

試験報告書

TEST REPORT

Report number 報告書番号 : KR0140-RJ2409-008

Issue date 発行日 : 2024-09-11

申請者 : Sena Technologies Co., Ltd.
Applicant 19, Heolleung-ro 569-gil, Gangnam-gu, Seoul, Korea

型式又は名称 : SP111

Model name

製造番号 : N/A

Serial number

測定規格 : 証明規則第2条第19号の規定する特定無線設備の2.4GHz帯高
Test procedure 度化小電力データ通信システム

測定方法 : 総務省告示第88号別表第43

Test method

測定日 : 2024-09-10

Date of test

試験設備名 : EMC Labs Co., Ltd.

Name of facility

試験結果 : 適合

Test Result

この試験報告書における測定結果は試験された装置にのみ該当します。
また、完全な複製を除き、当試験所の文書による承認なしに、報告書の一部分だけを複製することを禁止します。

測定者;
Tested by;


Jong-Myoung, Shin

承認者;
Approved by;


Kyung-Taek, Lee

1. Summary of Test

1. Purpose of test

Ordinance on Technical Standards Conformity Certification of Specified Radio Equipment

2.4 GHz Band wide band low power data communication System

2. Standards

Certification Ordinance Article 2 Clause 1 Item19

1) Test Methods

Ministry of Internal Affairs and Communications Notification Article 88 Appendix 43

2) Deviation from standards

None

3. List of applied test to the EUT

Article 88 Appendix 43	Classification of EUT	Condition	Result
1	Voltage fluctuation	Conducted	PASS
3	Frequency Tolerance	Conducted	PASS
4	Occupied Bandwidth	Conducted	PASS
4	Spread Bandwidth	Conducted	PASS
5	Unwanted (Spurious) Emission Strength	Conducted	PASS
6	RF Output Power Tolerance	Conducted	PASS
7	Secondary Emitted Radio Wave Strength	Conducted	PASS
8	Carrier Sensing Function (1)	Conducted	N/A
9	Carrier Sensing Function (2)	Conducted	N/A
10	Carrier Sensing Function (3)	Conducted	N/A
11	Transmit Frequency Switching Function	Conducted	N/A
12	Absolute Gain of Transmission Antenna	Conducted	N/A
13	Angle Width of Principal Radiation from Transmission Antenna	Conducted	N/A
14	Interference Prevention Function	Conducted	PASS
15	Hopping frequency dwell time	Conducted	PASS

1) Test set up

Table-Top

2) Modification to the EUT by laboratory

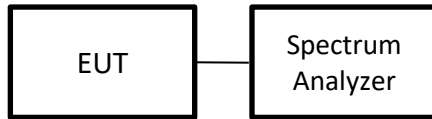
None

2. Test Information

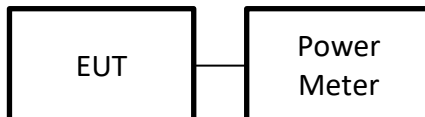
1. Applicant
Sena Technologies Co., Ltd.
19, Heolleung-ro 569-gil, Gangnam-gu, Seoul, Korea
2. Equipment under test
3S PLUS
3. Model number
SP111
4. Serial number
-
5. RF Specification Frequency range
Bluetooth BDR, EDR: 2402-2480MHz
6. Number of RF Channels
Bluetooth BDR, EDR: 79 Channels
7. Modulation method
Bluetooth BDR, EDR: GFSK, $\pi/4$ DQPSK, 8DPSK
8. Data rate
-
9. Variation of the family model(s)
None

3. Configuration of equipment

1. Frequency Tolerance, Occupied Bandwidth, Spread Bandwidth, Time of occupancy hopping frequency, Unwanted(Spurious)Emission Strength, Dwell Time, Secondary Emited Radio Wave Strength



2. RF Output Power



4. 試驗結果

Test results

BDR

Environment of test room	Date of test	2024-09-10
	Temperature	24.9 °C
	Humidity	50.1 %

Peak Antenna Gain	0.42	dBi
Declaration Output Power	1	mW/MHz
Declaration Output Power	0.000	dBm/MHz
E.I.R.P.	0.420	dBm/MHz
Input Power Voltage	3.70	VDC

Frequency equal to the Transmission rate		1	MHz
Transmission Time	ON TIME	2.898	ms
	OFF TIME	0.875	ms
	Ratio	0.768	
Packet Type (Mode)		DH5	mode
Transmit Speed		1	MHz

Test category ;	2.4GHz Band Low-Power Data Communication System (Bluetooth [GFSK])
The reason why the tests are performed only at rated voltage;	When the input voltage to receiver RF circuit varies below $\pm 1\%$ as the input voltage from the external power supply to the receiver varies $\pm 10\%$ (excluding power supply).

Measurement Frequency	MHz	2 402	2 441	2 480	Result	Limit	Note
Channel Number	Ch.	0	39	78	---	---	
Frequency Measurements	MHz	2 401.995 616	2 440.994 805	2 479.992 973	---	---	
Frequency Tolerance	ppm	-1.83	-2.13	-2.83	PASS	$\pm 50 \times 10^{-6}$ (50ppm)	
Occupied Bandwidth	MHz	---	78.30	---	PASS	83.5MHz or below	
Spread Bandwidth	MHz	---	71.30	---	PASS	500kHz or more	
RF Output Power	mW/MHz	0.53	0.53	0.57	PASS	3mW/MHz or below	
RF Output Power Tolerance	%	-46.84	-46.59	-42.53	PASS	Up to +20%	
Unwanted (Spurious) Emission Strength	30 to 2 387 MHz	uW/MHz	---	0.239 883	PASS	2.5uW/MHz or below	
		MHz	---	161.992	-----		
	2 387 to 2 400 MHz	uW/MHz	---	1.185 769	PASS	25uW/MHz or below	*RBW 30 kHz
		MHz	---	2 399.974	-----		
	2 483.5 to 2 496.5 MHz	uW/MHz	---	1.625 549	PASS	25uW/MHz or below	
		MHz	---	2 483.521	-----		
	2 496.5 to 12 500 MHz	uW/MHz	---	0.075 509	PASS	2.5uW/MHz or below	
		MHz	---	7 438.229	-----		
Secondary Emitted Radio Wave Strength	30 to 1 000 MHz	nW	---	0.014 555	PASS	4nW or below	
		MHz	---	529.550	-----		
	1 000 to 10 000 MHz	nW	---	0.194 984	PASS	20nW or below	
		MHz	---	9 253.000	-----		
	10 000 to 12 500 MHz	nW	---	0.250 035	PASS	20nW or below	
		MHz	---	11 847.500	-----		
Time of occupancy hopping frequency	sec	---	0.002 898	---	PASS	0.4sec or below	
	sec	---	0.281 089	---	PASS	0.4sec or below	0.4sec×Spread rate
Spreading Factor	---		71.300		PASS	5 or more	
Interference Prevention Function		Good			PASS		

4. 試験結果

Test results

BDR AFH

Environment of test room	Date of test	2024-09-10
	Temperature	24.9 °C
	Humidity	50.1 %

Peak Antenna Gain	0.42	dBi
Declaration Output Power	3	mW/MHz
Declaration Output Power	4.771	dBm/MHz
E.I.R.P.	5.191	dBm/MHz
Input Power Voltage	3.70	VDC

Frequency equal to the Transmission rate		1	MHz
Transmission Time	ON TIME	2.906	ms
	OFF TIME	0.875	ms
	Ratio	0.769	
Packet Type (Mode)		---	mode
Transmit Speed		1	MHz

Test category ;	2.4GHz Band Low-Power Data Communication System (Bluetooth [GFSK])
The reason why the tests are performed only at rated voltage;	When the input voltage to receiver RF circuit varies below $\pm 1\%$ as the input voltage from the external power supply to the receiver varies $\pm 10\%$ (excluding power supply).

Measurement Frequency			Low	Middle	High	Result	Limit	Note
Channel Number		Ch.	---	---	---	---	---	
Frequency Measurements		MHz	---	---	---	---	---	
Frequency Tolerance		ppm	---	---	---	---	---	
Occupied Bandwidth		MHz	19.60	19.60	19.65	PASS	83.5MHz or below	
Spread Bandwidth		MHz	18.05	18.15	18.10	PASS	500kHz or more	
RF Output Power		mW/MHz	2.05	2.10	2.27	PASS	3mW/MHz or below	
RF Output Power Tolerance		%	-31.62	-29.93	-24.25	PASS	Up to +20%	
Unwanted (Spurious) Emission Strength	30 to 2 387 MHz	uW/MHz	0.293 089	0.281 838	0.329 610	PASS	2.5uW/MHz or below	
		MHz	93.639	131.351	154.921	-----		
	2 387 to 2 400 MHz	uW/MHz	1.472 313	0.036 983	0.022 080	PASS	25uW/MHz or below	*RBW 30 kHz
		MHz	2 400.000	2 395.372	2 396.984	-----		
	2 483.5 to 2 496.5 MHz	uW/MHz	0.028 907	0.056 234	1.857 804	PASS	25uW/MHz or below	
		MHz	2 485.151	2 483.721	2 483.521	-----		
	2 496.5 to 12 500 MHz	uW/MHz	0.060 256	0.057 677	0.092 683	PASS	2.5uW/MHz or below	
		MHz	2 546.518	2 606.539	2 496.700	-----		
Secondary Emitted Radio Wave Strength	30 to 1 000 MHz	nW	---	---	---	---	---	
		MHz	---	---	---	---	---	
	1 000 to 10 000 MHz	nW	---	---	---	---	---	
		MHz	---	---	---	---	---	
	10 000 to 12 500 MHz	nW	---	---	---	---	---	
		MHz	---	---	---	---	---	
Time of occupancy hopping frequency		sec	0.002 906	0.002 906	0.002 906	PASS	0.4sec or below	
		sec	0.281 866	0.281 866	0.281 866	PASS	0.4sec or below	0.4sec×Spread rate
Spreading Factor		---	18.050	18.150	18.100	PASS	5 or more	
Interference Prevention Function			Good			PASS		

*The low, middle, high in Measurement Frequency represents the range frequency.

(Low: 2402-2421 MHz, Middle: 2432-2451 MHz, High: 2461-2480 MHz)

4. 試驗結果

Test results

EDR

Environment of test room	Date of test	2024-09-10
	Temperature	24.9 °C
	Humidity	50.1 %

Peak Antenna Gain	0.42	dBi
Declaration Output Power	0.05	mW/MHz
Declaration Output Power	-13.010	dBm/MHz
E.I.R.P.	-12.590	dBm/MHz
Input Power Voltage	3.70	VDC

Frequency equal to the Transmission rate		1	MHz
Transmission Time	ON TIME	2.909	ms
	OFF TIME	0.859	ms
	Ratio	0.772	
Packet Type (Mode)		3DH5	mode
Transmit Speed		1	MHz

Test category ;	2.4GHz Band Low-Power Data Communication System (Bluetooth [8DPSK])
The reason why the tests are performed only at rated voltage;	When the input voltage to receiver RF circuit varies below $\pm 1\%$ as the input voltage from the external power supply to the receiver varies $\pm 10\%$ (excluding power supply).

Measurement Frequency	MHz	2 402	2 441	2 480	Result	Limit	Note
Channel Number	Ch.	0	39	78	---	---	
Frequency Measurements	MHz	2 401.993 041	2 440.993 474	2 479.993 352	---	---	
Frequency Tolerance	ppm	-2.90	-2.67	-2.68	PASS	$\pm 50 \times 10^{-6}$ (50ppm)	
Occupied Bandwidth	MHz	---	78.50	---	PASS	83.5MHz or below	
Spread Bandwidth	MHz	---	71.50	---	PASS	500kHz or more	
RF Output Power	mW/MHz	0.02	0.02	0.03	PASS	3mW/MHz or below	
RF Output Power Tolerance	%	-55.37	-50.22	-37.07	PASS	Up to +20%	
Unwanted (Spurious) Emission Strength	30 to 2 387 MHz	uW/MHz	---	0.037 844	PASS	2.5uW/MHz or below	
		MHz	---	2 387.000	-----		
	2 387 to 2 400 MHz	uW/MHz	---	2.831 392	PASS	25uW/MHz or below	*RBW 30 kHz
		MHz	---	2 399.675	-----		
	2 483.5 to 2 496.5 MHz	uW/MHz	---	1.901 078	PASS	25uW/MHz or below	
		MHz	---	2 483.630	-----		
Secondary Emitted Radio Wave Strength	30 to 1 000 MHz	uW/MHz	---	0.050 466	PASS	2.5uW/MHz or below	
		MHz	---	2 566.525	-----		
	1 000 to 10 000 MHz	nW	---	0.015 560	PASS	4nW or below	
		MHz	---	636.250	-----		
	10 000 to 12 500 MHz	nW	---	0.196 336	PASS	20nW or below	
		MHz	---	9 910.000	-----		
Time of occupancy hopping frequency	sec	---	0.002 909	---	PASS	0.4sec or below	
	sec	---	0.282 139	---	PASS	0.4sec or below	0.4sec×Spread rate
Spreading Factor		---	71.500	---	PASS	5 or more	
Interference Prevention Function		Good			PASS		

4. 試験結果

Test results

EDR AFH

Environment of test room	Date of test	2024-09-10
	Temperature	24.9 °C
	Humidity	50.1 %

Peak Antenna Gain	0.42	dBi
Declaration Output Power	0.15	mW/MHz
Declaration Output Power	-8.239	dBm/MHz
E.I.R.P.	-7.819	dBm/MHz
Input Power Voltage	3.70	VDC

Frequency equal to the Transmission rate		1	MHz
Transmission Time	ON TIME	2.909	ms
	OFF TIME	0.859	ms
	Ratio	0.772	
Packet Type (Mode)		---	mode
Transmit Speed		1	MHz

Test category ;	2.4GHz Band Low-Power Data Communication System (Bluetooth [8DPSK])
The reason why the tests are performed only at rated voltage;	When the input voltage to receiver RF circuit varies below $\pm 1\%$ as the input voltage from the external power supply to the receiver varies $\pm 10\%$ (excluding power supply).

Measurement Frequency			Low	Middle	High	Result	Limit	Note
Channel Number		Ch.	---	---	---	---	---	
Frequency Measurements		MHz	---	---	---	---	---	
Frequency Tolerance		ppm	---	---	---	---	---	
Occupied Bandwidth		MHz	20.00	20.05	20.05	PASS	83.5MHz or below	
Spread Bandwidth		MHz	18.25	18.25	18.25	PASS	500kHz or more	
RF Output Power		mW/MHz	0.09	0.10	0.12	PASS	3mW/MHz or below	
RF Output Power Tolerance		%	-41.60	-35.99	-20.69	PASS	Up to +20%	
Unwanted (Spurious) Emission Strength	30 to 2 387 MHz	uW/MHz	0.043 652	0.009 441	0.010 304	PASS	2.5uW/MHz or below	
		MHz	2 387.000	2 280.935	2 311.576	-----		
	2 387 to 2 400 MHz	uW/MHz	0.121 899	0.014 488	0.010 304	PASS	25uW/MHz or below	*RBW 30 kHz
		MHz	2 399.805	2 399.831	2 399.051	-----		
	2 483.5 to 2 496.5 MHz	uW/MHz	0.010 093	0.017 579	0.008 790	PASS	25uW/MHz or below	
		MHz	2 484.683	2 488.037	2 483.526	-----		
	2 496.5 to 12 500 MHz	uW/MHz	0.007 980	0.027 861	2.046 445	PASS	2.5uW/MHz or below	
		MHz	11 339.594	2 556.521	2 496.700	-----		
Secondary Emitted Radio Wave Strength	30 to 1 000 MHz	nW	---	---	---	---	---	
		MHz	---	---	---	---	---	
	1 000 to 10 000 MHz	nW	---	---	---	---	---	
		MHz	---	---	---	---	---	
	10 000 to 12 500 MHz	nW	---	---	---	---	---	
		MHz	---	---	---	---	---	
Time of occupancy hopping frequency		sec	0.002 909	0.002 909	0.002 909	PASS	0.4sec or below	
		sec	0.282 139	0.282 139	0.282 139	PASS	0.4sec or below	0.4sec×Spread rate
Spreading Factor		---	18.250	18.250	18.250	PASS	5 or more	
Interference Prevention Function			Good			PASS		

*The low, middle, high in Measurement Frequency represents the range frequency.

(Low: 2402-2421 MHz, Middle: 2432-2451 MHz, High: 2461-2480 MHz)

5. 試験機器リスト

Measurement equipment list

USE	Equipment	Company	Model No.	Serial No.	Calibrated by	Cal. Method	Cal. Due	Cal. Date
	TEMP & HUMID CHAMBER	(주) 제이에프엠엔지니어링	JFMA-001	20200929-01	HCT	ハ\c)	Dec. 2024	Dec. 7, 2023
	CONTROLLER	주식회사 삼원테크놀로지	TEMI2500	S7800VK191 0707	HCT	ハ\c)	Dec. 2024	Dec. 7, 2023
	PSA SERIES SPECTRUM ANALYZER	AGILENT	E4440A	MY45304057	HCT	ハ\c)	Dec. 2024	Dec. 8, 2023
X	MXG ANALOG SIGNAL GENERATOR	AGILENT	N5183A	MY50141890	HCT	ハ\c)	Dec. 2024	Dec. 8, 2023
	SYSTEM DC POWER SUPPLY	AGILENT	6674A	MY53000118	HCT	ハ\c)	Dec. 2024	Dec. 11, 2023
	VECTOR SIGNAL GENERATOR	ROHDE & SCHWARZ	SMBV100A	257524	HCT	ハ\c)	Dec. 2024	Dec. 8, 2023
	BLUETOOTH TESTER	TESCOM	TC-3000A	3000A480088	HCT	ハ\c)	Dec. 2024	Dec. 8, 2023
	DIRECTIONAL COUPLER	AGILENT	773D	2839A01855	HCT	ハ\c)	Dec. 2024	Dec. 8, 2023
	ATTENUATOR	AGILENT	8493C	73193	HCT	ハ\c)	Dec. 2024	Dec. 8, 2023
	TERMINATION	HEWLETT PACKARD	909D	7492	HCT	ハ\c)	Dec. 2024	Dec. 8, 2023
	POWER DIVIDER	HEWLETT PACKARD	11636A	6916	HCT	ハ\c)	Dec. 2024	Dec. 8, 2023
	SLIDE-AC	대광전자	SV-1023	NONE	HCT	ハ\c)	Nov. 2024	Nov. 10, 2023
	DIGITAL MULTIMETER	휴먼테크스��어	15B+	50561541WS	HCT	ハ\c)	Dec. 2024	Dec. 8, 2023
	Temperature and Humidity Datalogger	CEM	DT-172	201000251	HCT	ハ\c)	Apr. 2025	Apr. 5, 2024
	ATTENUATOR	에이스 알에프 컴	ATT SMA 20W 20dB 8G	A-0820.SM20.2	HCT	ハ\c)	Apr. 2025	Apr. 4, 2024
	TERMINATION	에이스 알에프 컴	TERM SMA F 20W 8G	A-0008.SM20.2	HCT	ハ\c)	Apr. 2025	Apr. 4, 2024
	ATTENUATOR	에이스 알에프 컴	ATT 2.92 2W 20dB 40G	A-4020.2902.1	HCT	ハ\c)	Apr. 2025	Apr. 4, 2024
	ATTENUATOR	에이스 알에프 컴	ATT 2.92 2W 20dB 40G	A-4020.2902.1	HCT	ハ\c)	Apr. 2025	Apr. 4, 2024
	ATTENUATOR	에이스 알에프 컴	ATT 2.92 2W 20dB 40G	A-4020.2902.1	HCT	ハ\c)	Apr. 2025	Apr. 4, 2024
	TERMINATION	에이스 알에프 컴	TERM 2.92 F 2W 40G	A-0040.2920.2	HCT	ハ\c)	Apr. 2025	Apr. 4, 2024
	TERMINATION	에이스 알에프 컴	TERM 2.92 F 2W 40G	A-0040.2920.2	HCT	ハ\c)	Apr. 2025	Apr. 4, 2024
	TERMINATION	에이스 알에프 컴	TERM 2.92 F 2W 40G	A-0040.2920.2	HCT	ハ\c)	Apr. 2025	Apr. 4, 2024
X	DC POWER SUPPLY	AGILENT	E3634A	MY40012120	HCT	ハ\c)	Feb. 2025	Feb. 22, 2024
X	USB Peak Power Sensor	Anritsu	MA24408A	12321	HCT	ハ\c)	Nov. 2024	Nov. 9, 2023
	High Pass Filter	WT Microwave INC.	WT-A3314-HS	WT22111804-1	HCT	ハ\c)	Dec. 2024	Dec. 8, 2023
	High Pass Filter	WT Microwave INC.	WT-A1935-HS	WT22111804-2	HCT	ハ\c)	Dec. 2024	Dec. 8, 2023
	TUNABLE BAND REJECT FILTER	K&L MICROWAVE	3TNF-800/1000-0.2-N/N	504	HCT	ハ\c)	Feb. 2025	Feb. 22, 2024
X	SPECTRUM ANALYZER	ROHDE & SCHWARZ	FSU26	200444	HCT	ハ\c)	Feb. 2025	Feb. 22, 2024
X	ATTENUATOR	Mini-Circuits	BW-K3-2W44+	2318-1	HCT	ハ\c)	Jun. 2025	Jun. 28, 2024
	ATTENUATOR	Mini-Circuits	BW-K3-2W44+	2318-2	HCT	ハ\c)	Jun. 2025	Jun. 28, 2024
	ATTENUATOR	Mini-Circuits	BW-K10-2W44+	2307	HCT	ハ\c)	Jun. 2025	Jun. 28, 2024

Note1: 測定機器の較正は、1年間有効です。

The calibration of measurement equipment is valid for one year period.

Note2: "X" は使用した測定機器です。

"X" used equipment.

Note3: 較正方法 ...

Cal.Method ...

イ): 独立行政法人情報通信研究機構(以下「機構」という。)又は第百二条の十八第一項の指定較正機関が行う較正

a): Calibration conducted by the National Institute of Information and Communications Technology(NICT)(hereinafter referred to as "NICT") or a designated calibration agency under Article 102-18 paragraph (1)

ロ): 計量法(平成四年法律第五十一号)第百三十五条又は第百四十四条の規定に基づく校正

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

ハ): 外国において行う較正であつて、機構又は第百二条の十八第一項の指定較正機関が行う較正に相当するもの

c): Calibration conducted in foreign countries, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1)

ニ): 別表第三の下欄に掲げる測定器その他の設備であつて、イからハまでのいずれかに掲げる較正等を受けたものを用いて行う較正等

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

6. 測定の不確かさ
About uncertainty of measured value

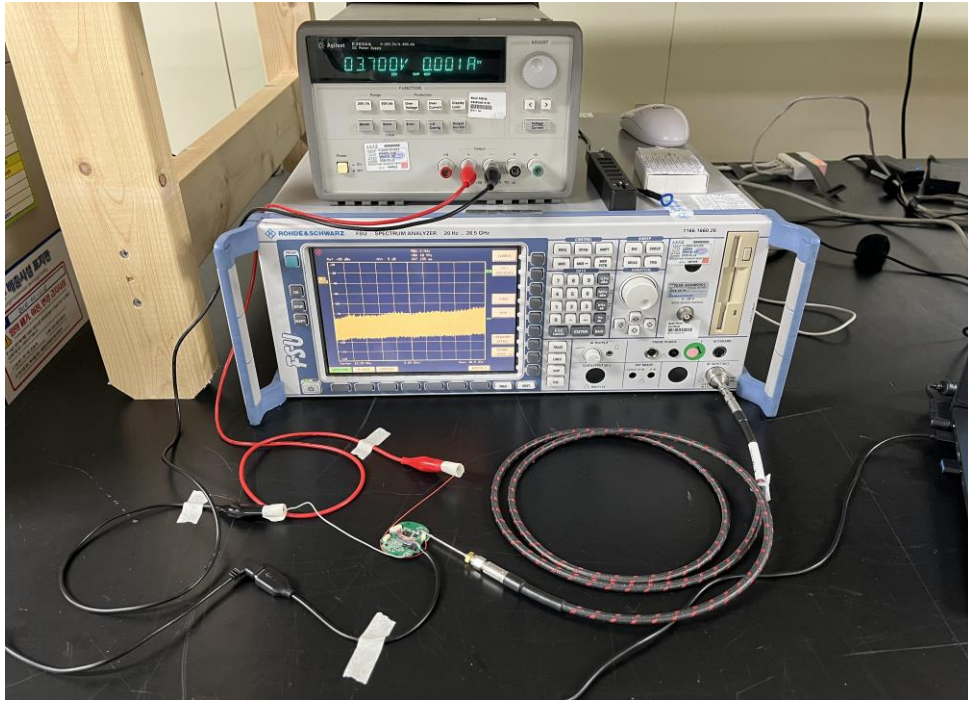
Parameter	Uncertainty
Total RF power conducted	±0.34 dB
Spurious emissions conducted	±0.34 dB
Temperature	±0.8 °C
Humidity	±4.4 %

判定	Measured value and standard limit value	
PASS	Case1 Standard limit value +Uncertainty -Uncertainty Measured value Even if it takes uncertainty into consideration, a standard limit value is fulfilled.	
	Case2 Although measured value is in a standard limit value, a limit value won't be fulfilled if uncertainty is taken into consideration.	
FAIL	Case3 Although measured value exceeds a standard limit value, a limit value will be fulfilled if uncertainty is taken into consideration.	
	Case4 Even if it takes uncertainty into consideration, a standard limit value isn't fulfilled.	

7. 測定写真

Photographs

Conducted Measurement Photo



8. 測定チャート

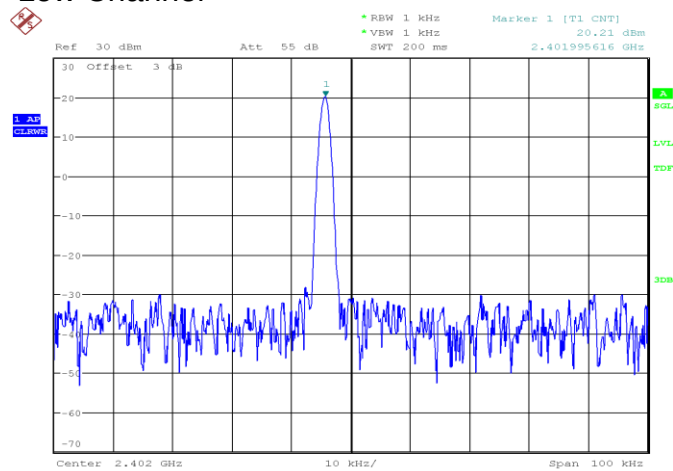
Test chart

8.1 周波数の偏差

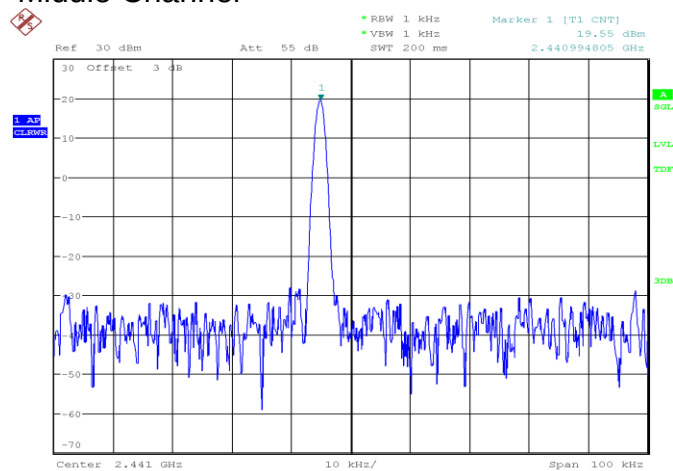
Frequency tolerance

BDR

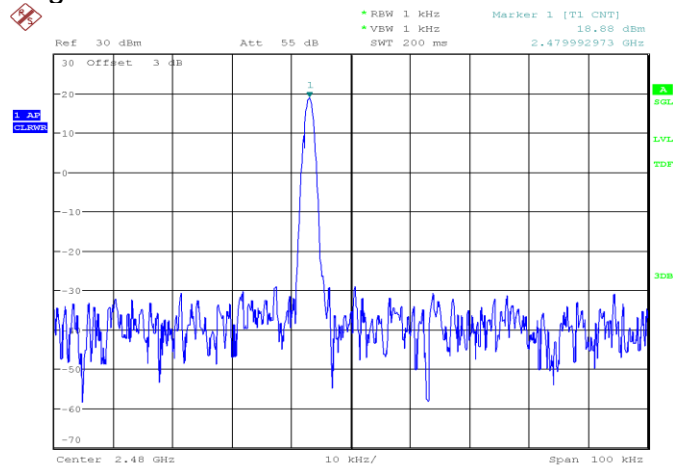
Low Channel



Middle Channel



High Channel



8. 測定チャート

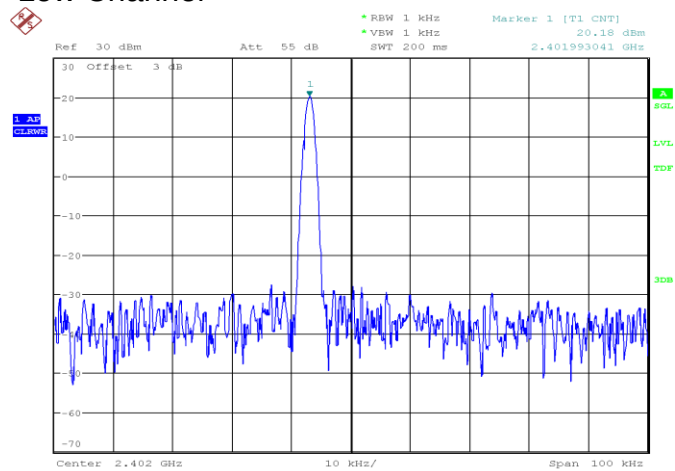
Test chart

8.1 周波数の偏差

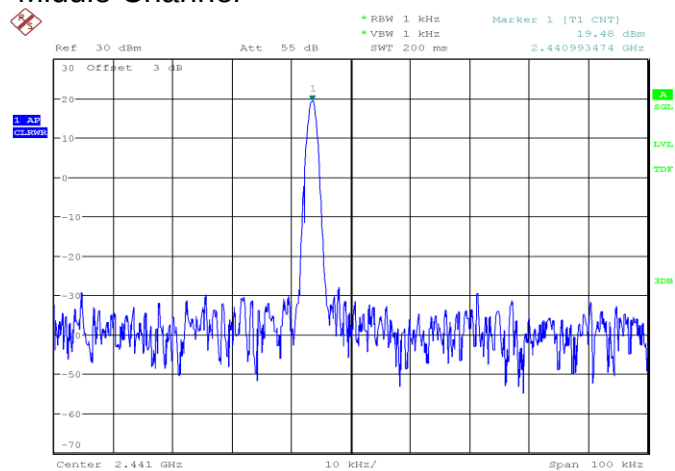
Frequency tolerance

EDR

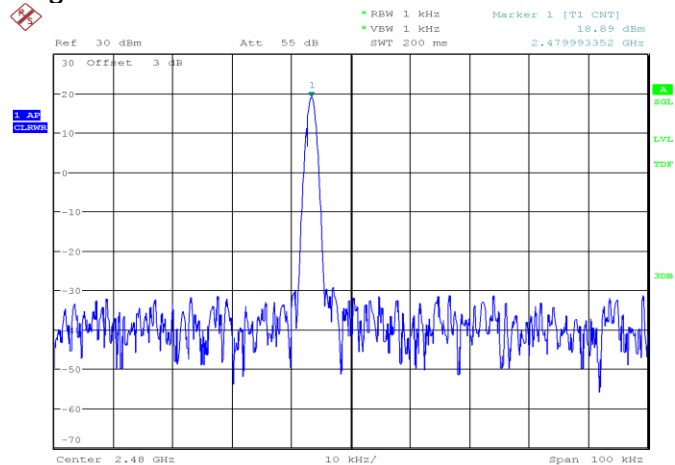
Low Channel



Middle Channel



High Channel

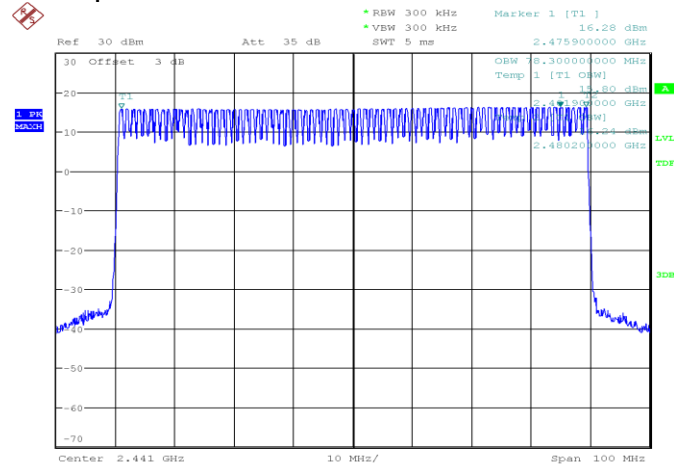


8.2 占有周波数帯幅及び拡散帯域幅

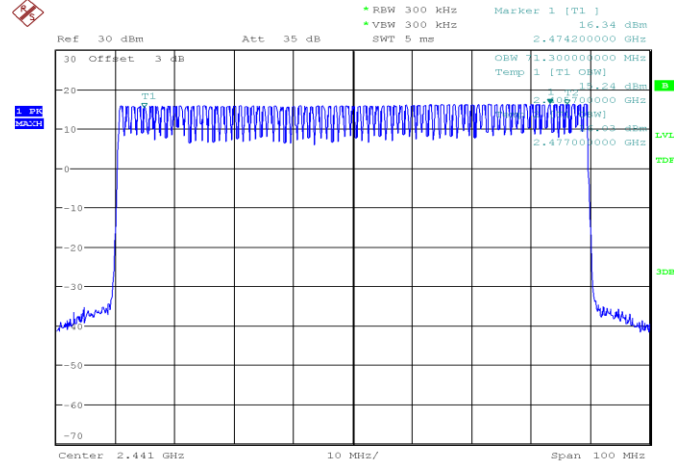
Occupied bandwidth / Spread bandwidth

BDR

Occupied bandwidth



Spread bandwidth

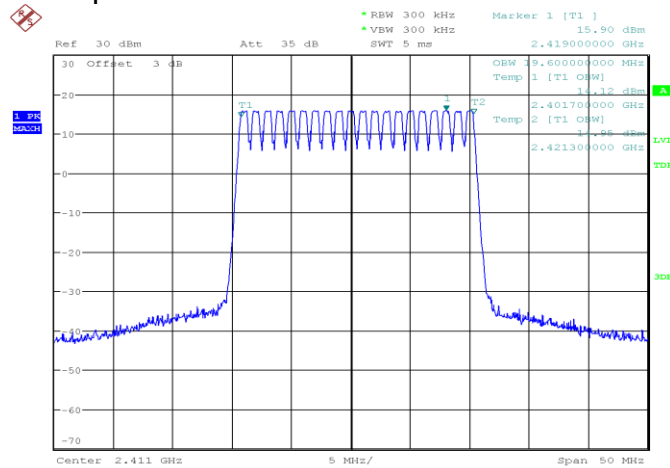


8.2 占有周波数帯幅及び拡散帯域幅

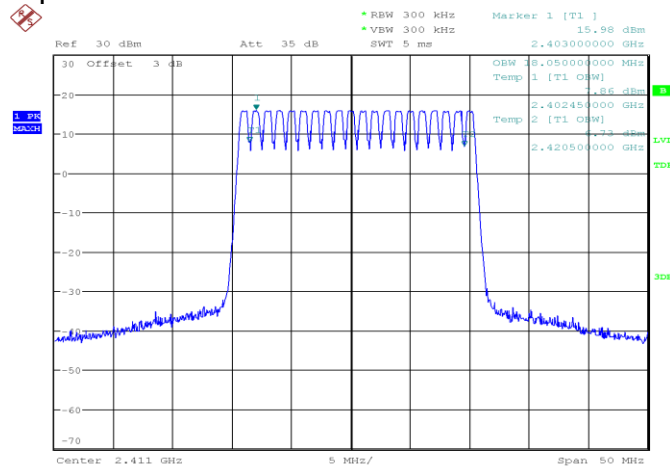
Occupied bandwidth / Spread bandwidth

BDR AFH

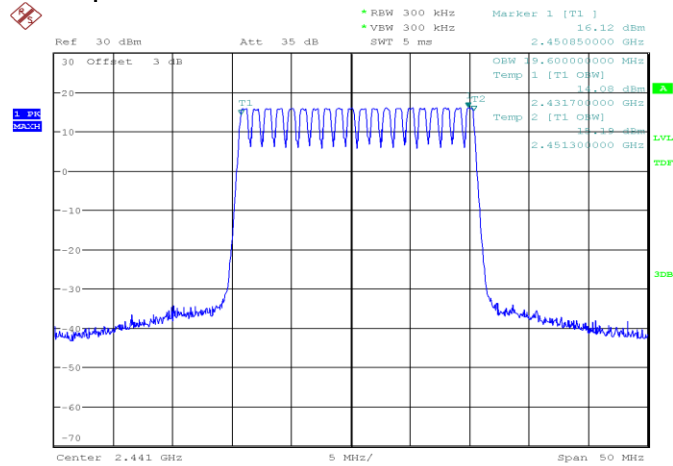
Low Channel Occupied bandwidth



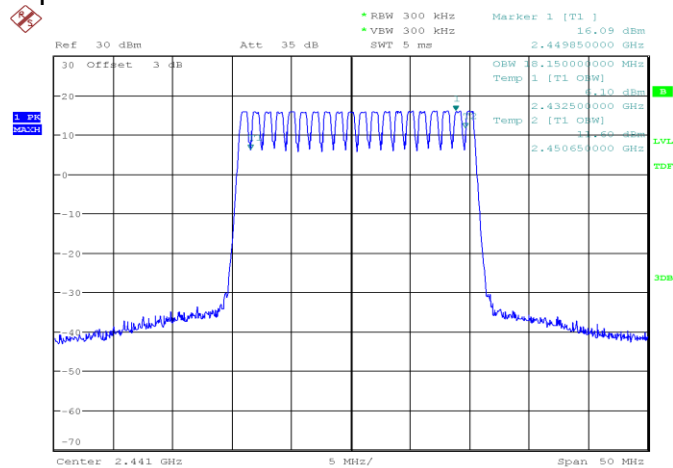
Spread bandwidth



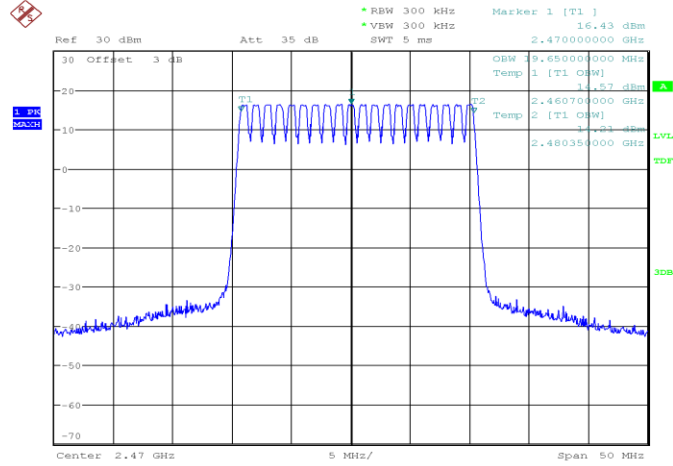
Middle Channel Occupied bandwidth



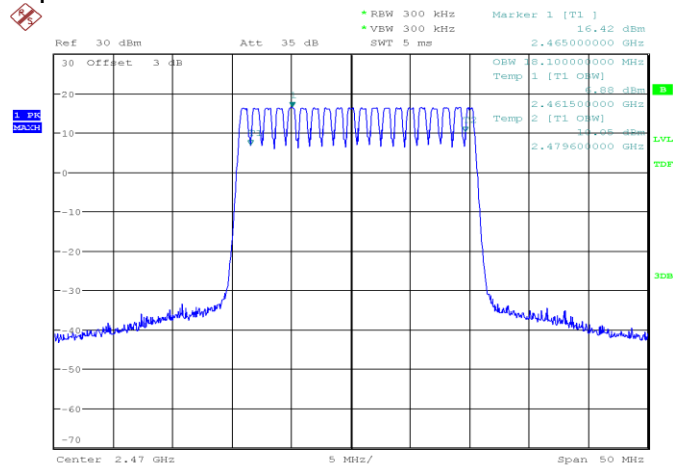
Spread bandwidth



High Channel Occupied bandwidth



Spread bandwidth

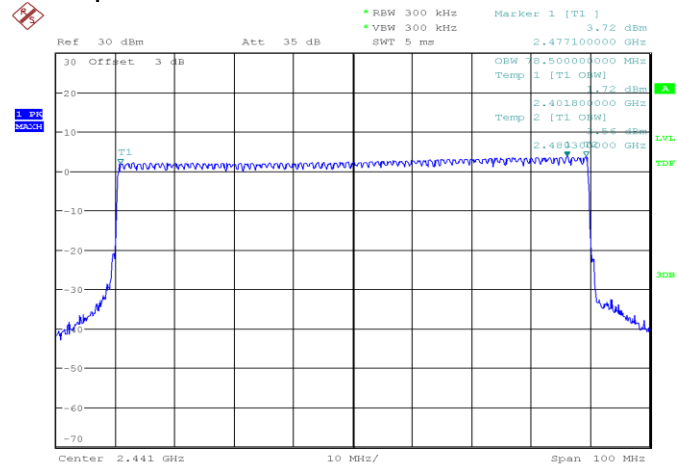


8.2 占有周波数帯幅及び拡散帯域幅

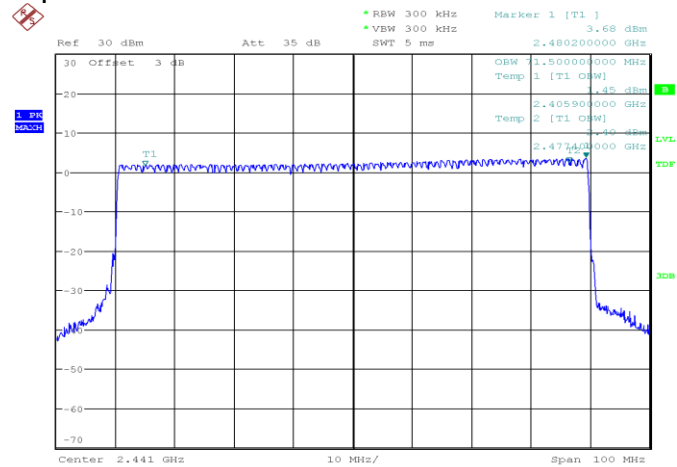
Occupied bandwidth / Spread bandwidth

EDR

Occupied bandwidth



Spread bandwidth

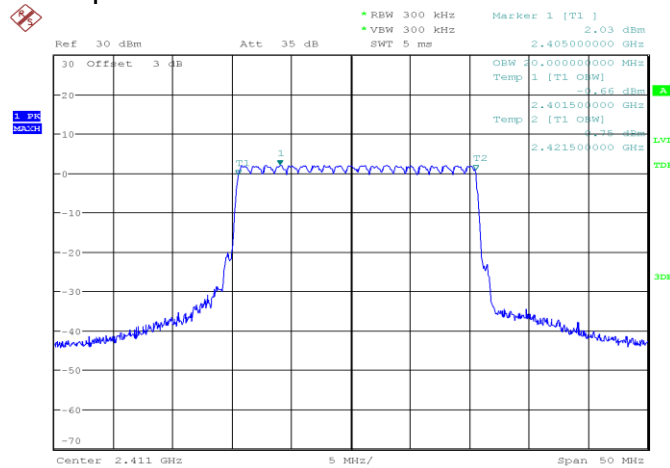


8.2 占有周波数帯幅及び拡散帯域幅

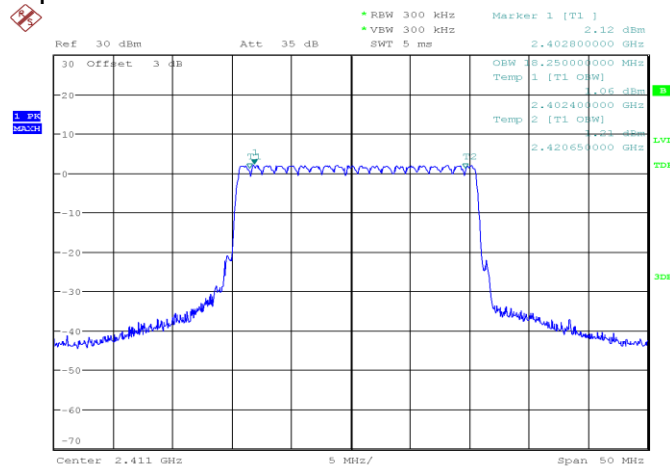
Occupied bandwidth / Spread bandwidth

EDR AFH

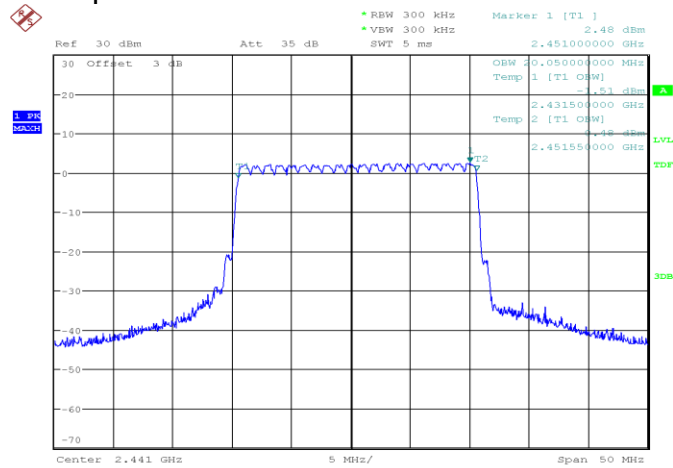
Low Channel Occupied bandwidth



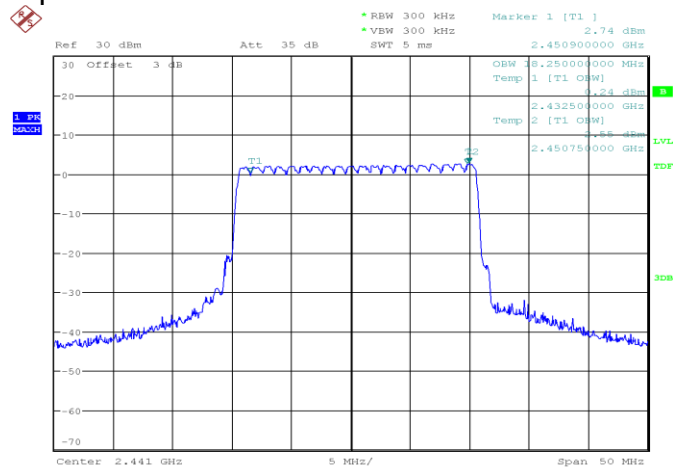
Spread bandwidth



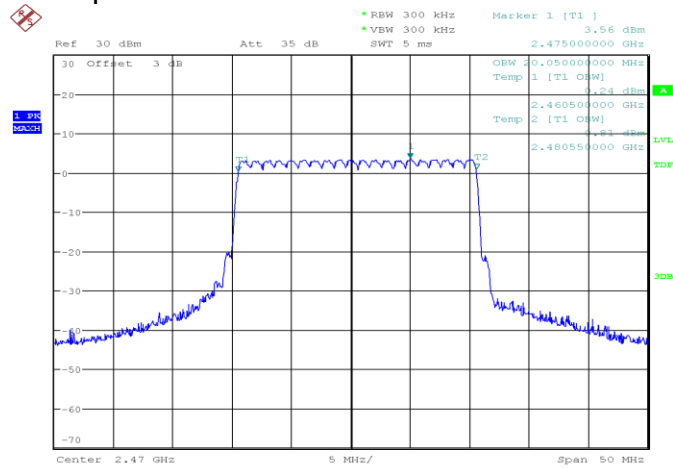
Middle Channel Occupied bandwidth



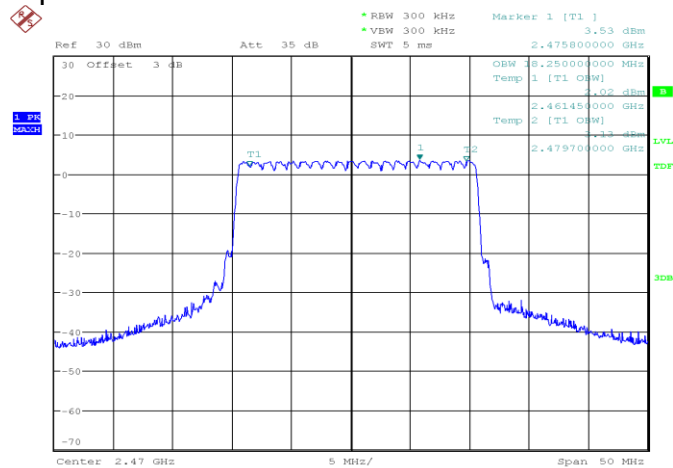
Spread bandwidth



High Channel Occupied bandwidth



Spread bandwidth

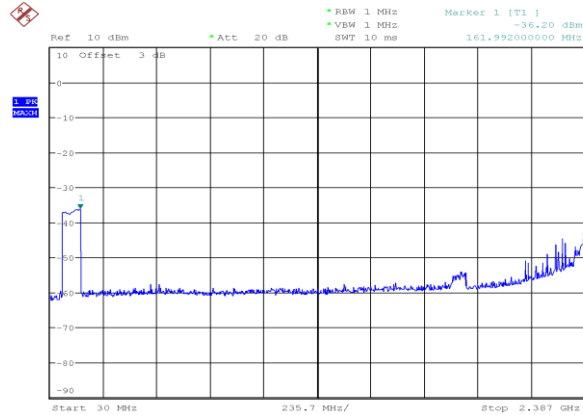


8.3スプリアスの発射又は不要発射の強度

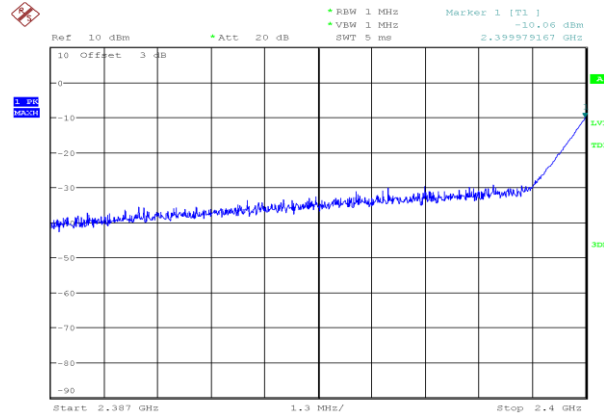
Unwanted(Spurious) emission strength

BDR

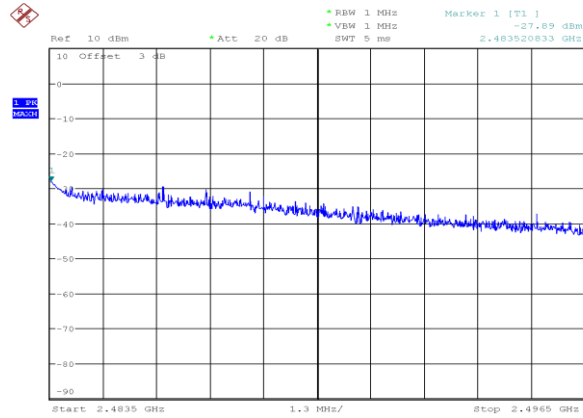
30 - 2 387 MHz



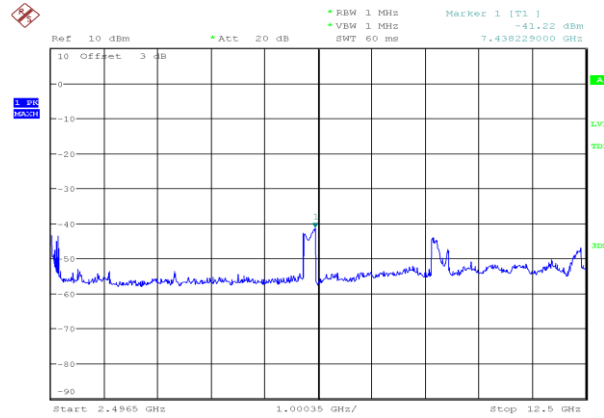
2 387 - 2 400 MHz



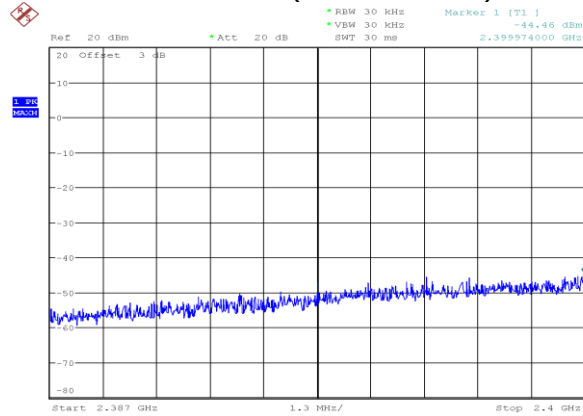
2 483.5 - 2 496.5 MHz



2 496.5 - 12 500 MHz



2 387 - 2 400 MHz (RBW 30 kHz)

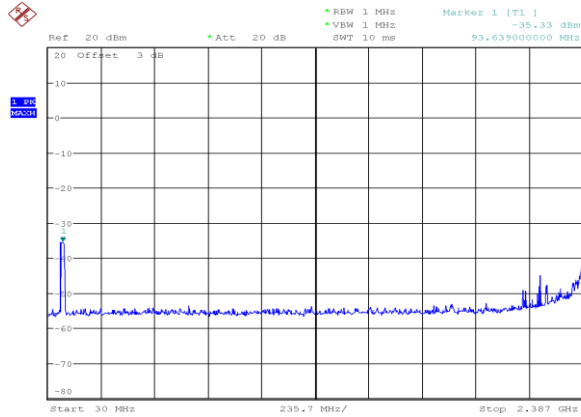


8.3スプリアスの発射又は不要発射の強度

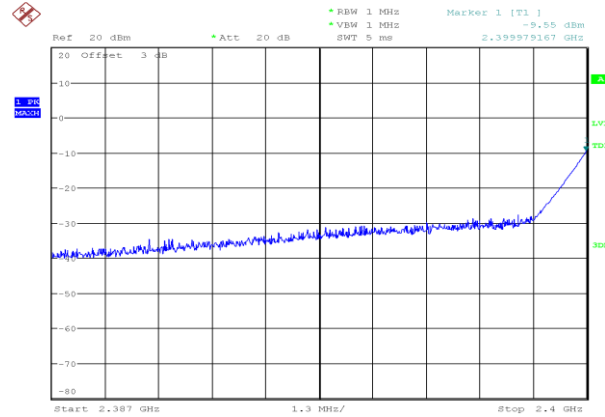
Unwanted(Spurious) emission strength

BDR AFH

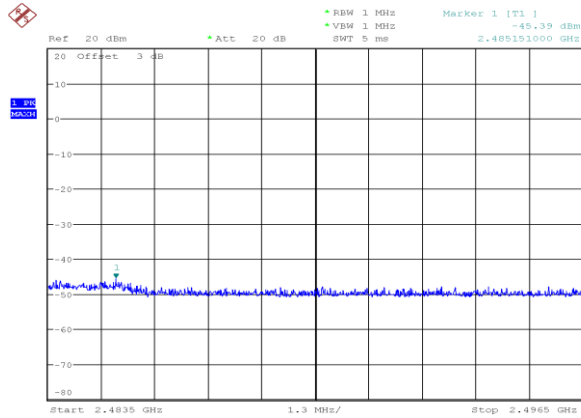
Low Channel
30 - 2 387 MHz



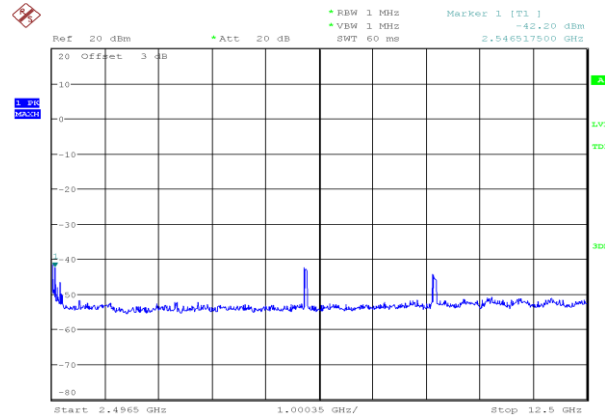
2 387 - 2 400 MHz



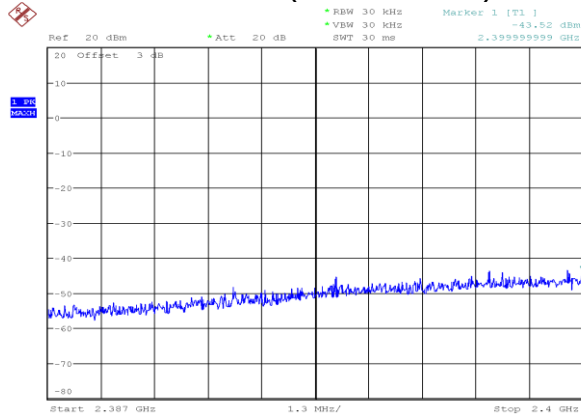
2 483.5 - 2 496.5 MHz



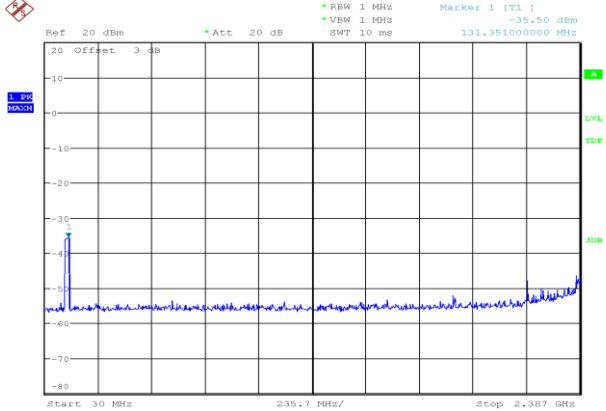
2 496.5 - 12 500 MHz



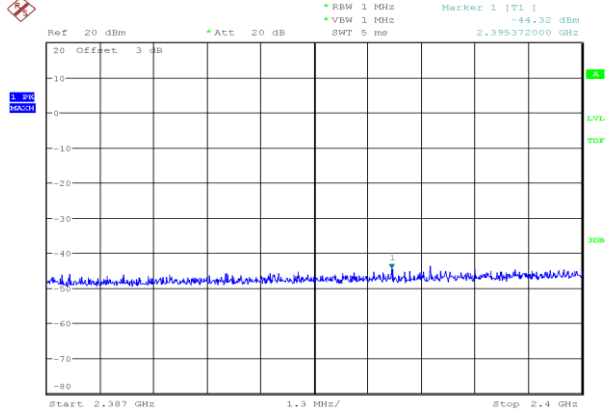
2 387 - 2 400 MHz (RBW 30 kHz)



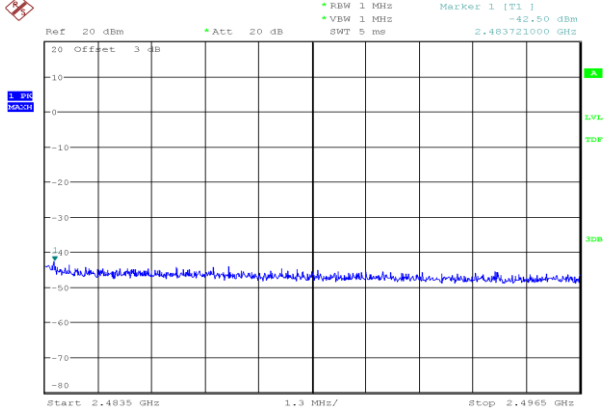
Middle Channel
30 - 2 387 MHz



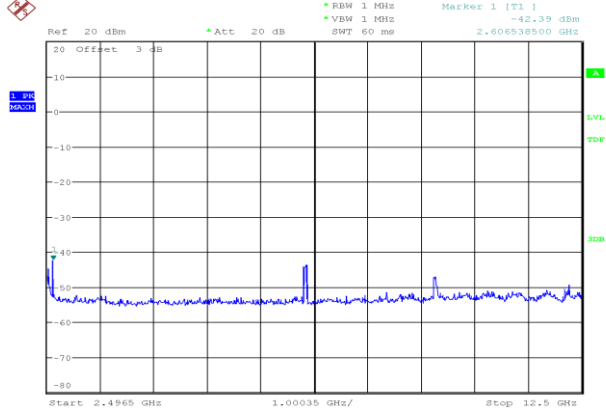
2 387 - 2 400 MHz



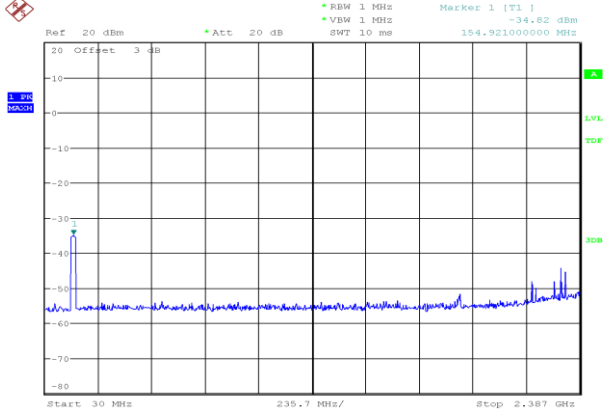
2 483.5 - 2 496.5 MHz



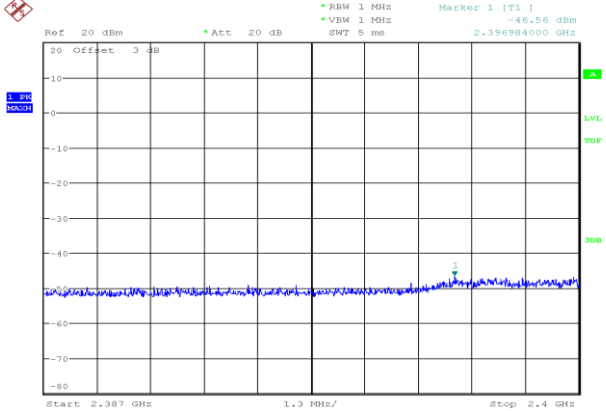
2 496.5 - 12 500 MHz



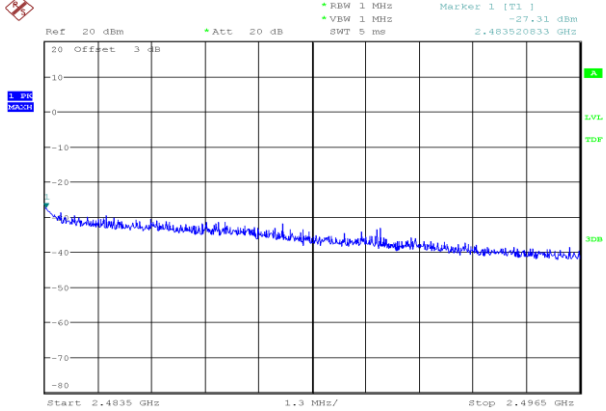
High Channel
30 - 2 387 MHz



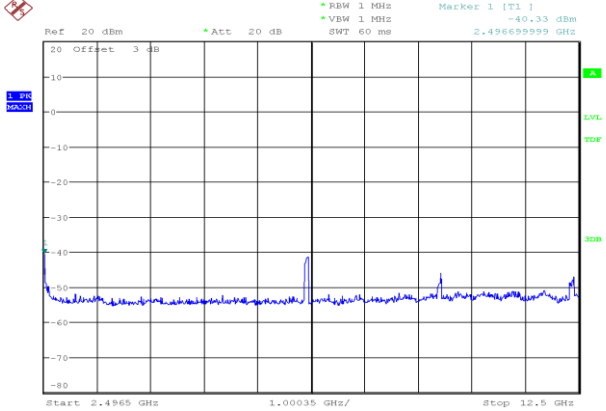
2 387 - 2 400 MHz



2 483.5 - 2 496.5 MHz



2 496.5 - 12 500 MHz

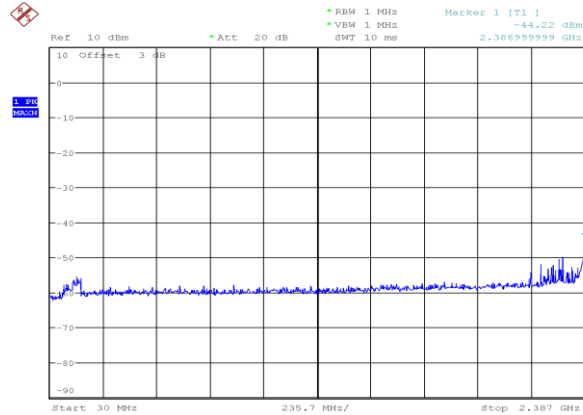


8.3スプリアスの発射又は不要発射の強度

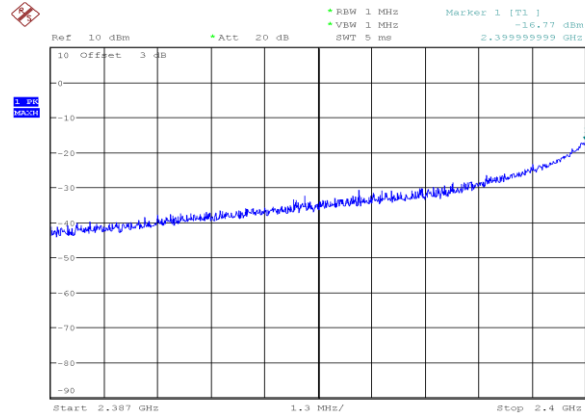
Unwanted(Spurious) emission strength

EDR

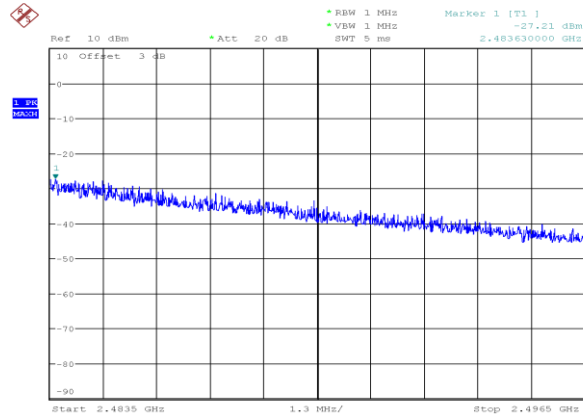
30 - 2 387 MHz



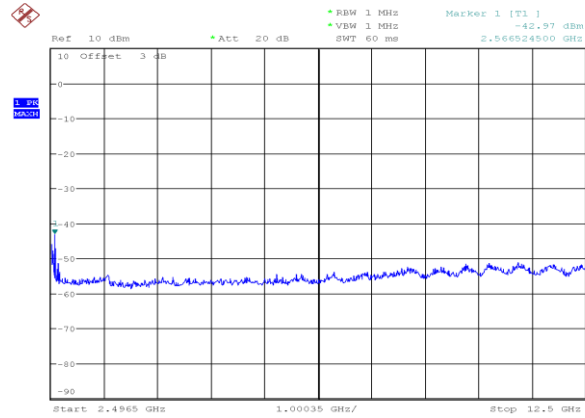
2 387 - 2 400 MHz



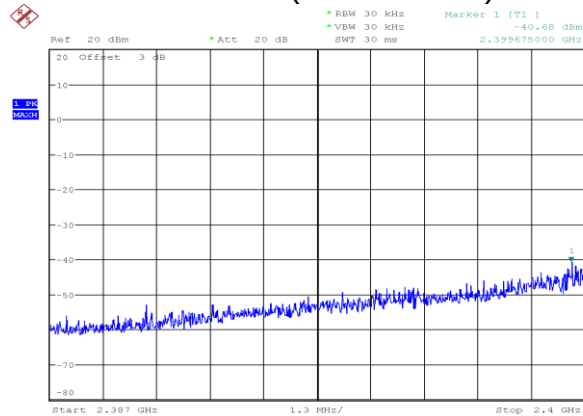
2 483.5 - 2 496.5 MHz



2 496.5 - 12 500 MHz



2 387 - 2 400 MHz (RBW 30 kHz)

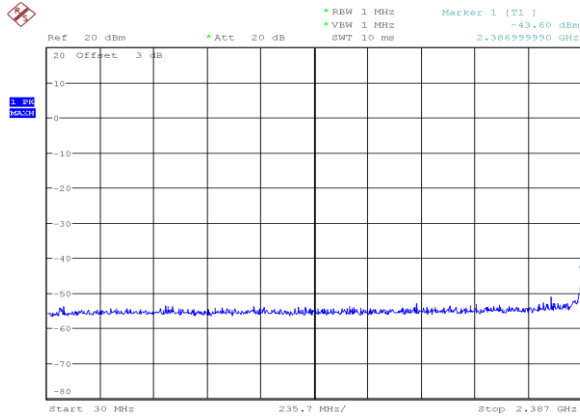


8.3スプリアスの発射又は不要発射の強度

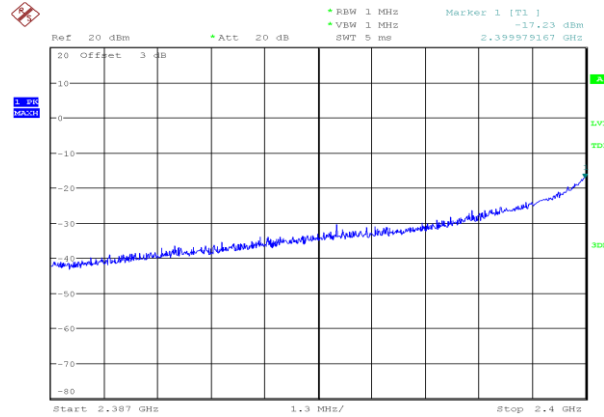
Unwanted(Spurious) emission strength

EDR AFH

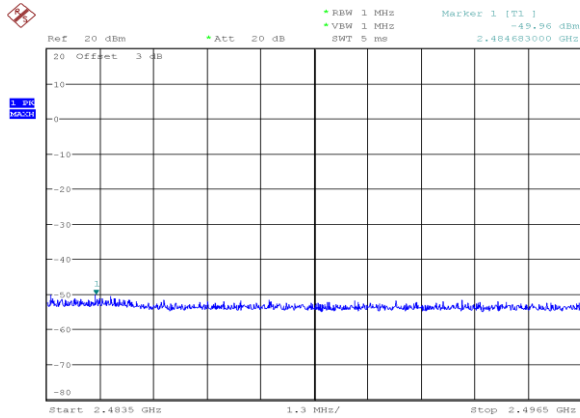
Low Channel
30 - 2 387 MHz



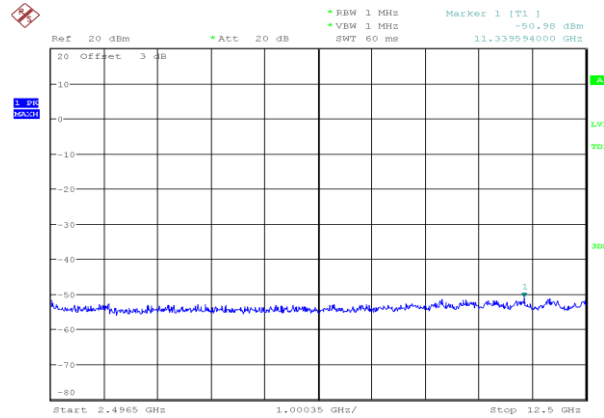
2 387 - 2 400 MHz



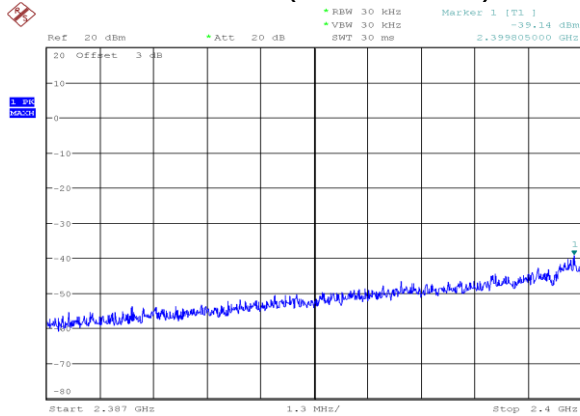
2 483.5 - 2 496.5 MHz



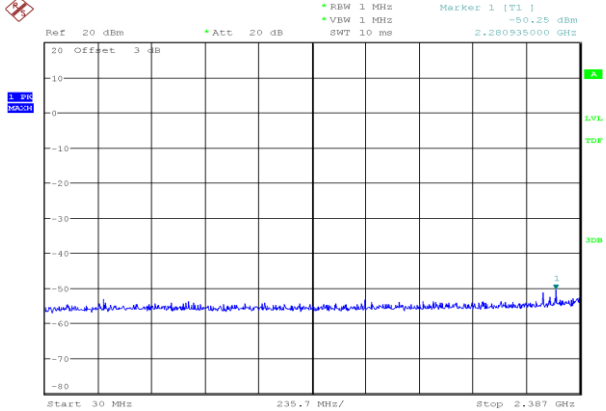
2 496.5 - 12 500 MHz



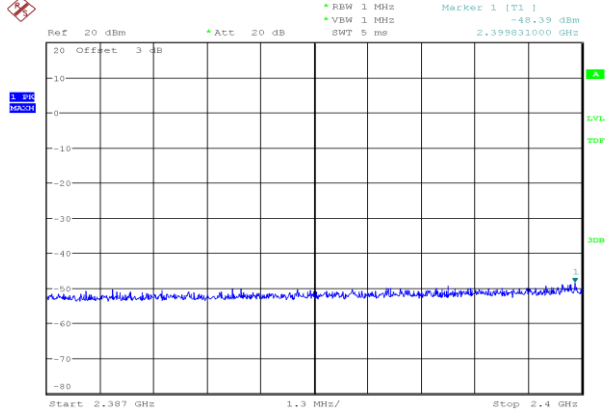
2 387 - 2 400 MHz (RBW 30 kHz)



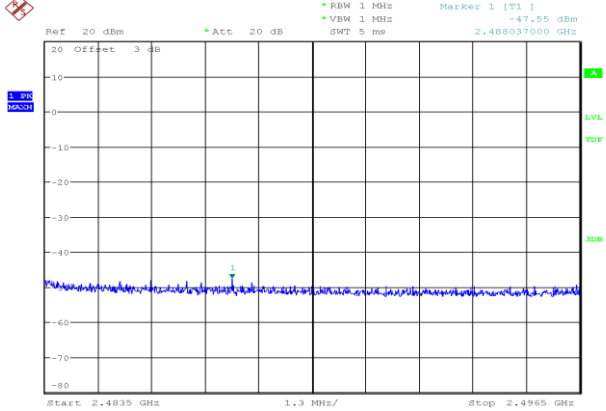
Middle Channel
30 - 2 387 MHz



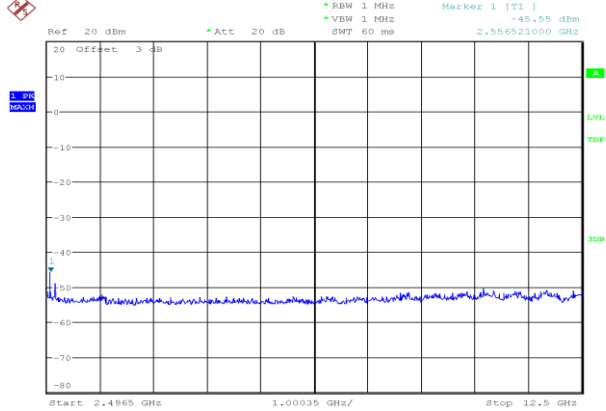
2 387 - 2 400 MHz



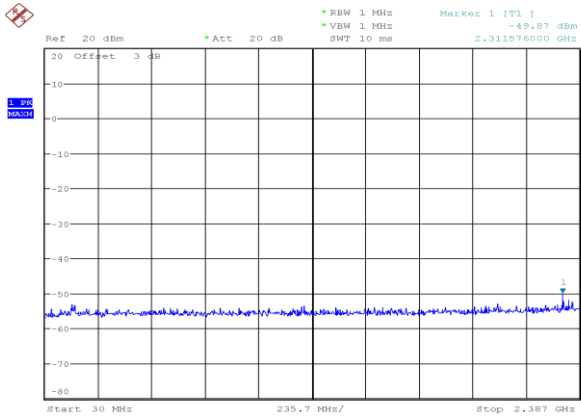
2 483.5 - 2 496.5 MHz



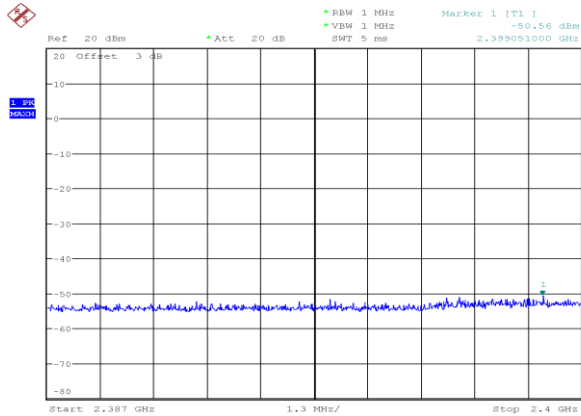
2 496.5 - 12 500 MHz



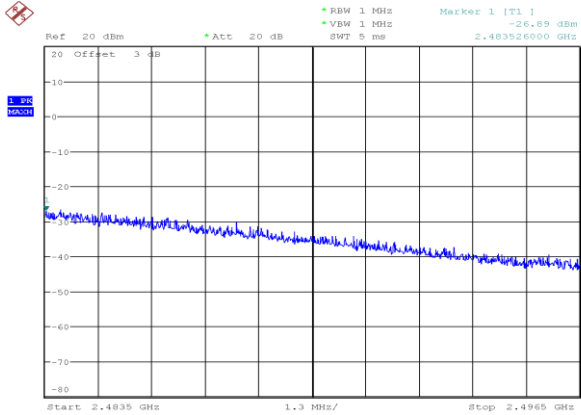
High Channel
30 - 2 387 MHz



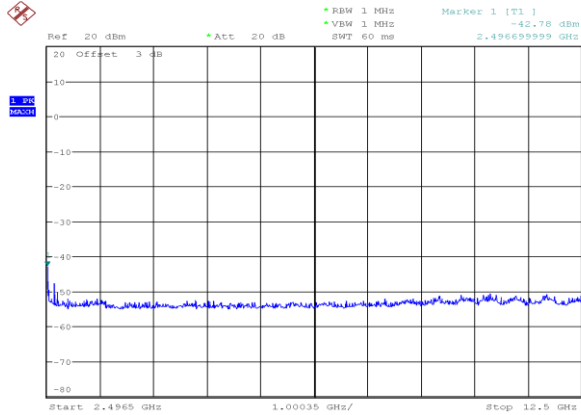
2 387 - 2 400 MHz



2 483.5 - 2 496.5 MHz



2 496.5 - 12 500 MHz

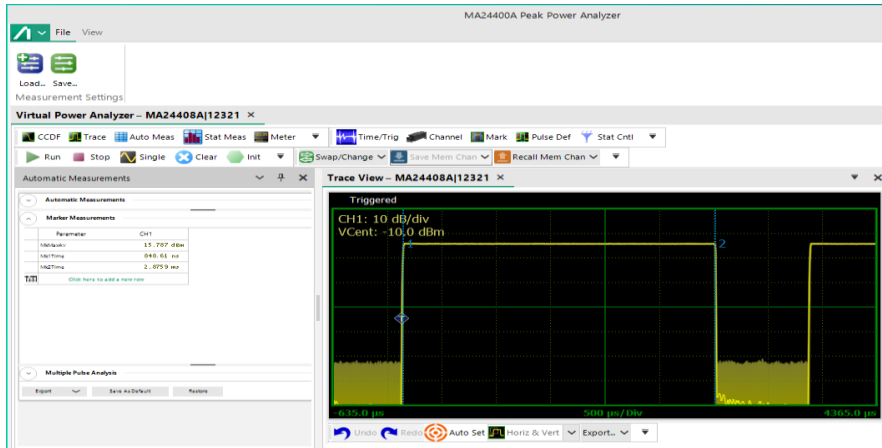


8.4 空中線電力の偏差

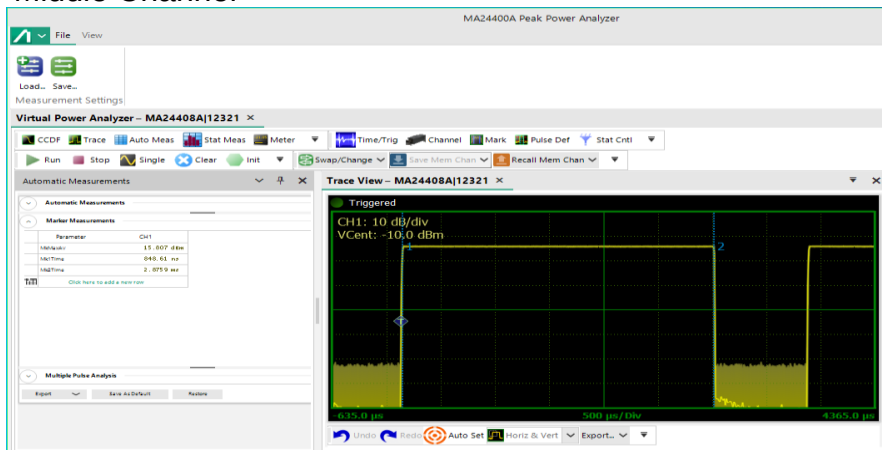
RF output power tolerance

BDR

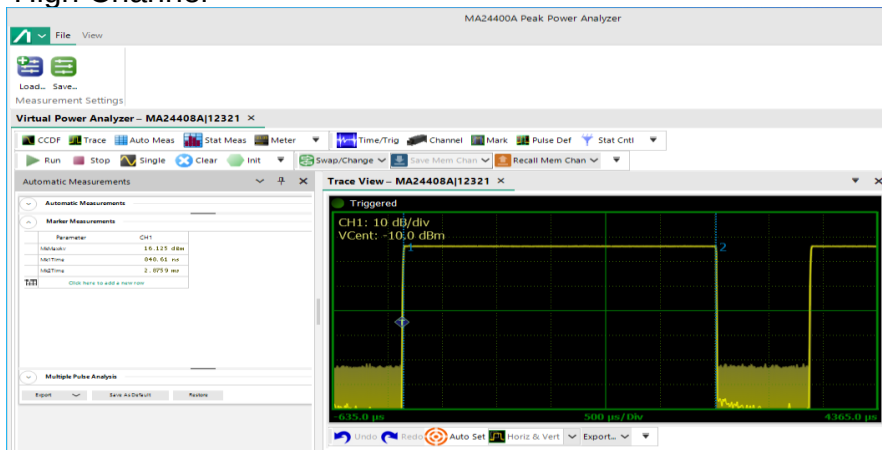
Low Channel



Middle Channel



High Channel



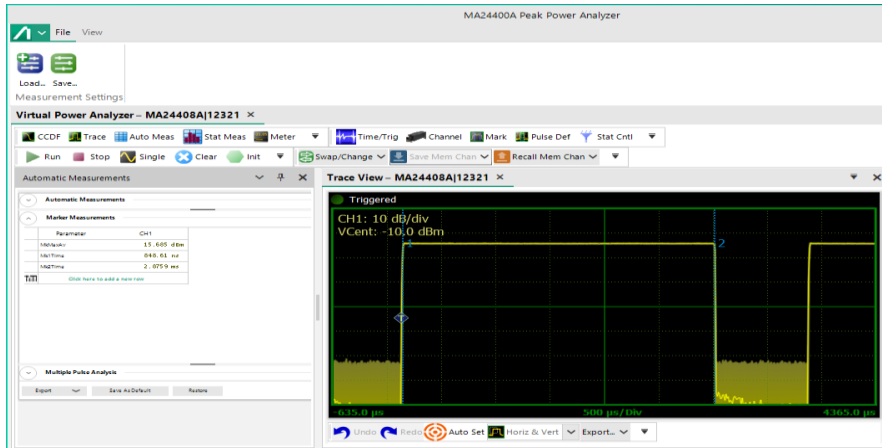


8.4 空中線電力の偏差

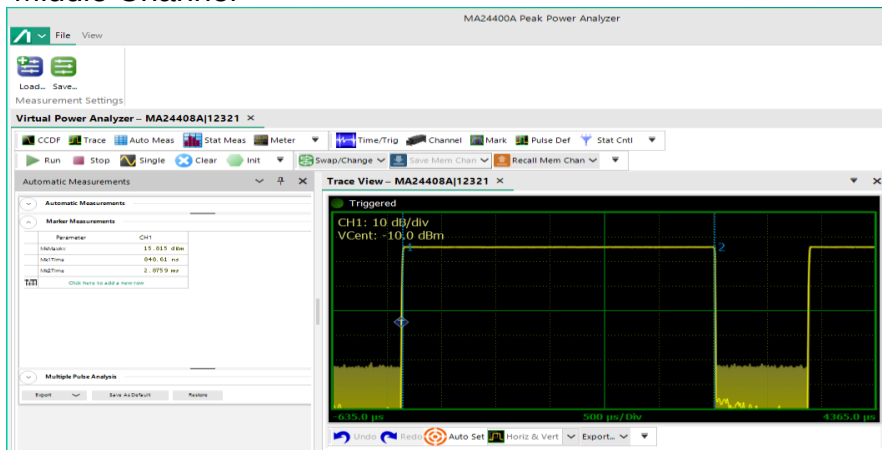
RF output power tolerance

BDR AFH

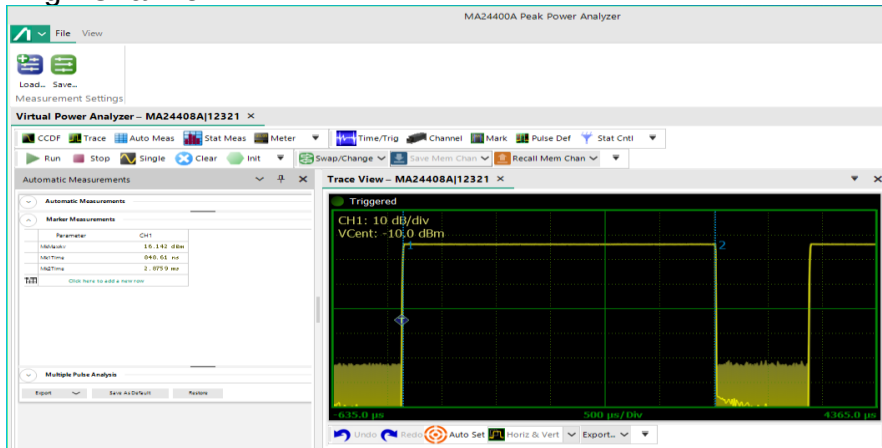
Low Channel



Middle Channel

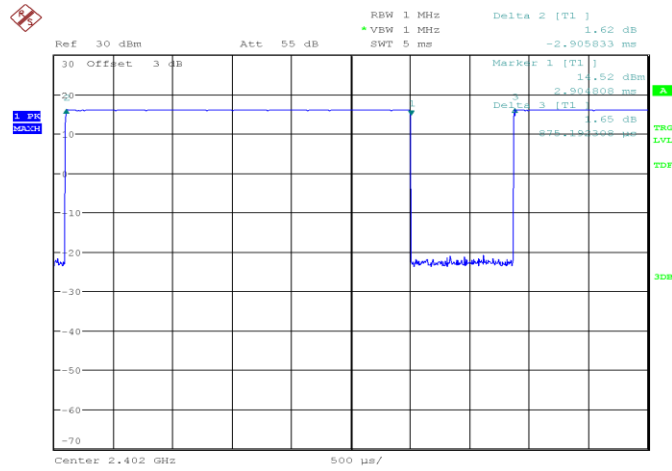


High Channel

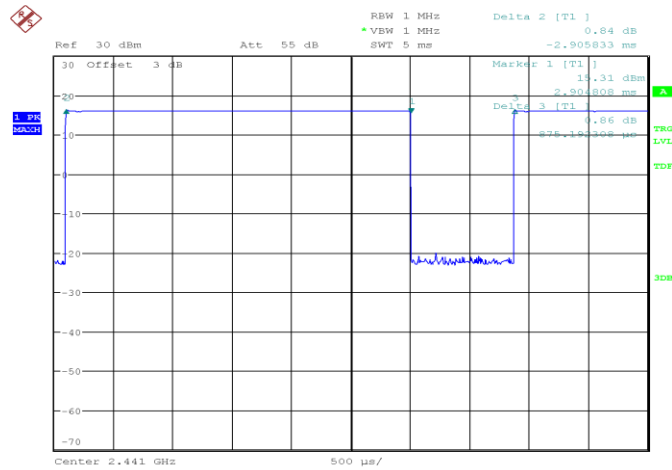


On Time / On + Off Time

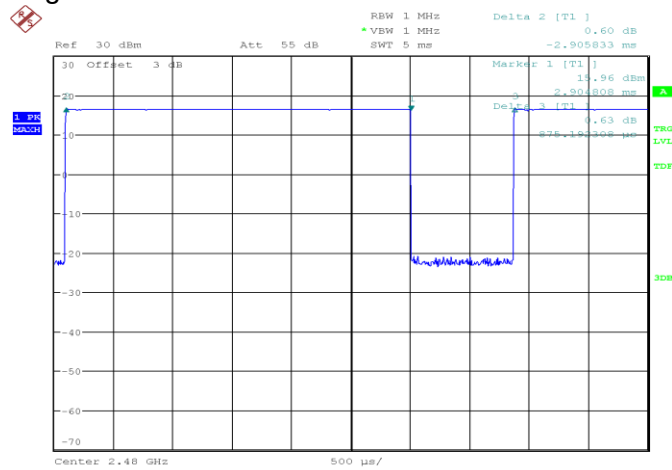
Low Channel



Middle Channel

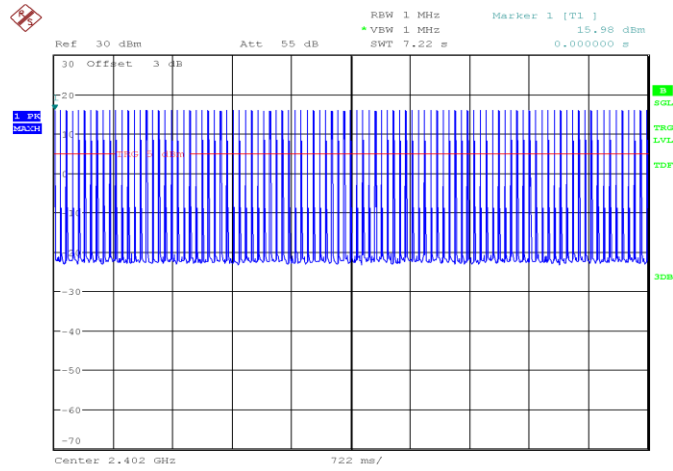


High Channel

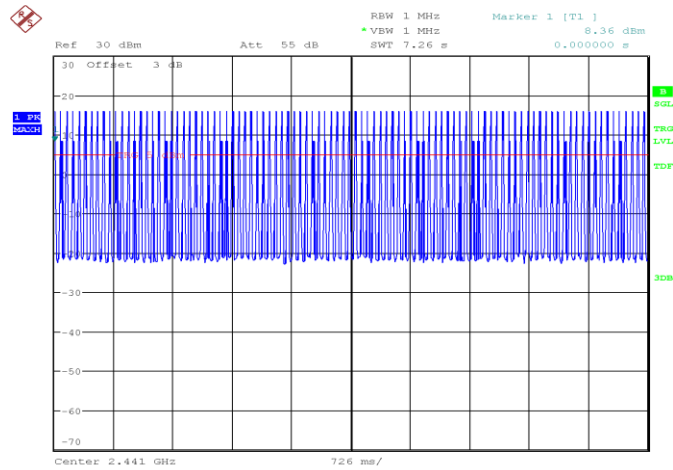


Sweep Time = (0.4 sec x Spread rate)

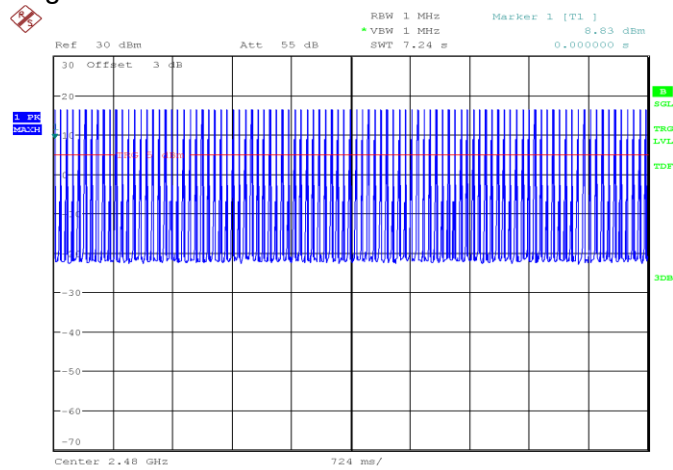
Low Channel



Middle Channel



High Channel

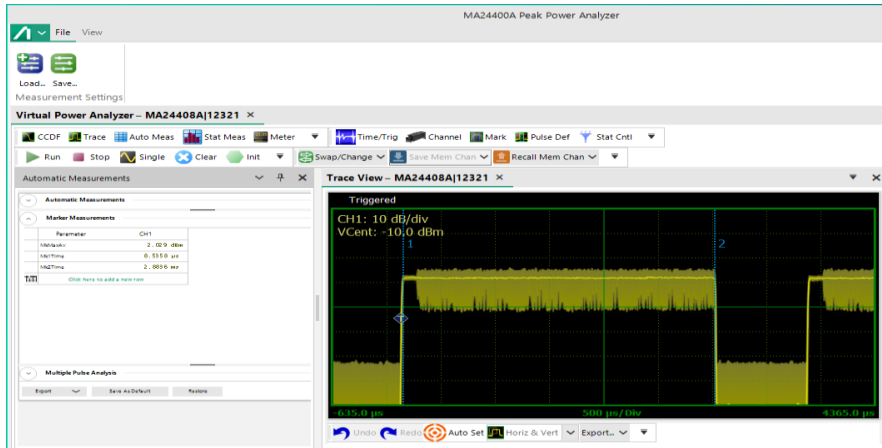


8.4 空中線電力の偏差

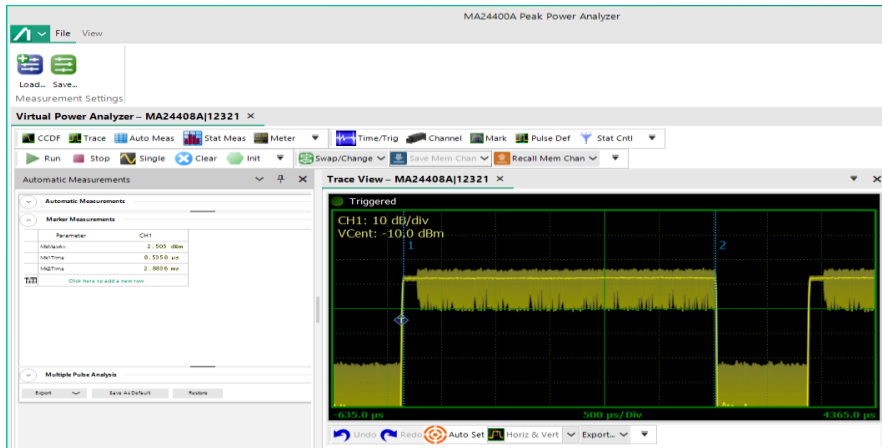
RF output power tolerance

EDR

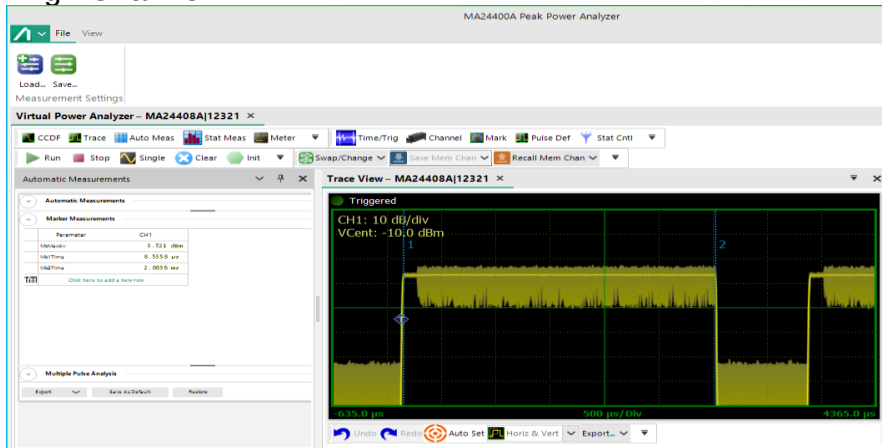
Low Channel



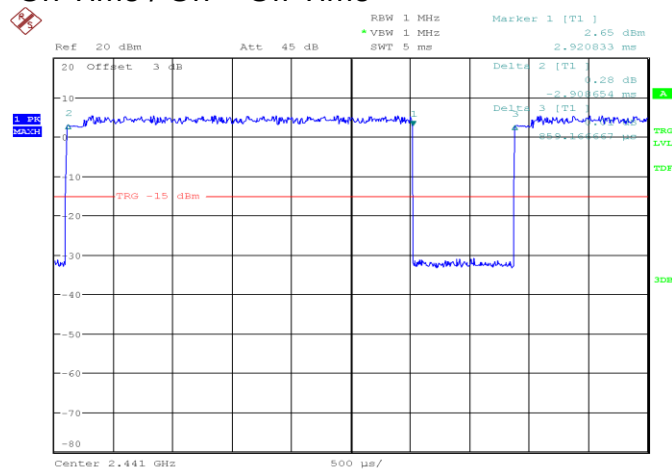
Middle Channel



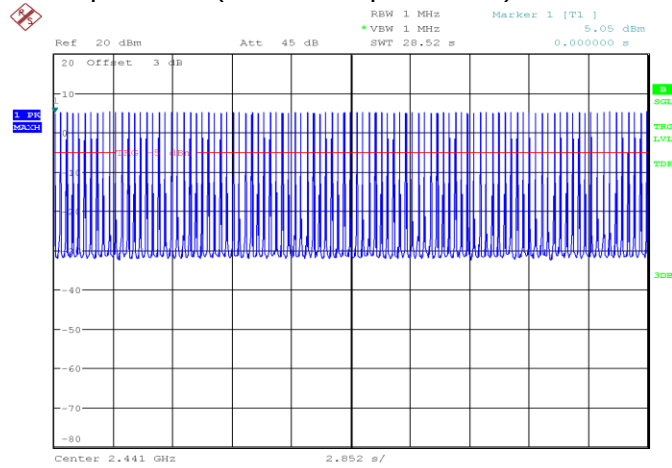
High Channel



On Time / On + Off Time



Sweep Time = (0.4 sec x Spread rate)

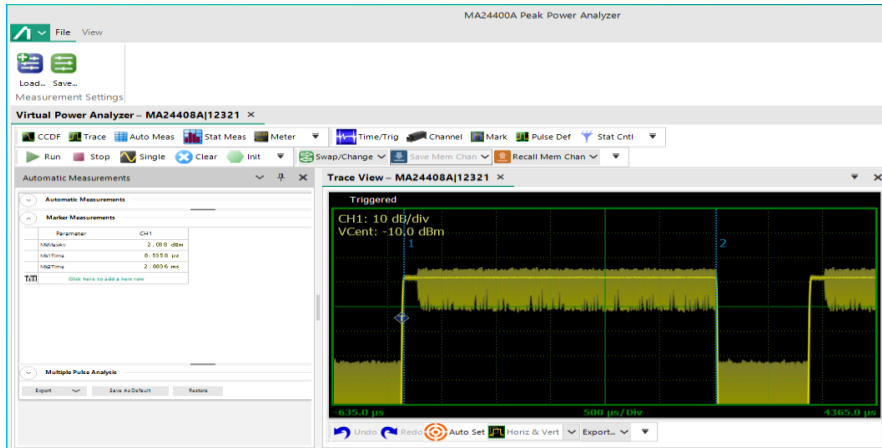


8.4 空中線電力の偏差

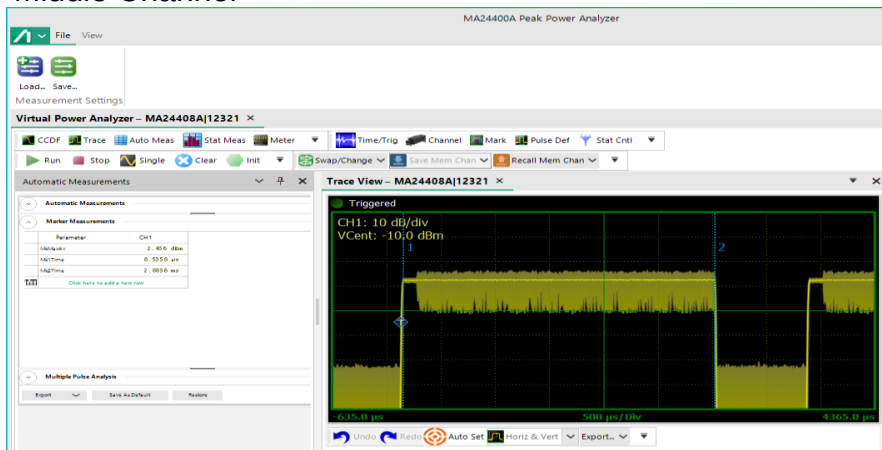
RF output power tolerance

EDR AFH

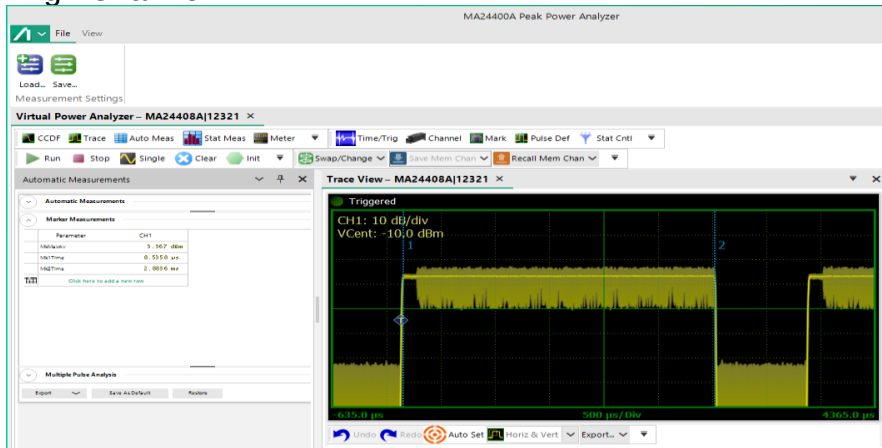
Low Channel



Middle Channel

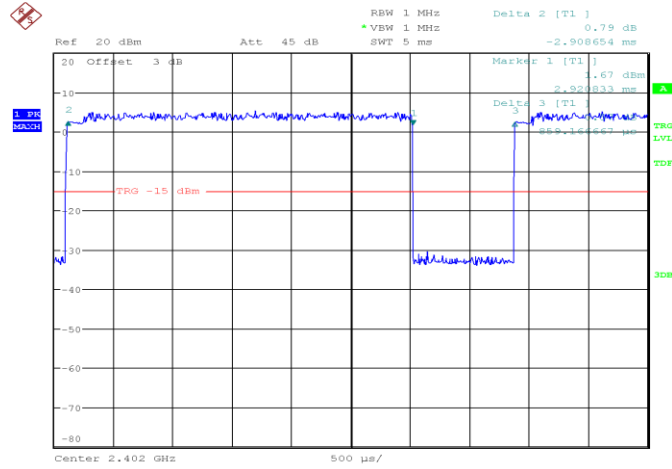


High Channel

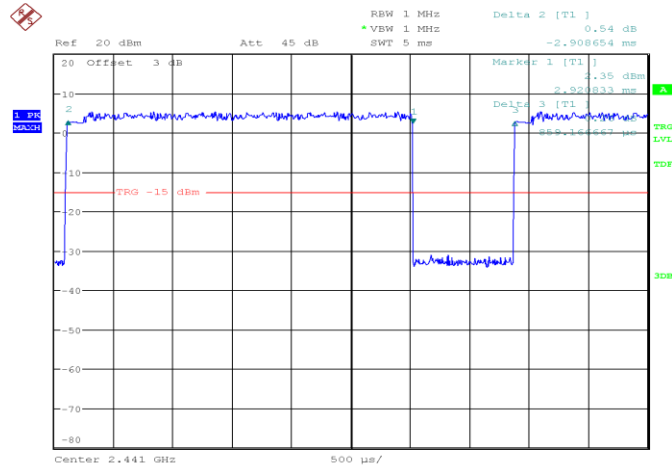


On Time / On + Off Time

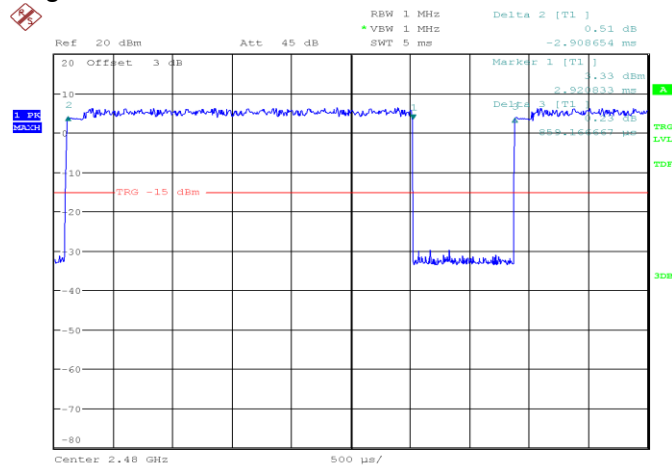
Low Channel



Middle Channel

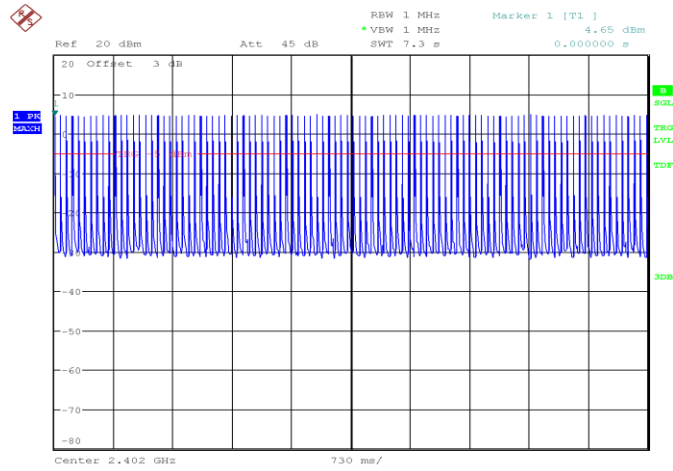


High Channel

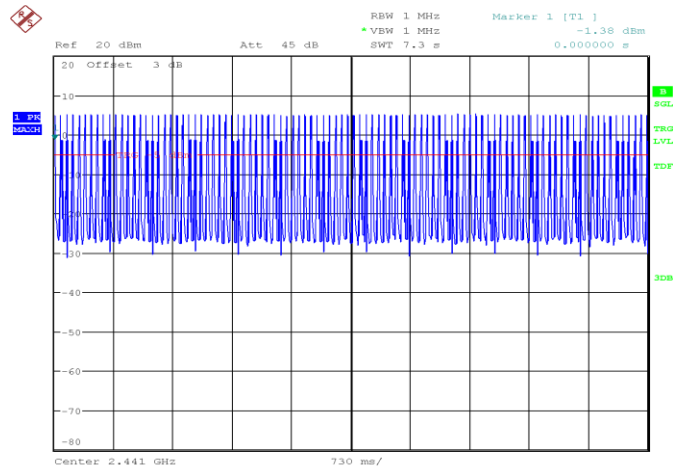


$$\text{Sweep Time} = (0.4 \text{ sec} \times \text{Spread rate})$$

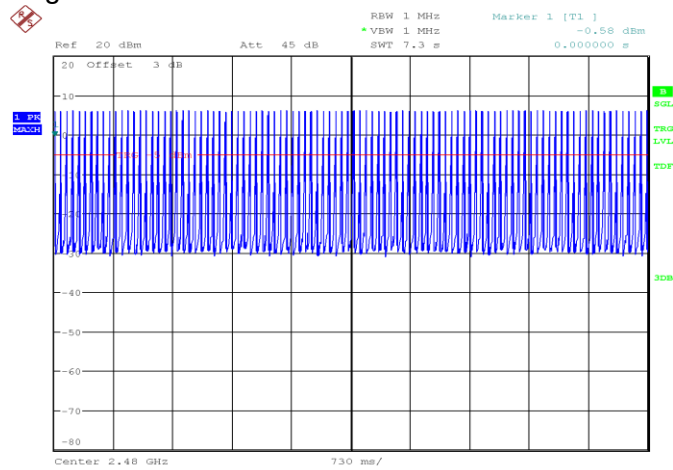
Low Channel



Middle Channel



High Channel

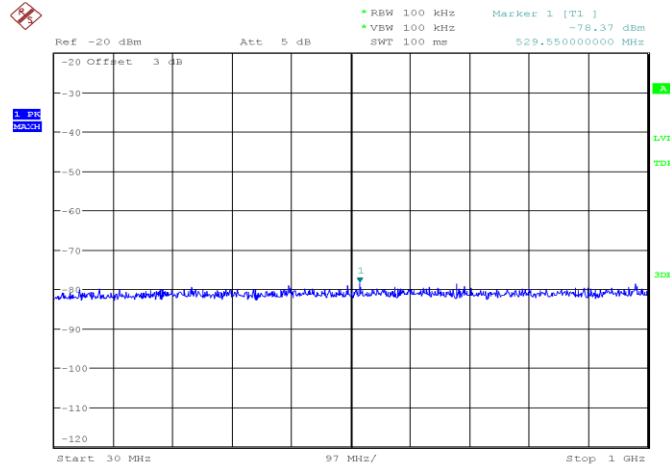


8.5 副次的に発する電波等の限度

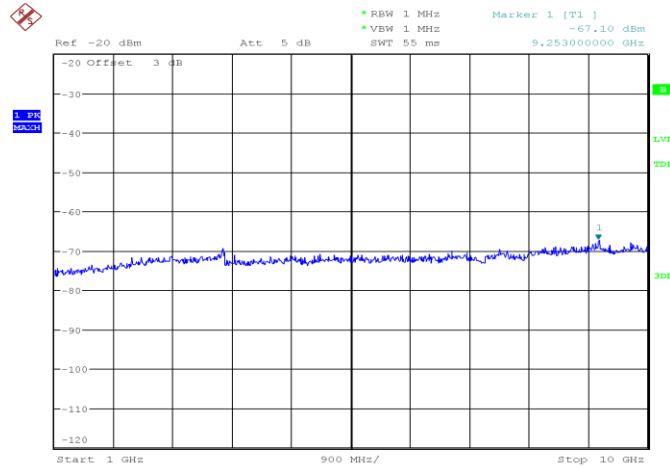
Secondary emitted radio wave strength

BDR

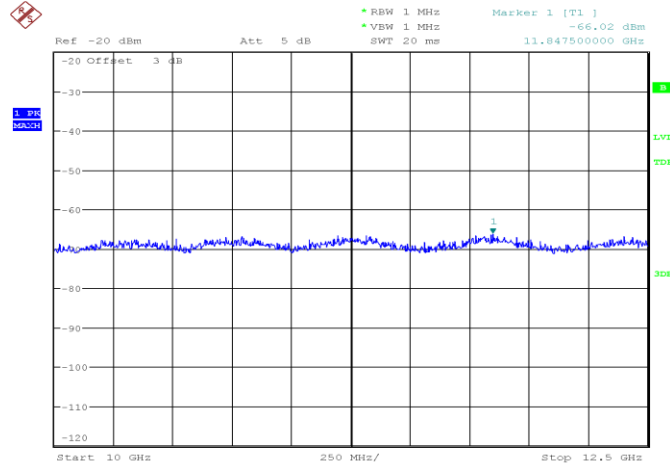
30 MHz - 1 GHz



1 GHz - 10 GHz



10 GHz - 12.5 GHz

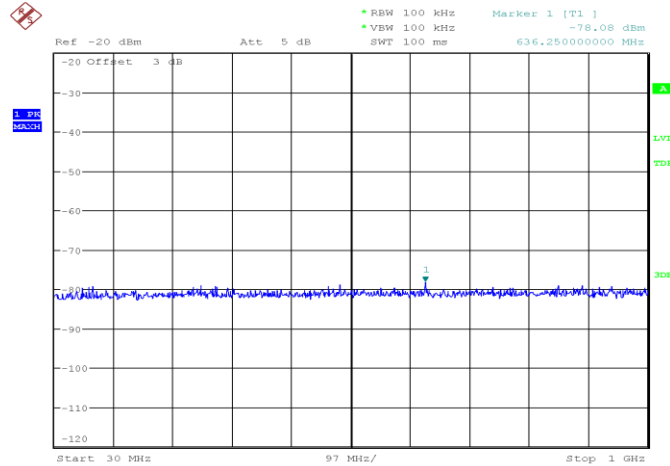


8.5 副次的に発する電波等の限度

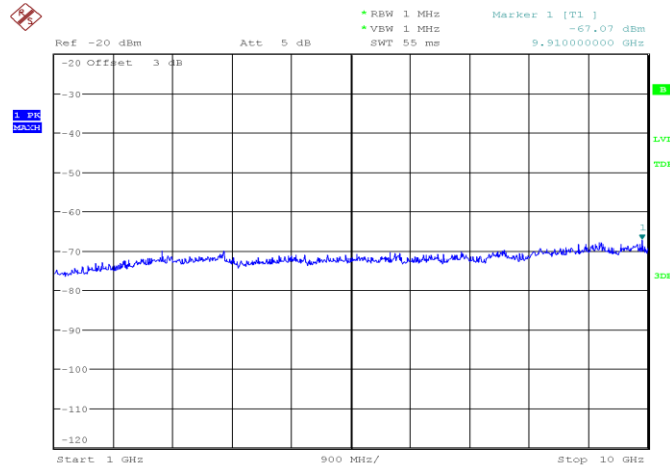
Secondary emitted radio wave strength

EDR

30 MHz - 1 GHz



1 GHz - 10 GHz



10 GHz - 12.5 GHz

