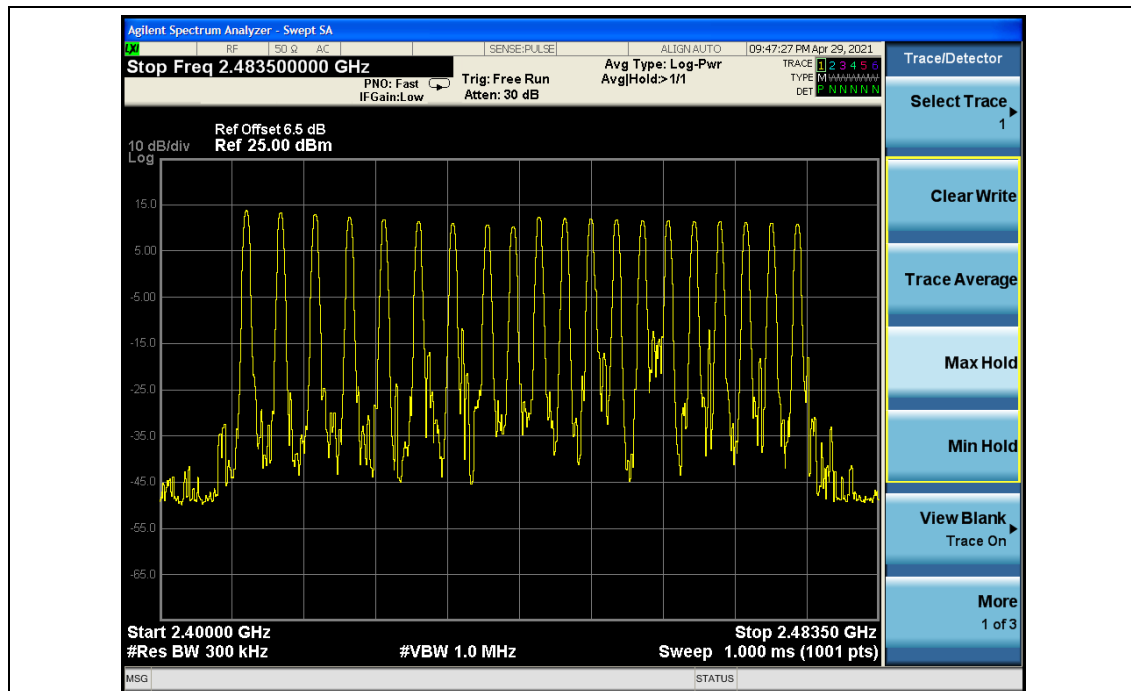
5.1.3 EUT OPERATION CONDITIONS

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.

5.1.4 TEST RESULTS

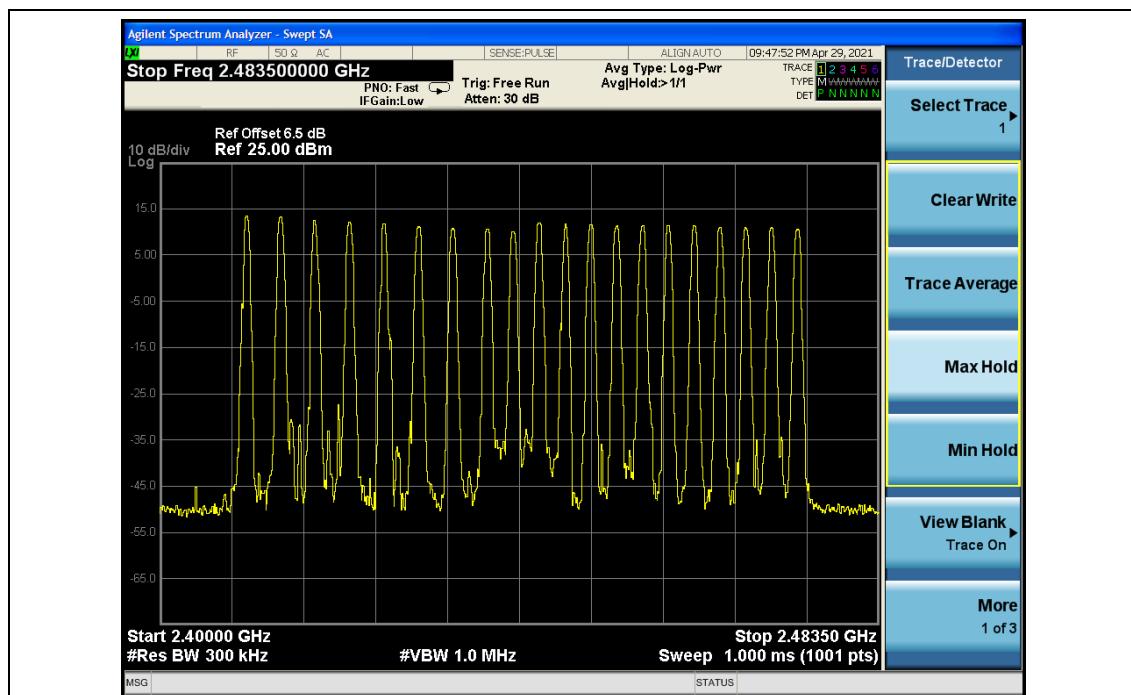
EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC3.7V from battery
Test Mode :	Hopping Mode –ANT 1		
Test Date :	2021-04-29		

Number of Hopping Channel	20
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EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC3.7V from battery
Test Mode :	Hopping Mode-ANT 2		
Test Date :	2021-04-29		

Number of Hopping Channel	20
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6. AVERAGE TIME OF OCCUPANCY

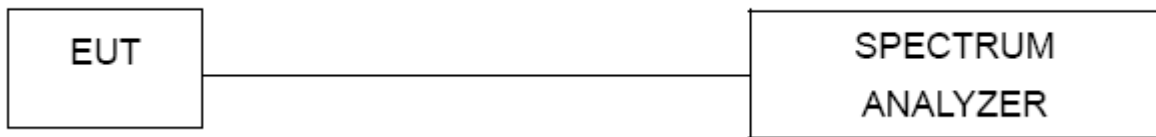
6.1 APPLIED PROCEDURES / LIMIT

LP0002				
Section	Test Item	Limit	Frequency Range (MHz)	Result
4.10.1.6(1)	Average Time of Occupancy	0.4sec	2400-2483.5	PASS

6.1.1 TEST PROCEDURE

- The transmitter output (antenna port) was connected to the spectrum analyzer
- Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.
- Use a video trigger with the trigger level set to enable triggering only on full pulses.
- Sweep Time is more than once pulse time.
- Set the center frequency on any frequency would be measure and set the frequency span to zero span.
- Measure the maximum time duration of one single pulse.

6.1.2 TEST SETUP



6.1.3 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.

6.1.4 TEST RESULTS

EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC3.7V from battery
Test Mode :	CH20 –ANT1		
Test Date :	2021-04-29		

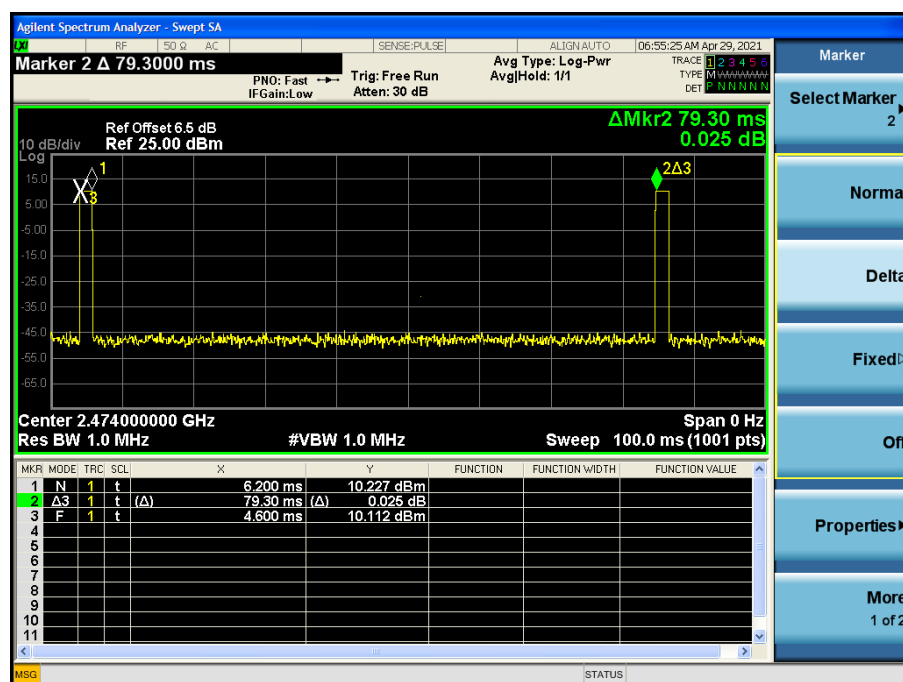
Frequency	Pulse Duration (ms)	Dwell Time (s)	Limits (s)
2474 MHz	1.600	0.256	0.4000

Frequency	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	10log(1/x)Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
2474MHz	1.600	79.30	0.020	2.02%	16.946	0.625

Note:

1. $1.6 \times 2 = 3.2$ ms; $3.2 / 100 \times 8000 = 256.0$ ms
2. $0.4 \times 20 = 8.0$ s 時間內，ton 的時間小於 0.4 秒

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EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC3.7V from battery
Test Mode :	CH01 / CH10 /CH20 –ANT2		
Test Date :	2021-04-29		

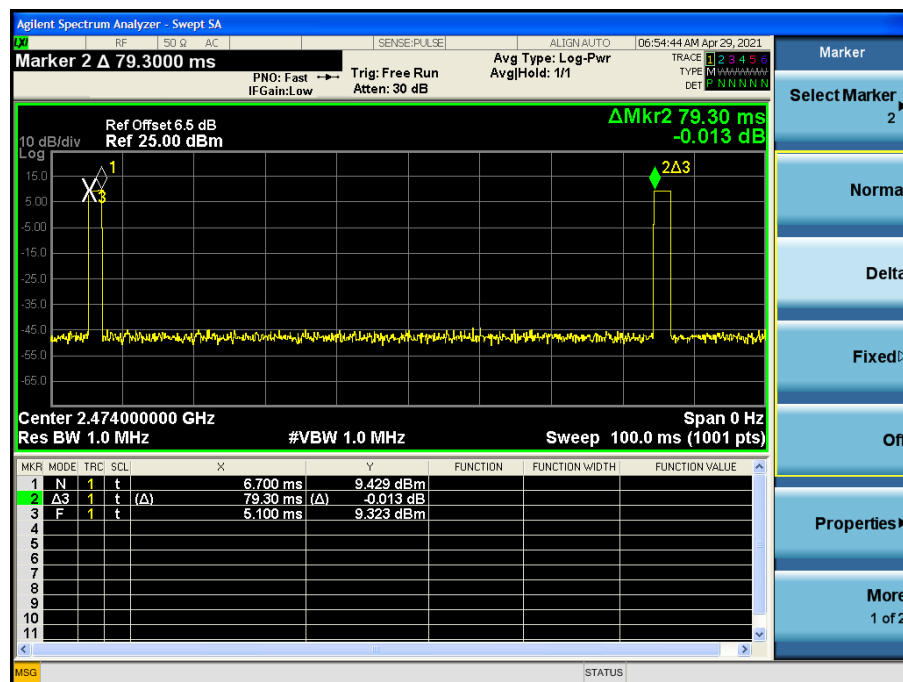
Frequency	Pulse Duration (ms)	Dwell Time (s)	Limits (s)
2474 MHz	1.600	0.256	0.4000

Frequency	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	10log(1/x)Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
2474MHz	1.600	79.30	0.020	2.02%	16.946	0.625

Note:

1. $1.6 \times 2 = 3.2$ ms; $3.2 / 100 \times 8000 = 256.0$ ms
2. $0.4 \times 20 = 8.0$ s 時間內, ton 的時間小於 0.4 秒

CH 20



7. HOPPING CHANNEL SEPARATION MEASUREMENT

7.1 APPLIED PROCEDURES / LIMIT

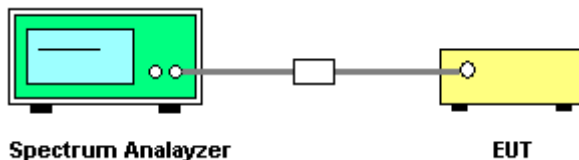
Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth or Channel Separation
RB	300 kHz
VB	1MHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

7.1.1 TEST PROCEDURE

- The transmitter output (antenna port) was connected to the spectrum analyser in peak hold mode.
- The resolution bandwidth of 10 kHz and the video bandwidth of 30 kHz were utilised for 20 dB bandwidth measurement.
- The resolution bandwidth of 300 kHz and the video bandwidth of 1MHz were utilised for channel separation measurement.

7.1.2 TEST SETUP



7.1.3 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

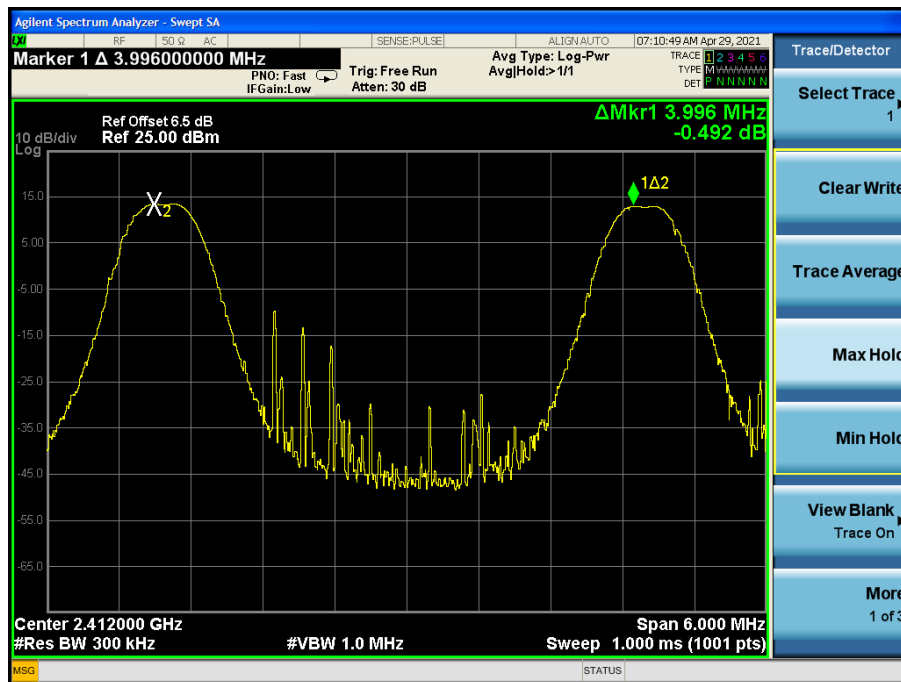
7.1.4 TEST RESULTS

EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC3.7V from battery
Test Mode :	CH01 / CH10 /CH20 –ANT1		
Test Date :	2021-04-29		

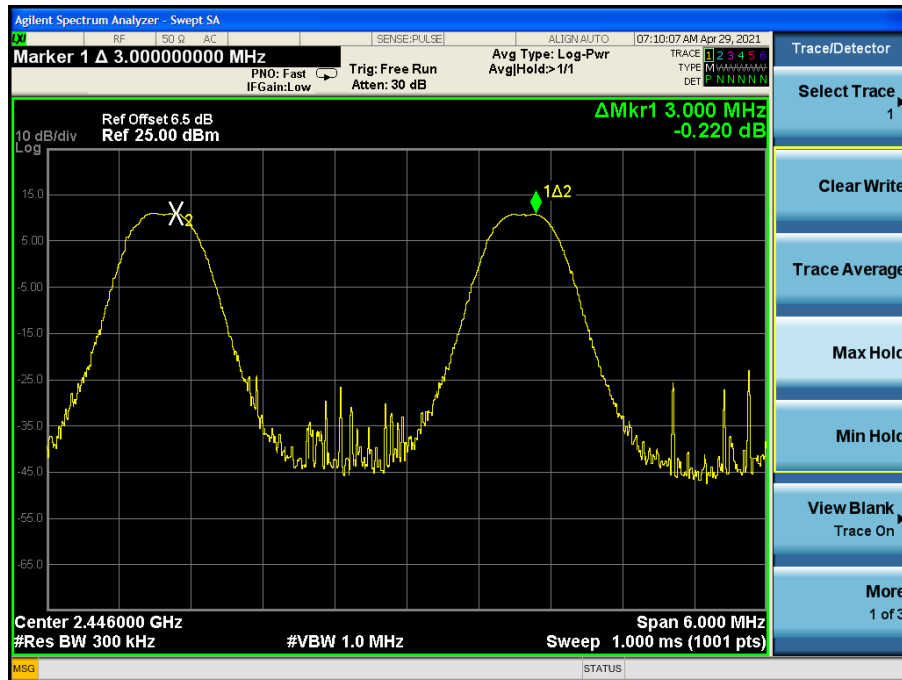
Frequency	Ch. Separation (KHz)	Limit 2/3(20dB bandwidth) (kHz)	Result
2410 MHz	3996	261.6	PASS
2444 MHz	3000	261.2	PASS
2474 MHz	3012	254.0	PASS

Ch. Separation >2/3(20dB bandwidth)

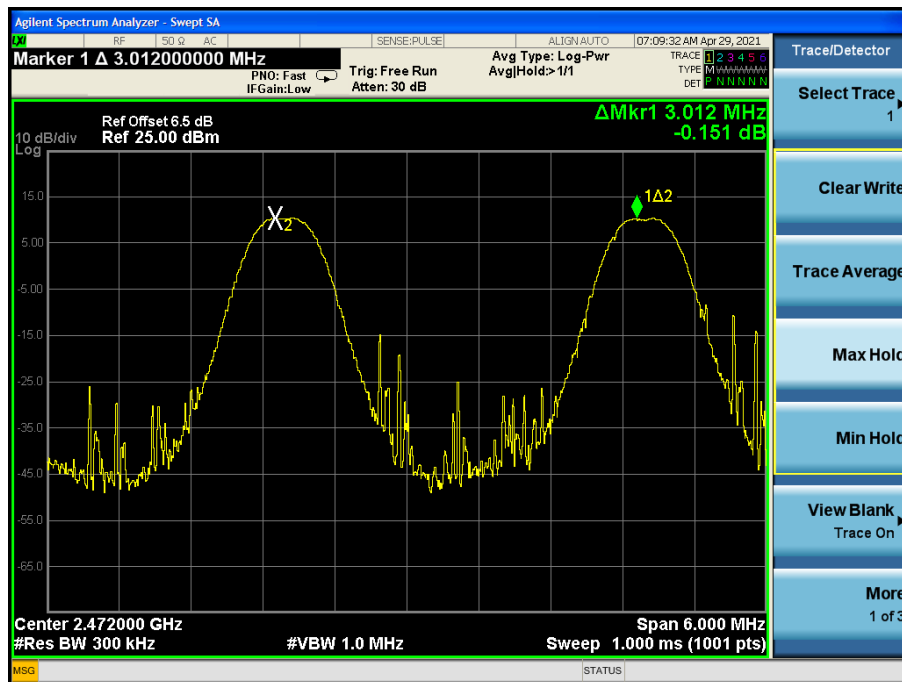
CH 01



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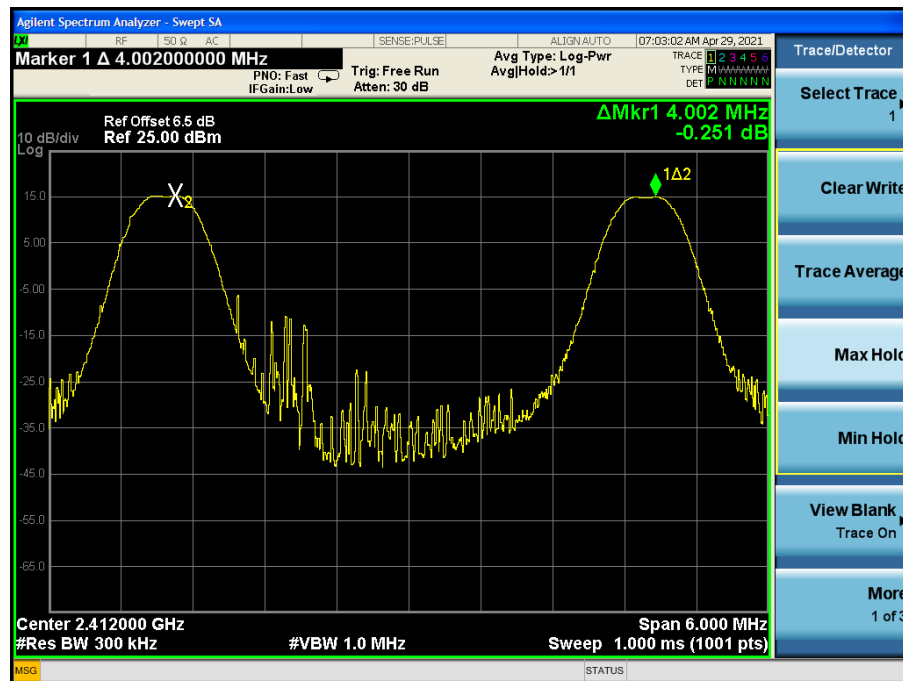


EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC3.7V from battery
Test Mode :	CH01 / CH10 /CH20 –ANT2		
Test Date :	2021-04-29		

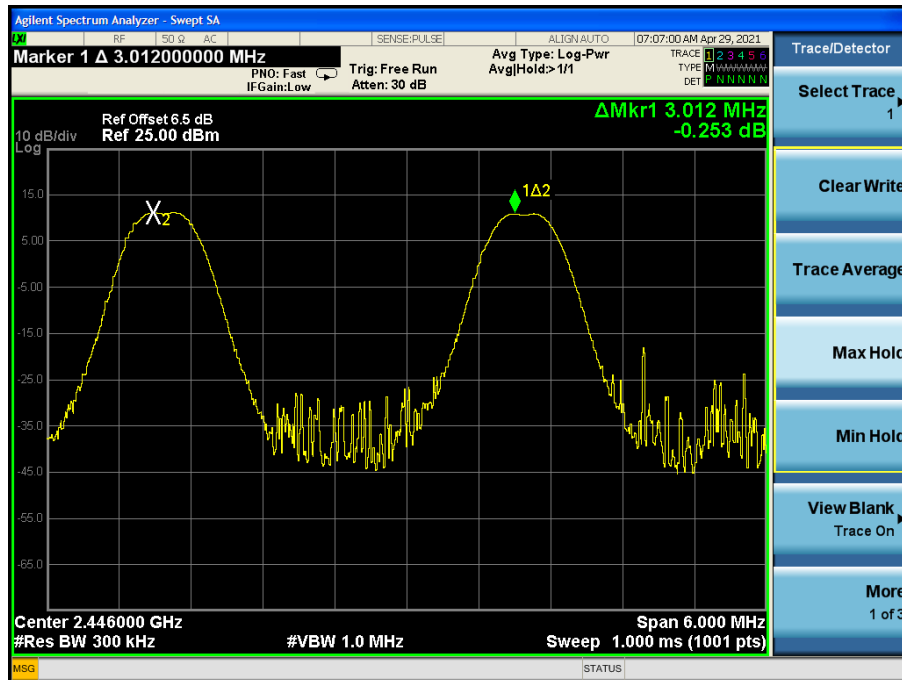
Frequency	Ch. Separation (KHz)	Limit 2/3(20dB bandwidth) (KHz)	Result
2410 MHz	4002	263.6	PASS
2444 MHz	3012	267.5	PASS
2474 MHz	3012	262.3	PASS

Ch. Separation >2/3(20dB bandwidth)

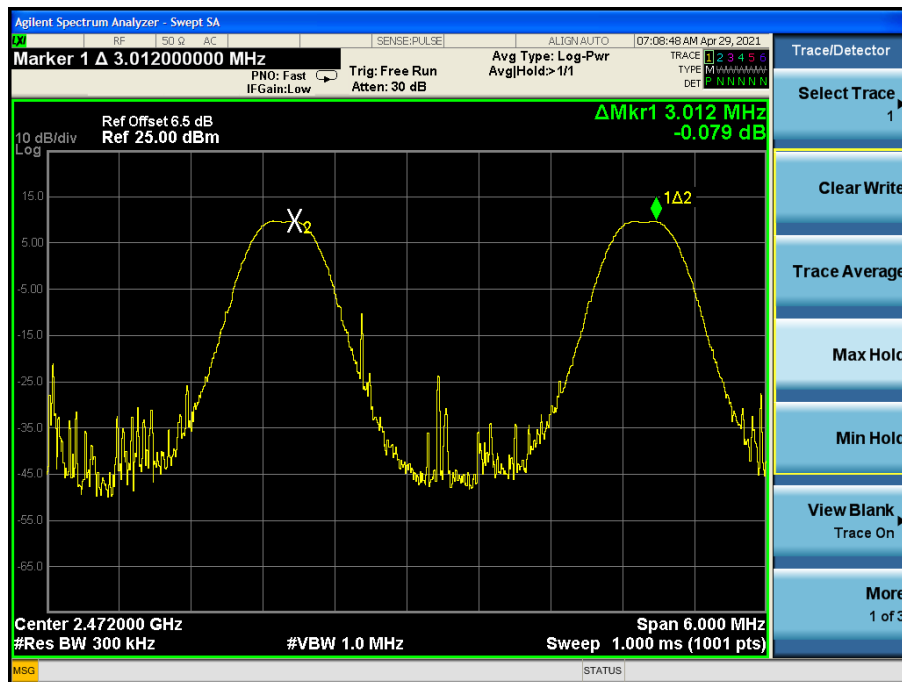
CH 01



CH 10



CH 20



8. PEAK OUTPUT POWER TEST

8.1 APPLIED PROCEDURES / LIMIT

LP0002				
Section	Test Item	Limit	Frequency Range (MHz)	Result
4.10.1(2)	Peak Output Power	0.125 watt or 21dBm	2400-2483.5	PASS

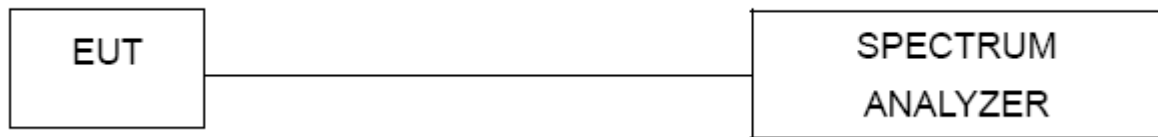
8.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW=1.0MHz, VBW= 3.0MHz, Span= 3.0 MHz , Sweep time = Auto.

8.1.2 DEVIATION FROM STANDARD

No deviation.

8.1.3 TEST SETUP



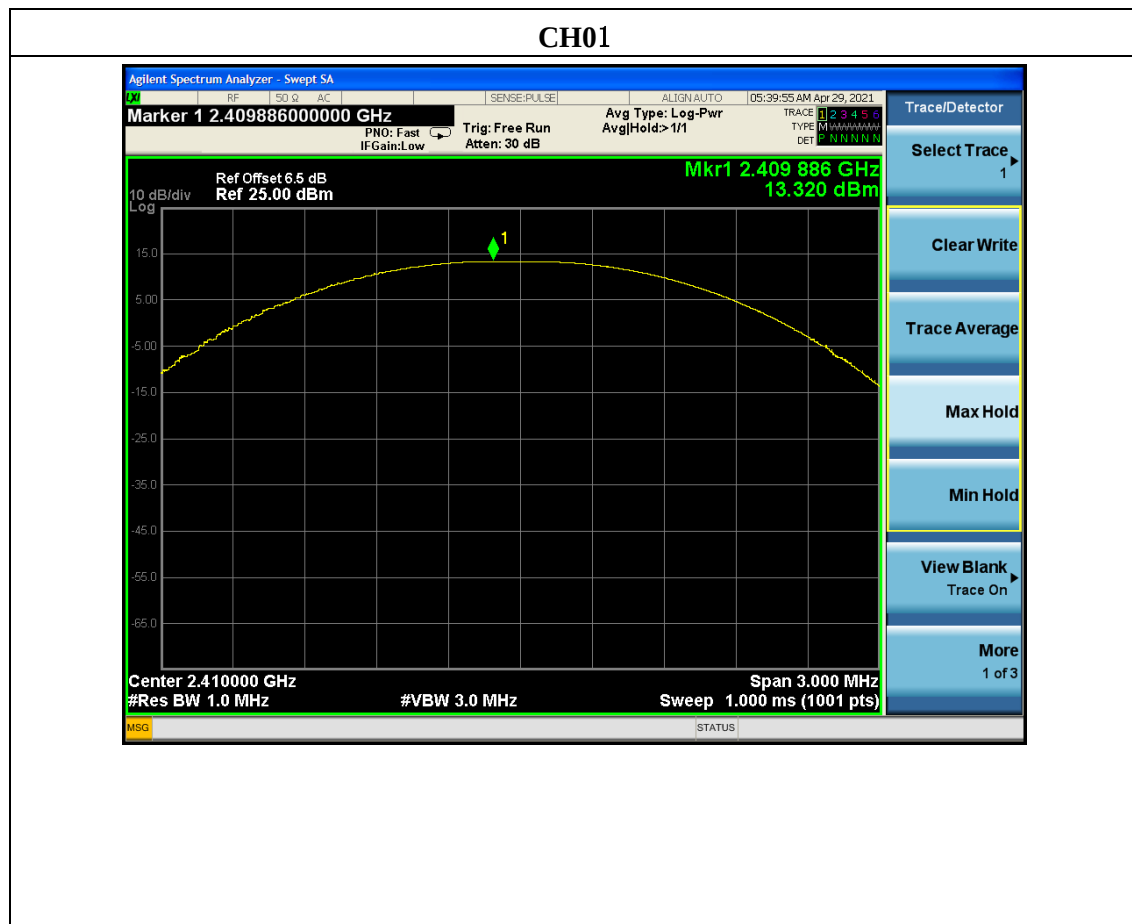
8.1.4 EUT OPERATION CONDITIONS

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.

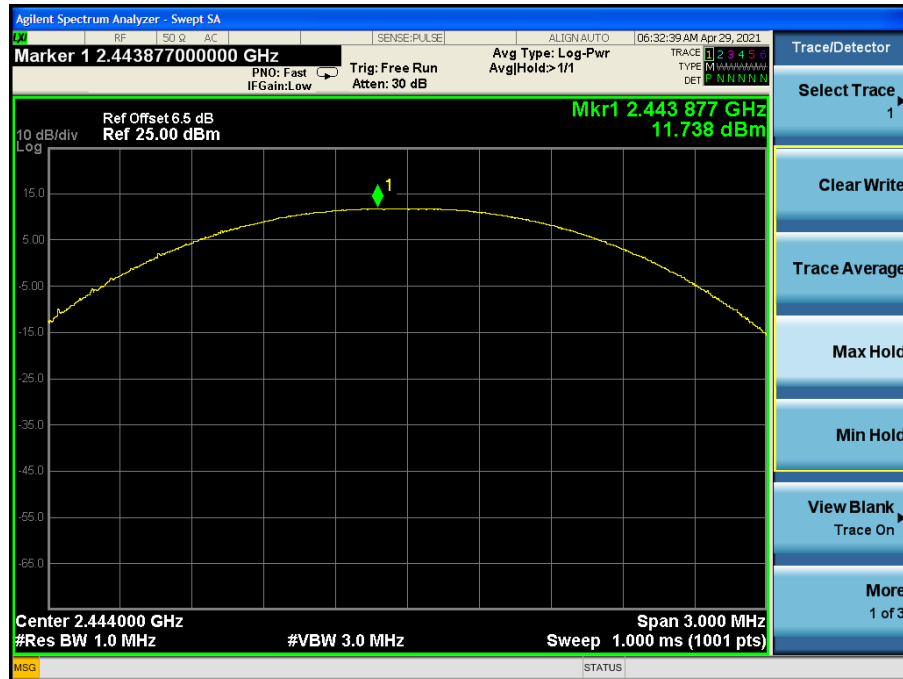
8.1.5 TEST RESULTS

EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC3.7V from battery
Test Mode :	CH01 / CH10 /CH20 –ANT1		
Test Date :	2021-04-29		

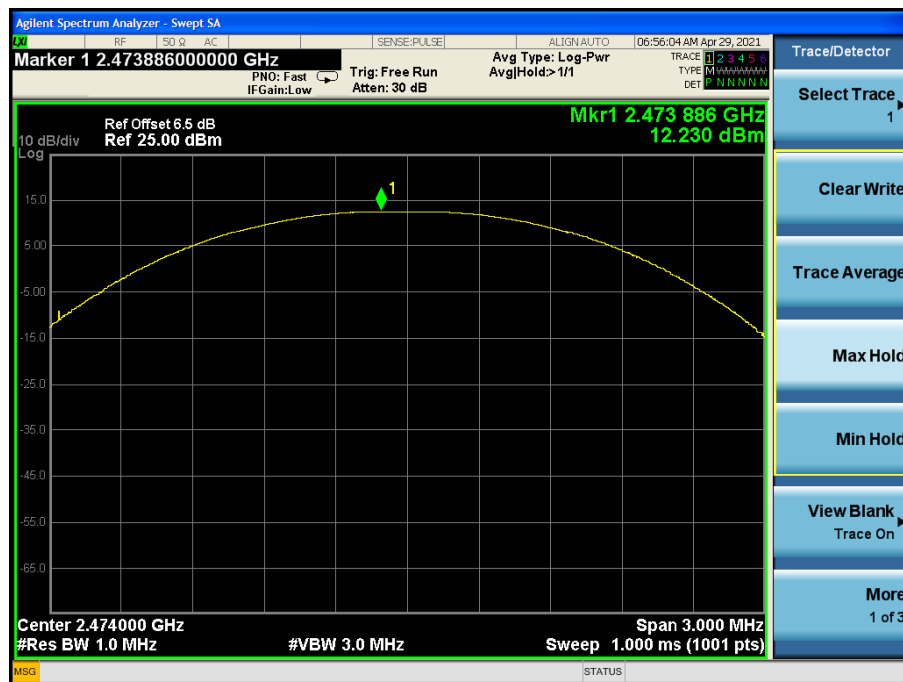
Frequency (MHz)	Peak Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
2410	13.320	21	0.125
2444	11.738	21	0.125
2474	12.230	21	0.125



CH10

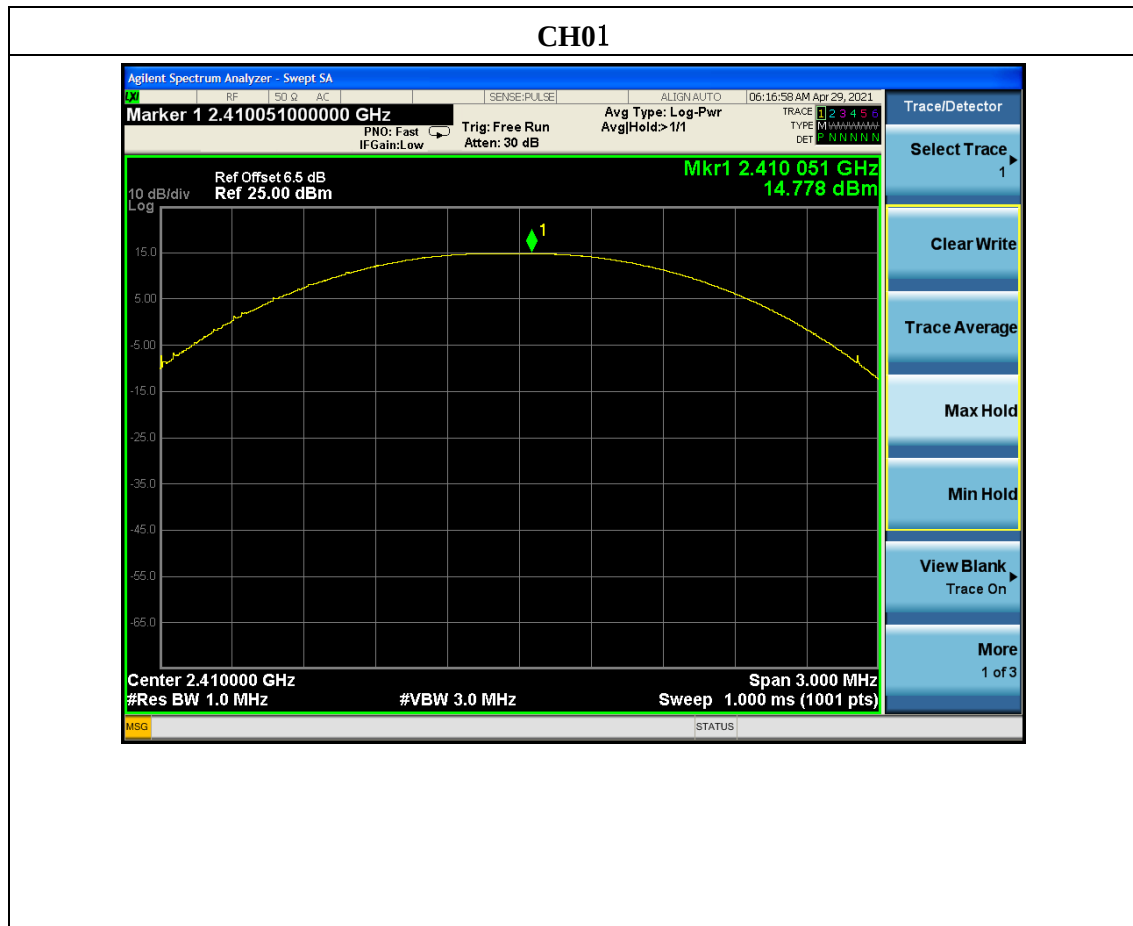


CH20

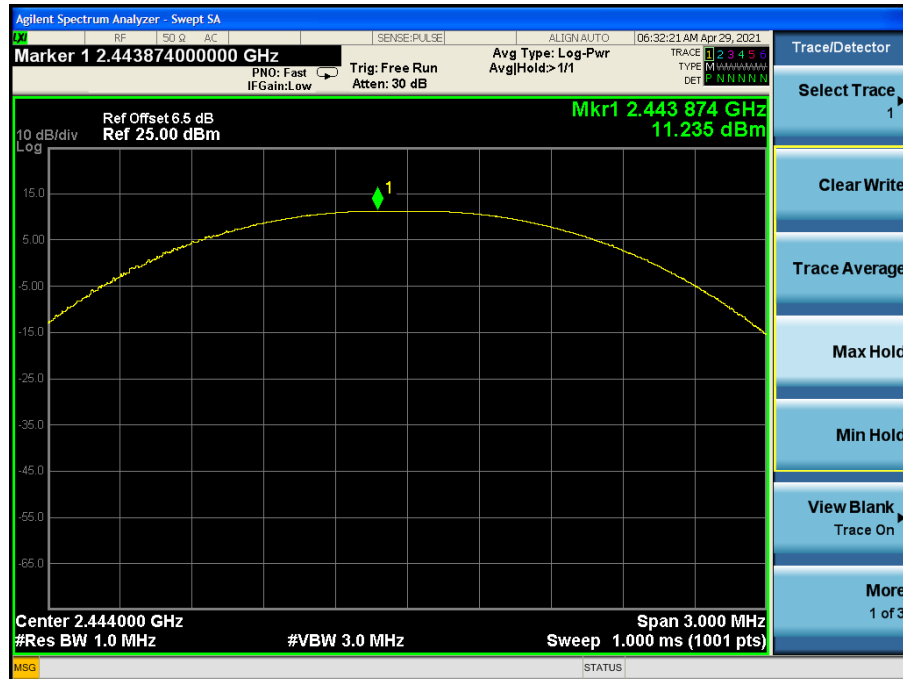


EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC3.7V from battery
Test Mode :	CH01 / CH10 /CH20 –ANT2		
Test Date :	2021-04-29		

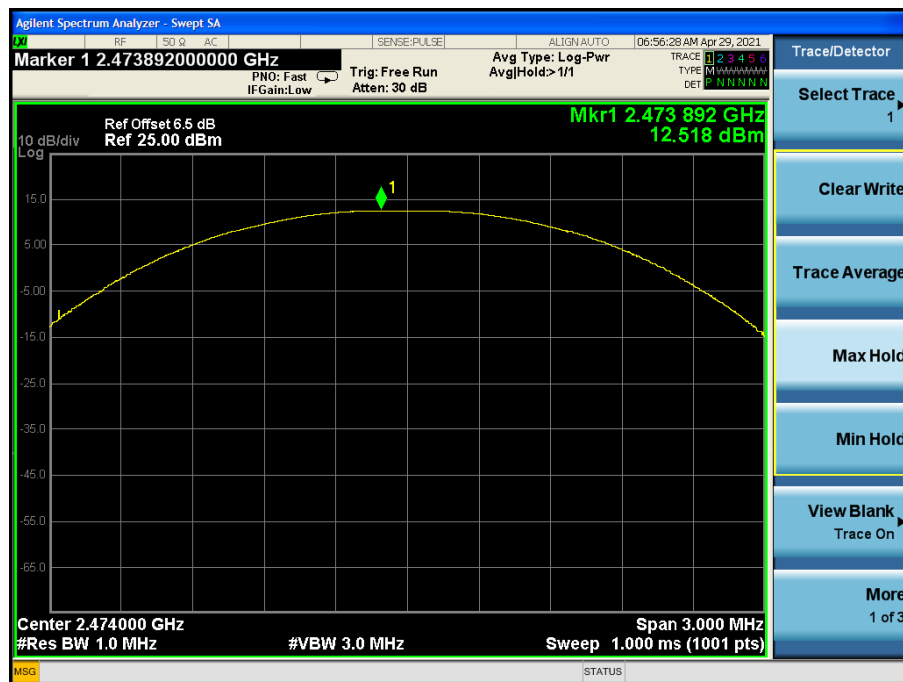
Frequency (MHz)	Peak Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
2410	14.778	21	0.125
2444	11.235	21	0.125
2474	12.518	21	0.125



CH10



CH20



9. ANTENNA CONDUCTED SPURIOUS EMISSION

9.1 APPLIED PROCEDURES / LIMIT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the modulation products of the spreading sequence, the information sequence and the carrier frequency shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power or shall not exceed the general levels specified in Section 3.6.

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

9.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 100KHz, VBW=300KHz, Sweep time = Auto.

9.1.2 TEST SETUP



9.1.3 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.

9.1.4 TEST RESULTS

EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC3.7V from battery
Test Mode :	CH01 / CH10 /CH20 –ANT1		
Test Date :	2021-04-29		

in any 100kHz bandwidth outside the low frequency band	in any 300 kHz bandwidth outside the high frequency band
Pass	Pass
Result	
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 300kHz bandwidth within the band that contains the highest level of the desired power.	

Remark :

- (1) Hopping enabled and disabled have evaluated,and the worrest data was reported

Agilent Spectrum Analyzer - Swept SA

RF 50 Q AC SENSE:PULSE ALIGN: AUTO 05:58:26 AM Apr 29, 2021

Display Line -6.56 dBm PNO: Fast IFGain: Low Trig: Free Run Avg Type: Log-Pwr AvgHold: > 1/1

TRACE 1 2 3 4 5 6 TYPE M N N N N N N DET N N N N N N

Ref Offset 6.5 dB Ref 25.00 dBm

Mkr1 2.409 97 GHz 13.442 dBm

10 dB/div Log

Start 2.31000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 2.44000 GHz Sweep 12.47 ms (1001 pts)

MARKER	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.409 97 GHz	13.442 dBm			
2	N	1	f	2.399 90 GHz	-51.325 dBm			
3								
4								
5								
6								
7								
8								
9								
10								
11								

MSG STATUS

Trace/Detector

Select Trace

Clear Write

Trace Average

Max Hold

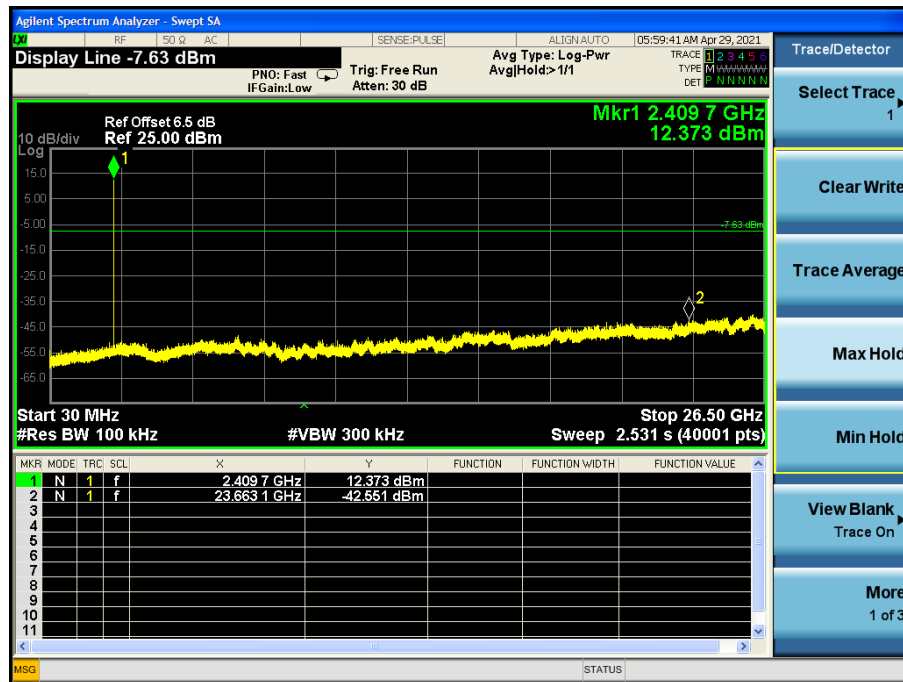
Min Hold

View Blank Trace On

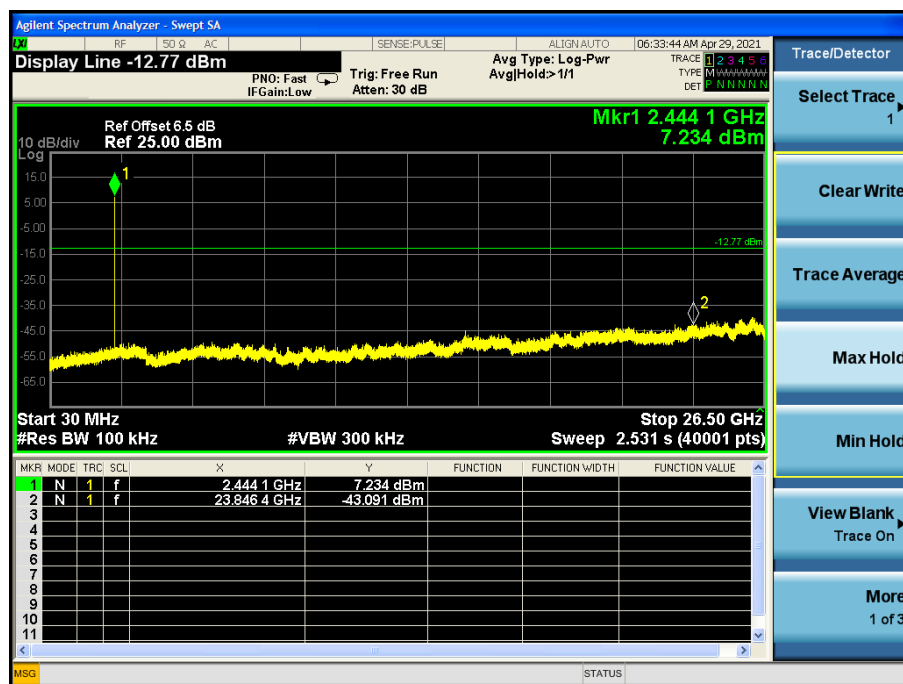
More 1 of 3

[illegible]

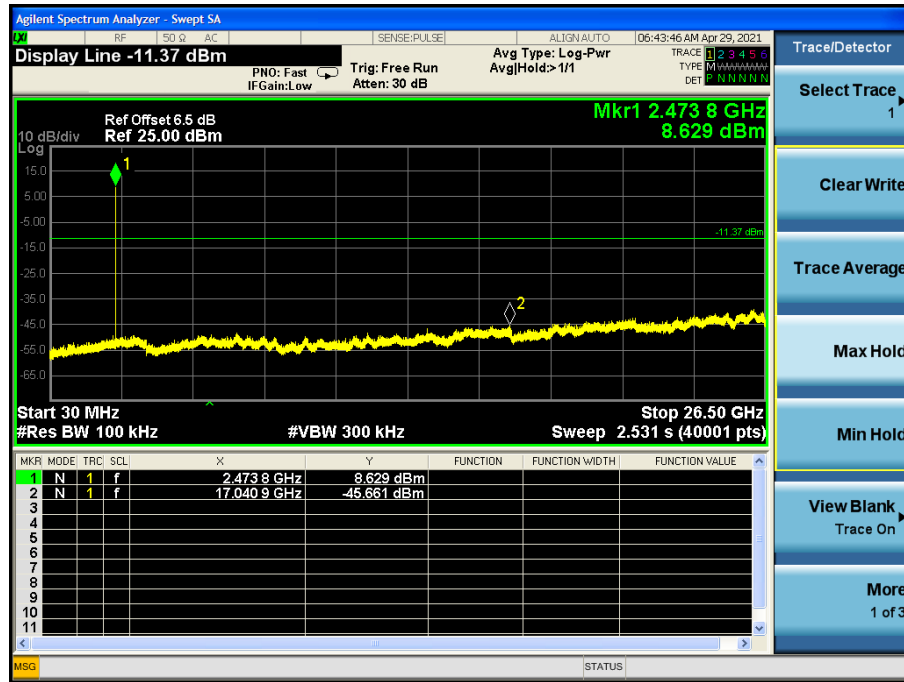
CH01



CH10



CH20



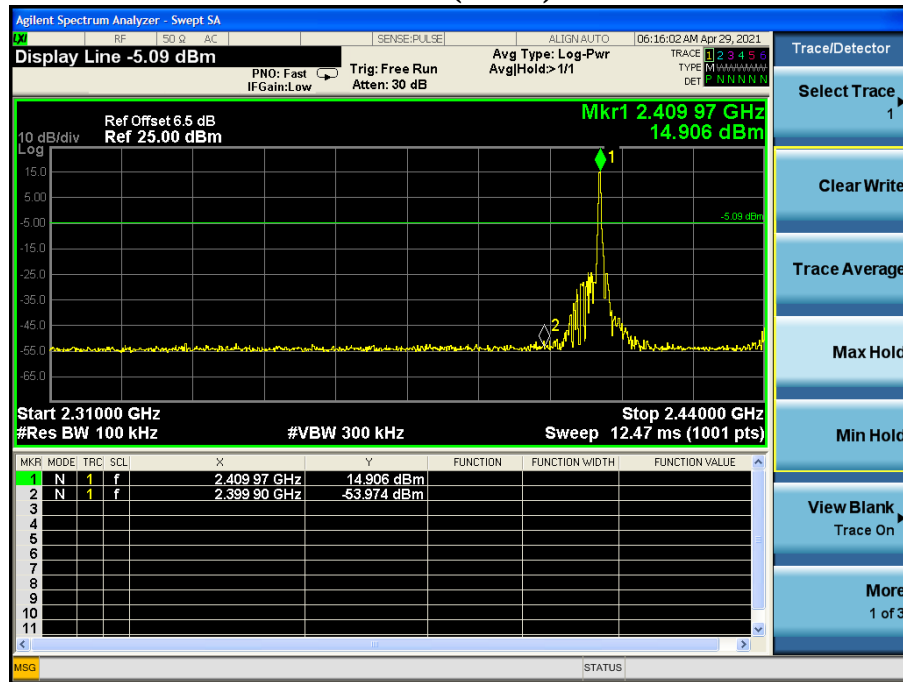
EUT :	CIRC ASL47 Transmitter CIRC ASL47 遙控器	Model Name :	CIRC ASL47
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC3.7V from battery
Test Mode :	CH01 / CH10 /CH20 –ANT2		
Test Date :	2021-04-29		

in any 100kHz bandwidth outside the low frequency band	in any 100 kHz bandwidth outside the high frequency band
Pass	Pass
Result	
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.	

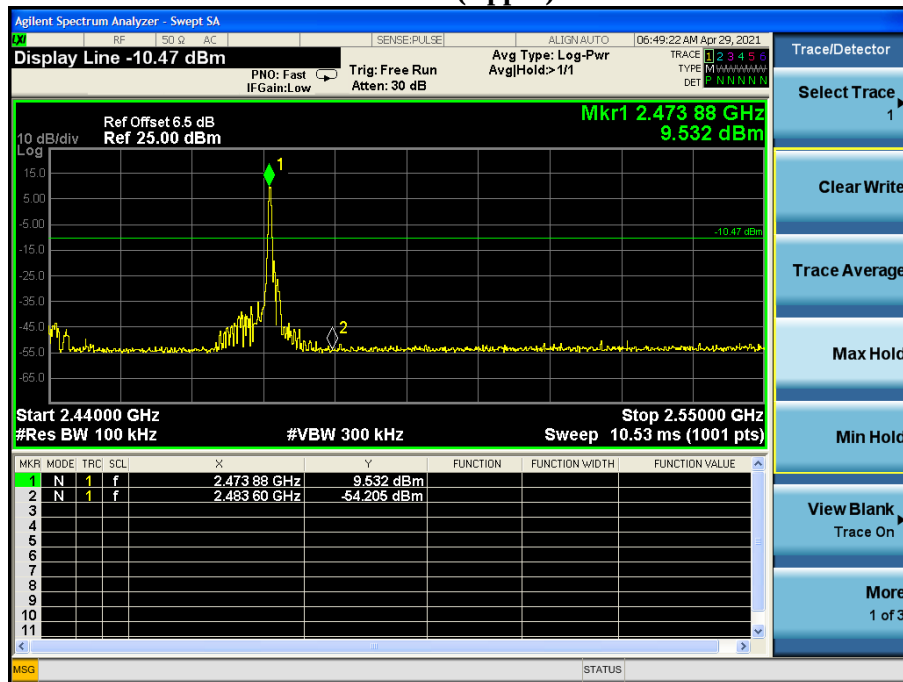
Remark :

- (1) Hopping enabled and disabled have evaluated,and the worrest data was reported

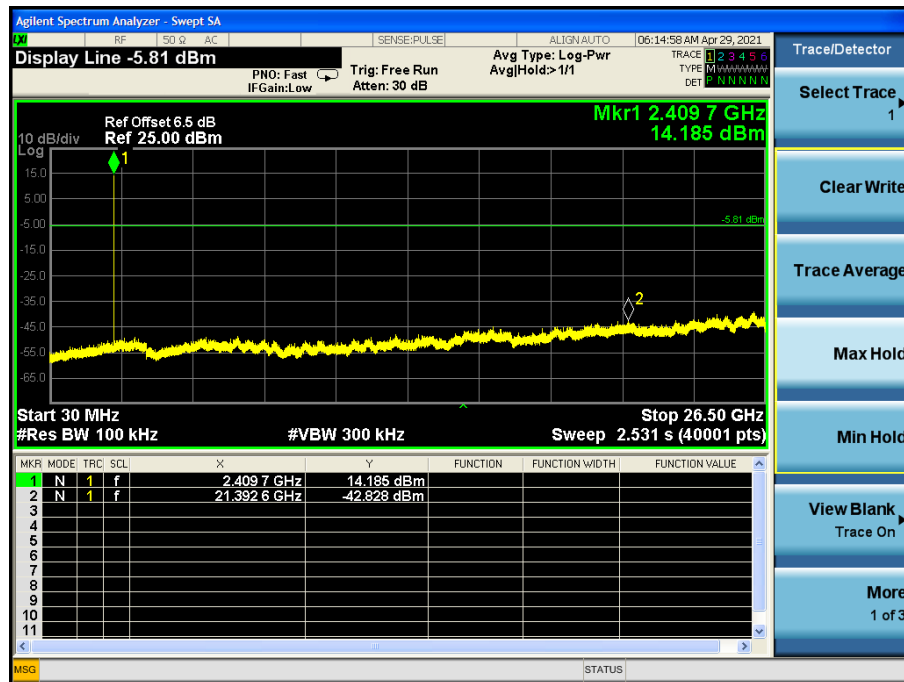
CH01 (Lower)



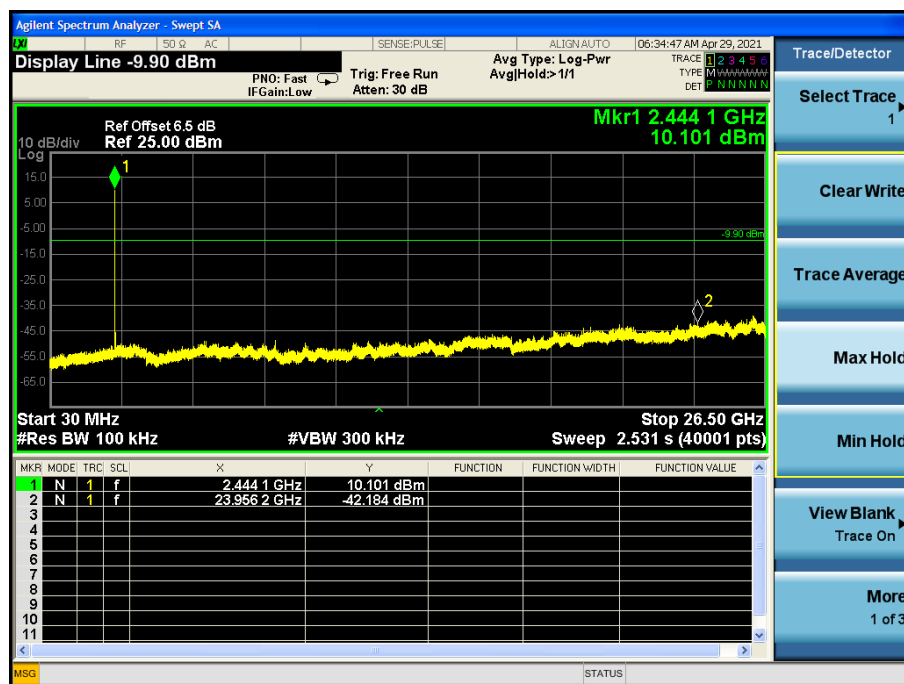
CH 20 (Upper)



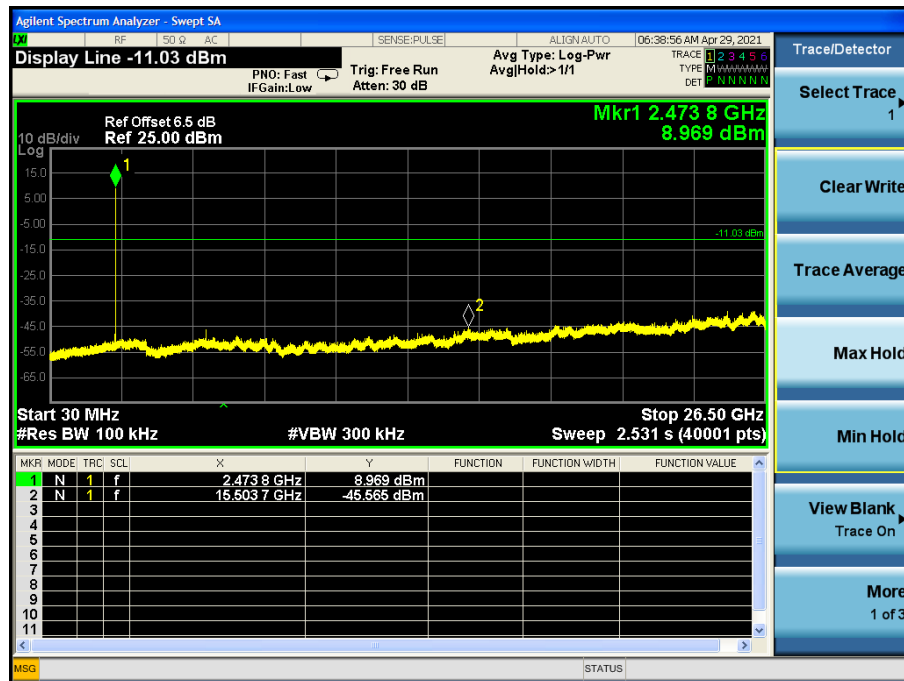
CH01



CH10



CH20



10. ANTENNA REQUIREMENT

10.1 STANDARD REQUIREMENT

4.10.3.1.1 requirement: Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

10.2 EUT ANTENNA

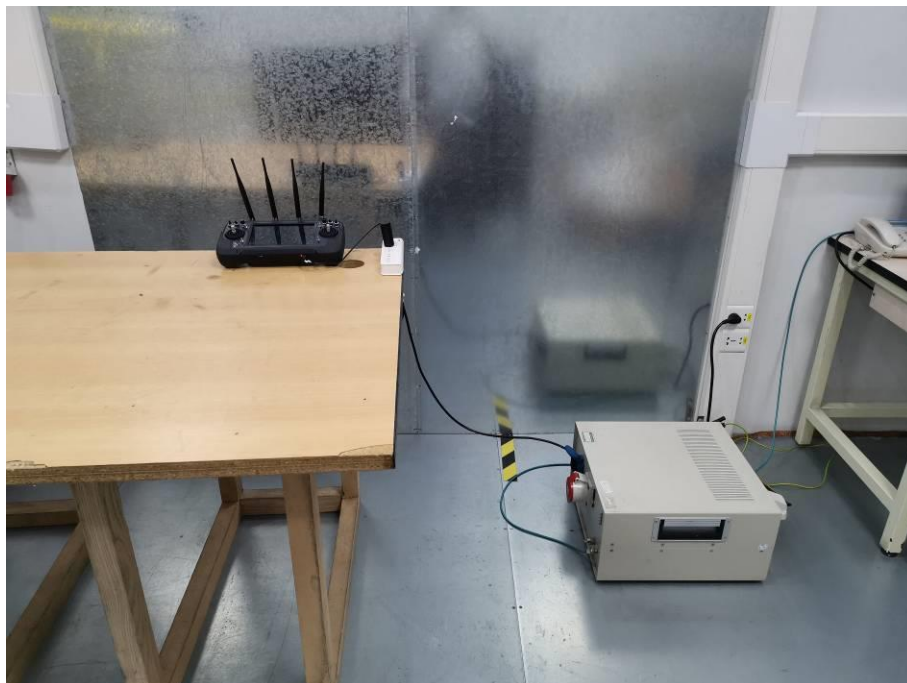
The antenna is a External Antenna and no consideration of replacement. Antenna max gain is 5.7dBi from 2.4GHz to 2.5GHz.

11. EUT TEST PHOTO**Radiated Measurement Photos
30MHz-1GHz**

Radiated Measurement Photos Above 1GHz



Conducted Measurement Photos



****End of the report****