

JAPAN RADIO TEST REPORT

Report Reference No.....: 21EJSB03012 03361
Date Sample(s) Received: 2021-03-19
Date Tested.....: From 2021-03-19 to 2021-05-04
Date of issue.....: 2021-05-04

Testing Laboratory.....: DongGuan ShuoXin Electronic Technology Co., Ltd.
Address: Zone A, 1F, No. 6, XinGang Road YuanGang Street, XinAn District, ChangAn Town, DongGuan City, GuangDong, China

Applicant's name.....: PERFORMANCE DESIGNED PRODUCTS, LLC
Address: 9179 Aero Drive, San Diego, CA 92123
Manufacturer: PERFORMANCE DESIGNED PRODUCTS, LLC

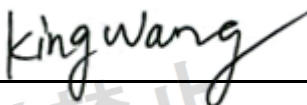
Test specification:
Test item description: LVL50 Wireless Stereo Headset for PS4
Trade Mark: --
Model/Type reference.....: 051-049T,052-013T
Ratings: I/P: DC 5V by USB

Responsible Engineer :



Smile Wang

Authorized Signatory:



King Wang

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TEST REPORT DECLARE

Applicant	:	PERFORMANCE DESIGNED PRODUCTS, LLC
Address	:	9179 Aero Drive, San Diego, CA 92123
Equipment under Test	:	LVL50 Wireless Stereo Headset for PS4
Model No	:	051-049T,052-013T
Trade Mark	:	--
Manufacturer	:	PERFORMANCE DESIGNED PRODUCTS, LLC
Address	:	9179 Aero Drive, San Diego, CA 92123

Test Standard Used: Article 49-20 and the relevant articles of the Ordinance Regulating Radio Equipment

We Declare:

The equipment described above is tested by DongGuan ShuoXin Electronic Technology Co., Ltd. and in the configuration tested the equipment complied with the standard specified above. The test results are contained in this test report and DongGuan ShuoXin Electronic Technology Co.,Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

After test and evaluation, our opinion is that the equipment provided for test compliance with the requirement of the above ARIB standard.

Report No:	21EJSB03012 03361		
Date of Test:	2021-03-19~2021-05-04	Date of Report:	2021-05-04

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of DongGuan ShuoXin Electronic Technology Co., Ltd.

1. Summary of test results

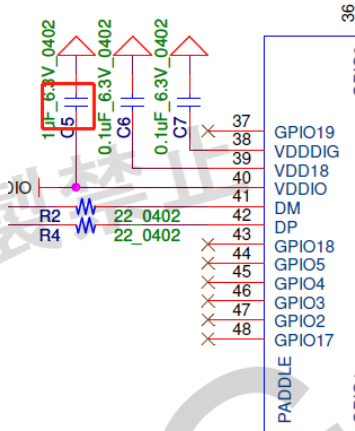
CLAUSE (ARIB STD-T66)	TEST PARAMETER	RESULTS
Transmitter Parameters		
3.2 (2)	Antenna Power	PASS
3.2 (3)	Tolerances for Antenna Power	PASS
3.2 (4)	Frequency Tolerance	PASS
3.2 (5)	Transmission Rate	PASS
3.2 (6)	Spurious Emissions	PASS
3.2 (7)	Occupied Frequency Bandwidth	PASS
3.2 (8)	Spread Bandwidth	N/A
3.2 (10)	Number of Carriers	PASS
3.2 (12)	Interference prevention function	PASS
3.2 (13)	Transmission antenna gain	PASS
3.2 (14)	Transmission radiation angle width	N/A
Receiver Parameters		
3.3 (1)	Limitation of Collateral Emission of Receiver	PASS
N/A is an abbreviation for Not Applicable.		

2. General test information

2.1. Description of EUT

EUT* Name	:	LVL50 Wireless Stereo Headset for PS4
Model Number	:	051-049T, 052-013T
Trade Mark	:	N/A
EUT function description	:	Please reference user manual of this device
Power supply	:	5Vdc by USB
Radio Specification	:	2.4GHz transceiver
Operation frequency	:	2405.35MHz -2477.35MHz
Modulation	:	Pi/4 DQPSK
Transmission Rate	:	1Mbps
Antenna Type	:	SMD Chip Antenna Total maximum PK gain: 2dBi
Date of Receipt	:	2021/03/19
Sample Type	:	Series production
Software version	:	V1.0
Hardware version	:	V1.0

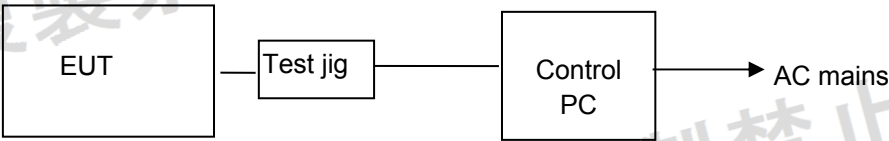
Note: EUT is the ab. of equipment under test.

Power supply voltage 5Vdc(normal)	Power supply voltage 5.5Vdc(+10%)	Power supply voltage 4.5Vdc(-10%)
3.301	3.305	3.300
Measurement point		
		

2.2. Assistant equipment used for test

Description of Assistant equipment	Manufacturer	Model number or Type	Other
Notebook	acer	Aspire E1-472G	FCC DOC
/	/	/	/

2.3. Block diagram of EUT configuration for test



EUT's Bluetooth module was connected to a special test jig provided by manufacturer which has a standard SPI connector to connect to control PC, and the control PC will run a special test software "RF Control Kit v1.0.exe" provided by manufacturer to control EUT work in test mode as blow table.

Channel List					
CH	Frequency	CH	Frequency	CH	Frequency
1	2405.35	16	2435.35	31	2465.35
2	2407.35	17	2437.35	32	2467.35
3	2409.35	18	2439.35	33	2469.35
4	2411.35	19	2441.35	34	2471.35
5	2413.35	20	2443.35	35	2473.35
6	2415.35	21	2445.35	36	2475.35
7	2417.35	22	2447.35	37	2477.35
8	2419.35	23	2449.35	/	/
9	2421.35	24	2451.35	/	/
10	2423.35	25	2453.35	/	/
11	2425.35	26	2455.35	/	/
12	2427.35	27	2457.35	/	/
13	2429.35	28	2459.35	/	/
14	2431.35	29	2461.35	/	/
15	2433.35	30	2463.35	/	/

Tested mode, channel, and data rate information		
Mode	Channel	Frequency (MHz)
Carrier Tx Mode	CH1	2405.35
	CH19	2441.35
	CH37	2477.35
Modulation Tx Mode1M,2M	CH1	2405.35
	CH19	2441.35
	CH37	2477.35

2.4. Test environment conditions

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

	Normal Conditions
Temperature range	21-25℃
Humidity range	50-65%
Pressure range	86-106kPa
Power supply	DC 5V

Note: For all the test, EUT was connected to control PC and also powered from PC.

2.5. Measurement uncertainty

Test Item	Uncertainty
RF Output power, conducted	±0.5B
Occupied Channel Bandwidth	±1%
Uncertainty for radio frequency	1×10^{-9}
Power Spectral Density, Conducted	±1.3B
Unwanted Emissions, Conducted	±0.6dB
Temperature	±0.2℃
Humidity	±1%
DC and Low frequency voltage	±0.4
Time	±1%
Duty Cycle	±1%

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

3. Antenna Power

3.1. Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated until	Calibration body	classification
Power Sensor	Angilent	U2021XA	MY55220020	2020/05/25	2021/05/24	GUANGZHOU INSTITUTE	(c)
Attenuator	Mini-Circuits	BW-S10W2	101109	N/A	N/A	N/A	N/A
RF Cable	Micable	C10-01-01-1	100309	N/A	N/A	N/A	N/A

Remark:

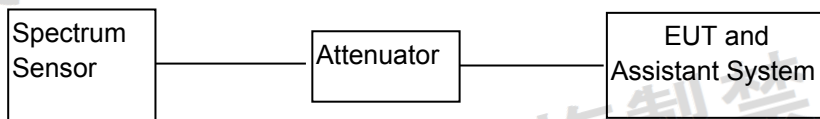
- (a) Calibration conducted by the National Institute of Information and Communications Technology (NITC) in Japan (hereinafter referred to as "NITC") or a designated calibration agency under Article 102-18 paragraph(1) in JRL
- (b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Act (Act No.51 of 1992)
- (c) Calibration conducted in countries except Japan, which shall be equivalent to the calibration Conducted by the NITC or a designation agency under Article 102-18 paragraph(1)
- (d) Calibration, etc. conducted by using measuring instruments and other equipment listed in the right column of appended table No.3, which shall have been given any type of calibration, etc. listed above from (a) to (c).

From JRL Article 24-2, paragraph 4, item 2

3.2. Limit

Limit	10mW
Tolerance	+20%,-80%

3.3. Block diagram of test setup



3.4. Test Procedure

- (1) Configure EUT and assistant system according clause 2.3 and 3.3
- (2) Set EUT work in test mode as described in clause 2.3
- (3) Connected the EUT's antenna port to the Power Sensor by suitable attenuator, and use N1918A to read the power value.
- (4) When the trace is complete, find the peak value of the power envelope and record.

Note: The cable loss and attenuator loss have been put into spectrum analyzer as amplitude offset.

3.5. Test result

Mode	CH	Voltage (V)	Measured	Ant Gain	Result		Limit
			dBm	dBi	mW	mW	mW
TX	CH01	5	4.39	2	2.75	2.75	10
	CH19	5	3.33	2	2.15	2.15	10
	CH37	5	2.23	2	1.67	1.67	10
Conclusion : PASS							

Mode	CH	Voltage (V)	Stated power	Result	Tolerance	Limit
			mW	mW	/	/
TX	CH01	5	2.500	2.75	10.00%	+20%,-80%
	CH19	5	2.500	2.15	-14.00%	+20%,-80%
	CH37	5	2.500	1.67	-33.20%	+20%,-80%
Conclusion : PASS						

3.6. Original Test Data

CH 01



CH 19



CH 37



4. Frequency Tolerance

4.1. Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated until	Calibration body	classification
Spectrum analyzer	Agilent	N9010A	MY55150427	2020/05/25	2021/05/24	Jingheng	(c)
Attenuator	Mini-Circuits	BW-S10W2	101109	N/A	N/A	N/A	N/A
RF Cable	Micable	C10-01-01-1	100309	N/A	N/A	N/A	N/A

Remark:

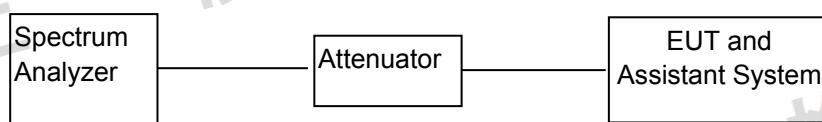
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- (d) Calibration, etc. conducted by using measuring instruments and other equipment listed in the right column of appended table No.3, which shall have been given any type of calibration, etc. listed above from (a) to (c).

From JRL Article 24-2, paragraph 4, item 2

4.2. Limit

+/- 50x 10⁻⁶ or less (50ppm)

4.3. Block diagram of test setup



4.4. Test Procedure

- (1) Configure EUT and assistant system according to clause 2.3 and 4.3
- (2) Set EUT work in carrier Tx mode as described in clause 2.3
- (3) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, set the Spectrum Analyzer as below:

Centre Frequency: The centre frequency of the channel under test.

Resolution BW: 1 KHz.

Video BW: 30 KHz.

Detector: Peak.

Trace Mode: Max Hold.

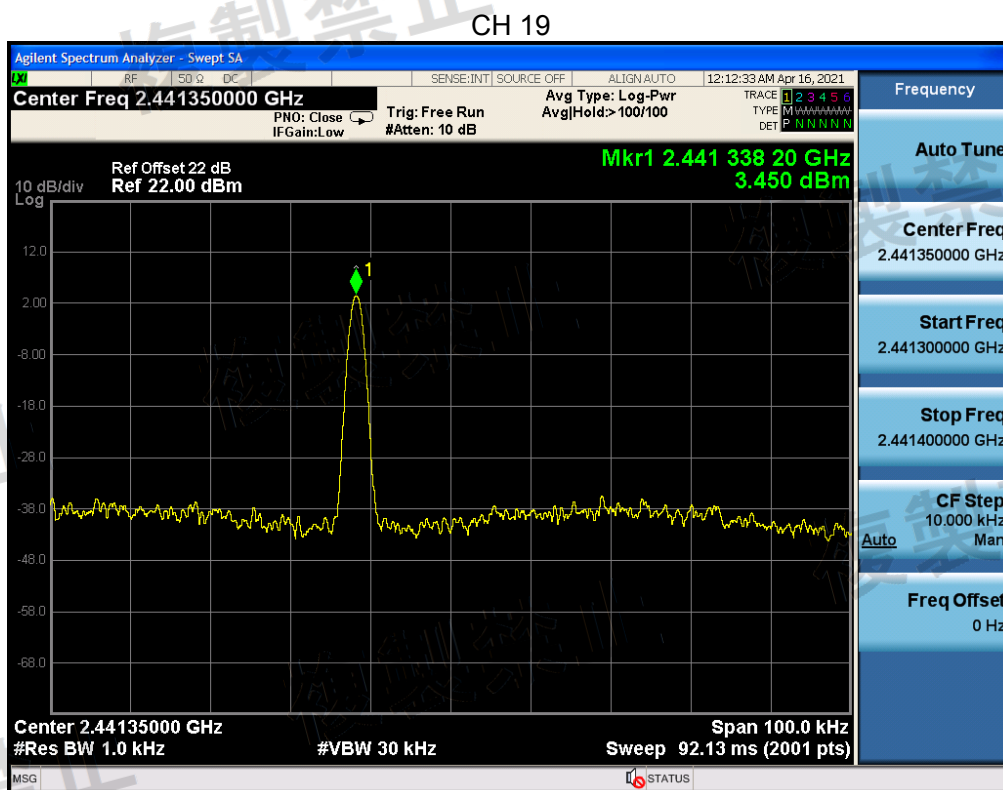
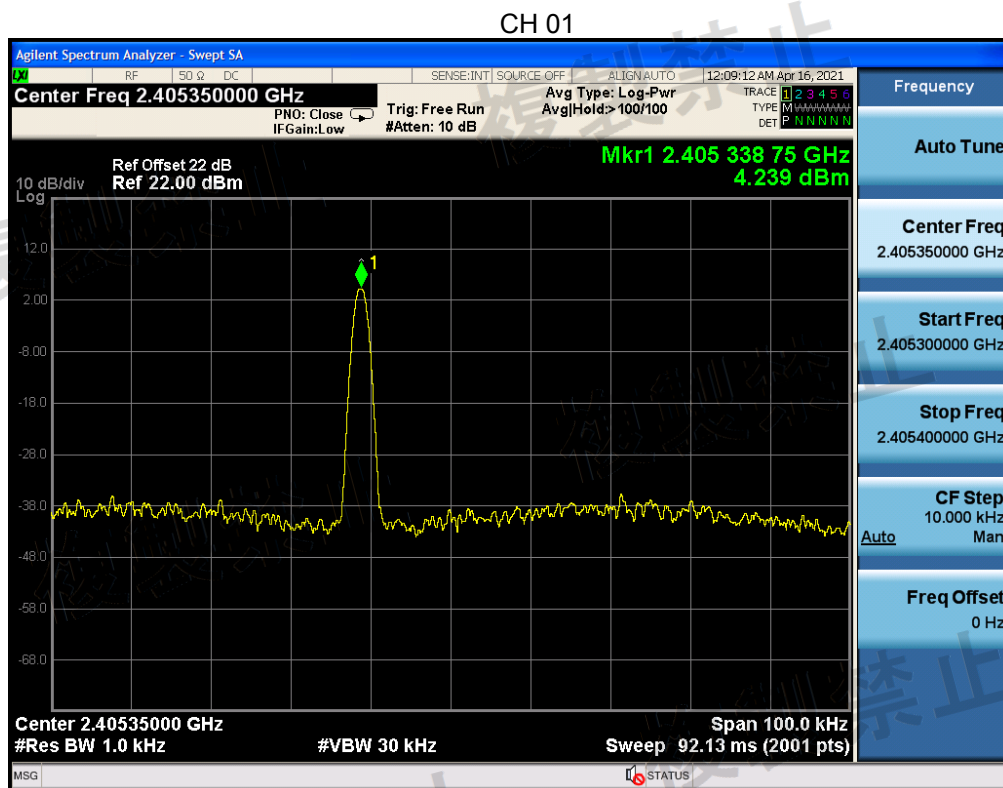
- (4) When the trace is complete, find the peak value of the power envelope and record the frequency.

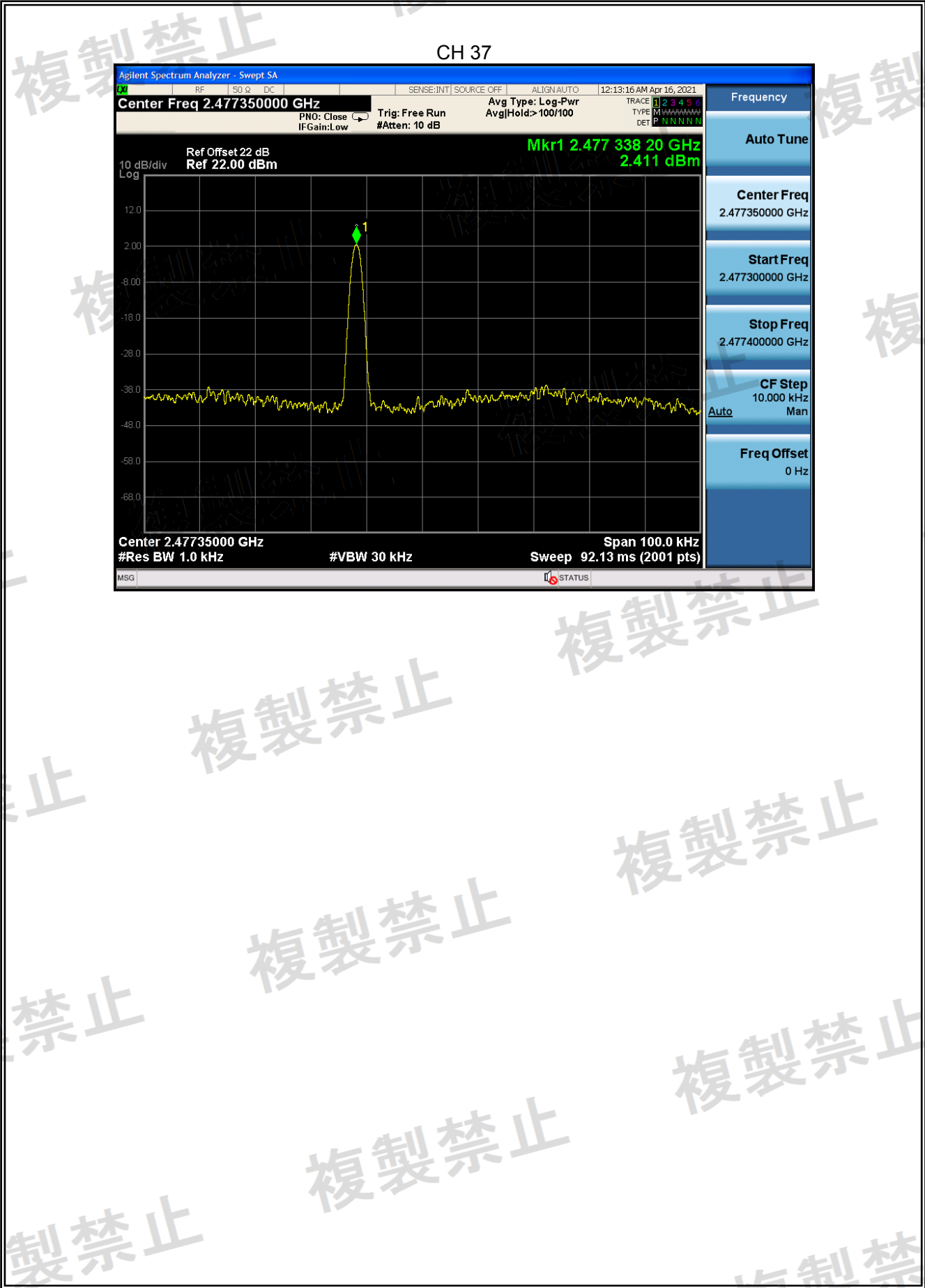


4.5. Test result

Mode	CH	Voltage (V)	Result			Limit
			Measured (MHz)	Tolerance (kHz)	Tolerance (ppm)	ppm
TX	CH01:2405.35MHz	5	2405.33875	-11.25	-4.677	± 50
	CH19:2441.35MHz	5	2441.33820	-11.80	-4.833	± 50
	CH37:2477.35MHz	5	2477.33820	-11.80	-4.763	± 50
Conclusion : PASS						

4.6. Original test data





5. Occupied Frequency Bandwidth

5.1. Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated until	Calibration body	classification
Spectrum analyzer	Agilent	N9010A	MY55150427	2020/05/25	2021/05/24	Jingheng	(c)
Attenuator	Mini-Circuits	BW-S10W2	101109	N/A	N/A	N/A	N/A
RF Cable	Micable	C10-01-01-1	100309	N/A	N/A	N/A	N/A

Remark:

(a)Calibration conducted by the National Institute of Information and Communications Technology(NITC) in Japan (hereinafter referred to as “NITC”) or a designated calibration agency under Article 102-18 paragraph(1) in JRL

(b)Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Act(Act No.51 of 1992)

(c)Calibration conducted in countries except Japan,which shall be equivalent to the calibration Conducted by the NITC or a designation agency under Article 102-18 paragraph(1)

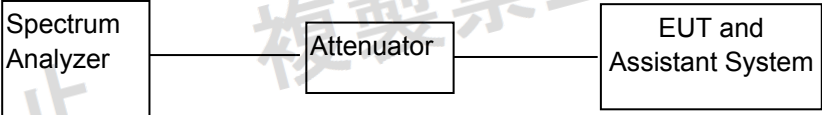
(d)Calibration,etc. conducted by using measuring instruments and other equipment listed in the right column of appended table No.3,which shall have been given any type of calibration,etc. listed above from(a) to (c).

From JRL Article 24-2,paragraph 4,item2

5.2. Limit

Permissible value for occupied bandwidth using the FH system, a hybrid system combining DS and FH systems, or a hybrid system combining FH and OFDM systems shall be 83.5 MHz or less, while necessary bandwidth (minimum occupied bandwidth sufficient to ensure information transmission of required quality at a required transmission rate for the system used under specified conditions for a given emission type) using a system other than any of the above shall be 26 MHz or less.

5.3. Block diagram of test setup



5.4. Test Procedure

- (1) Configure EUT and assistant system according clause 2.3 and 5.3
- (2) Set EUT work in test mode as described in clause 2.3
- (3) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, set the Spectrum Analyzer as below:
 - Centre Frequency: The centre frequency of the channel under test.
 - Resolution BW: 300 KHz
 - Video BW: 300 KHz
 - Span: Wide enough to cover the complete power envelope of the signal of the EUT.
 - Detector: Peak.
 - Trace Mode: Max Hold.
- (4) When the trace is complete, measure the occupied bandwidth (99% bandwidth) with spectrum analyzer's bandwidth measure function.

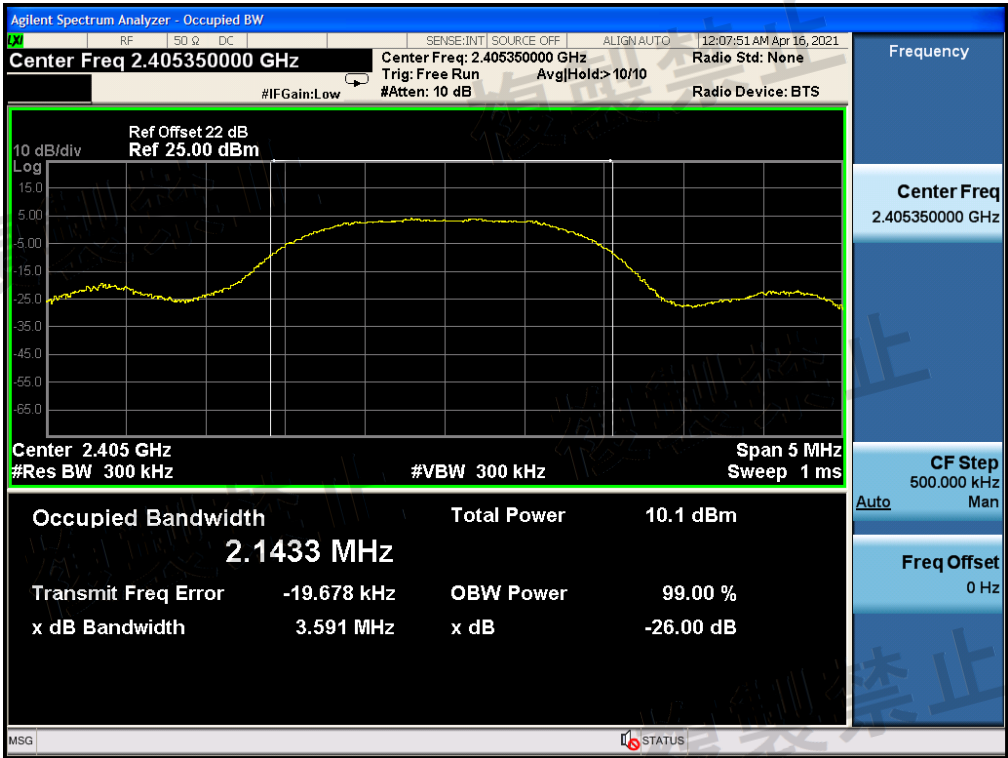


5.5. Test result

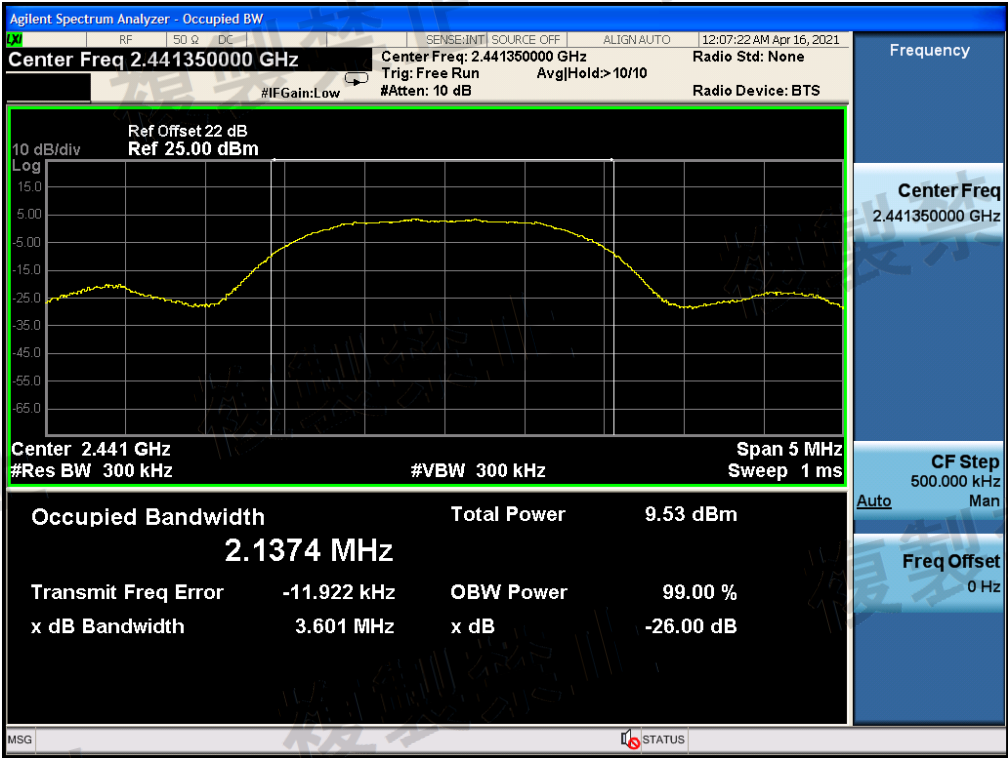
Mode	CH	Voltage (V)	Result	Limit
			MHz	MHz
TX	CH01	5	2.1433	<=26
	CH19	5	2.1374	<=26
	CH37	5	2.1482	<=26
Conclusion : PASS				

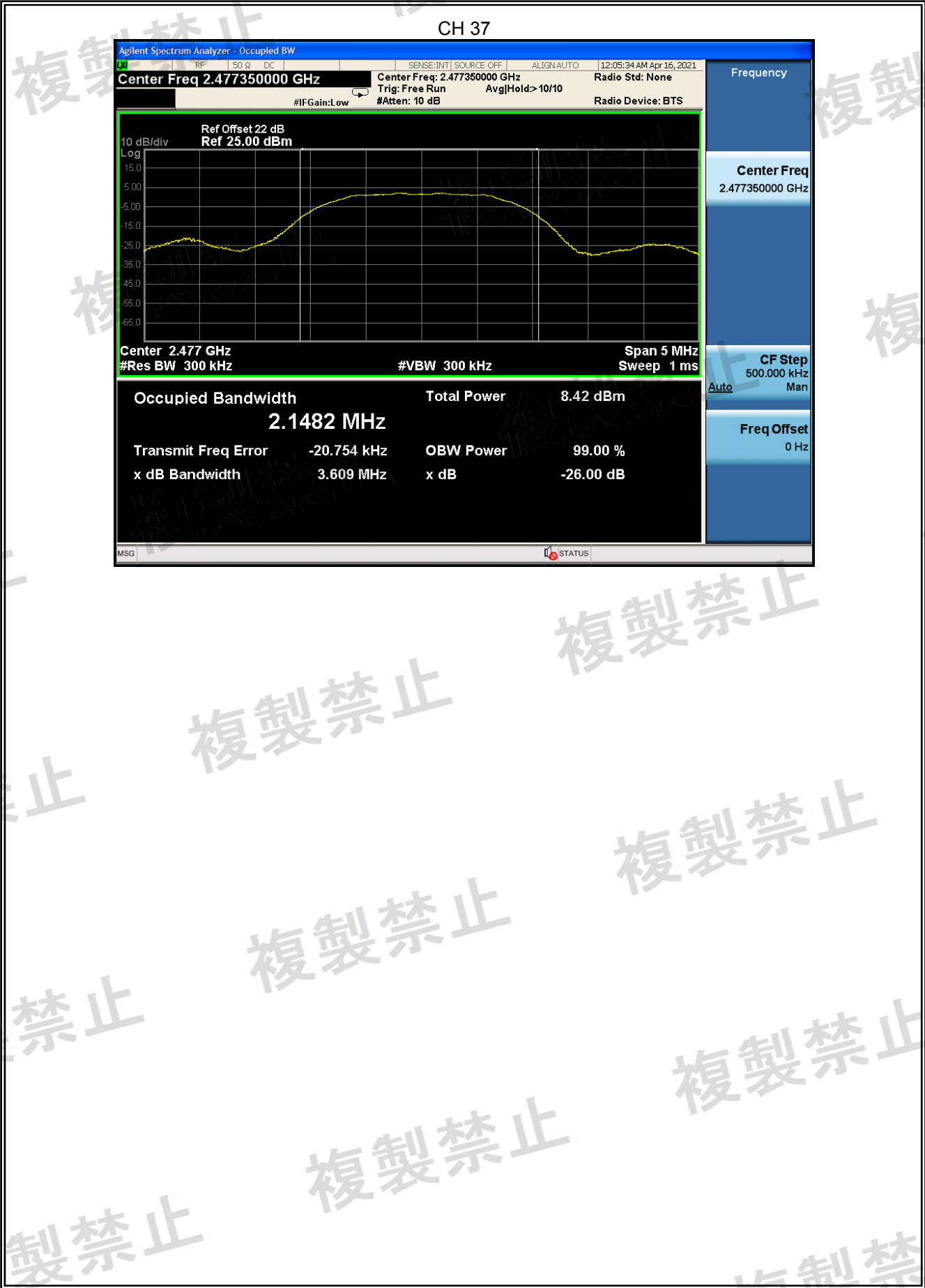
5.6. Original test data

CH 01



CH 19





6. Transmitter Spurious Emissions (conducted)

6.1. Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated until	Calibration body	classification
Spectrum analyzer	Agilent	N9010A	MY55150427	2020/05/25	2021/05/24	Jingheng	(c)
Attenuator	Mini-Circuits	BW-S10W2	101109	N/A	N/A	N/A	N/A
RF Cable	Micable	C10-01-01-1	100309	N/A	N/A	N/A	N/A

Remark:

- (a) Calibration conducted by the National Institute of Information and Communications Technology (NITC) in Japan (hereinafter referred to as "NITC") or a designated calibration agency under Article 102-18 paragraph(1) in JRL
- (b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Act (Act No.51 of 1992)
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- (d) Calibration, etc. conducted by using measuring instruments and other equipment listed in the right column of appended table No.3, which shall have been given any type of calibration, etc. listed above from (a) to (c).

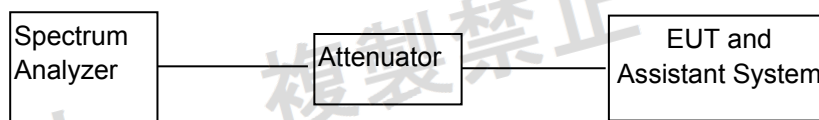
From JRL Article 24-2, paragraph 4, item 2

6.2. Limit

Permissible mean power of spurious emission of each frequency supplied to a feeder, that is, mean power of spurious emission in the 1 MHz bandwidth at frequency f other than frequency band used shall be as follows:

- a. $2,387\text{MHz} \leq f \leq 2,400\text{MHz}$ and $2,483.5\text{MHz} < f \leq 2,496.5\text{MHz}$ 25 μW or less
- b. $2,387\text{MHz} > f$ and $2,496.5\text{MHz} < f$ 2.5 μW or less

6.3. Block diagram of test setup



6.4. Test Procedure

- (1) Configure EUT and assistant system according to clause 2.4 and 8.3
- (2) Set EUT work in test mode as described in clause 2.4
- (3) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, set the Spectrum Analyzer as below:
Resolution BW: 1MHz. Video BW: 3MHz.
Detector: PEAK. Trace Mode: Max Hold.
- (4) All the emissions from 30MHz to 13GHz were measured and recorded.

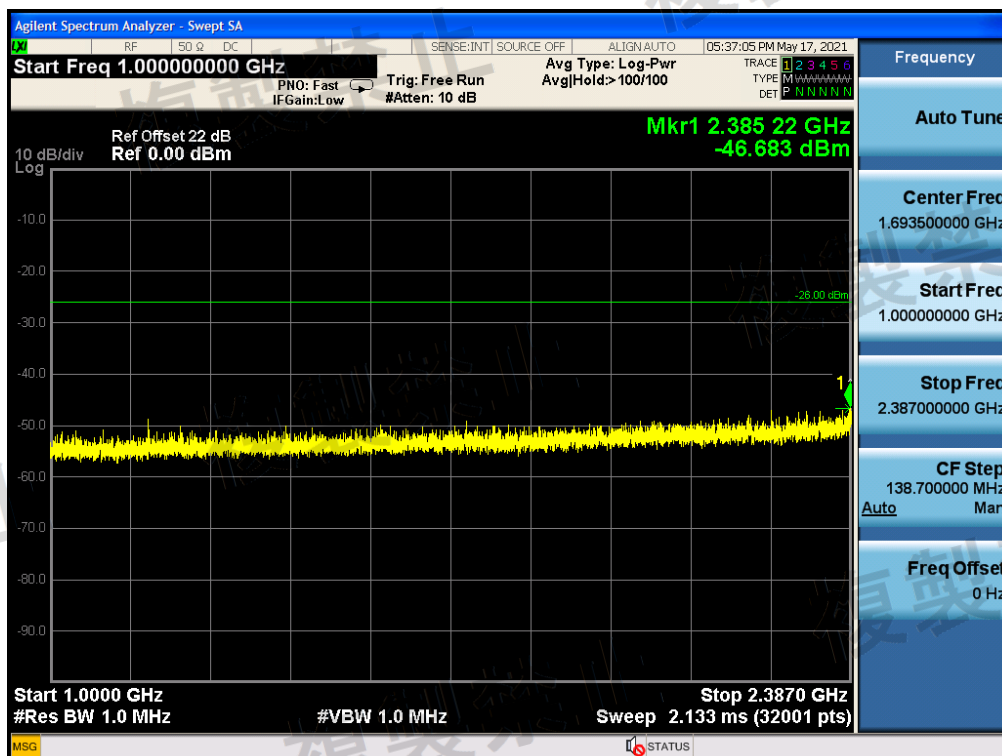
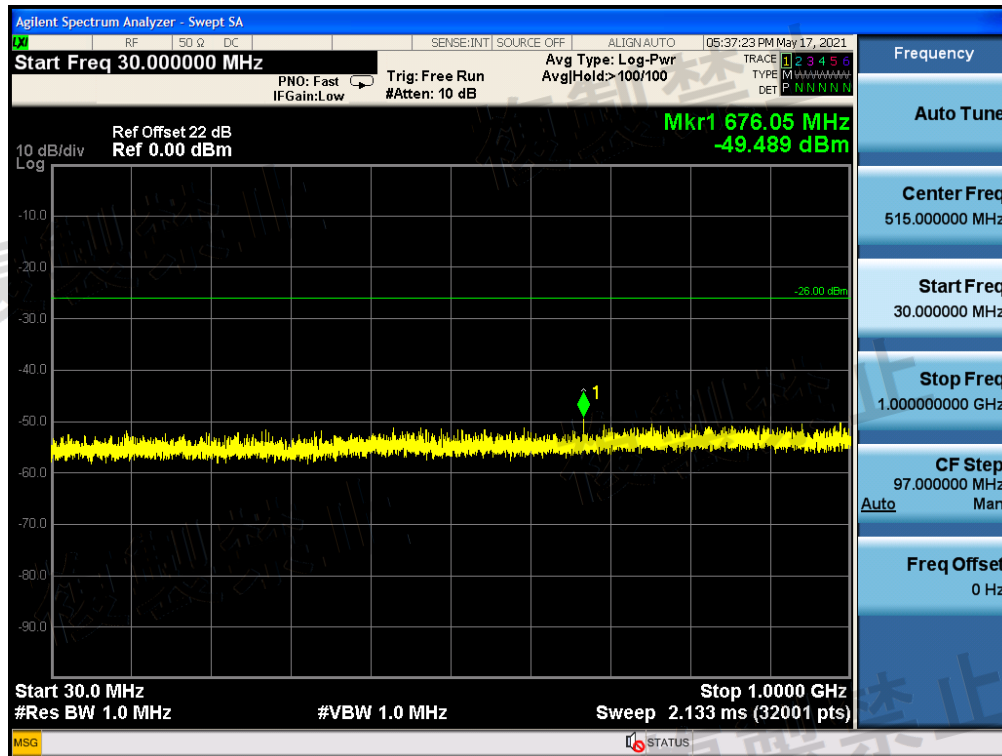


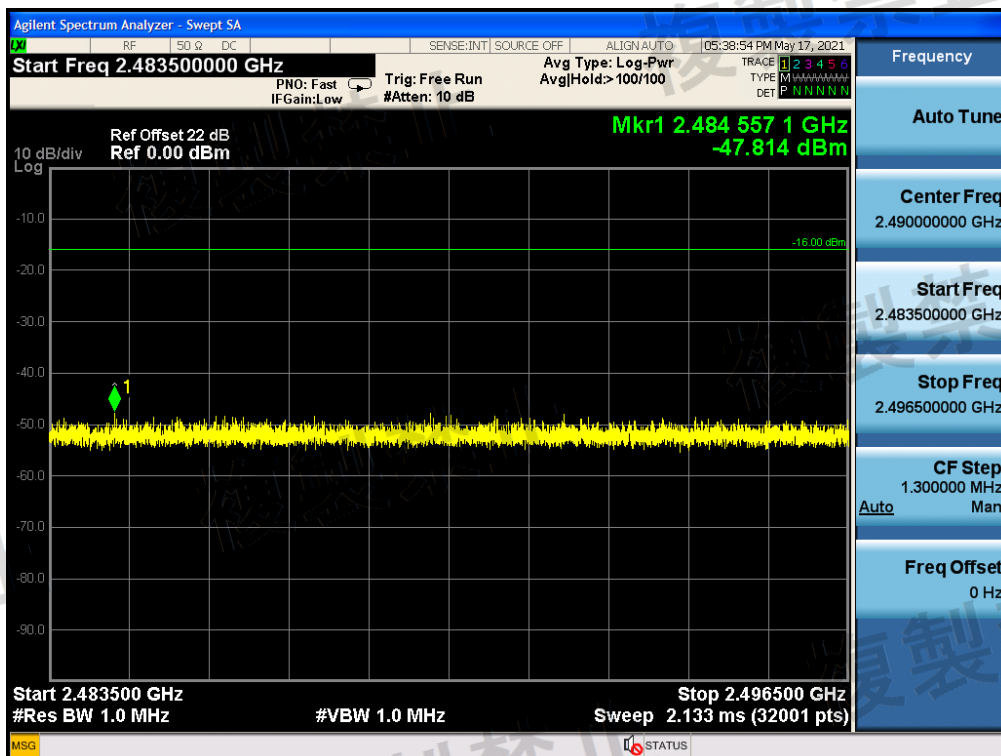
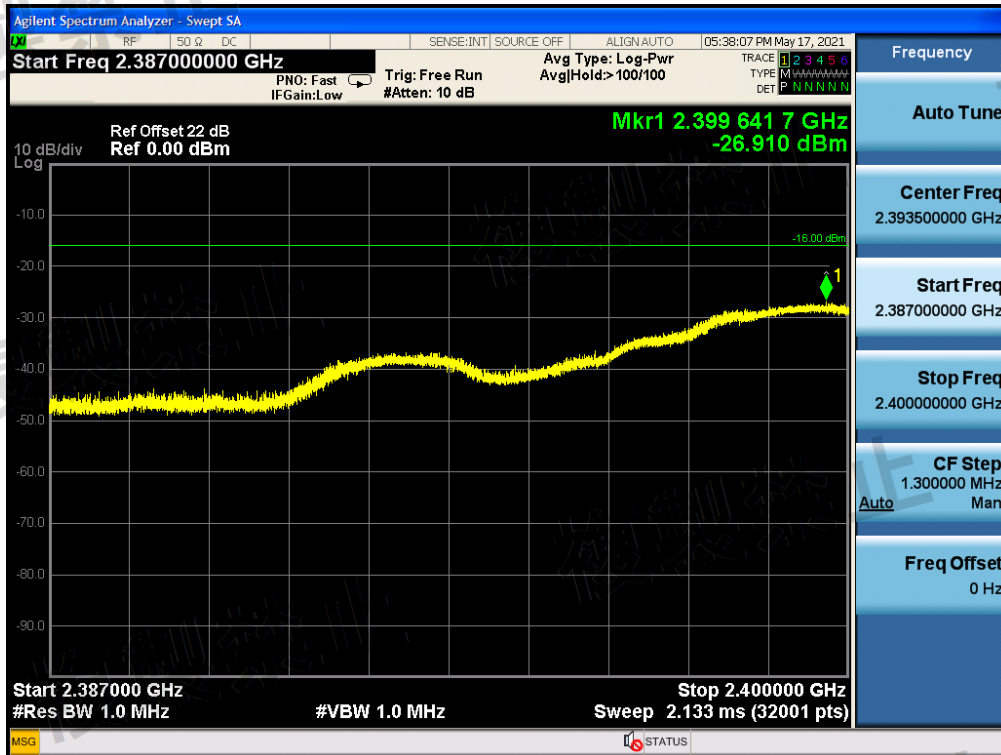
6.5. Test result

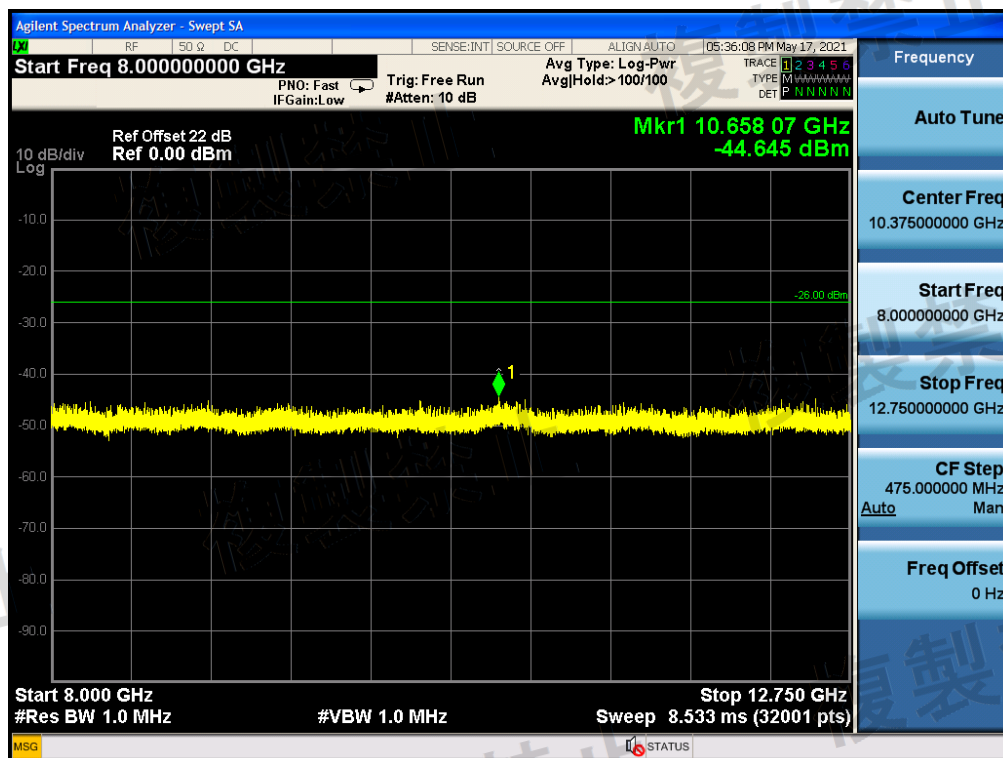
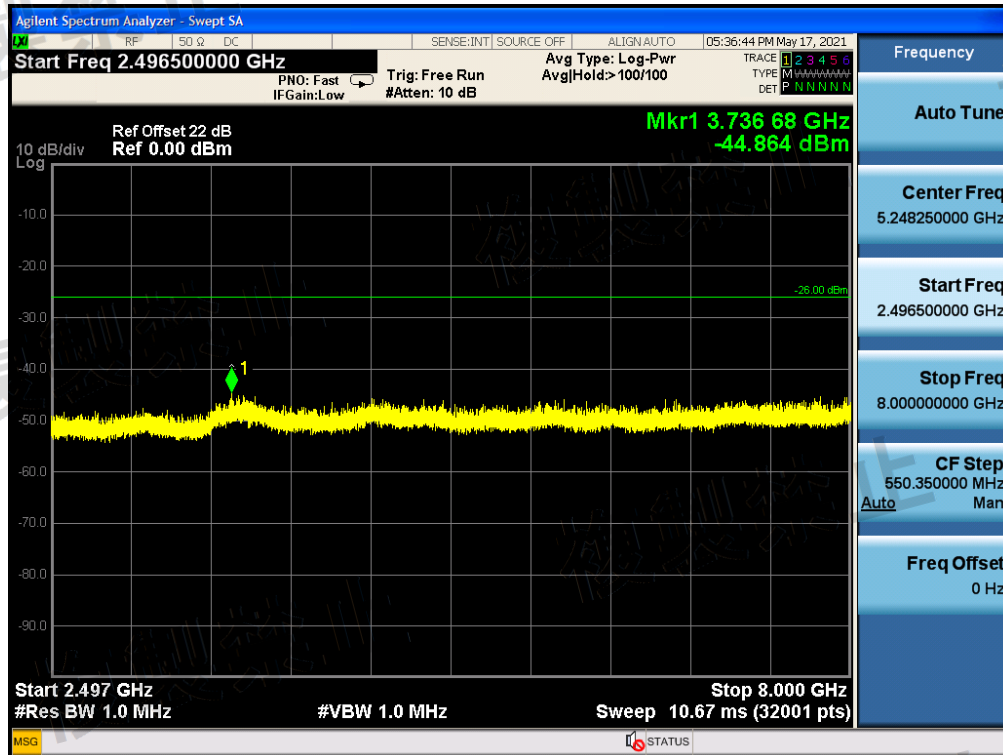
Voltage (V)	Mode	CH	Frequency (MHz)	Reading (dBm)	Limit (dBm)	Result
Normal	TX	CH 01	30-1000	-49.489	-26	PASS
			1000-2387	-46.683	-26	PASS
			2387-2400	-26.910	-16	PASS
			2483.5-2496.5	-47.814	-16	PASS
			2496.5-12500	-44.645	-26	PASS
		CH 19	30-1000	-50.102	-26	PASS
			1000-2387	-47.408	-26	PASS
			2387-2400	-47.413	-16	PASS
			2483.5-2496.5	-46.942	-16	PASS
			2496.5-12500	-45.009	-26	PASS
		CH 37	30-1000	-49.690	-26	PASS
			1000-2387	-48.187	-26	PASS
			2387-2400	-47.776	-16	PASS
			2483.5-2496.5	-37.830	-16	PASS
			2496.5-12500	-44.462	-26	PASS

6.6. Original test data

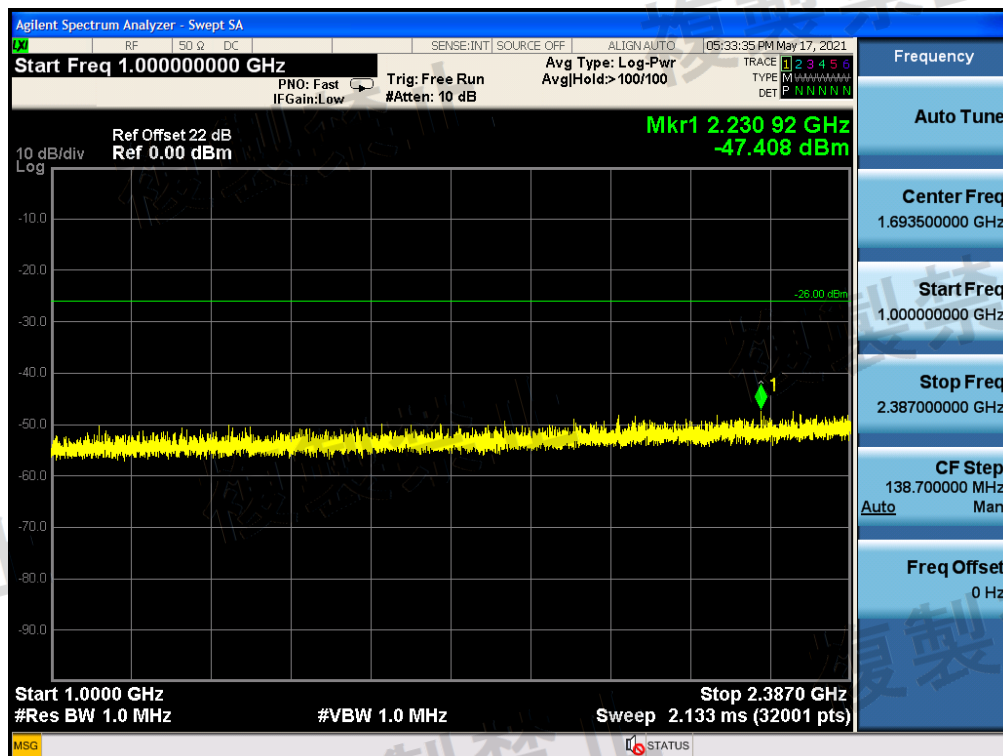
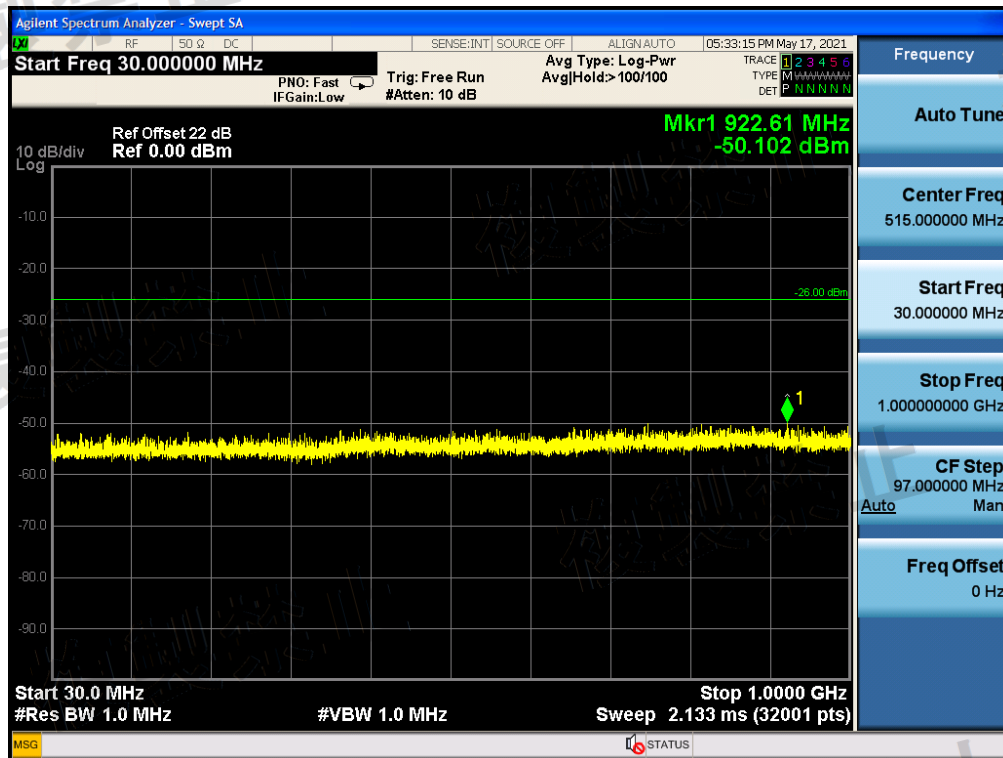
CH01

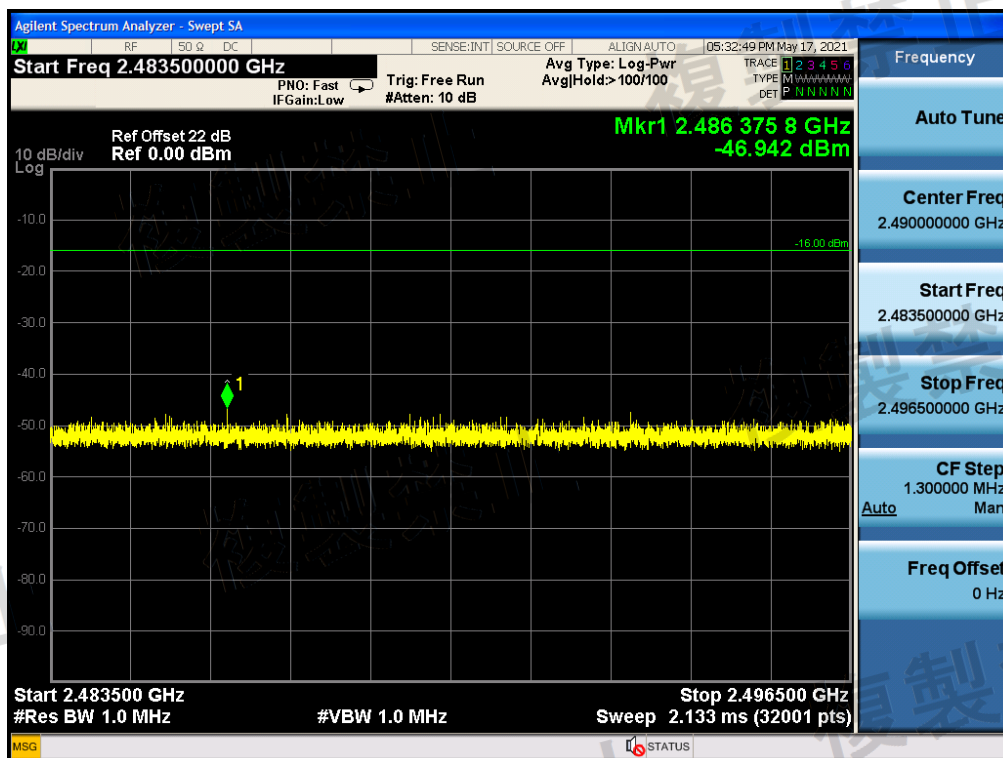
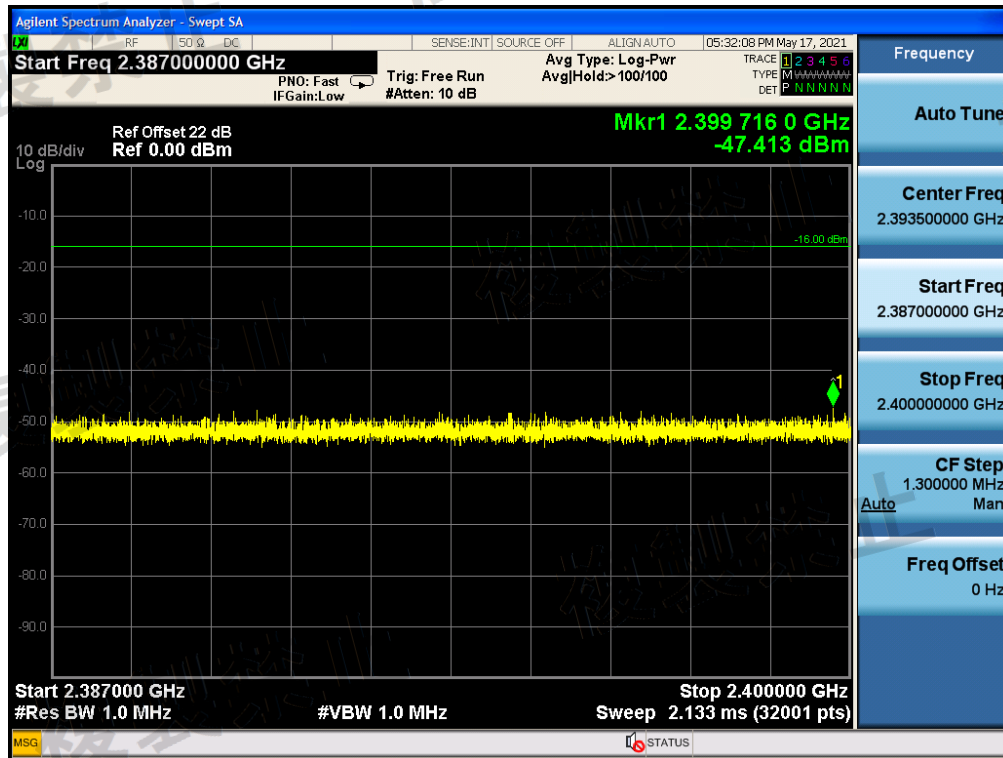


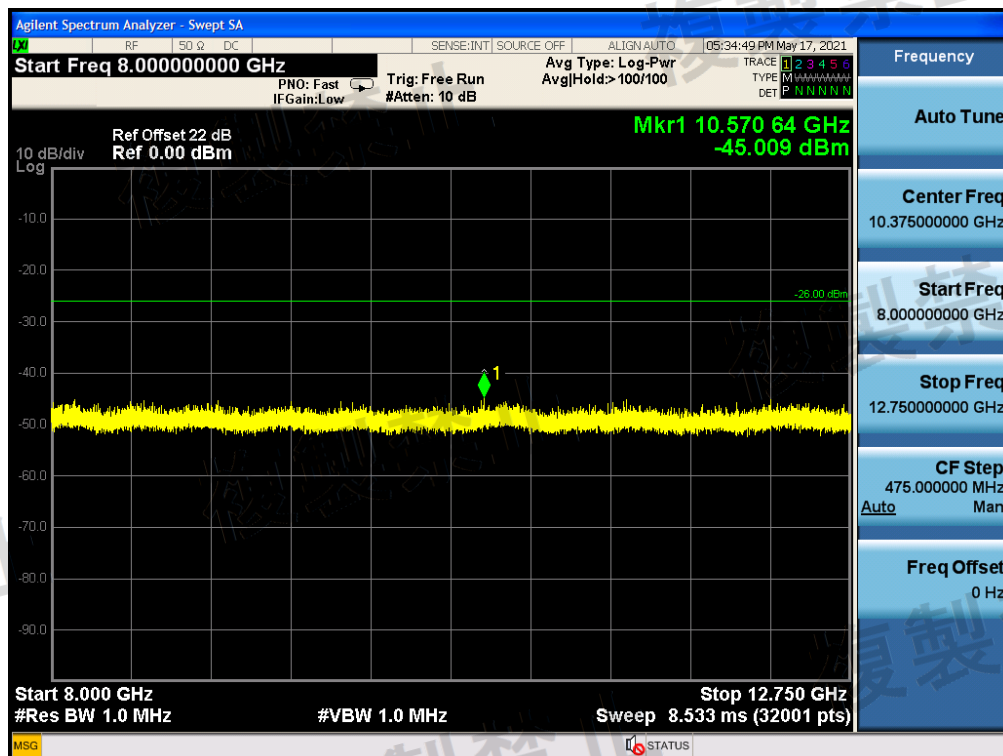
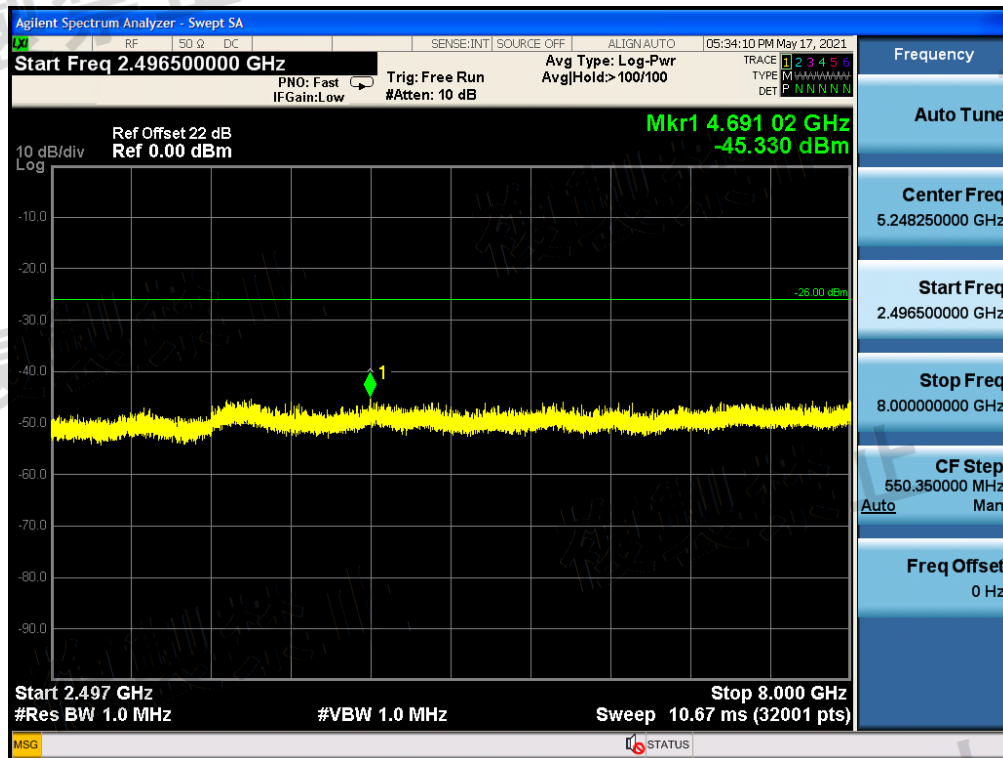




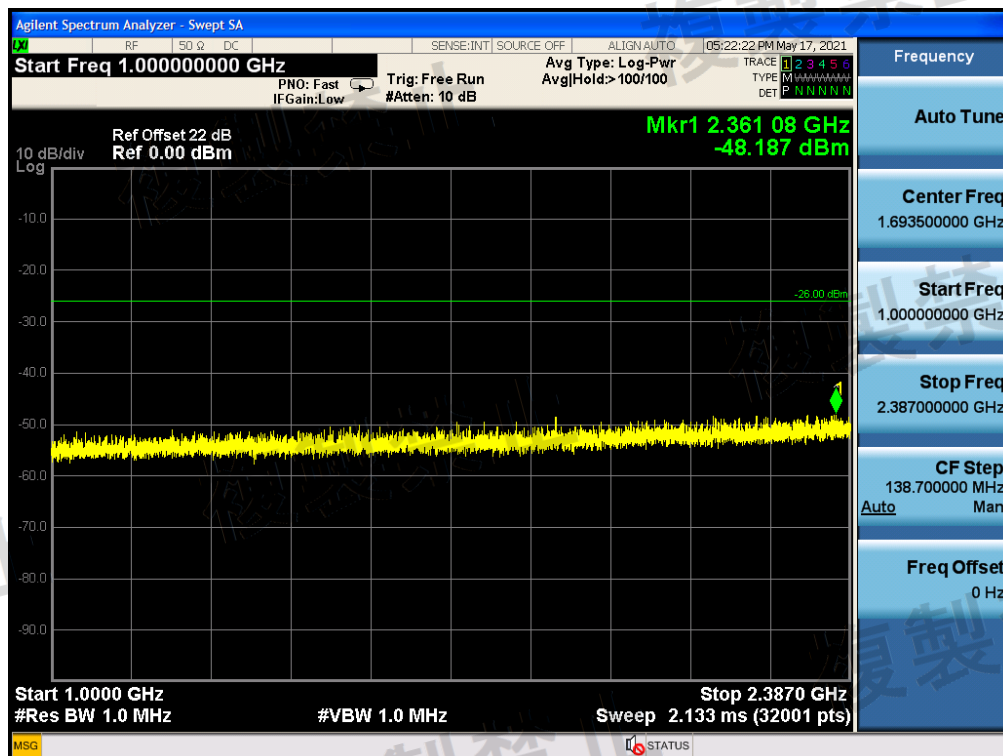
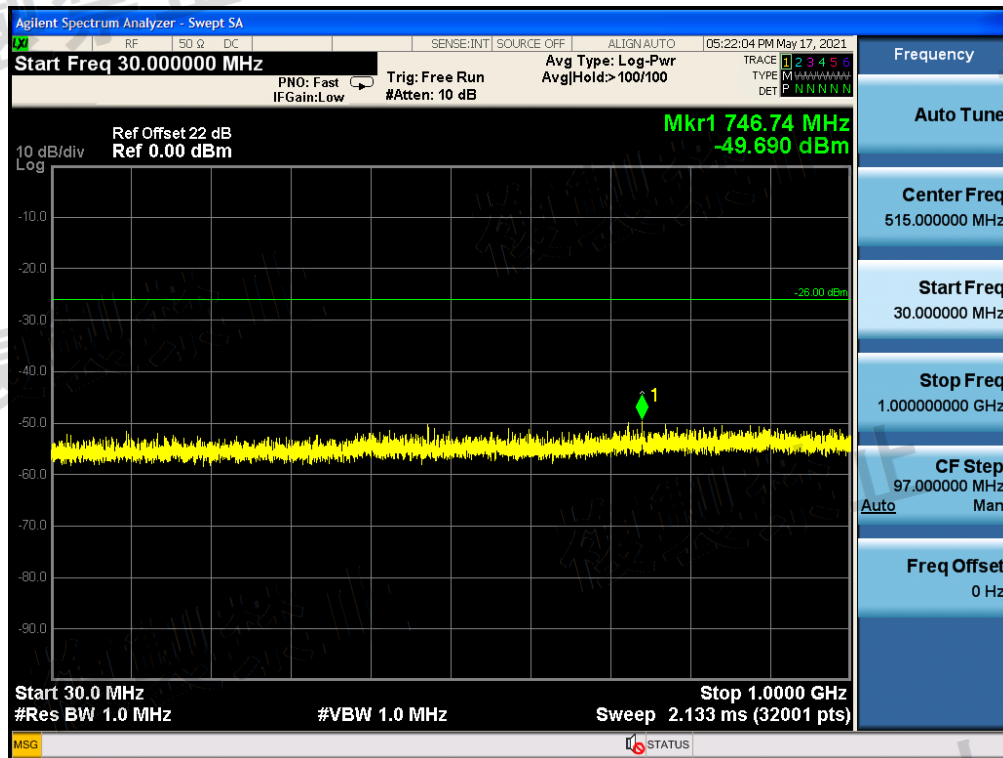
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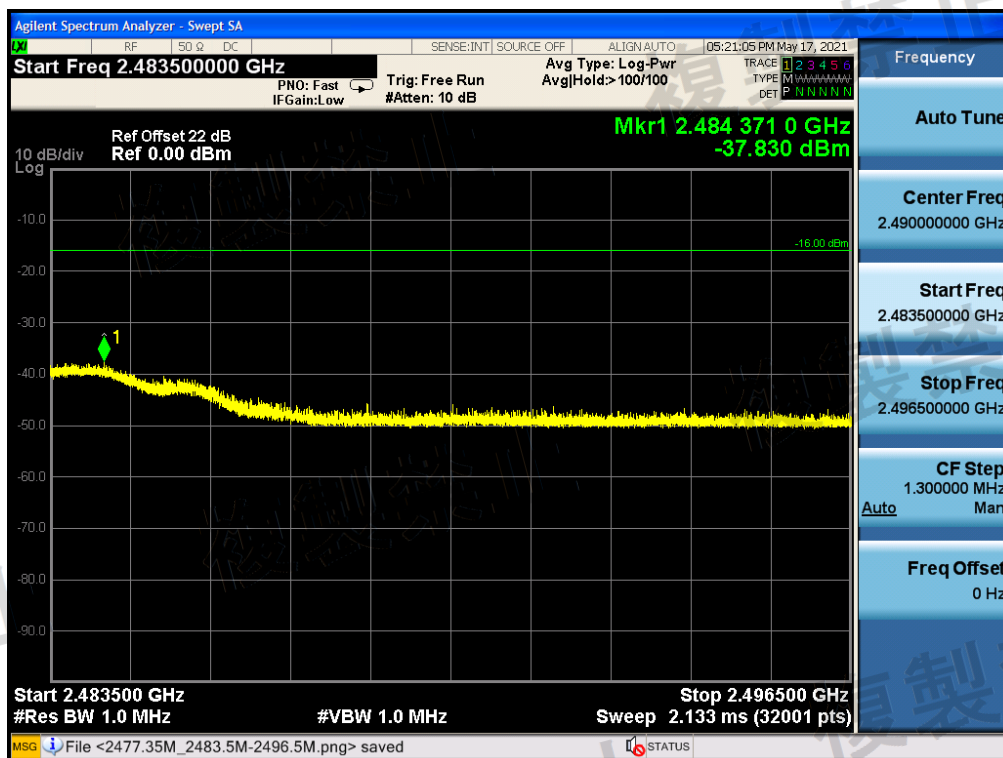
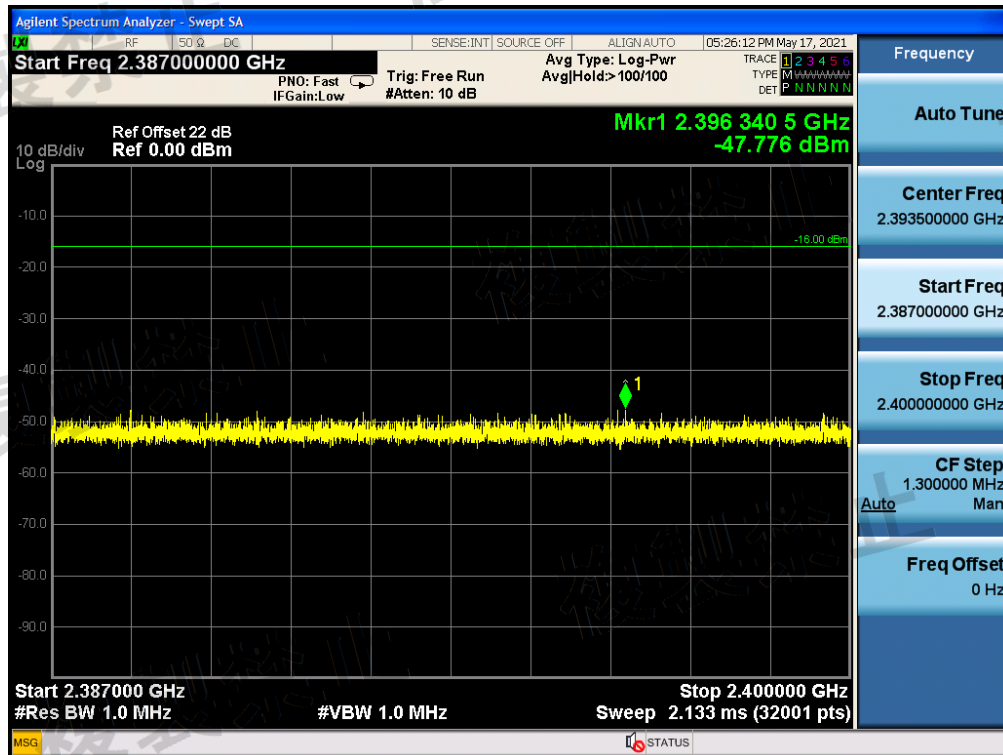


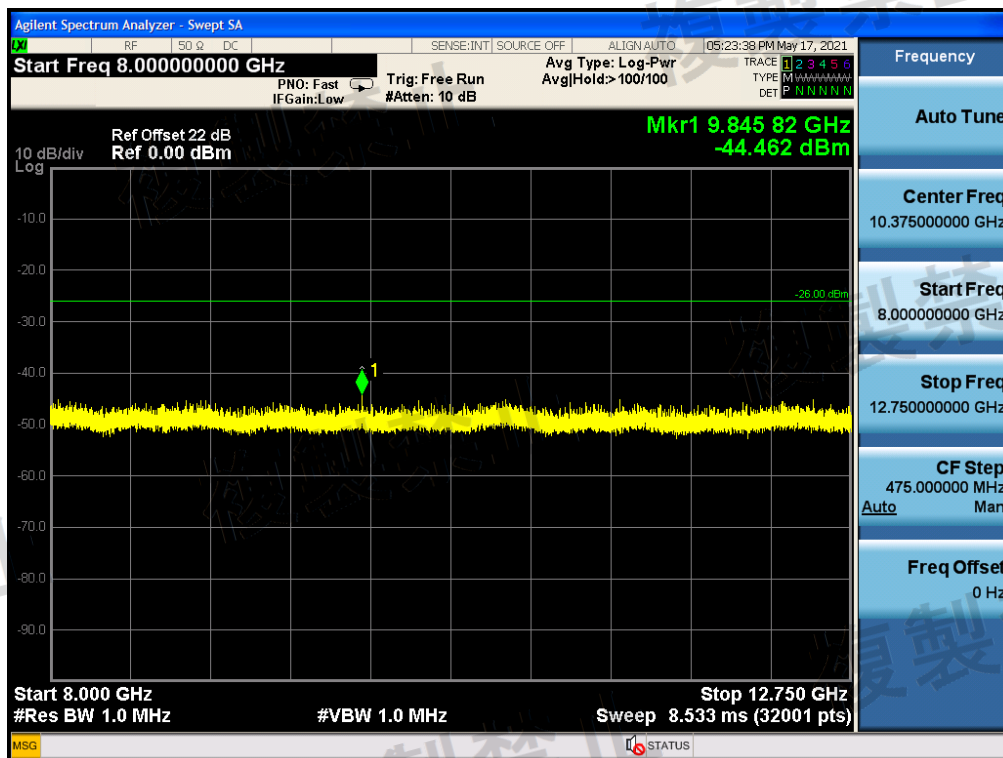
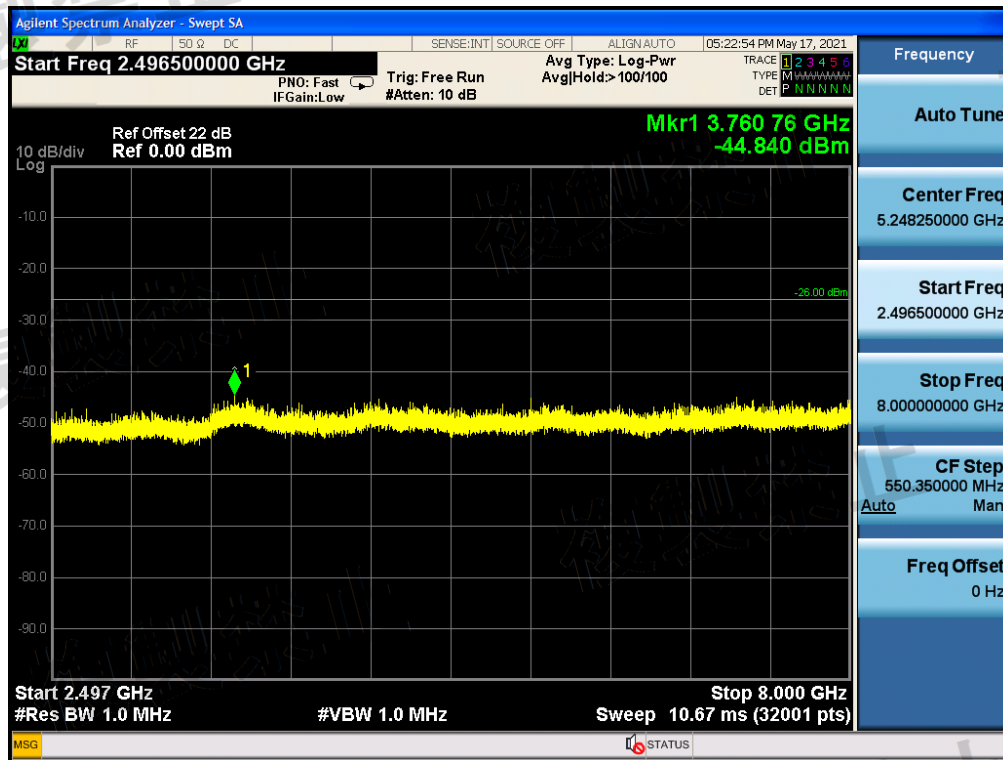




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7. Limitation of Collateral Emission of Receiver

7.1. Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated until	Calibration body	classification
Spectrum analyzer	Agilent	N9010A	MY55150427	2020/05/25	2021/05/24	Jingheng	(c)
Attenuator	Mini-Circuits	BW-S10W2	101109	N/A	N/A	N/A	N/A
RF Cable	Micable	C10-01-01-1	100309	N/A	N/A	N/A	N/A

Remark:

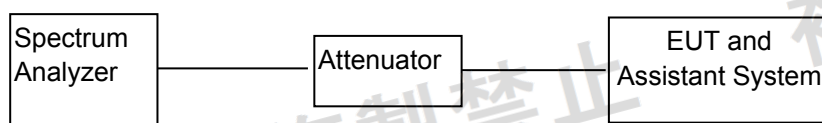
- (a) Calibration conducted by the National Institute of Information and Communications Technology (NITC) in Japan (hereinafter referred to as "NITC") or a designated calibration agency under Article 102-18 paragraph(1) in JRL
- (b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Act (Act No.51 of 1992)
- (c) Calibration conducted in countries except Japan, which shall be equivalent to the calibration conducted by the NITC or a designation agency under Article 102-18 paragraph(1)
- (d) Calibration, etc. conducted by using measuring instruments and other equipment listed in the right column of appended table No.3, which shall have been given any type of calibration, etc. listed above from (a) to (c).

From JRL Article 24-2, paragraph 4, item 2

7.2. Limit

The limit on secondary emissions radiated from the receiving equipment within which the function of other radio equipment will not be impaired shall be, in terms of the power of a dummy antenna circuit that has the same electrical constant as the receiving antenna, 4 nW or less at a frequency below 1 GHz and 20 nW or less at a frequency of 1 GHz or higher as measured using the circuit.

7.3. Block diagram of test setup



7.4. Test Procedure

- (1) Configure EUT and assistant system according to clause 2.3 and 9.3
- (2) Set EUT work in test mode as described in clause 2.3
- (3) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, set the Spectrum Analyzer as below:
Resolution BW: 1MHz
Video BW: 3MHz
Detector: RMS.
Trace Mode: Max Hold.
- (4) All the emissions from 10MHz to 13GHz were measured and record.

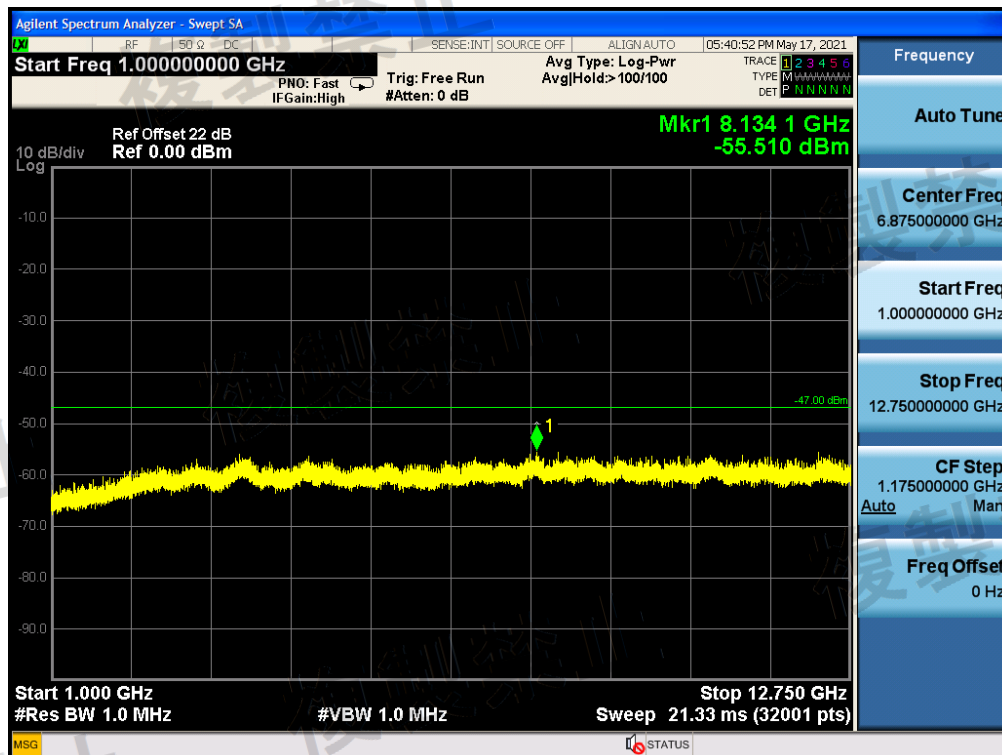
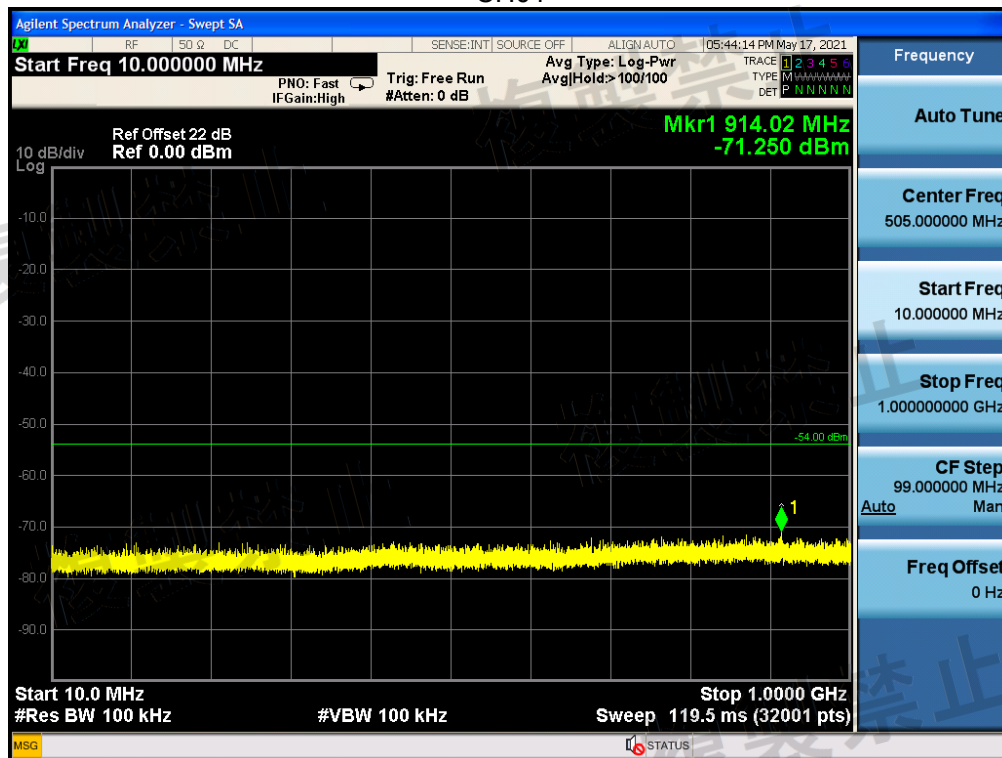


7.5. Test result

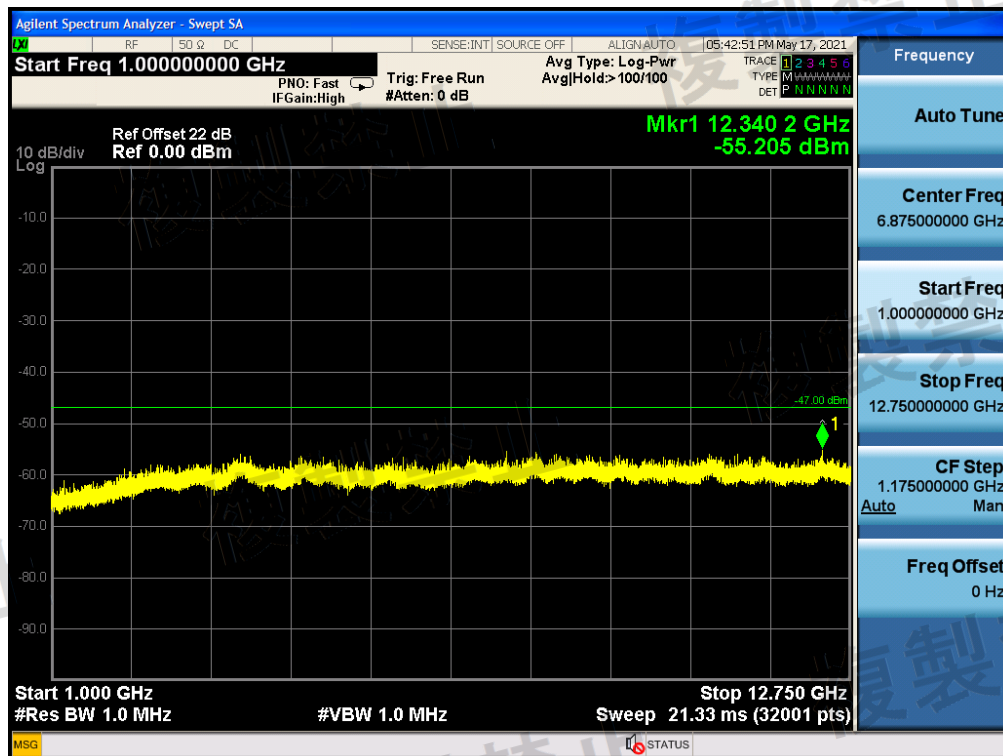
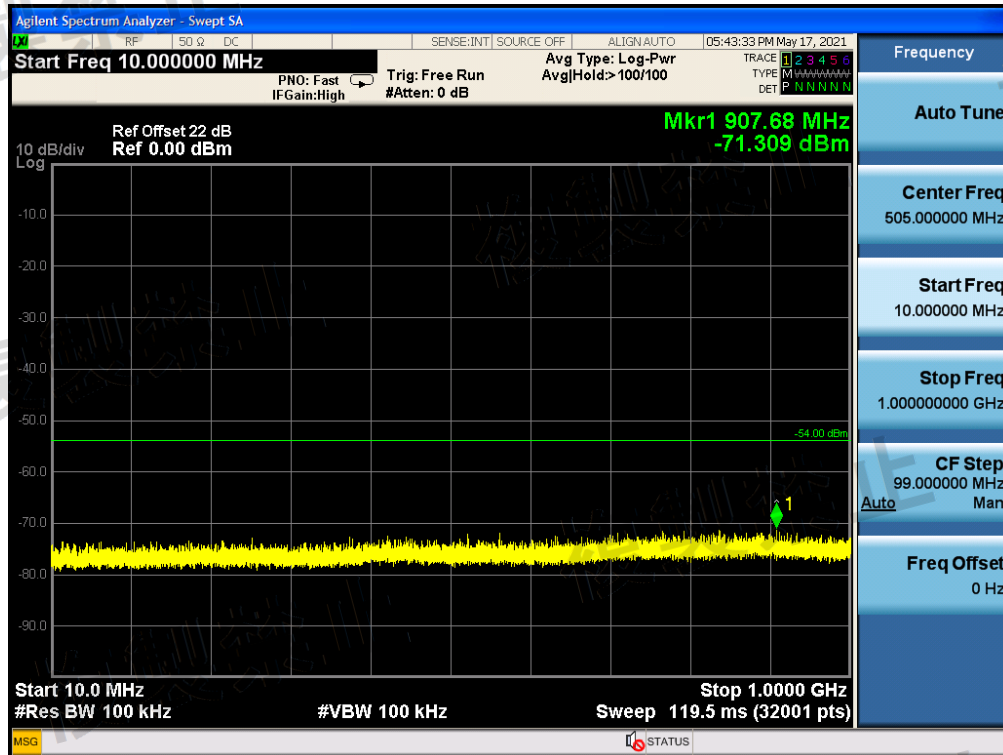
Voltage (V)	Mode	CH	Frequency (MHz)	Reading (dBm)	Limit (dBm)	Result
RX	Normal	CH 0	30-1000	-71.250	-54	PASS
			1000-12500	-55.510	-47	PASS
		CH 39	30-1000	-71.309	-54	PASS
			1000-12500	-55.205	-47	PASS
		CH 78	30-1000	-71.360	-54	PASS
			1000-12500	-54.766	-47	PASS

7.6. Original test data

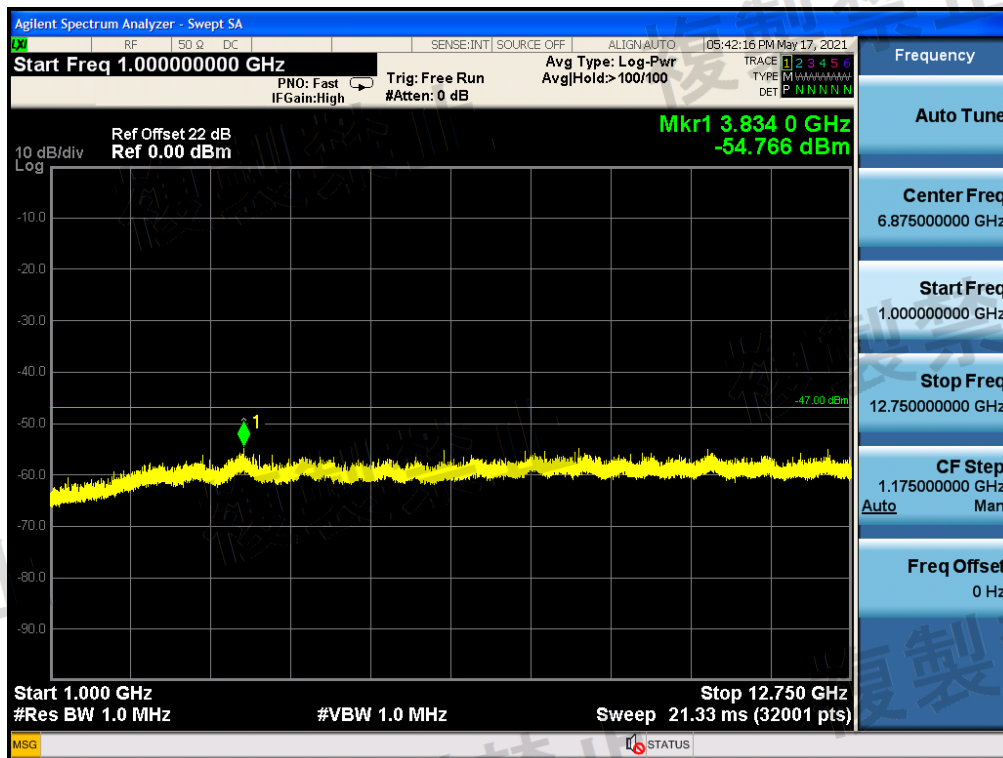
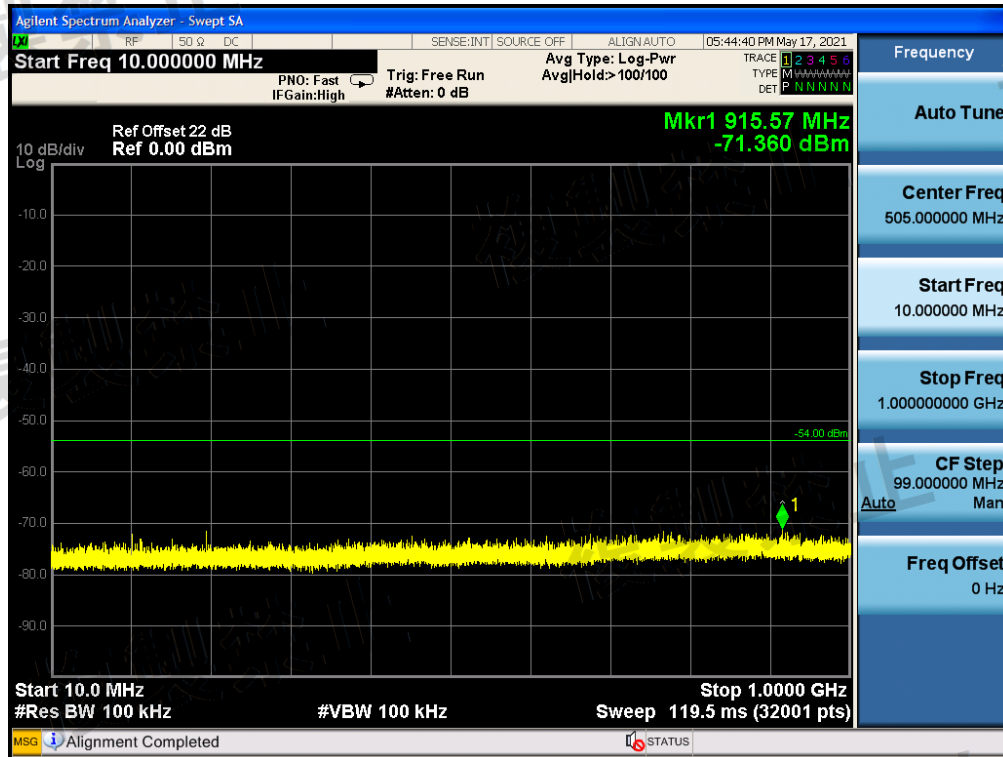
CH01



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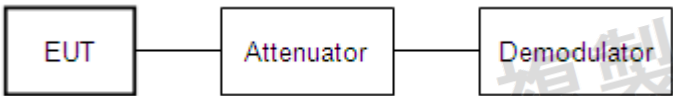


CH37

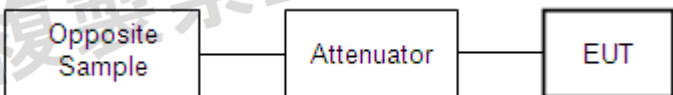


8. Interference prevention function

8.1. In case identification code is transmitted



8.2. In case identification code is received



8.3. Measuring Equipment Conditions

- a. The Demodulator shall demodulate the TX-signal transmitted by the EUT and be able to display the contents of the identification code.
- b. The opposite sample shall be able to transmit TX-signal equivalent to the TX-signal transmitted by the EUT.

8.4. Conditions of EUT

The EUT is set on the usual operating mode.

8.5. Measurement Procedure

- (1) In case the EUT possesses function to transmit identification code automatically
 - a. Predetermined identification code is transmitted by the EUT.
 - b. Verify the transmitted identification code.
- (2) In case the EUT possesses function to receive identification code automatically
 - a. Predetermined identification code is transmitted by the opposite sample.
 - b. Verify the working of the normal communication.
 - c. Other code than the predetermined identification code is transmitted by the opposite sample.
 - d. Verify the EUT to stop transmitting or to display that the ID code is different.

Radio interface prevention function

	Normal voltage	Low voltage	High voltage
Result	OK	/	/

Device ID: 0E6F0232

	Device ID(Dongle)	Device ID(Headset)
LVL50·Wireless·for·PS4	0E6F0232	0E6F0231
LVL50·Wireless·for·XB1	0E6F0235	0E6F0233
Gambit·wireless·for·PS4	0E6F022B	0E6F022A
Gambit·wireless·for·XB1	0E6F022D	0E6F022C

9. Transmission Antenna Gain (EIRP Antenna Power) Measurement

9.1. Limit

Item	Limits
EIRP Power Density	$\leq 16.91\text{dBm/MHz}$ (FH form 2427 - 2470.75 MHz) $\leq 22.14\text{dBm/MHz}$ (OFDM,DS from 2400~2483.5MHz) $\leq 22.14\text{dBm}$ (Other from 2400~2483.5MHz)

Note: This test item is not applied for radio equipment with equivalent isotropic radiation power lower than 12.14dBm/MHz, but Antenna Power(Conducted) limit is 10 mW/MHz (10 dBm/MHz), So the test item will not be applied to the transmission antenna which has a gain of 0dBi or less

9.2. Measuring Instruments And Setting

Please refer to section 5 in this report. The following table is the setting of spectrum analyzer.

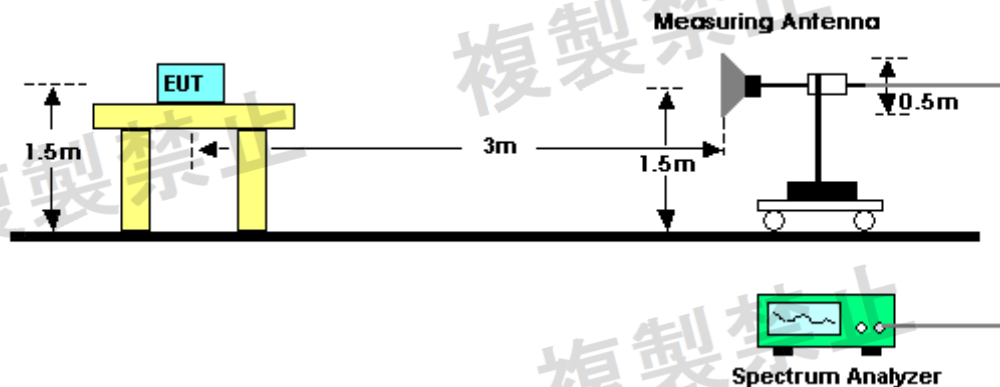
Spectrum Parameter	Setting
Attenuation	Auto
RB/VB	1 MHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

9.3. Test Procedures

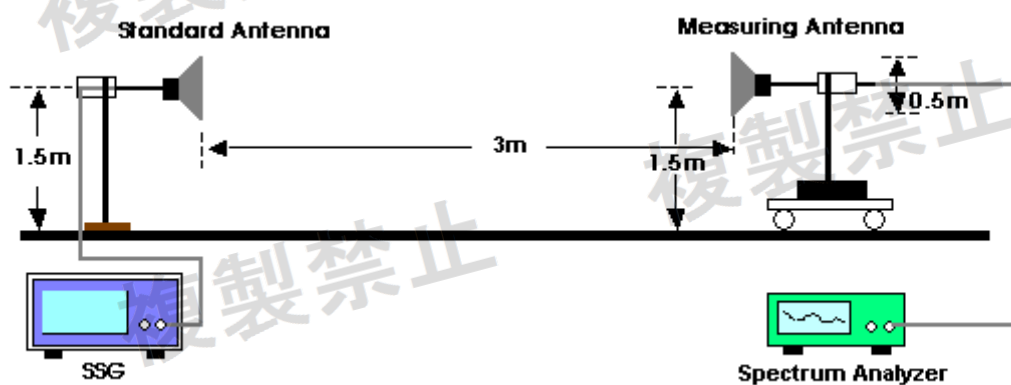
1. Set EUT ad measuring antenna at the same height and roughly facing each other.
2. Move the measuring antenna height up and down within $\pm 50\text{cm}$ of EUT height and swing it to find the maximum output of the measuring antenna. The output level at the spectrum analyzer is read sa "E".
3. Remove the EUT from the turn table and put the replacing antenna facing to measuring antenna at same height. Set the standard signal generator (SSG) at same frequency and transmit on then receive the signal
4. Swing the replacing antenna give a maximum receiving level.
5. Move the measuring antenna height up and down within $\pm 50\text{cm}$ of replacing antenna height and swing it to find the maximum receiving level.
6. Set SSG output power at Pt to give the equivalent output level of "E" or caluate Pt with SSG output which gives the nearest of "E" and difference ($\pm 1\text{dB}$). Record the Pt.
7. Calculate EIRP by the formula below $\text{EIRP} = G_t - L + P_t$.
Gt: gain of replacing antenna (dBi)
L: feeder loss between SSG and replacing antenna
Pt: Output power of the SSG
8. If the antenna for the EUT has circular polarization, sum of V-field and H-field will be result if measuring antenna is linear polarization.

9.4. Test Setup Layout

For EUT radiation measurement



For standard antenna measurement



9.5. Test Deviation

There is no deviation with the original standard.

9.6. EUT Operation During Test

The EUT was programmed to be in continuously transmitting mode.

9.7. Results of Transmission Antenna Gain

Note: This test item will not be applied to the transmission antenna which has a gain of 2.08dBi or Less

10. Transmission Radiation Angle Width (3dB Beamwidth) Measurement

10.1. Limit

Item	Limits
3dB antenna beam width	$360/A$ (If $A < 1$; then $A = 1$) $A = \{\text{EIRP Power [mW]} / 16.36 \text{ for DS, OFDM}\}$ or $A = \{\text{EIRP Power [mW]} / 4.9 \text{ for FH}\}$
Note: This test item is not applied for radio equipment with equivalent isotropic radiation power lower than 12.14dBm/MHz, but Antenna Power(Conducted) limit is 10 mW/MHz (10 dBm/MHz), So the test item will not be applied to the transmission antenna which has a gain of 0dBi or less	

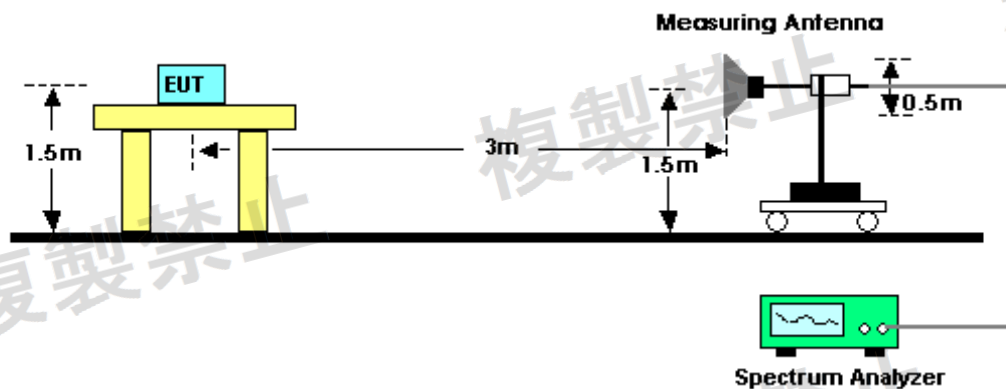
10.2. Measuring Instruments And Setting

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	0 MHz
RB	1 MHz
VB	1 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

10.3. Test Procedures

1. Set EUT and measuring antenna at the same height and roughly facing each other.
2. Set spectrum analyzer with condition in section 4.7.2 and tune reference level to observe receiving signal position.
3. Rotate directions of the EUT horizontally and vertically to find the maximum receiving power.
4. Move the measuring antenna height up and down within $\pm 50\text{cm}$ of EUT height and swing it to find the maximum output of measuring antenna. The output level at the spectrum analyzer is read as "E"
5. Calculate permitted radiation angle in horizontal and vertical using EIRP measured in another test method.
6. Calculate 3dB antenna beam width by the formula below $360/A$ (If $A < 1$; then $A = 1$).
 $A = \{\text{EIRP Power [mW]} / 16.36 \text{ for DS, OFDM}\}$ or
 $A = \{\text{EIRP Power [mW]} / 4.9 \text{ for FH}\}$

10.4. Test Setup Layout



10.5. Test Deviation

There is no deviation with the original standard.

10.6. EUT Operation During Test

The EUT was programmed to be in continuously transmitting mode.

10.7. Test Result Of Transmission Radiation Angle Width (3dB Beamwidth)

The test item will not be applied to the transmission antenna which has a gain of 2.08 dBi or less



11. Construction Protection Confirmation Method

11.1. Limit

The high-frequency section and modulation section of the radio equipment except for the antenna system shall not be capable of being opened easily.

11.2. Result

Confirmation Method

Protected Method	Surface mount technology
Description	RF and Modulation parts are mounted on PCB with surface mount technology, and there is no any adjustable parts on PCB or adjustable parts are not exposed

END OF REPORT