RF Test Report

MIC Rule(s):	Item 19 of Article 2 Paragraph 1
Applicant:	株式会社DAYBREAKER
Product Name:	WOODEN TABLE CLOCK SPEAKER WITH WIRELESS CHARGER
Model:	DB-4600-NW
Report No.:	ZKS201100507-1
Tested Date:	2020-11-27
Issued Date:	2020-12-02
Tested By :	Lieber Ouyang (Engineer)
Approved By:	Lahm Peng (Manager)
Prepared By:	

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1. General Information

1.1 Product Information

Applicant and Manufacturer	
Applicant:	株式会社 DAYBREAKER
Address of Applicant:	東京都品川区東大井 1 丁目 24 番 16 号サメズミツワビル３０２号室
Manufacturer:	株式会社 DAYBREAKER
Address of Manufacturer:	Room 510, Bldg 10, Block 2, Nanshan Yungu, Pingshan 1st Rd, Xili,
	Nanshan, Shenzhen, PRC

General Description of EUT	
Product Name:	WOODEN TABLE CLOCK SPEAKER WITH WIRELESS CHARGER
Model No.:	DB-4600-NW
Trade Name:	--
Adding Model(s):	DB-4600-SB
Rated Voltage:	Input: DC5V/2A, QI Output: 5V/2A
Frequency Range:	2402~2480MHz
Modulation:	GFSK, Pi/4 DQPSK, 8DPSK
Quantity of Channels	79
Channel Separation:	1MHz
Type of Antenna:	PCB Antenna
Antenna Gain:	0dBi
Software Version:	V1.0
Hardware Version:	V02
Note 1: The test data is gathered from a production sample, provided by the manufacturer. Note 2: The color and shell of others models listed in the report is different from main-test model DB-4600-NW, but the circuit and the electronic construction do not change, declared by the manufacturer.	

Center Frequency of Each of Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2402MHz	Channel 21:	2422MHz	Channel 41:	2442MHz	Channel 61:	2462MHz
Channel 02:	2403MHz	Channel 22:	2423MHz	Channel 42:	2443MHz	Channel 62:	2463MHz
Channel 03:	2404MHz	Channel 23:	2424MHz	Channel 43:	2444MHz	Channel 63:	2464MHz
Channel 04:	2405MHz	Channel 24:	2425MHz	Channel 44:	2445MHz	Channel 64:	2465MHz
Channel 05:	2406MHz	Channel 25:	2426MHz	Channel 45:	2446MHz	Channel 65:	2466MHz
Channel 06:	2407MHz	Channel 26:	2427MHz	Channel 46:	2447MHz	Channel 66:	2467MHz
Channel 07:	2408MHz	Channel 27:	2428MHz	Channel 47:	2448MHz	Channel 67:	2468MHz
Channel 08:	2409MHz	Channel 28:	2429MHz	Channel 48:	2449MHz	Channel 68:	2469MHz
Channel 09:	2410MHz	Channel 29:	2430MHz	Channel 49:	2450MHz	Channel 69:	2470MHz
Channel 10:	2411MHz	Channel 30:	2431MHz	Channel 50:	2451MHz	Channel 70:	2471MHz
Channel 11:	2412MHz	Channel 31:	2432MHz	Channel 51:	2452MHz	Channel 71:	2472MHz
Channel 12:	2413MHz	Channel 32:	2433MHz	Channel 52:	2453MHz	Channel72:	2473MHz
Channel 13:	2414MHz	Channel 33:	2434MHz	Channel 53:	2454MHz	Channel 73:	2474MHz
Channel 14:	2415MHz	Channel 34:	2435MHz	Channel 54:	2455MHz	Channel74:	2475MHz
Channel 15:	2416MHz	Channel 35:	2436MHz	Channel 55:	2456MHz	Channel 75:	2476MHz
Channel 16:	2417MHz	Channel 36:	2437MHz	Channel 56:	2457MHz	Channel76:	2477MHz
Channel 17:	2418MHz	Channel 37:	2438MHz	Channel 57:	2458MHz	Channel 77:	2478MHz
Channel 18:	2419MHz	Channel 38:	2439MHz	Channel 58:	2459MHz	Channel78:	2479MHz
Channel 19:	2420MHz	Channel 39:	2440MHz	Channel 59:	2460MHz	Channel 79:	2480MHz
Channel 20:	2421MHz	Channel 40:	2442MHz	Channel 60:	2461MHz		

1.2 Compliance Standards

Compliance Standards or Rules
Certification Oridinance, Art. 49.20, and MIC public notice 88:2004, annex 43
Item 19 of Article 2 Paragraph 1 of the MIC rules for 2.4GHz band wide-band low-power data communication system
ARIB STD-T66(V3.7)
The objective of the manufacturer or applicant is to demonstrate compliance with the above rules or standards.
According to standards for test methodology
MIC public notice 88:2004, annex 43
All measurements contained in this report were conducted with all above rules
Maintenance of compliance is the responsibility of the manufacturer or applicant. Any modification of the product, which result is lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Facilities

Testing Lab: Shenzhen ZRLK Testing Technology Co., Ltd.
All measurement facilities used to collect the measurement data are located at Room 607, Floor 6, Building 2A, Chuangwei Innovation Valley, Tangtou No.1 Road, Shiyan Street, Baoan District, Shenzhen, Guangdong, China

1.4 Test Setup Information

List of Test Modes			
Test Mode	Description	Remark	
TM1	2402MHz	--	
TM2	2441MHz	--	
TM3	2480MHz	--	
TM4	Hopping	2402-2480MHz	
List and Details of Auxiliary Equipment			
Description	Manufacturer	Model	Serial Number
--	--	--	--
The equipment under test (EUT) was configured to measure its highest possible emission and immunity level. The test modes were adapted according to the operation manual for use.			

1.5 Test Conditions

DC Input by Battery

Supply Voltage			
	DC Input Voltage V	DC Voltage V	Percent
Normal	5	3.3	
+10%	5.5	3.3	0%
-10%	4.5	3.3	0%
Note 1: When the input voltage is reduced or increased by 10%, the regulator voltage changes of less than 1%. So the following test items are conducted in the normal voltage. Note 2: The regulator voltage is integral within U7(XC6206).			

Test Environment			
Temperature	21℃	Humidity	52%

1.6 Measurement Uncertainty

Parameter	Conditions	MU	Remark
RF Output Power	9kHz-6GHz	+/-0.42dB	--
Frequency Tolerance	9kHz-6GHz	+/-0.1 E^{-6}	--
Occupied Bandwidth	9kHz-6GHz	+/-3%	--
Dwell Time	9kHz-6GHz	+/-1%	--
Transmitter Spurious Emissions	9kHz-25GHz	+/-2.76dB	--
Receiver Spurious Emissions	9kHz-25GHz	+/-2.76dB	--

1.7 List of Test and Measurement Instruments

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	Agilent	E4407B	US40521006	2020-04-22	2021-04-21
Attenuator	ATTEN	ATS10-4-10	--	2020-04-22	2021-04-21
Power Meter	Anritsu	ML2495A	--	2020-04-22	2021-04-21
All test equipments were calibrated by Shenzhen Huazhonghang Technology Detection Co., Ltd.					

2. Summary of Test Results

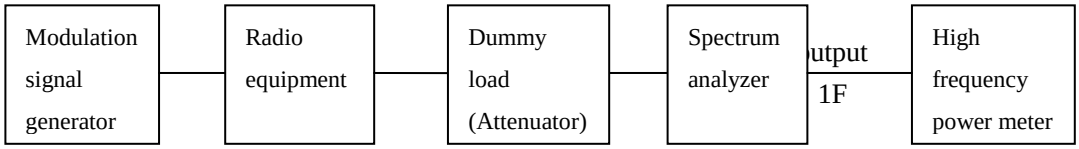
MIC Rules	Description of Test Items	Result
Item 19	RF Output Power	Passed
	Frequency Tolerance	Passed
	Occupied Bandwidth	Passed
	Spread Bandwidth and Spread Factor	Passed
	Holding Time of Hopping Frequency	Passed
	Transmitter Spurious Emissions	Passed
	Receiver Spurious Emissions	Passed
	Interference Prevention Function	Passed
Passed: The EUT complies with the essential requirements in the standard Failed: The EUT does not comply with the essential requirements in the standard N/A: Not applicable		

3. RF Output Power

3.1 Standard and Limit

According to Item 19 of Article 2 Paragraph 1, the maximum permit antenna power is 3mW/MHz for DSSS the maximum permit antenna power is 10mW, and the maximum permit tolerance is +20% or -80%.

3.2 Test Setup Block Diagram



3.3 Test Procedure

For the frequency hopping system (including the compound system with direct diffusion ororthogonal frequency division multiplexing)

(a) The spectrum analyzer setting up to search a frequency that will give the maximum value ofantenna power is as follows.

Center frequency	Test frequency
Sweep bandwidth	2 times of occupied bandwidth
Resoluble bandwidth	1MHz
Video bandwidth	3 times of resoluble bandwidth
Y-axis scale	10dB/Div.
Sweep time	Minimum time by which measuring accuracy is assured (In case of burst wave, 1 burst shall be contained per 1 sample)
Trigger condition	Free run
Data points	More than 400 points
Sweep mode	Continuous sweeping
Detection mode	Positive peak
Display mode	Maximum holding

(b) The spectrum analyzer setting up to measure antenna power is as follows. In this case, connecting the high frequency power meter with IF output of the spectrum analyzer, calibrate indication of the high frequency power meter against output point of the radio equipment.

Center frequency	Maximum power point frequency
Sweep bandwidth	0Hz
Resoluble bandwidth	1MHz
Video bandwidth	Equivalent to resoluble bandwidth
Sweep mode	Continuous sweeping

(c) Measure power sum at output of the dummy load by the high frequency power meter.

(d) Calculate average power per 1MHz, dividing power sum by diffusion bandwidth.

(e) Confirm that frequency distribution in frequency hopping is uniform (hopping interval is equal and less than 1MHz) and occurrence probability at each hopping frequency is uniform referring the submitted data. If frequency distribution of frequency hopping is not uniform, other test method shall be separately studied referring “g. Other conditions”.
(f) Antenna power is as follows.
i. For continuous wave: calculated value at B
ii. For burst wave: Average power in burst wave calculated from value of B and transmitting time ratio.

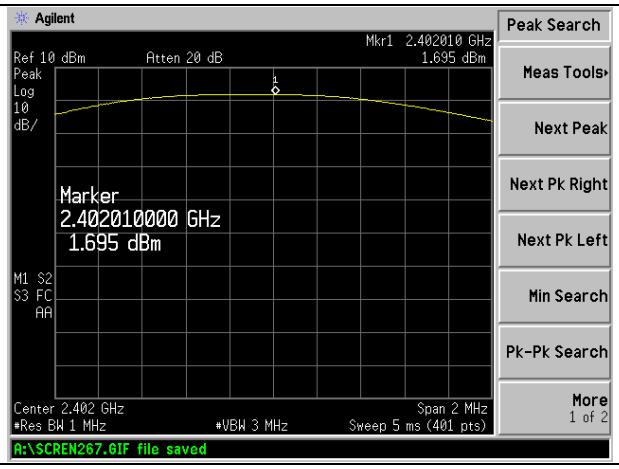
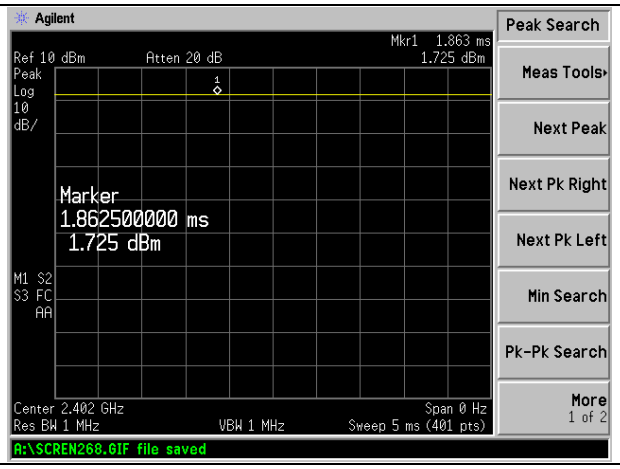
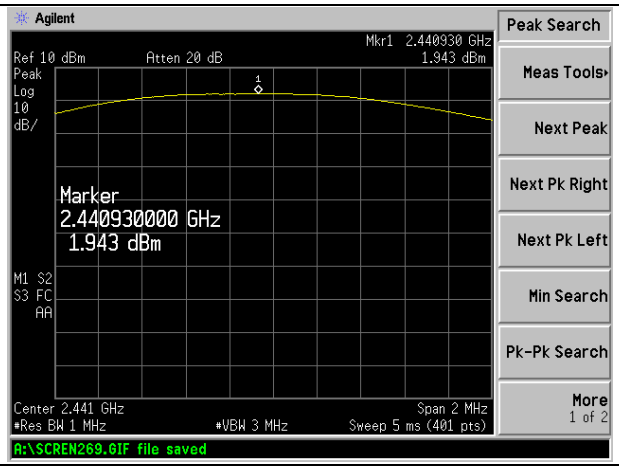
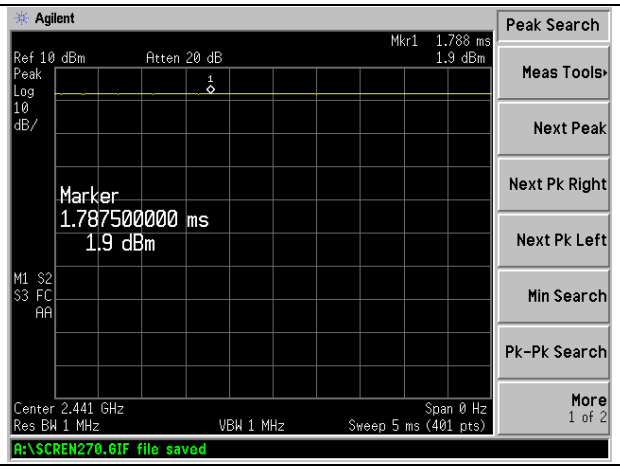
(g) Other conditions
If frequency distribution of frequency hopping or occurrence probability of each hopping frequency is not uniformed, set the spectrum analyzer as (a) and search a frequency point where gives a maximum antenna power, after that, set the spectrum analyzer as (b) and measure the power at the frequency point where gives maximum power.

3.4 Test Data and Results

Frequency (MHz)	Measure Value (dBm/MHz)	Limit (dBm/MHz)	Antenna Gain (dBi)	EIRP (dBm/MHz)	EIRP Limit (dBm/MHz)
BR_GFSK					
2402	1.725	4.771	0	1.725	6.911
2441	1.900	4.771	0	1.900	6.911
2480	1.981	4.771	0	1.981	6.911
EDR_Pi/4 DQPSK					
2402	2.711	4.771	0	2.711	6.911
2441	2.908	4.771	0	2.908	6.911
2480	3.036	4.771	0	3.036	6.911
EDR_8DPSK					
2402	2.713	4.771	0	2.713	6.911
2441	3.137	4.771	0	3.137	6.911
2480	3.173	4.771	0	3.173	6.911

Frequency (MHz)	Output Power (mW/MHz)	Rated Output Power (mW/MHz)	Tolerance (%)	Limit (%)
BR_GFSK				
2402	1.488	2	-25.60	+20% to -80%
2441	1.549	2	-22.55	+20% to -80%
2480	1.578	2	-21.10	+20% to -80%
EDR_Pi/4 DQPSK				
2402	1.867	2	-6.65	+20% to -80%
2441	1.953	2	-2.35	+20% to -80%
2480	2.012	2	0.60	+20% to -80%
EDR_8DPSK				
2402	1.868	2	-6.60	+20% to -80%
2441	2.059	2	2.95	+20% to -80%
2480	2.076	2	3.80	+20% to -80%
Note: Tolerance = (Output Power – Rated Output Power) / Rated Output Power * 100%				

Please refer to the test plots

GFSK	
Low CH	
	
Middle CH	
	
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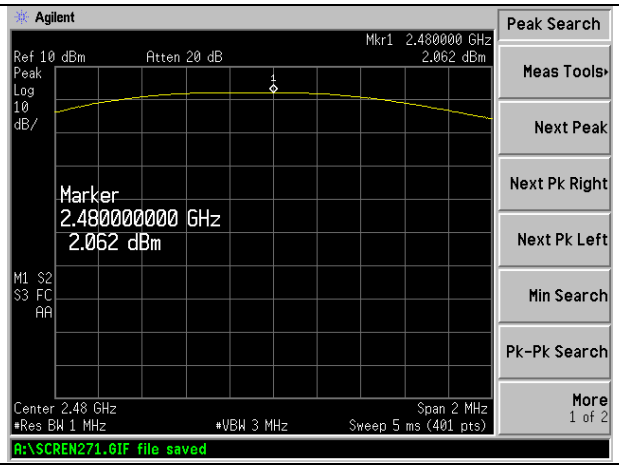
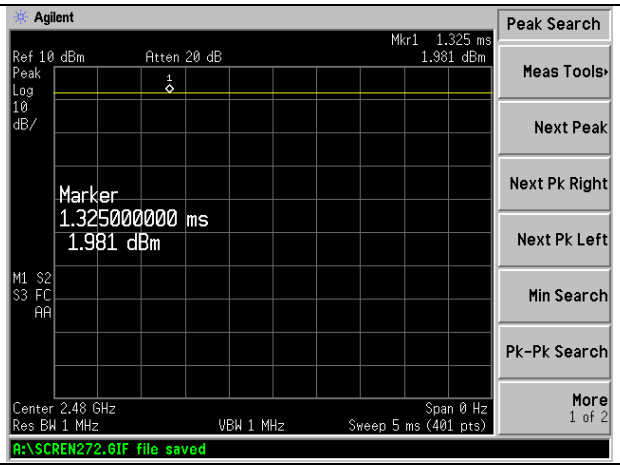
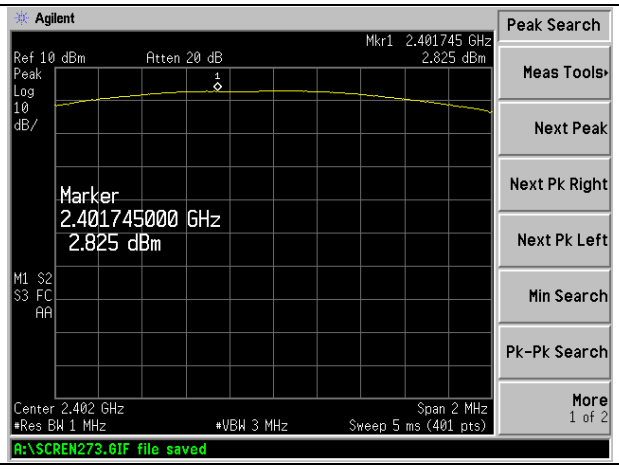
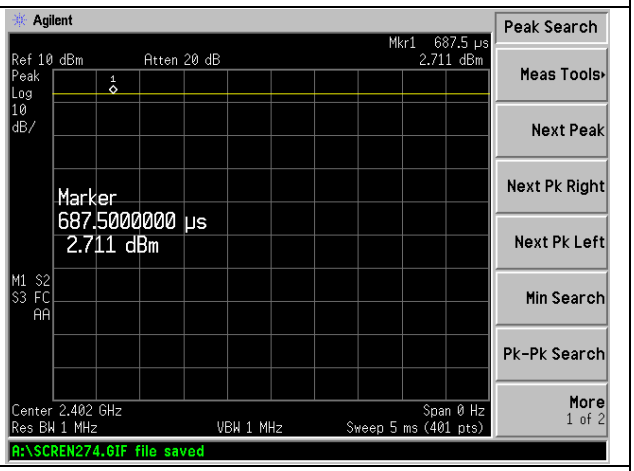
	

Pi/4 DQPSK	
Low CH	
	
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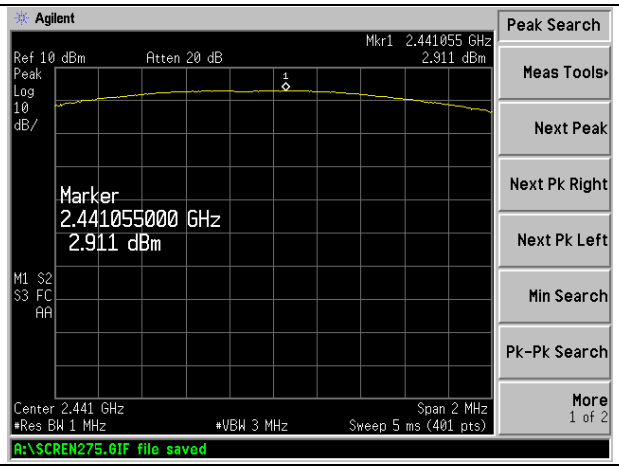
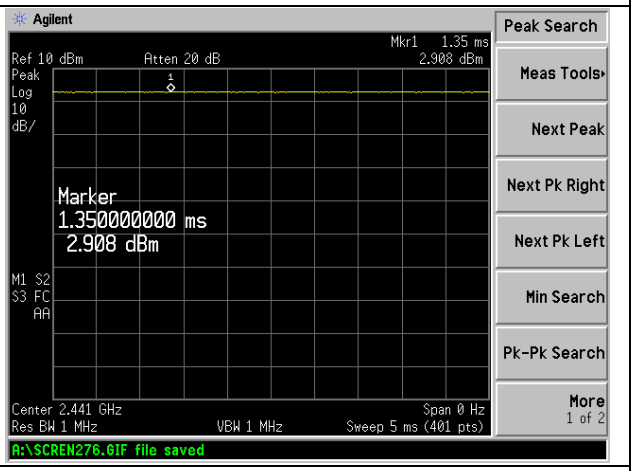
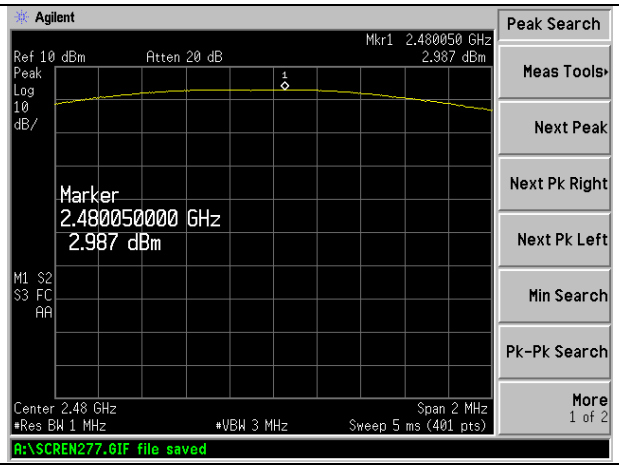
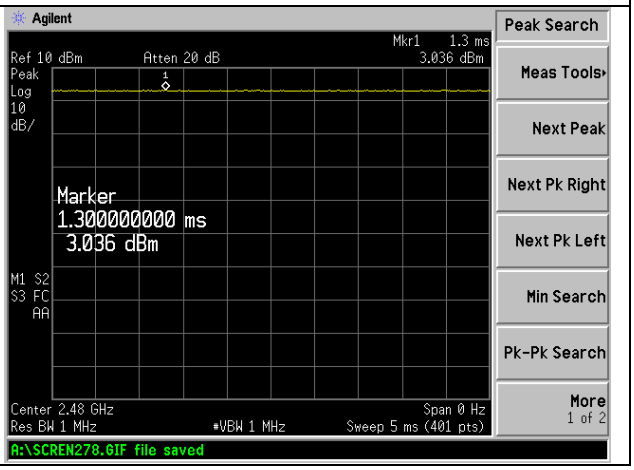
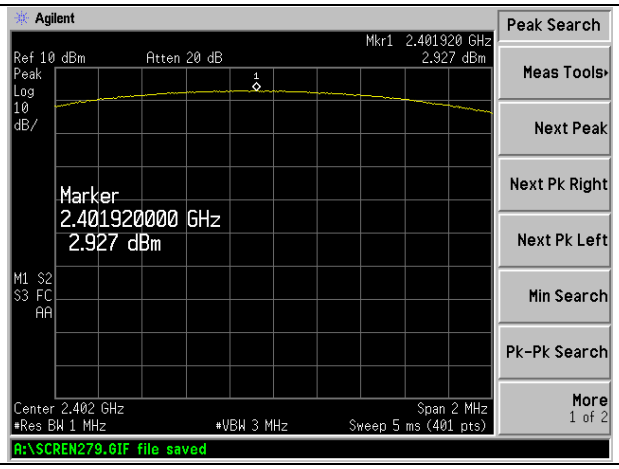
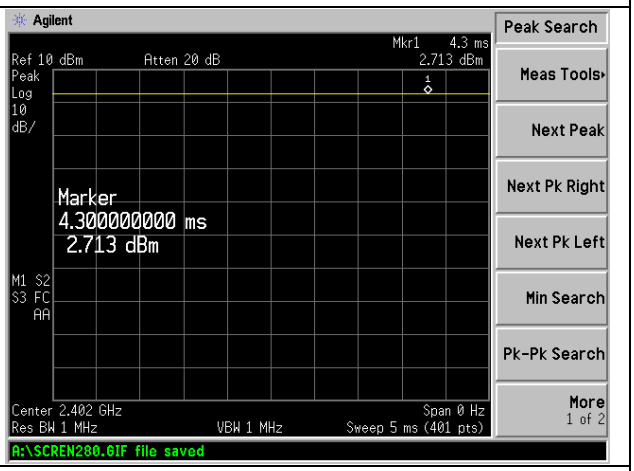
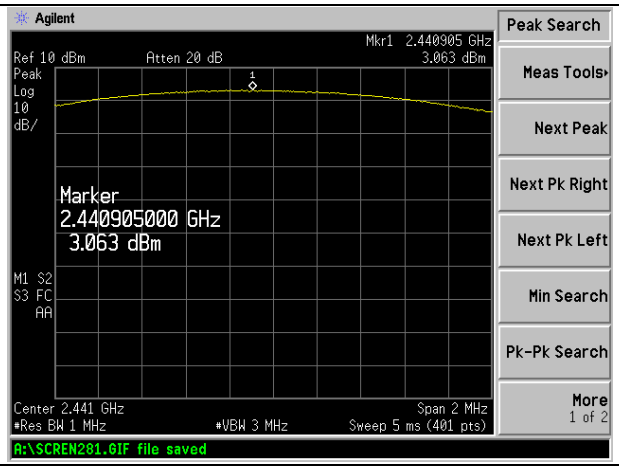
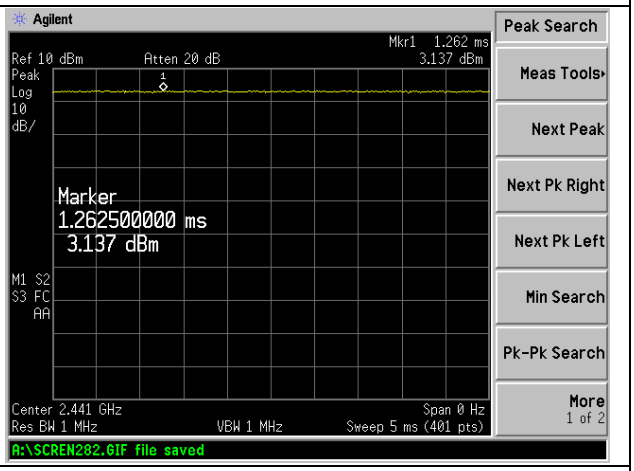
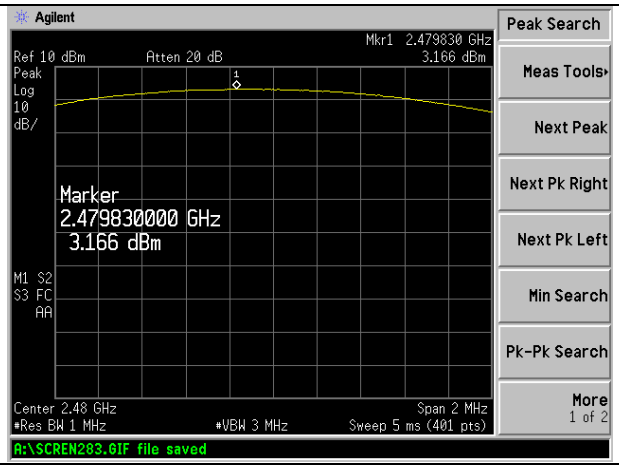
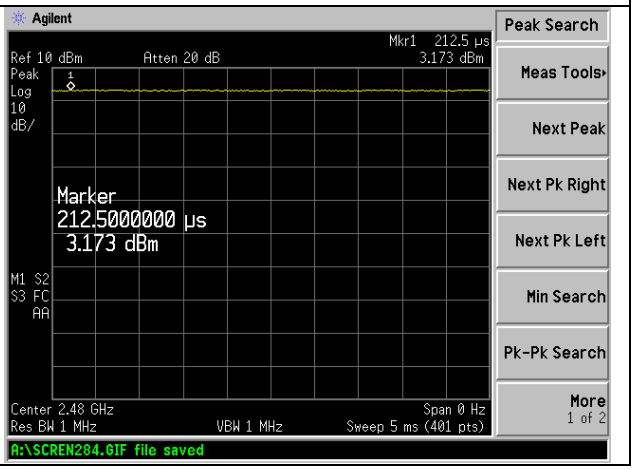
	
High CH	
	

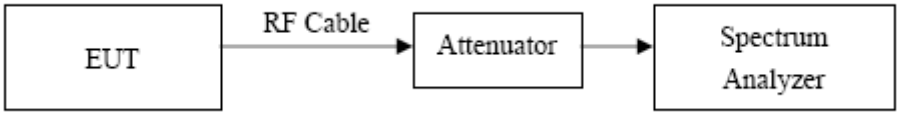
8DPSK	
Low CH	
	
Middle CH	
	
High CH	
	

4. Frequency Tolerance

4.1 Standard and Limit

According to Item 19 of Article 2 Paragraph 1, the maximum permit tolerance of frequency is 50ppm.

4.2 Test Setup Block Diagram



4.3 Test Procedure

1. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
2. Set center frequency of spectrum analyzer = operating frequency.
3. Set the spectrum analyzer as RBW, VBW=10KHz, Span = 1MHz.
4 'Maximum Hold' mode may be used to accumulate the measurement result over several scans provided emission is repetitive in nature.
5. Repeat above procedures until all frequency measured was complete.

4.4 Test Data and Results

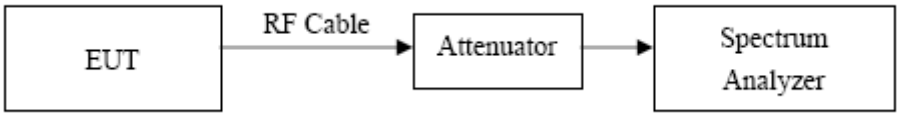
Power Supply	Test Frequency (MHz)	Reading Value (MHz)	Tolerance (ppm)	Limit (ppm)
DC 3.7V	2402	2402.0040	1.67	±50
	2441	2441.0040	1.64	±50
	2480	2480.0045	1.81	±50

5. Occupied Bandwidth / Spread Bandwidth / Spread Factor

5.1 Standard and Limit

According to Item 19 of Article 2 Paragraph 1. The occupied bandwidth shall not exceed 83.5MHz, the spreading bandwidth no less than 500kHz, and the operating frequency range lies within the band 2400MHz to 2483.5 MHz.

5.2 Test Setup Block Diagram



5.3 Test Procedure

(1) Set up the spectrum analyzer as the follows:
Center frequency: Test frequency
Sweep bandwidth: 2 to 3.5 times of allowance
Resoluble bandwidth: less than 3% of allowance
Video bandwidth: Equivalent to resoluble bandwidth
Sweep time: Minimum time by which measuring accuracy is assured (In case of burst wave, 1 burst shall be contained per 1 sample)
Sampling points: More than 400 points
Sweep mode : Continuous sweeping
Detection mode: Positive peak
Display mode: Maximum holding

(2) Repeat the sweeping till no change was observed on the display and enter all values of data point to the computer as array variable.

(3) About all data, convert dB value to antilogarithm of electric power dimension.

(4) Add up the electric power of all data and record it as “Sum total of electric power”.

(5) Adding up data in order from the lowest frequency to upper frequencies, look for a limit point where the value reaches to 0.5% (5% in case of diffusion bandwidth) of “Sum total of electric power”. Convert the limit point to frequency and record as “Lowest limit frequency”.

(6) Adding up data in order from the highest frequency to lower frequencies, look for a limit point where the value reaches to 0.5% (5% in case of diffusion bandwidth) of “Sum total of electric power”. Convert the limit point to frequency and record as “Highest limit frequency”.

(7) Repeat above procedures until all frequency measured was complete.

5.4 Test Data and Results

Occupied Bandwidth (99% Emission Bandwidth)

Power Supply	Modulation	Test Frequency (MHz)	Reading Value	Limit
DC 3.7V	GFSK	2402-2480	77.7916	<83.5MHz
	8DPSK	2402-2480	77.9970	<83.5MHz

Diffusion Bandwidth (90% Emission Bandwidth)

Power Supply	Modulation	Test Frequency (MHz)	Reading Value	Limit
DC 3.7V	GFSK	2402-2480	69.1179	≥500kHz
	8DPSK	2402-2480	71.1028	≥500kHz

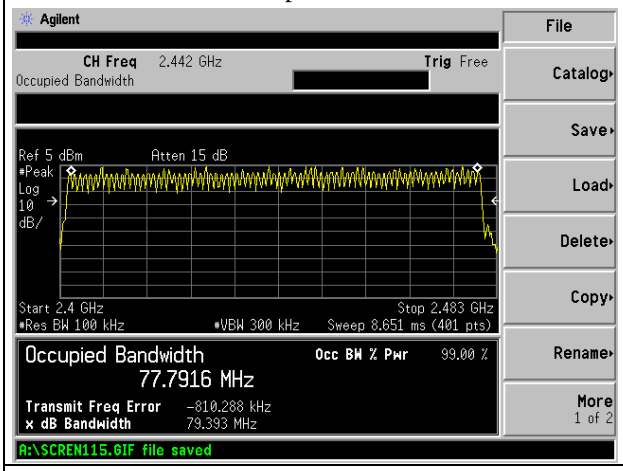
Spread Factor

Power Supply	Modulation	Diffusion Bandwidth	Data Rate (M)	Spread Factor	Limit
DC 3.7V	GFSK	69.1179	1	69.1179	≥5
	8DPSK	71.1028	1	71.1028	≥5

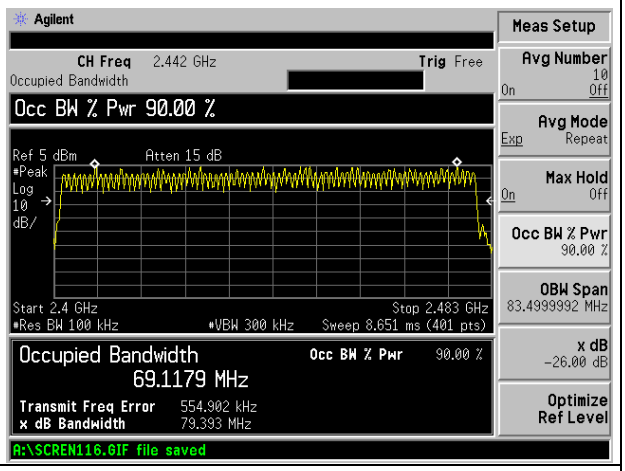
Please refer to the following test plots

GFSK

99% Occupied Bandwidth

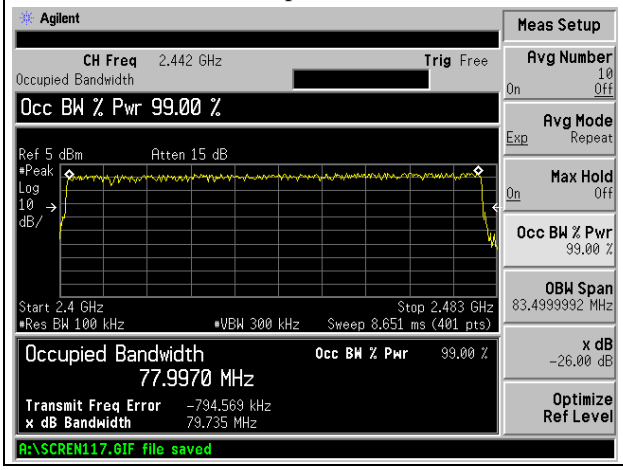


90% Diffusion Bandwidth

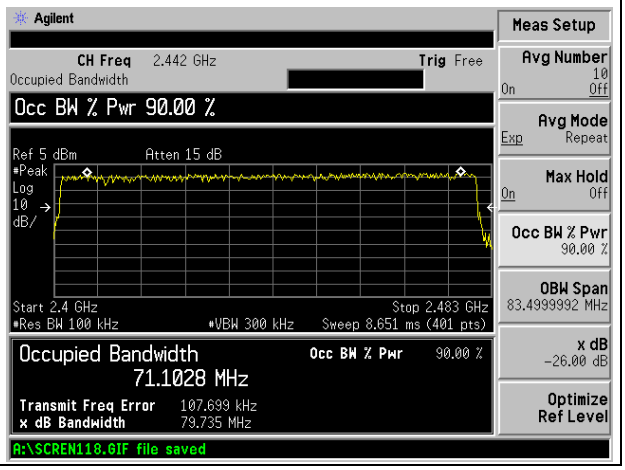


8DPSK

99% Occupied Bandwidth



90% Diffusion Bandwidth

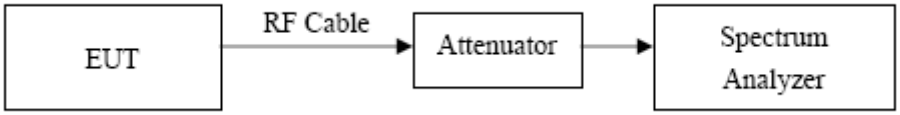


6. Holding Time of Hopping Frequency

6.1 Standard and Limit

According to Item 19 of Article 2 Paragraph 1. The Holding Time shall not exceed 0.4sec or less , The Total Sum of Holding Time at arbitrary Frequencies Within the Time Muitiplied 0.4 sec By the Spreading Ratio Shall be 0.4sec or Less.

6.2 Test Setup Block Diagram



6.3 Test Procedure

1. Set the spectrum analyzer and wait the hopping signal with the hoppingfrequency.
Spectrum analyzer setting up is as follows.

Center frequency	Hopping test frequency
Sweep bandwidth	0Hz
Resoluble bandwidth	1MHz
Video bandwidth	equivalent to resoluble bandwidth
Y-axis scale	10dB/Div.
Sweep time	Hopping cycle
Sweep mode	Single sweep
Trigger condition	Video trigger
Detection mode	Positive peak

2. Read the maximum level of the residence time of the hopping frequency at hopping cycle using marker etc. from the trace on the display and confirm that it is shorter than 0.4sec.
3. By means of the method same to the above (2), read the sum of the residence time of the hopping frequency at hopping cycle.
4. Calculate the total of frequency residence time of the hopping frequency as follows. Total = (0.4s x diffusion rate / hopping cycle) x sum of the residence time of (3) here, “diffusion rate” is a value of the diffusion bandwidth divided by a frequency equal to transmitting velocity of modulation signal.
5. Repeat the abovementioned procedures for each hopping frequency.

6.4 Test Data and Results

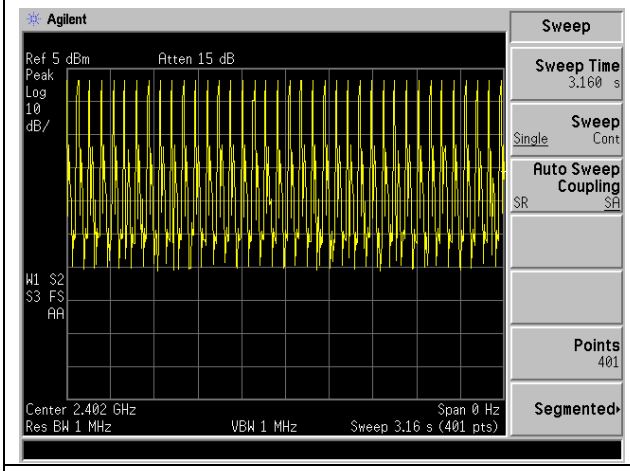
diffusion rate of GFSK=69.1179 diffusion rate of 8DPSK=71.1028
hopping cycle=31.6s

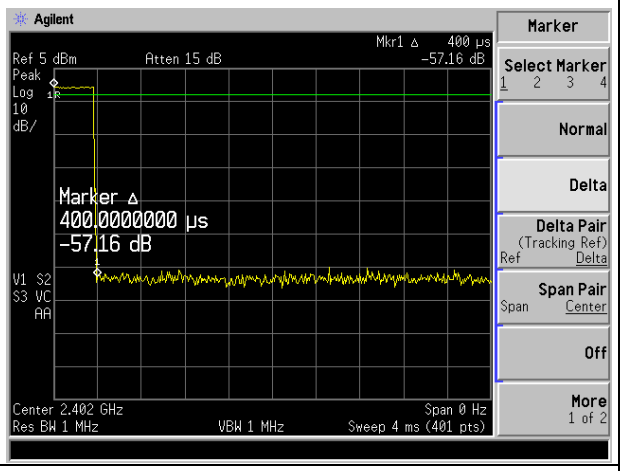
Modulation	Test Channel	Packet	Time Slot Length	Dwell Time	Limit
			ms	ms	ms
GFSK	2402MHz	DH1	0.4	148	400
		DH3	1.67	283.9	400
		DH5	2.94	323.4	400
	2441MHz	DH1	0.4	148	400
		DH3	1.68	285.6	400
		DH5	2.93	322.3	400
	2480MHz	DH1	0.4	148	400
		DH3	1.67	283.9	400
		DH5	2.95	324.5	400
8DPSK	2402MHz	3DH1	0.4	148	400
		3DH3	1.66	282.2	400
		3DH5	2.94	324.5	400
	2441MHz	3DH1	0.4	148	400
		3DH3	1.67	283.9	400
		3DH5	2.94	324.5	400
	2480MHz	3DH1	0.4	148	400
		3DH3	1.67	283.9	400
		3DH5	2.95	324.5	400

Please refer to the following test plots

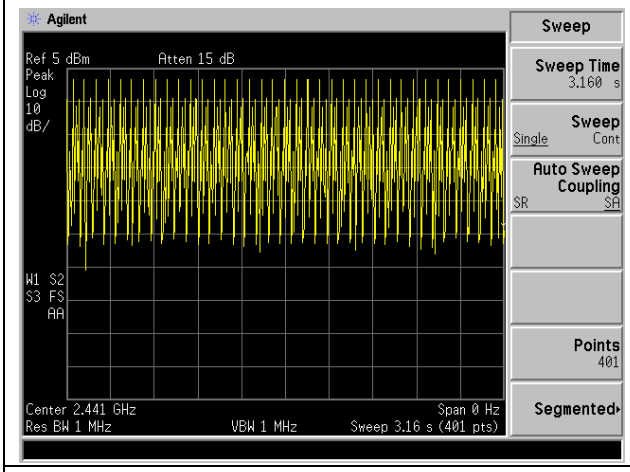
GFSK DH1

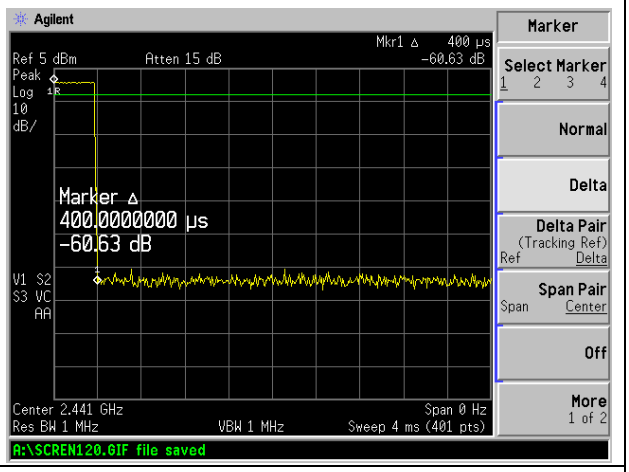
Low CH



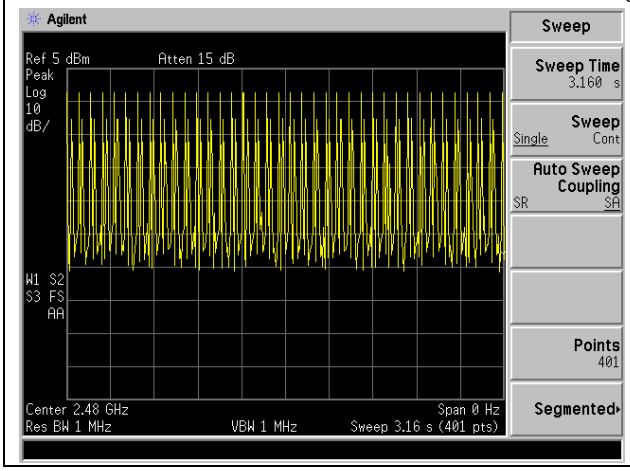


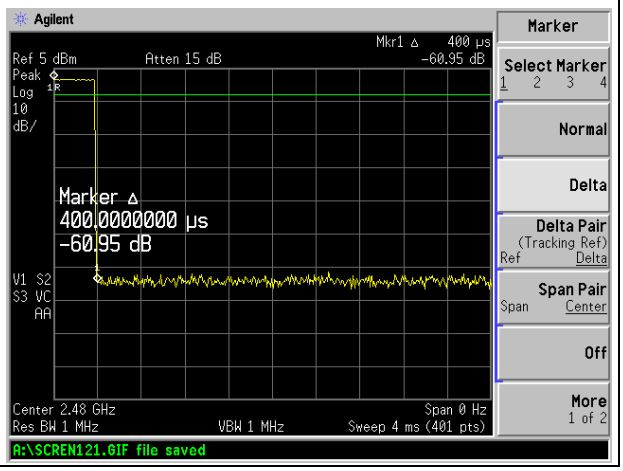
Middle CH





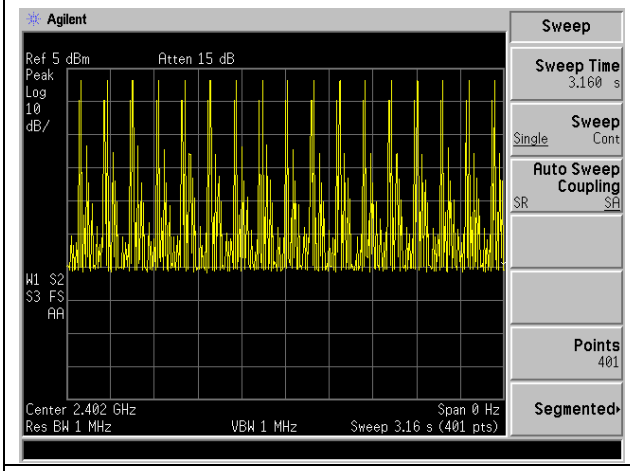
High CH

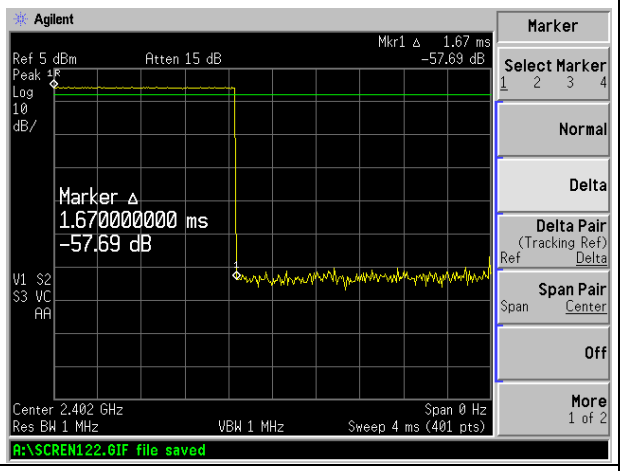




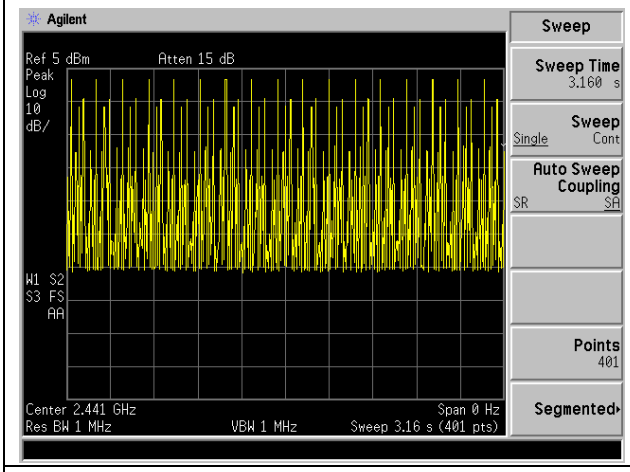
GFSK DH3

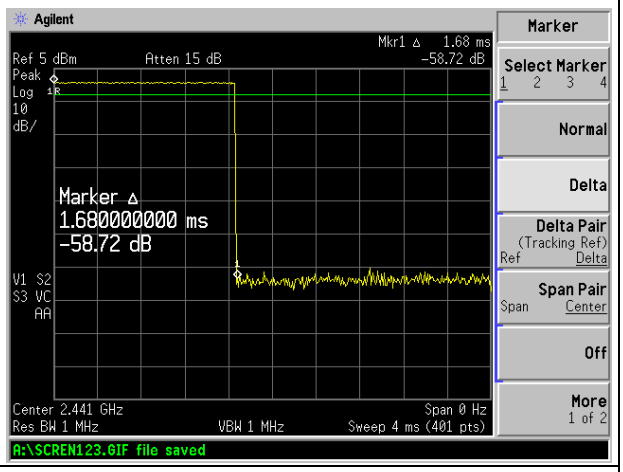
Low CH



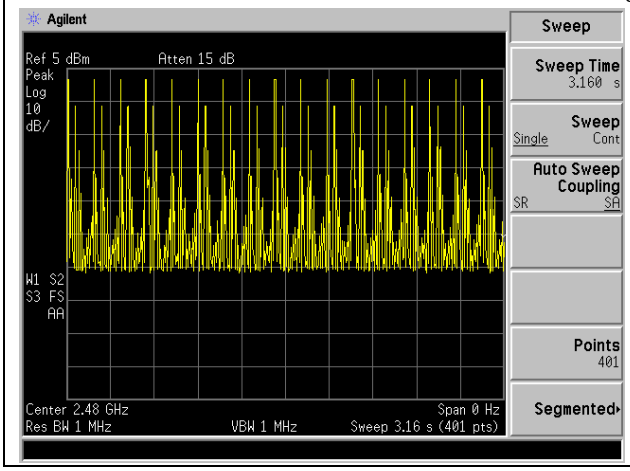


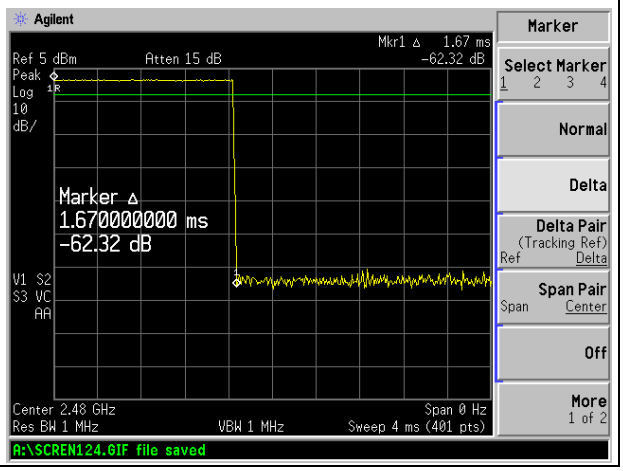
Middle CH





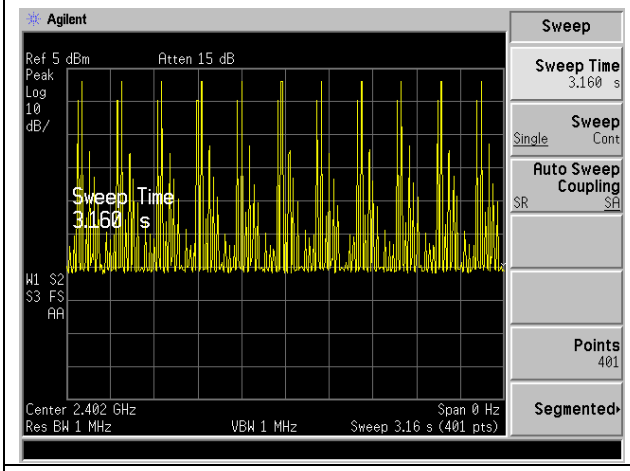
High CH

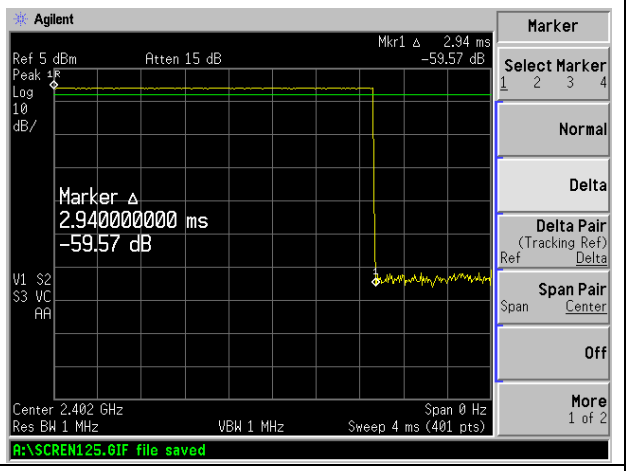




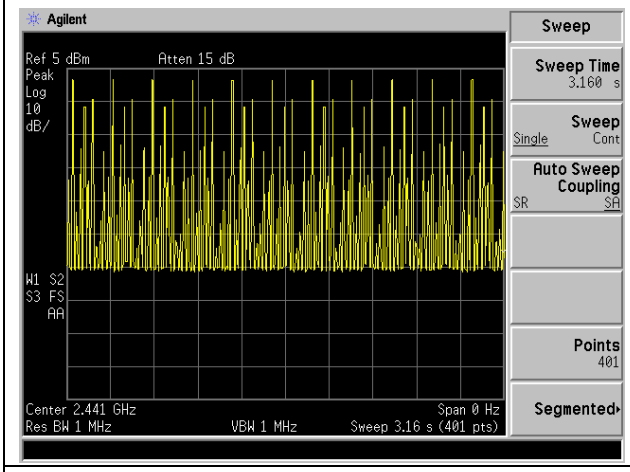
GFSK DH5

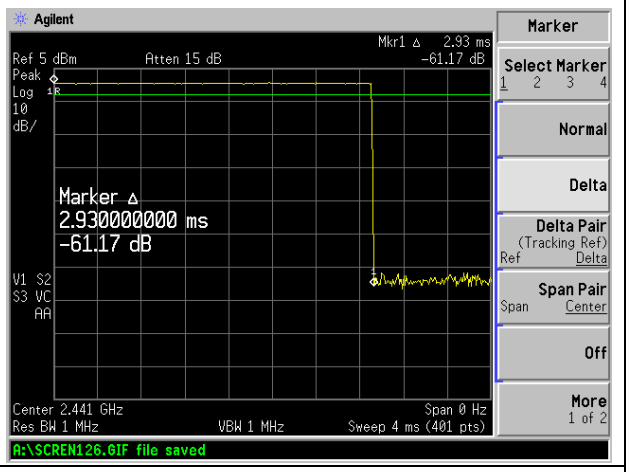
Low CH



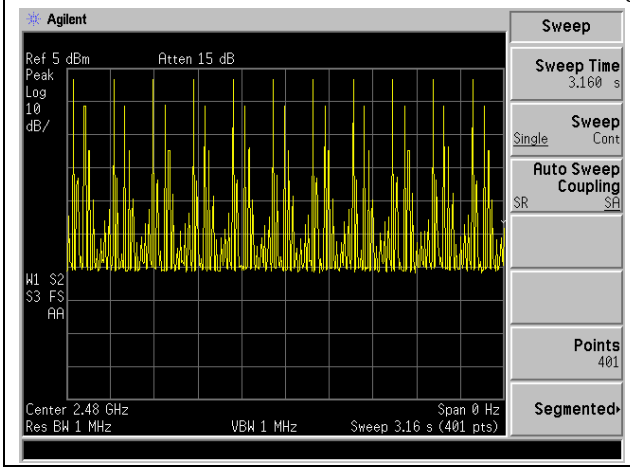


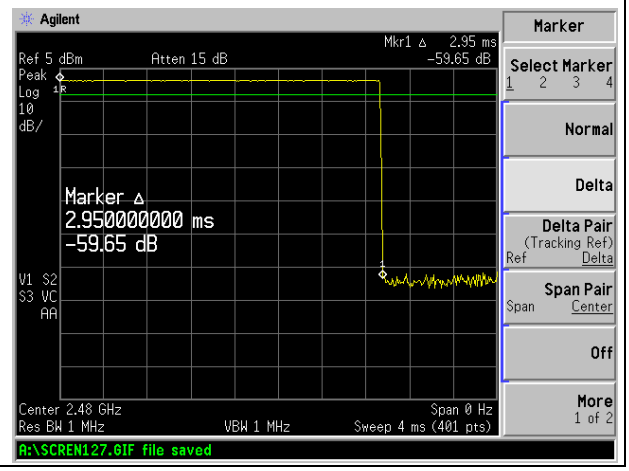
Middle CH





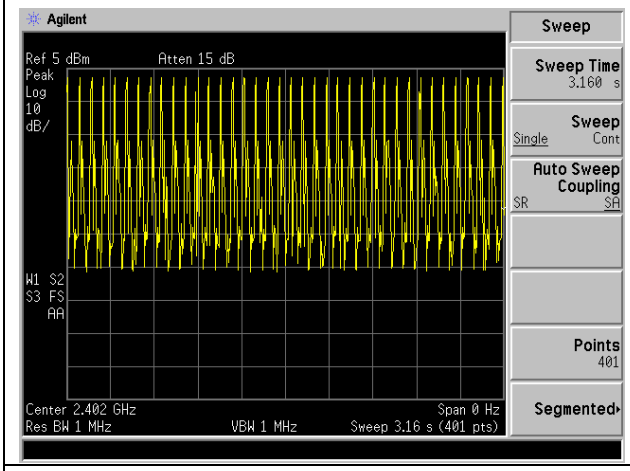
High CH

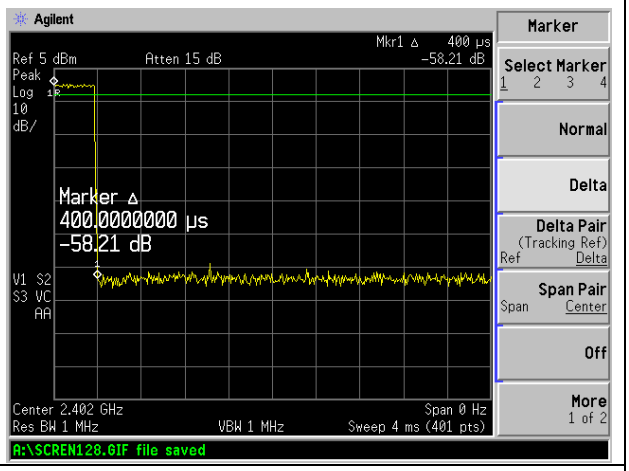




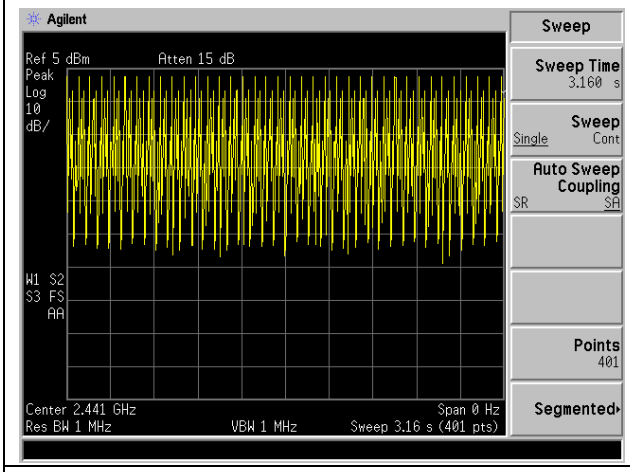
8DPSK 3DH1

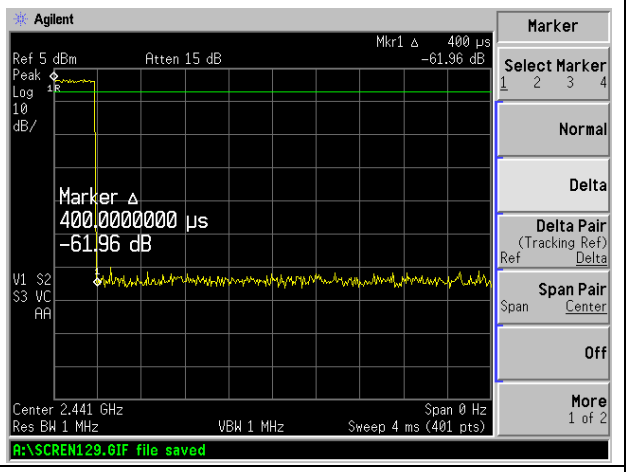
Low CH



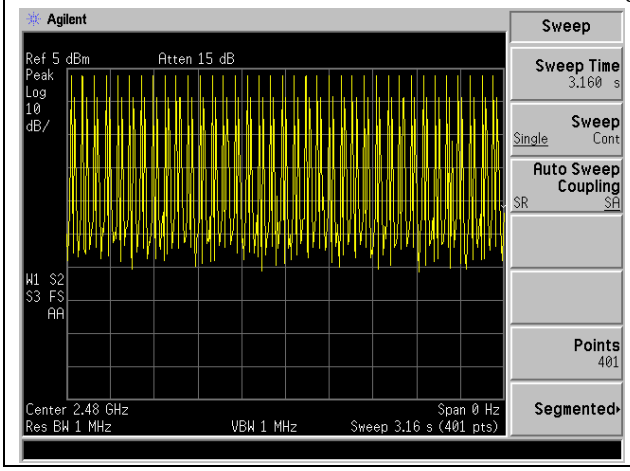


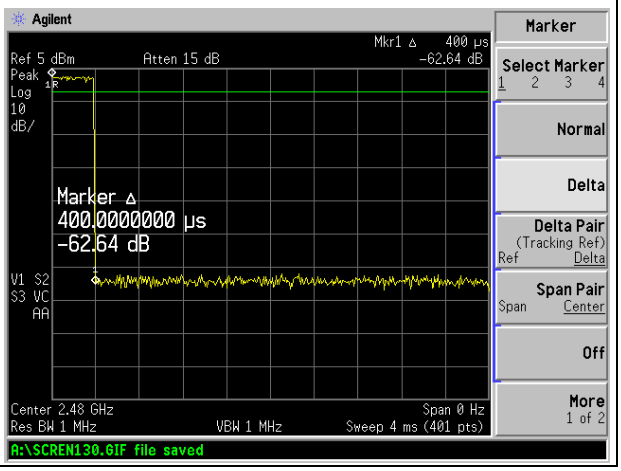
Middle CH





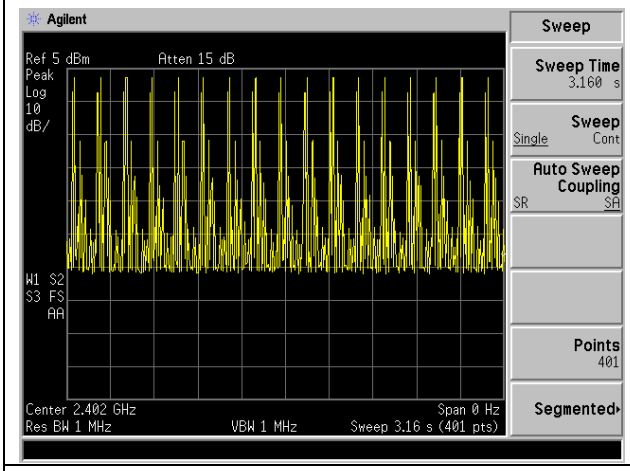
High CH

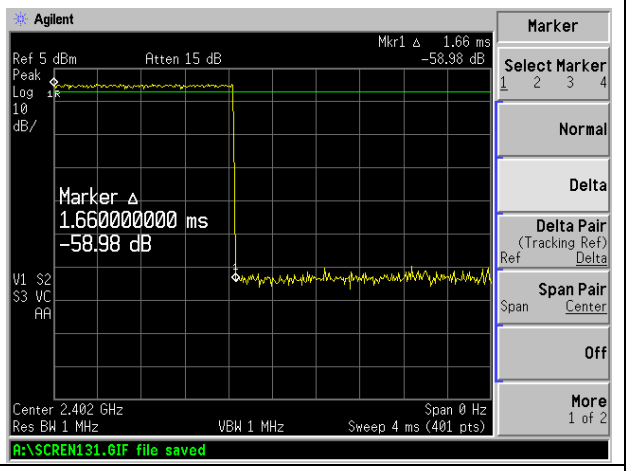




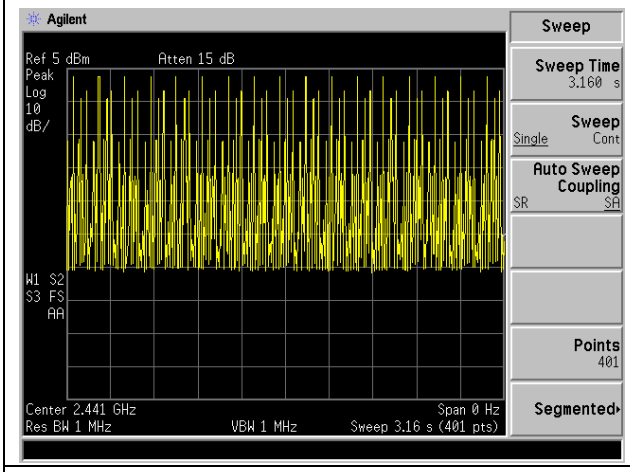
8DPSK 3DH3

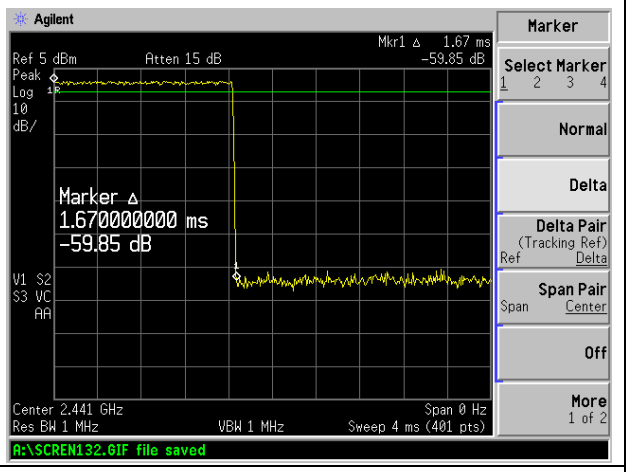
Low CH



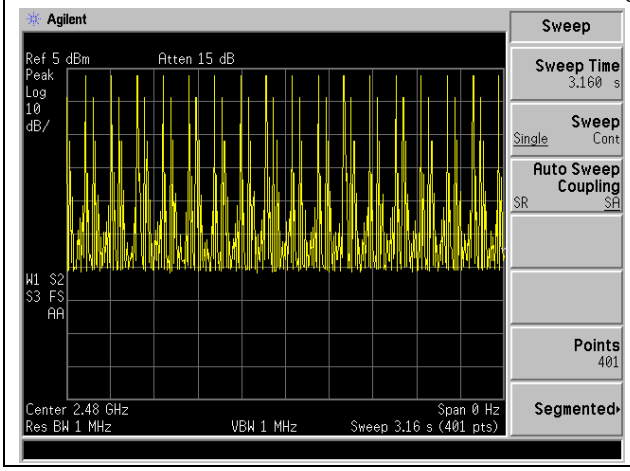


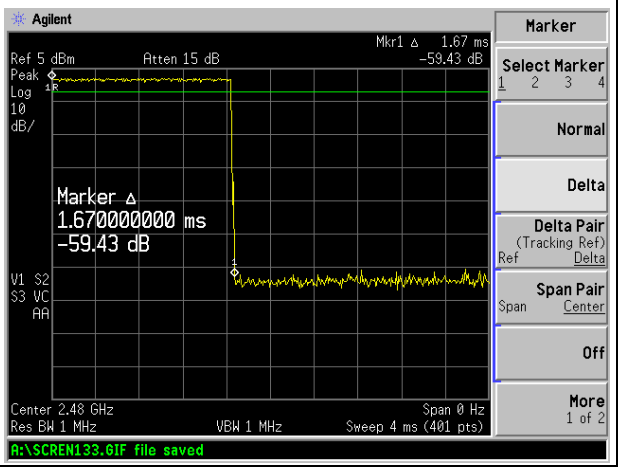
Middle CH





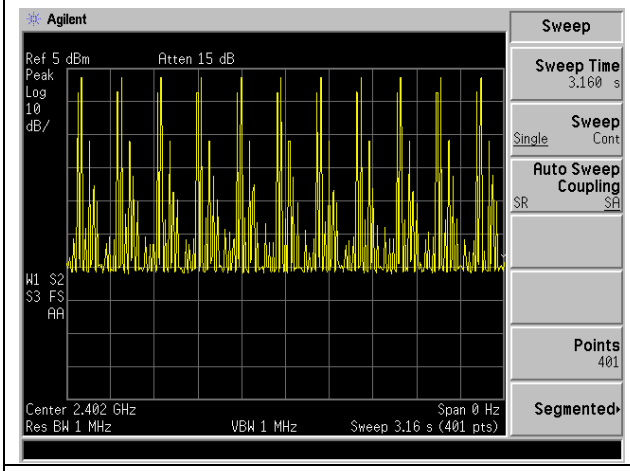
High CH

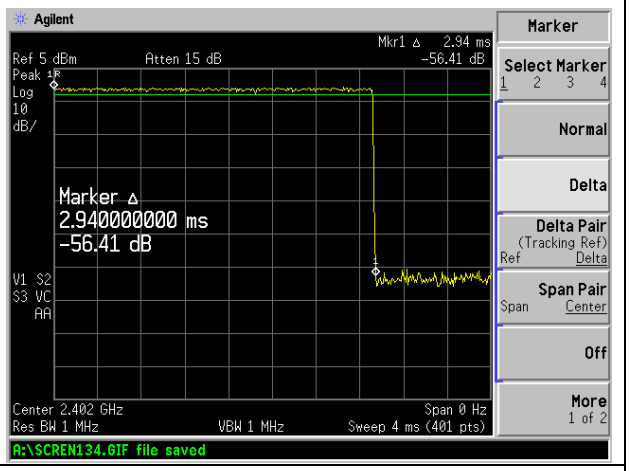




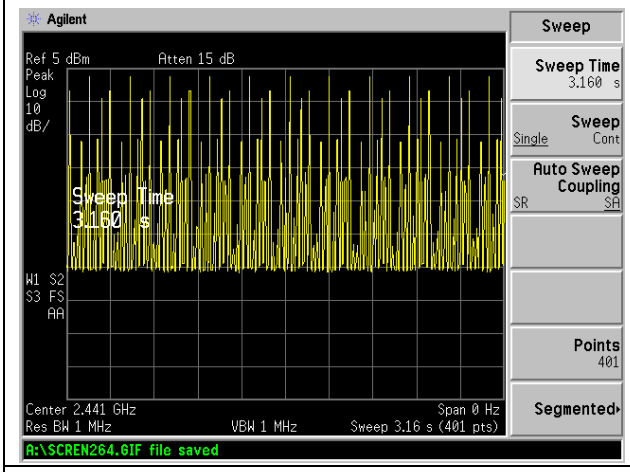
8DPSK 3DH5

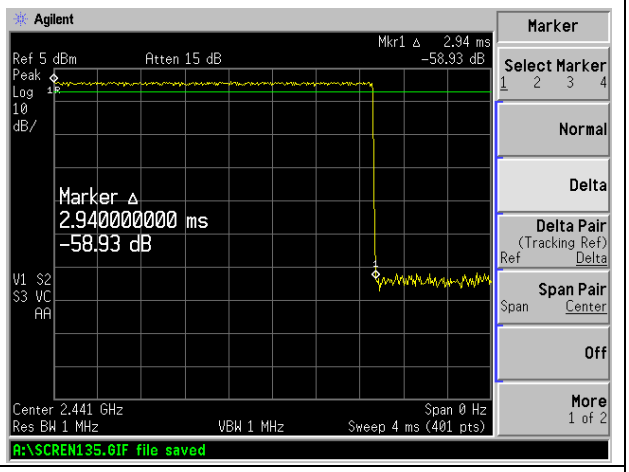
Low CH



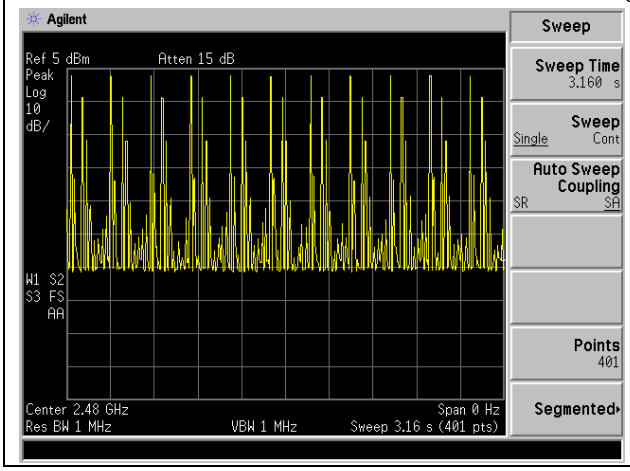


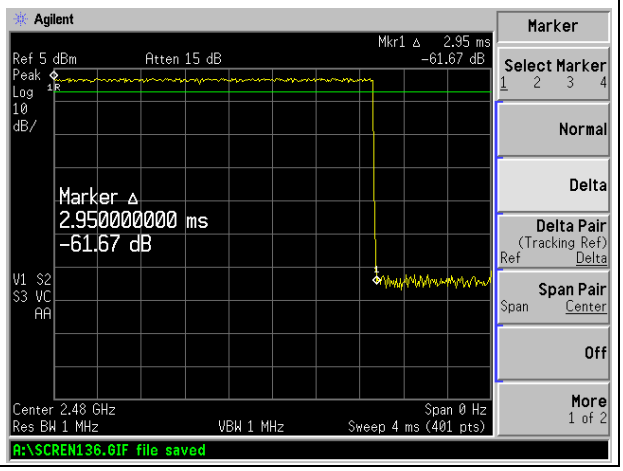
Middle CH





High CH





7. Transmitter Spurious Emissions

7.1 Standard and Limit

According to Item 19 of Article 2 Paragraph 1. The transmitter spurious emissions shall not exceeded the following limit:

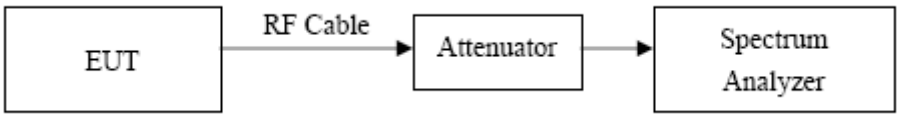
(1) Below 2387MHz : 2.5μW/MHz

(2) 2387 to 2400MHz : 25μW/MHz

(3) 2483.5 through 2496.5MHz : 25μW/MHz

(4) Over 2496.5MHz : 2.5μW/MHz

7.2 Test Setup Block Diagram



7.3 Test Procedure

(1) A spectrumIn case of conducted measurements, the radio device shall be connected to the measuring equipment via a suitable attenuator.

(2) The measurement equipment shall be set for peak hold mode of operation.

(3) the transmitter shall be operated at the highest output power, or, in the case of equipment able to operate at more than one power level, at the lowest and highest output powers;

(4) The resolution bandwidth shall be set to 100kHz from 10MHz to 1GHz, the resolution bandwidth shall be set to 1MHz above 1GHz , and the sweep time shall be set to auto mode, to ensure all major modulation products are captured.

(5) When the searched result is less than the specified limit, the maximum one shall be recorded, when the result is more than the specified limit, all measured values shall be recorded.

(5) This measurement shall be repeated with the transmitter in standby mode where applicable.

(6) Repeat above procedures until all frequency measured was complete.

7.4 Test Data and Results

GFSK (Worst case)

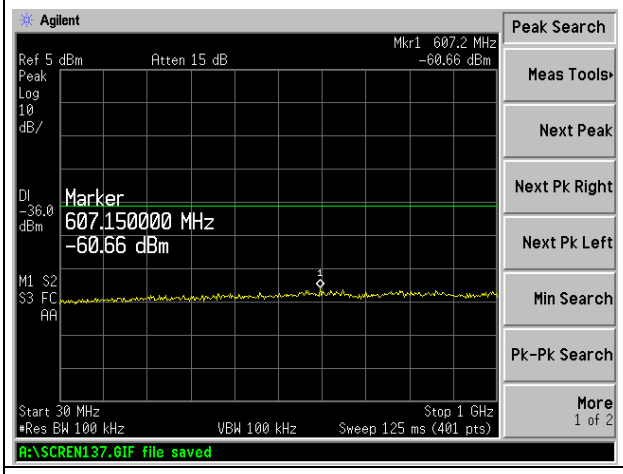
Frequency Range (MHz)	Maximum Spurious Emission Value (dBm)	Limit (dBm)
Low Channel (2402MHz)		
30-1000	-60.66	-36
1000-2387	-53.22	-26 (2.5uW)
2387-2400	-16.68	-16 (25uW)
2483.5-2496.5	-53.68	-16 (25uW)
2496.5-12750	-39.49	-26 (2.5uW)
Middle Channel (2441MHz)		
30-1000	-61.72	-36
1000-2387	-54.05	-26 (2.5uW)
2387-2400	-50.66	-16 (25uW)
2483.5-2496.5	-47.74	-16 (25uW)
2496.5-12750	-36.86	-26 (2.5uW)
High Channel (2480MHz)		
30-1000	-61.56	-36
1000-2387	-51.40	-26 (2.5uW)
2387-2400	-54.04	-16 (25uW)
2483.5-2496.5	-28.35	-16 (25uW)
2496.5-12750	-36.61	-26 (2.5uW)

Please refer to the following test plots

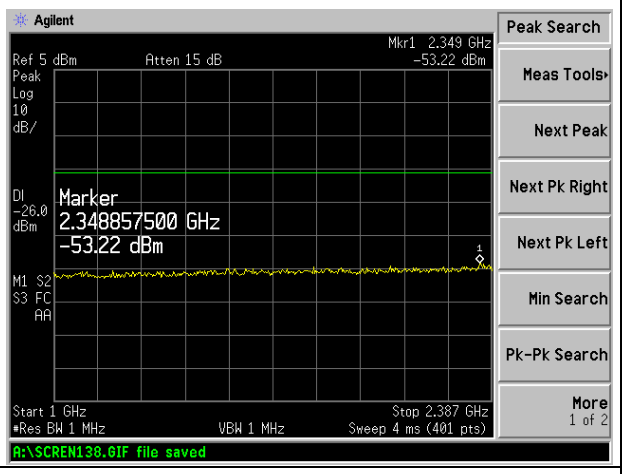
GFSK (Worst case)

Low Channel (2402MHz)

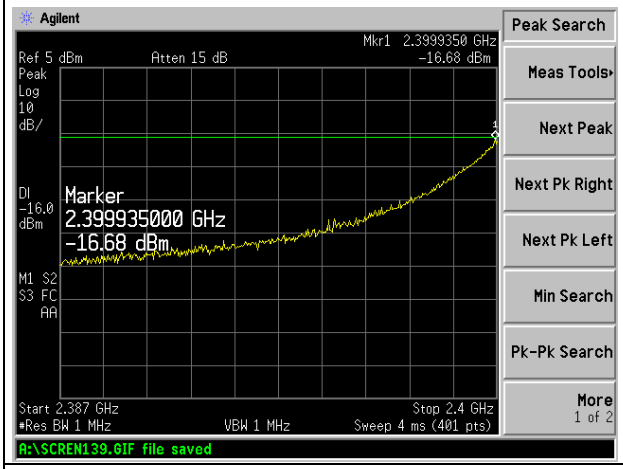
30MHz-1000MHz



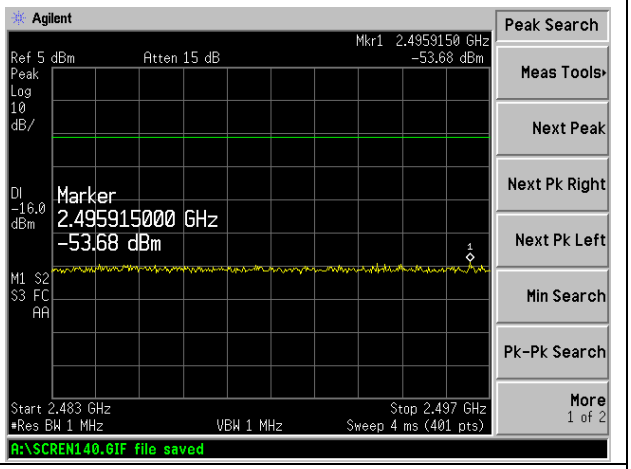
1000MHz-2387MHz



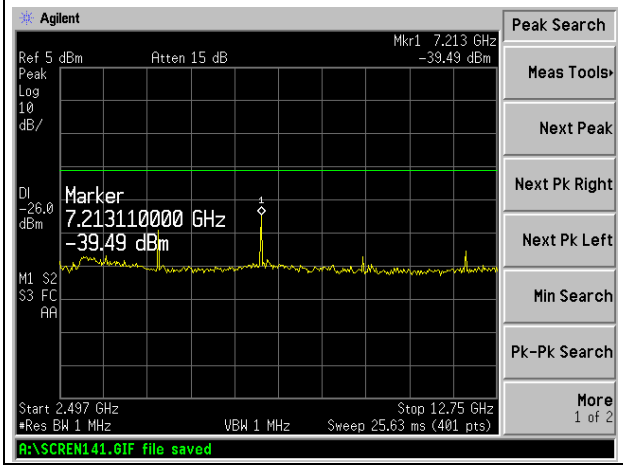
2387MHz-2400MHz



2483.5MHz-2496.5MHz

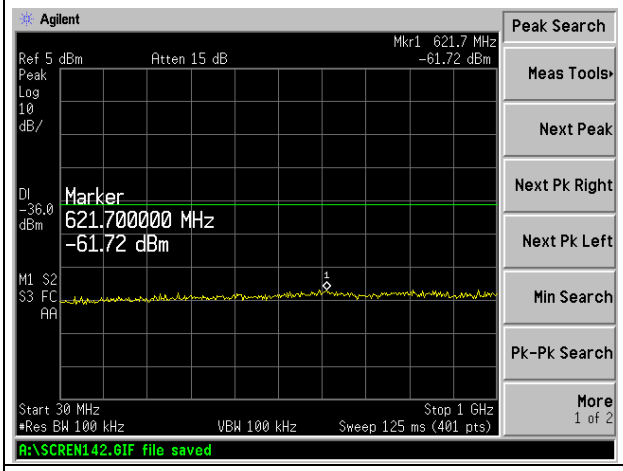


2496.5MHz-12750MHz

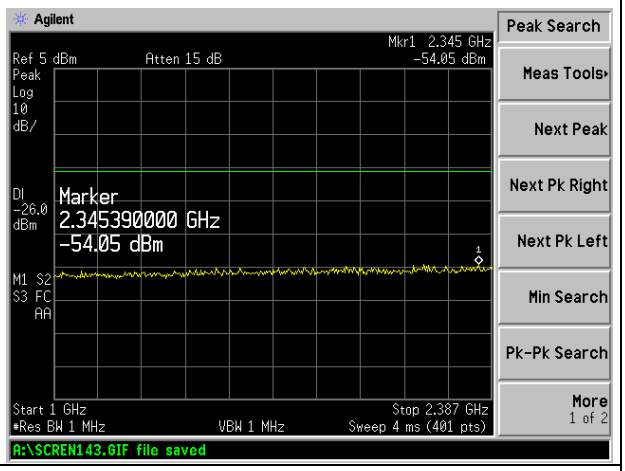


Middle Channel (2441MHz)

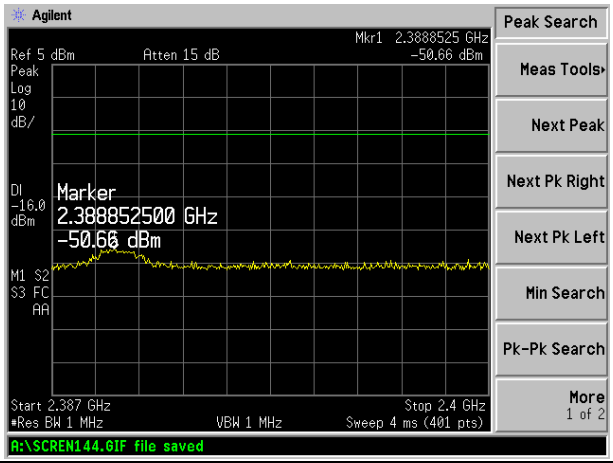
30MHz-1000MHz



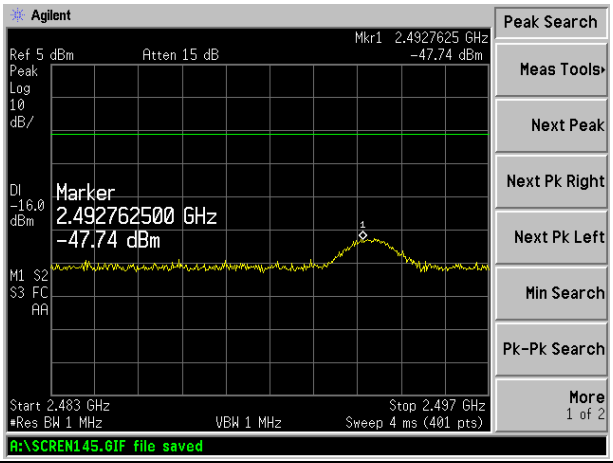
1000MHz-2387MHz



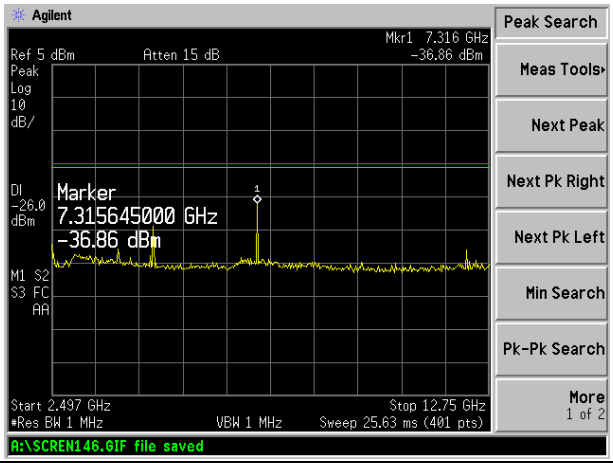
2387MHz-2400MHz



2483.5MHz-2496.5MHz

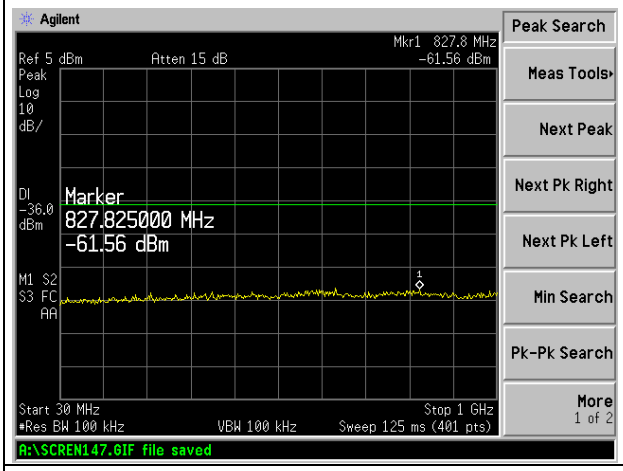


2496.5MHz-12750MHz

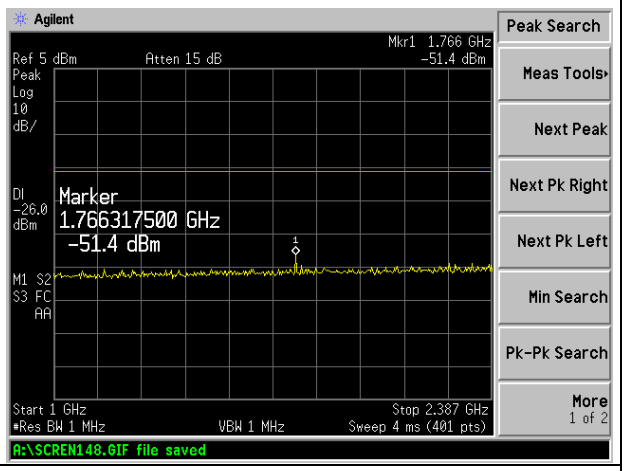


High Channel (2480MHz)

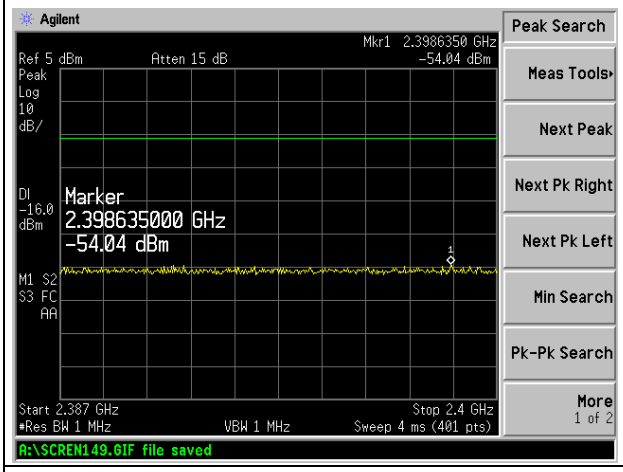
30MHz-1000MHz



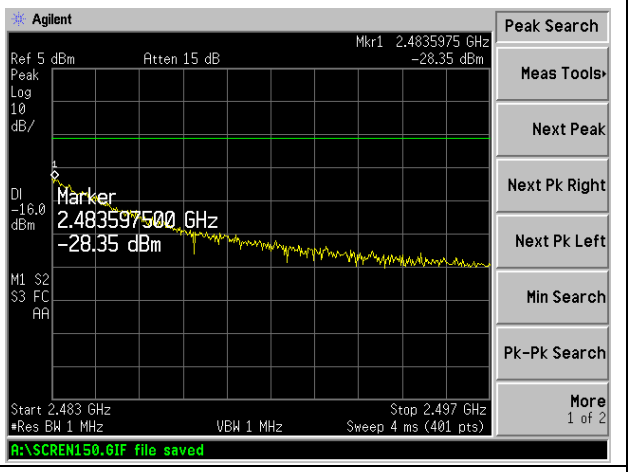
1000MHz-2387MHz



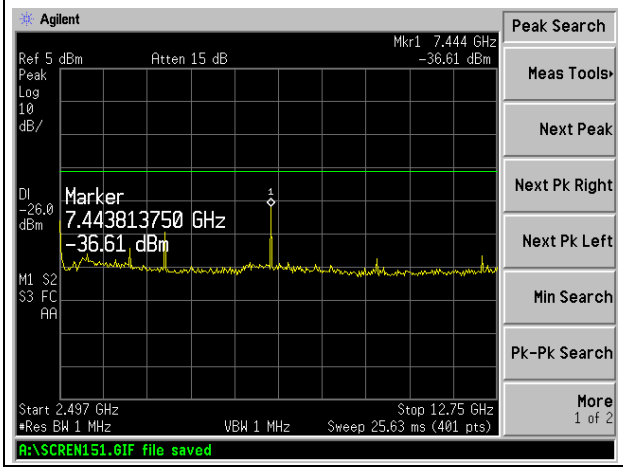
2387MHz-2400MHz



2483.5MHz-2496.5MHz



2496.5MHz-12750MHz



8. Receiver Spurious Emissions

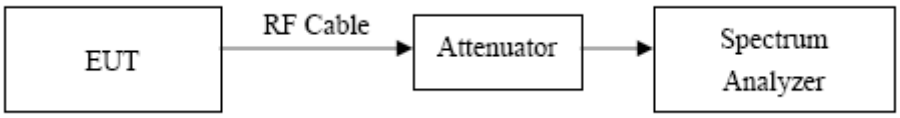
8.1 Standard and Limit

According to Item 19 of Article 2 Paragraph 1. The receiver spurious emissions shall not exceeded the following limit:

(1) Below 1GHz : 4nW

(2) 1GHz or higher : 20nW

8.2 Test Setup Block Diagram



8.3 Test Procedure

(1) A spectrumIn case of conducted measurements, the radio device shall be connected to the measuring equipment via a suitable attenuator.

(2) The measurement equipment shall be set for peak hold mode of operation.

(3) the transmitter shall be operated at the receiving mode.

(4) The resolution bandwidth shall be set to 100kHz from 10MHz to 1GHz, the resolution bandwidth shall be set to 1MHz above 1GHz , and the sweep time shall be set to auto mode, to ensure all major modulation products are captured.

(5) When the searched result is less than the specified limit, the maximum one shall be recorded, when the result is more than the specified limit, all measured values shall be recorded.

(5) This measurement shall be repeated with the transmitter in standby mode where applicable.

(6) Repeat above procedures until all frequency measured was complete.

8.4 Test Data and Results

GFSK (Worst case)

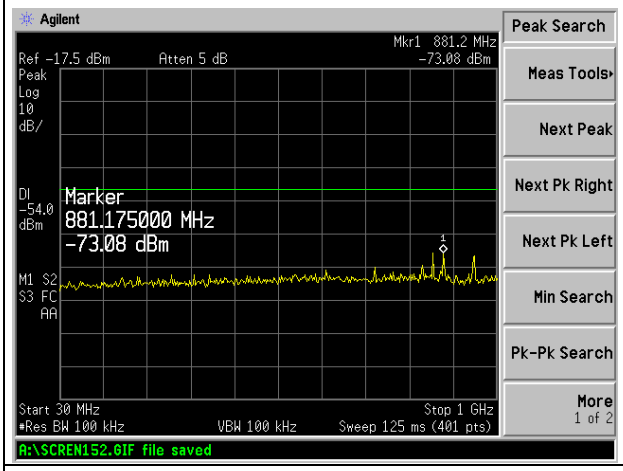
Frequency Range (MHz)	Maximum Spurious Emission Value (dBm)	Limit (dBm)
Low Channel (2402MHz)		
30-1000	-73.08	-54 (4nW)
1000-12750	-62.33	-47 (20nW)
Middle Channel (2441MHz)		
30-1000	-72.96	-54 (4nW)
1000-12750	-57.48	-47 (20nW)
High Channel (2480MHz)		
30-1000	-71.42	-54 (4nW)
1000-12750	-55.04	-47 (20nW)

Please refer to the following test plots

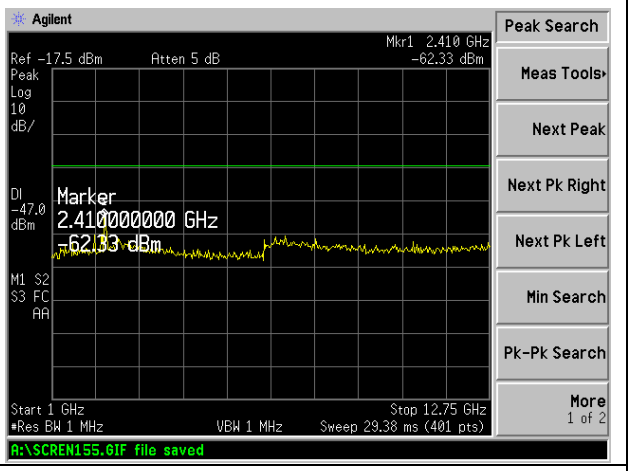
GFSK (Worst case)

Low Channel (2402MHz)

30MHz-1000MHz

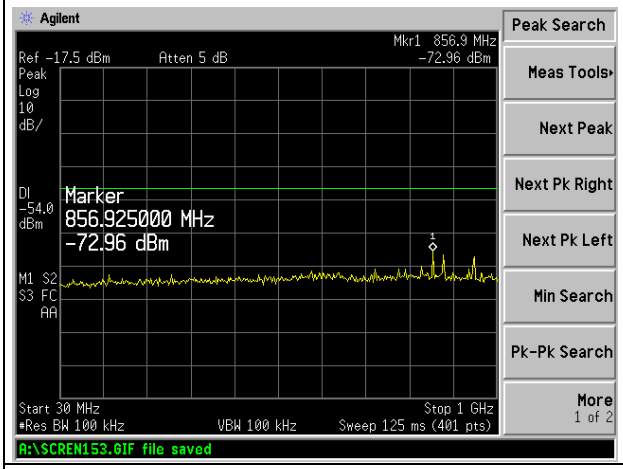


1GHz-12.75GHz

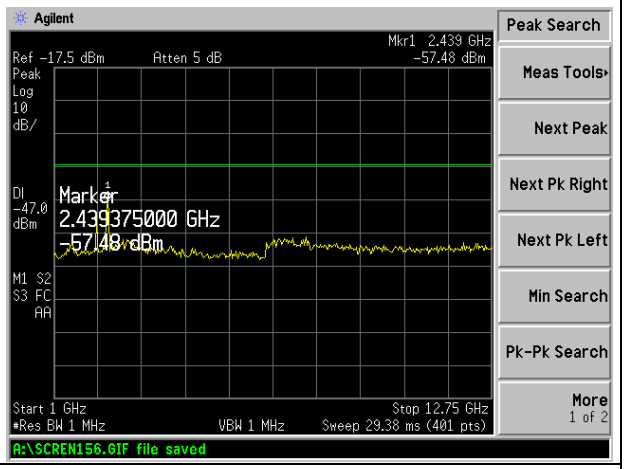


Middle Channel (2441MHz)

30MHz-1000MHz

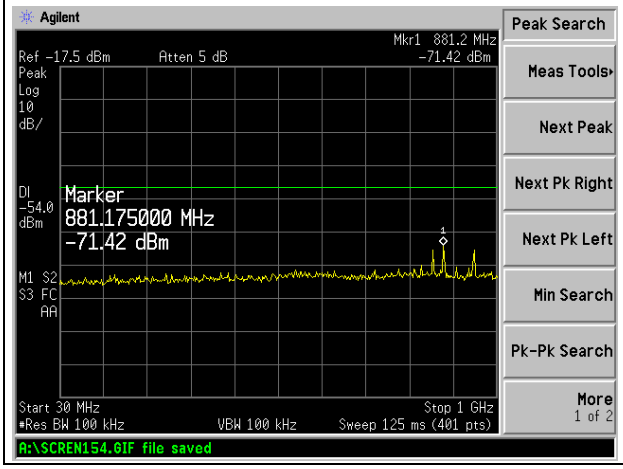


1GHz-12.75GHz

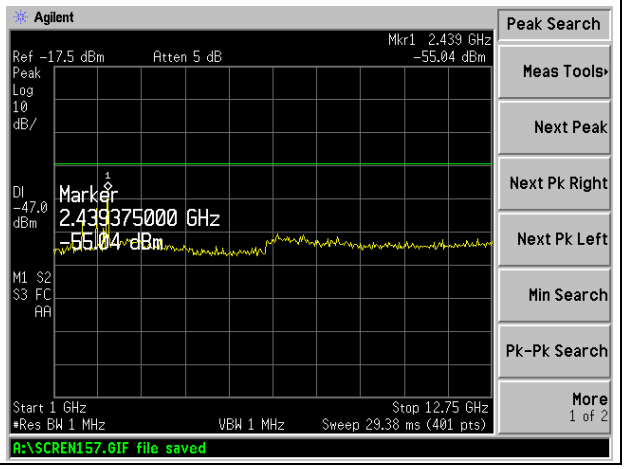


High Channel (2480MHz)

30MHz-1000MHz



1GHz-12.75GHz

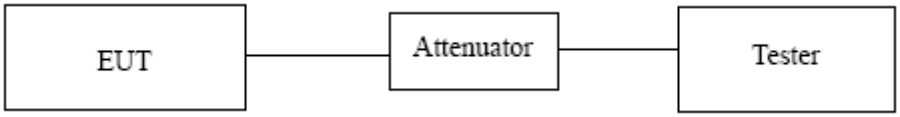


9. Interference Prevention Function

9.1 Standard and Limit

According to Item 19 of Article 2 Paragraph 1, the device shall have the function of automatic transmission or reception of identification code.

9.2 Test Setup Block Diagram



9.3 Test Procedure

1. Set the EUT in the usual operation condition.
2. The radio equipment with automatic transmitting function of identification code.
a. Transmit the assigned identification code from the radio equipment.
b. Confirm the identification code received by the demodulator.
3. The radio equipment with automatic receiving function of identification code.
a. Transmit the assigned identification code from the opposite equipment.
b. Confirm that the usual communication is available.
c. Transmit the identification code distinct from the assigned one from the opposite equipment.
d. Confirm that the radio equipment is stopped or an indication is displayed as the identification code is different.
4. The identification function shall be recorded.

9.4 Test Data and Results

Power Supply	Test Items	Test Result
DC 3.7V	Transmitting Function of Identification Code	>48 bits
	Receiving Function of Identification Code	>48 bits
DC 3.3V	Transmitting Function of Identification Code	>48 bits
	Receiving Function of Identification Code	>48 bits
DC 4.2V	Transmitting Function of Identification Code	>48 bits
	Receiving Function of Identification Code	>48 bits

MAC address ID: 00:35:cb:0b:f3:24

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