

別紙 TEST DATA

(for Bluetooth Low Energy)

1. 周波数の偏差

1.1. 試験結果

[1Mbps]

Test Voltage	Channel [MHz]	Read. Frequency [MHz]	Tolerance [kHz]	Tolerance [ppm]	Limit [ppm]
DC 3.70 V	2402	2401.99364	-6.37	-2.65	± 50.0
	2440	2439.99229	-7.71	-3.16	± 50.0
	2480	2479.99246	-7.54	-3.04	± 50.0

[2Mbps]

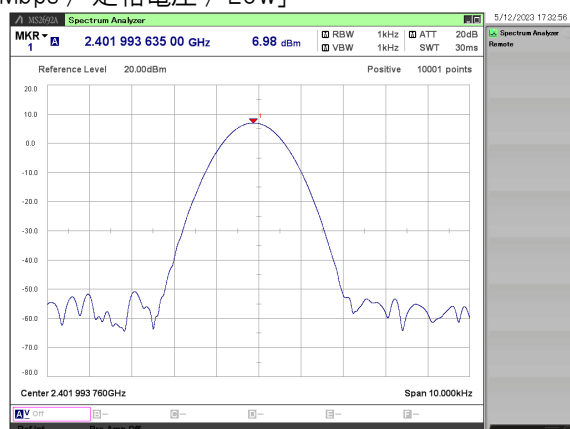
Test Voltage	Channel [MHz]	Read. Frequency [MHz]	Tolerance [kHz]	Tolerance [ppm]	Limit [ppm]
DC 3.70 V	2404	2403.99261	-7.39	-3.08	± 50.0
	2478	2477.99176	-8.24	-3.32	± 50.0

Tolerance [kHz] = (Read. Frequency [MHz] - Channel [MHz]) * 10^3

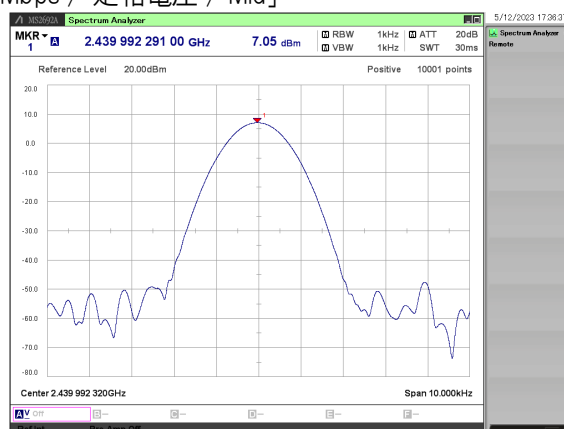
Tolerance [ppm] = Tolerance [kHz] * 10^{-3} / Channel [MHz] * 10^6

1.2. 測定器画面データ

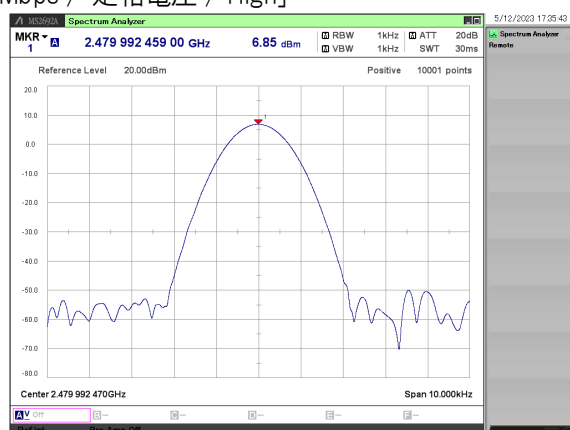
[1Mbps / 定格電圧 / Low]



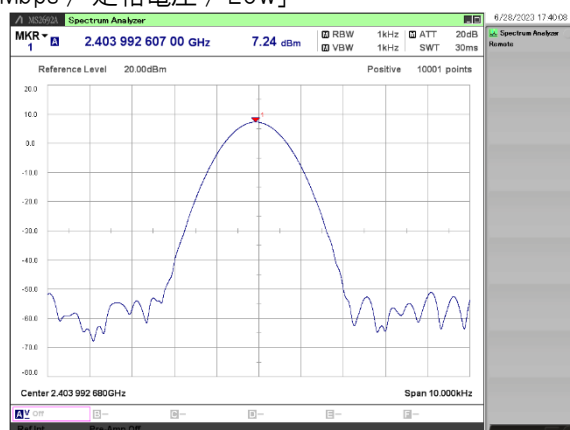
[1Mbps / 定格電圧 / Mid]



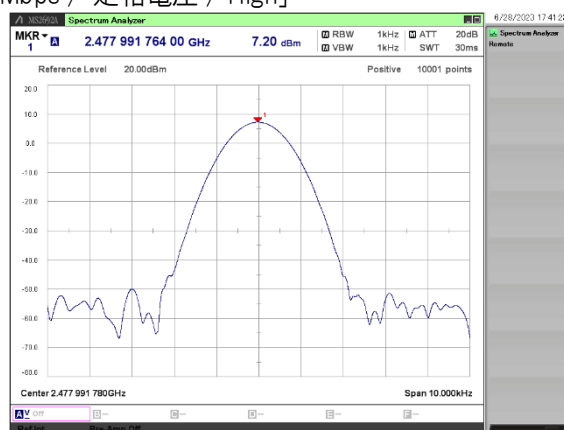
[1Mbps / 定格電圧 / High]



[2Mbps / 定格電圧 / Low]



[2Mbps / 定格電圧 / High]



2. 占有周波数帯幅

2.1. 試験結果

[1Mbps]

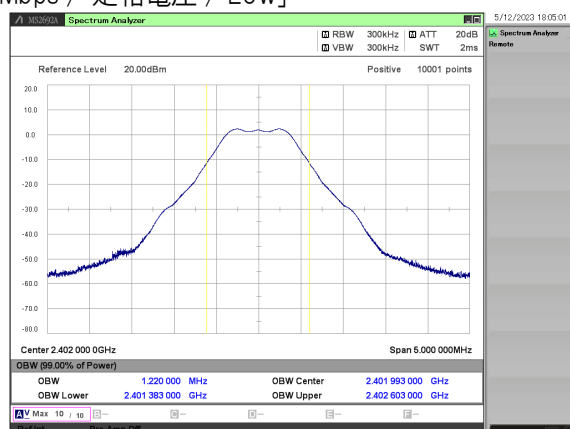
Mode	Channel [MHz]	Result [MHz]	Limit [MHz]
DC 3.70 V	2402	1.220	≤ 26.0
	2440	1.220	≤ 26.0
	2480	1.220	≤ 26.0

[2Mbps]

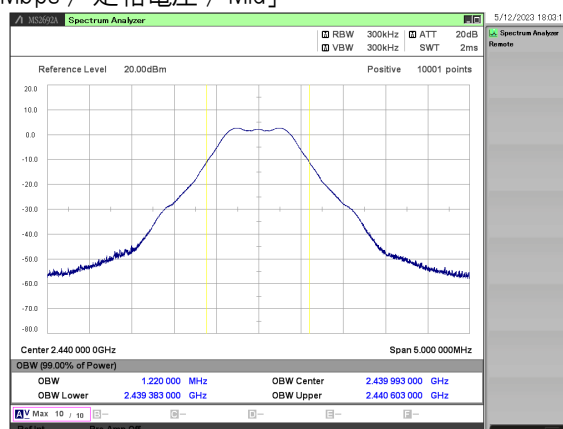
Mode	Channel [MHz]	Result [MHz]	Limit [MHz]
DC 3.70 V	2404	2.150	≤ 26.0
	2440	2.150	≤ 26.0
	2478	2.150	≤ 26.0

2.2. 測定器画面データ

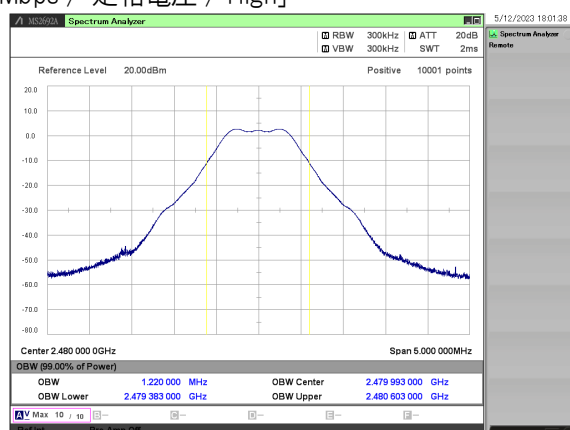
[1Mbps / 定格電圧 / Low]



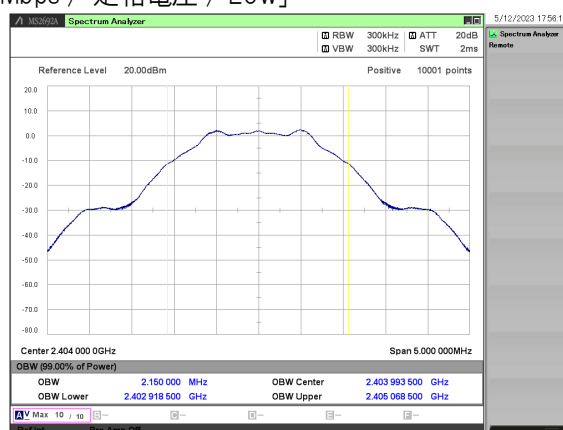
[1Mbps / 定格電圧 / Mid]



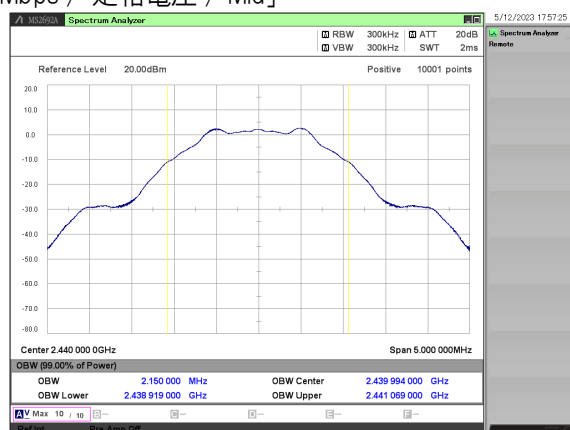
[1Mbps / 定格電圧 / High]



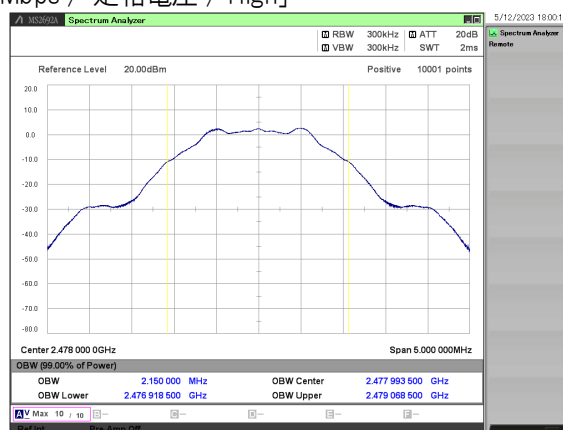
[2Mbps / 定格電圧 / Low]



[2Mbps / 定格電圧 / Mid]



[2Mbps / 定格電圧 / High]



3. スプリアス発射または不要発射の強度

3.1. 試験結果

[1Mbps]

Test Voltage	Channel [MHz]	Frequency [MHz]	S/A Read. [dBm]	C.F. [dB]	Result [dBm]	Result [uW]	Limit [dBm]	Limit [uW]	Margin [dB]
DC 3.70 V	2402	2338.14	-65.65	1.53	-64.12	0.00039	≤ -26.02	≤ 2.5	38.10
		2375.76	-55.46	1.53	-53.93	0.00404	≤ -26.02	≤ 2.5	27.91
		2399.99	-34.63	1.54	-33.09	0.49091	≤ -16.02	≤ 25.0	17.07
		2491.36	-56.96	1.54	-55.42	0.00287	≤ -16.02	≤ 25.0	39.40
		2500.35	-56.73	1.54	-55.19	0.00303	≤ -26.02	≤ 2.5	29.17
		4804.32	-69.23	1.70	-67.53	0.00018	≤ -26.02	≤ 2.5	41.51
	2440	2266.41	-69.56	1.53	-68.03	0.00016	≤ -26.02	≤ 2.5	42.01
		2375.88	-55.74	1.53	-54.21	0.00379	≤ -26.02	≤ 2.5	28.19
		2394.30	-55.72	1.54	-54.18	0.00382	≤ -16.02	≤ 25.0	38.16
		2483.73	-56.75	1.54	-55.21	0.00301	≤ -16.02	≤ 25.0	39.19
		2503.73	-55.91	1.54	-54.37	0.00366	≤ -26.02	≤ 2.5	28.35
		4879.25	-67.97	1.70	-66.27	0.00024	≤ -26.02	≤ 2.5	40.25
	2480	2220.94	-69.44	1.52	-67.92	0.00016	≤ -26.02	≤ 2.5	41.90
		2379.16	-54.90	1.53	-53.37	0.00460	≤ -26.02	≤ 2.5	27.35
		2396.59	-55.88	1.54	-54.34	0.00368	≤ -16.02	≤ 25.0	38.32
		2484.54	-49.10	1.54	-47.56	0.01753	≤ -16.02	≤ 25.0	31.54
		2499.11	-52.51	1.54	-50.97	0.00799	≤ -26.02	≤ 2.5	24.95
		2509.50	-57.85	1.54	-56.31	0.00234	≤ -26.02	≤ 2.5	30.29
		4960.17	-68.44	1.71	-66.73	0.00021	≤ -26.02	≤ 2.5	40.71

[2Mbps]

Test Voltage	Channel [MHz]	Frequency [MHz]	S/A Read. [dBm]	C.F. [dB]	Result [dBm]	Result [uW]	Limit [dBm]	Limit [uW]	Margin [dB]
DC 3.70 V	2404	2340.48	-62.43	1.53	-60.90	0.00081	≤ -26.02	≤ 2.5	34.88
		2378.06	-55.74	1.53	-54.21	0.00379	≤ -26.02	≤ 2.5	28.19
		2399.87	-50.71	1.54	-49.17	0.01212	≤ -16.02	≤ 25.0	33.15
		2486.18	-56.54	1.54	-55.00	0.00316	≤ -16.02	≤ 25.0	38.98
		2498.05	-56.56	1.54	-55.02	0.00315	≤ -26.02	≤ 2.5	29.00
		5700.47	-68.18	1.74	-66.44	0.00023	≤ -26.02	≤ 2.5	40.42
	2440	2357.12	-69.39	1.53	-67.86	0.00016	≤ -26.02	≤ 2.5	41.84
		2376.46	-55.26	1.53	-53.73	0.00424	≤ -26.02	≤ 2.5	27.71
		2388.72	-55.81	1.54	-54.27	0.00374	≤ -16.02	≤ 25.0	38.25
		2486.87	-56.74	1.54	-55.20	0.00302	≤ -16.02	≤ 25.0	39.18
		2503.00	-55.68	1.54	-54.14	0.00386	≤ -26.02	≤ 2.5	28.12
		2511.50	-66.40	1.54	-64.86	0.00033	≤ -26.02	≤ 2.5	38.84
		4879.25	-68.23	1.70	-66.53	0.00022	≤ -26.02	≤ 2.5	40.51
	2478	2367.67	-69.56	1.53	-68.03	0.00016	≤ -26.02	≤ 2.5	42.01
		2382.93	-55.60	1.54	-54.06	0.00393	≤ -26.02	≤ 2.5	28.04
		2397.25	-55.74	1.54	-54.20	0.00381	≤ -16.02	≤ 25.0	38.18
		2483.66	-49.71	1.54	-48.17	0.01526	≤ -16.02	≤ 25.0	32.15
		2498.52	-53.20	1.54	-51.66	0.00683	≤ -26.02	≤ 2.5	25.64
		2512.50	-61.25	1.54	-59.71	0.00107	≤ -26.02	≤ 2.5	33.69

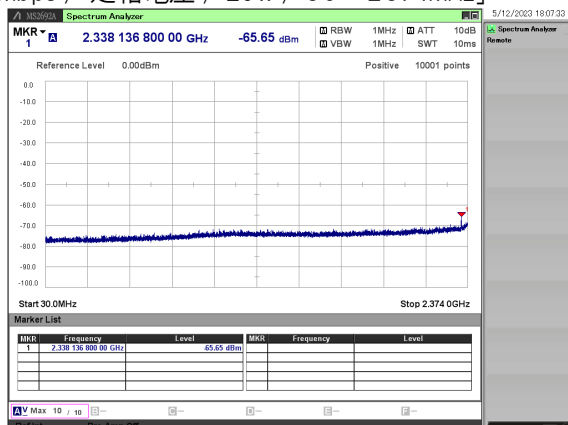
$$\text{Result [uW]} = 10^{\{(S/A \text{ Read. [dBm]} + C.F. [dB])/10\}} \times 10^3$$

※ 1GHz 未満は RBW : 1MHz で実施した結果を記載

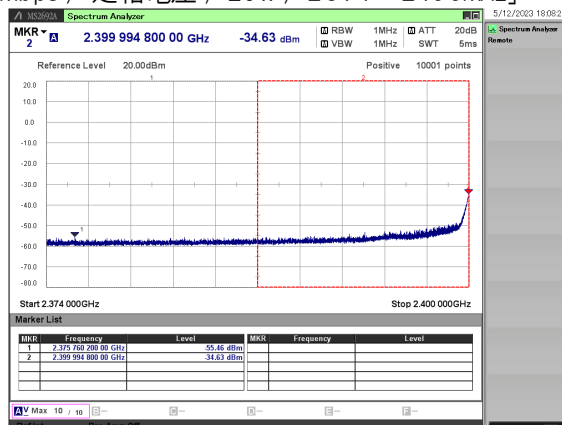
参照帯域幅 (RBW : 100kHz) 当たりに換算した値、および RBW : 100kHz で実施した結果を RBW : 1MHz 当たりに換算した値については、上記結果より小さくなるため記載を省略

3.2. 測定器画面データ

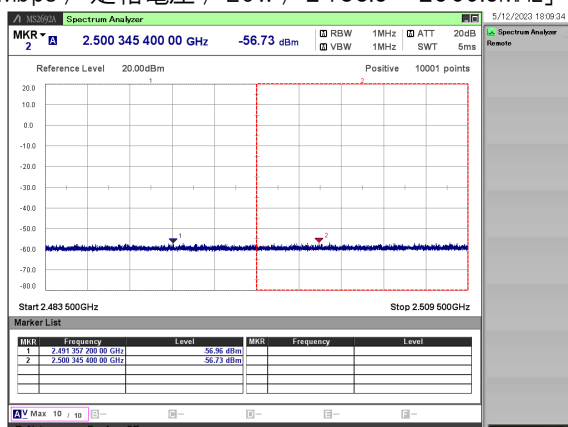
[1Mbps / 定格電圧 / Low / 30 - 2374MHz]



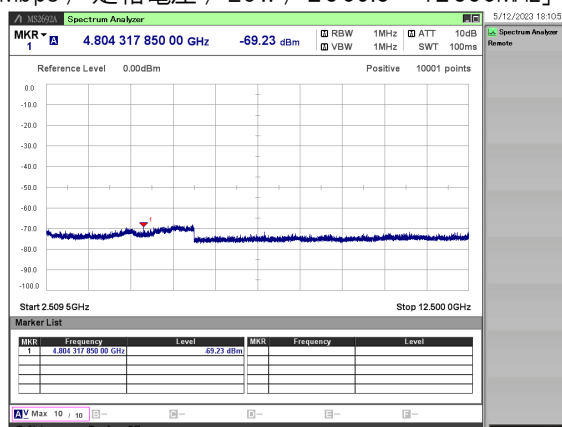
[1Mbps / 定格電圧 / Low / 2374 - 2400MHz]



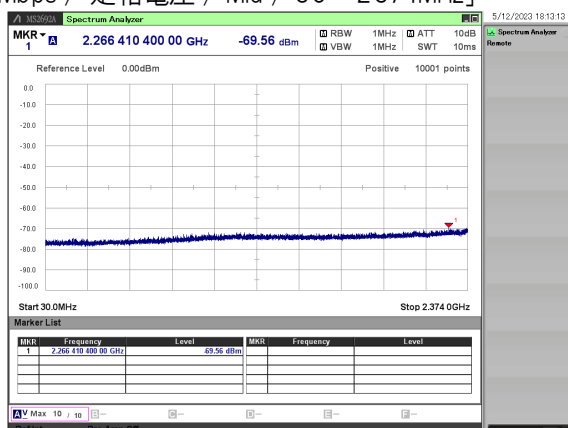
[1Mbps / 定格電圧 / Low / 2483.5 - 2509.5MHz]



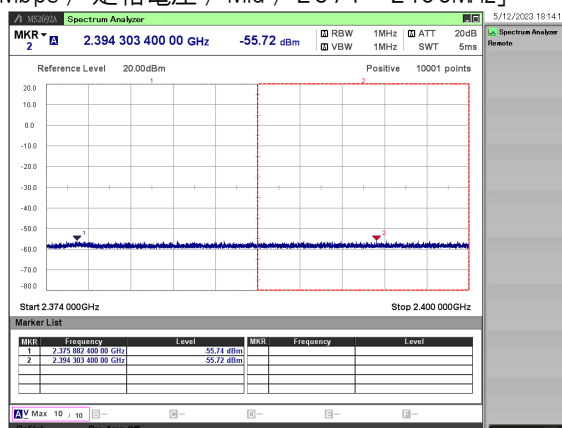
[1Mbps / 定格電圧 / Low / 2509.5 - 12500MHz]



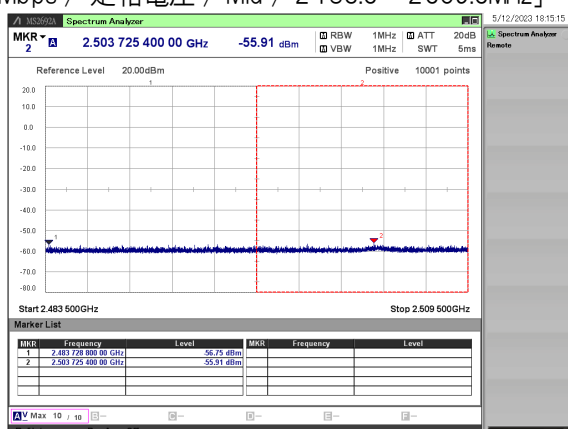
[1Mbps / 定格電圧 / Mid / 30 - 2374MHz]



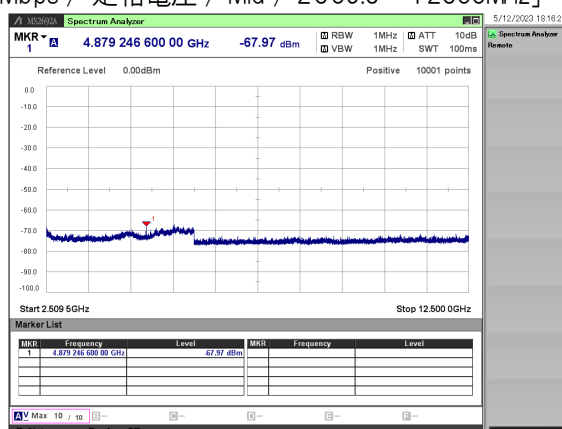
[1Mbps / 定格電圧 / Mid / 2374 - 2400MHz]



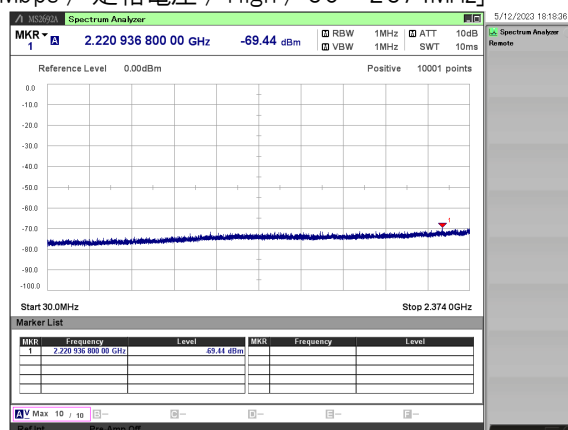
[1Mbps / 定格電圧 / Mid / 2483.5 - 2509.5MHz]



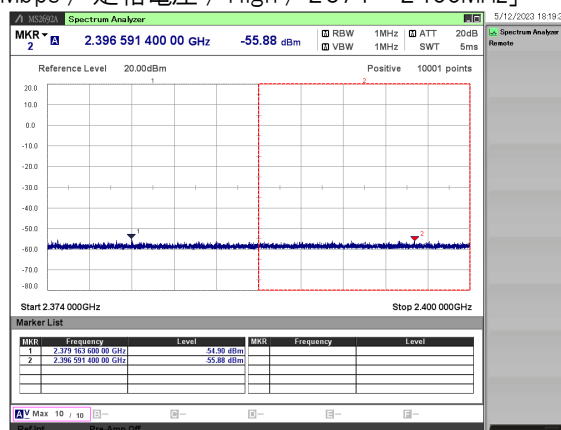
[1Mbps / 定格電圧 / Mid / 2509.5 - 12500MHz]



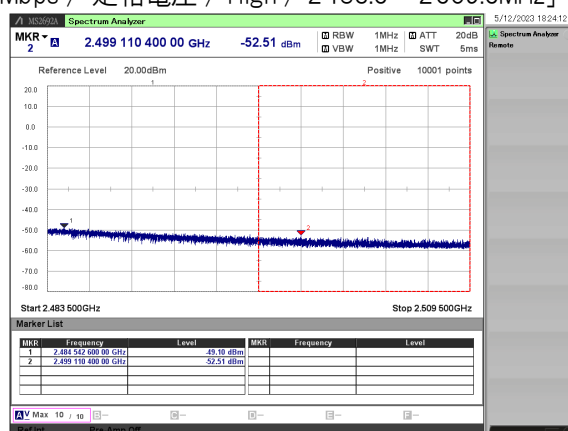
[1Mbps / 定格電圧 / High / 30 - 2374MHz]



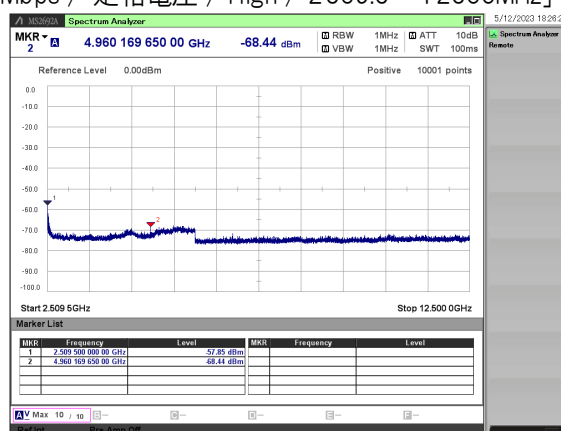
[1Mbps / 定格電圧 / High / 2374 - 2400MHz]



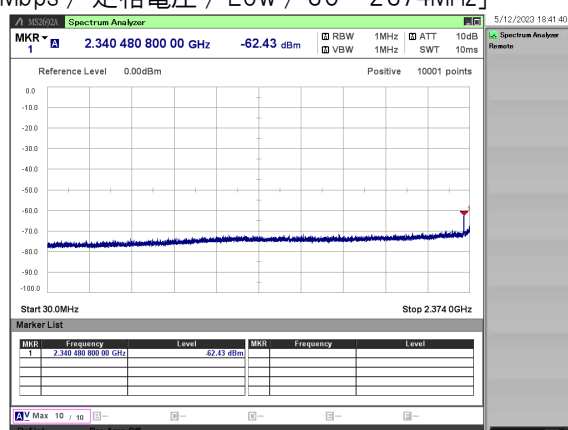
[1Mbps / 定格電圧 / High / 2483.5 - 2509.5MHz]



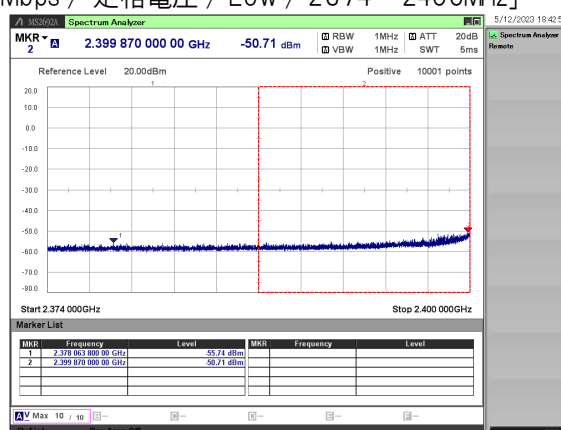
[1Mbps / 定格電圧 / High / 2509.5 - 12500MHz]



[2Mbps / 定格電圧 / Low / 30 - 2374MHz]



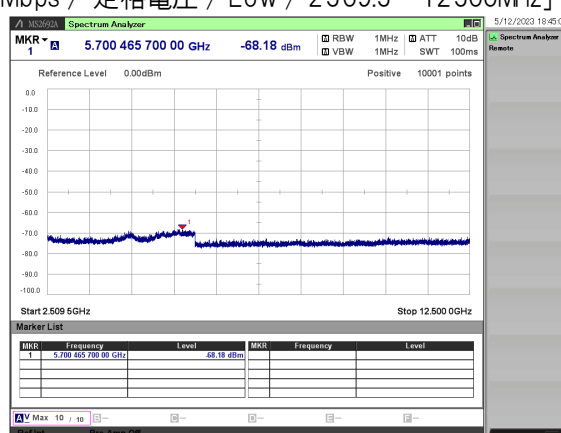
[2Mbps / 定格電圧 / Low / 2374 - 2400MHz]



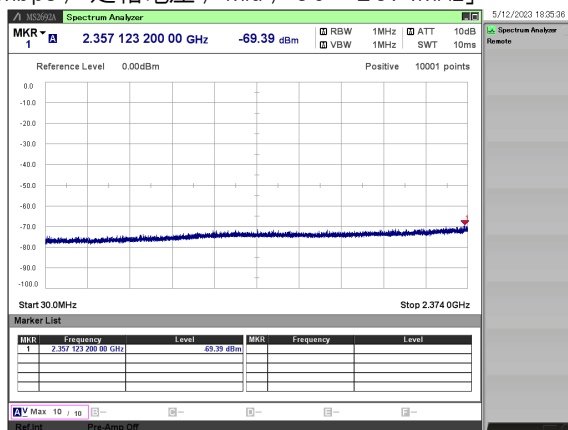
[2Mbps / 定格電圧 / Low / 2483.5 - 2509.5MHz]



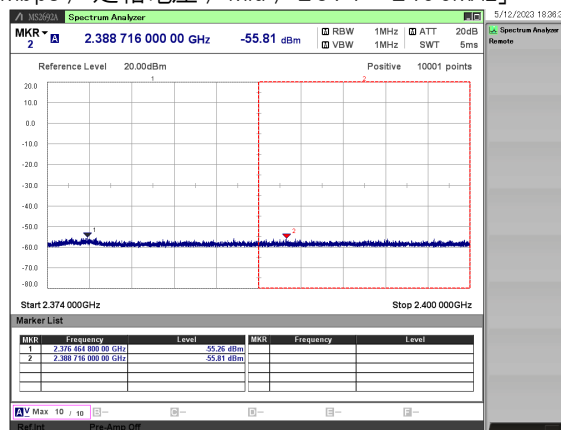
[2Mbps / 定格電圧 / Low / 2509.5 - 12500MHz]



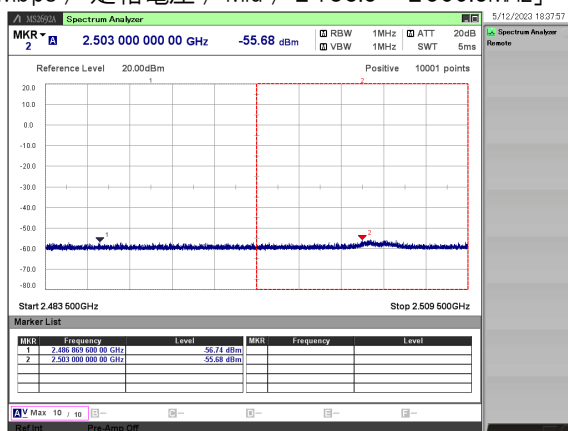
[2Mbps / 定格電圧 / Mid / 30 - 2374MHz]



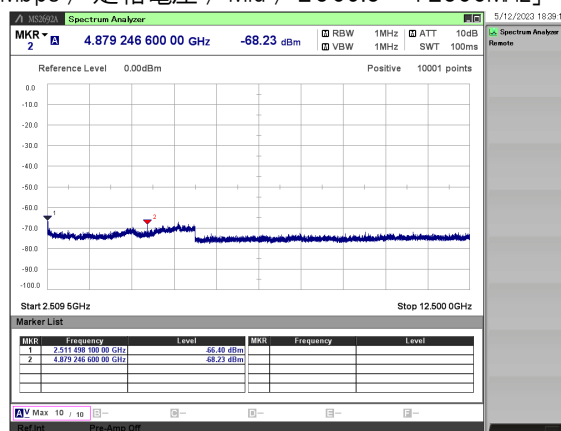
[2Mbps / 定格電圧 / Mid / 2374 - 2400MHz]



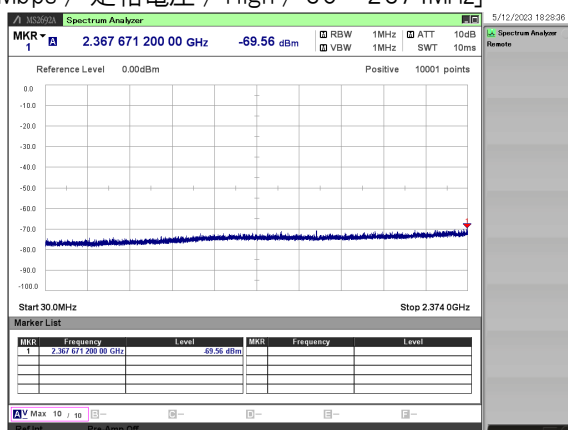
[2Mbps / 定格電圧 / Mid / 2483.5 - 2509.5MHz]



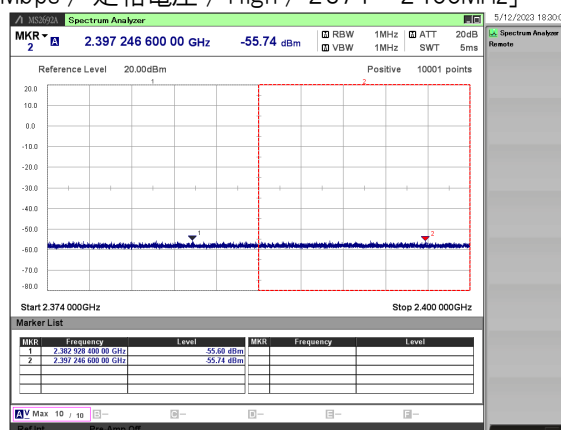
[2Mbps / 定格電圧 / Mid / 2509.5 - 12500MHz]



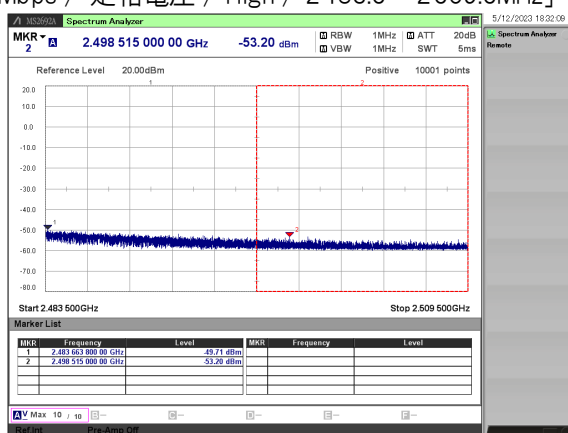
[2Mbps / 定格電圧 / High / 30 - 2374MHz]



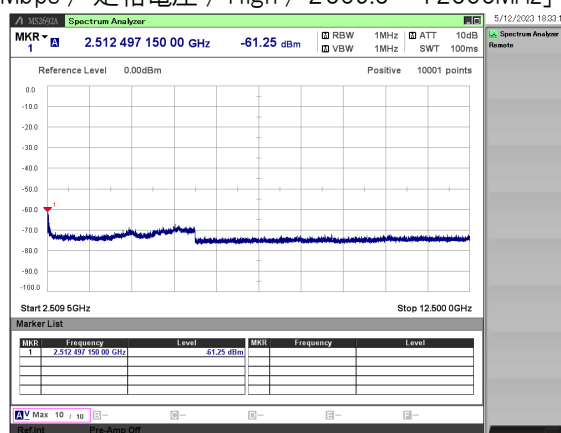
[2Mbps / 定格電圧 / High / 2374 - 2400MHz]



[2Mbps / 定格電圧 / High / 2483.5 - 2509.5MHz]



[2Mbps / 定格電圧 / High / 2509.5 - 12500MHz]



4. 空中線電力の偏差

4.1. 試験結果

[1Mbps]

Test Voltage	Channel [MHz]	S/A Read. [dBm]	C.F. [dB]	Power [mW]	Power Limit [mW]	Tolerance [%]	Tolerance Limit [%]
DC 3.70 V	2402	2.25	1.54	2.3933	≤ 10.0	-33.92	+20 ~ -80
	2440	2.61	1.54	2.6002	≤ 10.0	-28.21	+20 ~ -80
	2480	2.63	1.54	2.6122	≤ 10.0	-27.88	+20 ~ -80

[2Mbps]

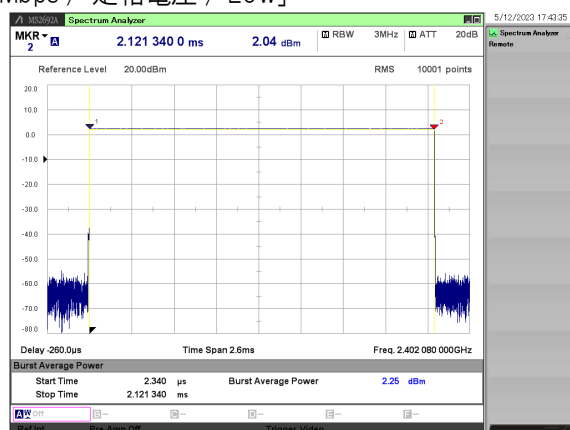
Test Voltage	Channel [MHz]	S/A Read. [dBm]	C.F. [dB]	Power [mW]	Power Limit [mW]	Tolerance [%]	Tolerance Limit [%]
DC 3.70 V	2404	2.08	1.54	2.3014	≤ 10.0	-36.45	+20 ~ -80
	2440	2.42	1.54	2.4889	≤ 10.0	-31.28	+20 ~ -80
	2478	2.50	1.54	2.5351	≤ 10.0	-30.00	+20 ~ -80

$$\text{Power [mW]} = 10^{\{(S/A \text{ Read. [dBm]} + C.F. [dB])/10\}}$$

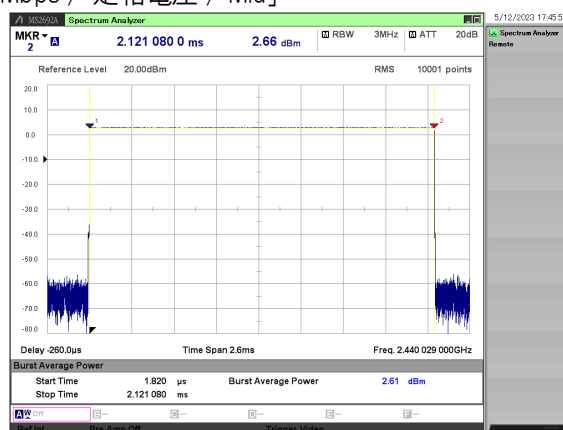
$$\text{Tolerance [\%]} = \text{Power [mW]} / \text{申請定格電力 [mW]} * 100 - 100$$

4.2. 測定器画面データ

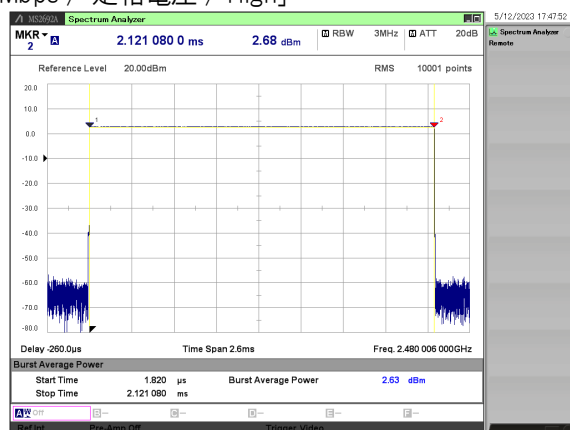
[1Mbps / 定格電圧 / Low]



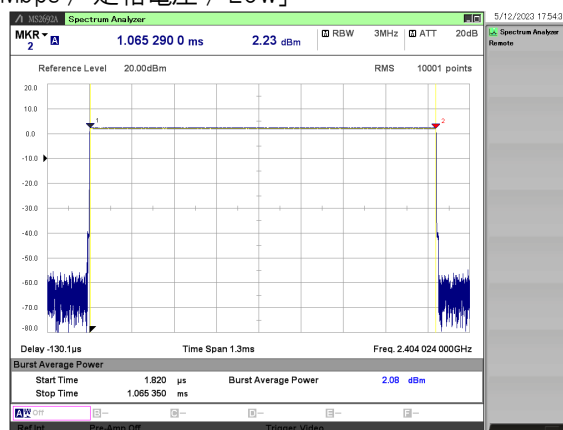
[1Mbps / 定格電圧 / Mid]



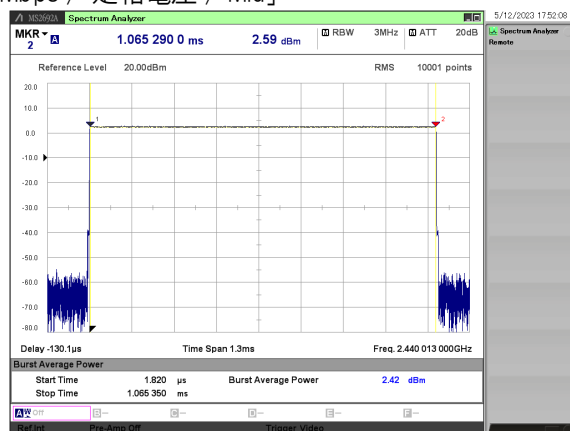
[1Mbps / 定格電圧 / High]



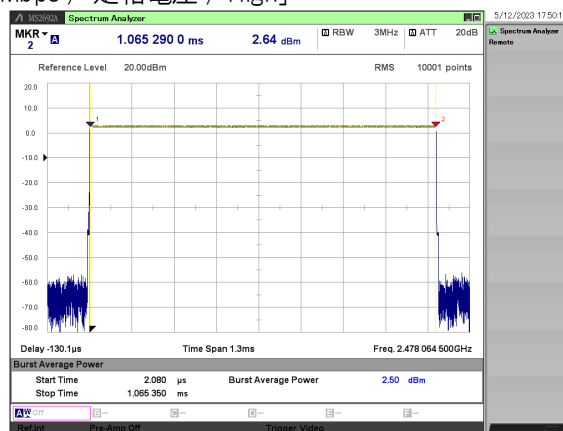
[2Mbps / 定格電圧 / Low]



[2Mbps / 定格電圧 / Mid]



[2Mbps / 定格電圧 / High]



5. 副次的に発する電波等の限度

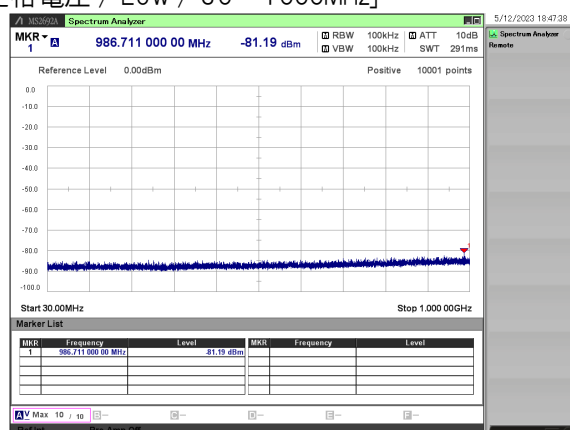
5.1. 試験結果

Test Voltage	Channel [MHz]	Frequency [MHz]	S/A Read. [dBm]	C.F. [dB]	Result [dBm]	Result [nW]	Limit [dBm]	Limit [nW]	Margin [dB]
DC 3.70 V	2402	986.71	-81.19	1.40	-79.79	0.01050	≤ -53.97	≤ 4.0	25.82
		5551.70	-68.26	1.73	-66.53	0.22223	≤ -46.98	≤ 20.0	19.55
	2440	961.88	-82.55	1.40	-81.15	0.00768	≤ -53.97	≤ 4.0	27.18
		5614.95	-67.57	1.74	-65.83	0.26122	≤ -46.98	≤ 20.0	18.85
	2480	897.28	-82.61	1.39	-81.22	0.00756	≤ -53.97	≤ 4.0	27.25
		5593.10	-67.29	1.74	-65.55	0.27874	≤ -46.98	≤ 20.0	18.57

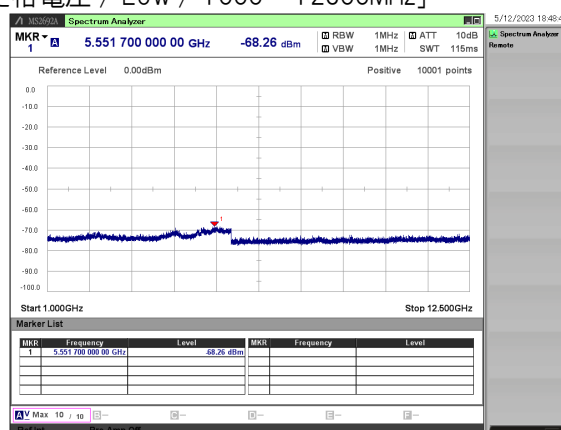
$$\text{Result [nW]} = 10^{\{(S/A \text{ Read. [dBm]} + C.F. [dB])/10\}} \times 10^6$$

5.2. 測定器画面データ

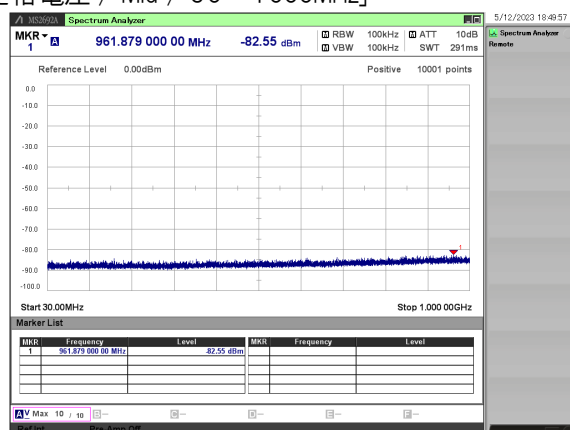
[定格電圧 / Low / 30 - 1000MHz]



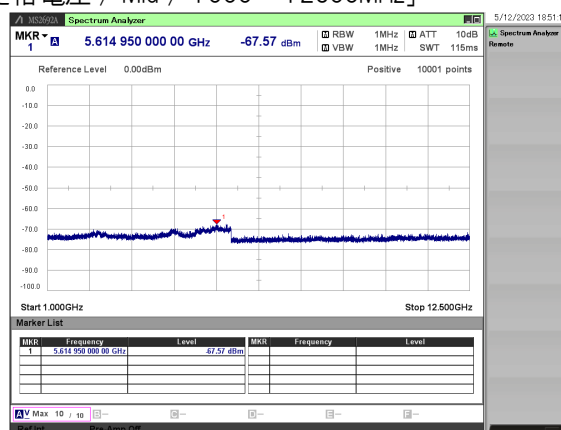
[定格電圧 / Low / 1000 - 12500MHz]



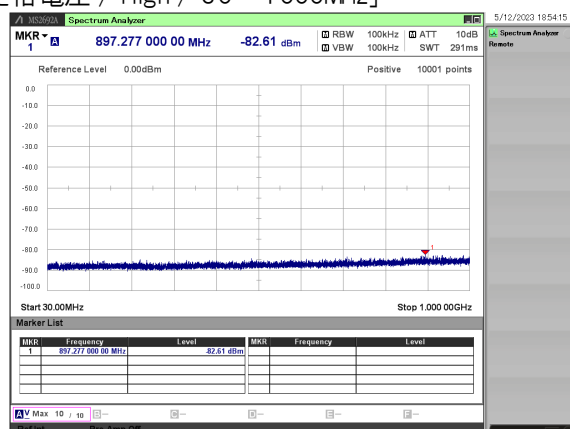
[定格電圧 / Mid / 30 - 1000MHz]



[定格電圧 / Mid / 1000 - 12500MHz]



[定格電圧 / High / 30 - 1000MHz]



[定格電圧 / High / 1000 - 12500MHz]

