

Test Report

Applicant:	Deere & Company		
Manufacturer:	Deere & Company		
Model Name:	PH85241786		
Serial Number:	#0		
Radio Type:	24 GHz RF Radar Sensor		
Date of Test:	2026-02-05 ~ 2026-02-11		
Test report be issued date:	2026-03-05		
Test Method:	Article 2-1-8 of the Certification Ordinance : TELEC-T308(Ver 5.3)		
Test Result	Pass		
Test Location:	HCT CO.,LTD.	74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Korea.	
Test Engineer	HwangGu Kim	(Signature)	
Technical Reviewer	YongHyun Lee	(Signature)	

Test Result and Measuring equipment for certification

Detection sensor of moving objects (24.15 GHz band)

Radio Equipment for test	Model or type name: PH85241786	Test environment	Temperature : 25.1 °C	Test Method: TELEC-T308(Rev.5.3)	NON, 1 channel (24.15 GHz)	PH85241786
			Humidity : 50.2 %			0.50 mW
	Serial number: -	Engineer: H.G.KIM Reviewer: Y.H.LEE Date: FEB.05.2026~ FEB.11.2026 Test location: HCT				

Equipment	Model and type name	Serial number	Manufacturer	Last Calibrated date	Calibration Company	Note
	MXA Signal Analyzer(N9020A)	MY46471250	Agilent	2025-08-04	HCT Co., Ltd.	Based on Japanese Radio Law 24-2-4-2-ha
	Spectrum Analyzer(N9030B)	MY60070602	KEYSIGHT	2025-04-23	HCT Co., Ltd.	Based on Japanese Radio Law 24-2-4-2-ha
	DC Power Supply(PWR800L)	LJ003448	KIKUSUI	2025-05-15	HCT Co., Ltd.	Based on Japanese Radio Law 24-2-4-2-ha
	RF Switching System(FBSR-04C(Thru))	S4L6	T&M SYSTEM	2025-03-12	HCT Co., Ltd.	Based on Japanese Radio Law 24-2-4-2-ha
	RF Switching System(FBSR-04C(10dB ATT+LNA))	S4L2	T&M SYSTEM	2025-03-12	HCT Co., Ltd.	Based on Japanese Radio Law 24-2-4-2-ha
	RF Switching System(FBSR-04C(3G HPF+LNA))	S4L1	T&M SYSTEM	2025-03-12	HCT Co., Ltd.	Based on Japanese Radio Law 24-2-4-2-ha
	RF Switching System(FBSR-04C(7G HPF+LNA))	S4L5	T&M SYSTEM	2025-03-12	HCT Co., Ltd.	Based on Japanese Radio Law 24-2-4-2-ha
	SA Extension Module(SAX WR19)	SAX771	VDI	2025-02-25	HCT Co., Ltd.	Based on Japanese Radio Law 24-2-4-2-ha
	Low Noise Amplifier(TK-PA1840H)	I70011-L	TESTEK	2025-09-29	HCT Co., Ltd.	Based on Japanese Radio Law 24-2-4-2-ha
	Signal Generator(SMF100A)	I05078	Rohde&Schwarz	2025-05-15	HCT Co., Ltd.	Based on Japanese Radio Law 24-2-4-2-ha
	WR-19 Multiplier Source Module(S19MS-A)	I60516-I	OML INC.	2025-07-04	HCT Co., Ltd.	Based on Japanese Radio Law 24-2-4-2-ha
	Vibration Testing System(G-210N)	SG-4788	Shinken Co.,Ltd	2025-02-26	HCT Co., Ltd.	Based on Japanese Radio Law 24-2-4-2-ha
	Temp & Humidity Chamber(SH-642)	93023153	ESPEC	2025-11-03	HCT Co., Ltd.	Based on Japanese Radio Law 24-2-4-2-ha

Test result	Electric performance	Voltage		Unit	Limit	Low voltage	Normal voltage	High voltage	Note	
		Test Frequency		GHz		24.13	24.13	24.13	ANT1 ^(Note. 3)	
		Frequency tolerance(OBW lower frequency)		GHz	24.05	24.13	24.13	24.13		
		Frequency tolerance(OBW Upper frequency)		GHz	24.25	24.14	24.14	24.14		
		Occupied bandwidth		MHz	200	2.17	2.17	2.17	ANT2 ^(Note. 3)	
		Test Frequency		GHz		24.13	24.13	24.13		
		Frequency tolerance(OBW lower frequency)		GHz	24.05	24.13	24.13	24.13		
		Frequency tolerance(OBW Upper frequency)		GHz	24.25	24.13	24.13	24.13	ANT1 & ANT2 ^(Note. 4)	
		Occupied bandwidth		MHz	200	2.17	2.17	2.17		
		Spurious and Unwanted emission	(measured frequency)	GHz	–	23.62	23.60	23.65		
			30 MHz ~ 23.65 GHz	μW	2.5	0.13	0.13	0.13		
			(measured frequency)	GHz	–	23.65	23.65	23.65		
			23.65 GHz ~ 24.05 GHz	μW	2.5	0.07	0.07	0.07		
			(measured frequency)	GHz	–	24.27	24.28	24.27		
			24.25 GHz ~ 24.65 GHz	μW	2.5	0.06	0.06	0.06		
			(measured frequency)	GHz	–	40.15	40.15	40.15		
			24.65 GHz ~ 49 GHz	μW	2.5	1.08	1.18	1.11		
		Antenna power ^(Note.1) deviation		mW	20	0.56	0.56	0.56	ANT1 ^(Note. 3)	
		Antenna power ^(Note.1) deviation		mW	20	0.56	0.56	0.56	ANT2 ^(Note. 3)	
				%	–50	12.00	12.00	12.00		
		Secondary emission	(measured frequency)	GHz	–	As there is no state where only the receiving operation occurs under normal usage conditions, this test item is replaced by Spurious and Unwanted emissions.				
			30 MHz ~ 49 GHz	μW	2.5					
		Environmental test	–20 °C	OBW lower frequency	GHz	24.05	24.15	24.15	ANT1 ^(Note. 3)	
				OBW Upper frequency	GHz	24.25	24.15	24.15		
			60 °C	OBW lower frequency	GHz	24.05	24.11	24.11		
				OBW Upper frequency	GHz	24.25	24.11	24.11		
			35 °C / 95 % R.H.	OBW lower frequency	GHz	24.05	24.13	24.13		
				OBW Upper frequency	GHz	24.25	24.13	24.13		
			Vibration	OBW lower frequency	GHz	24.05	24.13	24.13		
				OBW Upper frequency	GHz	24.25	24.13	24.13		
		Environmental test	–20 °C	OBW lower frequency	GHz	24.05	24.15	24.15	ANT2 ^(Note. 3)	
				OBW Upper frequency	GHz	24.25	24.15	24.15		
			60 °C	OBW lower frequency	GHz	24.05	24.11	24.11		
				OBW Upper frequency	GHz	24.25	24.11	24.11		
			35 °C / 95 % R.H.	OBW lower frequency	GHz	24.05	24.13	24.13		
				OBW Upper frequency	GHz	24.25	24.14	24.14		
			Vibration	OBW lower frequency	GHz	24.05	24.13	24.13		
				OBW Upper frequency	GHz	24.25	24.14	24.14		
		Antenna gain ^(Note. 6)		dBi	24 or less	26.00			ANT1 & ANT2	

Note1. Antenna power(calculated value) = mesured EIRP value - Antenna gain

The deviation was calculated based on the requested output(0.5mW).

Note2. voltage information

Voltage	Low voltage	Normal voltage	High voltage
	10.80	12.00	13.20

Note3. This sample features two non-beamforming antennas outputting simultaneously, with antenna power and OBW measured for each antenna.

Note4. As the sample is output simultaneously from two antennas, the Spurious and Unwanted Emission test is measured in simultaneous output mode.

Note5. This equipment does not require " Radio waves exposed to the human " tested according to the following:

•Body ; "Equipment that the separation distance between the human body and thetransmission antenna (except head and both hand) is used in at least 20cm."

•Head ; "Equipment that is not used in close proximity to the human head"

Note6. When the value is less than that obtained by applying 0.02W antenna power to an antenna with an EIRP of 24dBi, the resulting reduction can be compensated for by the transmit antenna gain.

•EIRP Limit: 24 dBi + 20 mW(13.01 dBm) = 37.01 dBm

•EUT EIRP : 26 dBi + 0.56 mW(-2.52 dBm) = 23.48 dBm

The antenna gain required to ensure the EUT's EIRP value remains below the EIRP limit can be compensated up to 37.01 - (-2.52) = 39.53 dBi.

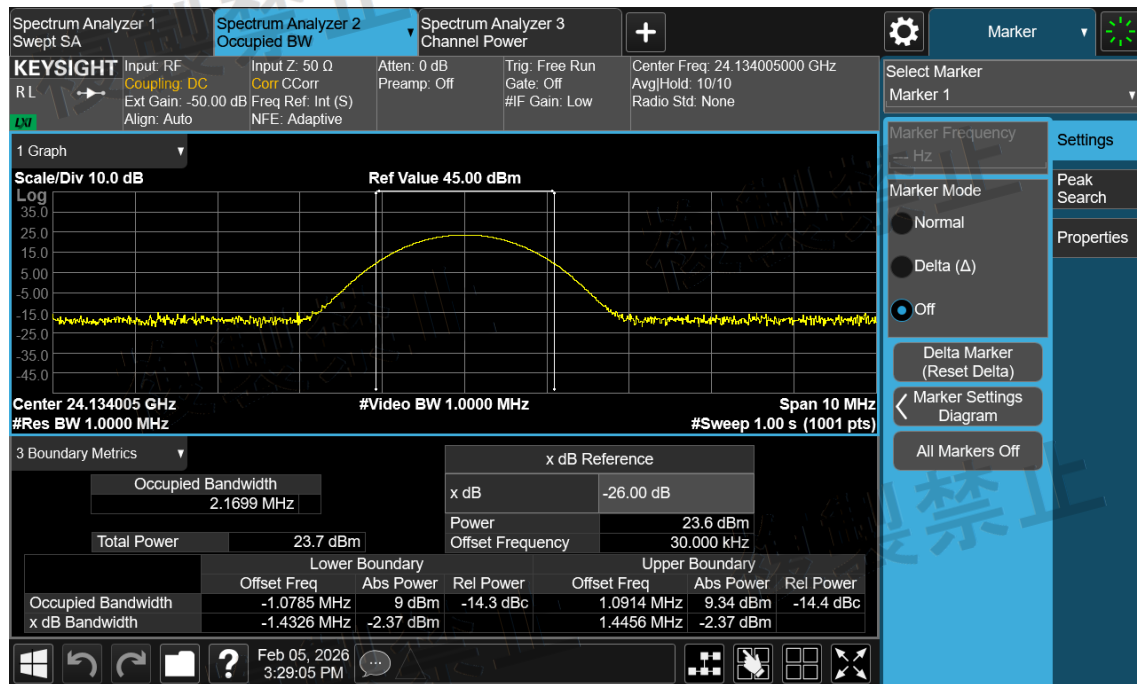
PH85241786

Detection sensor of moving objects (24.15 GHz band)

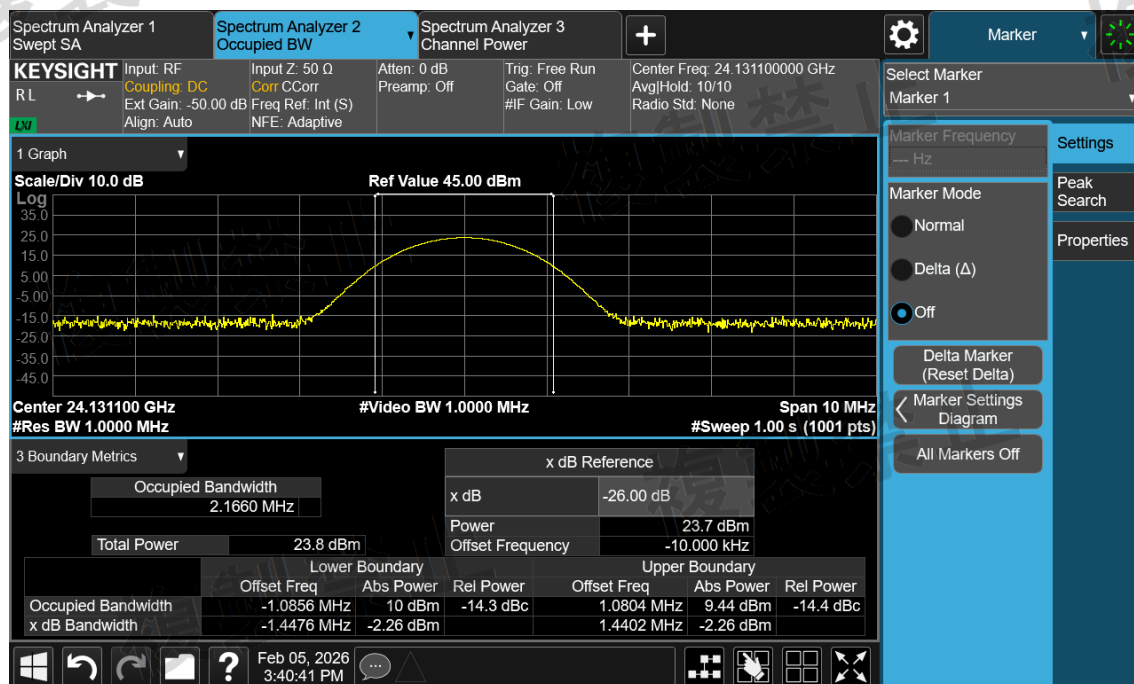
Occupied Bandwidth

Normal Voltage_20 dB bandwidth

<ANT1>



<ANT2>



Antenna power_Normal Voltage

Antenna	Frequency	Measured value (Note 1)	EUT Ant. Gain	Polarization (EUT/Ant.)	Antenna power	Antenna power
	[GHz]	[dBm]	[dBi]	XYZ/HV	[dBm]	[mW]
ANT 1	24.134	23.50	26.0	X/H	-2.50	0.56
ANT 2	24.131	23.47	26.0	X/H	-2.53	0.56

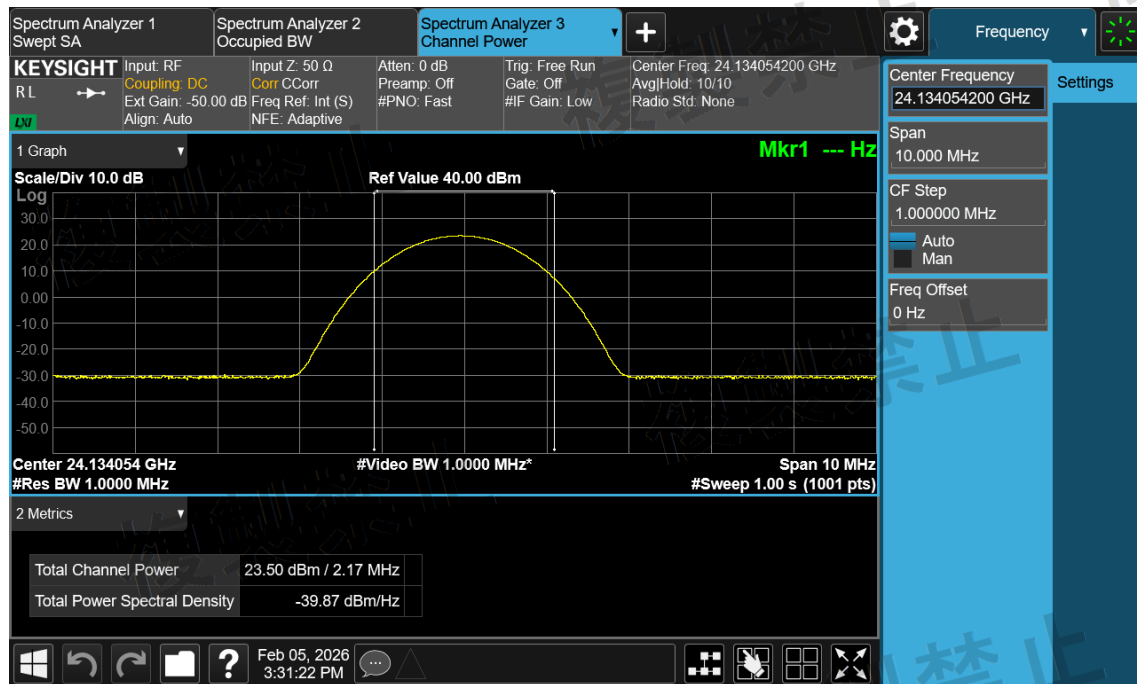
Note 1: The measured value is the value that contains the correction factor.

The correction factor applies the pre-calibration method using the source module

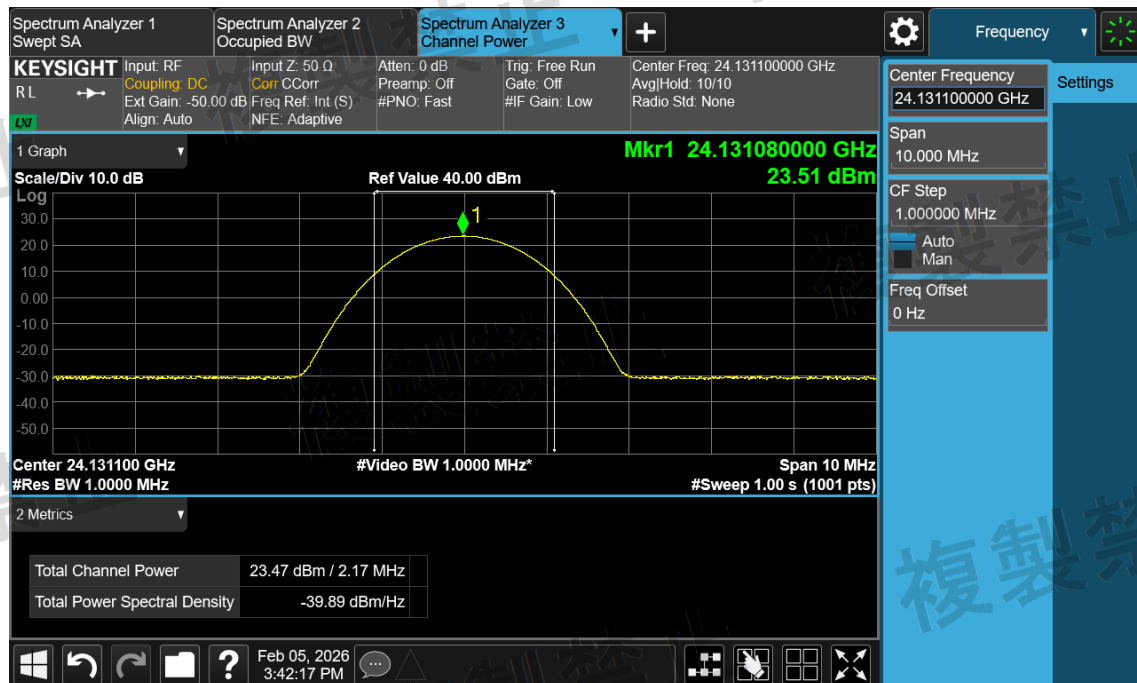
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Normal Voltage

<ANT1>



<ANT2>



Spurious and Unwanted emission

Normal Voltage

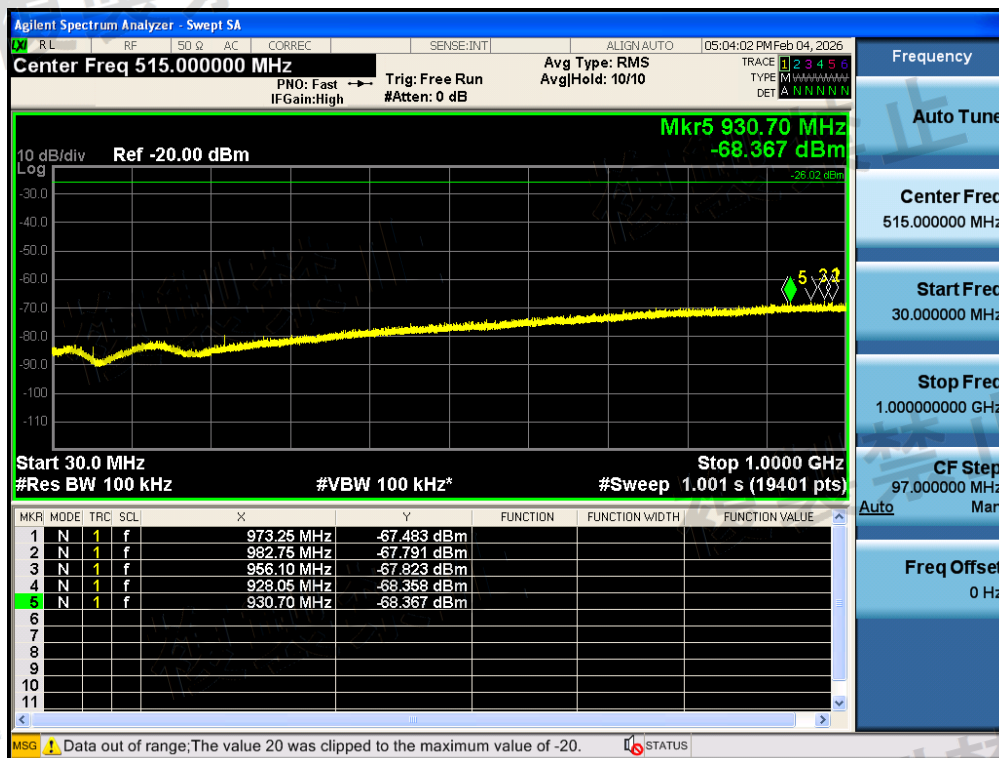
Measured frequency band	Test distance (m)	Polarization (EUT/antenna)	Measured frequency (GHz)	Measured value (Note 1) (dBm)	Measured value (Note 1) (μW)
30 MHz ~ 1 GHz	3	Z/V	0.97	-68.07	0.000 2
1 GHz ~ 3 GHz	3	Z/H	2.96	-75.07	0.000 03
3 GHz ~ 7 GHz	3	Z/V	7.00	-69.24	0.000 1
7 GHz ~ 18 GHz	3	Z/H	18.00	-63.81	0.000 4
18 GHz ~ 23.65 GHz	3	X/V	23.60	-38.84	0.131
23.65 GHz ~ 24.05 GHz	3	Y/H	23.65	-41.43	0.072
24.25 GHz ~ 24.65 GHz	3	Z/V	24.28	-42.37	0.058
24.65 GHz ~ 40 GHz	3	Y/H	35.91	-45.47	0.028
40 GHz ~ 49 GHz	3	Y/V	40.15	-29.28	1.180

Note 1) The measured value is the value that contains the correction factor.

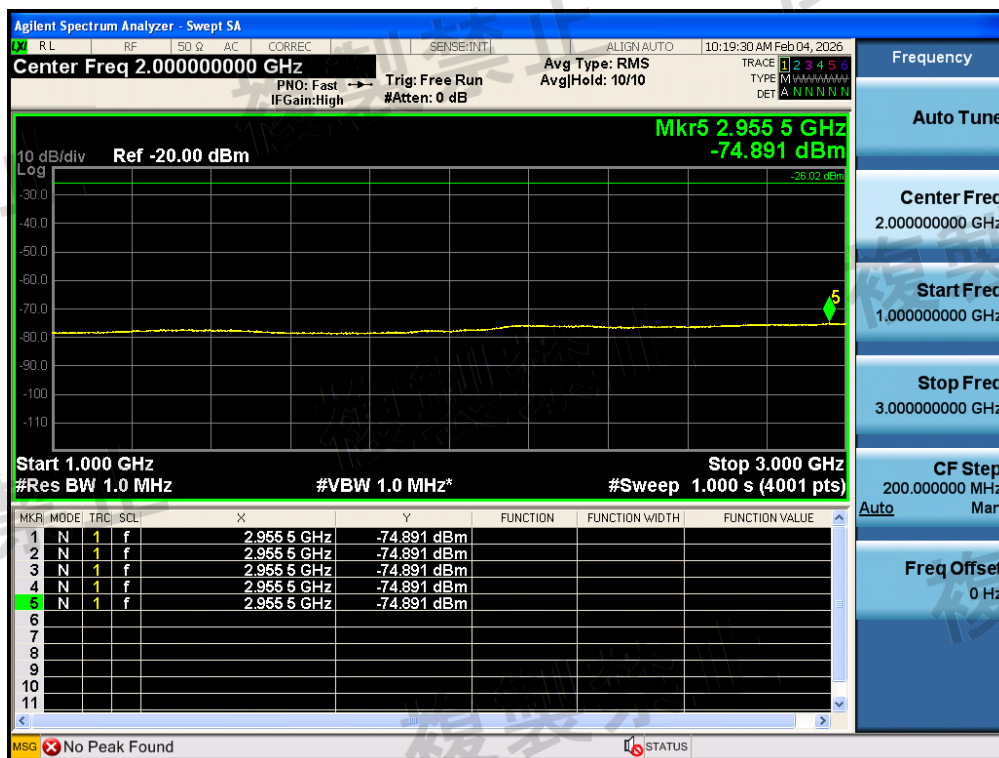
The correction factor applies the pre-calibration method using the source module

PH85241786

[30 MHz ~ 1 GHz]

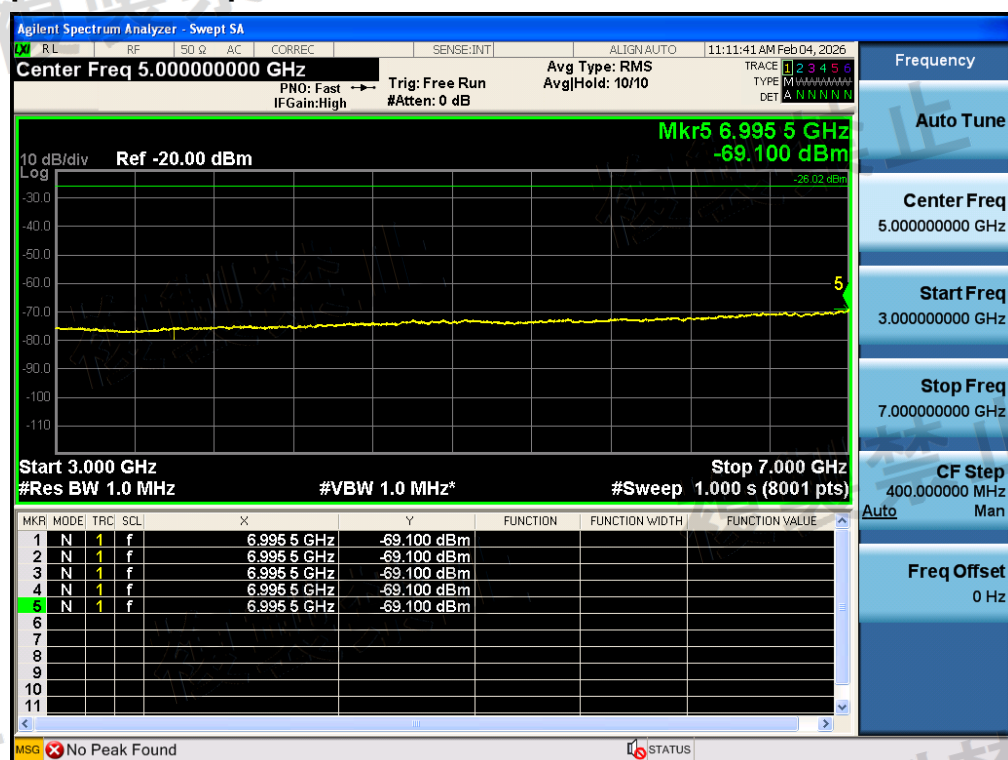


[1 GHz ~ 3 GHz]

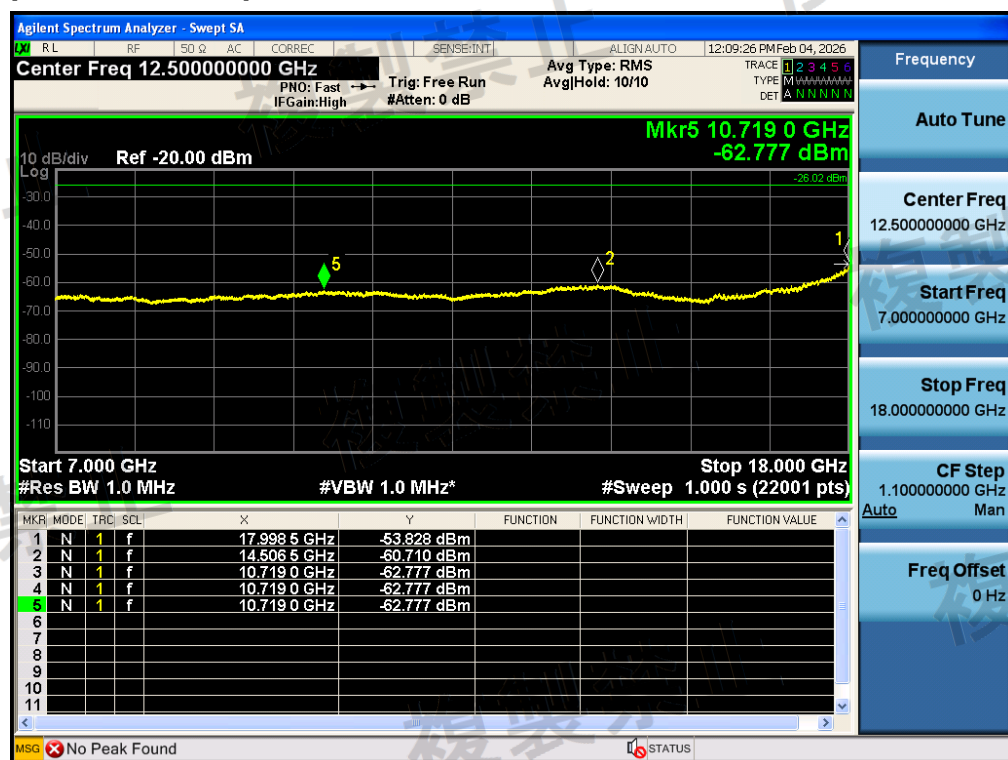


PH85241786

[3 GHz ~ 7 GHz]

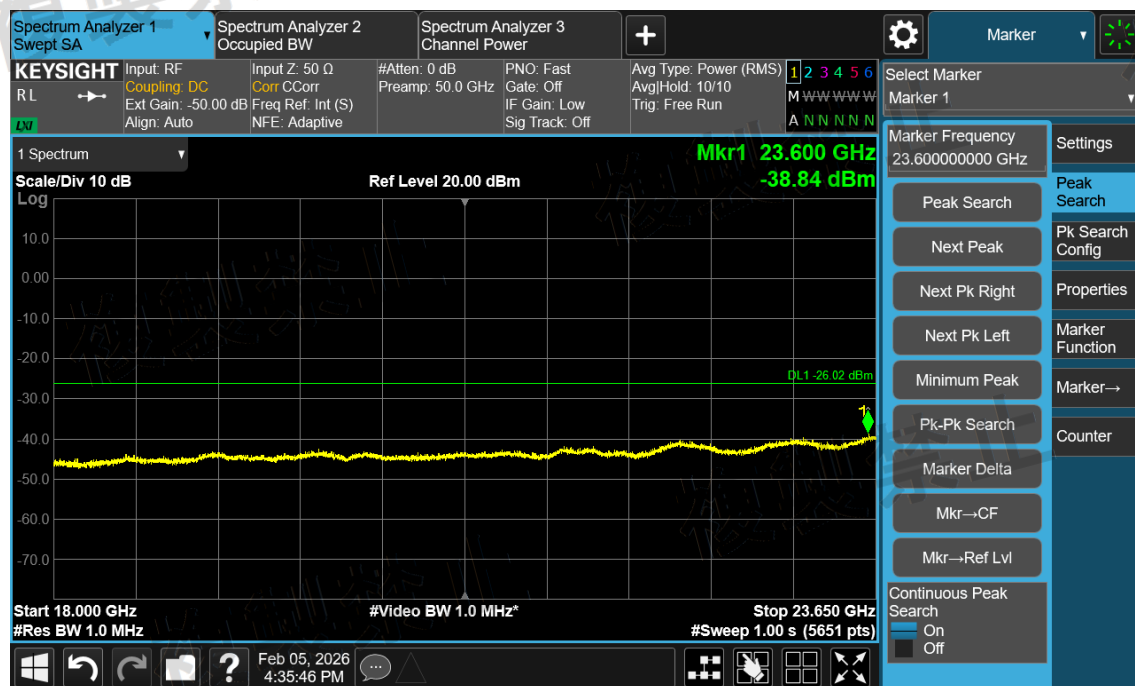


[7 GHz ~ 18 GHz]

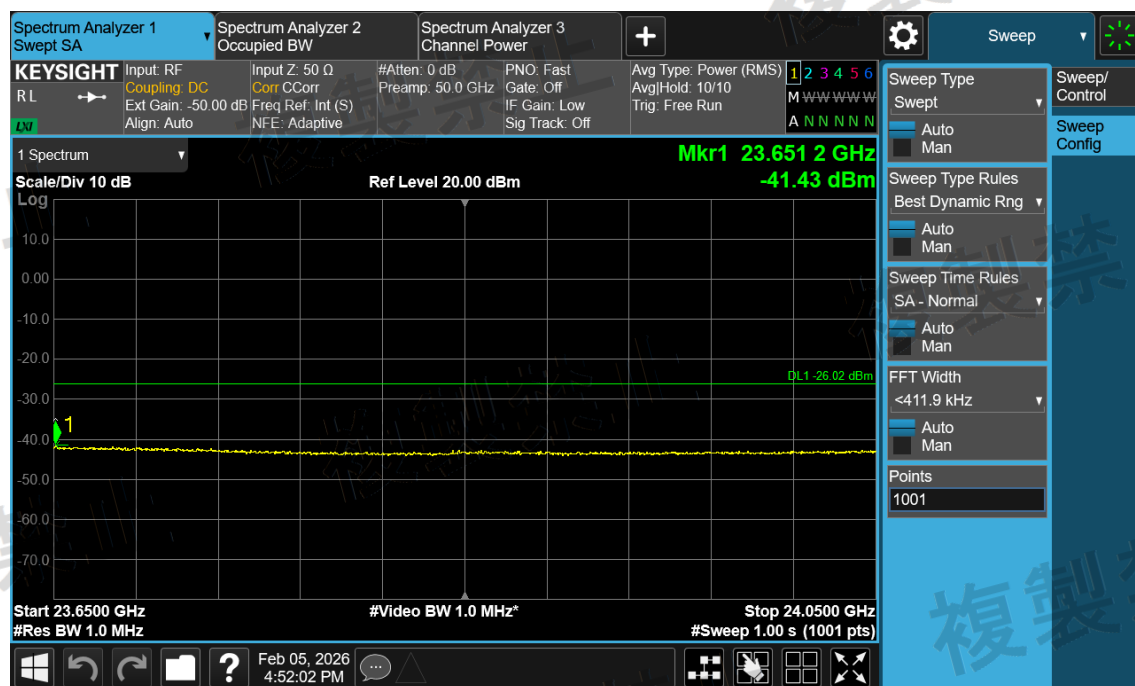


PH85241786

[18 GHz ~ 23.65 GHz]

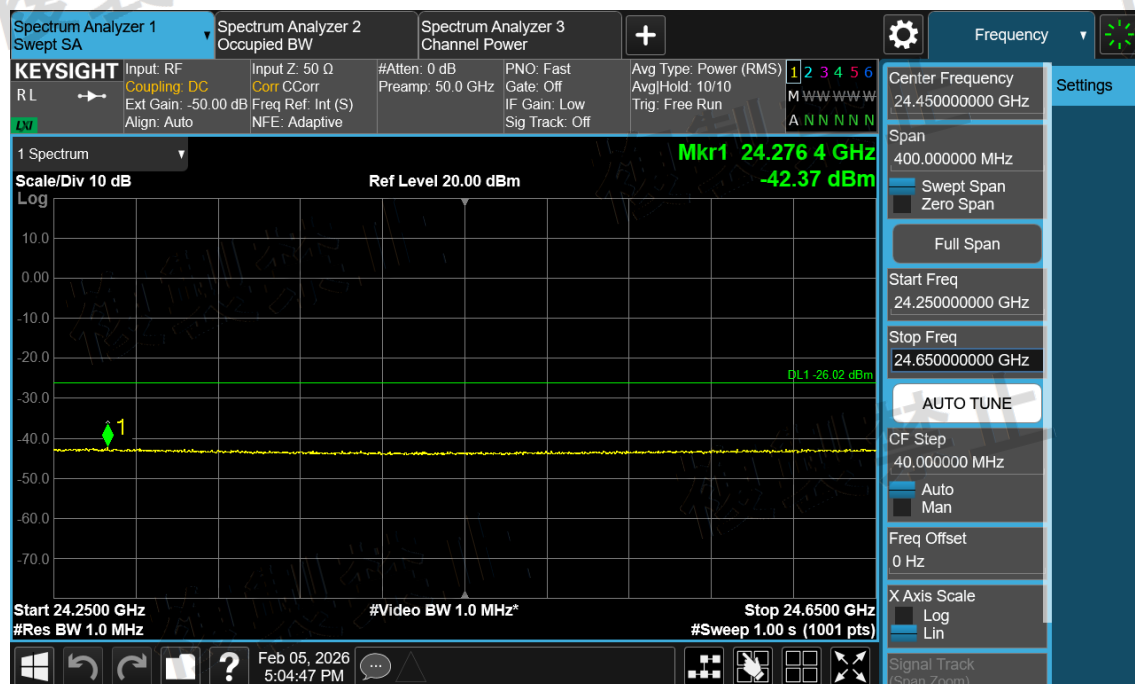


[23.65 GHz ~ 24.05 GHz]



PH85241786

[24.25 GHz ~ 24.65 GHz]



[24.65 GHz ~ 40 GHz]



PH85241786

[40 GHz ~ 49 GHz]

