



# FCC RF Test Report

**APPLICANT** : Evergreen Huckleberry LLC  
**EQUIPMENT** : Digital Media Receiver  
**MODEL NAME** : R85SD6  
**FCC ID** : 2A8FC-8523  
**STANDARD** : FCC Part 15 Subpart C §15.247  
**CLASSIFICATION** : (DTS) Digital Transmission System  
**TEST DATE(S)** : Mar. 19, 2023 ~ Aug. 31, 2023

We, Sporton International Inc. (Shenzhen), would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Shenzhen), the test report shall not be reproduced except in full.

Jason Jia

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Approved by: Jason Jia



**Sporton International Inc. (ShenZhen)**

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**People's Republic of China**



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## REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR2N2209-01D	Rev. 01	Initial issue of report	May 19, 2023
FR2N2209-01D	Rev. 02	Update Section 2.2 AC Conducted Emission test mode on Page 9 and the related test data in Appendix B	Sep. 06, 2023

## SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	6dB Bandwidth	$\geq 0.5\text{MHz}$	Pass	-
3.1	-	99% Bandwidth	-	Report Only	-
3.2	15.247(b)	Output Power Measurement	$\leq 30\text{dBm}$	Pass	-
3.3	15.247(e)	Power Spectral Density	$\leq 8\text{dBm}/3\text{kHz}$	Pass	-
3.4	15.247(d)	Conducted Band Edges	$\leq 30\text{dBc}$	Pass	-
		Conducted Spurious Emission		Pass	-
3.5	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 3.01 dB at 2390.00 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 17.56 dB at 0.373 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	15.203 & 15.247(b)	Pass	-

### Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits.

### Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.



## 1 General Description

### 1.1 Applicant

Evergreen Huckleberry LLC

100 S. Ashley Drive Suite 600 Tampa, FL 33602

### 1.2 Product Feature of Equipment Under Test

Product Feature	
Equipment	Digital Media Receiver
Model Name	R85SD6
FCC ID	2A8FC-8523
SN	Conducted: G0B2MM0330920044 Conduction: G0B2MM0330870012 Radiation: G0BMM033087000K

**Remark:** The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

### 1.3 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Channel Frequency Range	2412 MHz ~ 2472 MHz
Maximum (AV) Output Power to antenna	< Ant 0+1>: 802.11b : 20.71 dBm (0.1178 W) 802.11g : 20.96 dBm (0.1247 W) 802.11n HT20 : 18.61 dBm (0.0726 W)
99% Occupied Bandwidth	802.11b : 13.49MHz 802.11g : 16.73MHz 802.11n HT20 : 17.68MHz
Antenna Type / Gain	ILA Antenna Type with gain 3 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

**Remark:** The device supports CDD MIMO mode only.

### 1.4 Modification of EUT

No modifications are made to the EUT during all test items.



## 1.5 Testing Location

Sporton International Inc. (ShenZhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

<b>Test Firm</b>	Sporton International Inc. (ShenZhen)		
<b>Test Site Location</b>	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
<b>Test Site No.</b>	<b>Sporton Site No.</b>	<b>FCC Designation No.</b>	<b>FCC Test Firm Registration No.</b>
	CO01-SZ TH01-SZ	CN1256	421272

<b>Test Firm</b>	Sporton International Inc. (ShenZhen)		
<b>Test Site Location</b>	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City Guangdong Province China 518103 TEL: +86-755-33202398		
<b>Test Site No.</b>	<b>Sporton Site No.</b>	<b>FCC Designation No.</b>	<b>FCC Test Firm Registration No.</b>
	03CH02-SZ	CN1256	421272

## 1.6 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH02-SZ	AUDIX	E3	6.2009-8-24a
2.	CO01-SZ	AUDIX	E3	6.120613b



## 1.7 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR Part 15 Subpart C §15.247
- ♦ FCC KDB 558074 D01 15.247 Meas Guidance v05r02
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ ANSI C63.10-2013

### **Remark:**

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

## 2 Test Configuration of Equipment Under Test

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X/Y plane) were recorded in this report.
- b. AC power line Conducted Emission was tested under maximum output power.

### 2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
2400-2483.5 MHz	1	2412	8	2447
	2	2417	9	2452
	3	2422	10	2457
	4	2427	11	2462
	5	2432	12	2467
	6	2437	13	2472
	7	2442		



## 2.2 Test Mode

Final test modes are considering the modulation and worse data rates as below table.

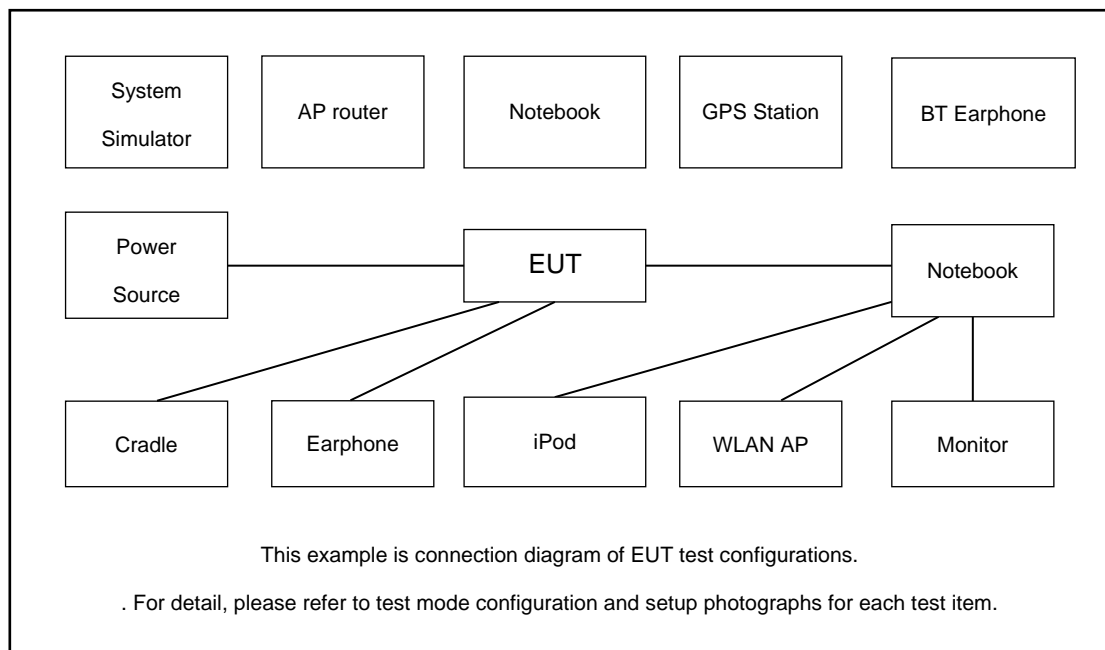
### MIMO Antenna

Modulation	Data Rate
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20	MCS0

Test Cases	
AC Conducted Emission	Mode 1 :Bluetooth Link + WLAN Link(2.4G) + With Charging Stand + AC adapter
<b>Remark:</b> For Radiated Test Cases, The tests were performance with Adapter	

Simultaneous transmission
802.11b CH11 (2462MHz) MIMO ANT(1+2)Tx + Bluetooth LE(2Mbps) CH39 (2480MHz)Tx 802.11g CH11 (2462MHz) MIMO ANT(1+2)Tx + Bluetooth LE(2Mbps) CH39 (2480MHz)Tx 802.11n20 CH11 (2462MHz) MIMO ANT(1+2)Tx + Bluetooth LE(2Mbps) CH39 (2480MHz)Tx

## 2.3 Connection Diagram of Test System



## 2.4 Support Unit used in test configuration and system

Item	Equipment	Model Name	FCC ID	Data Cable	Power Cord
1.	BT Speaker	Charge3	N/A	N/A	N/A
2.	WLAN AP	DBWRT01R	N/A	N/A	N/A
3.	Light bulb	097	N/A	N/A	N/A
4.	Stand	N/A	N/A	N/A	N/A
5.	Phone	g50 5G	N/A	N/A	N/A

## 2.5 EUT Operation Test Setup

For WLAN RF test items, an engineering test program was provided and enabled to make EUT continuous transmit.

For AC power line conducted emissions, the EUT was set to connect with the WLAN AP under large package sizes transmission.

## 2.6 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

*Offset = RF cable loss + attenuator factor.*

Following shows an offset computation example with cable loss 1.2 dB and 10dB attenuator.

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 1.2 + 10 = 11.2 \text{ (dB)}\end{aligned}$$

### 3 Test Result

#### 3.1 6dB and 99% Bandwidth Measurement

##### 3.1.1 Limit of 6dB and 99% Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

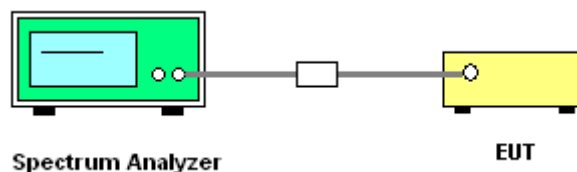
##### 3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

##### 3.1.3 Test Procedures

1. The testing follows ANSI C63.10-2013 clause 11.8
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) = 1%~5% of OBW and set the Video bandwidth (VBW)  $\geq 3 \times$  RBW.
6. Measure and record the results in the test report.

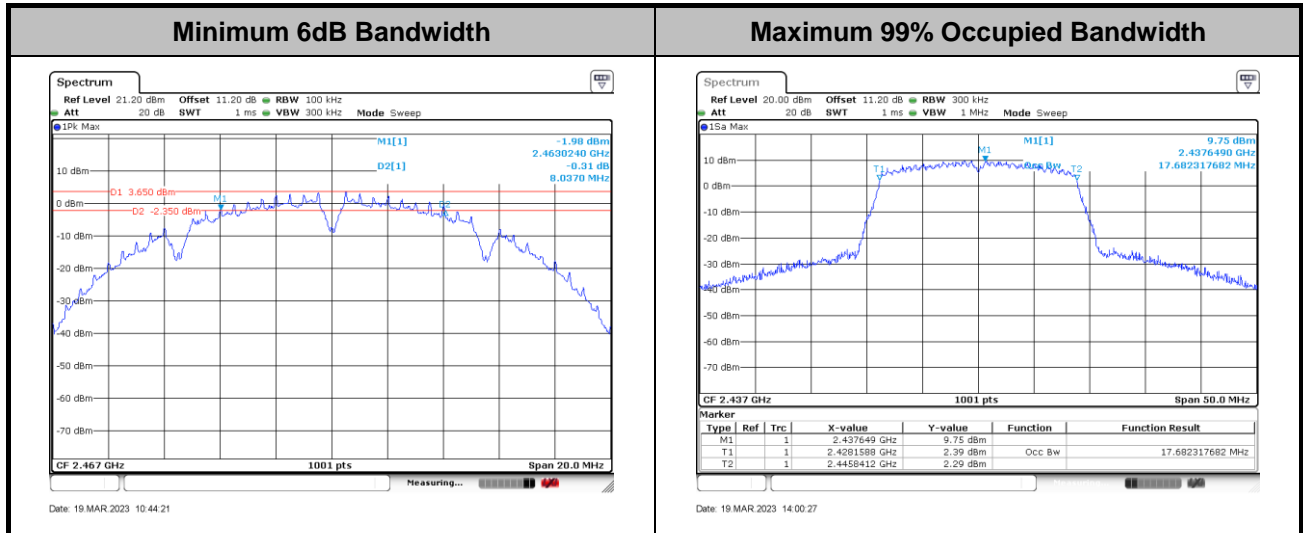
##### 3.1.4 Test Setup





### 3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

Please refer to Appendix A.



Note : The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

## 3.2 Output Power Measurement

### 3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz, the limit for output power is 30dBm. If transmitting antenna with directional gain greater than 6dBi is used, the output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

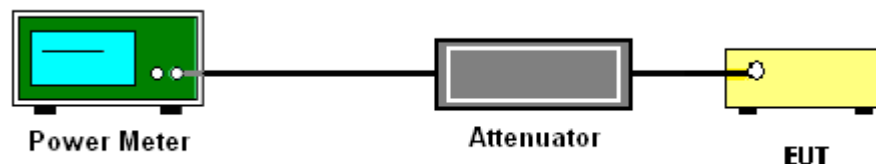
### 3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

### 3.2.3 Test Procedures

1. The testing follows the Measurement Procedure of ANSI C63.10-2013 clause 11.9.1.3 PKPM1 Peak power meter or ANSI C63.10-2013 clause 11.9.2.3.1 Method AVGPM method.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

### 3.2.4 Test Setup



### 3.2.5 Test Result of Average Output Power

Please refer to Appendix A.

### 3.3 Power Spectral Density Measurement

#### 3.3.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.

#### 3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

#### 3.3.3 Test Procedures

1. The testing follows Measurement Procedure of ANSI C63.10-2013 clause 11.10.2 Method PKPSD.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.
7. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

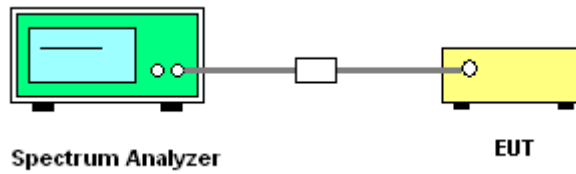
If measurements performed using method (2) plus  $10 \log(N)$  exceeds the emission limit, the test should choose method (1) before declaring that the device fails the emission limit.

Method (1): Measure and sum the spectra across the outputs.

The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points, the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 to obtain the value for the first frequency bin of the summed spectrum.

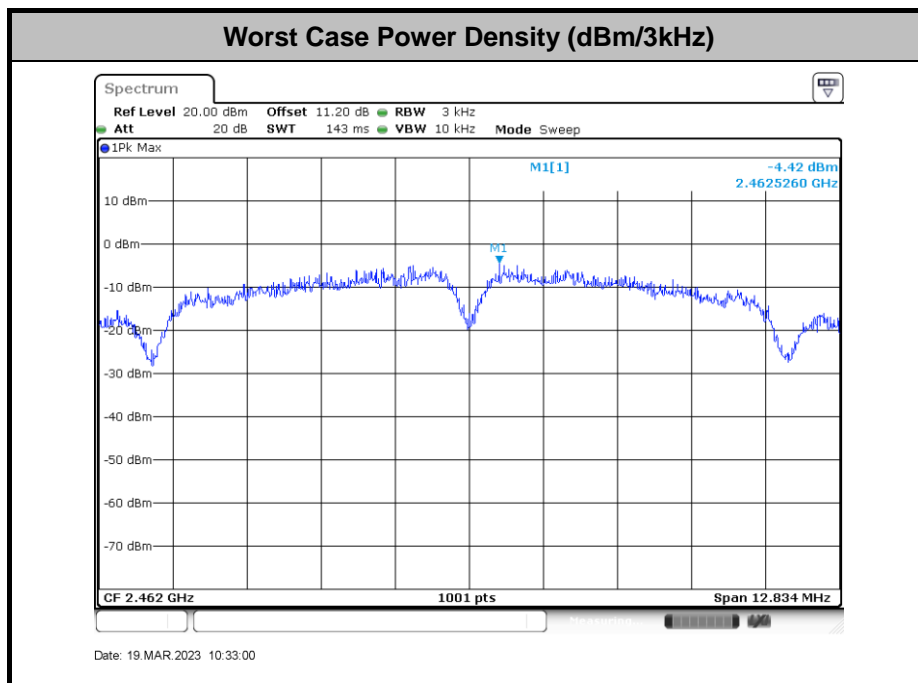
Method (2): Measure and add  $10 \log(N)$  dB, where N is the number of outputs. (N=2)

### 3.3.4 Test Setup



### 3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.





## 3.4 Conducted Band Edges and Spurious Emission Measurement

### 3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement.

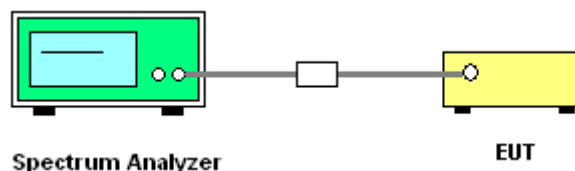
### 3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

### 3.4.3 Test Procedures

1. The testing follows ANSI C63.10-2013 clause 11.11
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

### 3.4.4 Test Setup



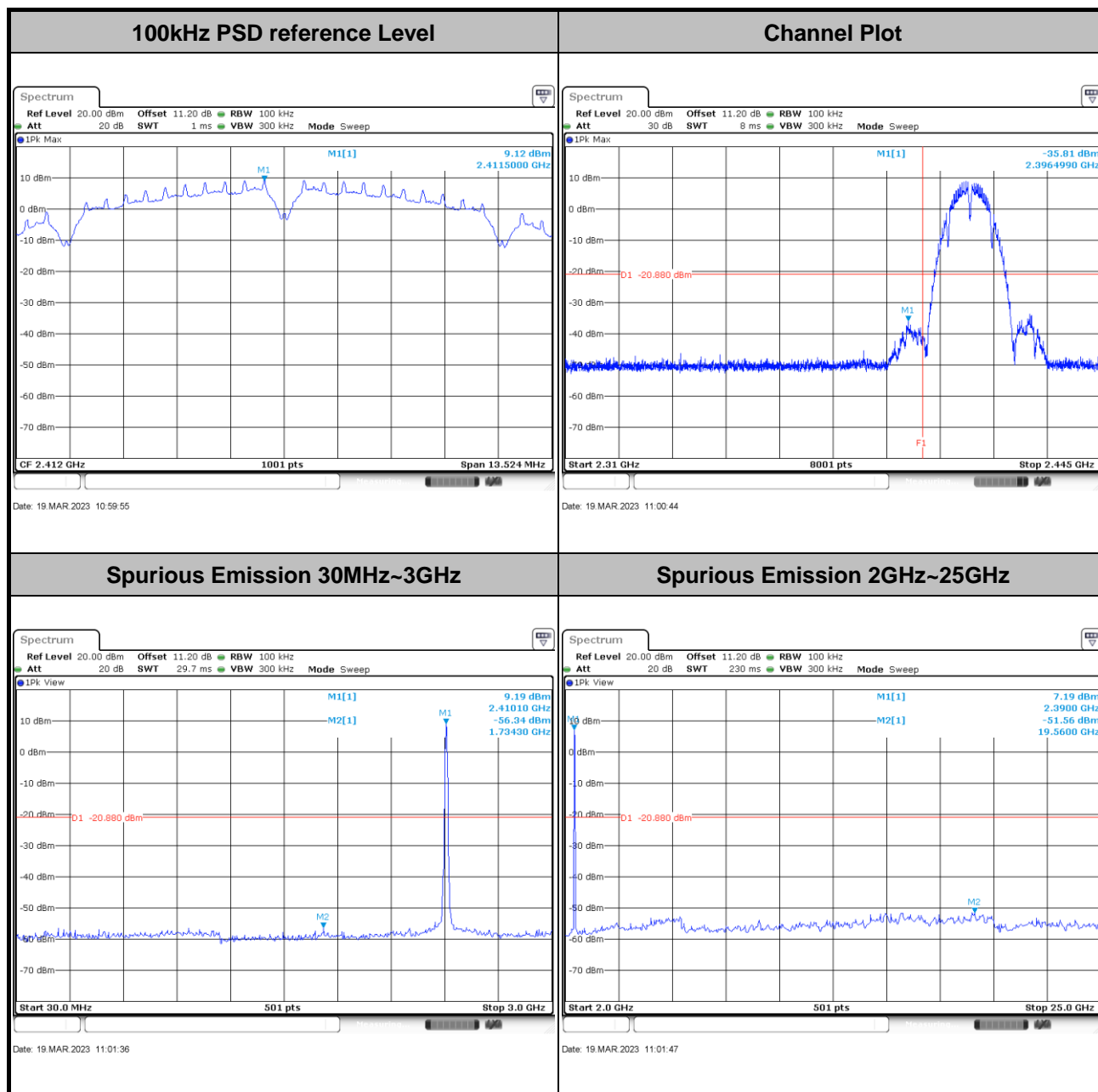


## 3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Test Engineer :	Ma Jie	Temperature :	21~25°C
		Relative Humidity :	51~54%

Number of TX = 2, Ant. 0 (Measured)

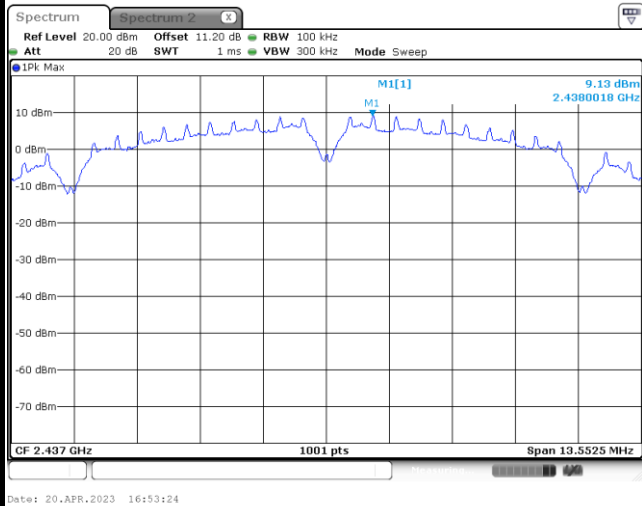
Test Mode :	802.11b	Test Channel :	01
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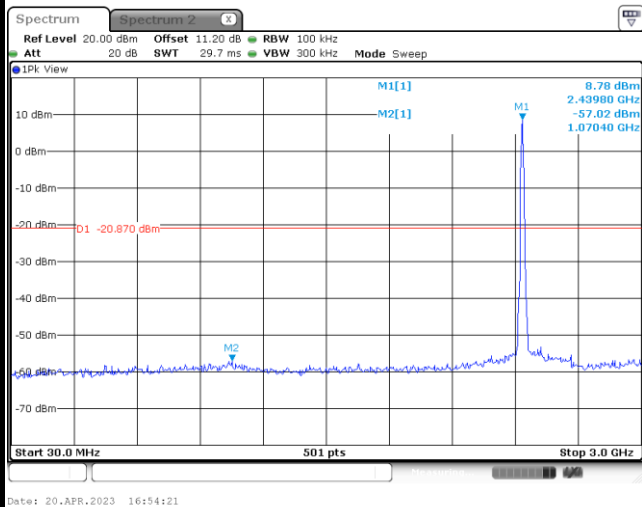
Test Mode :	802.11b	Test Channel :	06
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## 100kHz PSD reference Level

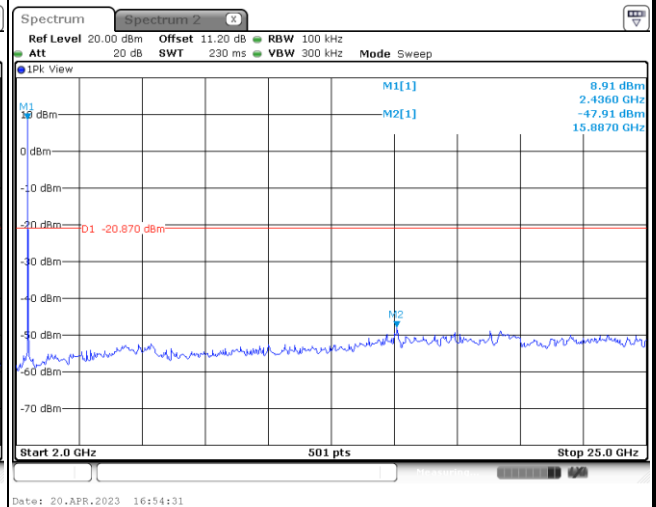


## Channel Plot

## Spurious Emission 30MHz~3GHz



## Spurious Emission 2GHz~25GHz

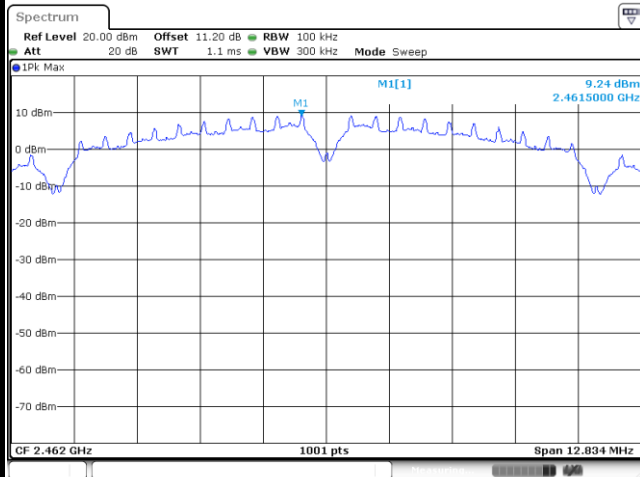




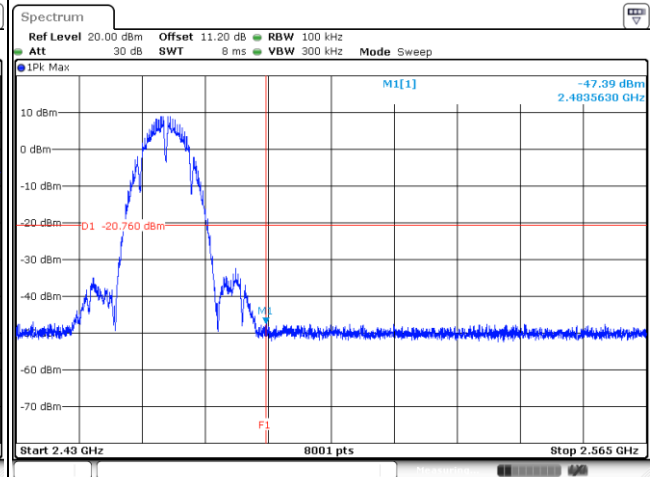
Test Mode : 802.11b

Test Channel : 11

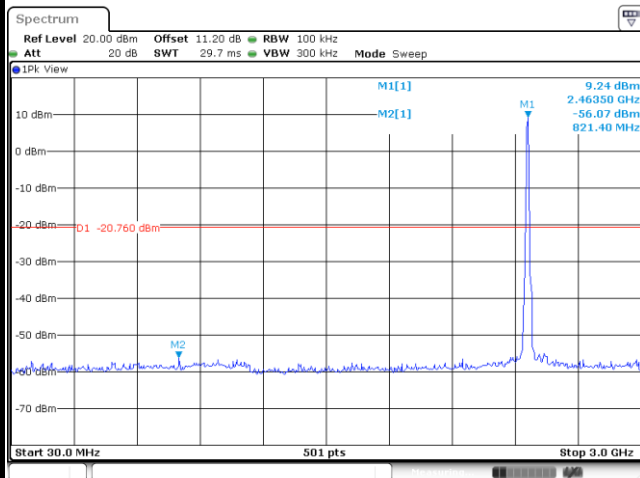
## 100kHz PSD reference Level



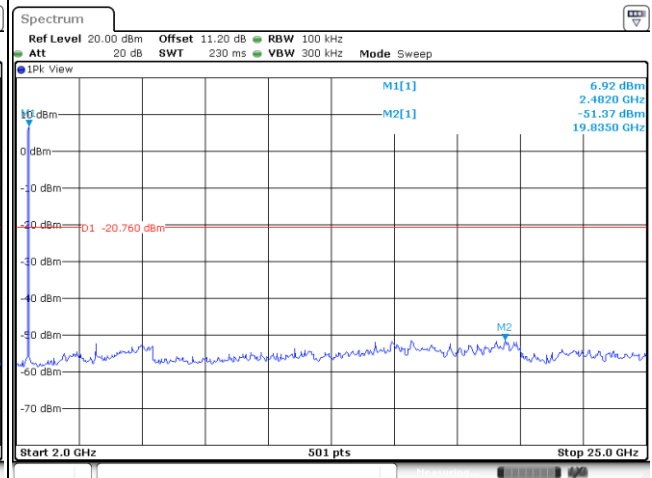
## Channel Plot



## Spurious Emission 30MHz~3GHz



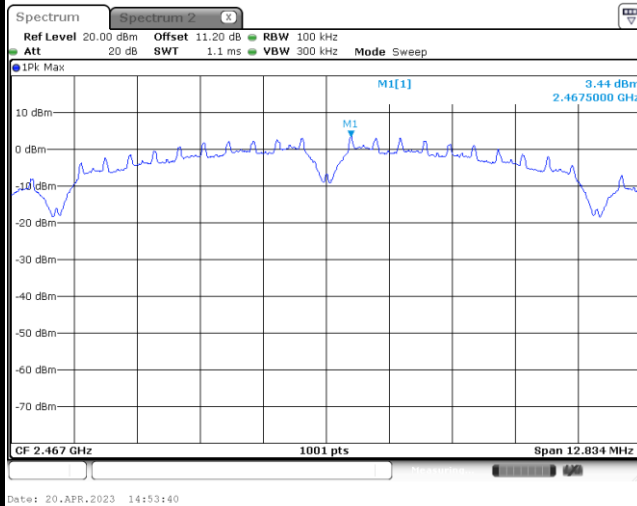
## Spurious Emission 2GHz~25GHz



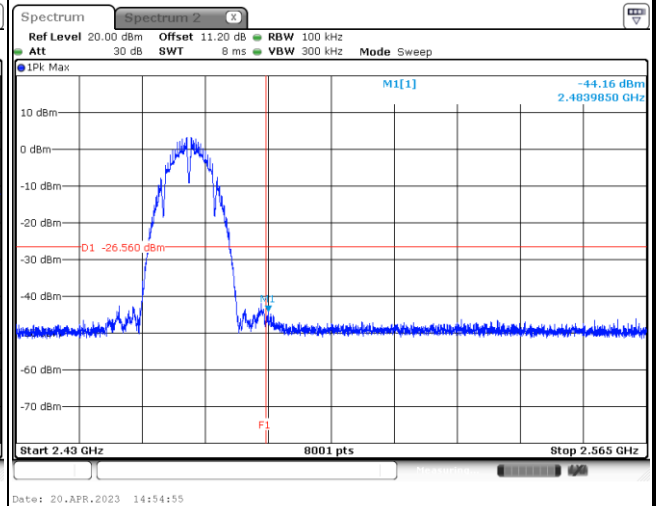


Test Mode :	802.11b	Test Channel :	12
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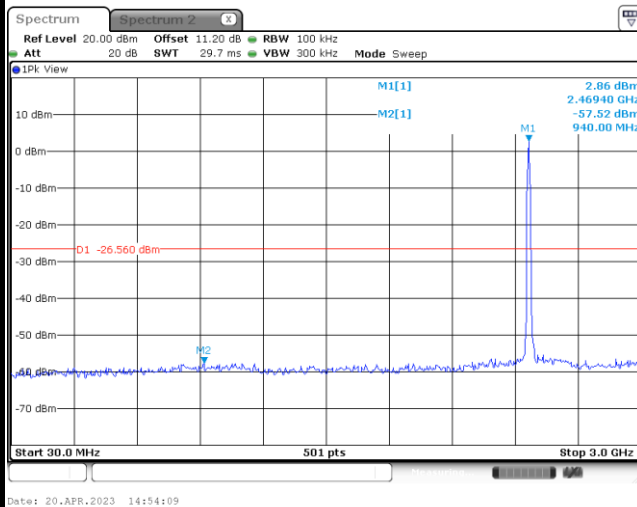
## 100kHz PSD reference Level



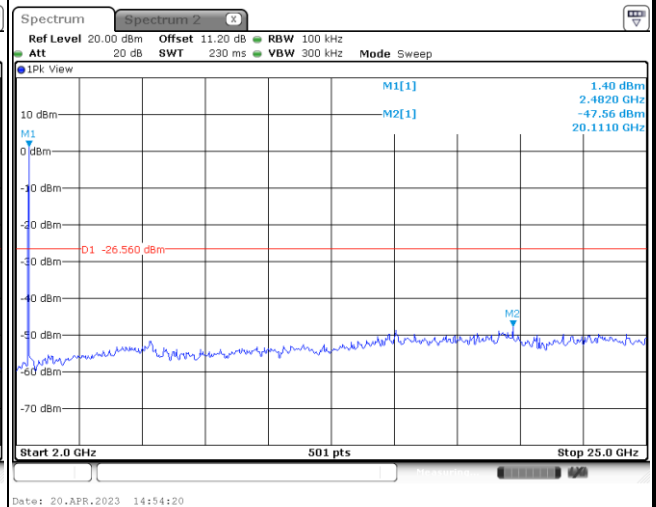
## Channel Plot



## Spurious Emission 30MHz~3GHz

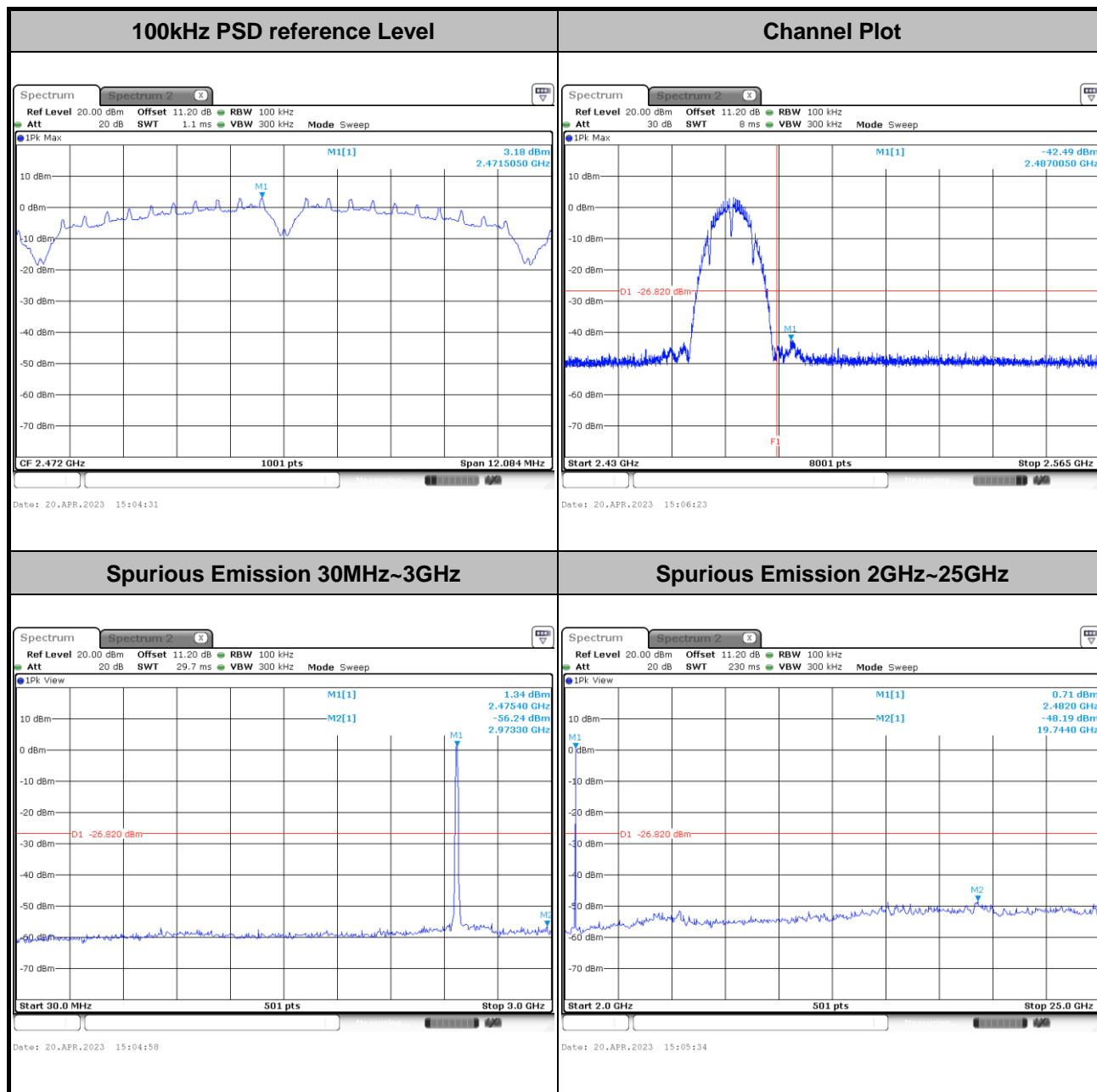


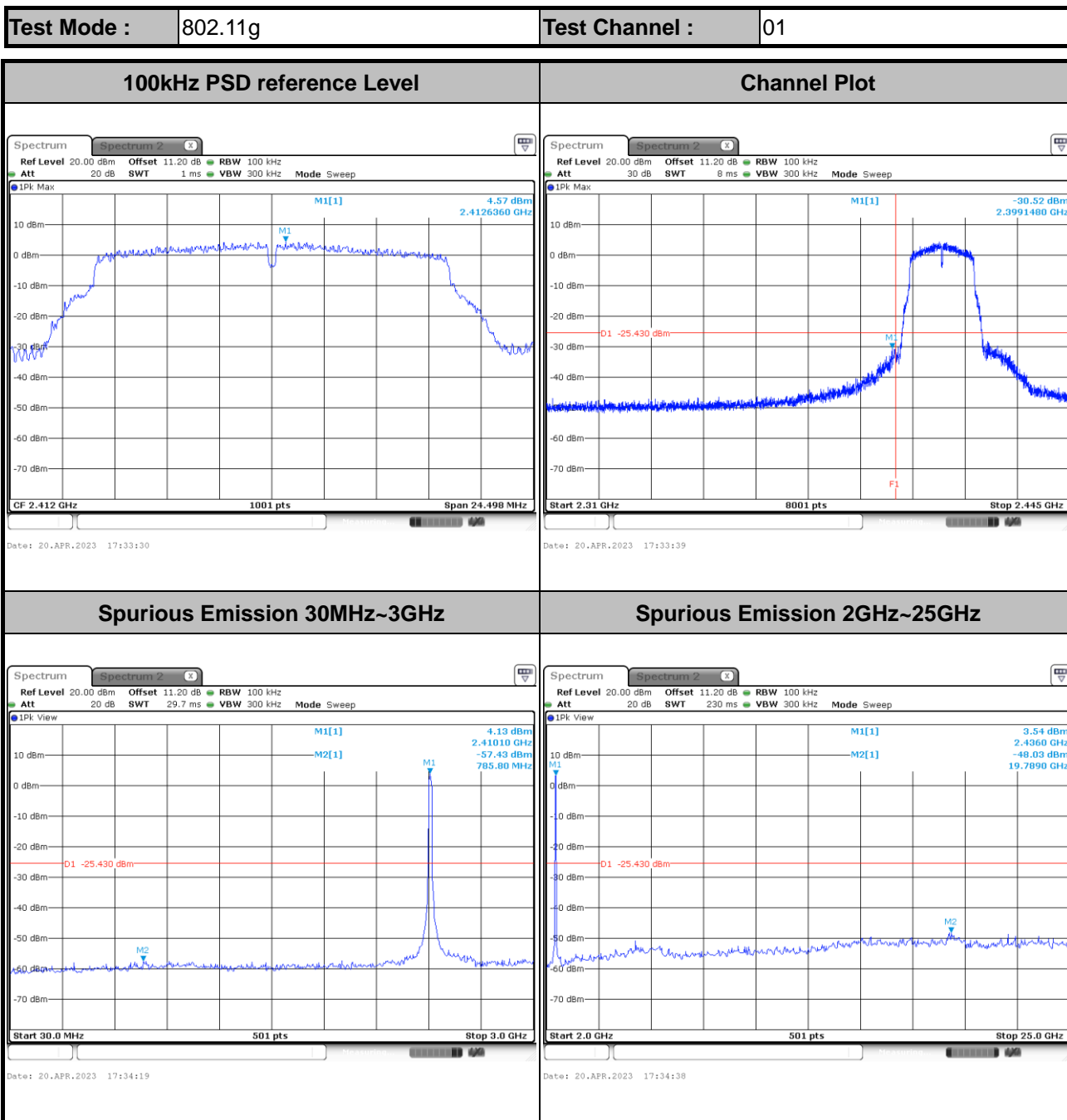
## Spurious Emission 2GHz~25GHz





Test Mode :	802.11b	Test Channel :	13
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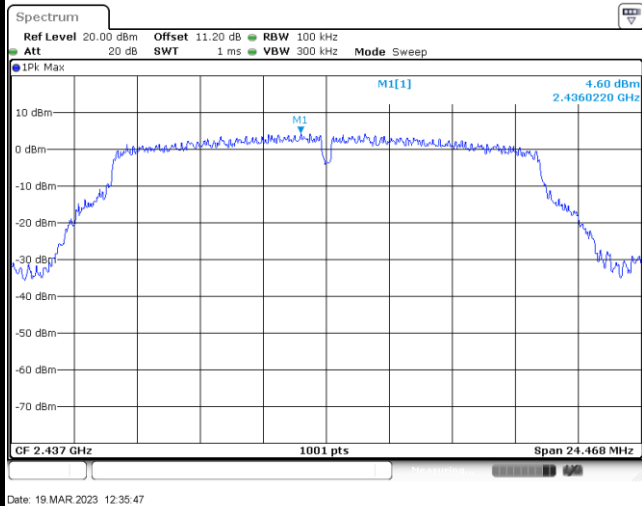






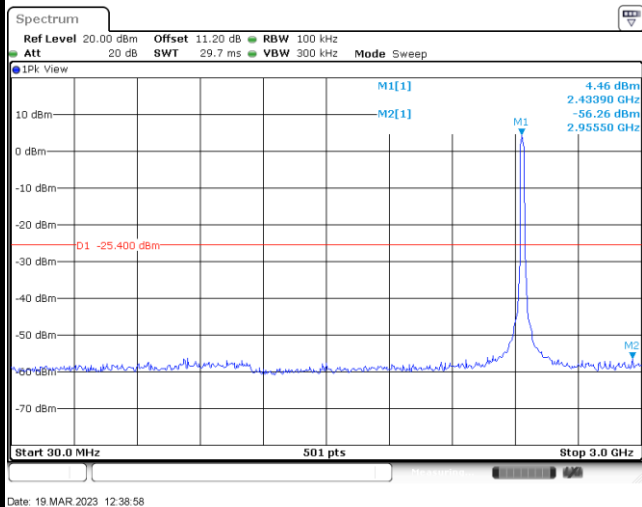
Test Mode :	802.11g	Test Channel :	06
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## 100kHz PSD reference Level

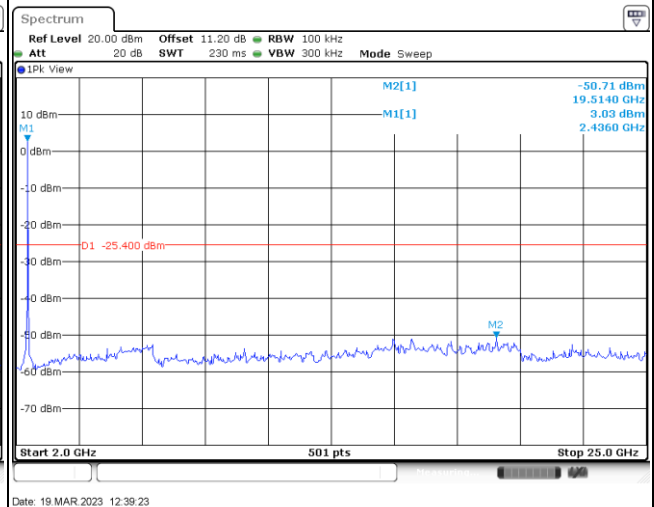


## Channel Plot

## Spurious Emission 30MHz~3GHz

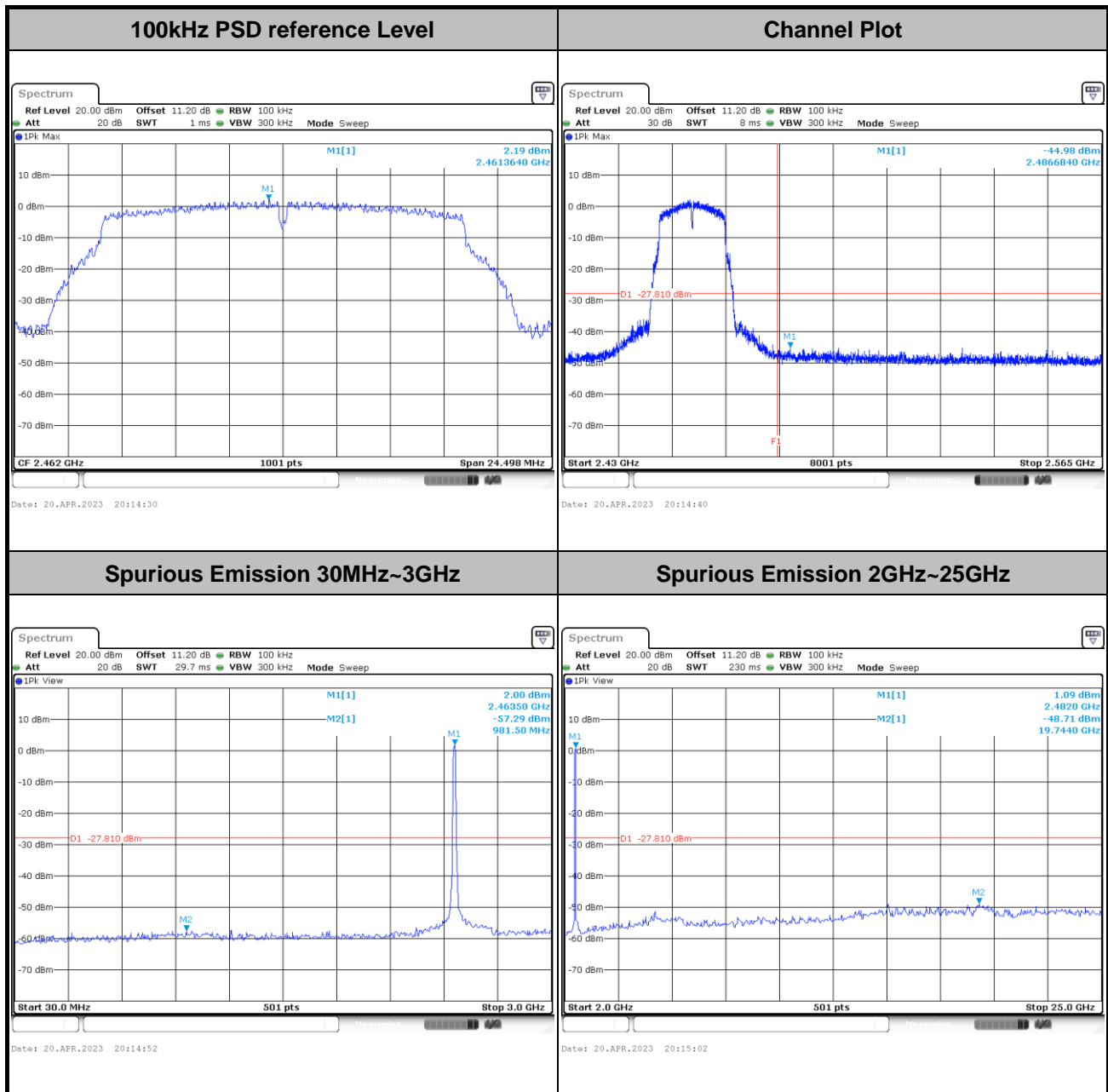


## Spurious Emission 2GHz~25GHz





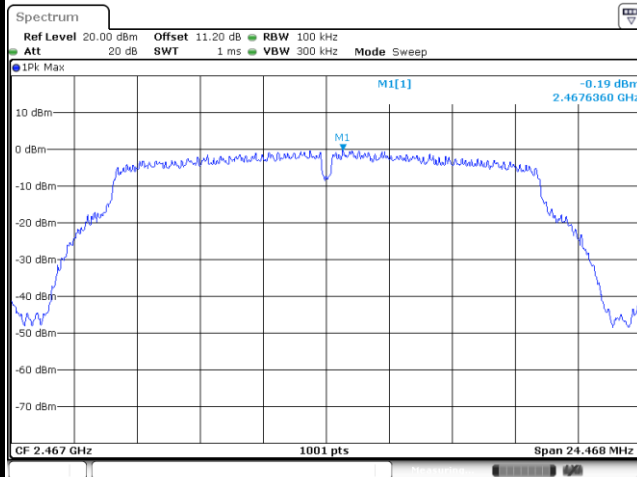
<b>Test Mode :</b>	802.11g	<b>Test Channel :</b>	11
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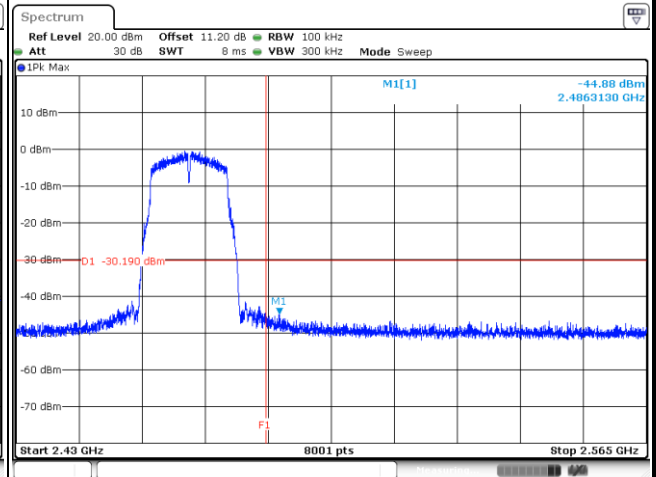


Test Mode :	802.11g	Test Channel :	12
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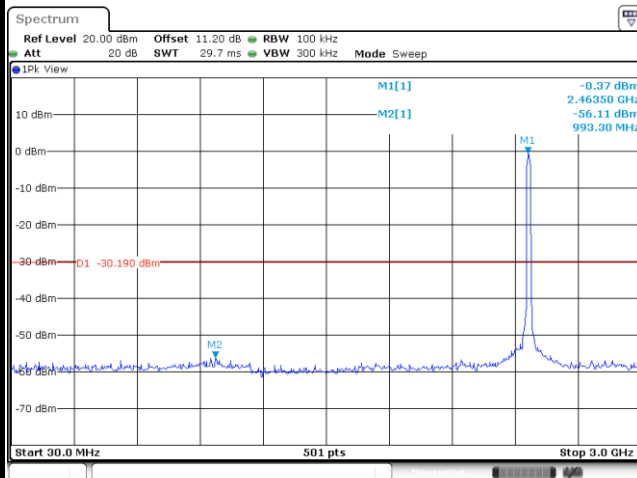
## 100kHz PSD reference Level



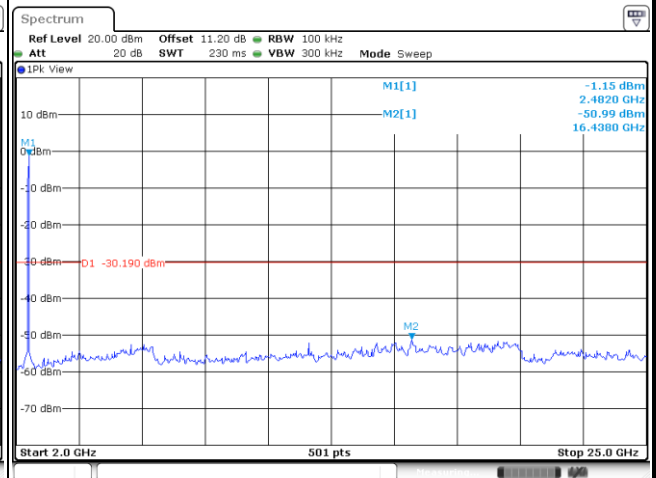
## Channel Plot



## Spurious Emission 30MHz~3GHz



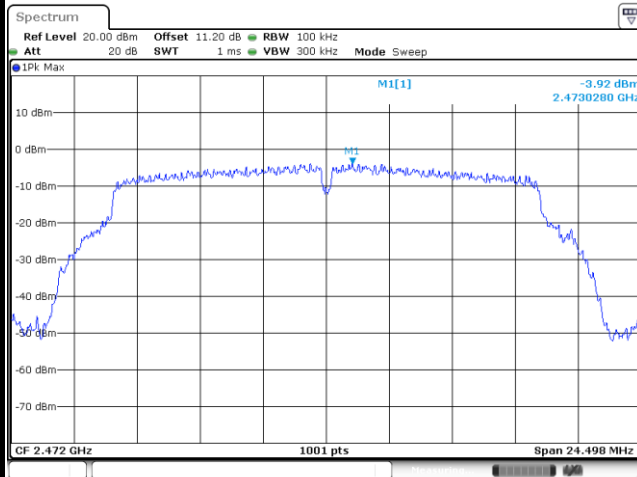
## Spurious Emission 2GHz~25GHz



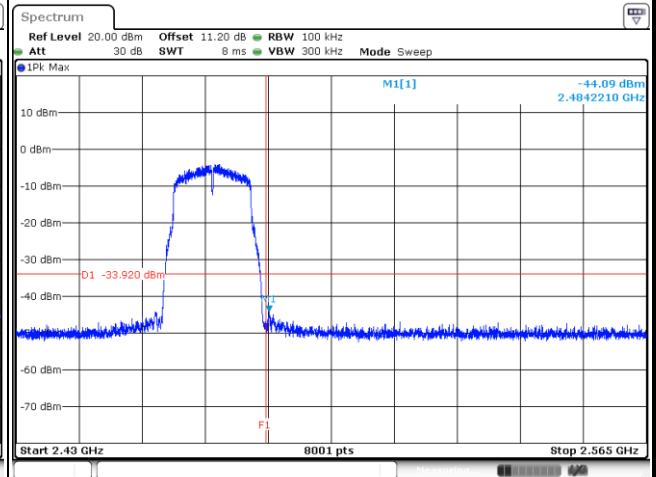


Test Mode :	802.11g	Test Channel :	13
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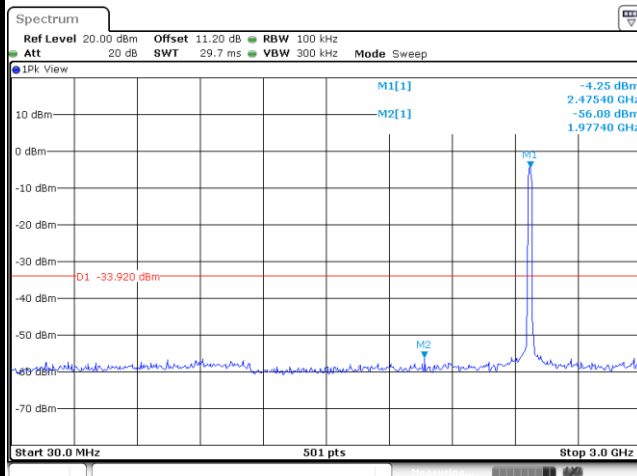
## 100kHz PSD reference Level



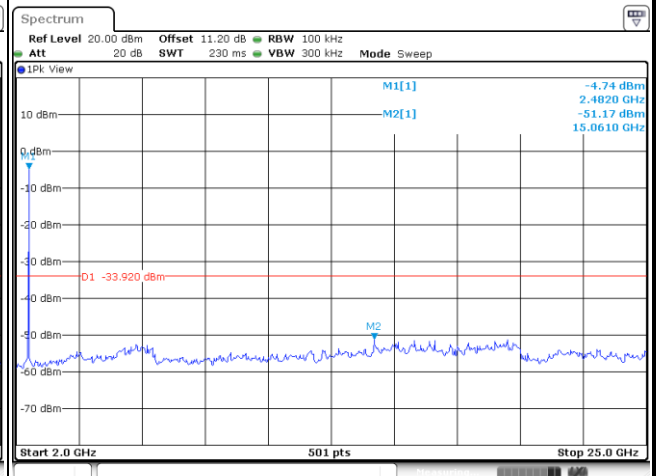
## Channel Plot



## Spurious Emission 30MHz~3GHz



## Spurious Emission 2GHz~25GHz

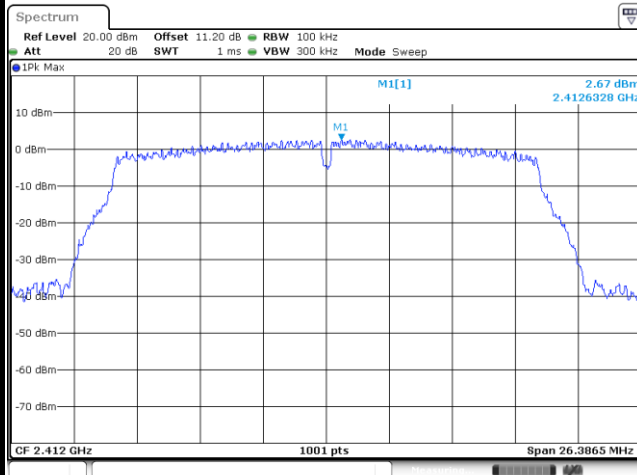




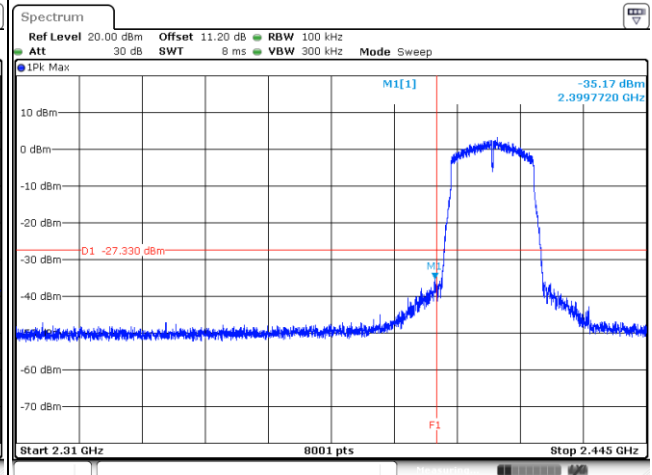
Test Mode : 802.11n HT20

Test Channel : 01

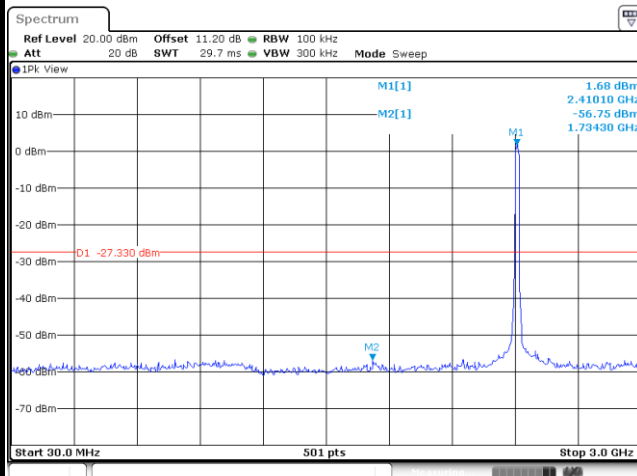
## 100kHz PSD reference Level



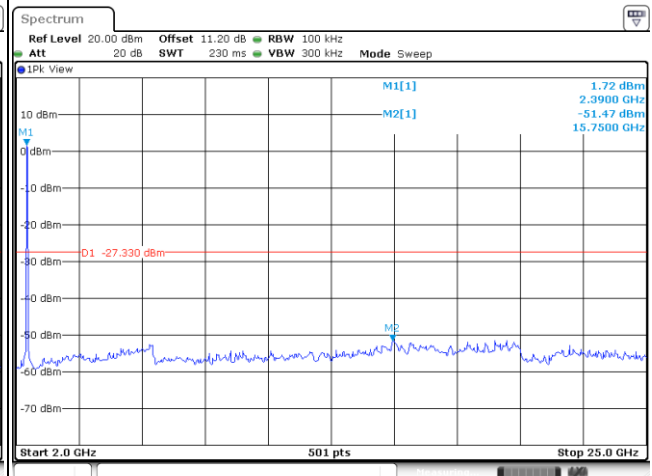
## Channel Plot



## Spurious Emission 30MHz~3GHz



## Spurious Emission 2GHz~25GHz

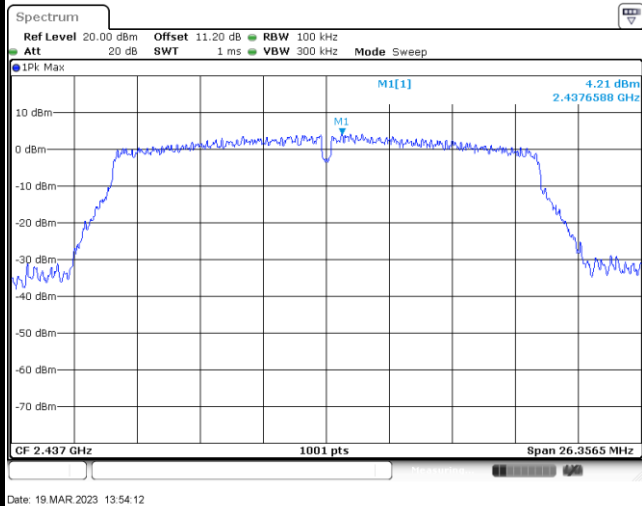




Test Mode : 802.11n HT20

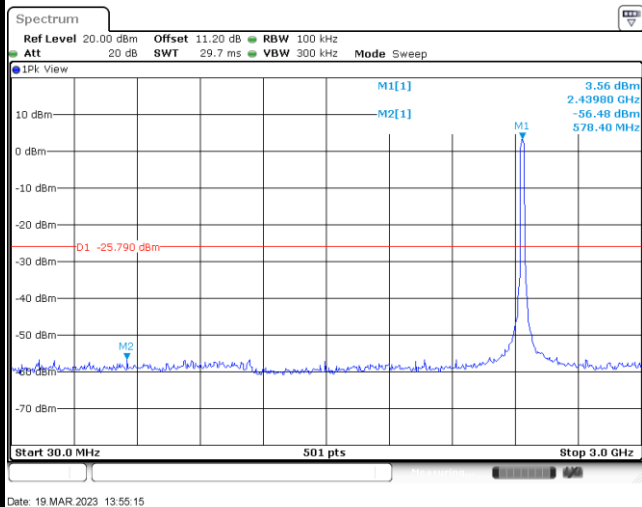
Test Channel : 06

## 100kHz PSD reference Level

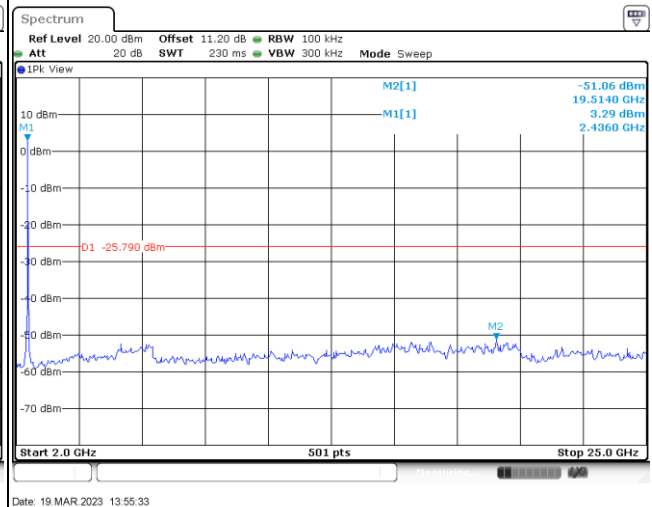


## Channel Plot

## Spurious Emission 30MHz~3GHz



## Spurious Emission 2GHz~25GHz

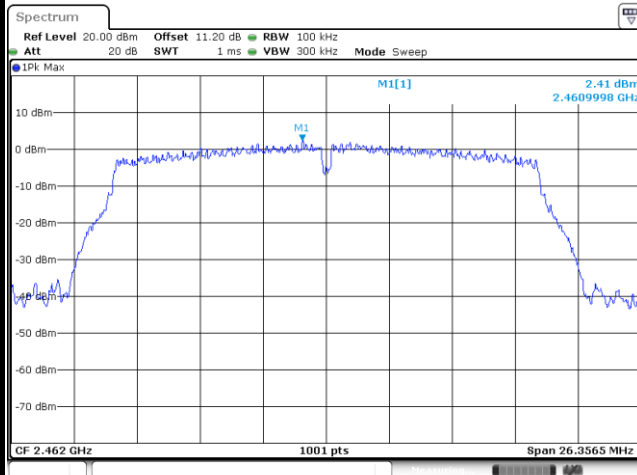




Test Mode : 802.11n HT20

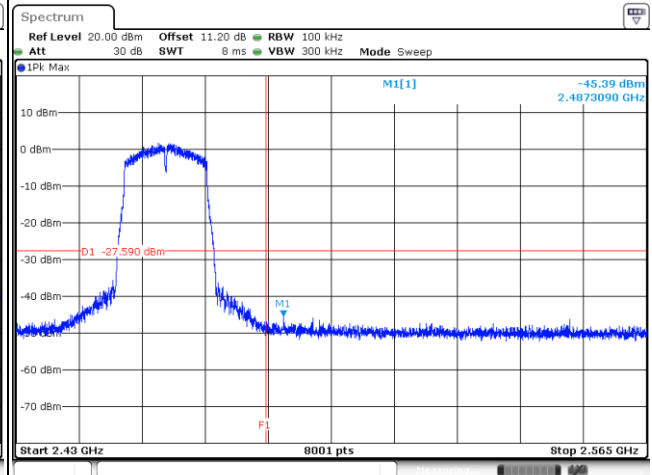
Test Channel : 11

## 100kHz PSD reference Level



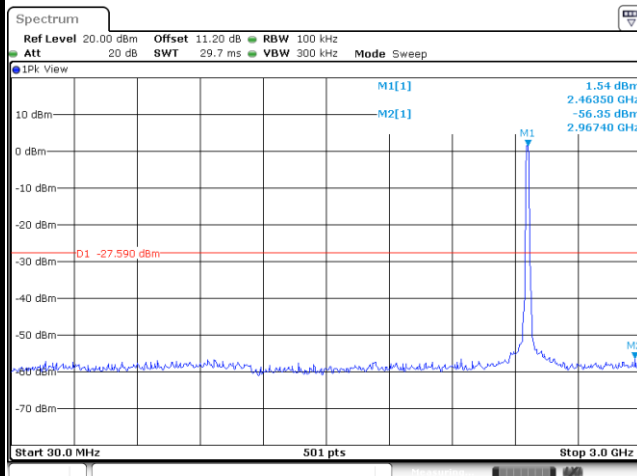
Date: 19 MAR 2023 14:04:53

## Channel Plot



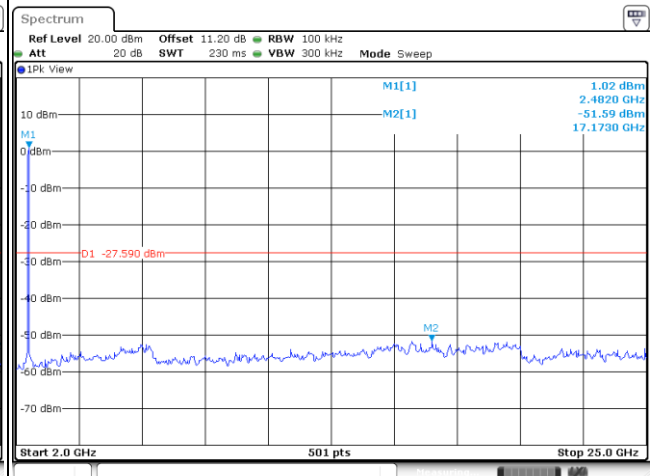
Date: 19 MAR 2023 14:05:03

## Spurious Emission 30MHz~3GHz



Date: 19 MAR 2023 14:05:25

## Spurious Emission 2GHz~25GHz



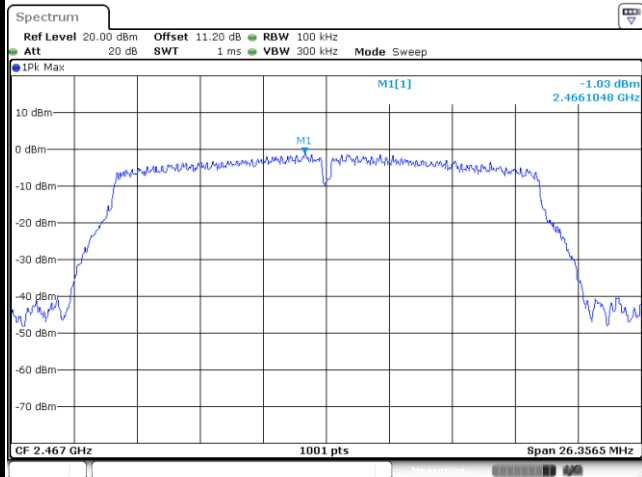
Date: 19 MAR 2023 14:05:35



Test Mode : 802.11n HT20

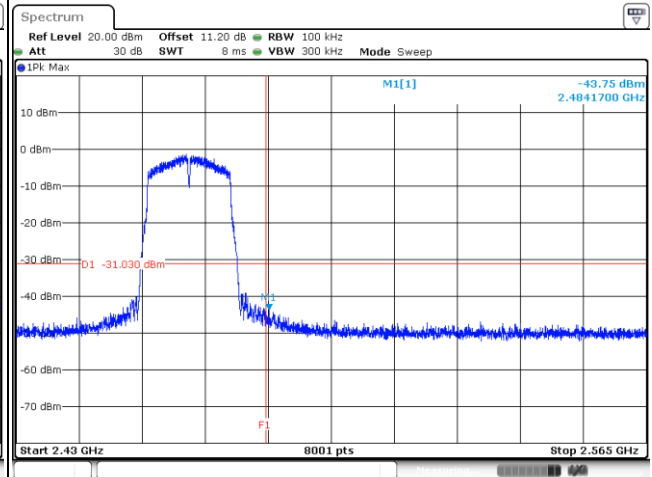
Test Channel : 12

## 100kHz PSD reference Level



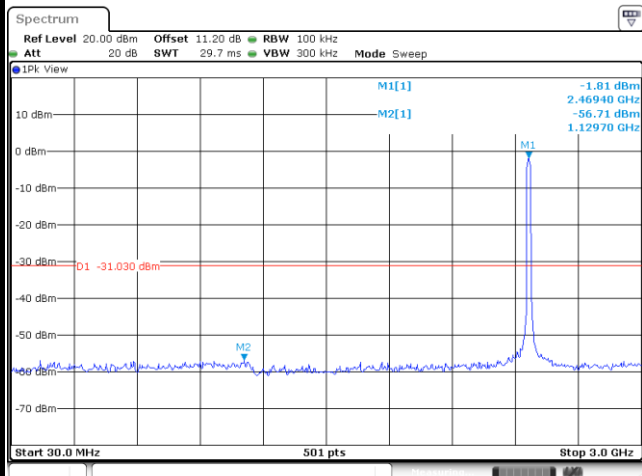
Date: 19 MAR 2023 14:19:05

## Channel Plot



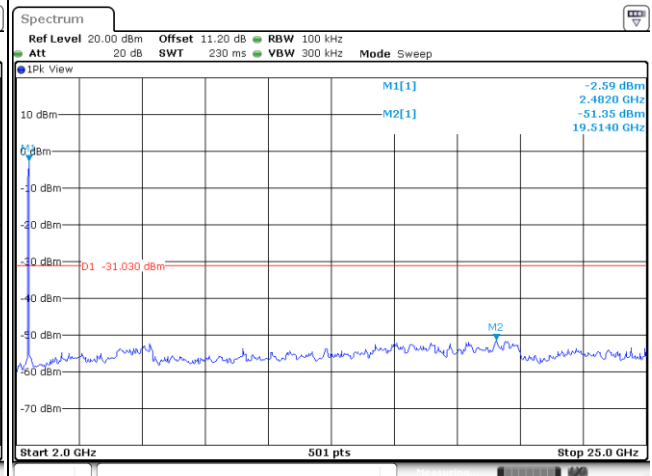
Date: 19 MAR 2023 14:19:37

## Spurious Emission 30MHz~3GHz



Date: 19 MAR 2023 14:20:02

## Spurious Emission 2GHz~25GHz



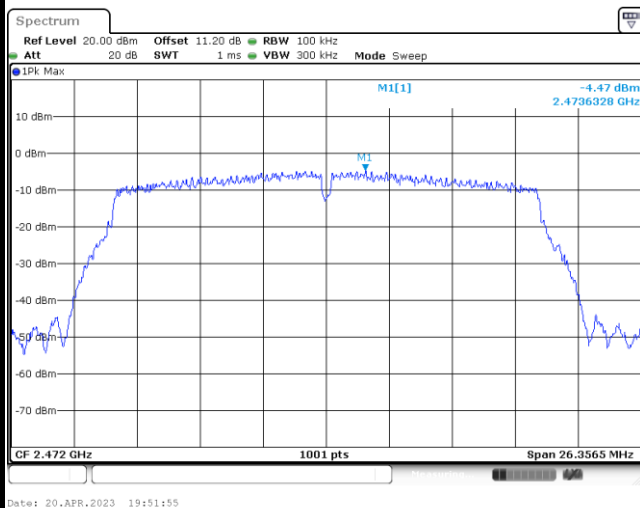
Date: 19 MAR 2023 14:20:13



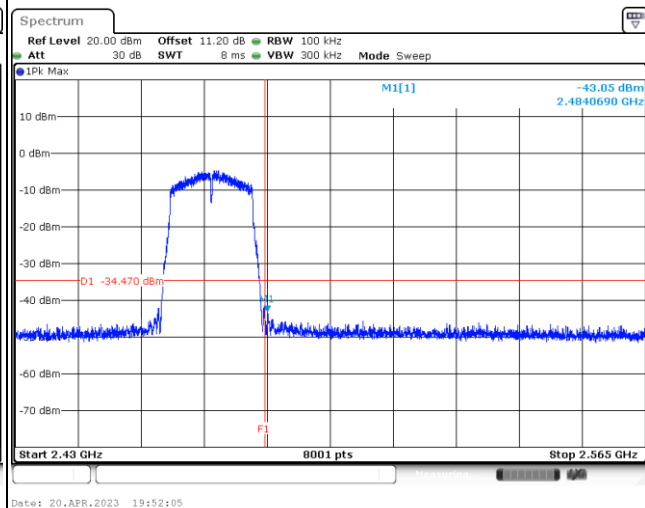
Test Mode : 802.11n HT20

Test Channel : 13

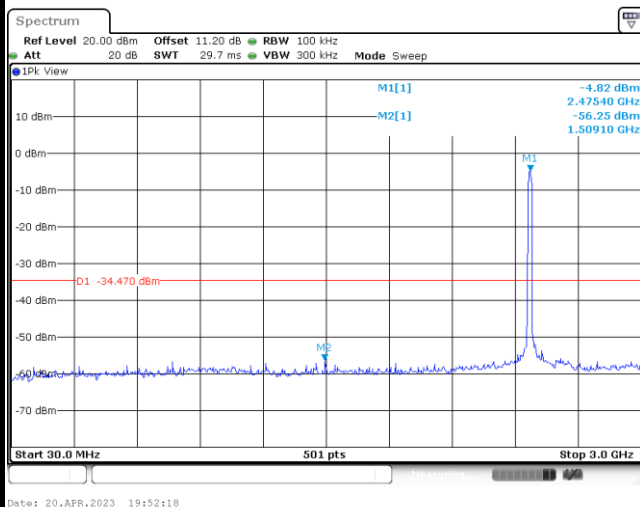
## 100kHz PSD reference Level



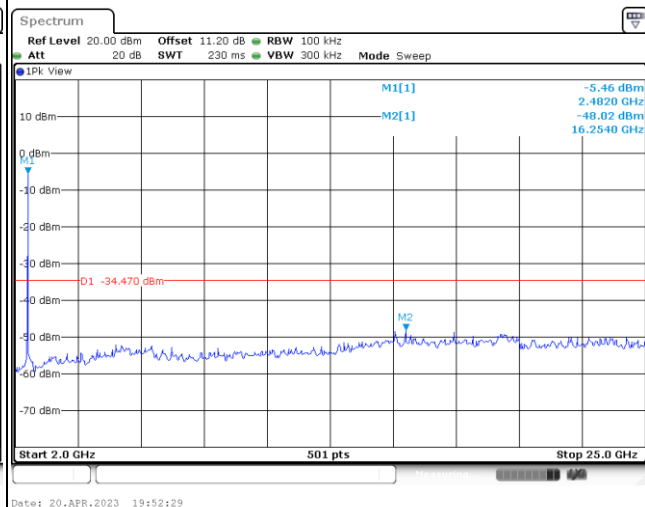
## Channel Plot



## Spurious Emission 30MHz~3GHz



## Spurious Emission 2GHz~25GHz

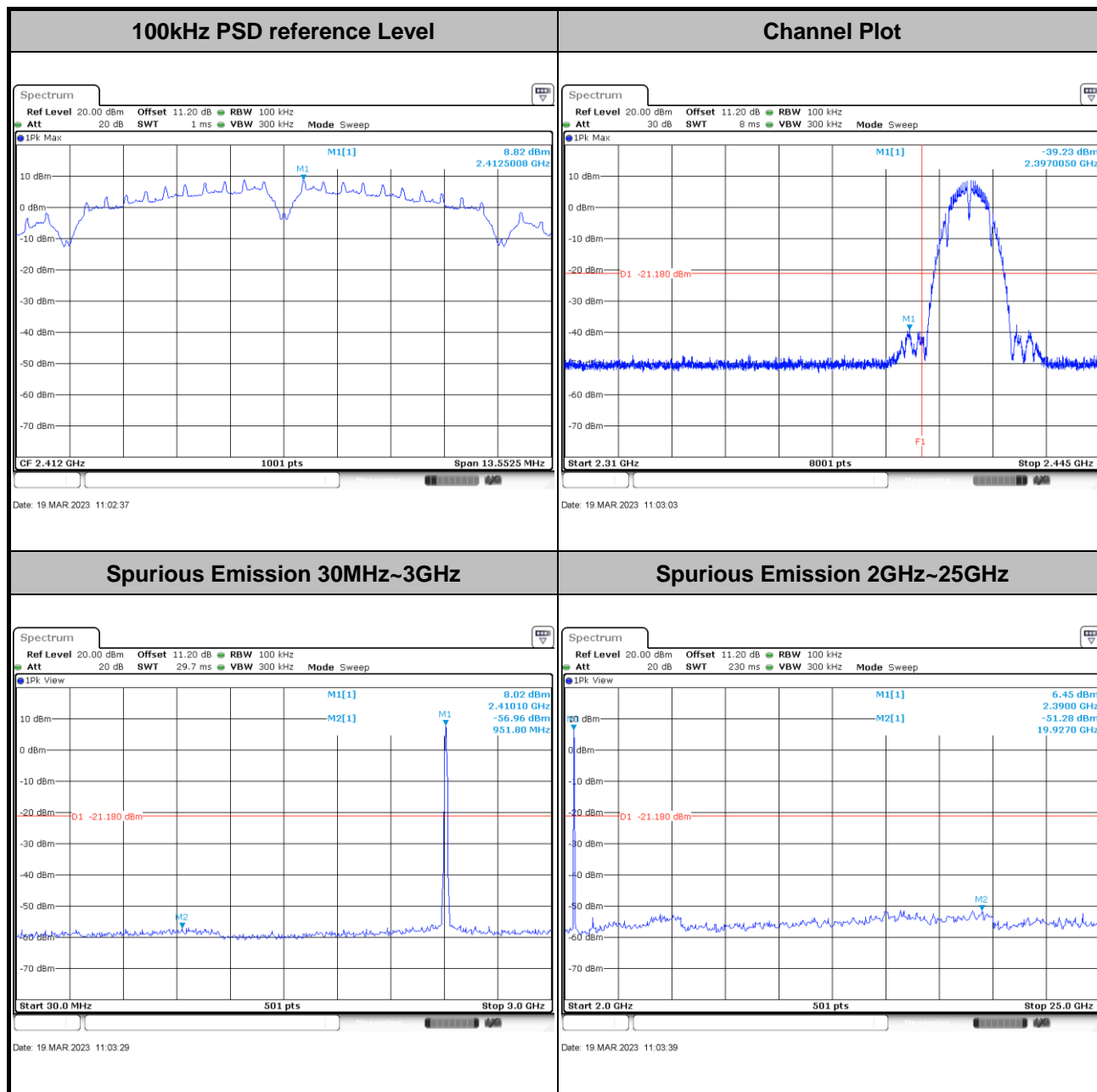






Number of TX = 2, Ant. 1 (Measured)

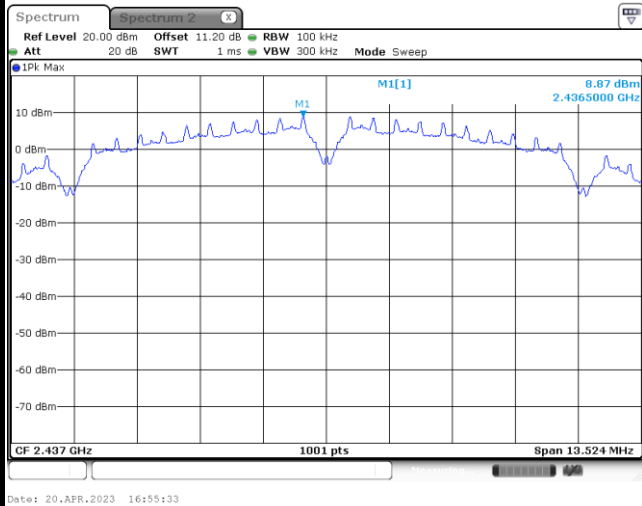
Test Mode :	802.11b	Test Channel :	01
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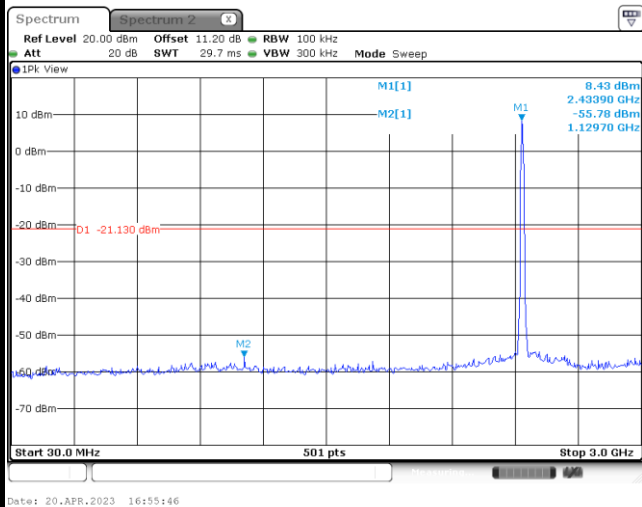
Test Mode :	802.11b	Test Channel :	06
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## 100kHz PSD reference Level

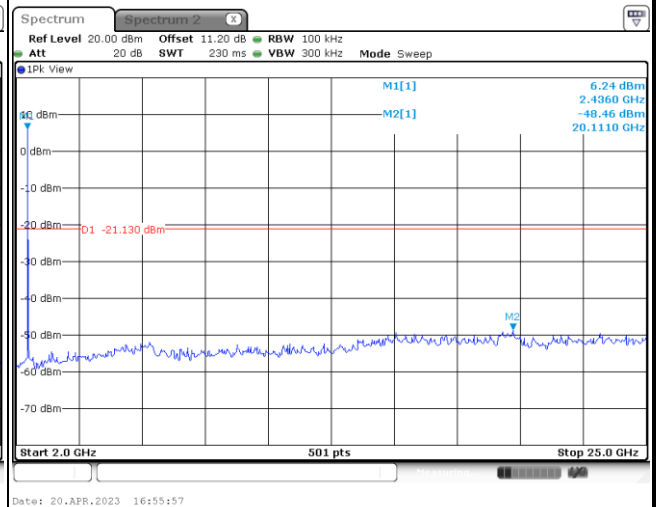


## Channel Plot

## Spurious Emission 30MHz~3GHz

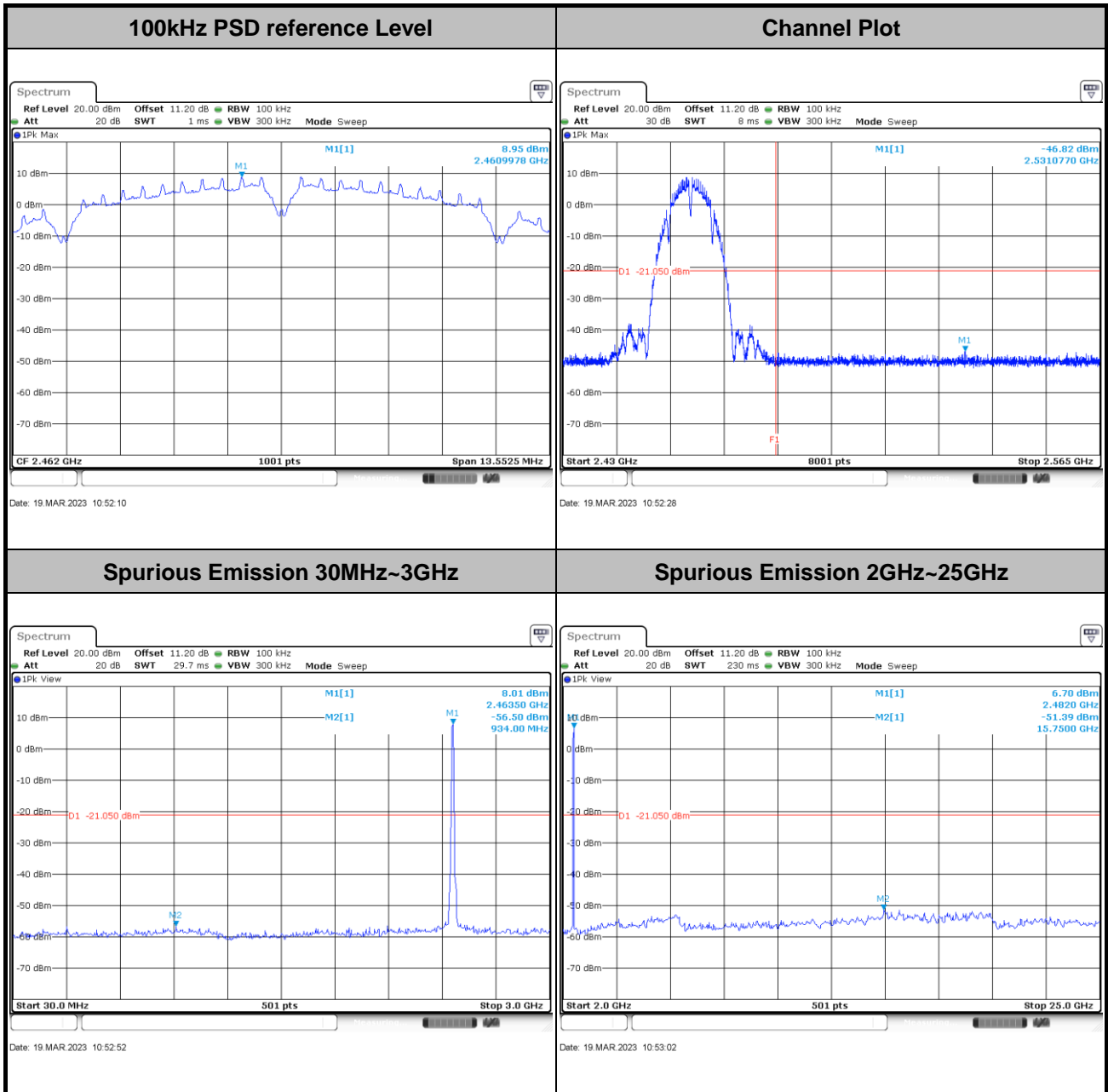


## Spurious Emission 2GHz~25GHz



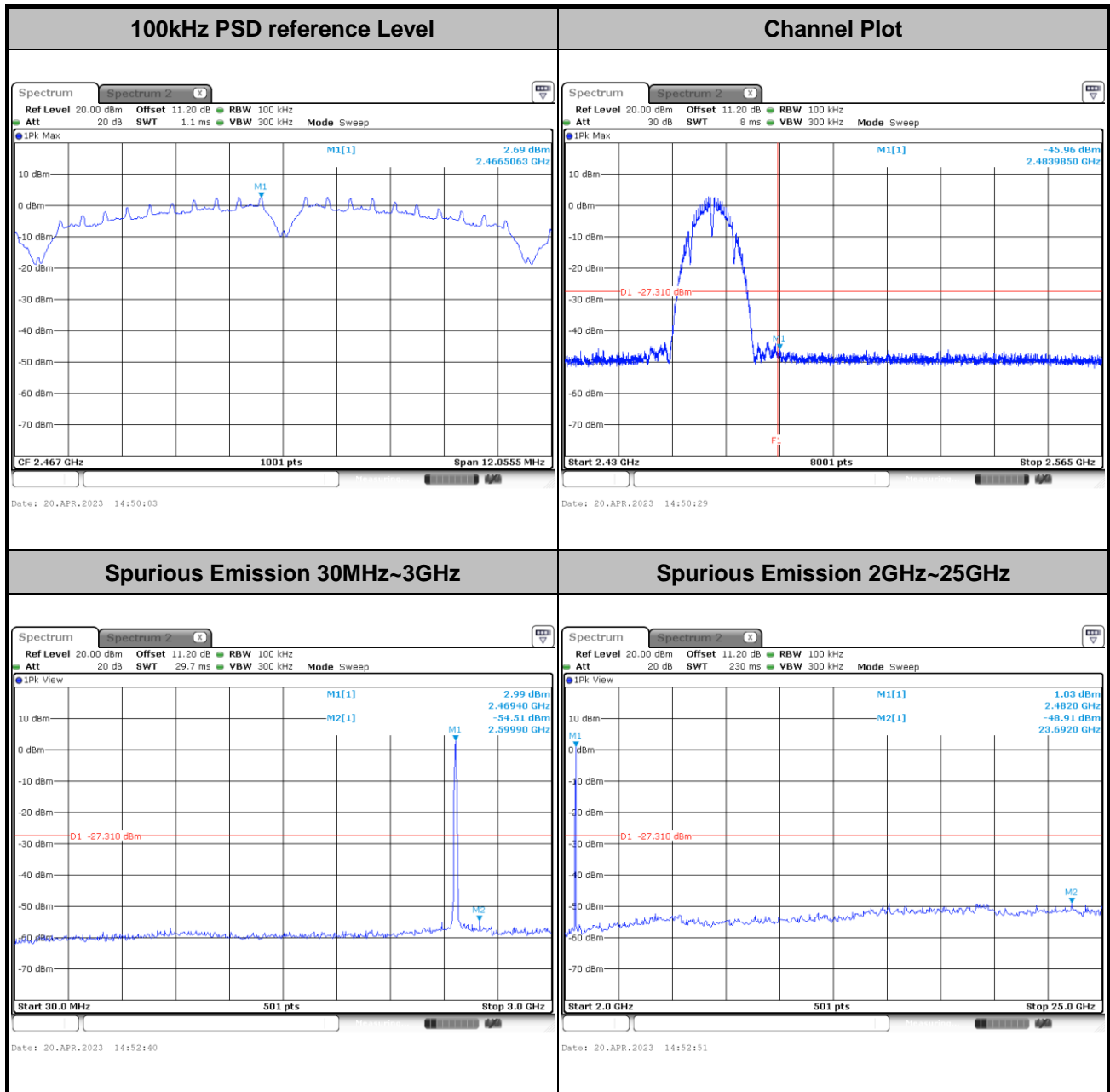


Test Mode :	802.11b	Test Channel :	11
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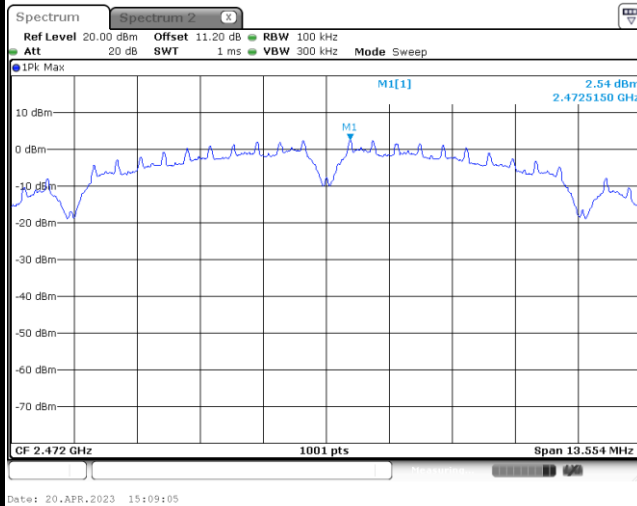
Test Mode :	802.11b	Test Channel :	12
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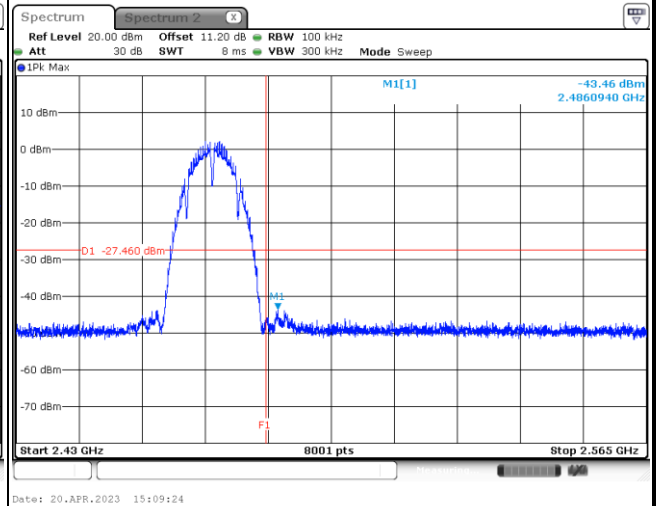


Test Mode :	802.11b	Test Channel :	13
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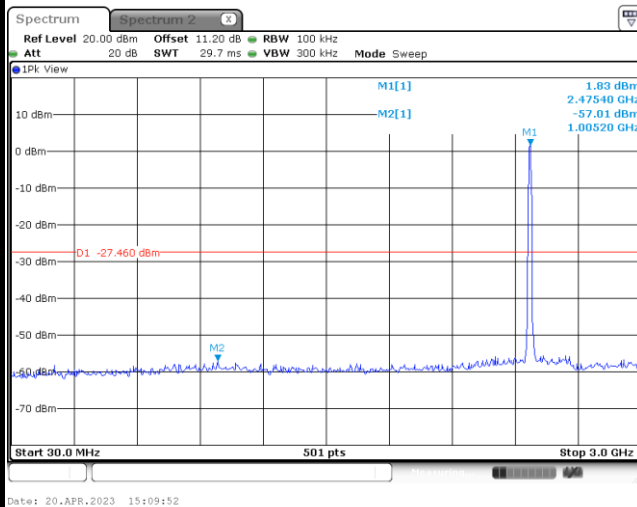
## 100kHz PSD reference Level



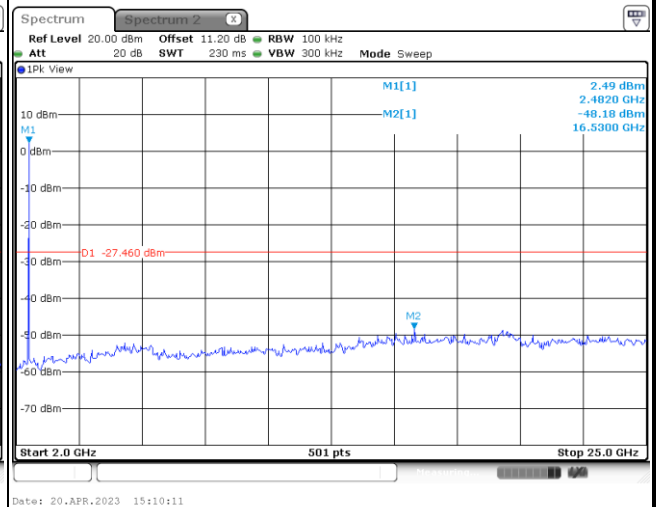
## Channel Plot



## Spurious Emission 30MHz~3GHz



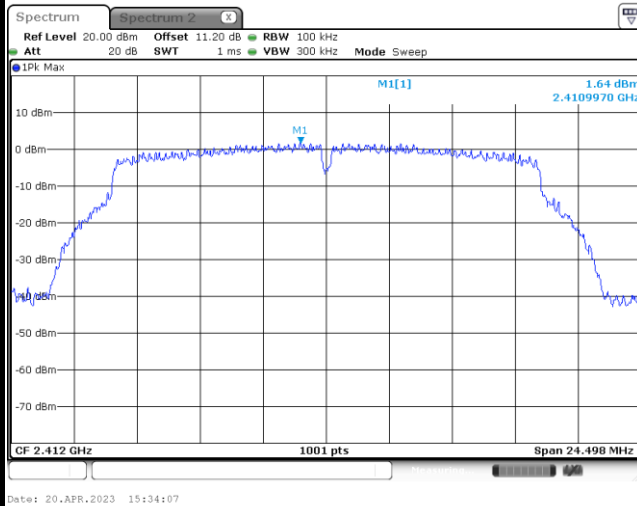
## Spurious Emission 2GHz~25GHz



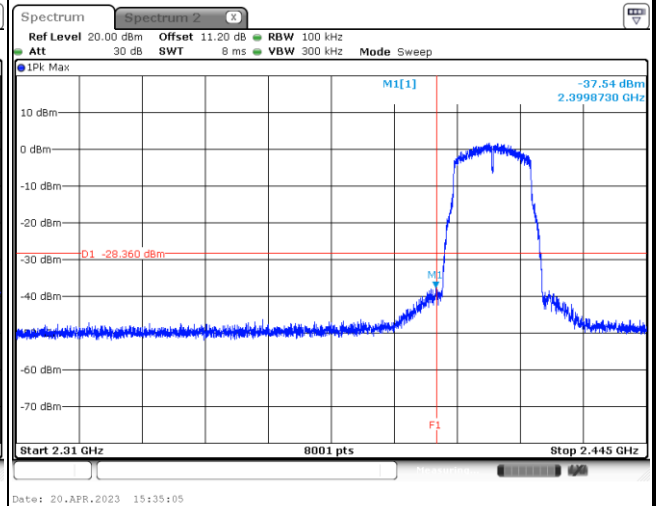


Test Mode :	802.11g	Test Channel :	01
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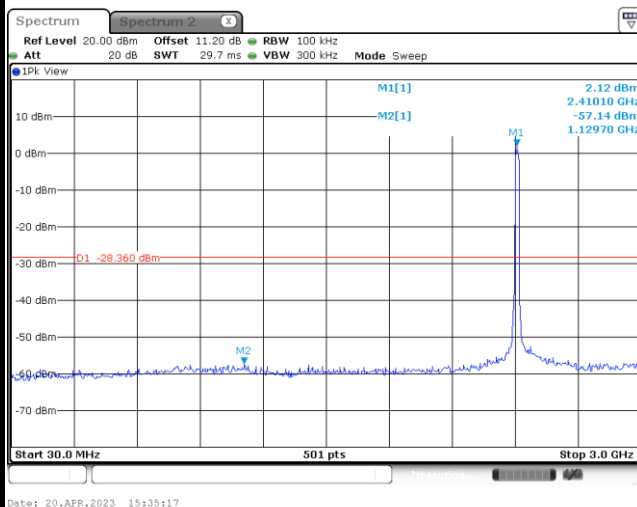
## 100kHz PSD reference Level



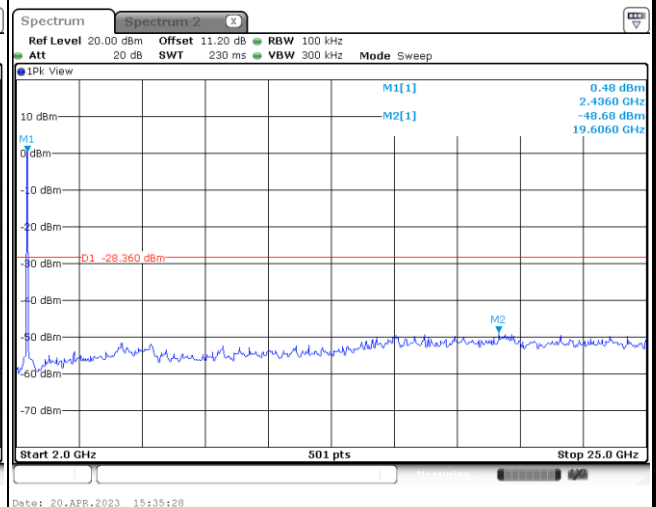
## Channel Plot



## Spurious Emission 30MHz~3GHz



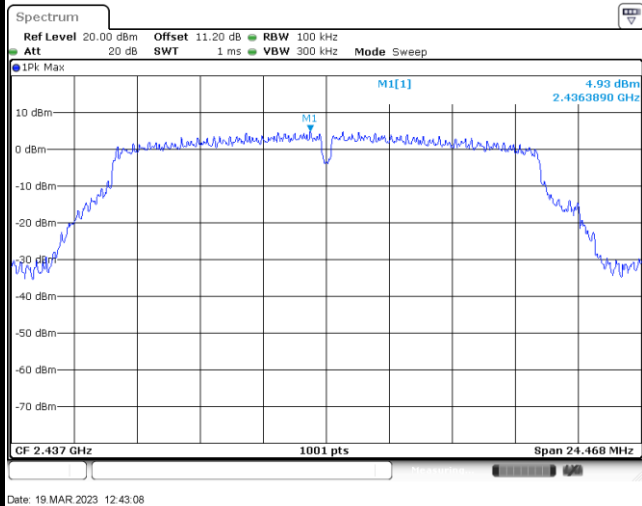
## Spurious Emission 2GHz~25GHz





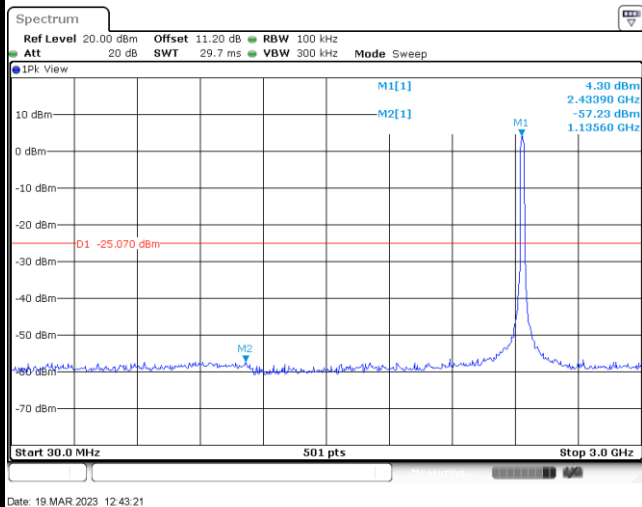
Test Mode :	802.11g	Test Channel :	06
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## 100kHz PSD reference Level

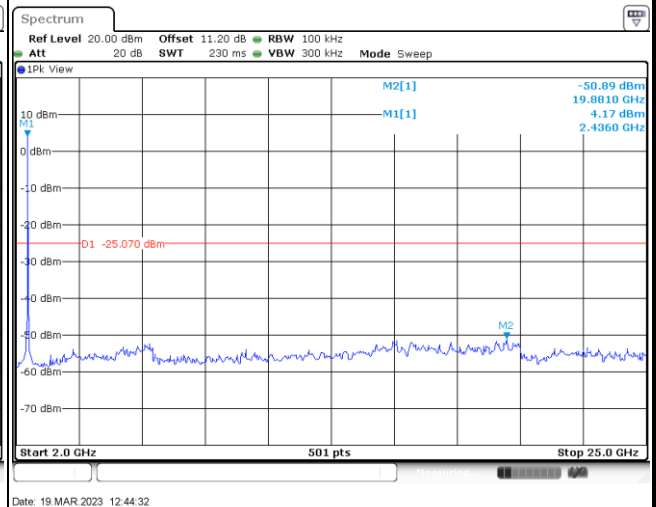


## Channel Plot

## Spurious Emission 30MHz~3GHz

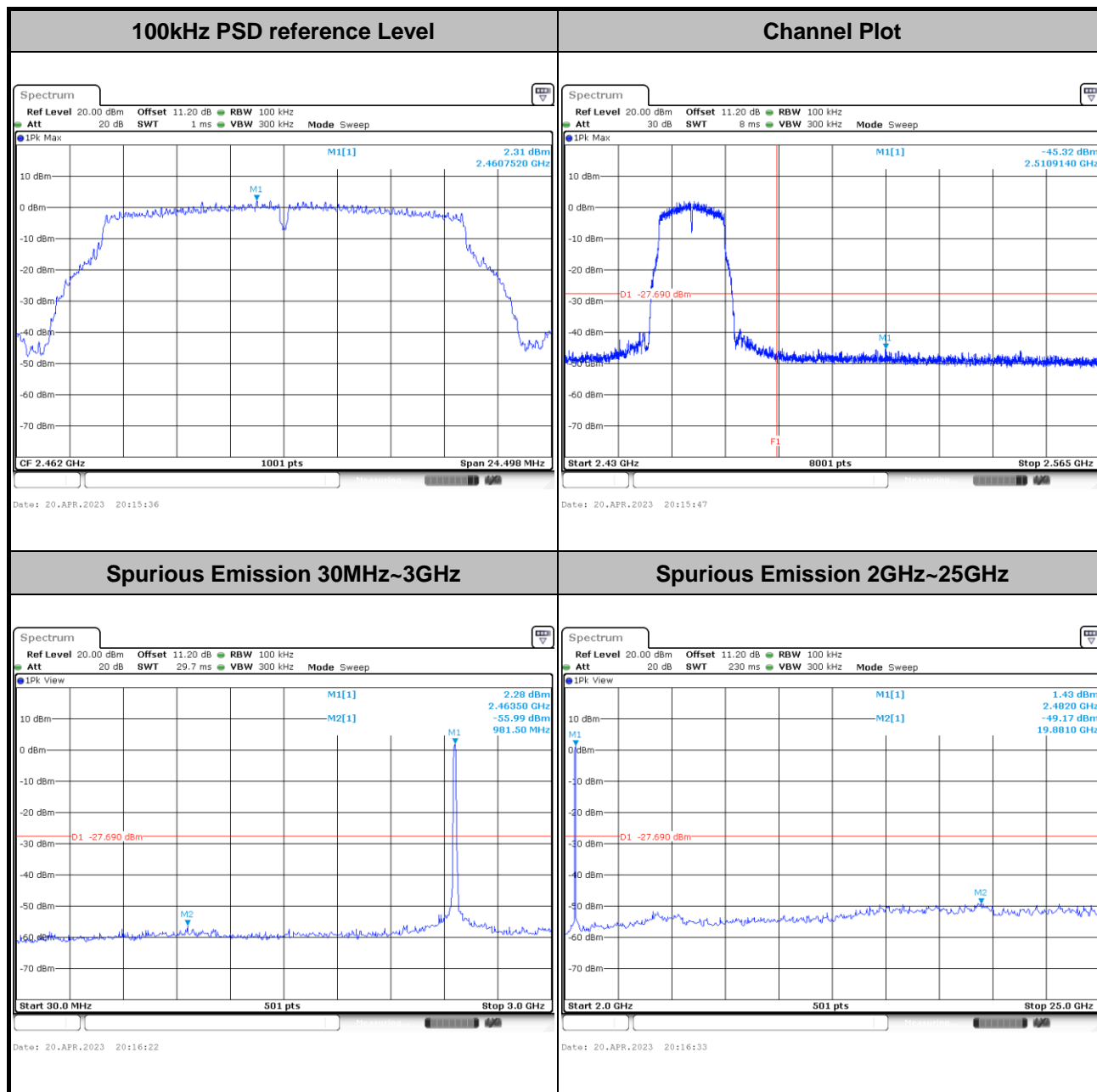


## Spurious Emission 2GHz~25GHz





Test Mode :	802.11g	Test Channel :	11
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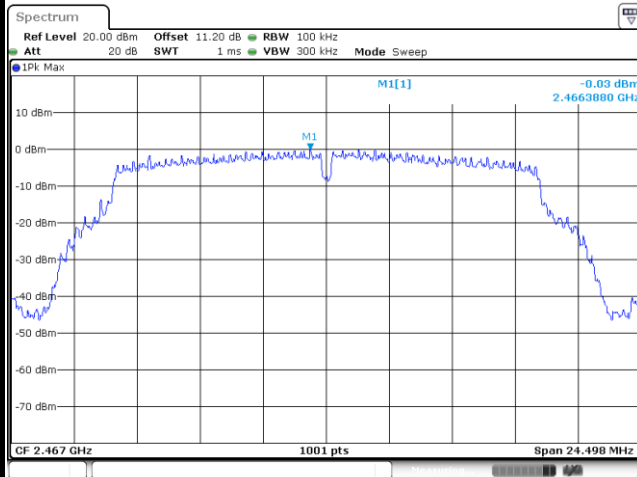




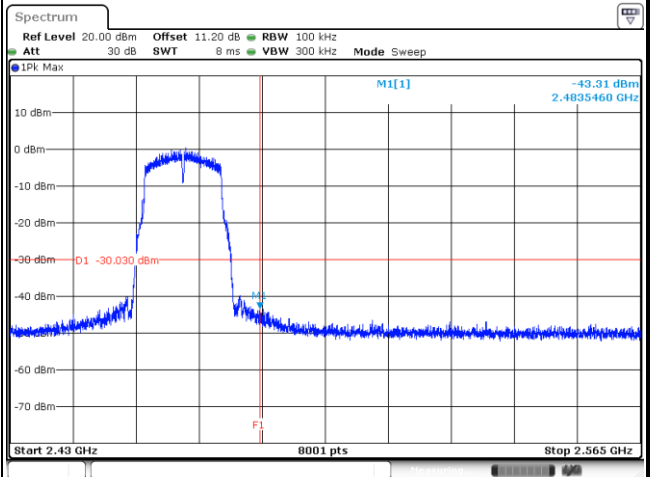


Test Mode :	802.11g	Test Channel :	12
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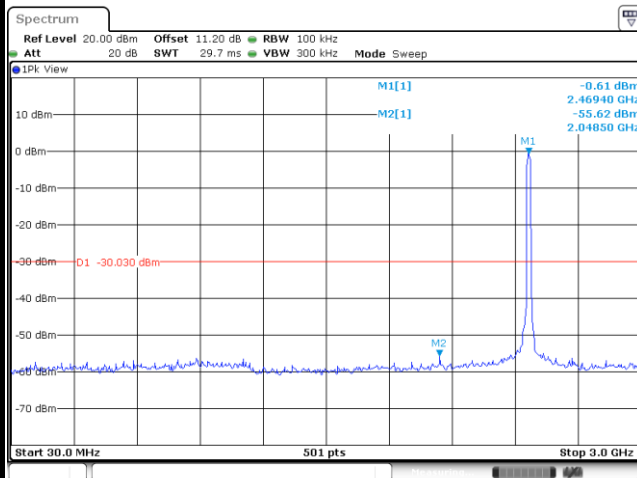
## 100kHz PSD reference Level



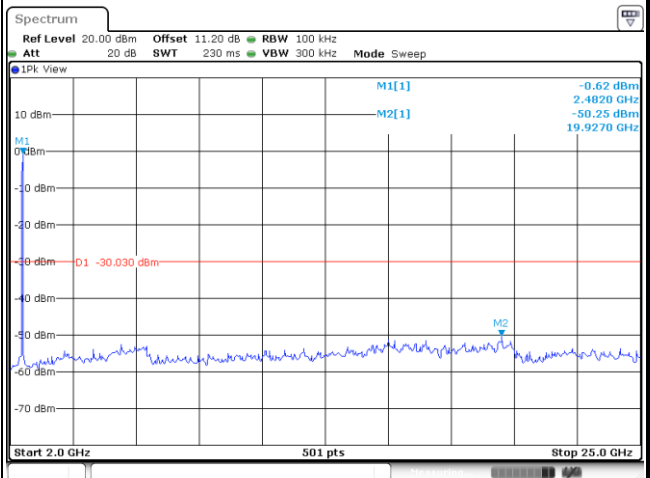
## Channel Plot



## Spurious Emission 30MHz~3GHz



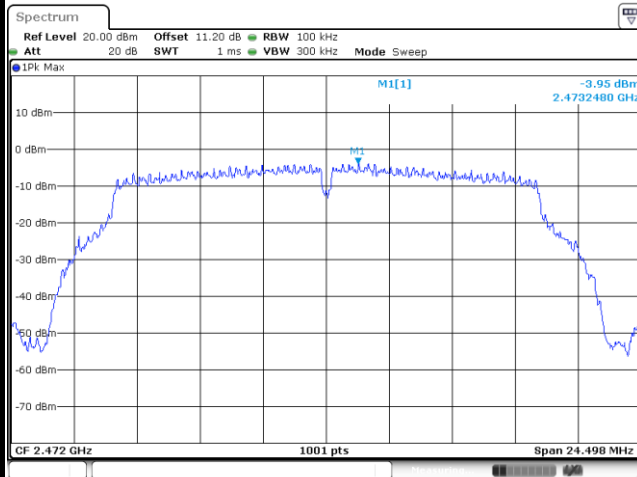
## Spurious Emission 2GHz~25GHz



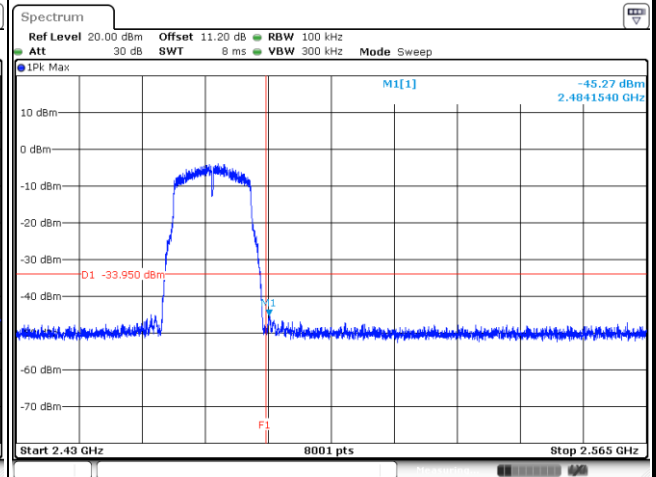


Test Mode :	802.11g	Test Channel :	13
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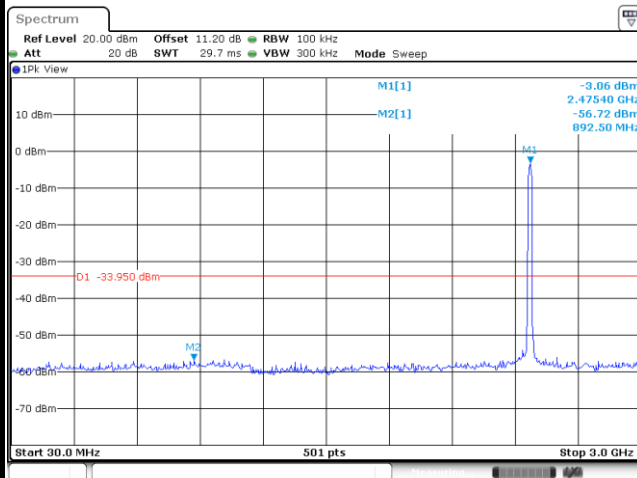
## 100kHz PSD reference Level



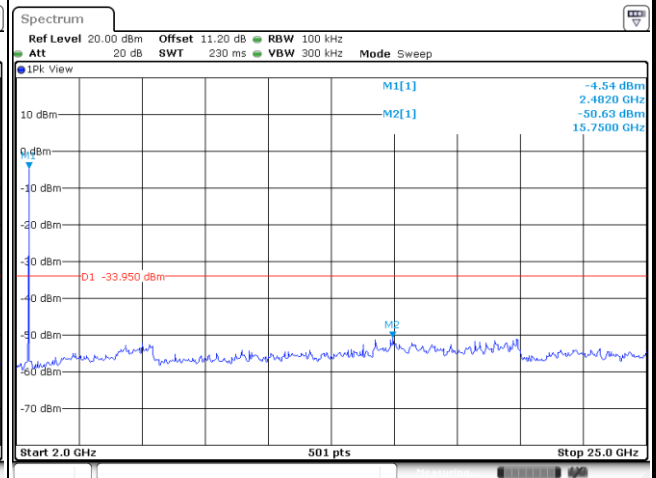
## Channel Plot



## Spurious Emission 30MHz~3GHz



## Spurious Emission 2GHz~25GHz

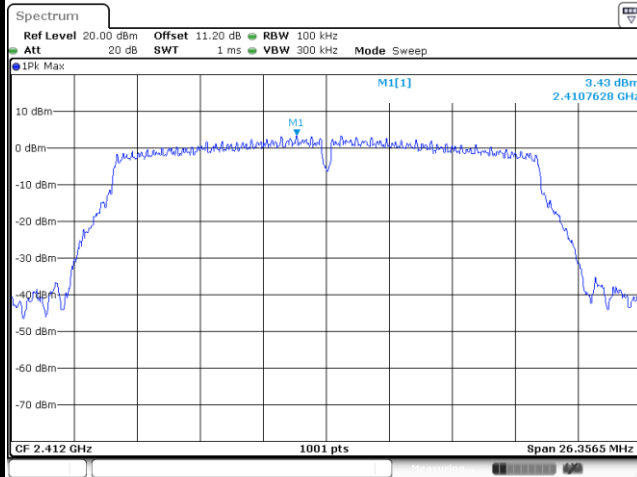




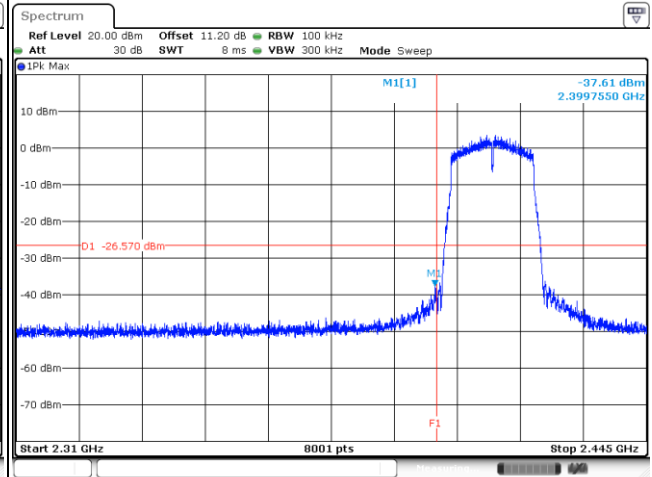
Test Mode : 802.11n HT20

Test Channel : 01

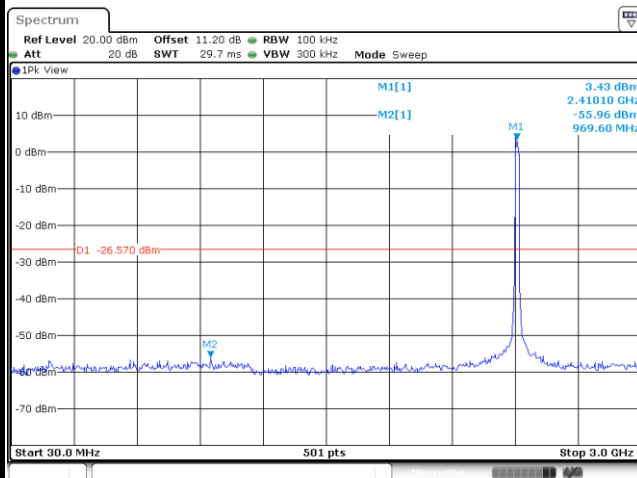
## 100kHz PSD reference Level



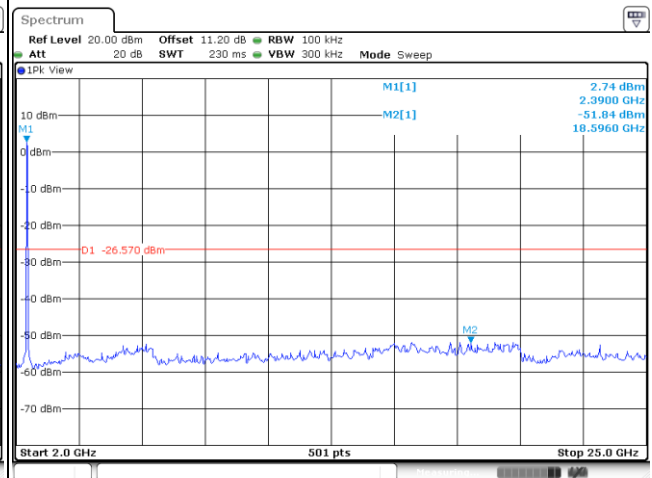
## Channel Plot

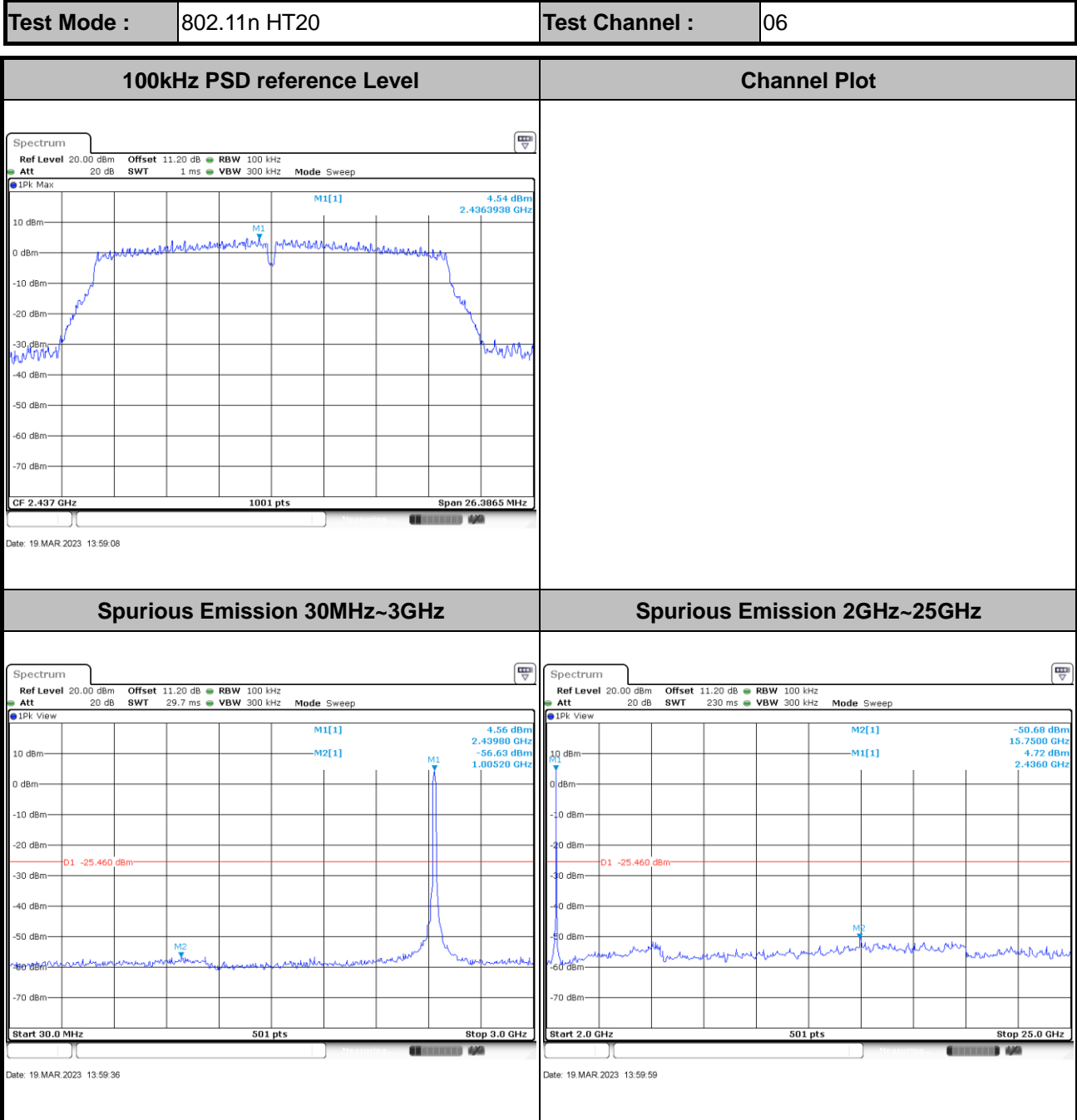


## Spurious Emission 30MHz~3GHz



## Spurious Emission 2GHz~25GHz



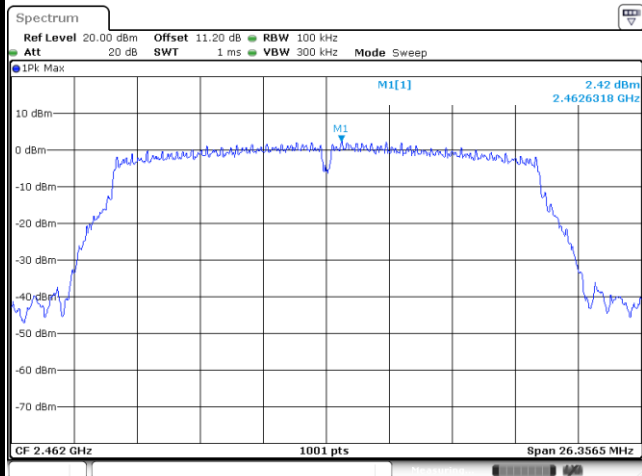




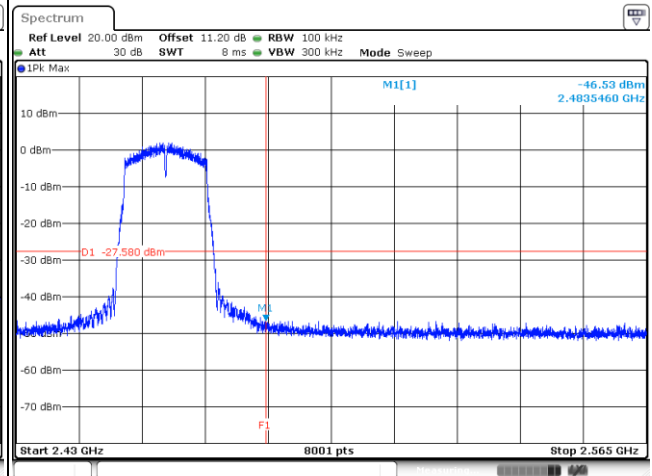
Test Mode : 802.11n HT20

Test Channel : 11

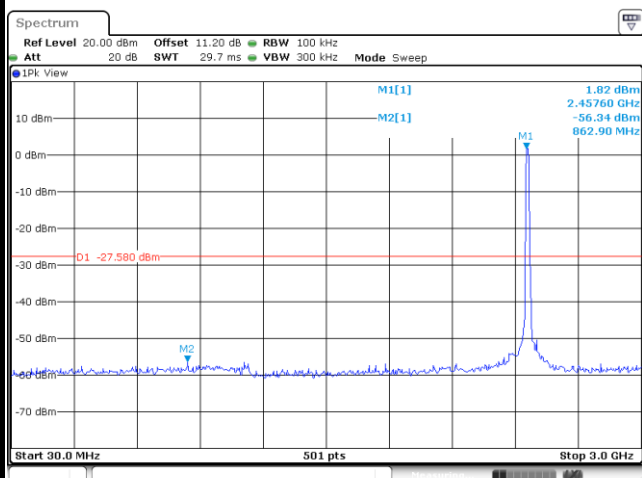
## 100kHz PSD reference Level



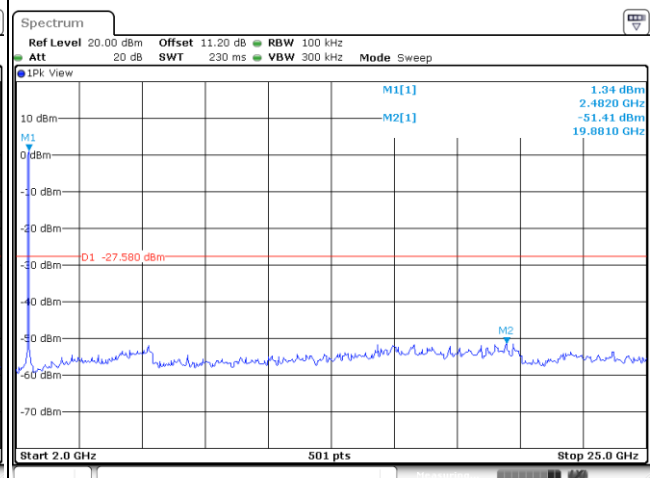
## Channel Plot



## Spurious Emission 30MHz~3GHz



## Spurious Emission 2GHz~25GHz

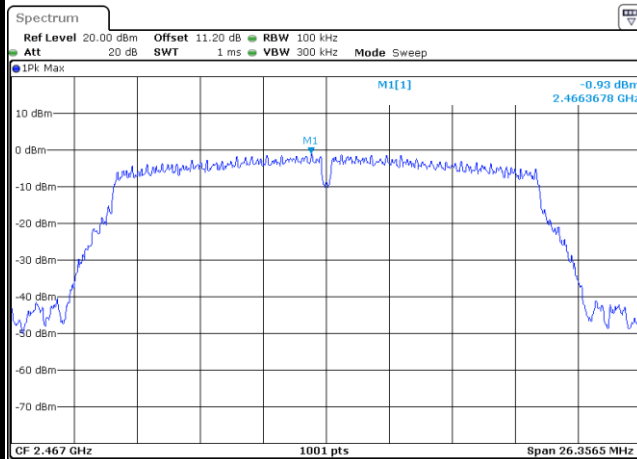




Test Mode : 802.11n HT20

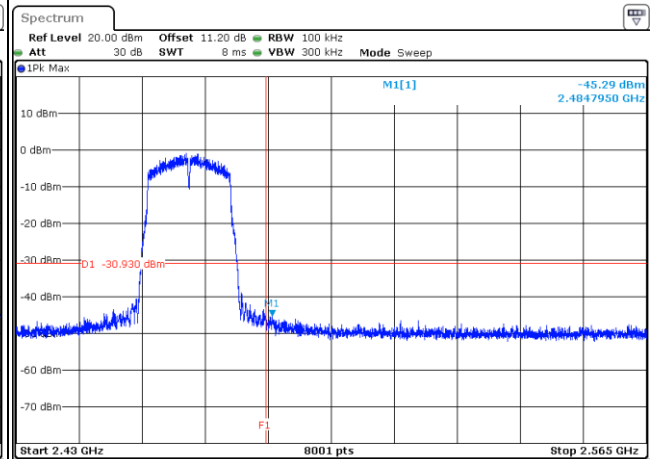
Test Channel : 12

## 100kHz PSD reference Level



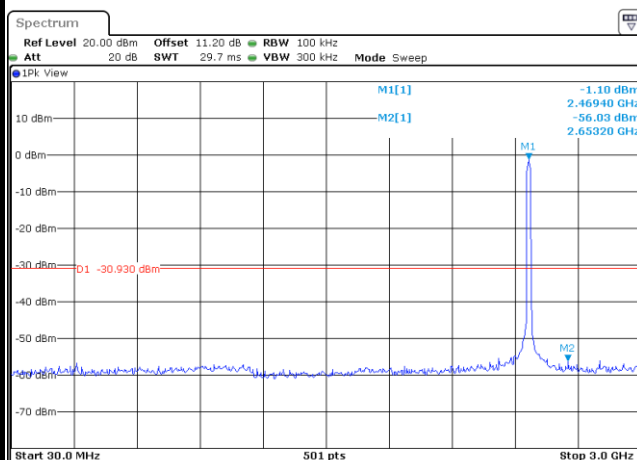
Date: 19 MAR 2023 14:23:39

## Channel Plot



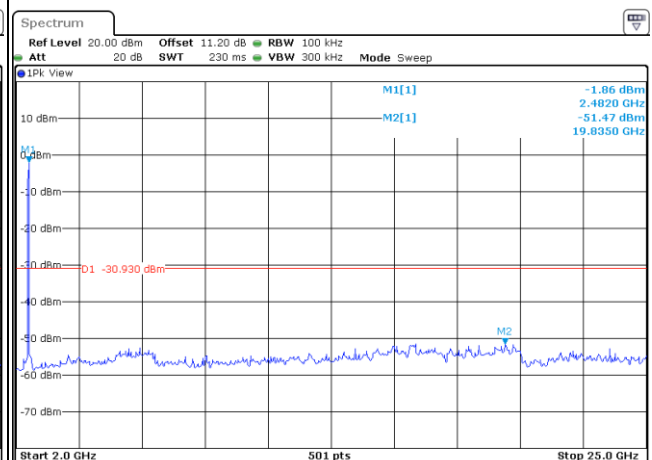
Date: 19 MAR 2023 14:24:00

## Spurious Emission 30MHz~3GHz

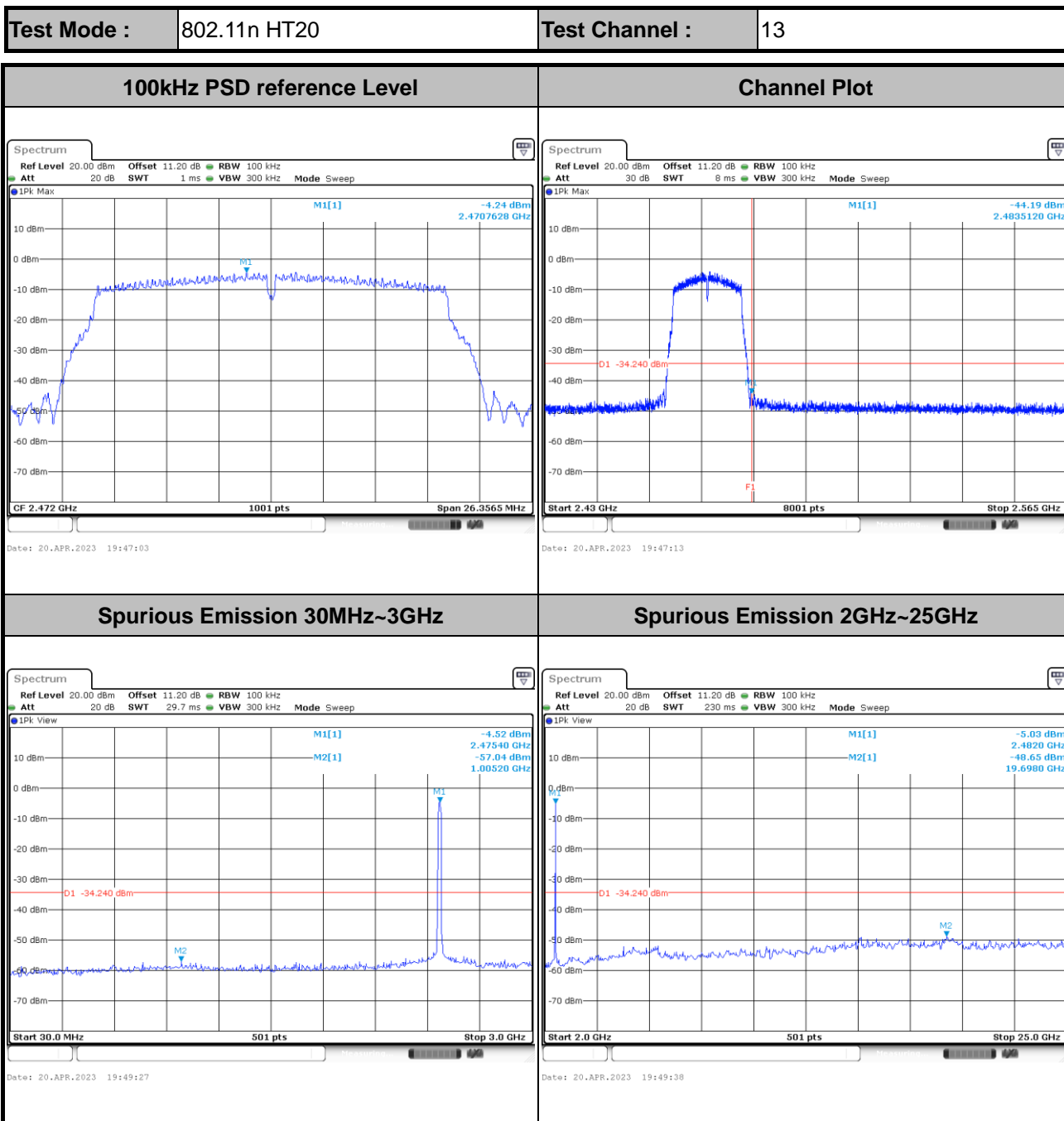


Date: 19 MAR 2023 14:24:30

## Spurious Emission 2GHz~25GHz



Date: 19 MAR 2023 14:24:40



### 3.5 Radiated Band Edges and Spurious Emission Measurement

#### 3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

Frequency (MHz)	Field Strength (microvolts/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

#### 3.5.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

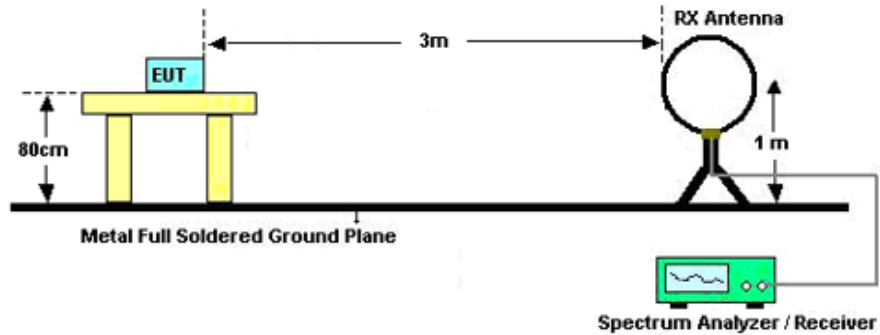


### 3.5.3 Test Procedures

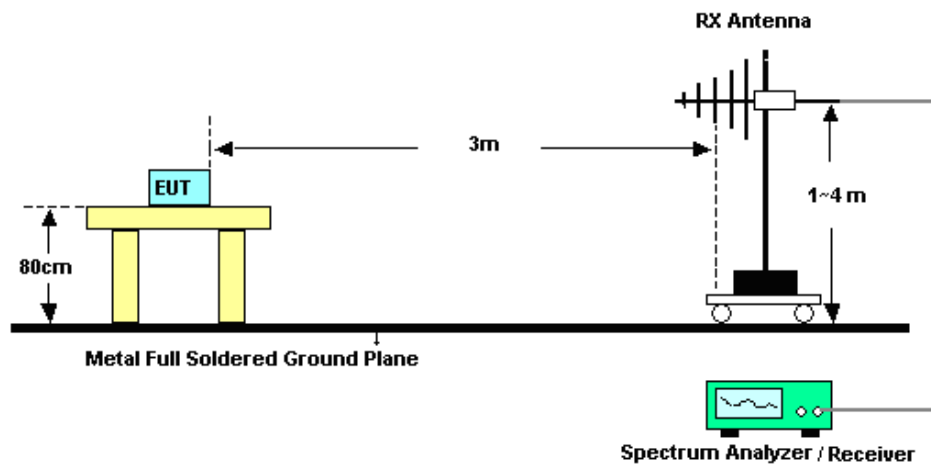
1. The testing follows ANSI C63.10-2013 clause 11.11 & 11.12
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than peak limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
8. Use the following spectrum analyzer settings:
  - (1) Span shall wide enough to fully capture the emission being measured;
  - (2) Set RBW=100 kHz for  $f < 1$  GHz; VBW  $\geq$  RBW; Sweep = auto; Detector function = peak; Trace = max hold;
  - (3) Set RBW = 1 MHz, VBW= 3MHz for  $f \geq 1$  GHz for peak measurement.  
For average measurement:
    - VBW = 10 Hz, when duty cycle is no less than 98 percent.
    - VBW  $\geq 1/T$ , when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

### 3.5.4 Test Setup

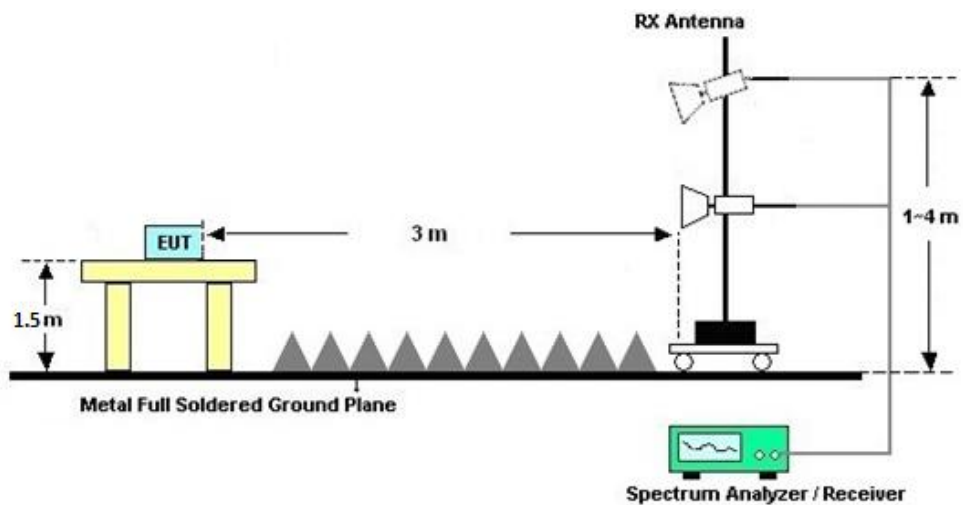
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz





### **3.5.5 Test Results of Radiated Spurious Emissions (9kHz ~ 30MHz)**

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

### **3.5.6 Test Result of Radiated Spurious at Band Edges**

Please refer to Appendix C&D.

### **3.5.7 Duty Cycle**

Please refer to Appendix E.

### **3.5.8 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic or 40GHz, whichever is lower)**

Please refer to Appendix C&D.

## 3.6 AC Conducted Emission Measurement

### 3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of Emission (MHz)	Conducted Limit (dB $\mu$ V)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

\*Decreases with the logarithm of the frequency.

### 3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

### 3.6.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF bandwidth = 9kHz) with Maximum Hold Mode.