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TEST REPORT

Eurofins KCTL Co.,Ltd. 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea TEL: 82-70-4904-0113 FAX: 82-505-299-8311 www.kctl.co.kr	Report No.: KR25-SRF0128-A Page(1) of (69)	eurofins | KCTL

1. Client

- Name : JVCKENWOOD Corporation
- Address : 3-12, Moriyacho, Kanagawa-ku, Yokohama-shi, Kanagawa, 221-0022, Japan
- Date of Receipt : 2025-05-23

2. Use of Report : Class II Permissive Change

3. Name of Product / Model : 800MHz Digital Transceiver / NX-3920G-K

4. Manufacturer / Country of Origin : JVCKENWOOD Corporation / Japan

5. FCC ID : K44502600

5. IC Certification No.: 282F-502600

6. Date of Test : 2025-07-02 to 2025-07-15

7. Location of Test : ■ Permanent Testing Lab ☐ On Site Testing
(Address:65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea)

8. Test method used : FCC Part 2
FCC Part 90
RSS-Gen Issue 5, RSS-119 Issue 12

9. Test Result : Refer to the test result in the test report

Affirmation	Tested by Name: Jungwon Seo (Signature)	Technical Manager Name: Kwonse Kim (Signature)

2025-08-19

Eurofins KCTL Co.,Ltd.

As a test result of the sample which was submitted from the client, this report does not guara ntee the whole product quality. This test report should not be used and copied without a written agreement by Eurofins KCTL Co.,Ltd.

REPORT REVISION HISTORY

Date	Revision	Page No
2025-07-16	Originally issued	-
2025-08-19	Revised measurement methods according to ANSI C63.26, Added low power occupied bandwidth	All

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Note. The report No. KR25-SRF0128 is superseded by the report No. KR25-SRF0128-A.

General remarks for test reports

Statement concerning the uncertainty of the measurement systems used for the tests

(may be required by the product standard or client)

☐ **Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:**

Procedure number, issue date and title:

Calculations leading to the reported values are on file with the testing laboratory that conducted the testing.

☒ **Statement not required by the standard or client used for type testing**

CONTENTS

1. General information

Client	:	JVCKENWOOD Corporation
Address	:	3-12, Moriyacho, Kanagawa-ku, Yokohama-shi, Kanagawa, 221-0022, Japan
Manufacturer	:	JVCKENWOOD Corporation
Address	:	3-12, Moriyacho, Kanagawa-ku, Yokohama-shi, Kanagawa, 221-0022, Japan
Laboratory	:	Eurofins KCTL Co.,Ltd.
Address	:	65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea
Accreditations	:	FCC Site Designation No: KR0040, FCC Site Registration No: 687132
		VCCI Registration No. : R-20080, G-20078, C-20059, T-20056
		CAB Identifier: KR0040
		ISED Number: 8035A
		KOLAS No.: KT231

2. Device information

Equipment under test	:	800MHz Digital Transceiver		
Model	:	NX-3920G-K		
Power source	:	DC 13.6 V		
Frequency range	:	Band 1	:	806 ㎒ ~ 824 ㎒
		Band 2	:	851 ㎒ ~ 869 ㎒
Power Rating	:	Output Power	:	5 to 15 W
		Type	:	Continuously Variable
Channel Bandwidth	:	25 ㎑, 12.5 ㎑, 6.25 ㎑		
Emission Designator	:	Analogue	:	16K0F3E
			:	14K0F3E
			:	11K0F3E
	:	NXDN	:	8K30F1E, 8K30F1D, 8K30F7W
	:	DMR	:	7K60FXD, 7K60FXE
	:	NXDN	:	4K00F1E, 4K00F1D, 4K00F7W
	:	CWID	:	4K00F2D
Hardware version	:	NX-3920G-K		
Test device serial No.	:	E1C00012		
Operation temperature	:	-30 ℃ ~ 60 ℃		

2.1. Frequency/channel operations

This device contains the following capabilities:
Analogue, NXDN (Next Generation Digital Narrowband), DMR (Digital Mobile Radio), CWID (Continuous Wave Identification)

Band 1	Band 2
Frequency (㎒)	Frequency (㎒)
806.05	851.05
.	.
815.05	860.05
.	.
823.95	868.95

3. Summary of tests

FCC Part Section(s)	IC Rule Reference	Parameter	Test Mode	Test Results
2.1046(a) 90.205 90.635	RSS-119 (5.4)	Carrier RF Output Power	Conducted	Pass
-	RSS-119 (5.5)	Occupied Bandwidth		Pass
2.1049(c) (1) 90.210 90.691	RSS-119 (5.5), (5.8)	Emission Masks		Pass
2.1051 90.210	RSS-119 (5.8)	Unwanted Emissions		Pass
2.1053(a) 90.210	RSS-119 (5.8)	Field Strength of Spurious Radiation	Radiated	Pass

Notes

1. The test procedure(s) in this report were performed in accordance as following.
   - ANSI C63.26-2015
   - ANSI/TIA-603-E-2016
2. This is the FCC/IC Class II Permissive Change test report to evaluate the effect of the modification from the device.

4. Worst case orientation

1. All modes of operation were investigated, and only the worst-case results are reported as shown below.

Test Items	High Power (15 W)	Low Power (5 W)
Carrier Output Power	All	All
Occupied Bandwidth	All	All
Emission Masks	All Channel BW	All Channel BW
Unwanted Emissions	7K60FXD, 7K60FXE	7K60FXD, 7K60FXE
Field Strength of Spurious Radiation	7K60FXD, 7K60FXE	-

2. For both unwanted emissions and the field strength of spurious radiation in the UHF band, only the worst-case results were reported.
3. For emission masks, only the worst-case channel within all channel bandwidths was reported.
4. For radiated spurious emissions the measurement results include up to 9 maximum emission points, or fewer if no specific emissions from the EUT were recorded and such emissions are considered below the background noise floor.
5. Radiated spurious emissions in the UHF band were measured using a standard load regarding the ANSI C63.26-2015 clause 5.5.3.2.

5. Measurement uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014.

All measurement uncertainty values are shown with a coverage factor of k=2 to indicated a 95 % level of confidence. The measurement data shown herein meets of exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty (±)	
Conducted RF power	0.9 dB	
Occupied Bandwidth	0.1 %	
Conducted spurious emissions	2.0 dB	
Radiated spurious emissions	Below 1 000 ㎒	2.5 dB
	1 000 ㎒ to 18 000 ㎒	2.5 dB
	Above 18 000 ㎒	2.6 dB

6. Test results

6.1. Carrier output power

Test setup

Limit

FCC

According to §90.635(b),

The maximum output power of the transmitter for mobile stations is 100 watts (20 dBW).

IC

According to §RSS-119(5.4),

The output power shall be within ±1 dB of the manufacturer's rated power listed in the equipment specifications.

The transmitter output power limits set forth in Table 2 will come into force upon the publication of Issue 12 of this standard and will apply to newly certified equipment.

Frequency Band (MHz)	Transmitter Output Power (W)	
	Base/Fixed Equipment	Mobile Equipment
806-821/851-866 and 821-824/866-869	110	30

*Equipment is generally authorized for effective radiated power (ERP) of less than 5 W.

Test procedure

ANSI C63.26 Clause 5.2.4.2
ANSI/TIA-603-E Section 2.2.1.2
RSS-119 Section 4.1
CFR 47 - Section 2.1046

Test settings

When an average power meter is used to perform RF output power measurements, the fundamental condition that measurements be performed only over durations of active transmissions at maximum output power level applies. Thus, an average power meter can always be used to perform the measurement when the EUT can be configured to transmit continuously.

If the EUT cannot be configured to transmit continuously (i.e., burst duty cycle < 98%), then the following options can be implemented to facilitate measurement of the average power with an average power meter:

a) a) A gated average power meter can be used to perform the measurement if the gating parameters can be adjusted such that the power is measured only during active transmission bursts at maximum output power levels.

b) b) A conventional average power meter with no signal gating capability can also be used if the measured burst duty cycle is constant (i.e., duty cycle variations are less than or equal to ±2%) by performing the measurement over the on/off burst cycles and then correcting (increasing) the measured level by a factor equal to [10 log (1/duty cycle)]. See 5.2.4.3.4 for guidance with respect to measuring the transmitter duty cycle.

See item r) of 4.1 for more information regarding power meter functional requirements and limitations, and consult the instrumentation-specific application literature for proper set-up and use.

Notes:

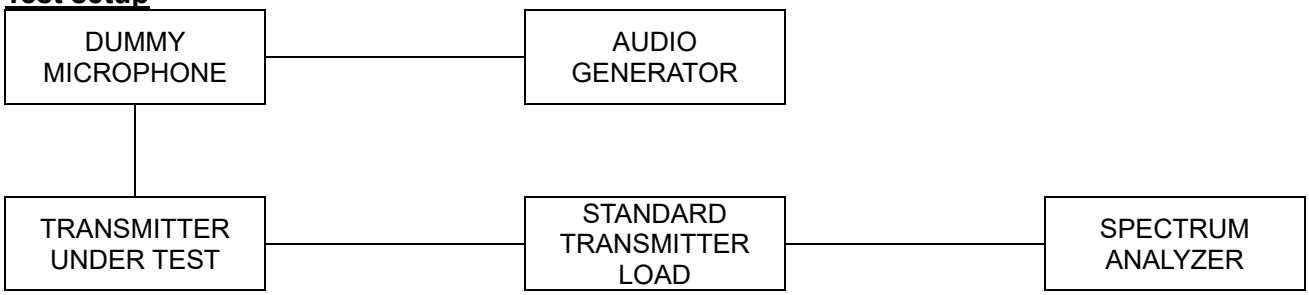
1. Offset(㏈) = RF cable loss(㏈) + Fixed Attenuator(㏈m)

Test results

Emission designator	Channel Bandwidth	Tx frequency (㎒)	Carrier Output Power			
			High		Low	
			dBm	W	dBm	W
16K0F3E	25 ㎑	806.05	41.70	14.79	36.81	4.80
		815.05	41.64	14.59	36.82	4.81
		823.95	41.63	14.55	36.76	4.74
		851.05	41.71	14.83	36.90	4.90
		860.05	41.73	14.89	36.91	4.91
		868.95	41.72	14.86	36.93	4.93
14K0F3E	25 ㎑	806.05	41.69	14.76	36.76	4.74
		815.05	41.67	14.69	36.77	4.75
		823.95	41.67	14.69	36.76	4.74
		851.05	41.73	14.89	36.94	4.94
		860.05	41.62	14.52	36.94	4.94
		868.95	41.59	14.42	36.96	4.97
11K0F3E	12.5 ㎑	806.05	41.58	14.39	36.88	4.88
		815.05	41.57	14.35	36.89	4.89
		823.95	41.55	14.29	36.82	4.81
		851.05	41.66	14.66	36.95	4.95
		860.05	41.69	14.76	36.95	4.95
		868.95	41.69	14.76	36.97	4.98
8K30F1E 8K30F1D 8K30F7W	12.5 ㎑	806.05	41.72	14.86	36.76	4.74
		815.05	41.70	14.79	36.77	4.75
		823.95	41.71	14.83	36.72	4.70
		851.05	41.71	14.83	36.88	4.88
		860.05	41.72	14.86	36.90	4.90
		868.95	41.71	14.83	36.93	4.93
7K60FXD 7K60FXE	12.5 ㎑	806.05	41.70	14.79	36.90	4.90
		815.05	41.68	14.72	36.91	4.91
		823.95	41.68	14.72	36.86	4.85
		851.05	41.73	14.89	36.98	4.99
		860.05	41.75	14.96	36.95	4.95
		868.95	41.75	14.96	36.96	4.97
4K00F1E 4K00F1D 4K00F7W	6.25 ㎑	806.05	41.68	14.72	36.85	4.84
		815.05	41.63	14.55	36.86	4.85
		823.95	41.62	14.52	36.80	4.79
		851.05	41.70	14.79	36.92	4.92
		860.05	41.72	14.86	36.94	4.94
		868.95	41.71	14.83	36.96	4.97
4K00F2D	6.25 ㎑	806.05	41.56	14.32	36.90	4.90
		815.05	41.56	14.32	36.94	4.94
		823.95	41.53	14.22	36.83	4.82
		851.05	41.50	14.13	36.78	4.76
		860.05	41.50	14.13	36.80	4.79
		868.95	41.50	14.13	36.84	4.83

6.2. 99% Occupied Bandwidth

Test setup



Limit

According to §RSS-119(5.5),

Frequency Band (㎒)	Channel Bandwidth (㎑)	Authorized Bandwidth (㎑)
806-821/851-866 and 821-824/866-869	25	20
	12.5	11.25
	6.25	6

Test procedure

ANSI C63.26 Clause 5.4.4
ANSI/TIA-603-E Section 2.2.11.2
RSS-Gen Section 6.7

Test settings

The OBW is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission.
The following procedure shall be used for measuring (99%) power bandwidth:

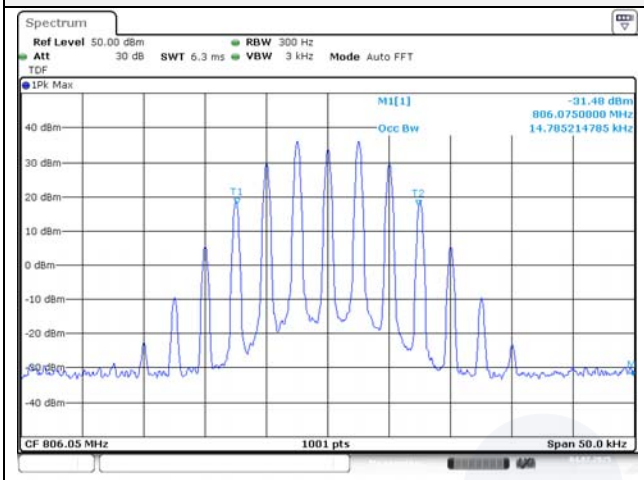
c) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts (typically a span of 1.5 × OBW is sufficient).
d) The nominal IF filter 3 dB bandwidth (RBW) shall be in the range of 1% to 5% of the anticipated OBW, and the VBW shall be set ≥ 3 × RBW.
e) Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation. See guidance provided in 4.2.3.
f) NOTE-Step a), step b), and step c) may require iteration to adjust within the specified tolerances.
g) Set the detection mode to peak, and the trace mode to max-hold.
h) If the instrument does not have a 99% OBW function, recover the trace data points and sum directly in linear power terms. Place the recovered amplitude data points, beginning at the lowest frequency, in a running sum until 0.5% of the total is reached. Record that frequency as the lower OBW frequency. Repeat the process until 99.5% of the total is reached and record that frequency as the upper OBW frequency. The 99% power OBW can be determined by computing the difference these two frequencies.
i) The OBW shall be reported and plot(s) of the measuring instrument display shall be provided with the test report. The frequency and amplitude axis and scale shall be clearly labeled. Tabular data can be reported in addition to the plot(s).

Test results

Emission designator	Channel Bandwidth	Tx frequency (㎒)	Occupied Bandwidth (㎑)		Limit (㎑)
			High Power	Low Power	
16K0F3E	25 ㎑	806.05	14.785	14.835	20 ㎑
		815.05	14.735	14.735	
		823.95	14.735	14.735	
		851.05	14.785	14.785	
		860.05	14.835	14.785	
		868.95	14.735	14.785	
14K0F3E	25 ㎑	806.05	10.390	10.340	11.25 ㎑
		815.05	10.340	10.340	
		823.95	10.340	10.340	
		851.05	10.340	10.340	
		860.05	10.340	10.340	
		868.95	10.340	10.340	
11K0F3E	12.5 ㎑	806.05	9.940	9.940	11.25 ㎑
		815.05	9.940	9.940	
		823.95	9.940	9.940	
		851.05	9.940	9.940	
		860.05	9.940	9.940	
		868.95	9.940	9.940	
8K30F1E 8K30F1D 8K30F7W	12.5 ㎑	806.05	7.742	7.742	11.25 ㎑
		815.05	7.692	7.692	
		823.95	7.692	7.692	
		851.05	7.742	7.742	
		860.05	7.742	7.742	
		868.95	7.742	7.692	
7K60FXD 7K60FXE	12.5 ㎑	806.05	7.742	7.642	11.25 ㎑
		815.05	7.542	7.542	
		823.95	7.542	7.542	
		851.05	7.592	7.592	
		860.05	7.592	7.592	
		868.95	7.542	7.542	
4K00F1E 4K00F1D 4K00F7W	6.25 ㎑	806.05	3.546	3.596	6 ㎑
		815.05	3.546	3.546	
		823.95	3.546	3.546	
		851.05	3.546	3.546	
		860.05	3.546	3.546	
		868.95	3.546	3.546	
4K00F2D	6.25 ㎑	806.05	3.297	3.347	6 ㎑
		815.05	3.297	3.297	
		823.95	3.297	3.297	
		851.05	3.297	3.297	
		860.05	3.347	3.297	
		868.95	3.347	3.297	

Test mode: 16K0F3E / High Power

806.05 ㎒



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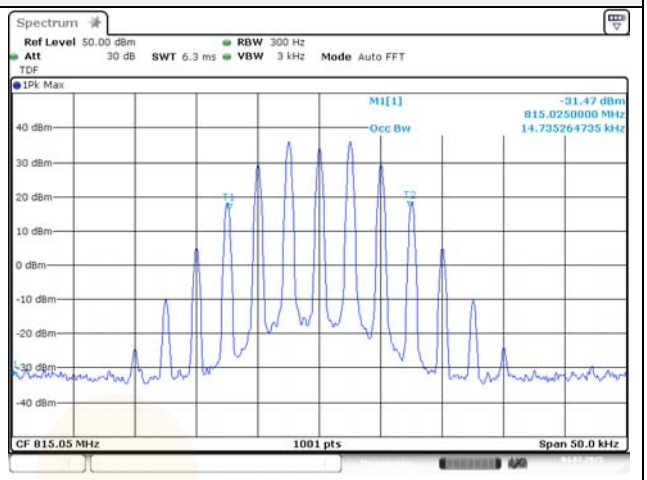

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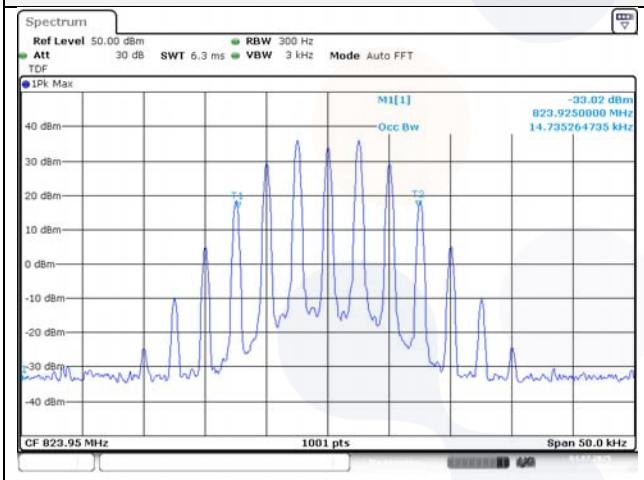

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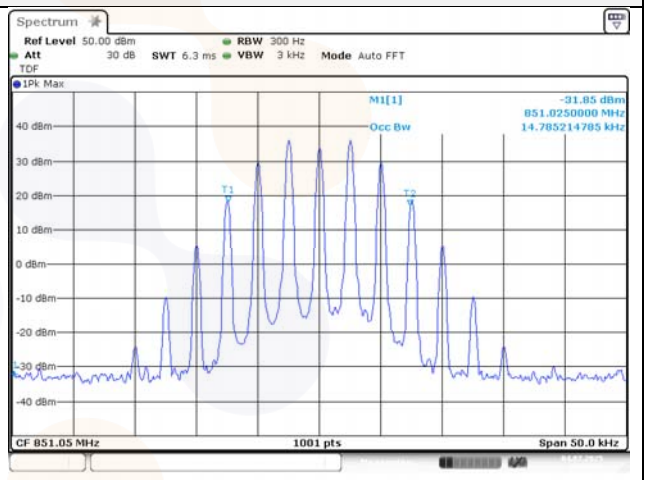

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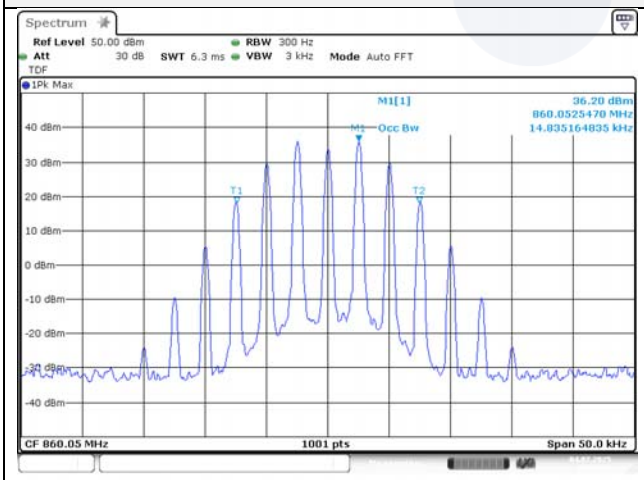

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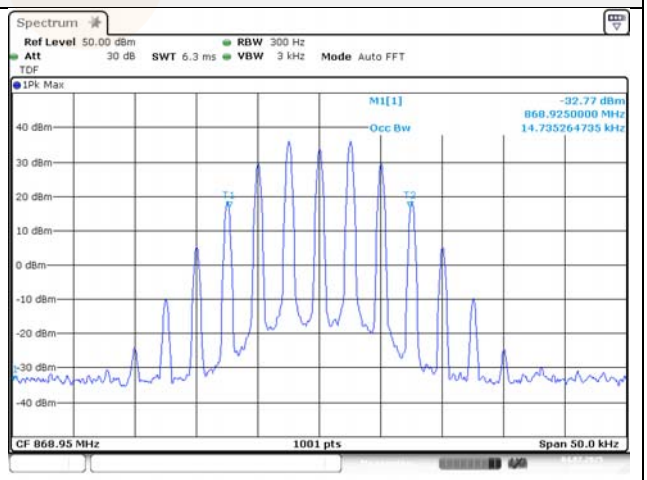

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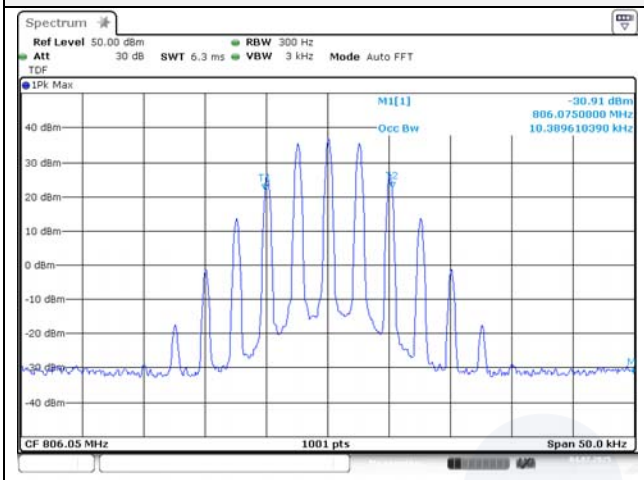

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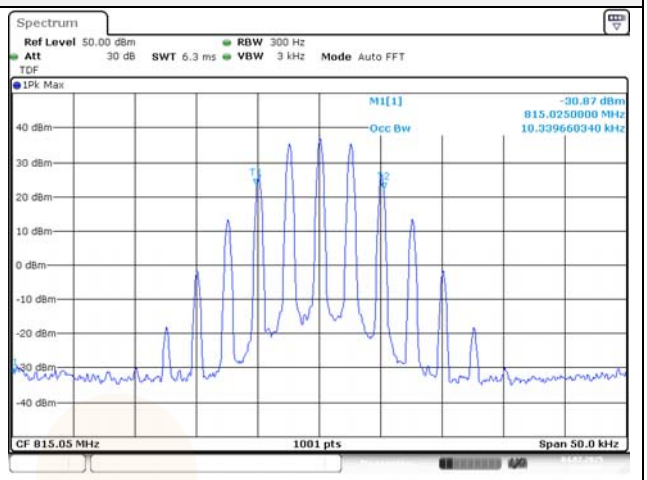

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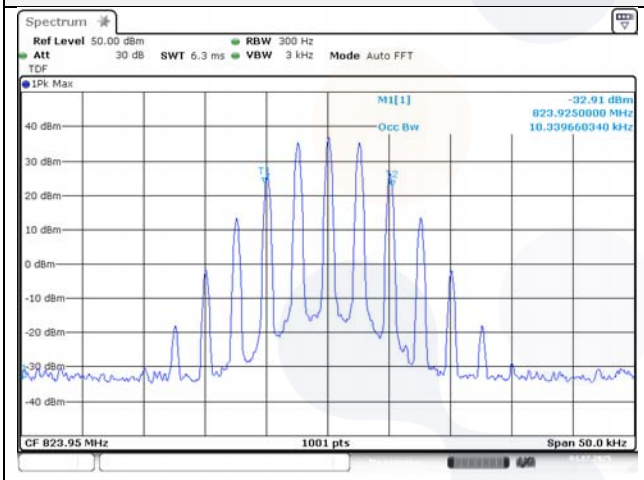

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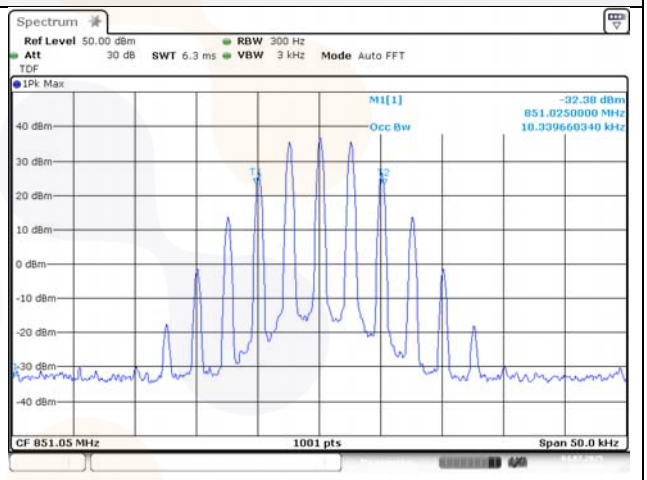

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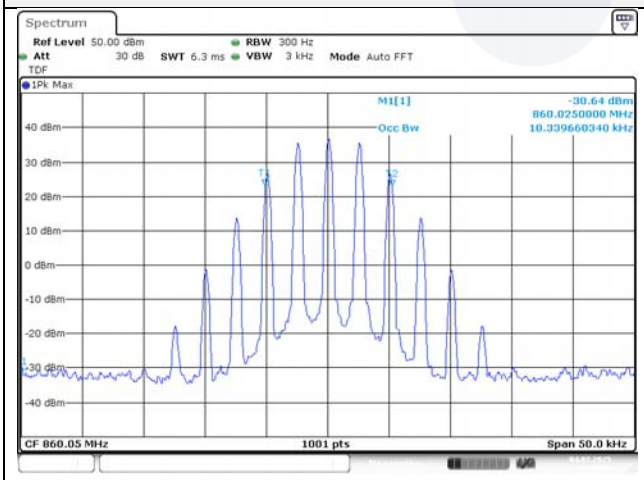

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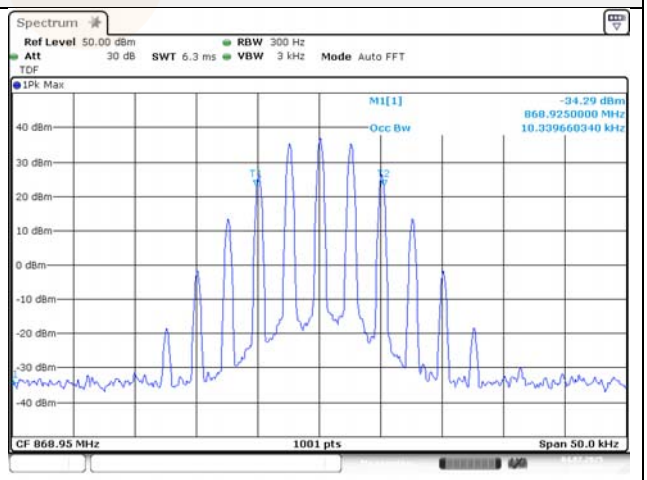

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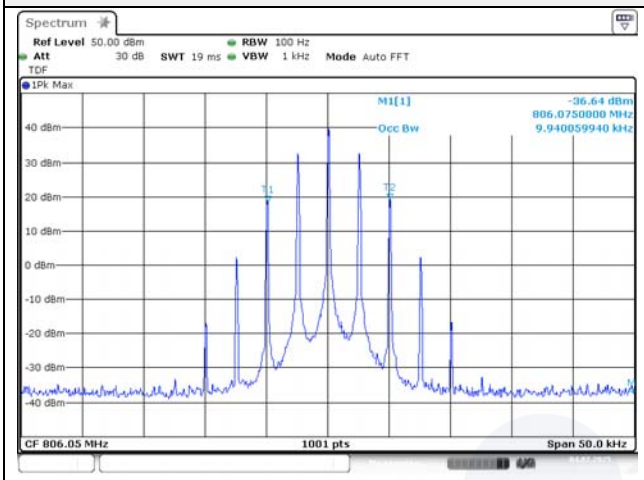

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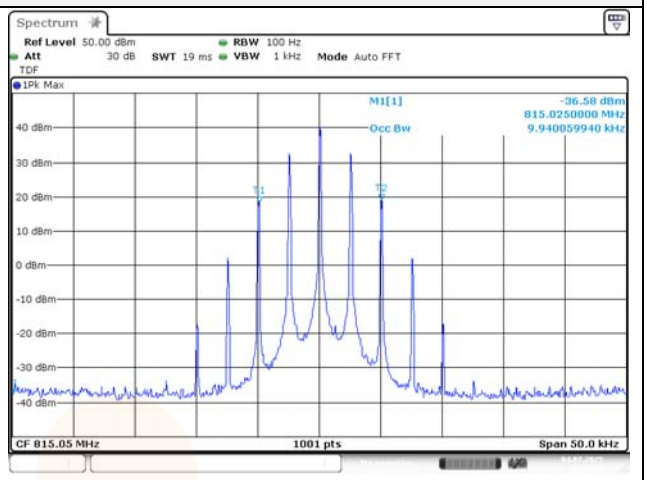

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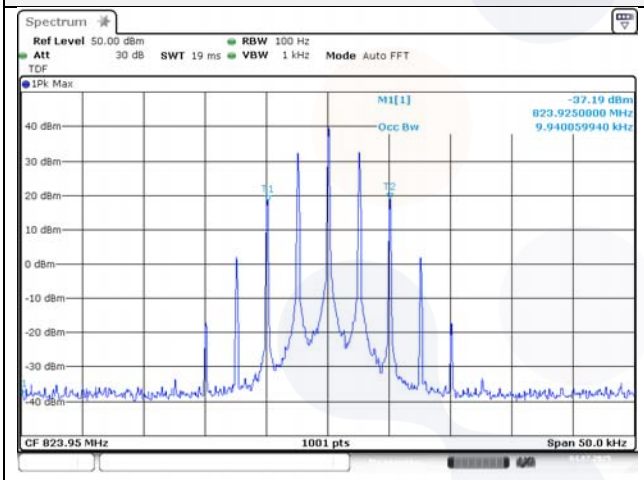

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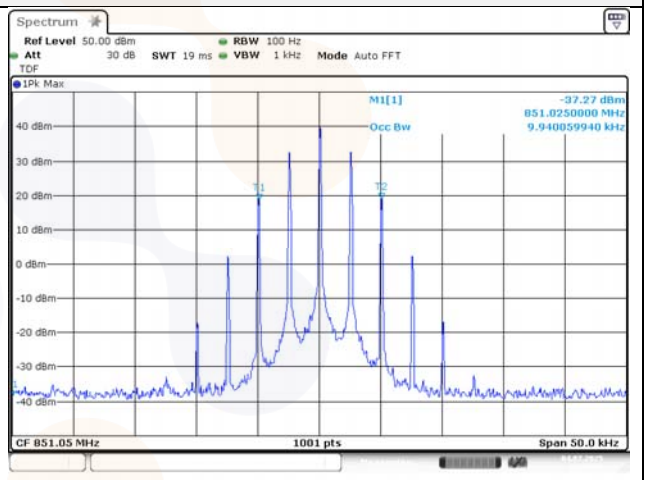

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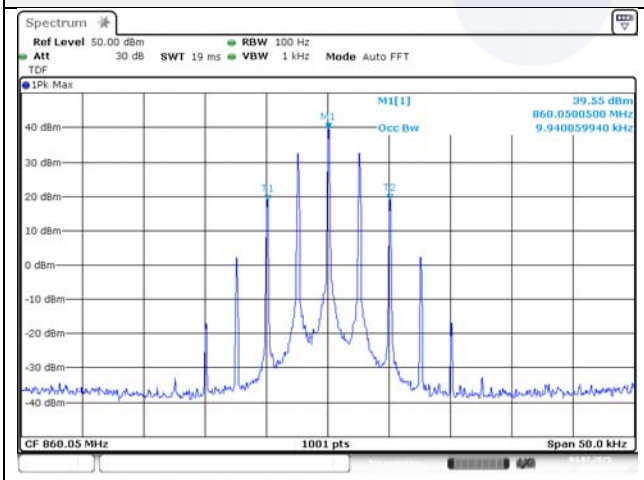

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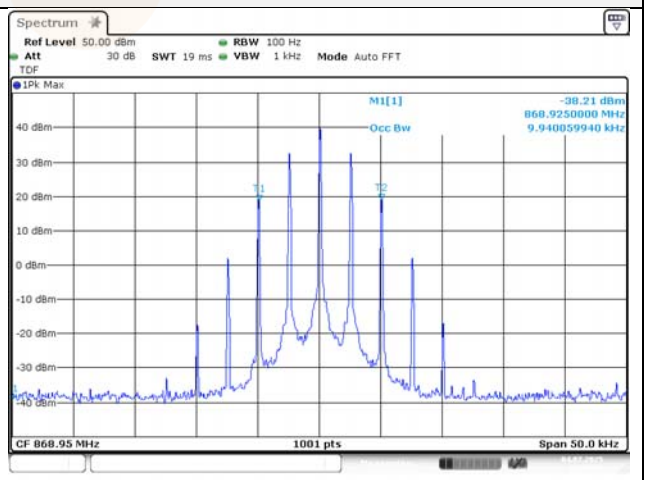
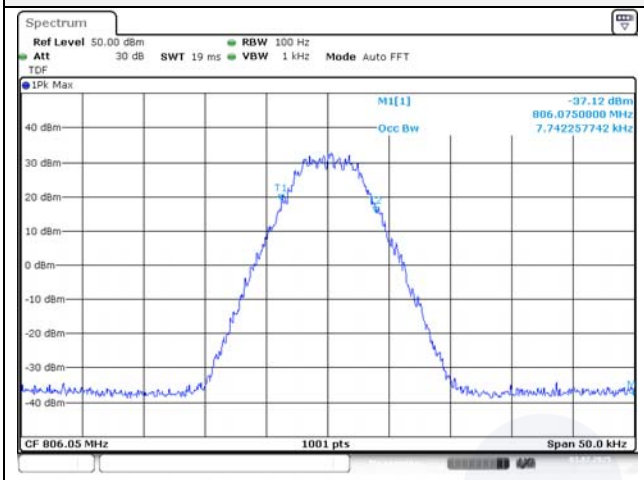
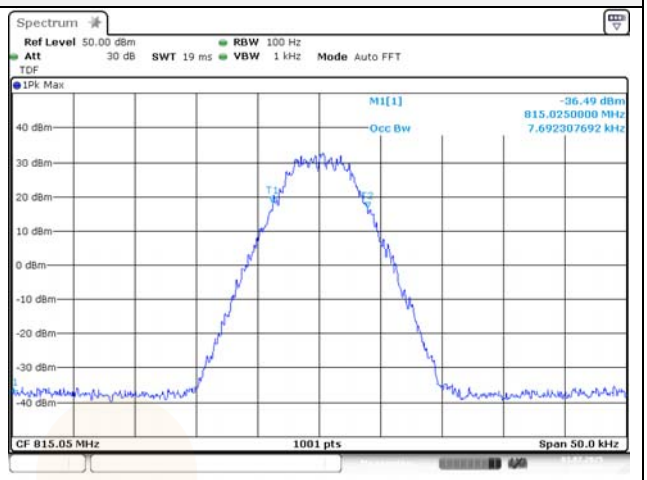


Test mode: 8K30F1E/8K30F1D/8K30F7W / High Power

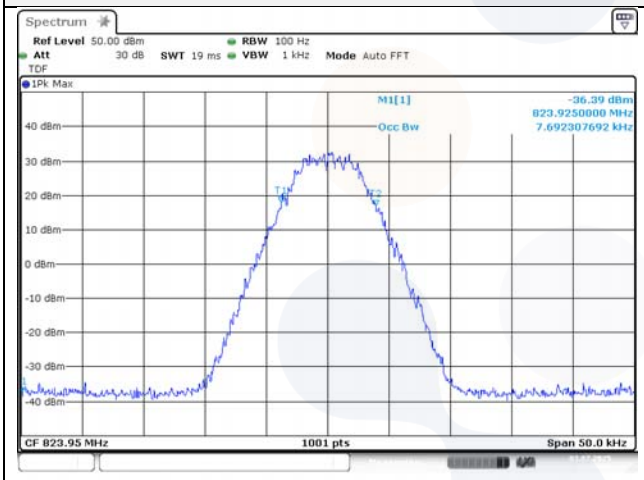
806.05 ㎒



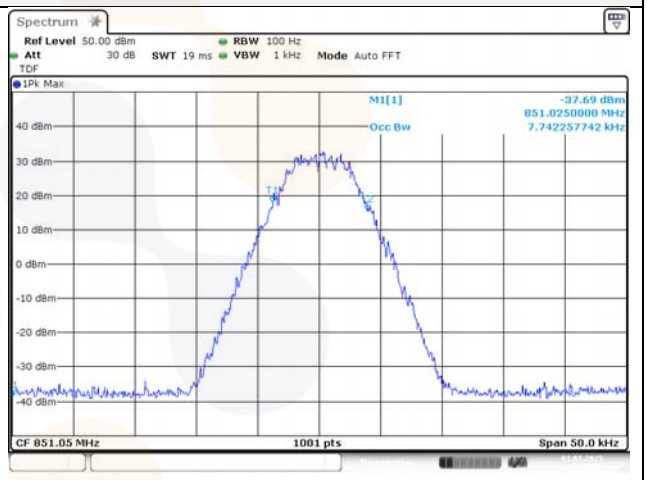
815.05 ㎒



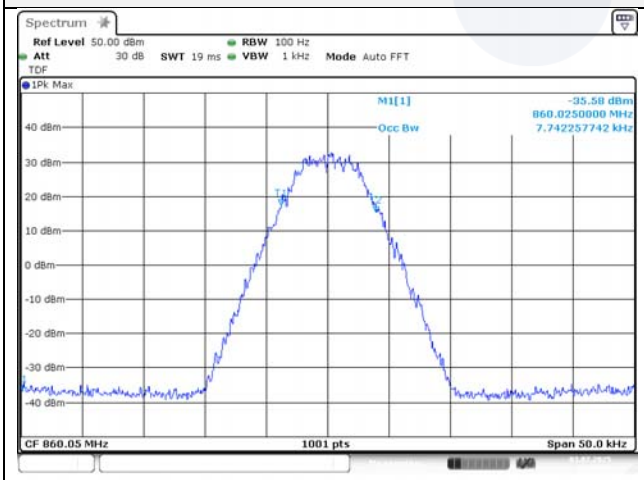
823.95 ㎒



851.05 ㎒



860.05 ㎒



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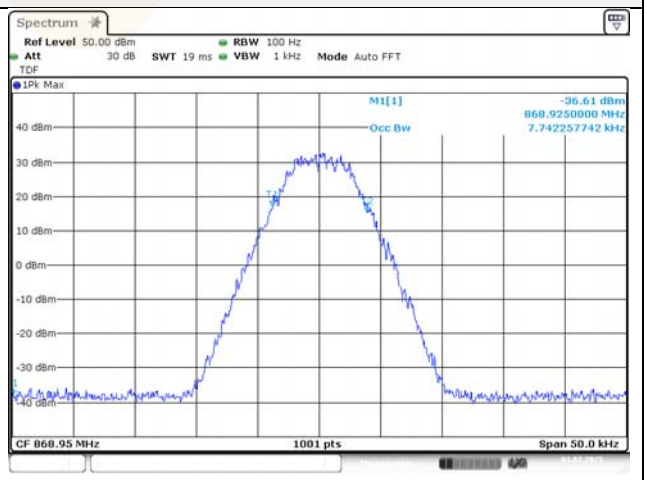
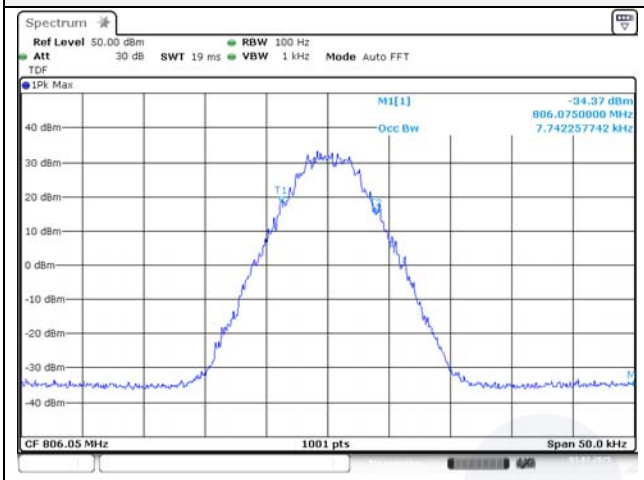


Test mode: 7K60FXD/7K60FXE / High Power

806.05 ㎒



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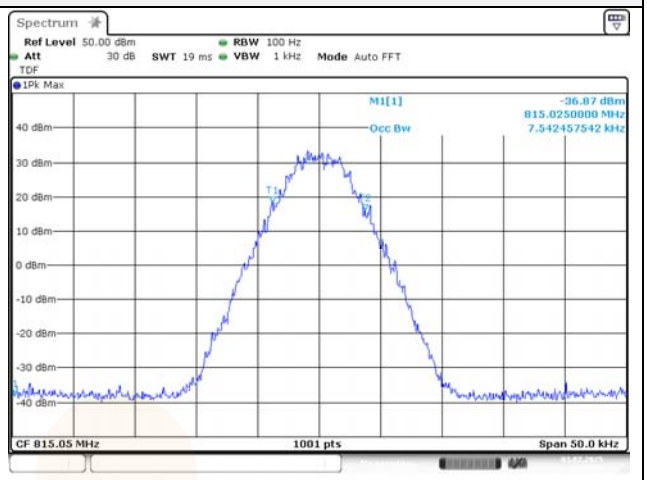
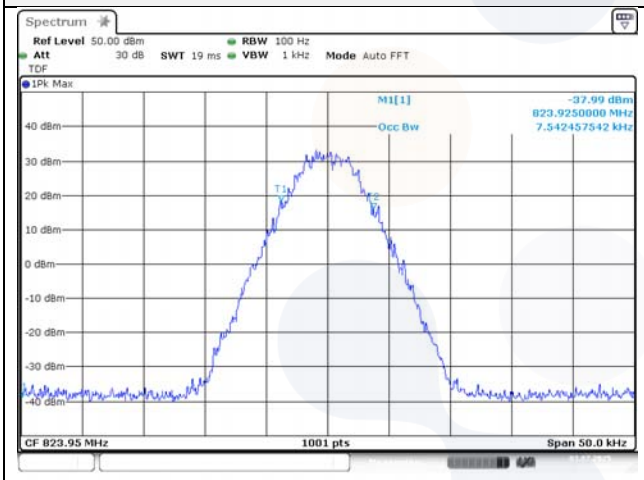
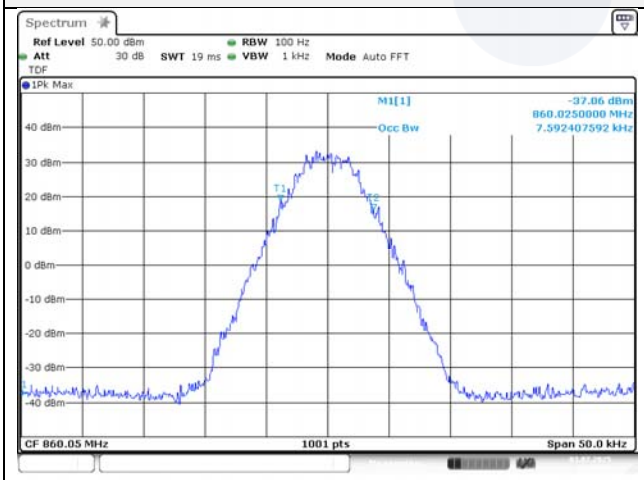


823.95 ㎒



851.05 ㎒

860.05 ㎒



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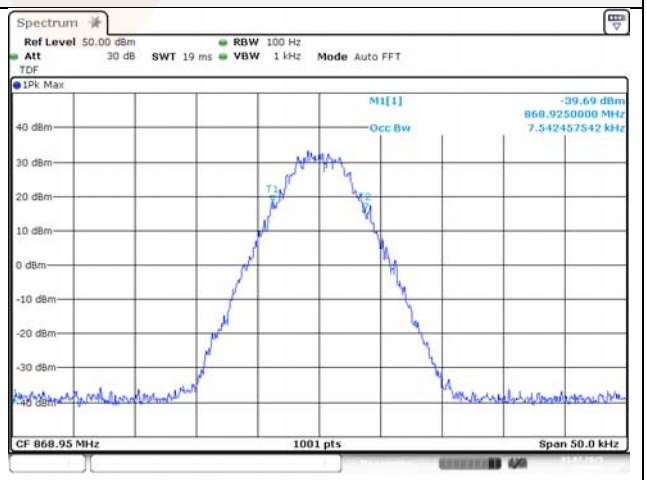
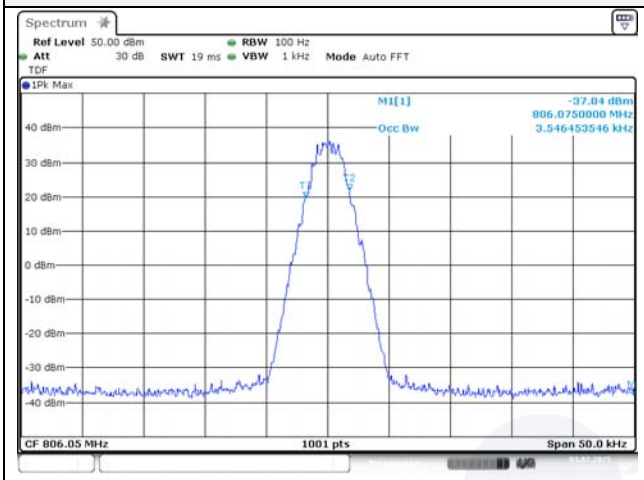


Test mode: 4K00F1E/4K00F1D/4K00F7W / High Power

806.05 ㎒



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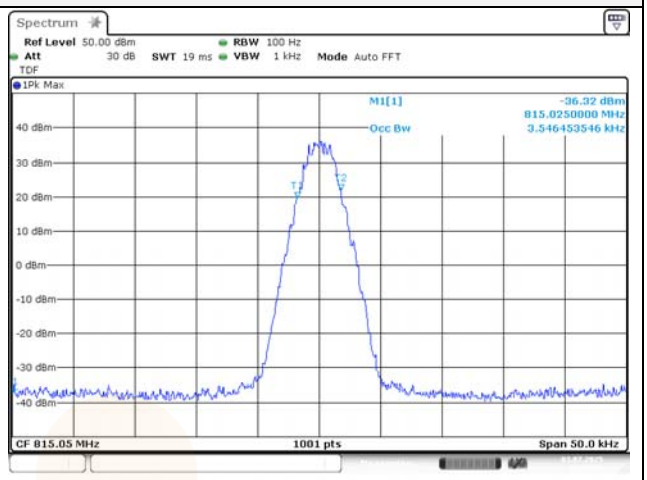

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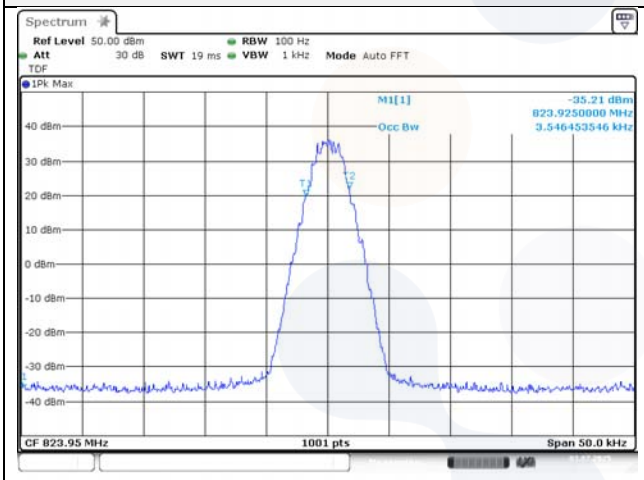

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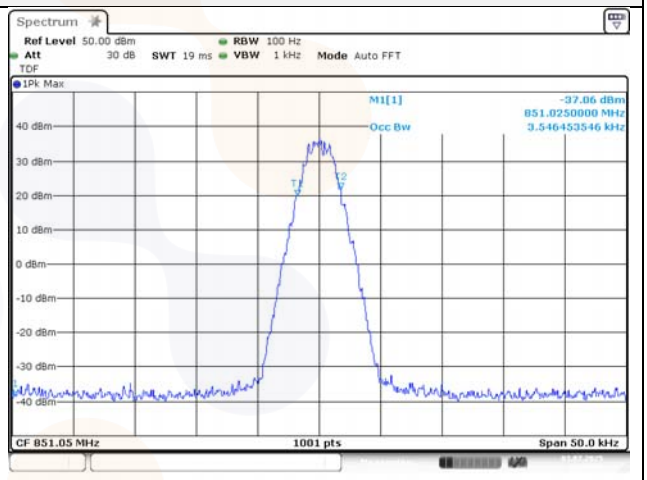
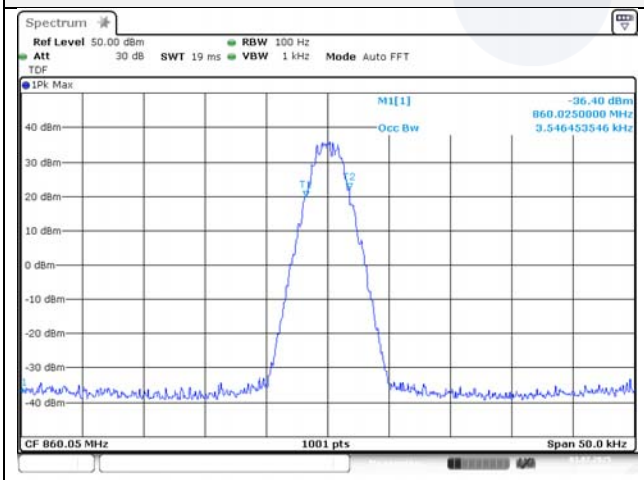
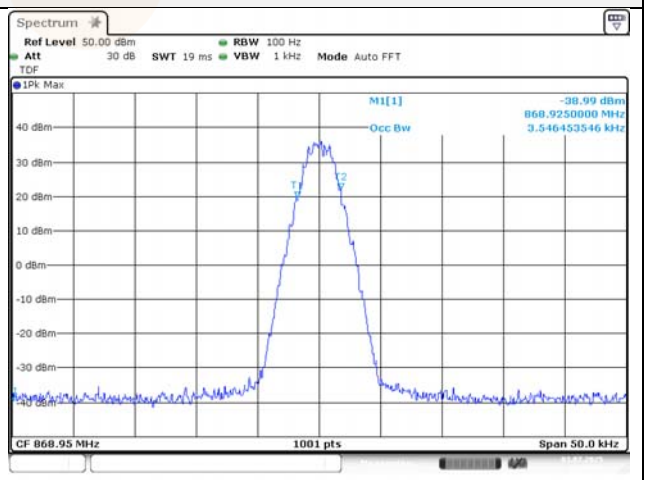


860.05 ㎒

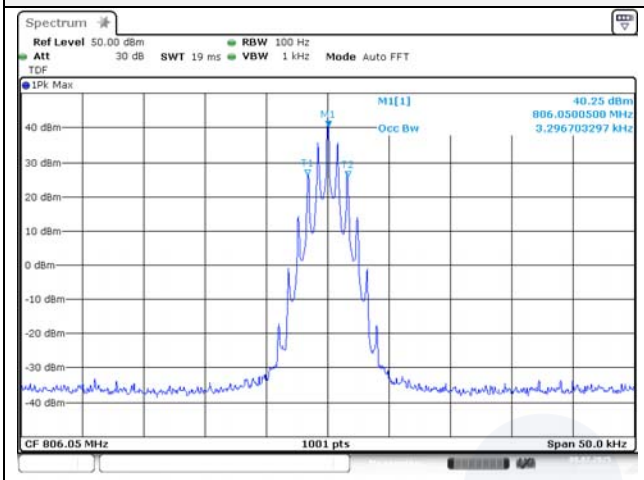


868.95 ㎒



Test mode: 4K00F2D / High Power

806.05 ㎒



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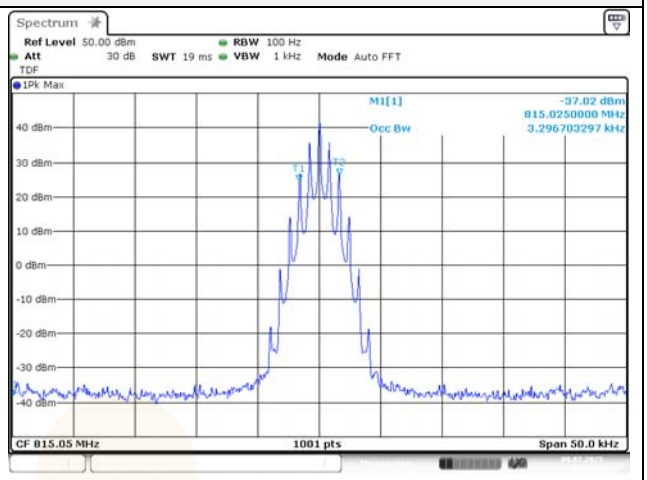

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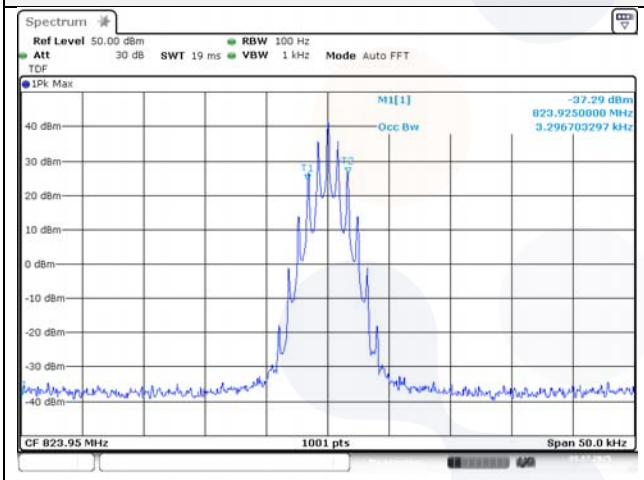

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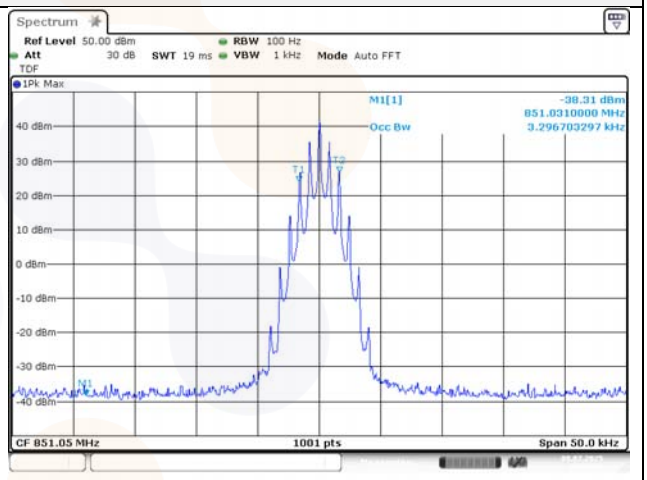
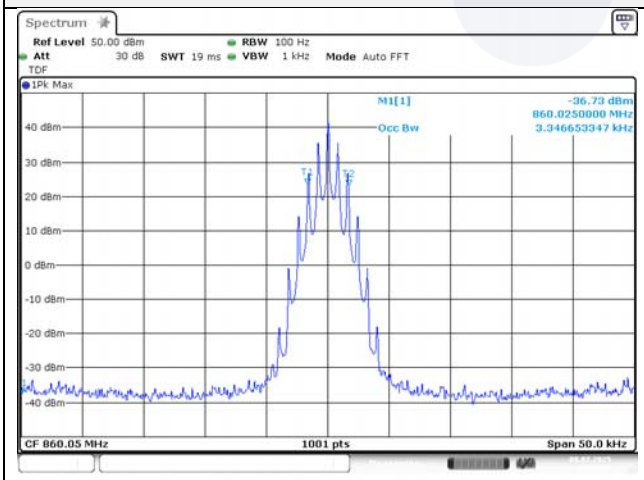
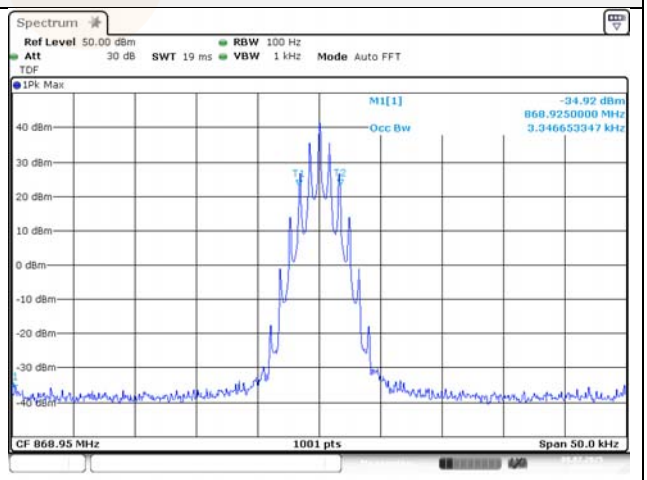


860.05 ㎒

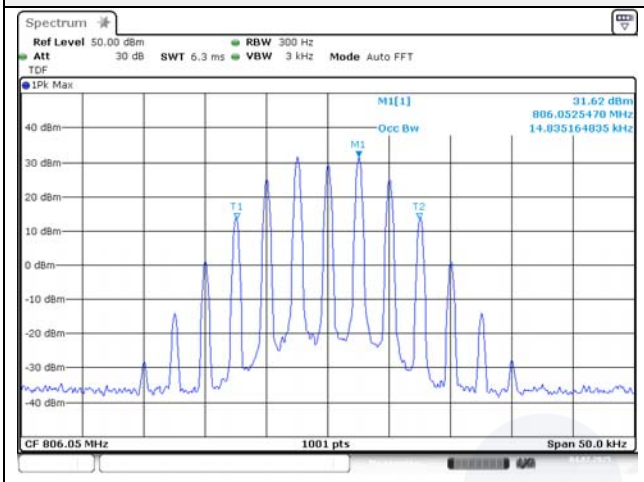


868.95 ㎒

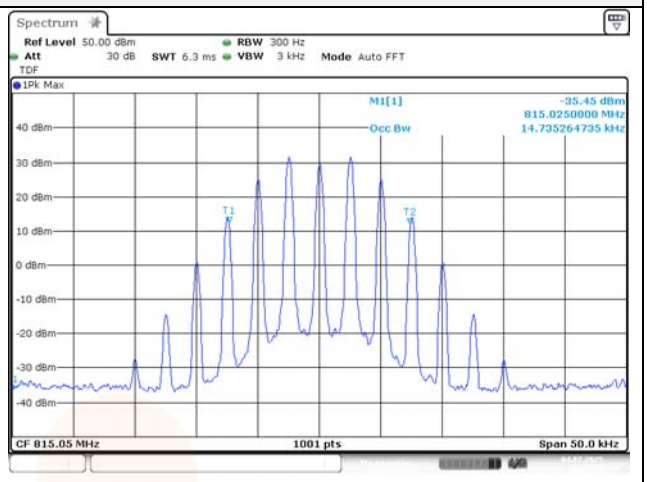


Test mode: 16K0F3E / Low Power

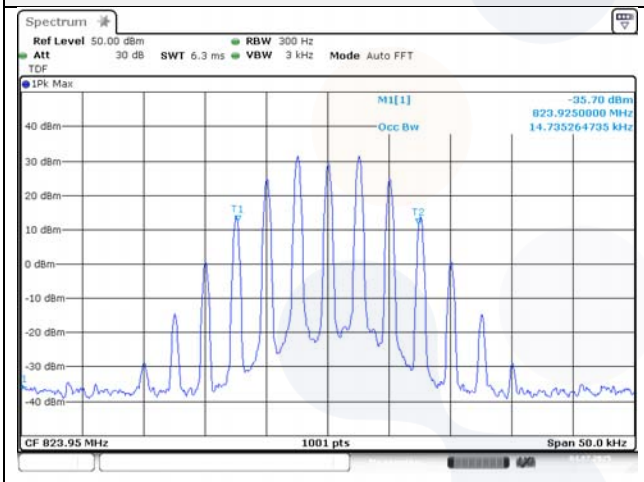
806.05 ㎒



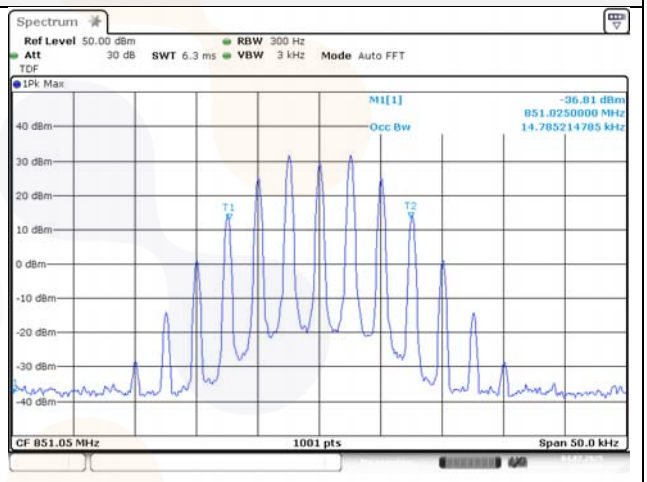
815.05 ㎒



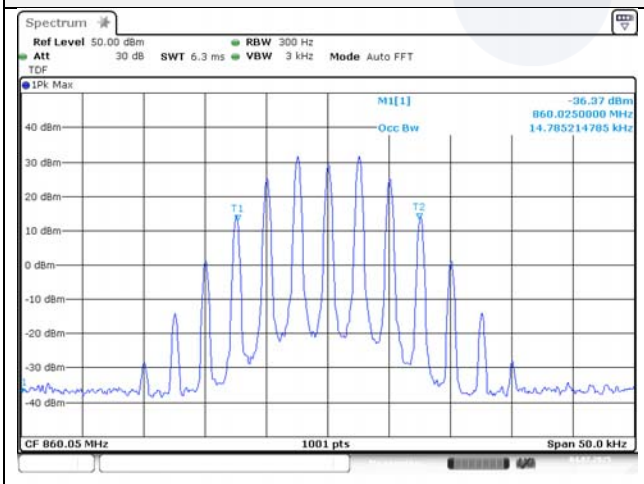
823.95 ㎒



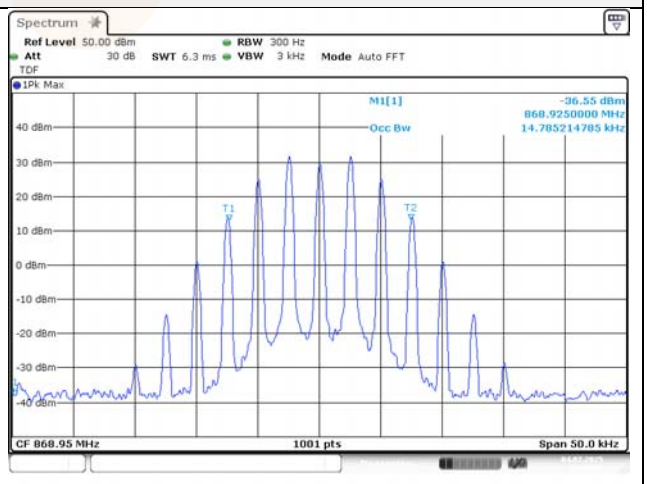
851.05 ㎒



860.05 ㎒

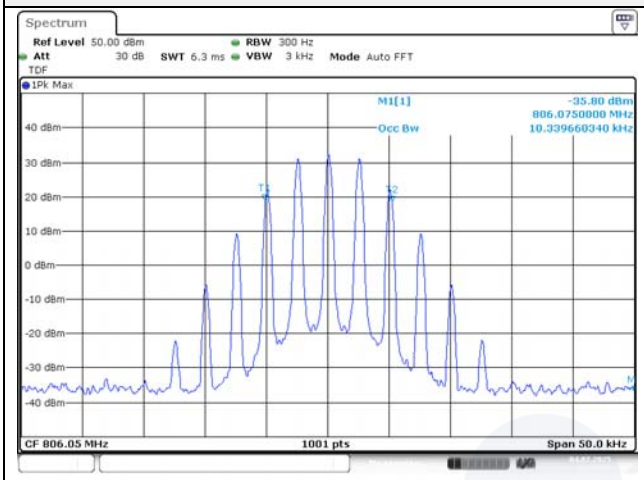


868.95 ㎒

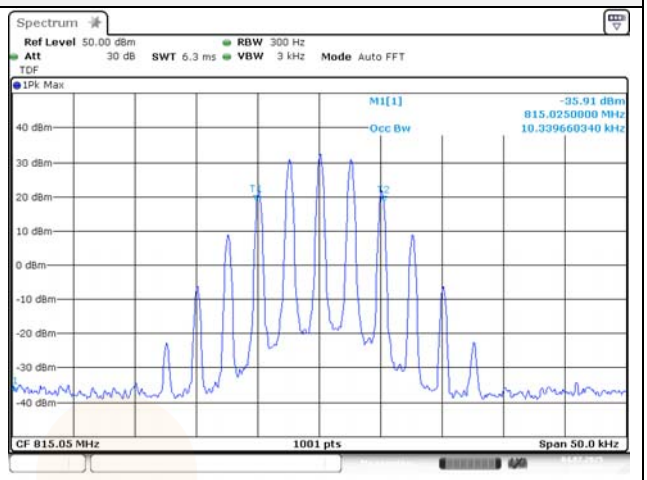


Test mode: 14K0F3E / Low Power

806.05 ㎒



815.05 ㎒



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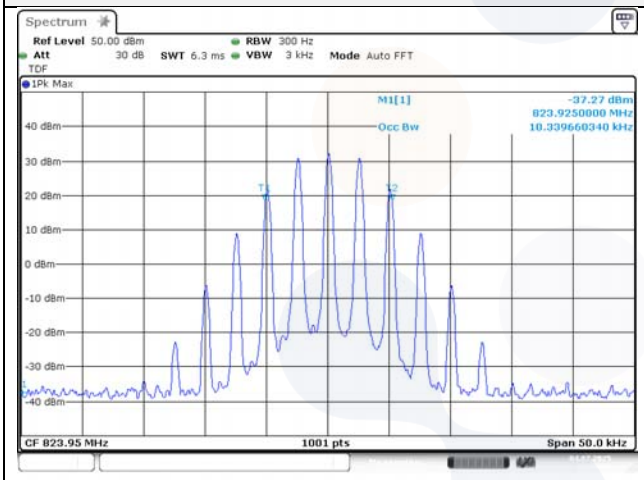
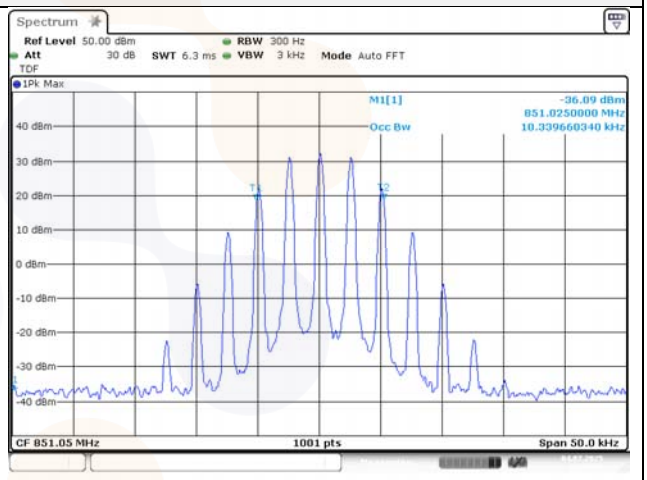
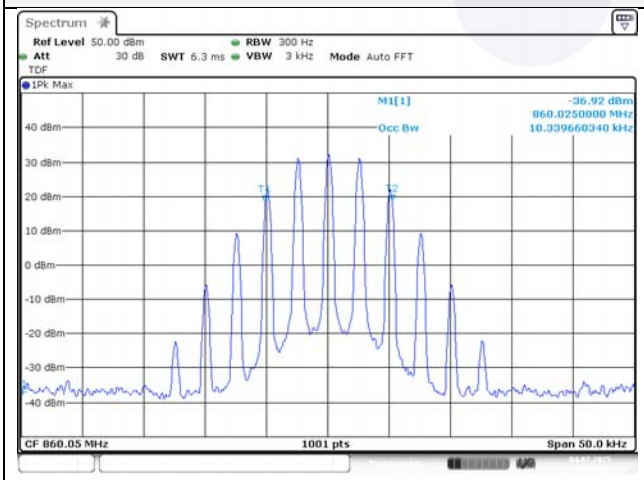


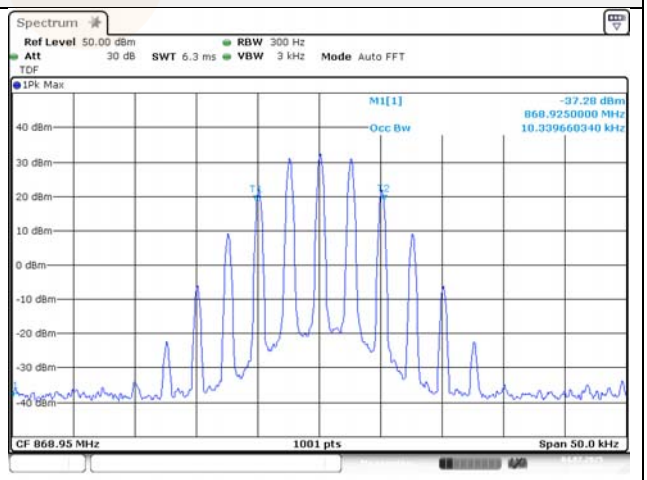
851.05 ㎒



860.05 ㎒

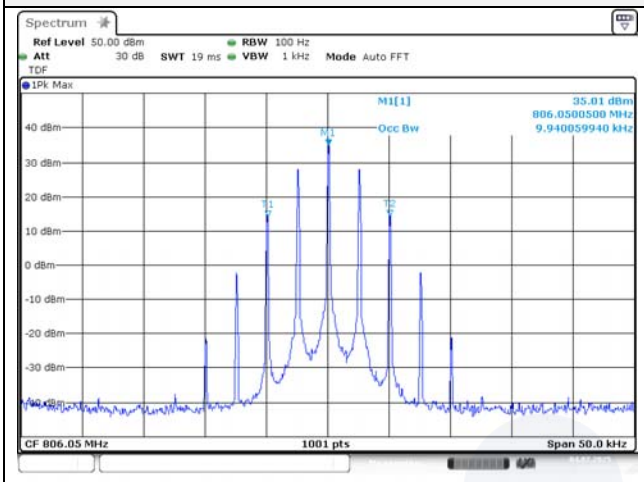


868.95 ㎒

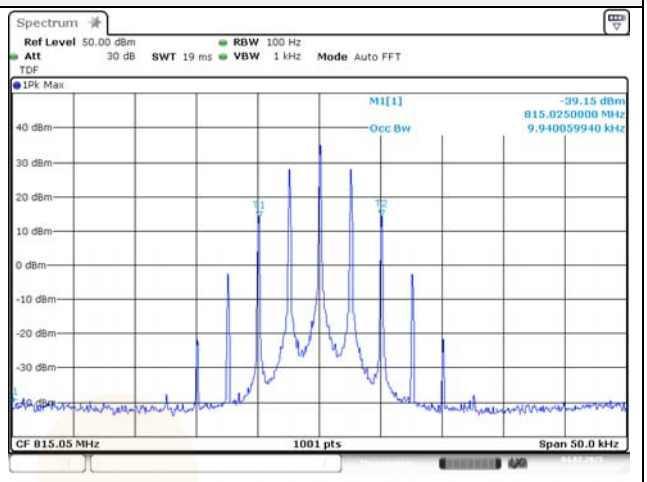


Test mode: 11K0F3E / Low Power

806.05 ㎒



815.05 ㎒



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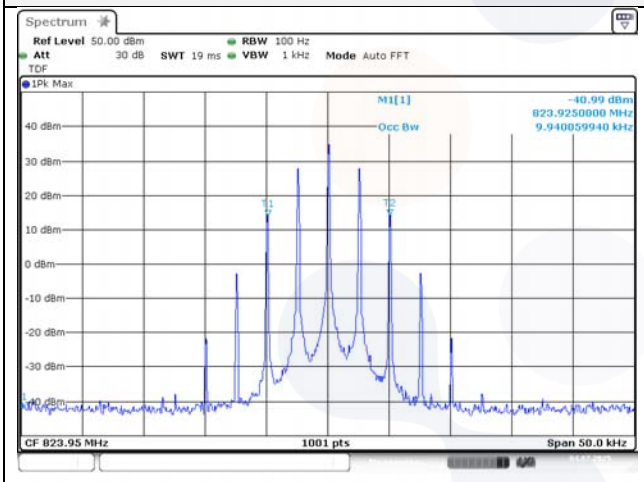
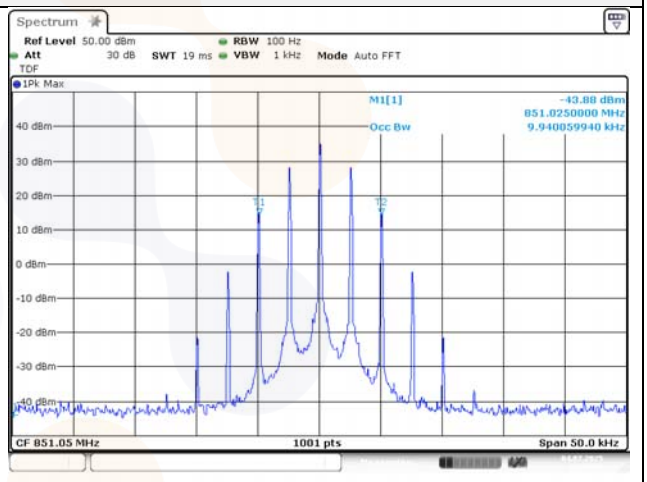
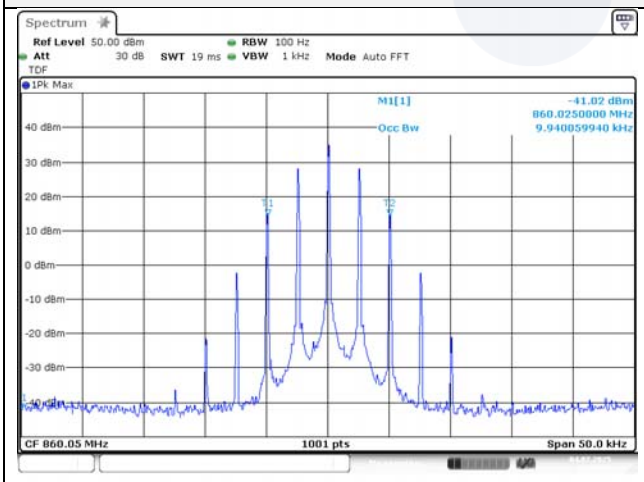


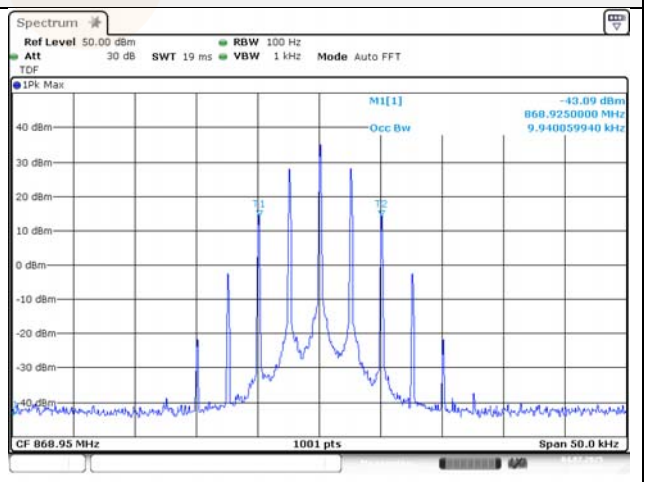
851.05 ㎒



860.05 ㎒

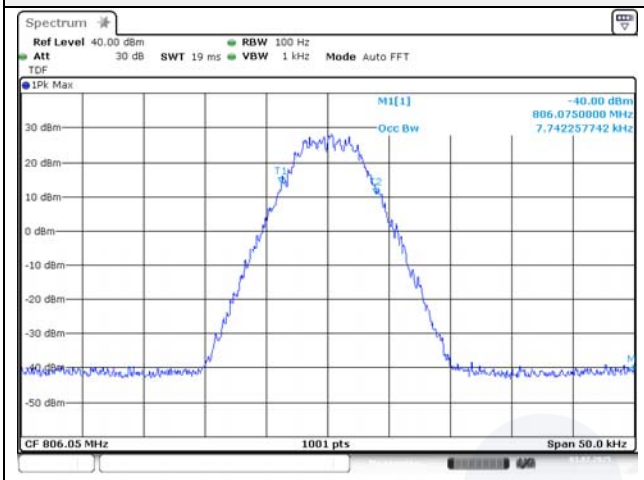


868.95 ㎒



Test mode: 8K30F1E/8K30F1D/8K30F7W / Low Power

806.05 ㎒



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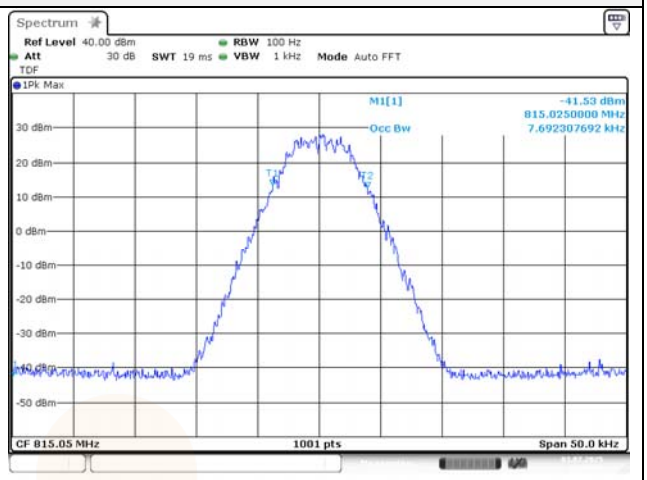
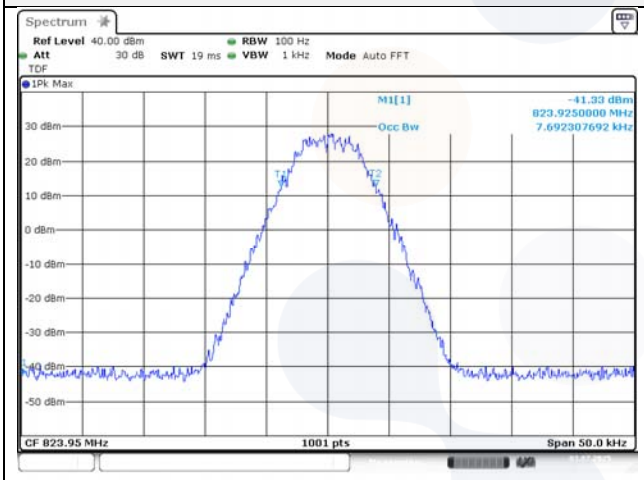
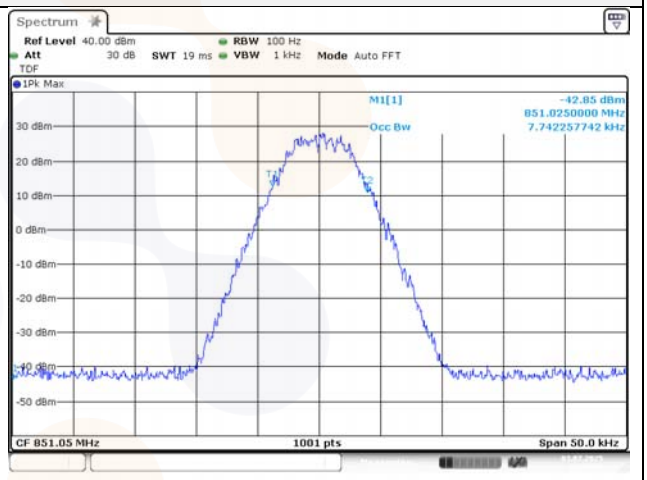


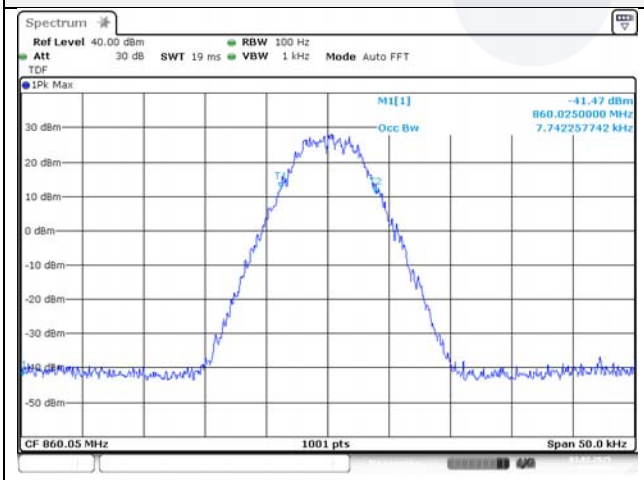
823.95 ㎒



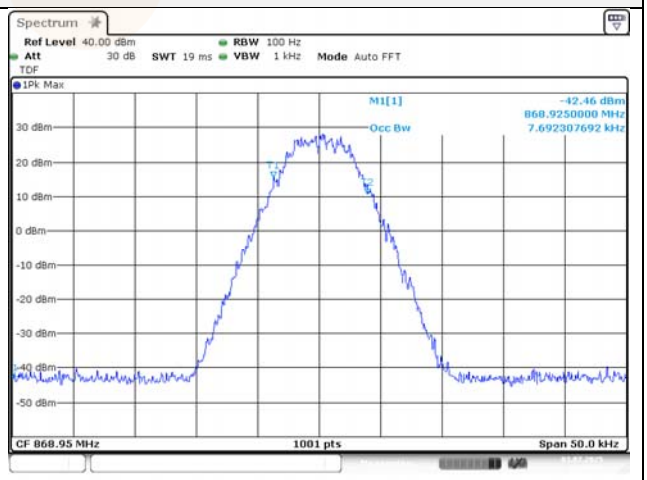
851.05 ㎒



860.05 ㎒

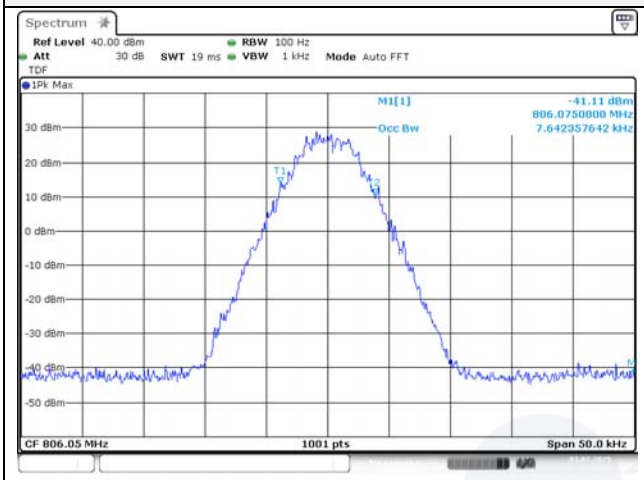


868.95 ㎒



Test mode: 7K60FXD/7K60FXE / Low Power

806.05 ㎒



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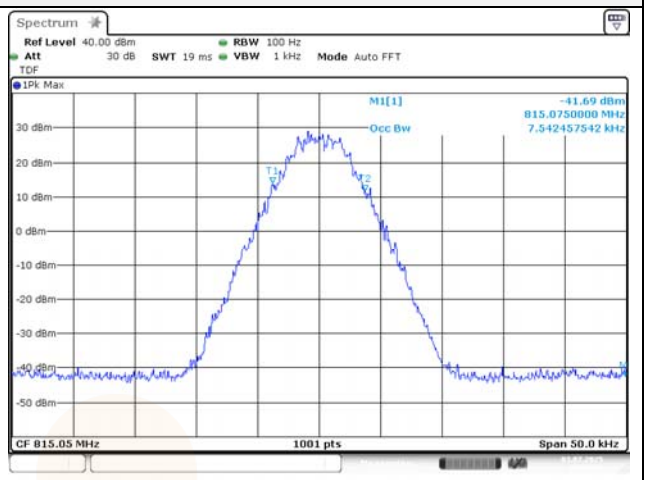
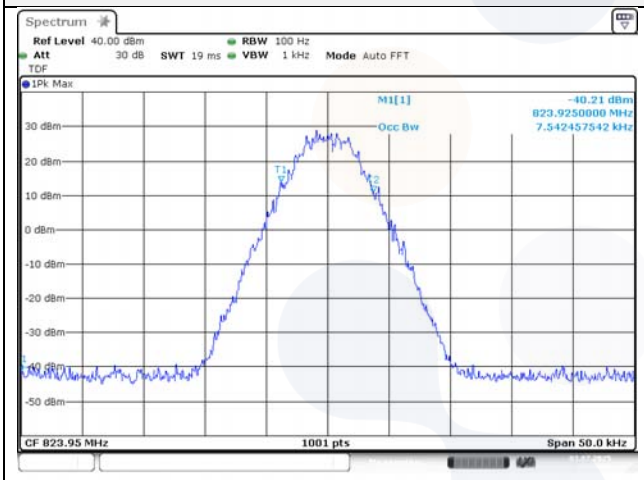
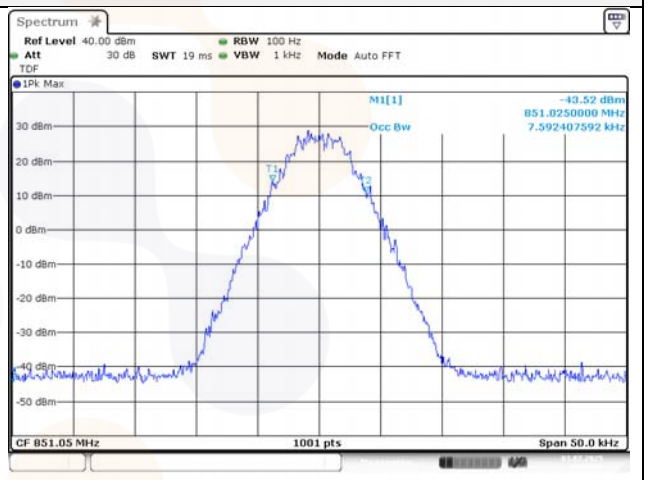


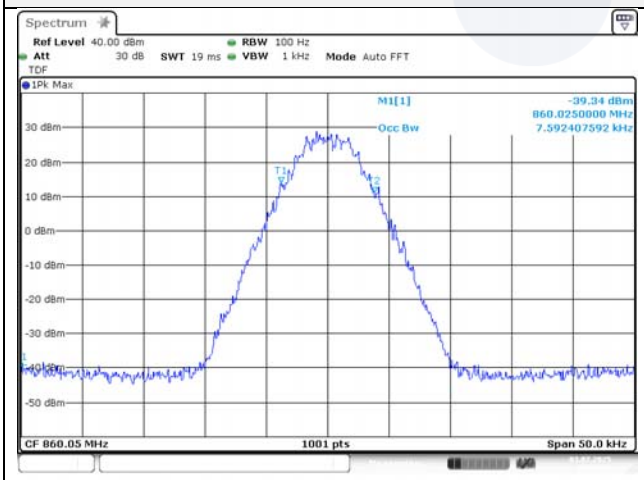
823.95 ㎒



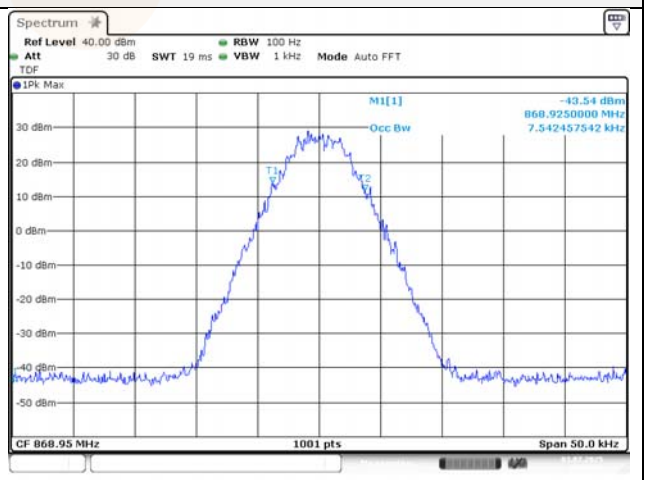
851.05 ㎒



860.05 ㎒

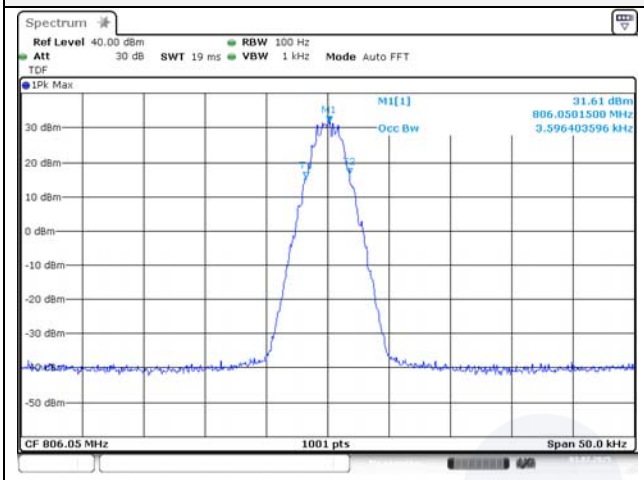


868.95 ㎒



Test mode: 4K00F1E/4K00F1D/4K00F7W / Low Power

806.05 ㎒



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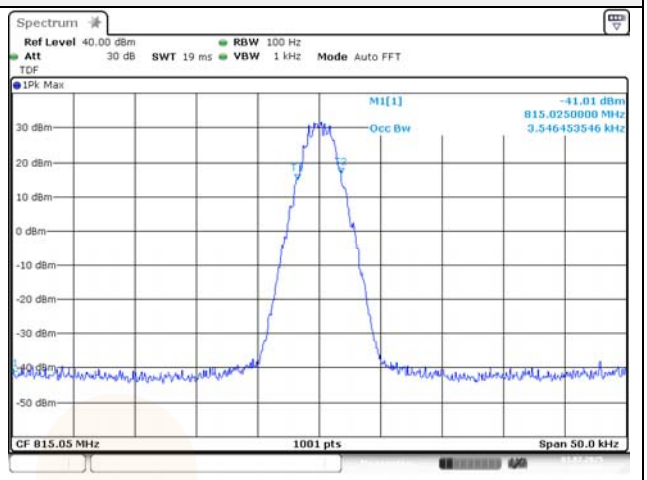
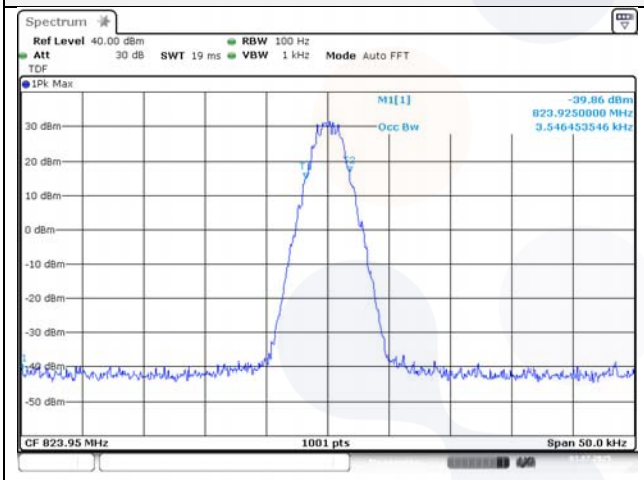
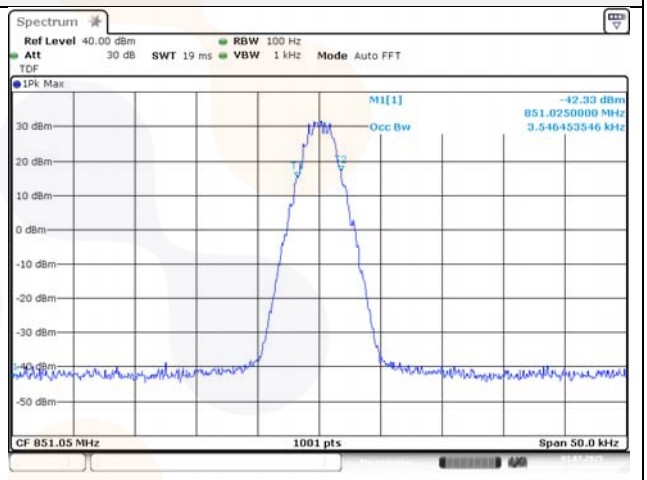


823.95 ㎒



851.05 ㎒



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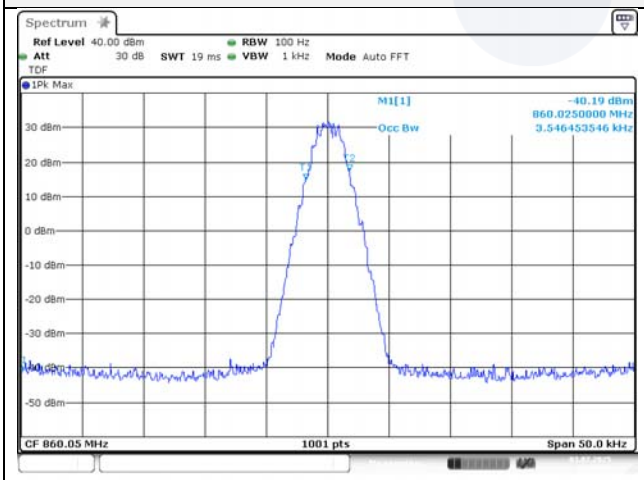

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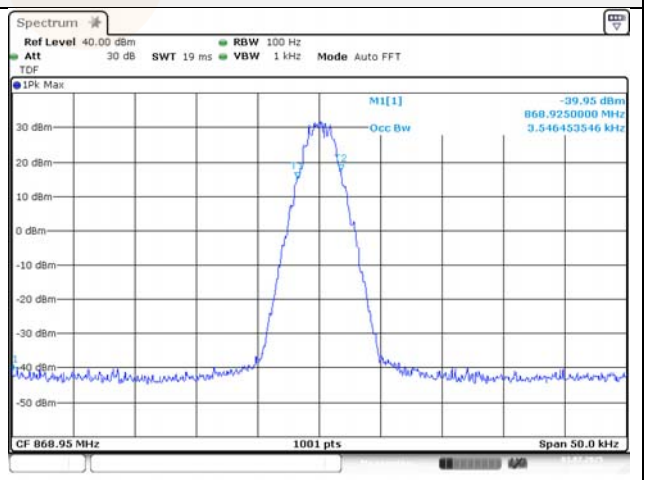
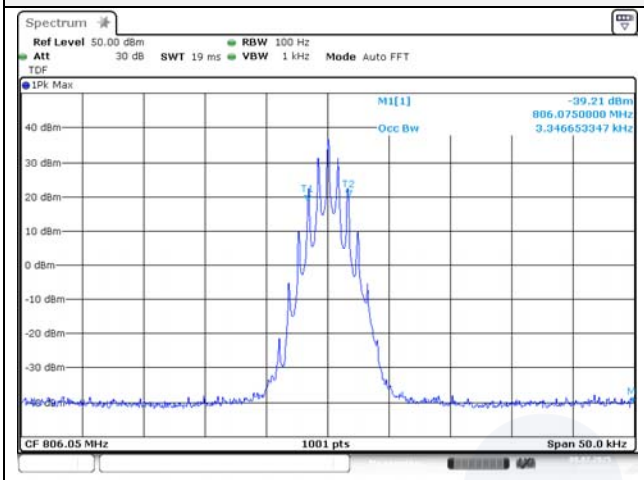


Test mode: 4K00F2D / Low Power

806.05 ㎒



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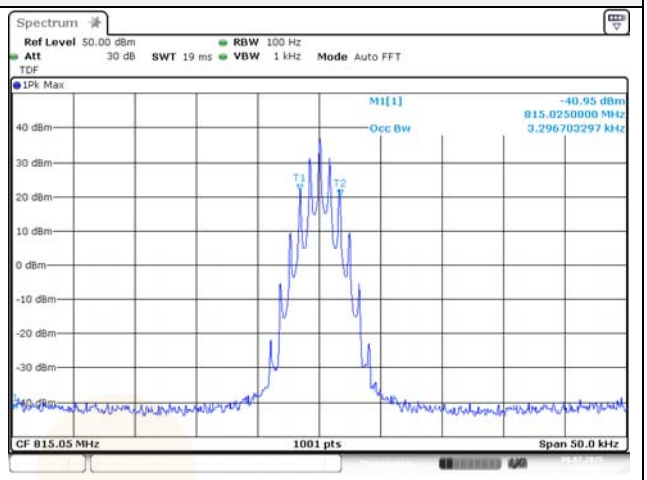

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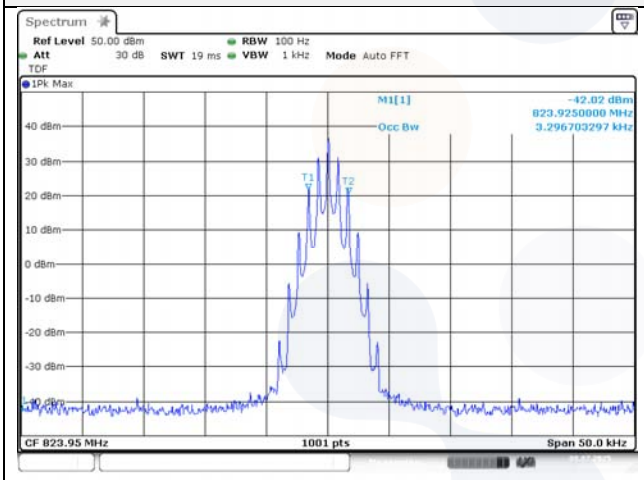

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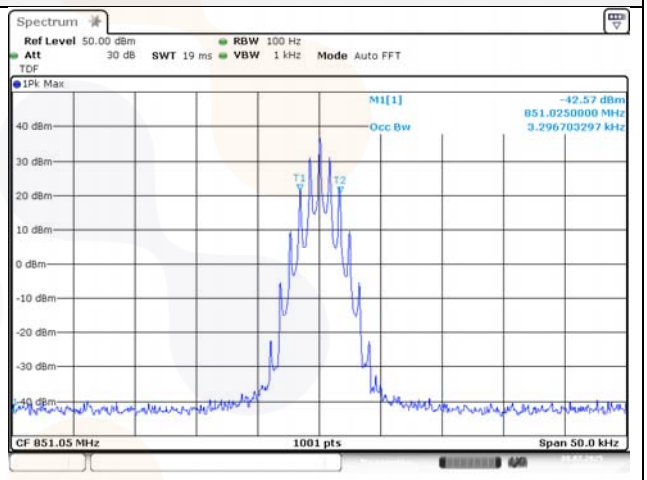

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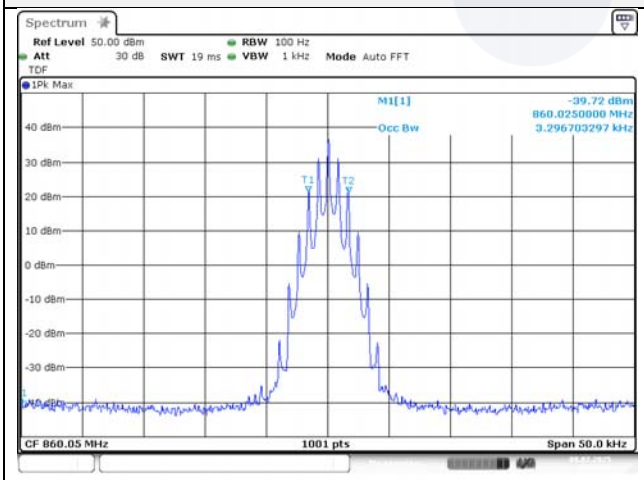

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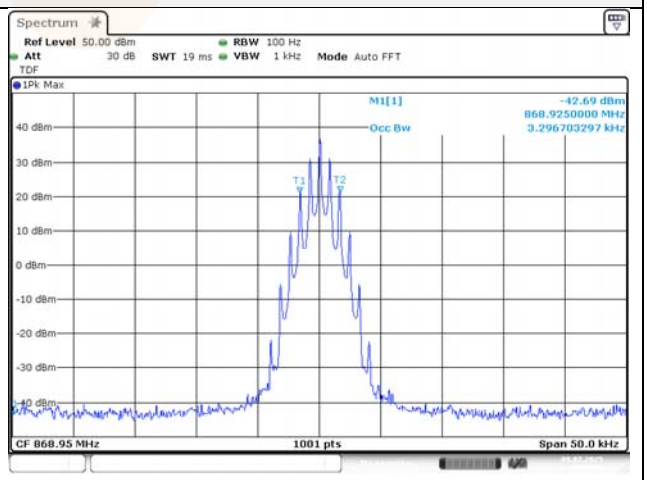
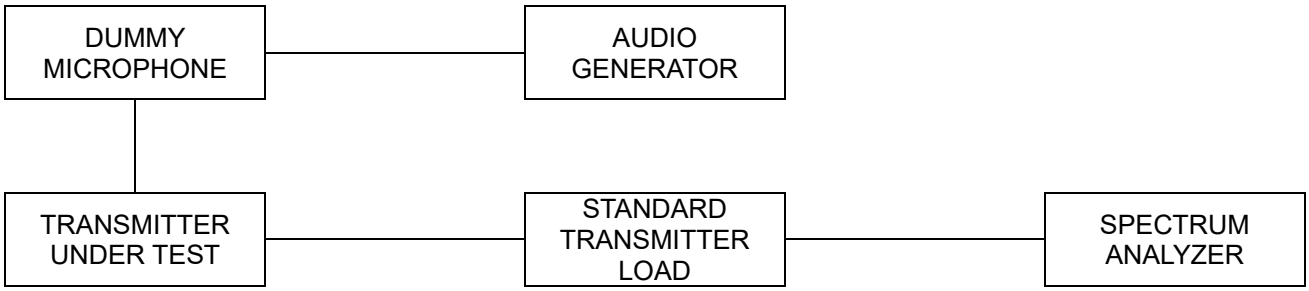


6.3. Emission Mask

Test setup



Limit

FCC

According to §2.1049(c)(1),

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured under the following conditions as applicable:

(c) Radiotelephone transmitters equipped with a device to limit modulation or peak envelope power shall be modulated as follows. For single sideband and independent sideband transmitters, the input level of the modulating signal shall be 10 dB greater than that necessary to produce rated peak envelope power.

(1) Other than single sideband or independent sideband transmitters—when modulated by a 2500 Hz tone at an input level 16 dB greater than that necessary to produce 50 percent modulation. The input level shall be established at the frequency of maximum response of the audio modulating circuit.

According to §90.210,

Except as indicated elsewhere in this part, transmitters used in the radio services governed by this part must comply with the emission masks outlined in this section. Unless otherwise stated, per paragraphs (d)(4), (e)(4), and (o) of this section, measurements of emission power can be expressed in either peak or average values provided that emission powers are expressed with the same parameters used to specify the unmodulated transmitter carrier power. For transmitters that do not produce a full power unmodulated carrier, reference to the unmodulated transmitter carrier power refers to the total power contained in the channel bandwidth. Unless indicated elsewhere in this part, the table in this section specifies the emission masks for equipment operating under this part.

(b) Emission Mask B. For transmitters that are equipped with an audio low-pass filter, the power of any emission must be attenuated below the unmodulated carrier power (P) as follows:

(1) On any frequency removed from the assigned frequency by more than 50 percent, but not more than 100 percent of the authorized bandwidth: At least 25 dB.

(2) On any frequency removed from the assigned frequency by more than 100 percent, but not more than 250 percent of the authorized bandwidth: At least 35 dB.

(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 43 + 10 log (P) dB.

(g) Emission Mask G. For transmitters that are not equipped with an audio low-pass filter, the power of any emission must be attenuated below the unmodulated carrier power (P) as follows:

(1) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in kHz) of more than 10 kHz, but no more than 250 percent of the authorized bandwidth: At least 116 log (fd/6.1) dB, or 50 + 10 log (P) dB, or 70 dB, whichever is the lesser attenuation;

(2) On any frequency removed from the center of the authorized bandwidth by more than 250 percent of the authorized bandwidth: At least 43 + 10 log (P) dB.

(h) Emission Mask H. For transmitters that are not equipped with an audio low-pass filter, the power of any emission must be attenuated below the unmodulated carrier power (P) as follows:

(1) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in kHz) of 4 kHz or less: Zero dB.

(2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in kHz) of more than 4 kHz, but no more than 8.5 kHz: At least 107 log (fd/4) dB;

(3) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in kHz) of more than 8.5 kHz, but no more than 15 kHz: At least 40.5 log (fd/1.16) dB;

(4) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in kHz) of more than 15 kHz, but no more than 25 kHz: At least 116 log (fd/6.1) dB;

(5) On any frequency removed from the center of the authorized bandwidth by more than 25 kHz: At least 43 + 10 log (P) dB.

Table 1 to § 90.210—Applicable Emission Masks

Frequency band (㎒)	Mask for equipment with audio low pass filter	Mask for equipment without audio low pass filter
Below 25 [1]	A or B	A or C
25-50	B	C
72-76	B	C
150-174 [2]	B, D, or E	C, D, or E
150 paging only	B	C
220-222	F	F
421-512 [2 5]	B, D, or E	C, D, or E
450 paging only	B	G
806-809/851-854 [6]	B	H
809-824/854-869 [3 5]	B, D	D, G
896-901/935-940	I	J
902-928	K	K
929-930	B	G
4940-4990	L or M	L or M
5895-5925 [4]		
All other bands	B	C

[1] Equipment using single sideband J3E emission must meet the requirements of Emission Mask A. Equipment using other emissions must meet the requirements of Emission Mask B or C, as applicable.

[2] Equipment designed to operate with a 25 ㎑ channel bandwidth must meet the requirements of Emission Mask B or C, as applicable. Equipment designed to operate with a 12.5 ㎑ channel bandwidth must meet the requirements of Emission Mask D, and equipment designed to operate with a 6.25 ㎑ channel bandwidth must meet the requirements of Emission Mask E.

[3] Equipment used in this licensed to EA or non-EA systems shall comply with the emission mask provisions of § 90.691 of this chapter.

[4] DSRCS Roadside Units in the 5895-5925 ㎒ band are governed under subpart M of this part.

[5] Equipment designed to operate on 25 ㎑ bandwidth channels must meet the requirements of either Emission Mask B or G, whichever is applicable, while equipment designed to operate on 12.5 ㎑ bandwidth channels must meet the requirements of Emission Mask D. Equipment designed to operate on 25 ㎑ bandwidth channels may alternatively meet the Adjacent Channel Power limits of § 90.221.

[6] Transmitters utilizing analog emissions that are equipped with an audio low-pass filter must meet Emission Mask B. All transmitters utilizing digital emissions and those transmitters using analog emissions without an audio low-pass filter must meet Emission Mask H.

According to §90.691,

(a) Out-of-band emission requirement shall apply only to the “outer” channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 ㎑, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 $Log_{10}(f/6.1)$ decibels or 50 + 10 $Log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 ㎑.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 ㎑, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + $10Log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 ㎑.

(b) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

IC

According to §RSS-119(5.5),

For the purpose of this document, channel bandwidth is the channel width in which the equipment is designed to operate.

The maximum permissible occupied bandwidth shall not exceed the authorized bandwidth specified in Table 3 for the equipment’s frequency band. The authorized bandwidth is defined as the maximum width of the band of frequencies used to derive spectrum masks and is not necessarily equivalent to the bandwidth found on radio and spectrum licences.

The channel bandwidths, authorized bandwidths and spectrum masks are given in Table 3 for equipment having an output power greater than 120 ㎽. For equipment with an output power that does not exceed 120 ㎽, Section 5.10 applies.

Table 3 — Channel Bandwidths, Authorized Bandwidths and Spectrum Masks

Frequency Band (㎒)	Related SRSP for Channelling Plan and ERP	Channel Bandwidth (㎑)	Authorized Bandwidth (㎑)	Spectrum Masks for Equipment With Audio Filter	Spectrum Masks for Equipment Without Audio Filter
806-821/851-866 And 821-824/866-869	SRSP-502	25	20 22	B Y	G Y
		12.5	11.25	D	D
		6.25	6	E	E

Notes:

(1) Paging transmitters in the bands 406.1-430 ㎒ and 450-470 ㎒ are to use mask G.

(2) Provided that the ACP requirements in Section 5.8.9.1 are met, any authorized bandwidth that does not exceed the channel bandwidth can be used.

(3) Mask G applies if two 12.5 ㎑ channels are aggregated. Alternatively, a mask may be used if it does not produce more adjacent channel interference than narrowband (12.5 ㎑) channel equipment.

According to §RSS-119(5.8),
The spectrum plots of the unwanted emissions shall comply with the masks specified in Table 3. Descriptions of these permissible emission masks are given in the sections that follow.
The term displacement frequency, f_d, used in these sections refers to the difference between the channel frequency and the emission component frequency expressed in kHz, and p is the transmitter output power in Watts.

5.8.1 Emission Mask B for Transmitters Equipped With an Audio Low-Pass Filter
The power of any emission shall be attenuated below the transmitter output power P (dBW) as specified in Table 5.

Table 5 — Emission Mask B

Displacement Frequency, f_d (kHz)	Minimum Attenuation (dB)	Resolution Bandwidth (Hz)
$10 < f_d \leq 20$	25	300
$20 < f_d \leq 50$	35	300
$f_d > 50$	43 + 10 log10(p)	Specified in Section 4.2.1

5.8.3 Emission Mask D for Transmitters Equipped With or Without an Audio Low-Pass Filter
The power of any emission shall be attenuated below the transmitter output power P (dBW) as specified in Table 7.

Table 7 — Emission Mask D

Displacement Frequency, f_d (kHz)	Minimum Attenuation (dB)	Resolution Bandwidth (Hz)
$5.625 < f_d \leq 12.5$	7.27(fd−2.88)	Specified in Section 4.2.2
$f_d > 12.5$	Whichever is the lesser: 70 or 50 + 10 $\log_{10}$(p)	Specified in Section 4.2.2

5.8.4 Emission Mask E for Transmitters Equipped With or Without an Audio Low-Pass Filter
The power of any emission shall be attenuated below the transmitter output power P (dBW) as specified in Table 8.

Table 8 — Emission Mask E

Displacement Frequency, f_d (kHz)	Minimum Attenuation (dB)	Resolution Bandwidth (Hz)
$3 < f_d \leq 4.6$	Whichever is the lesser: 30 + 16.67(f_d−3) or 55 + 10 $\log_{10}$(p)	Specified in Section 4.2.2
$f_d > 4.6$	Whichever is the lesser: 57 or 55 + 10 $\log_{10}$(p)	Specified in Section 4.2.2

Test procedure

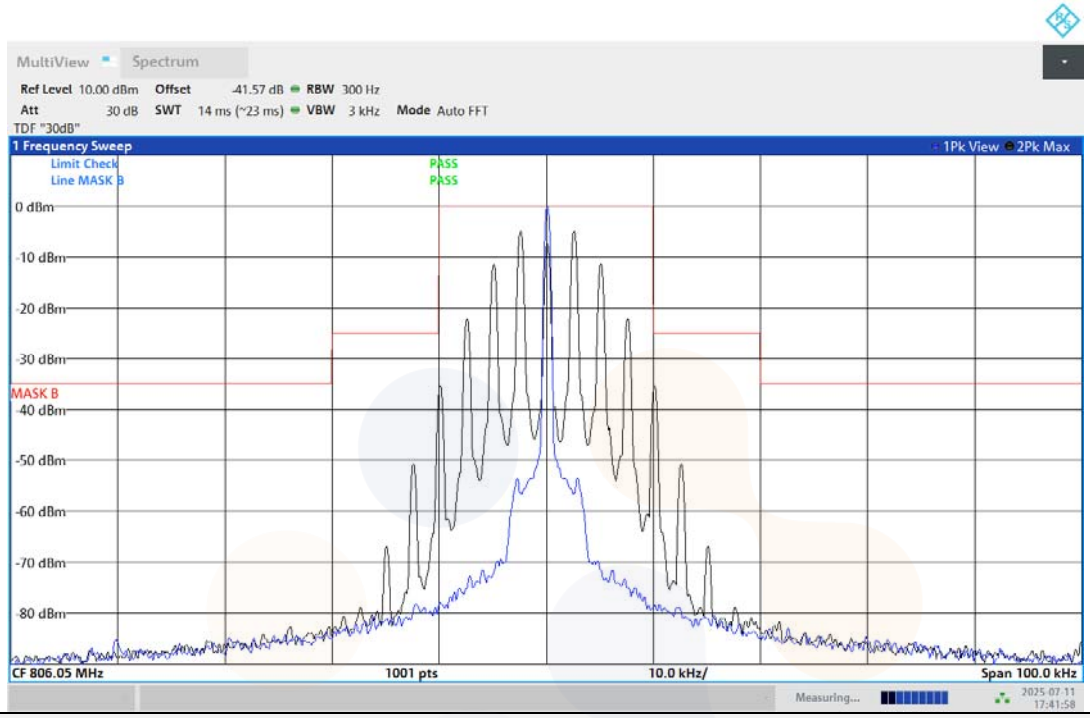
ANSI C63.26 Clause 5.7.3
ANSI/TIA-603-E Section 2.2.11.2
RSS-119 Section 4.2.1, 4.2.2

Test settings

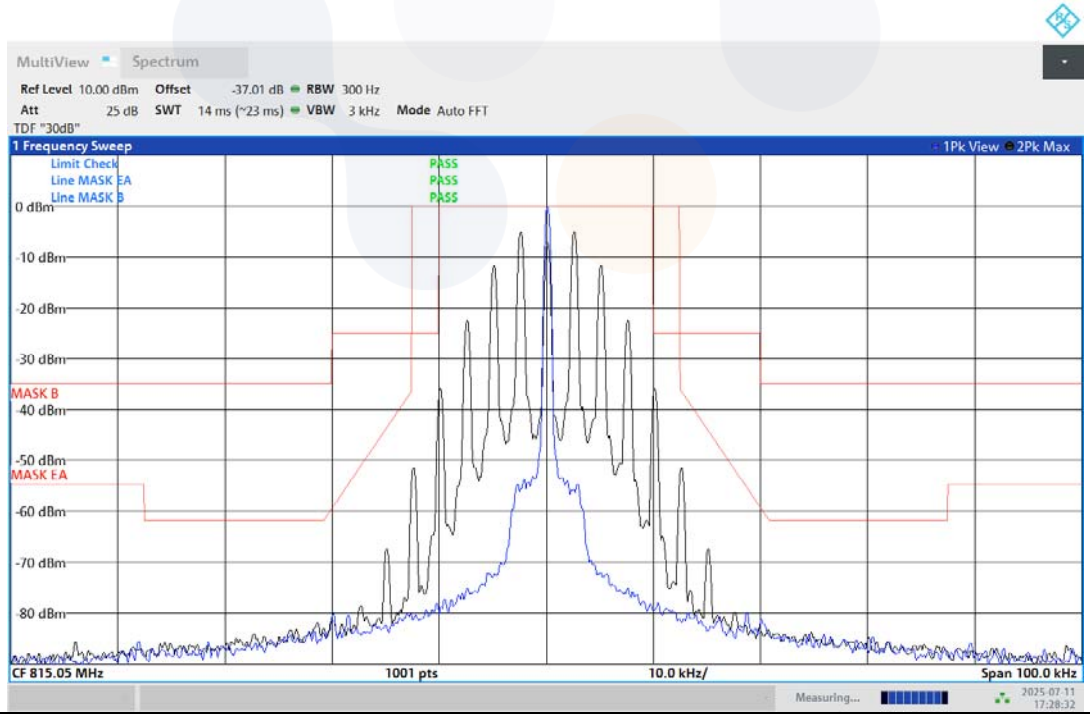
a) Set the spectrum analyzer center frequency to the block, band, or channel edge frequency.
b) Set the span wide enough to capture the fundamental emission closest to the authorized block or band edge, and to include all modulation products that spill into the immediately adjacent frequency band. In some cases, it may be possible to set the center frequency and span so as to encompass the fundamental emission and the unwanted out-of-band (band-edge) emissions on either side of the authorized block, band, or channel. This can be accomplished with a single (slow) sweep, if adequate overload protection and sufficient dynamic range can be maintained.
c) Set the number of points in sweep ≥ 2 × span / RBW.
d) Sweep time should be auto for peak detection. For rms detection the sweep time should be set as follows:
   1) If the device can be configured to transmit continuously (duty cycle ≥ 98%), set the (sweep time) > (number of points in sweep) × (symbol period) (e.g., by a factor of 10 × symbol period × number of points). Increasing the sweep time (i.e., slowing the sweep speed) will allow for averaging over multiple symbols
   2) If the device cannot transmit continuously (duty cycle < 98%), a gated sweep shall be used when possible (i.e., gate triggered such that the analyzer only sweeps when the device is transmitting at full power), set the sweep time > (number of points in sweep) × (symbol period) but the sweep time shall always be maintained at a value that is less than or equal to the minimum transmission time.
   3) If the device cannot be configured to transmit continuously (duty cycle < 98%) and a free running sweep must be used, set the sweep time so that the averaging is performed over multiple on/off cycles by setting the sweep time > (number of points in sweep) × (transmitter period) (i.e., the transmit on-time + the off-time). The spectrum analyzer readings shall subsequently be corrected by [10 log (1/duty cycle)]. This assumes that the transmission period and duty cycle is relatively constant (duty cycle variation ≤ ±2%).
   4) If the device cannot be configured to transmit continuously and a free-running sweep must be used, and if the transmissions exhibit a non-constant duty cycle (duty cycle variations > ±2%), set the sweep time so that the averaging is performed over the on-period by setting the sweep time > (symbol period) × (number of points), while also maintaining the sweep time < (transmitter on-time). The trace mode shall be set to max hold, since not every display point will be averaged only over just the on-time. Thus, multiple sweeps (e.g., 100) in maximum hold are necessary to ensure that the maximum power is measured.
e) The test report shall include the plots of the measuring instrument display and the measured data.
f) See Annex I for example emission mask plots.

Test results

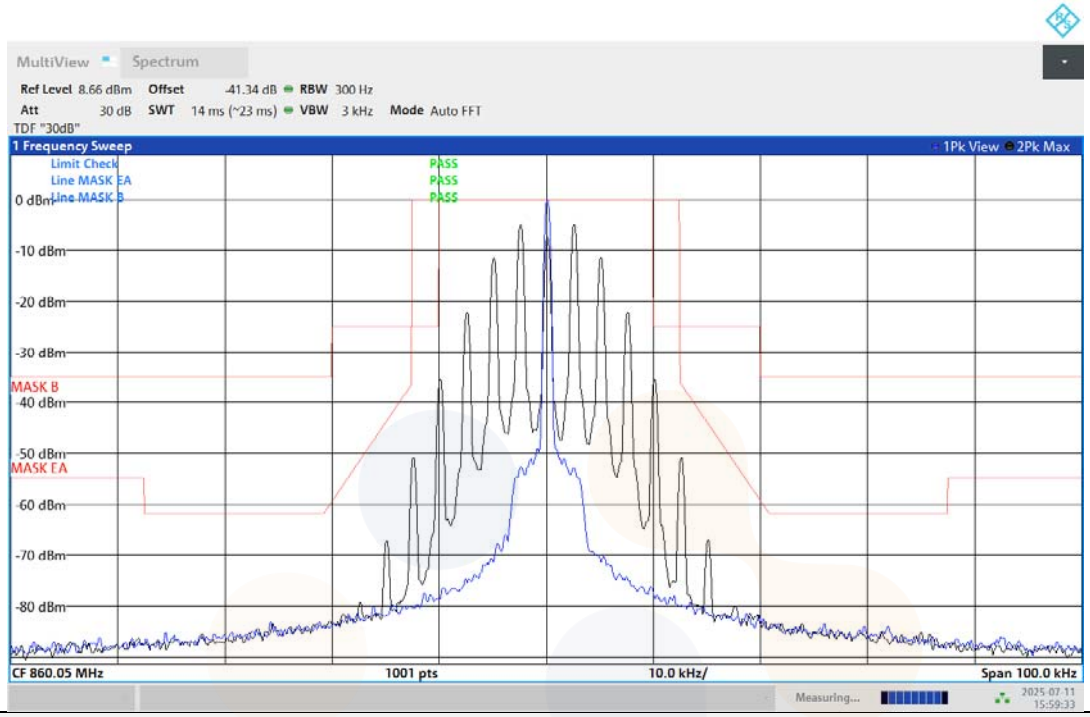
High Power / 16K0F3E / With Audio Filter / 806.05 ㎒
Emission Mask : FCC_B, IC_B



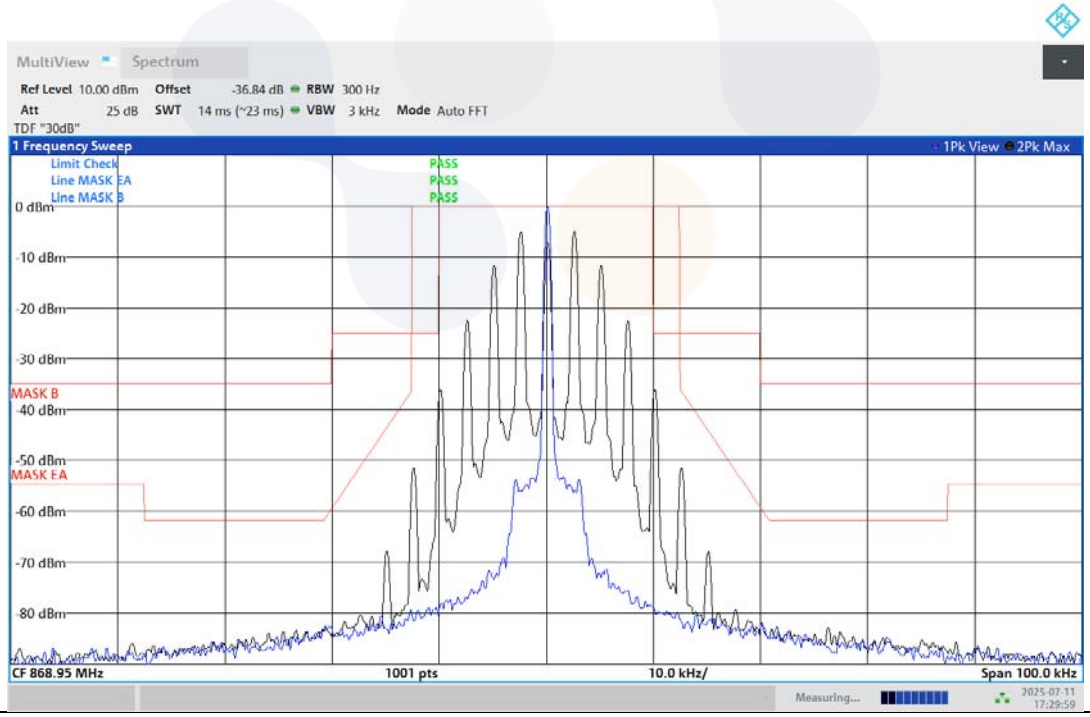
Low Power / 16K0F3E / With Audio Filter / 815.05 ㎒
Emission Mask : FCC_B/EA, IC_B



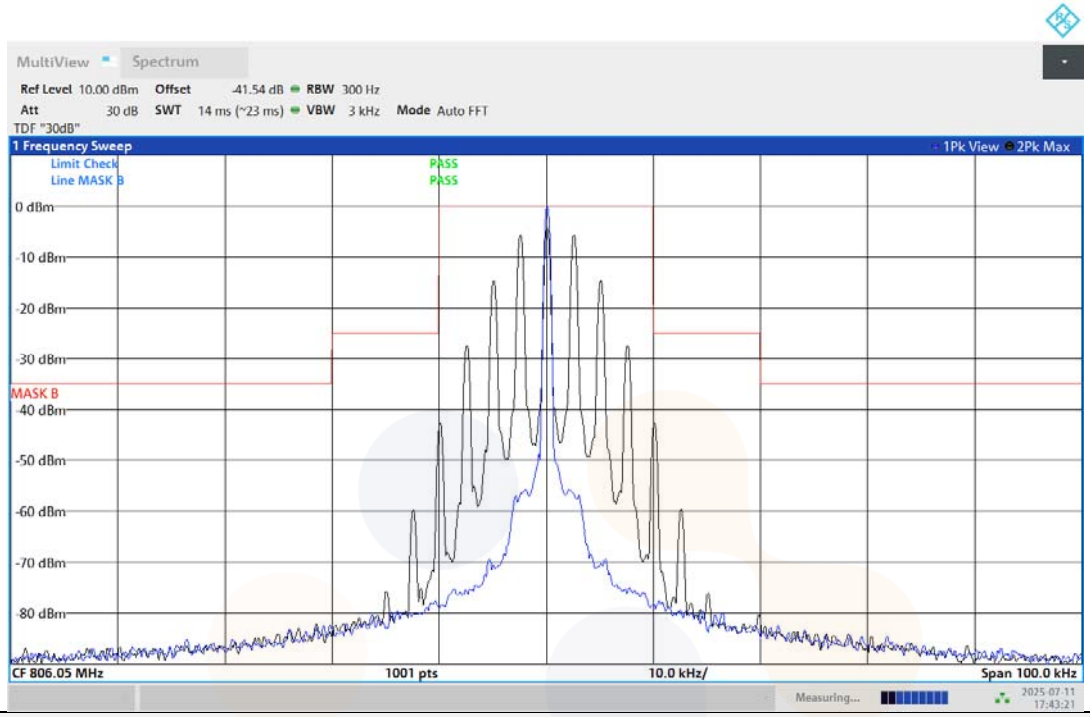
High Power / 16K0F3E / With Audio Filter / 860.05 ㎒
Emission Mask : FCC_B/EA, IC_B



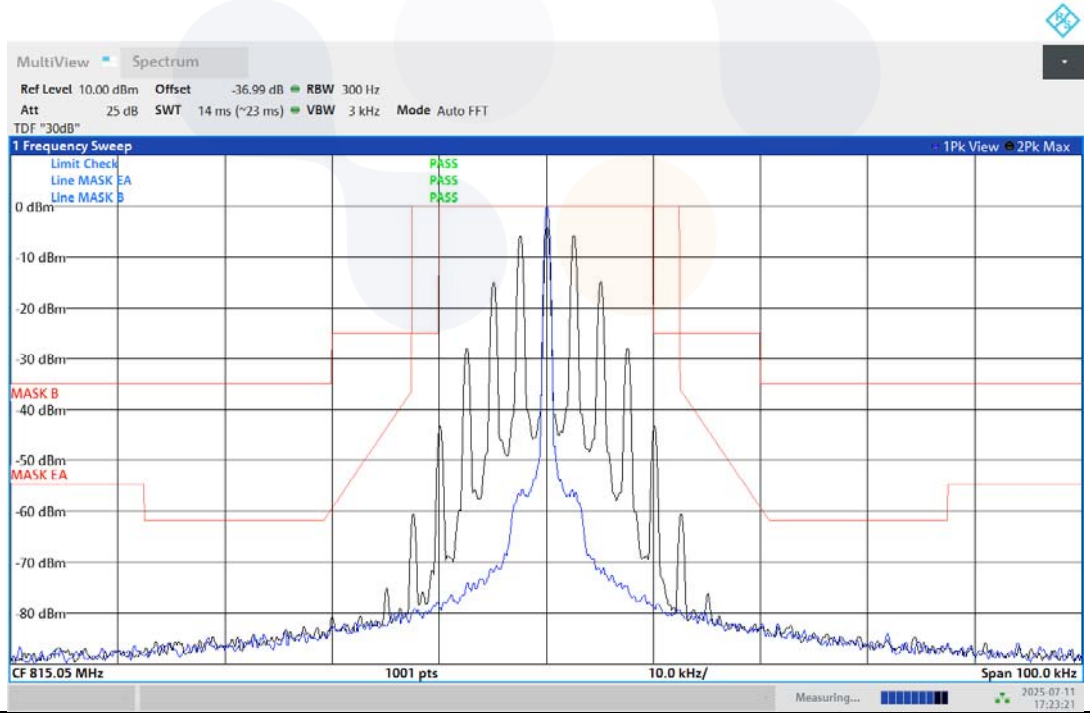
Low Power / 16K0F3E / With Audio Filter / 868.95 ㎒
Emission Mask : FCC_B/EA, IC_B



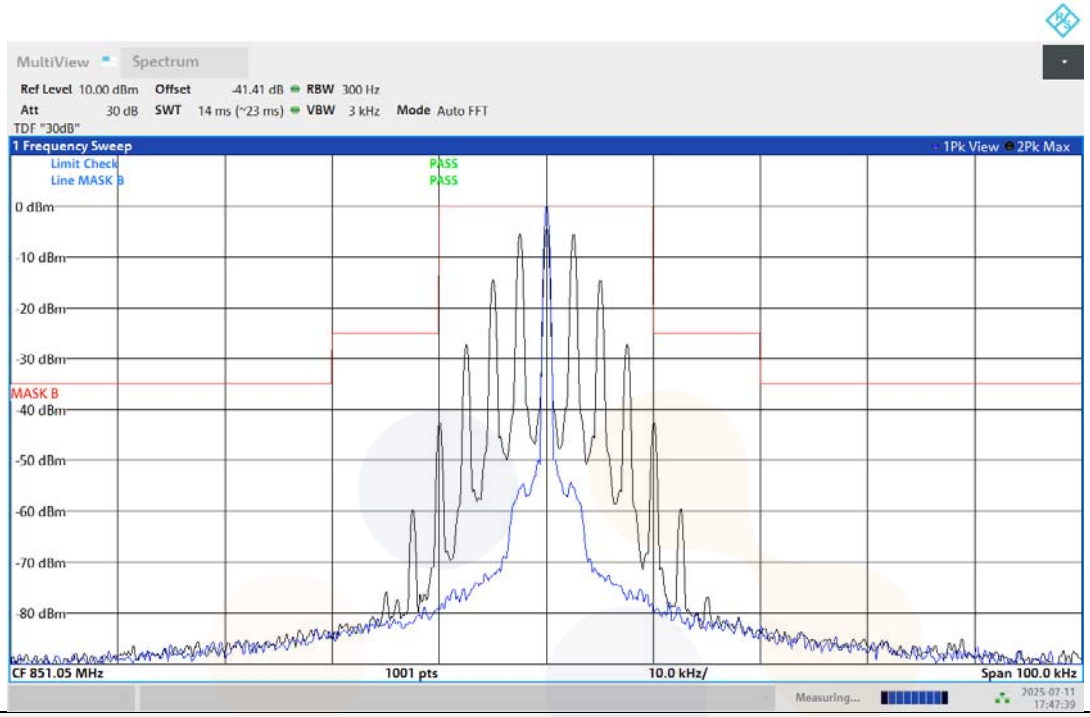
High Power / 14K0F3E / With Audio Filter / 806.05 ㎒
Emission Mask : FCC_B, IC_B



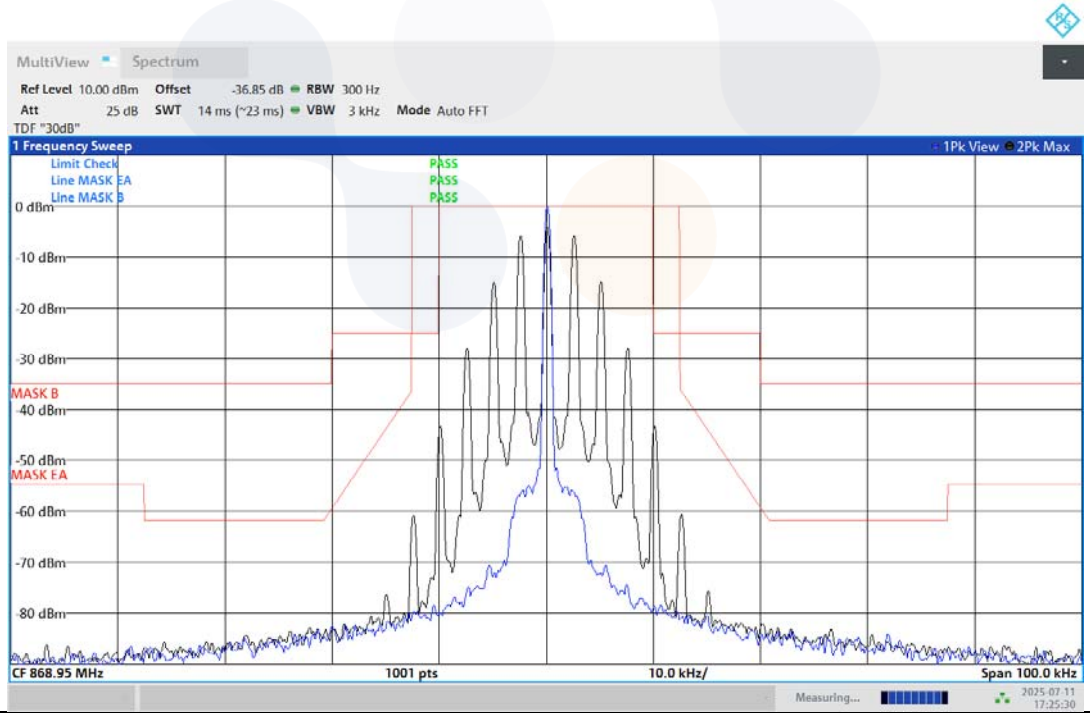
Low Power / 14K0F3E / With Audio Filter / 815.05 ㎒
Emission Mask : FCC_B/EA, IC_B



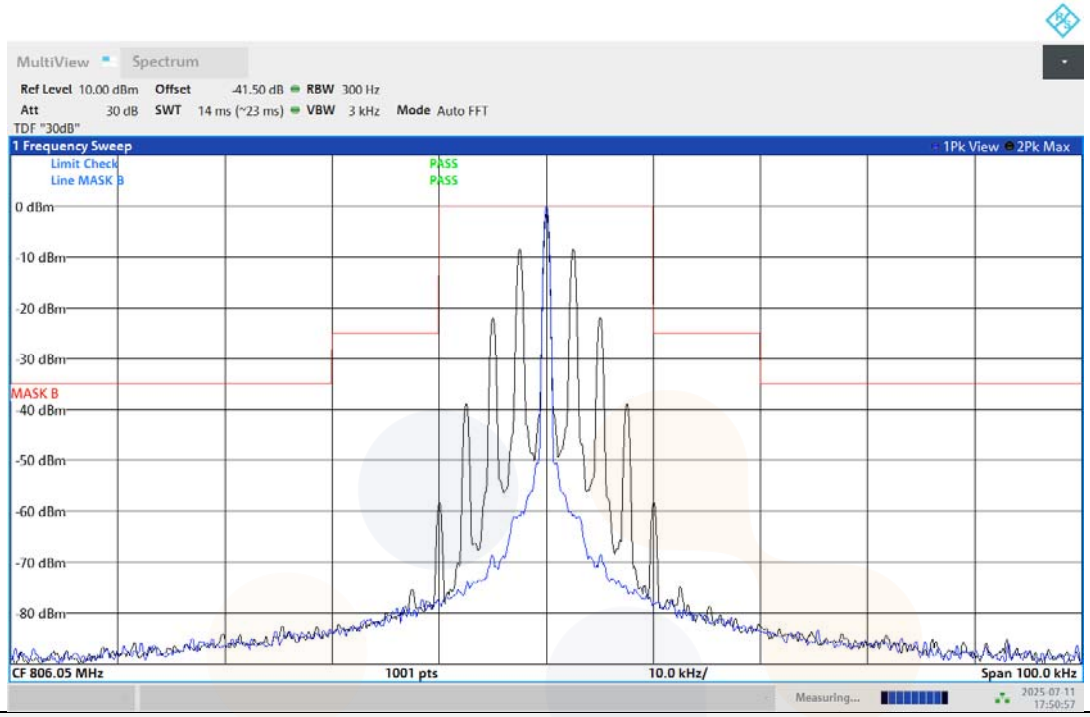
High Power / 14K0F3E / With Audio Filter / 851.05 ㎒
Emission Mask : FCC_B, IC_B



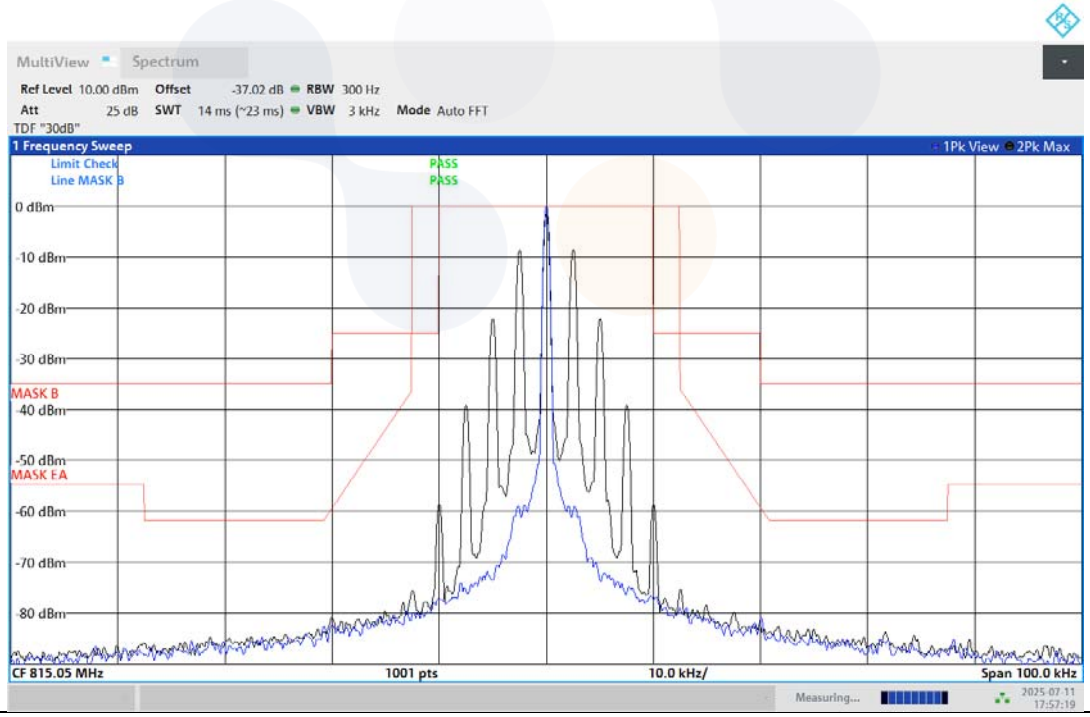
Low Power / 14K0F3E / With Audio Filter / 868.95 ㎒
Emission Mask : FCC_B/EA, IC_B



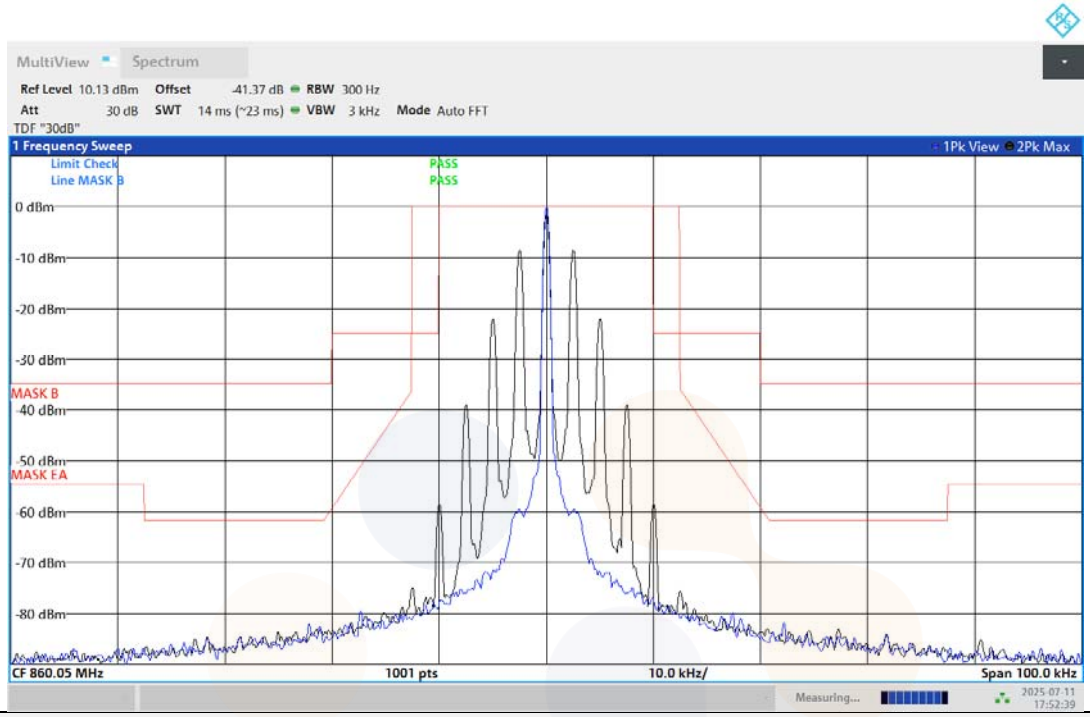
High Power / 11K0F3E / With Audio Filter / 806.05 ㎒
Emission Mask : FCC_B



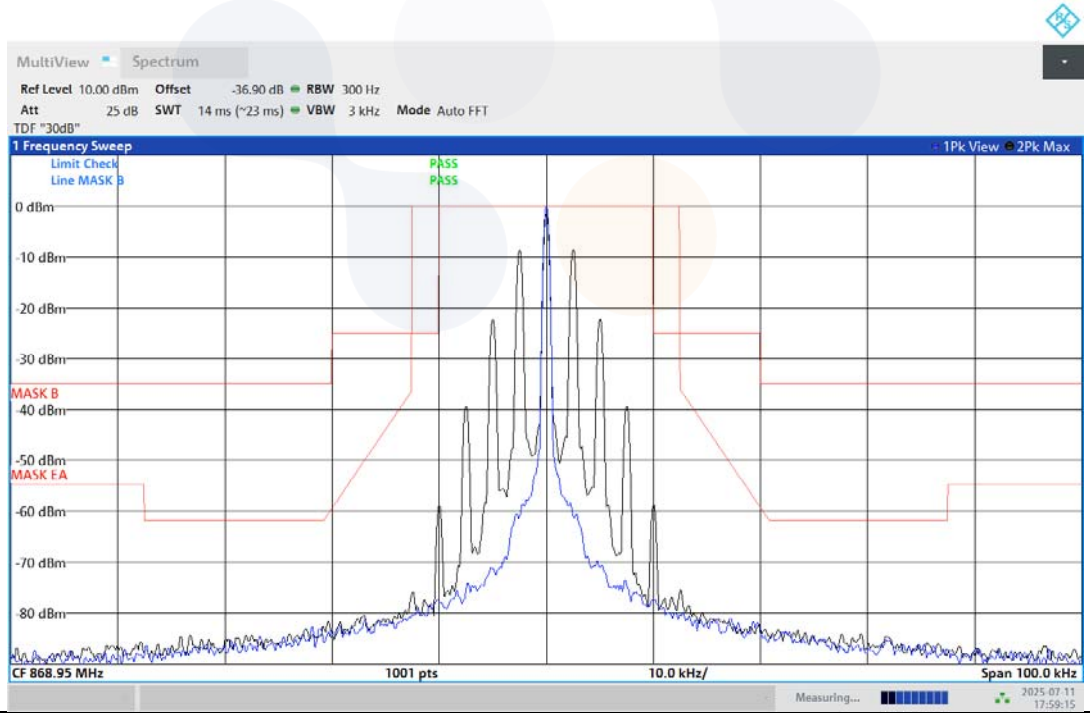
Low Power / 11K0F3E / With Audio Filter / 815.05 ㎒
Emission Mask : FCC_B/EA



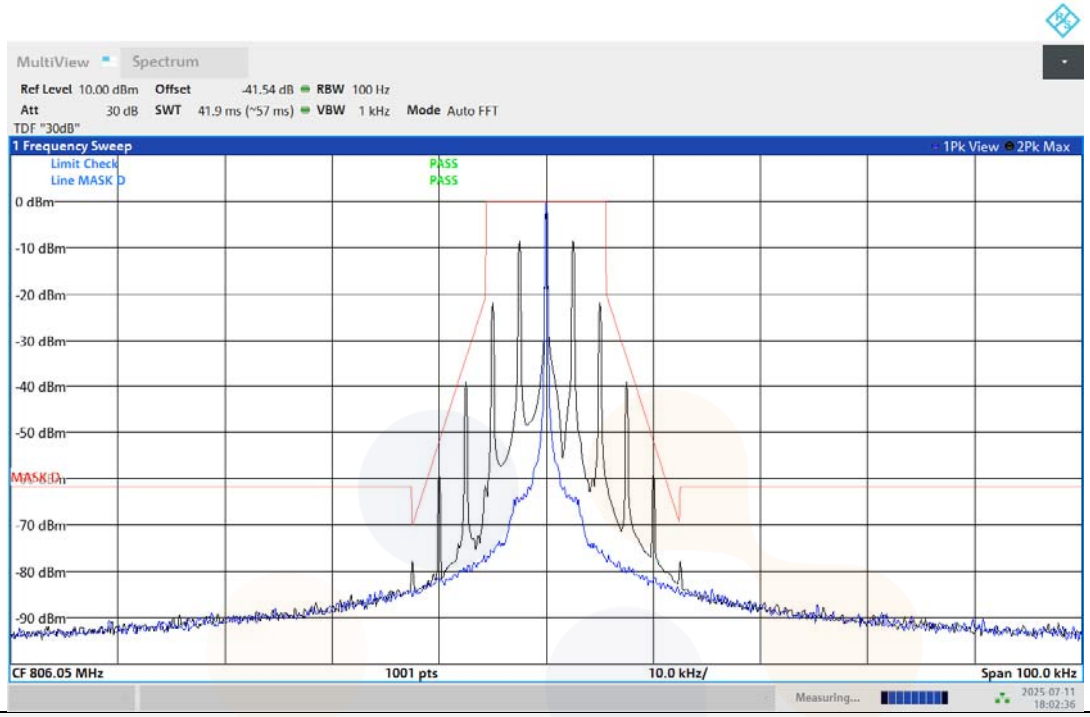
High Power / 11K0F3E / With Audio Filter / 860.05 ㎒
Emission Mask : FCC_B/EA



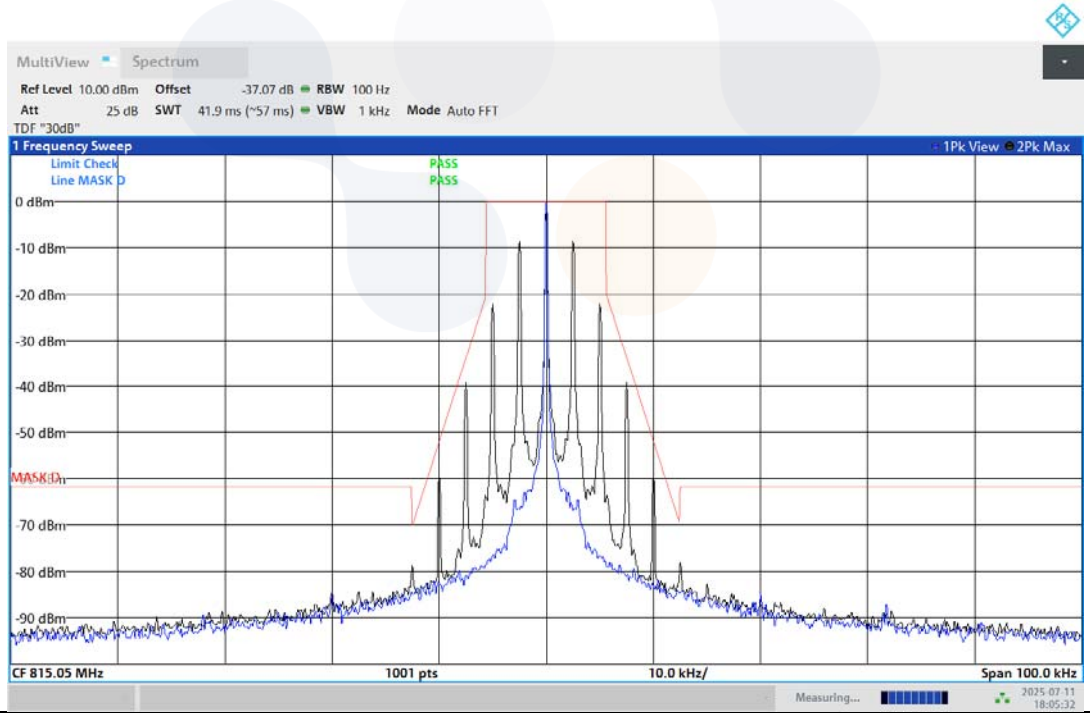
Low Power / 11K0F3E / With Audio Filter / 868.95 ㎒
Emission Mask : FCC_B/EA



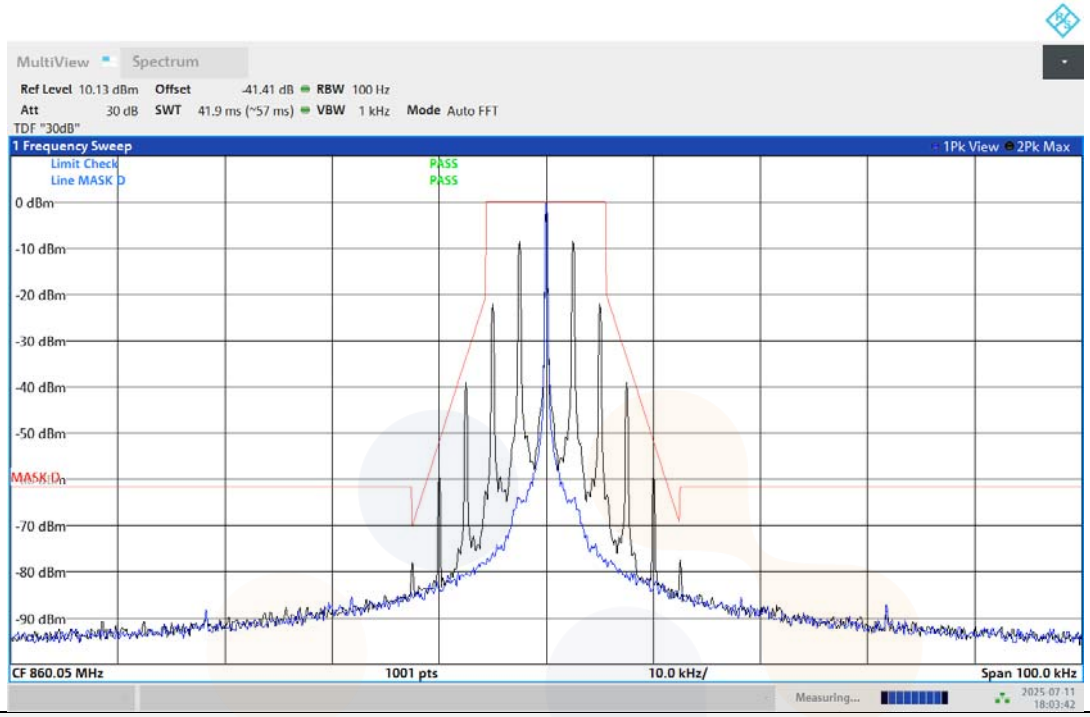
High Power / 11K0F3E / With Audio Filter / 806.05 ㎒
Emission Mask : IC_D



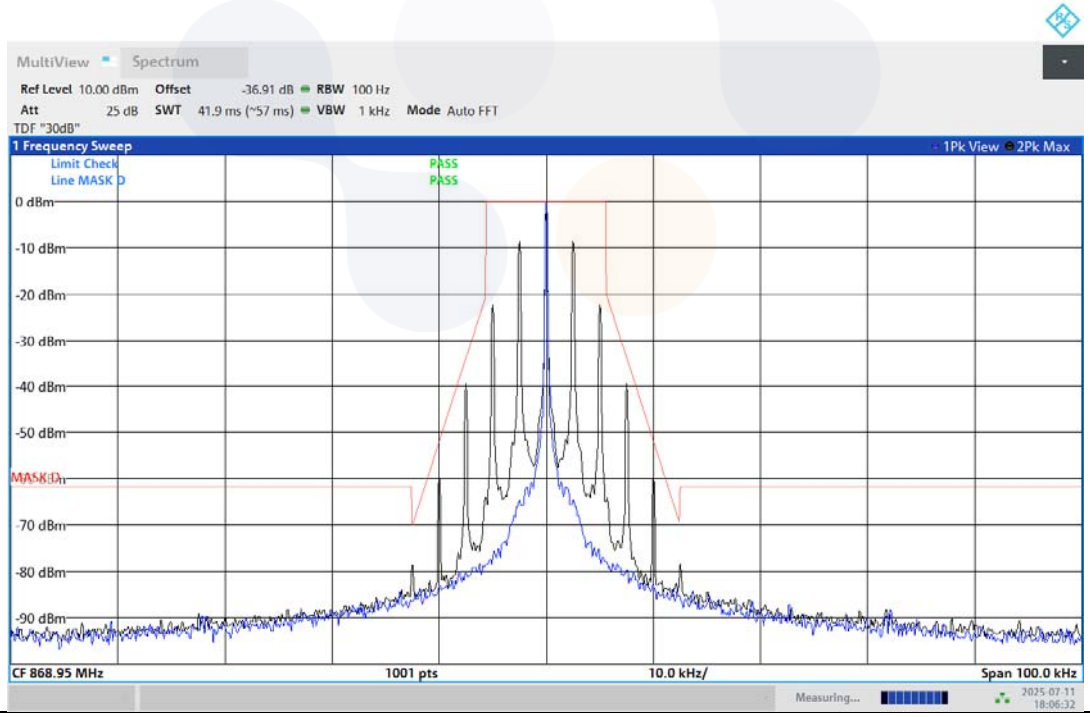
Low Power / 11K0F3E / With Audio Filter / 815.05 ㎒
Emission Mask : IC_D



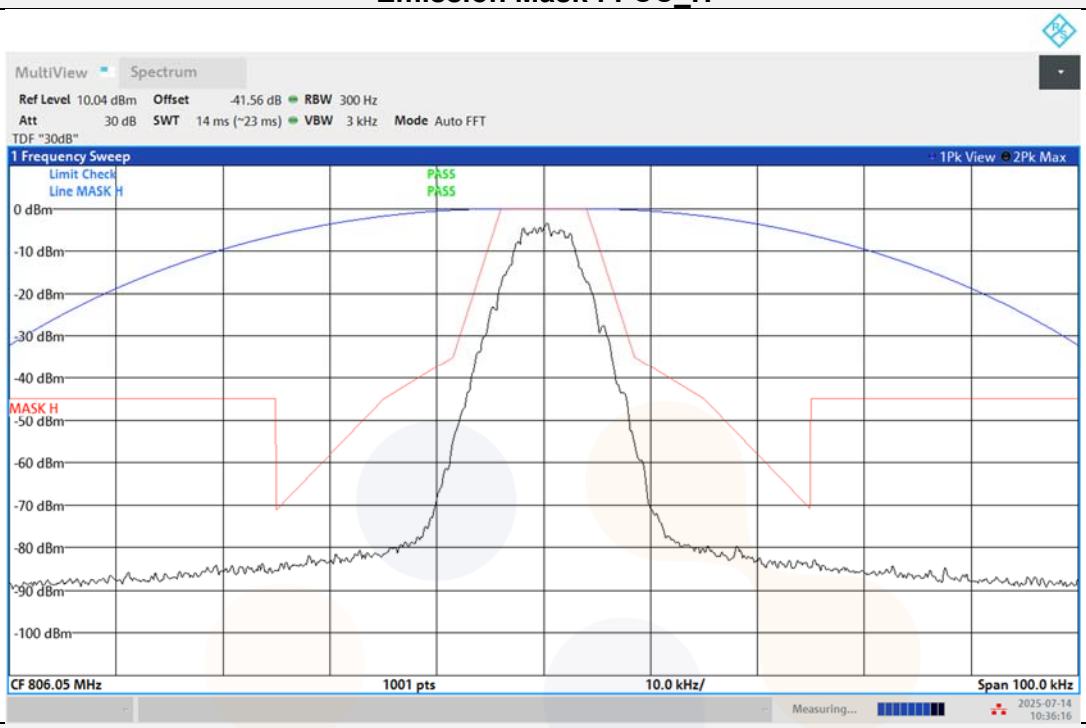
High Power / 11K0F3E / With Audio Filter / 860.05 ㎒
Emission Mask : IC_D



Low Power / 11K0F3E / With Audio Filter / 868.95 ㎒
Emission Mask : IC_D



High Power / 8K30F1E, 8K30F1D, 8K30F7W / Without Audio Filter / 806.05 ㎒
Emission Mask : FCC_H



Low Power / 8K30F1E, 8K30F1D, 8K30F7W / Without Audio Filter / 815.05 ㎒
Emission Mask : FCC_G/EA