

RADIO TEST REPORT FCC ID: 2BBT5-K600GB97W

Product: Machenike Keyboard Trade Mark: MACHENIKE Model No.: K600G-B97W Family Model: _{N/A} Report No.: S24122005305001 Issue Date: Jan. 26, 2025

Prepared for

Qingdao Machenike Technology Co., Ltd.

Room 1005, Building 1, No. 169 Binhai Road, Jimo District, Qingdao City, Shandong Province, China

Prepared by

Shenzhen NTEK Testing Technology Co., Ltd. No. 24 Xinfa East Road, Xiangshan Community, Xinqiao Street, Baoan District, Shenzhen, Guangdong, People's Republic of China

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1 TEST RESULT CERTIFICATION

Applicant's name:	Qingdao Machenike Technology Co., Ltd.
Address:	Room 1005, Building 1, No. 169 Binhai Road, Jimo District, Qingdao City, Shandong Province, China
Manufacturer's Name:	Qingdao Machenike Technology Co., Ltd.
Address:	Room 1005, Building 1, No. 169 Binhai Road, Jimo District, Qingdao City, Shandong Province, China
Product description	
Product name:	Machenike Keyboard
Trade Mark:	MACHENIKE
Model and/or type reference:	K600G-B97W
Family Model:	N/A
Test Sample number::	S241220053005
Date of Test:	Dec. 30, 2024 ~ Jan. 25, 2025

Measurement Procedure Used:

APPLICABLE STANDARDS		
STANDARD/ TEST PROCEDURE TEST RESULT		
FCC 47 CFR Part 2, Subpart J FCC 47 CFR Part 15, Subpart C ANSI C63.10-2013	Complied	

This device described above has been tested by Shenzhen NTEK Testing Technology Co., Ltd., and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Reviewed : __________ Aaron Cheng Prepared By - Yoyo Liang Approved : Alex By Alex Li (Project Engineer) (Supervisor) (Manager)



	FCC Part15 (15.247), Subpart	С	
Standard Section	Test Item	Verdict	Remark
15.207	Conducted Emission	PASS	
15.209 (a) 15.205 (a)	Radiated Spurious Emission	PASS	
15.247(a)(1)	Hopping Channel Separation	PASS	
15.247(b)(1)	Peak Output Power	PASS	
15.247(a)(iii)	Number of Hopping Frequency	PASS	
15.247(a)(iii)	Dwell Time	PASS	
15.247(a)(1)	Bandwidth	PASS	
15.247 (d)	Band Edge Emission	PASS	
15.247 (d)	Spurious RF Conducted Emission	PASS	
15.203	Antenna Requirement	PASS	

Remark:

 "N/A" denotes test is not applicable in this Test Report.
 All test items were verified and recorded according to the standards and without any deviation during the test.



3 FACILITIES AND ACCREDITATIONS

3.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

No. 24 Xinfa East Road, Xiangshan Community, Xinqiao Street, Baoan District, Shenzhen, Guangdong, People's Republic of China.

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.10 and CISPR Publication 22.

3.2 LABORATORY ACCREDITATIONS AND LISTINGS

Site Description	
CNAS-Lab.	: The Certificate Registration Number is L5516.
IC-Registration	The Certificate Registration Number is 9270A.
	CAB identifier:CN0074
FCC- Accredited	Test Firm Registration Number: 463705.
	Designation Number: CN1184
A2LA-Lab.	The Certificate Registration Number is 4298.01
	This laboratory is accredited in accordance with the recognized
	International Standard ISO/IEC 17025:2005 General requirements for
	the competence of testing and calibration laboratories.
	This accreditation demonstrates technical competence for a defined
	scope and the operation of a laboratory quality management system
	(refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).
Name of Firm	: Shenzhen NTEK Testing Technology Co., Ltd.
Site Location	: No. 24 Xinfa East Road, Xiangshan Community, Xinqiao Street, Baoan
	District, Shenzhen, Guangdong, People's Republic of China.

3.3 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y\pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	Conducted Emission Test	±2.80dB
2	RF power, conducted	±0.16dB
3	Spurious emissions, conducted	±0.21dB
4	All emissions, radiated(30MHz~1GHz)	±2.64dB
5	All emissions, radiated(1GHz~6GHz)	±2.40dB
6	All emissions, radiated(>6GHz)	±2.52dB
7	Temperature	±0.5°C
8	Humidity	±2%
9	All emissions, radiated(9KHz~30MHz)	±6dB



4 GENERAL DESCRIPTION OF EUT

Product Feature and Specification		
Equipment	Machenike Keyboard	
Trade Mark	MACHENIKE	
FCC ID	2BBT5-K600GB97W	
Model No.	K600G-B97W	
Family Model	N/A	
Model Difference	N/A	
Operating Frequency	2402MHz~2480MHz	
Modulation	GFSK	
Number of Channels	79 Channels	
Antenna Type	PCB Antenna	
Antenna Gain	2.34 dBi	
Adapter	N/A	
Battery	DC 3.7V, 4000mAh, 14.8Wh	
Power supply	DC 3.7V from battery or DC 5V from Type-C port	
Hardware version	N/A	
Software version	N/A	

Note 1: Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.

Note 2: The engineering test program was provided and the EUT was programmed to be in continuously transmitting mode.



	Revision History			
Report No.	Version	Description	Issued Date	
S24122005305001	Rev.01	Initial issue of report	Jan. 26, 2025	
	_		_	





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To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

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The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

Test of channel included the lowest and middle and highest frequency to perform the test, then record on this report.

Those data rates (1Mbps for GFSK modulation) were used for all test.

The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement -X, Y and Z-plane. The X-plane results were found as the worst case and were shown in this report.

Carrier Frequency and Channel list:

Channel	Frequency(MHz)
0	2402
1	2403
39	2441
40	2442
77	2479
78	2480

Note: fc=2402MHz+k×1MHz k=0 to 78

The following summary table is showing all test modes to demonstrate in compliance with the standard.

For AC Conducted Emission		
Final Test Mode	Description	
Mode 1	normal link mode	

Note: AC power line Conducted Emission was tested under maximum output power.

For Radiated Test Cases		
Final Test Mode	Description	
Mode 1	normal link mode	
Mode 2	CH00(2402MHz)	
Mode 3	CH39(2441MHz)	
Mode 4	CH78(2480MHz)	

Note: For radiated test cases, the worst mode data rate 1Mbps was reported only, because this data rate has the highest RF output power at preliminary tests, and no other significantly frequencies found in conducted spurious emission.

For Conducted Test Cases			
Final Test Mode	Description		
Mode 2	CH00(2402MHz)		
Mode 3	CH39(2441MHz)		
Mode 4 CH78(2480MHz)			
Mode 5	Hopping mode		

Note: The engineering test program was provided and the EUT was programmed to be in continuously transmitting mode.

NTE		Report No.: S24122005305001
6 SETUP OF E	QUIPMENT UNDER TEST	
6.1 BLOCK DIAGRA	AM CONFIGURATION OF TEST SYSTE mission Mode	M
AC PLUG	C-1 C-2	
AE-1 Adapter	AE-2 Notebook	EUT
For Radiated Test Ca	293	j
	303	
	EUT	
•		
For Conducted Test C	Cases	
Measurement	C-3 EUT	
Instrument		
Note: 1. The tempora	rv antenna connector is soldered on the	PCB board in order to perform conducted tests
and this temporary ar	ntenna connector is listed in the equipment tery-powered, the battery is fully-charge	ent list.
	, , , , , , , , , , , , , , , , , , ,	~



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The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

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Item	Equipment	Brand	Model/Type No.	Series No.	Note
AE-1	Adapter	HUAWEI	HW-200325CP2	N/A	Peripherals
AE-2	Notebook	HUAWEI	KLVD-WFH9	J8GPM21B02000149	Peripherals

Item	Cable Type	Shielded Type	Ferrite Core	Length
C-1	Power Cable	YES	YES	1.6 m
C-2	USB Cable	NO	YES	0.8 m
C-3	RF Cable	YES	NO	0.1m

Notes:

(1) The support equipment was authorized by Declaration of Confirmation.

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- (2) For detachable type I/O cable should be specified the length in cm in [Length] column.
- (3) "YES" is means "shielded" "with core"; "NO" is means "unshielded" "without core".



6.3 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation& Conducted Test equipment

(dalatin		estequipment					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibrati on period
1	Spectrum Analyzer	Agilent	E4440A	MY41000130	2024.04.26	2025.04.25	1 year
2	Spectrum Analyzer	Agilent	N9020A	MY49100060	2024.04.25	2025.04.24	1 year
3	Spectrum Analyzer	R&S	FSV40	101417	2024.04.25	2025.04.24	1 year
4	Test Receiver	R&S	ESPI7	101318	2024.04.26	2025.04.25	1 year
5	Bilog Antenna	TESEQ	CBL6111D	31216	2024.05.12	2025.05.11	1 year
6	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2024.04.26	2027.04.25	3 year
7	Horn Antenna	EM	EM-AH-1018 0	2011071402	2024.05.12	2027.05.11	3 year
8	Broadband Horn Antenna	SCHWARZBE CK	BBHA 9170	803	2024.05.12	2027.05.11	3 year
9	Amplifier	EMC	EMC051835 SE	980246	2024.04.25	2025.04.24	1 year
10	Active Loop Antenna	SCHWARZBE CK	FMZB 1519 B	055	2024.05.17	2027.05.16	3 year
11	Power Meter	DARE	RPR3006W	15I00041SN O84	2024.04.25	2025.04.24	1 year
12	Test Cable (9KHz-30MHz)	N/A	R-01	N/A	2023.05.06	2026.05.05	3 year
13	Test Cable (30MHz-1GHz)	N/A	R-02	N/A	2023.05.06	2026.05.05	3 year
14	High Test Cable(1G-40G Hz)	N/A	R-03	N/A	2022.06.17	2025.06.16	3 year
15	Filter	TRILTHIC	2400MHz	29	2024.04.26	2027.04.25	3 year
16	temporary antenna connector (Note)	NTS	R001	N/A	N/A	N/A	N/A

ACCREDITED Certificate #4298.01

Note:

We will use the temporary antenna connector (soldered on the PCB board) When conducted test And this temporary antenna connector is listed within the instrument list



AC Co	AC Conduction Test equipment						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	R&S	ESCI	101160	2024.04.26	2025.04.25	1 year
2	LISN	R&S	ENV216	101313	2024.04.25	2025.04.24	1 year
3	LISN	SCHWARZBE CK	NNLK 8129	8129245	2024.04.25	2025.04.24	1 year
4	50Ω Coaxial Switch	ANRITSU CORP	MP59B	6200983704	2024.04.26	2027.04.25	3 year
5	Test Cable (9KHz-30MH z)	N/A	C01	N/A	2023.05.06	2026.05.05	3 year
6	Test Cable (9KHz-30MH z)	N/A	C02	N/A	2023.05.06	2026.05.05	3 year
7	Test Cable (9KHz-30MH z)	N/A	C03	N/A	2023.05.06	2026.05.05	3 year

Note: Each piece of equipment is scheduled for calibration once a year except the Aux Equipment & Test Cable which is scheduled for calibration every 2 or 3 years.

Measurement Software

Item	Manufacturer	Software Name	Software Version	Description
1	MWRFtest	MTS 8310 2.4GHz/5GHz	2.0	RF Conducted Test
2	Farad	EZ-EMC_RE	AIT-03A	RadiatedTest
3	raditeq	RadiMation	2023.1.3	RadiatedTest
4	Farad	EZ-EMC_CE	AIT-03A	AC Conducted Test



7 TEST REQUIREMENTS

7.1 CONDUCTED EMISSIONS TEST

7.1.1 Applicable Standard

According to FCC Part 15.207(a)

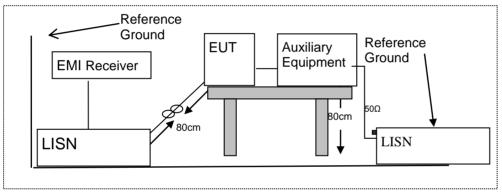
7.1.2 Conformance Limit

	Conducted Emission Limit			
Frequency(MHz)	Quasi-peak	Average		
0.15-0.5	66-56*	56-46*		
0.5-5.0	56	46		
5.0-30.0	60	50		

Note: 1. *Decreases with the logarithm of the frequency

- 2. The lower limit shall apply at the transition frequencies
 - 3. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

7.1.3 Test Configuration



7.1.4 Test Procedure

According to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 Conducted emissions the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.

- 1. The EUT was placed 0.4 meter from the conducting wall of the shielding room.
- 2. The EUT was placed on a table which is 0.8m above ground plane.
- Connect EUT to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- 4. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40cm long.
- I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable
 may be terminated, if required, using the correct terminating impedance. The overall length shall not
 exceed 1 m.
- 6. LISN at least 80 cm from nearest part of EUT chassis.
- 7. The frequency range from 150KHz to 30MHz was searched.
- 8. Set the test-receiver system to Peak Detect Function and specified bandwidth(IF bandwidth=9KHz) with Maximum Hold Mode
- 9. For the actual test configuration, please refer to the related Item -EUT Test Photos.

7.1.5 Test Results

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EUT:	Machenike Keyboard	Model Name :	K600G-B97W
Temperature:	22 ℃	Relative Humidity:	57%
Pressure:	1010hPa	Phase :	L
Test Voltage :	DC 5V powered by Notebook AC 120V/60Hz	Test Mode:	Mode 1

ACCREDITED Certificate #4298.01

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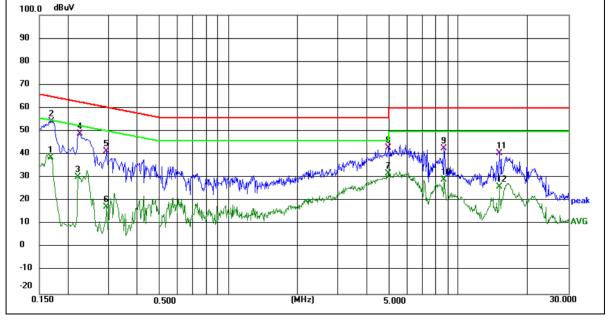
Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Demeri
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.1685	28.77	10.04	38.81	55.03	-16.22	AVG
0.1700	44.35	10.04	54.39	64.96	-10.57	QP
0.2220	20.31	10.14	30.45	52.74	-22.29	AVG
0.2260	38.69	10.16	48.85	62.60	-13.75	QP
0.2940	31.25	10.27	41.52	60.41	-18.89	QP
0.2940	7.34	10.27	17.61	50.41	-32.80	AVG
4.9460	21.83	10.09	31.92	46.00	-14.08	AVG
4.9540	32.80	10.09	42.89	56.00	-13.11	QP
8.6740	32.00	10.66	42.66	60.00	-17.34	QP
8.6740	18.45	10.66	29.11	50.00	-20.89	AVG
15.0220	28.67	11.84	40.51	60.00	-19.49	QP
15.0220	14.41	11.84	26.25	50.00	-23.75	AVG

Remark:

1. All readings are Quasi-Peak and Average values.

2. Factor = Insertion Loss + Cable Loss.

100.0 dBuV



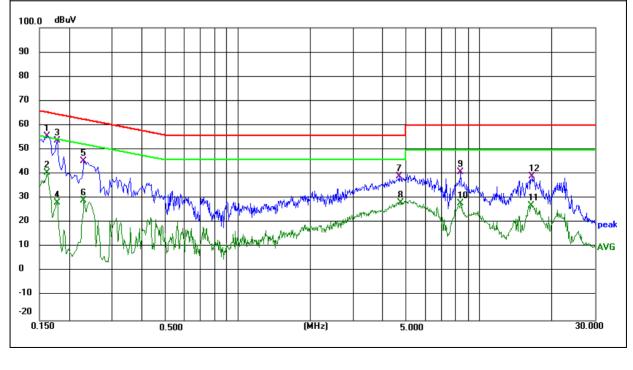


<u>.</u>			
EUT:	Machenike Keyboard	Model Name :	K600G-B97W
Temperature:	25 ℃	Relative Humidity:	62%
Pressure:	1010hPa	Phase :	N
Test Voltage :	DC 5V powered by Notebook AC 120V/60Hz	Test Mode:	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.1620	46.24	9.45	55.69	65.36	-9.67	QP
0.1620	31.05	9.45	40.50	55.36	-14.86	AVG
0.1780	44.21	9.48	53.69	64.58	-10.89	QP
0.1780	18.81	9.48	28.29	54.58	-26.29	AVG
0.2300	35.82	9.57	45.39	62.45	-17.06	QP
0.2300	19.63	9.57	29.20	52.45	-23.25	AVG
4.6420	29.90	9.30	39.20	56.00	-16.80	QP
4.7180	19.04	9.30	28.34	46.00	-17.66	AVG
8.3620	31.10	9.81	40.91	60.00	-19.09	QP
8.3620	18.29	9.81	28.10	50.00	-21.90	AVG
16.3340	15.77	11.29	27.06	50.00	-22.94	AVG
16.5380	27.69	11.32	39.01	60.00	-20.99	QP

Remark:

All readings are Quasi-Peak and Average values.
 Factor = Insertion Loss + Cable Loss.



7.2 RADIATED SPURIOUS EMISSION

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7.2.1 Applicable Standard

According to FCC Part 15.247(d) and 15.209 and ANSI C63.10-2013

7.2.2 Conformance Limit

According to FCC Part 15.247(d): radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)). According to FCC Part15.205, Restricted bands

Cartificate #4299 01

According to 1 00 1 art15.20	According to FOC Fart 13.200, Restituted bands						
MHz	MHz	MHz	GHz				
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15				
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46				
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75				
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5				
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2				
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5				
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7				
6.26775-6.26825	123-138	2200-2300	14.47-14.5				
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2				
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4				
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12				
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0				
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8				
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5				
12.57675-12.57725	322-335.4	3600-4400	(2)				
13.36-13.41							

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Restricted Frequency(MHz)	Field Strength (µV/m)	Field Strength (dBµV/m)	Measurement Distance
0.009~0.490	2400/F(KHz)	20 log (uV/m)	300
0.490~1.705	24000/F(KHz)	20 log (uV/m)	30
1.705~30.0	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

Limits of Radiated Emission Measurement(Above 1000MHz)

Frequency(MHz)	Class B (dBuV/m) (at 3M)							
	PEAK	AVERAGE						
Above 1000	74	54						

Remark :1. Emission level in dBuV/m=20 log (uV/m)

Measurement was performed at an antenna to the closed point of EUT distance of meters.
 For Frequency 9kHz~30MHz:

Distance extrapolation factor =40log(Specific distance/ test distance)(dB);

Limit line=Specific limits(dBuV) + distance extrapolation factor.

For Frequency above 30MHz:

Distance extrapolation factor =20log(Specific distance/ test distance)(dB);

Limit line=Specific limits(dBuV) + distance extrapolation factor.

7.2.3 Measuring Instruments

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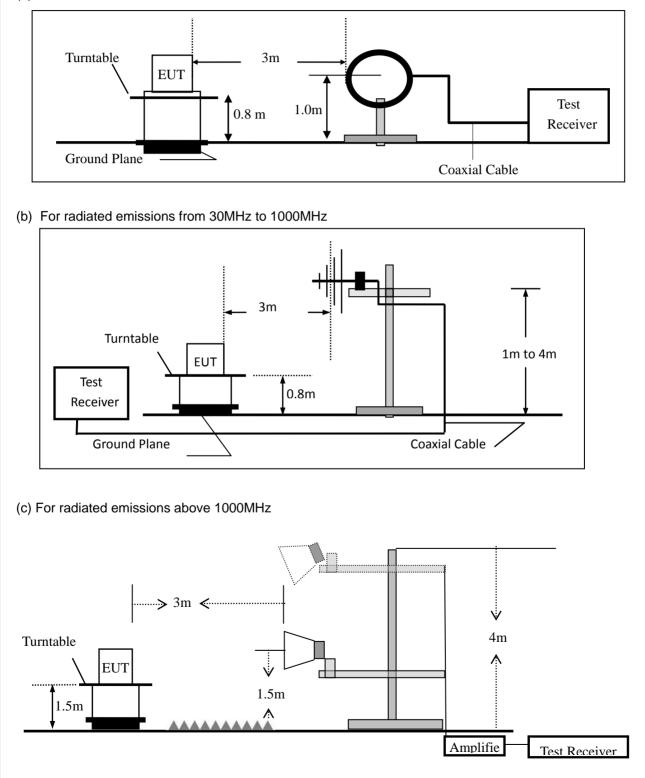
The Measuring equipment is listed in the section 6.3 of this test report.

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7.2.4 Test Configuration

(a) For radiated emissions below 30MHz





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The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.10-2013. The test distance is 3m.The setup is according to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 and CAN/CSA-CEI/IEC CISPR 22.

This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205. It must be performed with the highest gain of each type of antenna proposed for use with the EUT. Use the following spectrum analyzer settings:

Cartificate #4298 01

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 1 MHz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 m for below 1GHz and 1.5m for above 1GHz the ground at a 3 meter. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m for below 1GHz and 1.5m for above 1GHz; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For the radiated emission test above 1GHz: Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- e. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- f. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- g. For the actual test configuration, please refer to the related Item –EUT Test Photos.
 - Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported



During the radiated emission t	During the radiated emission test, the Spectrum Analyzer was set with the following configurations:											
Frequency Band (MHz)	Function	Resolution bandwidth	Video Bandwidth									
30 to 1000	QP	120 kHz	300 kHz									
Ab ave 4000	Peak	1 MHz	1 MHz									
Above 1000	Average	1 MHz	1 MHz									

Note: for the frequency ranges below 30 MHz, a narrower RBW is used for these ranges but the measured value should add a RBW correction factor (RBWCF) where RBWCF [dB] =10*lg(100 [kHz]/narrower RBW [kHz]). , the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.

7.2.6 Test Results

	Spurious Er	mission below	/ 30MHz	(9KHz to 30MHz)
--	-------------	---------------	---------	-----------------

EUT:	Machenike Keyboard	Model No.:	K600G-B97W
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Yoyo Liang

Freq.	Ant.Pol.	Emission L	.evel(dBuV/m)	Limit 3	m(dBuV/m)	Over(dB)				
(MHz)	H/V	PK	AV	PK	AV	PK	(dB) AV			

Note: the amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.



Spurious Emission below 1GHz (30MHz to 1GHz) All the modulation modes have been tested, and the worst result was report as below:

EUT:	Machenike Keyboard	Model Name :	K600G-B97W
Temperature:	25 ℃	Relative Humidity:	55%
Pressure:	1010hPa	Test Mode:	Mode 2
Test Voltage :	DC 3.7V		

Polar		reque	ency		M Rea	ete adi	-	F	acto	or	Em	niss .ev		n		Limit	s	Ма	rgin		Re	mark
(H/V)		(MH	z)		(dl	Bu\	/)		(dB))	(dE	Bu∖	//m)		(dBuV/	/m)	(c	IB)			
V		39.43	371		8	.75	,		18.5	2	2	27.2	27			40.0	0	-12	2.73		(QP
V		78.41	133		7	.63	5		13.8	9	2	1.5	52			40.0	0	-18	3.48		(QP
V		208.5			5	.88	6		18.2	0	2	4.0	8(43.0	0	-18	3.92			QP
V		432.5				.69			23.4			8.1				46.0			7.82			QP
V		558.7				.62			25.6			1.3				46.0			1.69			QP
V		813.1	114		5	.15	,		29.8	3	3	4.9	98			46.0	0	-11	1.02		(QP
			Mete	er R	ead	ing	+ F	acto	or, M	argir)= E	mis	sic	on	Le	vel - Lir	nit					
80.0	dBu¥/n	1																				
70																						-
60 —																						_
50																						Ę
40																						1
30																	4	5 X		Nun	6 X,um	WWW
	under	1. Migrocher	WWWWWWWW	-	2	Nutu		mmy	and and a second	<u></u>	whenthe	Эмул	r str	uhhan	le.lk	pre-section between	HARAN	And	Marrie .			
				ALC: N	2 ₩₩₩	n Ar I	A		1	8 s.t.ml, 1	~ 1											
10																						\neg

(MHz)

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30.000

60.00

1000.000

NTEK JLW®

Polar	F	reque	ncy		M Rea	ete adir		Fa	actor		niss _ev		n		Limi	ts	Ма	argir	n	Re	ema	ırk
(H/V)		(MH:	z)		(dE	3u\	/)	(dB)	(d	3u\	//m)		(dBuV	/m)	(0	dB)				
Н		46.17	79		7	.74		19	9.66		27.4	10			40.0	0	-1:	2.60	1		QP	
Н		62.43	13		4	.84		18	8.51		23.3	35			40.0	0	-16.65				QP	
Н		113.31	161		4	.88		1	7.26		22.1	4			43.0	0	-2	0.86			QP	
Н		303.54				.25			0.52		25.7	77			46.0	0		0.23			QP	
Н		545.18				.56			5.46		33.0				46.0			2.98			QP	
Н		739.66	604		5	.34		2	8.78		34.1	2			46.0	0	-1	1.88			QP	
	Remark: Emission Level= Meter Reading+ Factor, Margin= Emission Level - Limit 80.0 dBuV/m																					
70 -																						
60 -														_								
50 -																						
40											F			_			5	n have	6 ×		L.	
30		t Mar Malina	have a second	2				3			Ma	alteral	had in	na	t Annanshiinn	yn mehiddend	5 ×	њ.М	Weik Jui	Vir		
20	YW 1997		W-1P*	n n n n n n n n n n n n n n n n n n n	γ ^r ~ų,	thetel	H. M.	and the state of t	MMM	Werphologenet	Helper VY	τ. ή .										
10																						
30.0	00		6	0.00						(MHz)				30	00.00					10	00.00)0



Spurious	Emission	Above 1	GHz (1GH	z to 25G	Hz)						
EUT:	Ma	chenike ł	Keyboard	Mod	el No.:		K6000	G-B97W			
Temperature	20	Ĉ		Rela	tive Humidity	/:	48%				
Test Mode:	Мо	de2/Mod	e3/Mode4	Test	By:		Yoyo	Liang			
All the modula	ation mod	es have	been teste			t was		•	/:		
. <u></u>							•				
Frequency	Read Level	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Lir	nits	Margin	Remark	Comment	
(MHz)	(dBµV)	(dB)	dB/m	(dB)	(dBµV/m)	(dB	uV/m)	(dB)			
			Low Chan	nel (2402	MHz)(GFSK)·	Abov	ve 1G				
4804	65.59	5.21	35.59	44.30	62.09	74	4.00	-11.91	Pk	Vertical	
4804	46.56	5.21	35.59	44.30	43.06	54	4.00	-10.94	AV	Vertical	
7206	66.41	6.48	36.27	44.60	64.56	74	4.00	-9.44	Pk	Vertical	
7206	48.72	6.48	36.27	44.60	46.87	54	4.00	-7.13	AV	Vertical	
4804	67.58	5.21	35.55	44.30	64.04	74	4.00	-9.96	Pk	Horizontal	
4804	47.92	5.21	35.55	35.55 44.30 44.		54.00		-9.62	AV	Horizontal	
7206	67.29	6.48	36.27	44.52	65.52	65.52 74.0		-8.48	Pk	Horizontal	
7206	46.64	6.48	36.27	44.52	44.87	54	4.00	-9.13	AV	Horizontal	
		-	Mid Chan	nel (2441	MHz)(GFSK)	Abo	ve 1G	-			
4882	63.91	5.21	35.66	44.20	60.58	74	1.00	-13.42	Pk	Vertical	
4882	46.85	5.21	35.66	44.20	43.52	54	4.00	-10.48	AV	Vertical	
7323	65.62	7.10	36.50	44.43	64.79	74	4.00	-9.21	Pk	Vertical	
7323	47.31	7.10	36.50	44.43	46.48	54	4.00	-7.52	AV	Vertical	
4882	65.65	5.21	35.66	44.20	62.32	74	1.00	-11.68	Pk	Horizontal	
4882	50.47	5.21	35.66	44.20	47.14	54	1.00	-6.86	AV	Horizontal	
7323	65.09	7.10	36.50	44.43	64.26	74	4.00	-9.74	Pk	Horizontal	
7323	47.91	7.10	36.50	44.43	47.08	54	4.00	-6.92	AV	Horizontal	
		1	High Chan	nel (2480	MHz)(GFSK)	Abc	ove 1G	1	r		
4960	63.92	5.21	35.52	44.21	60.44	74	1.00	-13.56	Pk	Vertical	
4960	47.5	5.21	35.52	44.21	44.02	54	1.00	-9.98	AV	Vertical	
7440	66.56	7.10	36.53	44.60	65.59	74	4.00	-8.41	Pk	Vertical	
7440	46.24	7.10	36.53	44.60	45.27	54	4.00	-8.73	AV	Vertical	
4960	65.84	5.21	35.52	44.21	62.36	74	4.00	-11.64	Pk	Horizontal	
4960	44.98	5.21	35.52	44.21	41.50	54	4.00	-12.50	AV	Horizontal	
7440	65.9	7.10	36.53	44.60	64.93	74.00		-9.07	Pk	Horizontal	
7440	48.08	7.10	36.53	44.60	47.11	54	Horizontal				

Note:

(1) Emission Level= Antenna Factor + Cable Loss + Read Level - Preamp Factor (2)All other emissions more than 20dB below the limit.



UT:	Machenik	ke Keybo	bard		Mode	l No.:		K6000	G-B97W		
emperature	20 °C				Relati	ve Humidity	/:	48%			
est Mode:	Mode2/ N	/lode4			Test By:			Yoyo Liang			
All the modu	lation mod	les have	been teste	ed, a	and the worst result was report as below:						
Frequency	Meter Reading	Cable Loss	Antenna Factor		eamp ictor	Emission Level	Lii	mits	Margin	Detector	Commen
(MHz)	(dBµV)	(dB)	dB/m	(0	dB)	(dBµV/m)	(dBµV/m)		(dB)	Туре	
1Mbps(GFSK)-Non-hopping											
2310.00 67.85 2.97 27.80 43				3.80	54.82		74	-19.18	Pk	Horizonta	
2310.00	48.42	2.97	27.80	43.80		35.39	:	54	-18.61	AV	Horizonta
2310.00	68.63	2.97	27.80	43.80		55.60		74	-18.40	Pk	Vertical
2310.00	49.82	2.97	27.80	43.80		36.79	54		-17.21	AV	Vertical
2390.00	69.32	3.14	27.21	43.80		55.87	74		-18.13	Pk	Vertical
2390.00	51.55	3.14	27.21	43.80		38.10	54		-15.90	AV	Vertical
2390.00	70.78	3.14	27.21	43.80		57.33	74		-16.67	Pk	Horizonta
2390.00	48.99	3.14	27.21	43.80		35.54	54		-18.46	AV	Horizonta
2483.50	69.37	3.58	27.70	44	4.00	56.65	74		-17.35	Pk	Vertical
2483.50	49.58	3.58	27.70	44	4.00	36.86	54		-17.14	AV	Vertical
2483.50	71.14	3.58	27.70	44	4.00	58.42		74	-15.58	Pk	Horizonta
2483.50	49.57	3.58	27.70	44	4.00	36.85	54		-17.15	AV	Horizonta
				1M	bps(GF	SK)-hopping)				
2310.00	70.98	2.97	27.80	43	3.80	57.95		74	-16.05	Pk	Horizonta
2310.00	47.89	2.97	27.80	43	3.80	34.86	:	54	-19.14	AV	Horizonta
2310.00	71.48	2.97	27.80	43	3.80	58.45		74	-15.55	Pk	Vertical
2310.00	51.57	2.97	27.80	43	3.80	38.54	:	54	-15.46	AV	Vertical
2390.00	70.8	3.14	27.21	43	3.80	57.35		74	-16.65	Pk	Vertical
2390.00	49.87	3.14	27.21	43	3.80	36.42		54	-17.58	AV	Vertical
2390.00	68.18	3.14	27.21	43	3.80	54.73		74	-19.27	Pk	Horizonta
2390.00	51.08	3.14	27.21	43	3.80	37.63		54	-16.37	AV	Horizonta
2483.50	69.78	3.58	27.70	44	4.00	57.06		74	-16.94	Pk	Vertical
2483.50	49.81	3.58	27.70	44	4.00	37.09		54	-16.91	AV	Vertical
2483.50	69.01	3.58	27.70	44	4.00	56.29		74	-17.71	Pk	Horizonta
2483.50	50.48	3.58	27.70	44	4.00	37.76		54	-16.24	AV	Horizonta

Note: (1) All other emissions more than 20dB below the limit.



					260MHz-18000MHz Model No.:			K600G-B97W			
EUT:			Keyboard					K600G-B97W			
Femperature	: 20	°C			Relative Humidity: 4			48%			
Test Mode: Mode2/ Mode4			le4		Test	By:		Yoyo	Liang		
All the modulation modes have been te				ed, a	and th	e worst resu	ult wa	is repo	rt as belo	W:	
Frequency Read		Cable Loss	Antenna Factor	Preamp Factor		Emission Level	Lir	nits	Margin	Detector	Comment
(MHz)	(dBµV)	(dB)	dB/m	(0	dΒ)	(dBµV/m)	(dBµ	uV/m)	(dB)	Туре	
3260	65.78	4.04	29.57	44.70		54.69	74		-19.31	Pk	Vertical
3260	49.71	4.04	29.57	44.70		38.62	ę	54	-15.38	AV	Vertical
3260	66.77	4.04	29.57	44	4.70	55.68	-	74	-18.32	Pk	Horizonta
3260	51.82	4.04	29.57	44	4.70	40.73	ę	54	-13.27	AV	Horizonta
3332	67.88	4.26	29.87	44	1.40	57.61	-	74	-16.39	Pk	Vertical
3332	44.52	4.26	29.87	44	1.40	34.25	ę	54	-19.75	AV	Vertical
3332	63.65	4.26	29.87	44	4.40	53.38	-	74	-20.62	Pk	Horizonta
3332	47.7	4.26	29.87	44	1.40	37.43	ę	54	-16.57	AV	Horizonta
17797	48.58	10.99	43.95	43	3.50	60.02		74	-13.98	Pk	Vertical
17797	35	10.99	43.95	43	3.50	46.44	ę	54	-7.56	AV	Vertical
17788	51.21	11.81	43.69	44	4.60	62.11	7	74	-11.89	Pk	Horizonta
17788	36.2	11.81	43.69	44	1.60	47.10	į	54	-6.90	AV	Horizonta

Note: (1) All other emissions more than 20dB below the limit.



7.3 NUMBER OF HOPPING CHANNEL

7.3.1 Applicable Standard

According to FCC Part 15.247(a)(1) (iii)and ANSI C63.10-2013

7.3.2 Conformance Limit

Frequency hopping systems in the 2400-2483.5MHz band shall use at least 15 channels.

7.3.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.3.4 Test Setup

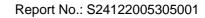
Please refer to Section 6.1 of this test report.

7.3.5 Test Procedure

The testing follows ANSI C63.10-2013 clause 7.8.3 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. The EUT must have its hopping function enabled. Use the following spectrum analyzer settings: Span = the frequency band of operation RBW : To identify clearly the individual channels, set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller. VBW \geq RBW Sweep = auto Detector function = peak Trace = max hold

7.3.6 Test Results

EUT:	Machenike Keyboard	Model No.:	K600G-B97W
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode 5(1Mbps)	Test By:	Yoyo Liang





7.4 HOPPING CHANNEL SEPARATION MEASUREMENT

7.4.1 Applicable Standard

According to FCC Part 15.247(a)(1) and ANSI C63.10-2013

7.4.2 Conformance Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5MHz band shall have hopping channel carrier frequencies that are separated by 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater.

7.4.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.4.4 Test Setup

Please refer to Section 6.1 of this test report.

7.4.5 Test Procedure

The testing follows ANSI C63.10-2013 clause 7.8.2

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT was operating in controlled its channel.

Use the following spectrum analyzer settings:

Span = Measurement Bandwidth or Channel Separation

RBW: Start with the RBW set to approximately 30% of the channel spacing; adjust as necessary to best identify the center of each individual channel.

VBW ≥ RBW Sweep = auto

Detector function = peak Trace = max hold

7.4.6 Test Results

EUT:	Machenike Keyboard	Model No.:	K600G-B97W
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Yoyo Liang



7.5 AVERAGE TIME OF OCCUPANCY (DWELL TIME)

7.5.1 Applicable Standard

According to FCC Part 15.247(a)(1)(iii) and ANSI C63.10-2013

7.5.2 Conformance Limit

The average time of occupancy on any channel shall not be greater than 0.4s within a period of 0.4s multiplied by the number of hopping channels employed.

7.5.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.5.4 Test Setup

Please refer to Section 6.1 of this test report.

7.5.5 Test Procedure

The testing follows ANSI C63.10-2013 clause 7.8.4 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. The EUT must have its hopping function enabled. Use the following spectrum analyzer settings: Span = zero span, centered on a hopping channel RBW \geq 1MHz VBW \geq RBW Sweep = as necessary to capture the entire dwell time per hopping channel Detector function = peak Trace = max hold Measure the maximum time duration of one single pulse. Set the EUT for DH5, DH3 and DH1 packet transmitting. Measure the maximum time duration of one single pulse.



7.5.6 **Test Results**

EUT:	Machenike Keyboard	Model No.:	K600G-B97W
Temperature:	20 ℃	Relative Humidity:	K600G-B97W 48% Yoyo Liang
Test Mode:	Mode2/Mode3/Mode4	Test By:	Yoyo Liang

Test data reference attachment.

Note:

A Period Time = (channel number)*0.4

DH1 Dwell time: Reading * (1600/2)*31.6/(channel number) DH3 Dwell time: Reading * (1600/4)*31.6/(channel number) DH5 Dwell time: Reading * (1600/6)*31.6/(channel number)

For Example:

- 1. In normal mode, hopping rate is 1600 hops/s with 6 slots in 79 hopping channels. With channel hopping rate (1600 / 6 / 79) in Occupancy Time Limit (0.4 x 79) (s), Hops Over Occupancy Time comes to $(1600 / 6 / 79) \times (0.4 \times 79) = 106.67$ hops.
- 2. In AFH mode, hopping rate is 800 hops/s with 6 slots in 20 hopping channels. With channel hopping rate (800 / 6 / 20) in Occupancy Time Limit (0.4 x 20) (s), Hops Over Occupancy Time comes to $(800 / 6 / 20) \times (0.4 \times 20) = 53.33$ hops.
- 3. Dwell Time(s) = Hops Over Occupancy Time (hops) x Package Transfer Time



7.6 20DB BANDWIDTH TEST

7.6.1 Applicable Standard

According to FCC Part 15.247(a)(1) and ANSI C63.10-2013

7.6.2 Conformance Limit

No limit requirement.

7.6.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.6.4 Test Setup

Please refer to Section 6.1 of this test report.

7.6.5 Test Procedure

The testing follows ANSI C63.10-2013 clause 6.9.2 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. The EUT was operating in controlled its channel. Use the following spectrum analyzer settings: Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel RBW \geq 1% of the 20 dB bandwidth VBW \geq RBW Sweep = auto Detector function = peak Trace = max hold

7.6.6 Test Results

EUT:	Machenike Keyboard	Model No.:	K600G-B97W 48% Yoyo Liang
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Yoyo Liang



7.7 PEAK OUTPUT POWER

7.7.1 Applicable Standard

According to FCC Part 15.247(b)(1) and ANSI C63.10-2013

7.7.2 Conformance Limit

The maximum peak conducted output power of the intentional radiator shall not exceed the following: (1) For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band 0.125 watts.

7.7.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.7.4 Test Setup

Please refer to Section 6.1 of this test report.

7.7.5 Test Procedure

The testing follows ANSI C63.10-2013 clause 7.8.5.

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT was operating in controlled its channel.

Use the following spectrum analyzer settings:

Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel

 $RBW \ge the 20 dB$ bandwidth of the emission being measured

 $VBW \ge RBW$

Sweep = auto

Detector function = peak Trace = max hold

7.7.6 Test Results

EUT:	Machenike Keyboard	Model No.:	K600G-B97W
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Yoyo Liang



7.8 CONDUCTED BAND EDGE MEASUREMENT

7.8.1 Applicable Standard

According to FCC Part 15.247(d) and ANSI C63.10-2013

7.8.2 Conformance Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.205(c)).

7.8.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.8.4 Test Setup

Please refer to Section 6.1 of this test report.

7.8.5 Test Procedure

The testing follows ANSI C63.10-2013 clause 7.8.6.

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT must have its hopping function enabled.

Use the following spectrum analyzer settings:

Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel

RBW = 100KHz

VBW = 300KHz

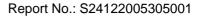
Band edge emissions must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100kHz RBW. The attenuation shall be 30 dB instead of 20 dB when RMS conducted output power procedure is used.

Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.

Repeat above procedures until all measured frequencies were complete.

7.8.6 Test Results

EUT:	Machenike Keyboard	Model No.:	K600G-B97W
Temperature:	20 °C	Relative Humidity:	48%
Test Mode:	Mode2 /Mode4/ Mode 5	Test By:	Yoyo Liang





7.9 SPURIOUS RF CONDUCTED EMISSION

7.9.1 Applicable Standard

According to FCC Part 15.247(d) and ANSI C63.10-2013.

7.9.2 Conformance Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

7.9.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.9.4 Test Setup

Please refer to Section 6.1 of this test report.

7.9.5 Test Procedure

Establish an emission level by using the following procedure:

a) Set the center frequency and span to encompass frequency range to be measured.

- b) Set the RBW = 100 kHz.
- c) Set the VBW \geq [3 × RBW].
- d) Detector = peak.
- e) Sweep time = auto couple.
- f) Trace mode = max hold.

g) Allow trace to fully stabilize.

h) Use the peak marker function to determine the maximum amplitude level.

Then the limit shall be attenuated by at least 20 dB relative to the maximum amplitude level in 100 kHz.

7.9.6 Test Results

Remark: The measurement frequency range is from 30MHzHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandege measurement data.



7.10 ANTENNA APPLICATION

7.10.1 Antenna Requirement

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

7.10.2 Result

The EUT antenna is permanent attached PCB Antenna (Gain: 2.34 dBi). It comply with the standard requirement.

NTEK ILW[®]

7.11 FREQUENCY HOPPING SYSTEM (FHSS) EQUIPMENT REQUIREMENTS 7.11.1 Standard Applicable

According to FCC Part 15.247(a)(1), The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals. (g) Frequency hopping spread spectrum systems are not required to employ all available hopping channels during each transmission. However, the system, consisting of both the transmitter and the receiver, must be designed to comply with all of the regulations in this section should the transmission bursts must comply with the definition of a frequency hopping system and must distribute its transmissions over the minimum number of hopping channels specified in this section. (h) The incorporation of intelligence within a frequency hopping spread spectrum system that permits the system to recognize other users within the spectrum band so that it individually and independently chooses and adapts its hopsets to avoid hopping on occupied channels is permitted. The coordination of frequency hopping systems in any other manner for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters is not permitted.

7.11.2 Frequency Hopping System

This transmitter device is frequency hopping device, and complies with FCC part 15.247 rule. This device uses Bluetooth radio which operates in 2400-2483.5 MHz band. Bluetooth uses a radio technology called frequency-hopping spread spectrum, which chops up the data being sent and transmits chunks of it on up to 79 bands (1 MHz each: centred from 2402 to 2480 MHz) in the range 2,400-2,483.5 MHz. The transmitter switches hop frequencies 1,600 times per second to assure a high degree of data security. All Bluetooth devices participating in a given piconet are synchronized to the frequency-hopping channel for the piconet. The frequency hopping sequence is determined by the master's device address and the phase of the hopping sequence (the frequency to hop at a specific time) is determined by the master's internal clock. Therefore, all slaves in a piconet must know the master's device address and must synchronize their clocks with the master's clock. Adaptive Frequency Hopping (AFH) was introduced in the Bluetooth specification to provide an effective way for a Bluetooth radio to counteract normal interference. AFH identifies "bad" channels, where either other wireless devices are interfering with the Bluetooth signal or the Bluetooth signal is interfering with another device. The AFH-enabled Bluetooth device will then communicate with other devices within its piconet to share details of any identified bad channels. The devices will then switch to alternative available "good" channels, away from the areas of interference, thus having no impact on the bandwidth used.

This device was tested with an bluetooth system receiver to check that the device maintained hopping synchronization, and the device complied with these requirements for FCC Part 15.247 rule.

7.11.3 EUT Pseudorandom Frequency Hopping Sequence

Pseudorandom Frequency Hopping Sequence Table as below: Channel: 08, 24, 40, 56, 40, 56, 72, 09, 01, 09, 33, 41, 33, 41, 65, 73, 53, 69, 06, 22, 04, 20, 36, 52, 38, 46, 70, 78, 68, 76, 21, 29, 10, 26, 42, 58, 44, 60, 76, 13, 03, 11, 35, 43, 37, 45, 69, 77, 55, 71, 08, 24, 08, 24, 40, 56, 40, 48, 72, 01, 72, 01, 25, 33, 12, 28, 44, 60, 42, 58, 74, 11, 05, 13, 37, 45 etc.

The system receiver have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies in synchronization with the transmitted signals.



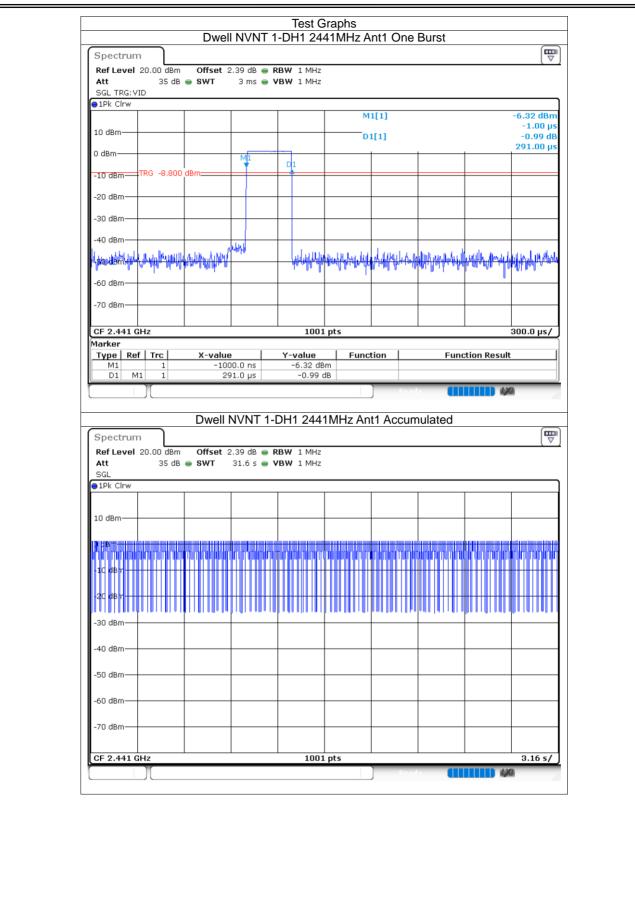
8 TEST RESULTS

8.1 Dwell Time

С	ondition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
	NVNT	1-DH1	2441	Ant1	0.291	75.951	261	31600	400	Pass
	NVNT	1-DH3	2441	Ant1	1.545	321.36	208	31600	400	Pass
	NVNT	1-DH5	2441	Ant1	2.792	315.496	113	31600	400	Pass











SGL TRG:VID 91Pk Clrw			1					
10 dBm					1[1]		0.0	-0.48 dBm
0 dBm	M1				1[1]		1	1.68 dB .54500 ms
-10 dBm-TRG -8	.800_dBm=====							
-20 dBm								
-30 dBm								
-40 dBm								
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-60 dBm					. 1		0.004.01	° 1 ° '
-70 dBm								
CF 2.441 GHz Marker			1001	L pts				500.0 µs/
Type Ref Trc M1 1		0.0 s	Y-value -0.48 dB		tion	Fund	tion Result	
D1 M1 1	. 1.	545 ms	1.68 (dB	Read			7
								- //
	Dwell	NVNT 1-	DH3 244	1MHz Ar	t1 Accum	nulated		Ē
Spectrum Ref Level 20.00	dBm Offset	2.39 dB 👄 F	RBW 1 MHz					
Att 3. SGL	5 dB 👄 SWT	31.6 s 👄 🕻	VBW 1 MHz					
1Pk Clrw								
● 1Pk Clrw 10 dBm								
● 1Pk Cirw 10 dBm								
● 1Pk Clrw 10 dBm								
1Pk Clrw 10 dBm 10 dBm 10 dBm 10 c br 10 c br 10 c br								
1Pk Cirw 10 dBm 10 dBm 10 dBm 10 dBm 10 dBm 10 dBm								
● 1Pk Clrw 10 dBm				l l l l l l				
● 1Pk Clrw 10 dBm dBith 10 c br -2 c br -2 c br -4 p c br -2 c br				l l l l l l				
● 1Pk Clrw 10 dBm dBitit 10 c br -20 c br -21 c br -42 c br -50 dBm -50 dBm				l l l l l l				
● 1Pk Clrw 10 dBm □ dBm □ dBm · 10 c br · 20 c br · 21 c br · 22 c b · · · · · · · · · · · · · · · · · ·				l l l l l l				
1Pk Cirw 10 dBm 10 dBm 10 c br 10				l l l l l l				
● 1Pk Clrw 10 dBm dB m dB m dB m dB m dB m -50 dBm -70 dBm								-0100110000000000000000000000000000000
1Pk Clrw 10 dBm 10 dBm 10 c br 10								3.16 s/

Report No.: S24122005305001

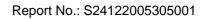


●1Pk Clrw							0.00.40
10 dBm				1[1]			-9.68 dBm -8.00 µs
			D	1[1]			1.78 dB 2.79200 ms
0 dBm		1					
-10 dBm TRG -8.700 c	JBM						
-20 dBm							
-30 dBm							
-40 dBm							
VERSHARE AN ALANA		L MM	and the second	an and a state and a state of the state of t	with more approved	himmen and	nter Indendyreg
-60 dBm							
-70 dBm							
CF 2.441 GHz		1001	Inte				800.0 µs/
Marker							
Type Ref Trc M1 1	X-value -8.0 µs	Y-value -9.68 dB		tion	Fund	ction Result	t
D1 M1 1	2.792 ms	1.78 (dB	Dead			6
							- //
	Dwell NVNT 1-D	DH5 244	1MHz An	t1 Accum	nulated		Ē
Spectrum							
Ref Louel 20.00 dBm	Offect 2 20 db = P						· · · ·
	Offset 2.39 dB ● R ● SWT 31.6 s ● V						
Att 35 dB (SGL							
Att 35 dB (SGL							
Att 35 dB (SGL 1Pk Clrw							
Att 35 dB SGL ● 1Pk Clrw 10 dBm ● D dBm ●							
Att 35 dB SGL 10 dBm							
Att 35 dB SGL ● 1Pk Cirw 10 dBm - 10 dBm - 10 зБт - 20 зБт	SWT 31.6 5 V						
Att 35 dB SGL ● 1Pk Cirw 10 dBm - 10 dBm - 10 зБт - 20 зБт							
Att 35 dB SGL ● 1Pk Clrw 10 dBm D dBm -1C 56m -2C 56m -30 56m	• SWT 31.6 s • V	'BW 1 MHz			-	r	
Att 35 dB SGL ● 1Pk Clrw 10 dBm Di dBm 	SWT 31.6 5 V	'BW 1 MHz			-	r	
Att 35 dB SGL ● 1Pk Clrw 10 dBm P dBm -10 56m -20 56m -30 56	• SWT 31.6 s • V	'BW 1 MHz			-	r	
Att 35 dB SGL ● 1Pk Clrw 10 dBm Di dBm 	• SWT 31.6 s • V	'BW 1 MHz			-	r	
Att 35 dB SGL ● 1Pk Clrw 10 dBm 	• SWT 31.6 s • V	'BW 1 MHz			-	r	
Att 35 dB SGL ● 1Pk Clrw 10 dBm PidBm 10 cBm 20 cBm -30 cBm -50 dBm -60 dBm	• SWT 31.6 s • V	'BW 1 MHz			-	r	
Att 35 dB SGL ● 1Pk Clrw 10 dBm P dBm -1C 26c -2C 26c -30 26c -50 dBm -60 dBm	• SWT 31.6 s • V	'BW 1 MHz				r	3.16 s/



8.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	2.23	21	Pass
NVNT	1-DH5	2441	Ant1	1.35	21	Pass
NVNT	1-DH5	2480	Ant1	0.82	21	Pass





SGL Count 100/100 91Pk Max			1 1			o oo do
10 dBm			M	1[1]	2.40	2.23 dB)214990 GH
			M1			
0 dBm	un -					
-10 dBm						
-20 dBm						
-30 dBm						
-40 dBm						
-50 dBm						
-60 dBm						
-70 dBm	_					
SGL Count 100/100	3m Offset 2.39 dB SWT 1	0 ower NVNT 1-1 9 dB • RBW 2 МНа 1 ms • VBW 2 МНа	z			Na -
Spectrum Ref Level 20.00 df Att 35	3m Offset 2.39 dB SWT 1	ower NVNT 1-I	DH5 24411 2 2 Mode Aut	to Sweep		1
Spectrum Ref Level 20.00 de Att 35 SGL Count 100/100 •1Pk Max	3m Offset 2.39 dB SWT 1	ower NVNT 1-I	DH5 24411 2 2 Mode Aut			1.35 dBi
Spectrum Ref Level 20.00 da Att 35 SGL Count 100/100 • 1Pk Max 10 dBm-	Bm Offset 2.39 dB SWT 1	ower NVNT 1-I	DH5 24411 2 Mode Aut	to Sweep		1.35 dBr H117480 GH
Spectrum Ref Level 20.00 da Att 35 SGL Count 100/100 • 1Pk Max 10 dBm-	Bm Offset 2.39 dB SWT 1	ower NVNT 1-I	DH5 24411 2 2 Mode Aut	to Sweep		1.35 dBr
Spectrum Ref Level 20.00 da Att 35 SGL Count 100/100 • 1Pk Max 10 dBm-	3m Offset 2.39 dB SWT 1	ower NVNT 1-I	DH5 24411 2 Mode Aut	to Sweep		1.35 dBi
Spectrum Ref Level 20.00 d8 Att 35: SGL Count 100/100 • IPk Max 10 dBm 0 dBm	Bm Offset 2.39 dB SWT 1	ower NVNT 1-I	DH5 24411 2 Mode Aut	to Sweep		1.35 dBr
Spectrum Ref Level 20.00 df Att 35 - SGL Count 100/100 • 1Pk Max 10 dBm - 10 dBm - 10 dBm - 20 dBm	Bm Offset 2.39 dB SWT 1	ower NVNT 1-I	DH5 24411 2 Mode Aut	to Sweep		1.35 dBr
Spectrum Ref Level 20.00 df Att 35 i SGL Count 100/100 • 1Pk Max 10 dBm -10 dBm -10 dBm -20 dBm -30 dBm	Bm Offset 2.39 dB SWT 1	ower NVNT 1-I	DH5 24411 2 Mode Aut	to Sweep		1.35 dBi
Spectrum Ref Level 20.00 df Att 35 - SGL Count 100/100 • 1Pk Max 10 dBm - 10 dBm - 10 dBm - 20 dBm	Bm Offset 2.39 dB SWT 1	ower NVNT 1-I	DH5 24411 2 Mode Aut	to Sweep		1.35 dBi
Spectrum Ref Level 20.00 df Att 35 i SGL Count 100/100 • 1Pk Max 10 dBm -10 dBm -10 dBm -20 dBm -30 dBm	Bm Offset 2.39 dB SWT 1	ower NVNT 1-I	DH5 24411 2 Mode Aut	to Sweep		1.35 dBi
Spectrum Ref Level 20.00 df Att 35 i SGL Count 100/100 • 1Pk Max 10 dBm -10 dBm -10 dBm -20 dBm -30 dBm -40 dBm	Bm Offset 2.39 dB SWT 1	ower NVNT 1-I	DH5 24411 2 Mode Aut	to Sweep		1.35 dBi
Spectrum Ref Level 20.00 df Att 35 SGL Count 100/100 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm	Bm Offset 2.39 dB SWT 1	ower NVNT 1-I	DH5 24411 2 Mode Aut	to Sweep		1.35 dBi
Spectrum Ref Level 20.00 df Att 35 SGL Count 100/100 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm	Bm Offset 2.39 dB SWT 1	Ower NVNT 1-1	DH5 24411 2 Mode Aut	to Sweep	2.44	1.35 dBi





						n	pectrum
	Auto Sweep	Mode	BW 2 MHz BW 2 MHz	_	Offset 2. SWT	20.00 dBm 35 dB 100/100	tt GL Count
0.82 dBm 2.47984520 GHz	 M1[1]						.Pk Max
			M1) dBm
					_la_de_	Jammed and a data	dBm
							0 dBm
							0 dBm
							0 dBm
							0 dBm
							0 dBm
Span 5.0 MHz		i pts	100:	-		Ηz	- 2.48 GH



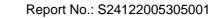
8.3 -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)
NVNT	1-DH5	2402	Ant1	0.962
NVNT	1-DH5	2441	Ant1	0.95
NVNT	1-DH5	2480	Ant1	0.978

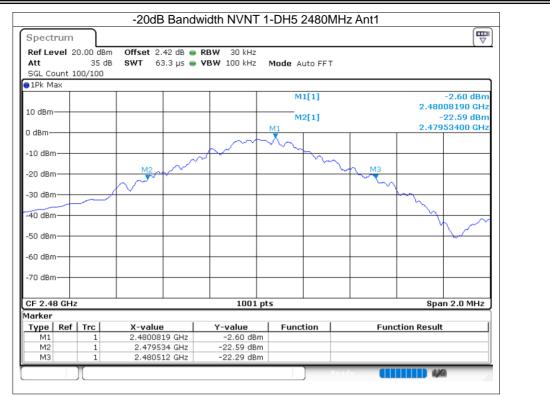
ACCREDITED Certificate #4298.01













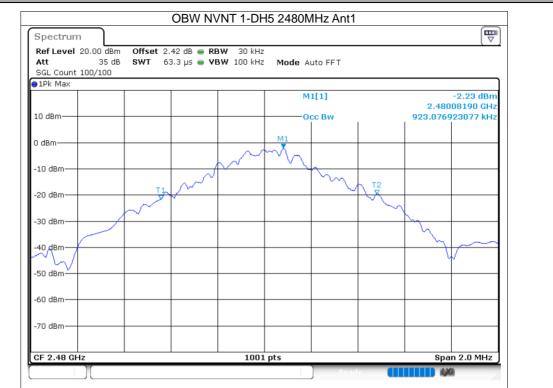
4 Occupied Cha	nnel Bandwidtl	h		
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH5	2402	Ant1	0.899
NVNT	1-DH5	2441	Ant1	0.941
NVNT	1-DH5	2480	Ant1	0.923









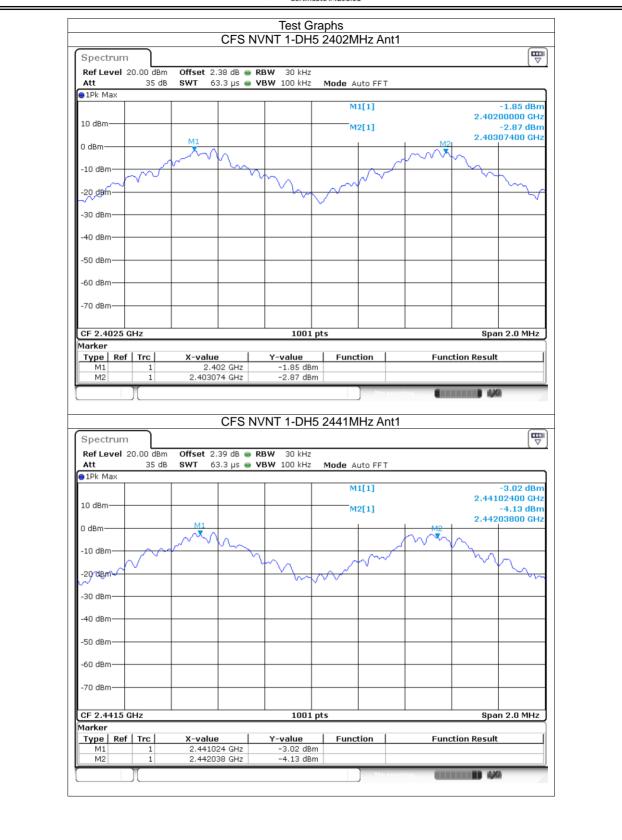


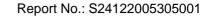


8.5 Carrier Frequencies Separation

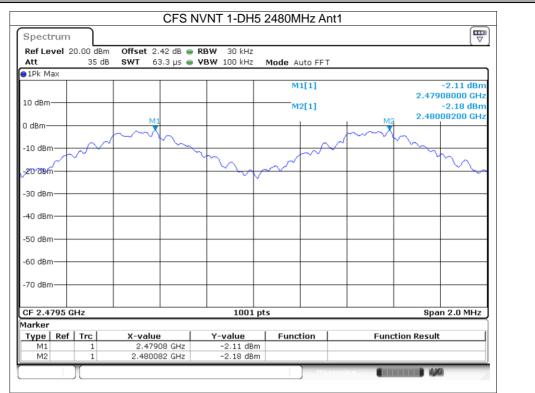
O	.5 Carrier F	requenc	ies Separat					
	Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
	NVNT	1-DH5	Ant1	2402	2403.074	1.074	0.641	Pass
	NVNT	1-DH5	Ant1	2441.024	2442.038	1.014	0.633	Pass
	NVNT	1-DH5	Ant1	2479.08	2480.082	1.002	0.652	Pass













Condition	pping Channel	Antonno	Hopping Number	Limit	Vordi
	Mode 1-DH5	Antenna	Hopping Number		Verdie
NVNT	1-DH5	Ant1	79	15	Pass





Spectru	n						
Ref Level	20.00 dBm	Offset 2.38 dB 👄	RBW 100 kHz				(.)
Att	35 dE		VBW 300 kHz	Mode Auto Swi	еер		
∋1Pk Max							
				M1[1]			1.43 dBm
10 dBm						2.40	18370 GHz
M1				M2[1]		0.40	-0.27 dBm 02435/(GHz
0 damman						2.48	
TATIONA	YNNAAR	ABAHAAAMAHAJAHA	ANGUSBRUAN	TURNENDARDUR	HERORADANA DA BARANA	ODBAANDA.	NANANA
-10 авні 🕂	AAAAAAA	<u> </u>	7486476474747	VINIIIIIIIIIIIIII IIII		4411716774	
11010	11 1.111	Alto, Coller, Coller, Col	4815-848.440	0,4,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0	od Blinde, Blind	ARABAAA	oh ii kii (
-20 dBm—							
-30 dBm—							
J							
-40 dBm—							
↓ 50 dBm—							hillinge
-60 dBm—							
-00 ubiii—							
-70 dBm—							
/o dbiii							
							1005 011
Start 2.4 Marker	GHZ		1001 p	its		stop 2.	.4835 GHz
	ef Trc	X-value	Y-value	Function	Euro	tion Result	. 1
M1	1	2.401837 GHz	1.43 dBm		Func	cion Result	·
M2	1	2.4802435 GHz	-0.27 dBm				



8	3.7 Band Ec	lge						
	Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
	NVNT	1-DH5	2402	Ant1	No-Hopping	-51.49	-20	Pass
	NVNT	1-DH5	2480	Ant1	No-Hopping	-52.41	-20	Pass





Ref Level 2 Att SGL Count 1 9 1Pk Max	35 dB			BW 100 kHz BW 300 kHz		uto FFT			
					м	1[1]		2 401	1.42 dE 196800 G
10 dBm								2.401	90000 G
0 dBm				M	L ~~				
o ubiii					λ				
-10 dBm				1					
-20 dBm									
			/						
-30 dBm									
-40 dBm									
-50 dBm			/						
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	mm,	m				$\sim$	m	$\sim$	m
-60 dBm									
-70 dBm									
				1					
CF 2.402 GF Spectrum Ref Level 2	Banc	Offset 2	2.38 dB 👄 I	1001 H5 2402N RBW 100 kH	/Hz Ant1		pping Emi		an 8.0 MH
Spectrum Ref Level 2 Att SGL Count 1	Banc Banc 20.00 dBm 35 dB	Offset 2	2.38 dB 👄 I	H5 2402N	/Hz Ant1		pping Emi		0
CF 2.402 GF Spectrum Ref Level 2 Att	Banc Banc 20.00 dBm 35 dB	Offset 2	2.38 dB 👄 I	H5 2402N	/Hz Ant1 ^z z Mode /		ping Emi		0
CF 2.402 GF Spectrum Ref Level 2 Att SGL Count 1	Banc Banc 20.00 dBm 35 dB	Offset 2	2.38 dB 👄 I	H5 2402N	/Hz Ant1 ^z Mode / M	Auto FFT 1[1]	ping Emi	ssion 2.402	۵ ۵
CF 2.402 GF Spectrum Ref Level 2 Att SGL Count 1 @1Pk Max	Banc Banc 20.00 dBm 35 dB	Offset 2	2.38 dB 👄 I	H5 2402N	/Hz Ant1 ^z Mode / M	Auto FFT	ping Emi	ssion 2.402	( 1.45 dE 205000 G
CF 2.402 GF Spectrum Ref Level 2 Att SGL Count 1 © 1Pk Max 10 dBm	Banc Banc 20.00 dBm 35 dB	Offset 2	2.38 dB 👄 I	H5 2402N	/Hz Ant1 ^z Mode / M	Auto FFT 1[1]	ping Emi	ssion 2.402	1.45 dE 205000 G -51.47,42
CF 2.402 GF Spectrum Ref Level 2 Att SGL Count 1 • 1Pk Max 10 dBm - 10 dBm	Banc Banc 20.00 dBm 35 dB	Offset 2 SWT 22	2.38 dB 👄 I	H5 2402N	/Hz Ant1 ^z Mode / M	Auto FFT 1[1]	ping Emi	ssion 2.402	1.45 dE 205000 G -51.47,42
CF 2.402 GF Spectrum Ref Level 2 Att SGL Count 1 9 IPk Max 10 dBm -10 dBm	Banc 20.00 dBm 35 dB .00/100	Offset 2 SWT 22	2.38 dB 👄 I	H5 2402N	/Hz Ant1 ^z Mode / M	Auto FFT 1[1]	ping Emi	ssion 2.402	1.45 dE 205000 G -51.47,42
CF 2.402 GH Spectrum Ref Level 2 Att SGL Count 1 9 1Pk Max 10 dBm -10 dBm -20 dBm	Banc 20.00 dBm 35 dB .00/100	Offset 2 SWT 22	2.38 dB 👄 I	H5 2402N	/Hz Ant1 ^z Mode / M	Auto FFT 1[1]		ssion 2.402	1.45 dE 205000 G -51.47,42
CF 2.402 GF Spectrum Ref Level 2 Att SGL Count 1 • 1Pk Max 10 dBm -10 dBm -20 dBm -30 dBm	Banc 20.00 dBm 35 dB .00/100	Offset 2 SWT 22	2.38 dB ● 1 7.5 µs ● 1	H5 2402N	/Hz Ant1	Auto FFT  1[1] 2[1]		2.400 2.400	1.45 dE 205000 G -51.47 dE 000000 3
CF 2.402 GF Spectrum Ref Level 2 Att SGL Count 1 e 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm -50 dBm	Banc 20.00 dBm 35 dB .00/100	Offset 2 SWT 22	2.38 dB 👄 I	H5 2402N	/Hz Ant1 ^z Mode / M	Auto FFT  1[1] 2[1]		ssion 2.402	1.45 dE 205000 G -51.47 dE 000000 3
CF 2.402 GH	Banc 20.00 dBm 35 dB .00/100	Offset 2 SWT 22	2.38 dB ● 1 7.5 µs ● 1	H5 2402N	/Hz Ant1	Auto FFT  1[1] 2[1]		2.400 2.400	1.45 dE 205000 G -51.47 dE 000000 3
CF 2.402 GF Spectrum Ref Level 2 Att SGL Count 1 9 1Pk Max 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm -50 dBm	Banc 20.00 dBm 35 dB .00/100	Offset 2 SWT 22	2.38 dB ● 1 7.5 µs ● 1	H5 2402N	/Hz Ant1	Auto FFT  1[1] 2[1]		2.400 2.400	1.45 dE 205000 G -51.47 dE 000000 3
CF 2.402 GF Spectrum Ref Level 2 Att SGL Count 1 9 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -30 dBm -70 dBm -70 dBm Start 2.306	Banc 20.00 dBm 35 dB .00/100	Offset 2 SWT 22	2.38 dB ● 1 7.5 µs ● 1	H5 2402N	/Hz Ant1	Auto FFT  1[1] 2[1]		2.402 2.400	1.45 dE 205000 G -51.47 dE 000000 3
CF 2.402 GF           Spectrum           Ref Level 2           Att           SGL Count 1           9 1Pk Max           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -60 dBm           -70 dBm           Start 2.306           Marker           Type   Ref	Banc 0.00 dBm 35 dB 00/100 01 -18.582 MyMur/Mw GHz Trc	Offset 2 SWT 22	2.38 dB 7.5 μs '	H5 2402N	/Hz Ant1	Auto FF T 1[1] 2[1] ۲۹۹۸ میں		2.402 2.400	1.45 dE 205000 G -51.47.4E 00000 G -51.47.4E 00000 G -51.47.4E 00000 G -51.47.4E 
CF 2.402 Gł           Ref Level 2           Att           SGL Count 1           9 IPk Max           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -70 dBm           Start 2.306           Marker           Type Ref           M1           M2	Валс 20.00 dBm 35 dB 00/100 01 -18.582 учучиличи GHz 1 1	Offset 2 SWT 22 dBm dBm dBm dBm dBm dBm dBm dBm dBm dBm dBm 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.402( 2.	2.38 dB 27.5 μs 7.5 μs	H5 2402N	/Hz Ant1	Auto FF T 1[1] 2[1] ۲۹۹۸ میں		2.402 2.400	1.45 dE 205000 G -51.47.4E 00000 G -51.47.4E 00000 G -51.47.4E 00000 G -51.47.4E 
CF 2.402 GF Spectrum Ref Level 2 Att SGL Count 1 9 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -20 dBm -30 dBm -50 dBm -50 dBm -70	Banc 20.00 dBm 35 dB 00/100 21 -18.582 444 444 444 444 444 444 444 4	Offset 2 SWT 22 dBm dBm cm/Jh/(),	2.38 dB 27.5 μs 27.5	H5 2402N	AHz Ant1	Auto FF T 1[1] 2[1] ۲۹۹۸ میں		2.402 2.400	1.45 dE 205000 G -51.47.4E 00000 G -51.47.4E 00000 G -51.47.4E 00000 G -51.47.4E 



Spectrum Ref Level		Offset 2.	42 dB 👄	RBW 100 kHz	:				
Att SGL Count	35 dB 100/100	SWT 18	3.9 µs 👄	<b>VBW</b> 300 kHz	Mode A	uto FFT			
●1Pk Max					M	1[1]			-0.03 dBr
								2.47	988810 GH
10 dBm									
0 dBm				M1					
o abiii					$\square$				
-10 dBm									
-20 dBm				1					
-30 dBm				_/					
					'	N N			
-40 dBm			- /			<u>M</u>			
-50 dBm									
		h	w.			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	$\sim\sim\sim\sim$		m
-60 dBm		- · · ·					· · ·	v	
-70 dBm									
				1001	Inte			Spa	an 8.0 MHz
	Banc 1 20.00 dBm	Offset 2	2.42 dB 👄	DH5 2480N	MHz Ant1		ping Emi		
Spectrum Ref Level Att SGL Count	Banc 20.00 dBm 35 dB	Offset 2	2.42 dB 👄	DH5 2480N	MHz Ant1	D Read			
Spectrum Ref Level Att SGL Count	Banc 20.00 dBm 35 dB	Offset 2	2.42 dB 👄	DH5 2480N	MHz Ant1	Auto FFT			
Spectrum Ref Level Att	Banc 20.00 dBm 35 dB	Offset 2	2.42 dB 👄	DH5 2480N	MHz Ant1	Auto FFT		ssion 2.47	₩ -0.08 dBr 985000 GH
Spectrum Ref Level Att SGL Count 1Pk Max 10 dBm M1	Banc 20.00 dBm 35 dB	Offset 2	2.42 dB 👄	DH5 2480N	MHz Ant1	Auto FFT		ssion 2.47	₩ ~0.08 dBr
Spectrum Ref Level Att SGL Count 1Pk Max 10 dBm	Banc 20.00 dBm 35 dB	Offset 2	2.42 dB 👄	DH5 2480N	MHz Ant1	Auto FFT		ssion 2.47	-0.08 dBr 985000 GH -54.81 dBr
Spectrum Ref Level Att SGL Count 1Pk Max 10 dBm M1	Banc 20.00 dBm 35 dB	Offset 2	2.42 dB 👄	DH5 2480N	MHz Ant1	Auto FFT		ssion 2.47	-0.08 dBr 985000 GH -54.81 dBr
Spectrum Ref Level Att SGL Count 1Pk Max 10 dBm- M1 0 dBm- -10 dBm-	Banc 20.00 dBm 35 dB	Offset 2 SWT 22	2.42 dB 👄	DH5 2480N	MHz Ant1	Auto FFT		ssion 2.47	-0.08 dBr 985000 GH -54.81 dBr
Spectrum Ref Level Att SGL Count 1Pk Max 10 dBm M1 0 dBm -10 dBm	Banc 20.00 dBm 35 dB 100/100	Offset 2 SWT 22	2.42 dB 👄	DH5 2480N	MHz Ant1	Auto FFT		ssion 2.47	-0.08 dBr 985000 GH -54.81 dBr
Spectrum Ref Level Att SGL Count 10 dBm- 10 dBm- -10 dBm- -20 dBm-	Banc 20.00 dBm 35 dB 100/100	Offset 2 SWT 22	2.42 dB 👄	DH5 2480N	MHz Ant1	Auto FFT		ssion 2.47	-0.08 dBr 985000 GH -54.81 dBr
Spectrum Ref Level Att SGL Count ID dBm- 10 dBm- -10 dBm- -20 cBm- -30 dBm- -46 dBm- -46 dBm- M4	Banc 20.00 dBm 35 dB 100/100	Offset 2 SWT 22	2.42 dB •	DH5 2480N	MHz Ant1	Auto FFT  1[1] 2[1]	ping Emis	2.474 2.483	-0.08 dBr 985000 GH -54.81 dBr 350000 GH
Spectrum Ref Level Att SGL Count 10 dBm- 10 dBm- -10 dBm- -20 dBm- -20 dBm- -30 dBm- -30 dBm- -30 dBm- -50 dBm- -	Banc 20.00 dBm 35 dB 100/100	Offset 2 SWT 22	2.42 dB •	DH5 2480N	MHz Ant1	Auto FFT  1[1] 2[1]	ping Emis	2.474 2.483	-0.08 dBr 985000 GH -54.81 dBr 350000 GH
Spectrum Ref Level Att SGL Count ID dBm- 10 dBm- -10 dBm- -20 cBm- -30 dBm- -46 dBm- -46 dBm- M4	Banc 20.00 dBm 35 dB 100/100	Offset 2 SWT 22	2.42 dB •	DH5 2480N	MHz Ant1	Auto FFT  1[1] 2[1]	ping Emis	2.474 2.483	-0.08 dBr 985000 GH -54.81 dBr 350000 GH
Spectrum Ref Level Att SGL Count 10 dBm- 10 dBm- -10 dBm- -20 dBm- -20 dBm- -30 dBm- -30 dBm- -30 dBm- -50 dBm- -	Banc 20.00 dBm 35 dB 100/100	Offset 2 SWT 22	2.42 dB •	DH5 2480N	MHz Ant1	Auto FFT  1[1] 2[1]	ping Emis	2.474 2.483	-0.08 dBr 985000 GH -54.81 dBr 350000 GH
Spectrum Ref Level Att SGL Count 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -40 dBm -50 dBm -50 dBm -70 dBm	Banc 20.00 dBm 35 dB 100/100	Offset 2 SWT 22	2.42 dB •	DH5 2480N RBW 100 kH VBW 300 kH	MHz Ant1	Auto FFT  1[1] 2[1]	ping Emis	2.47 2.48	-0.08 dBr 985000 GH -54.81 dBr 350000 GH
Spectrum Ref Level Att SGL Count 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -40 dBm -50 dBm -70 dBm Start 2.476	Banc 20.00 dBm 35 dB 100/100	Offset 2 SWT 22	2.42 dB •	DH5 2480N	MHz Ant1	Auto FFT  1[1] 2[1]	ping Emis	2.47 2.48	-0.08 dBr 985000 GH -54.81 dBr 350000 GH
Spectrum Ref Level Att SGL Count 10 dBm- 10 dBm- -10 dBm- -20 dBm- -20 dBm- -30 dBm- -50 dBm- -70 dBm- -70 dBm- Start 2.476 Marker Type Ref	Banc 20.00 dBm 35 dB 100/100 D1 -20.035	Offset 2 SWT 22	2.42 dB • 27.5 μs •	DH5 2480N	MHz Ant1	Auto FFT  [1[1] [2[1] [	ping Emi:	2.47 2.48	-0.08 dBr 985000 GH -54.81 dBr 350000 GH
Spectrum Ref Level Att SGL Count ID dBm 10 dBm -10 dBm -20 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -50 dBm -70 dBm -70 dBm Type Ref M1	Banc 20.00 dBm 35 dB 100/100 D1 -20.035	Offset 2 SWT 22	2.42 dB • 27.5 µs •	DH5 2480N	MHz Ant1	Auto FFT  [1[1] [2[1] [	ping Emi:	ssion 2.474 2.483 پېښېمېلېمې Stop	-0.08 dBr 985000 GH -54.81 dBr 350000 GH
Spectrum Ref Level Att SGL Count 1Pk Max 10 dBm -10 dBm -20 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -70	Banc 20.00 dBm 35 dB 100/100 D1 -20.035 0	Offset 2 SWT 22 dBm dBm MO MO X-value 2.479 2.48 2.479 2.48	2.42 dB • 2.5 µs • 4	DH5 2480N	MHz Ant1	Auto FFT  [1[1] [2[1] [	ping Emi:	ssion 2.474 2.483 پېښېمېلېمې Stop	-0.08 dBr 985000 GH -54.81 dBr 350000 GH
Spectrum Ref Level Att SGL Count 10 dBm -10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -30 dBm -40 dBm -40 dBm -70	Banc 20.00 dBm 35 dB 100/100 D1 -20.035 0 GHz 6 GHz 6 GHz 1 1	Offset 2 SWT 22 dBm dBm MO MO X-value 2.479 2.48 2.479 2.48	2.42 dB ● 2.7.5 µs ● 	DH5 2480N RBW 100 kH VBW 300 kH	MHz Ant1	Auto FFT  [1[1] [2[1] [	ping Emi:	ssion 2.474 2.483 پېښېمېلېمې Stop	-0.08 dBr 985000 GH -54.81 dBr 350000 GH



## 8.8 Band Edge(Hopping)

		Frequency		Hopping	Max Value	Limit	
Condition	Mode	(MHz)	Antenna	Mode	(dBc)	(dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-52.54	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-53.58	-20	Pass

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Spectrum									Ę
Ref Level Att	20.00 dBm 35 dB	SWT 18		RBW 100 kHz VBW 300 kHz		uto FFT			(
SGL Count	8000/8000								
					M	1[1]			1.47 dB
10 dBm								2.403	07890 GH
0 dBm					L.	M1	~~~~	·	
o ubiii					$\square$	$\left[ \right]$	$\mathbb{Z}^{n}$		1
-10 dBm—								$\checkmark$	$\bigtriangledown$
-20 dBm									
-30 dBm				1					
-40 dBm									
-50 dBm									
······································		harrow	$\sim$						
-60 dBm									
-70 dBm				_					
CF 2.402 G									
	Band Ed	dge(Hopp	bing) N\	/NT 1-DH5	1 pts 5 2402MF	) Pead Hz Ant1 H	lopping E		2
Spectrum	Band Ed	Offset 2	2.38 dB 👄		5 2402MF		lopping E		n 8.0 MHz
Spectrum Ref Level Att SGL Count	Band Ed 20.00 dBm 35 dB	Offset 2	2.38 dB 👄	/NT 1-DH5	5 2402MF		lopping E		2
Spectrum Ref Level Att	Band Ed 20.00 dBm 35 dB	Offset 2	2.38 dB 👄	/NT 1-DH5	2402MH Iz Mode /		lopping E	Emission	51.07 dBr
Spectrum Ref Level Att SGL Count	Band Ed 20.00 dBm 35 dB	Offset 2	2.38 dB 👄	/NT 1-DH5	5 2402MH ^{Iz} Mode /	Auto FFT	lopping E	mission 2.350	€ 51.07 dBr 51000 GH 56.66 dBr
Spectrum Ref Level Att SGL Count ● 1Pk Max	Band Ed 20.00 dBm 35 dB	Offset 2	2.38 dB 👄	/NT 1-DH5	5 2402MH ^{Iz} Mode /	Auto FFT 1[1]	lopping E	mission 2.350	51.07 dBr 51000 GH
Spectrum Ref Level Att SGL Count PIPk Max 10 dBm-	Band Ed 20.00 dBm 35 dB	Offset 2	2.38 dB 👄	/NT 1-DH5	5 2402MH ^{Iz} Mode /	Auto FFT 1[1]	lopping E	mission 2.350	€ 51.07 dBr 51000 GH 56.66 dBr
Spectrum Ref Level Att SGL Count IPk Max 10 dBm	Band Ed 20.00 dBm 35 dB 20/20	Offset 2 SWT 22	2.38 dB 👄	/NT 1-DH5	5 2402MH ^{Iz} Mode /	Auto FFT 1[1]	lopping E	mission 2.350	€ 51.07 dBr 51000 GH 56.66 dBr
Spectrum Ref Level Att SGL Count IPk Max 10 dBm	Band Ed 20.00 dBm 35 dB 20/20	Offset 2 SWT 22	2.38 dB 👄	/NT 1-DH5	5 2402MH ^{Iz} Mode /	Auto FFT 1[1]	lopping E	mission 2.350	€ 51.07 dBr 51000 GH 56.66 dBr
Spectrum Ref Level Att SGL Count IPk Max 10 dBm- -10 dBm- -20 dBm-	Band Ed 20.00 dBm 35 dB 20/20	Offset 2 SWT 22	2.38 dB 👄	/NT 1-DH5	5 2402MH ^{Iz} Mode /	Auto FFT 1[1]	lopping E	mission 2.350	€ 51.07 dBr 51000 GH 56.66 dBr
Spectrum Ref Level Att SGL Count 10 dBm- -10 dBm- -20 dBm- -30 dBm- -30 dBm- -50 dBm-	Band Ed 20.00 dBm 35 dB 20/20	Offset 2 SWT 22	2.38 dB	/NT 1-DH5 RBW 100 kH VBW 300 kH	5 2402MH	Auto FFT  1[1]  2[1]		Emission 2.350 2.400	51.07 dBr 51000 GH 56.66 dBr 50000 GH
Spectrum Ref Level Att SGL Count 10 dBm- -10 dBm- -20 dBm- -30 dBm- -30 dBm- -50 dBm-	Band Ed 20.00 dBm 35 dB 20/20	Offset 2 SWT 22	2.38 dB	/NT 1-DH5 RBW 100 kH VBW 300 kH	5 2402MH	Auto FFT  1[1]  2[1]	topping E	Emission 2.350 2.400	51.07 dBr 51000 GH 56.66 dBr 50000 GH
Spectrum Ref Level Att SGL Count 10 dBm- -10 dBm- -20 dBm- -30 dBm- -30 dBm- -50 dBm-	Band Ed 20.00 dBm 35 dB 20/20	Offset 2 SWT 22	2.38 dB	/NT 1-DH5 RBW 100 kH VBW 300 kH	5 2402MH	Auto FFT  1[1]  2[1]		Emission 2.350 2.400	51.07 dBr 51000 GH 56.66 dBr 50000 GH
Spectrum Ref Level Att SGL Count 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -40 dBm -50 dBm -70 dBm -70 dBm	D1 -18.533	Offset 2 SWT 22	2.38 dB	/NT 1-DH5	5 2402MH	Auto FFT  1[1]  2[1]		Emission 2.350 2.400	51.07 dBr 51000 GH 56.66 dBr 00000 GH
Spectrum Ref Level Att SGL Count ID dBm 0 dBm -10 dBm -20 dBm -20 dBm -40 dBm -50 dBm -50 dBm	D1 -18.533	Offset 2 SWT 22	2.38 dB	/NT 1-DH5 RBW 100 kH VBW 300 kH	5 2402MH	Auto FFT  1[1]  2[1]		Emission 2.350 2.400	51.07 dBr 51000 GH 56.66 dBr 50000 GH
Spectrum Ref Level Att SGL Count ID dBm 0 dBm -10 dBm -20 dBm -20 dBm -30 dBm -30 dBm -50 dBm -70 dBm -70 dBm -70 dBm <b>Start 2.300</b> Marker <b>Type</b> Ref	Band Ed 20.00 dBm 35 dB 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/20 20/	Offset 2 SWT 22	2.38 dB ●	/NT 1-DH5	5 2402MH	Auto FF T  [[1] 2[1]	up Malter work to	Emission 2.350 2.400	51.07 dBr 51000 GH 56.66 dBr 00000 GH
Spectrum Ref Level Att SGL Count ID dBm -10 dBm -20 dBm -20 dBm -30 dBm -30 dBm -30 dBm -40 dBm -70	Band Eq 20.00 dBm 35 dB 20/20 D1 -18.533 www.www.www.www.www.www.www.www.www.ww	Offset 2 SWT 22 dBm dBm www.www.www.www. dBm dBm dBm dBm dBm dBm dBm dBm dBm dBm	2.38 dB 27.5 µs 4440 (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (144) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (1444) (144) (144) (144) (144) (144) (144) (144) (144)	/NT 1-DH5	5 2402MH	Auto FF T  [[1] 2[1]	up Malter work to	Emission 2.350 2.400	51.07 dBr 51000 GH 56.66 dBr 00000 GH
Spectrum Ref Level Att SGL Count PIPk Max 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -50 dBm -70 dBm -70 dBm Start 2.300 Marker Type Ref M1	Band Ed 20.00 dBm 35 dB 20/20 D1 -18.533 01 -18.5	Offset 2 SWT 22 dBm dBm dBm dBm dBm dBm dBm dBm dBm dBm	2.38 dB 27.5 μs 27.5	/NT 1-DH5	5 2402MH	Auto FF T  [[1] 2[1]	up Malter work to	Emission 2.350 2.400	51.07 dBr 51000 GH 56.66 dBr 00000 GH



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Ref Le Att	el 2 unt 2	Band 0.00 di 35	3m Off	set 2.4	42 dB 👄	NT 1-DH5 RBW 100 kH2	2480MF Mode	Auto FFT			
Ref Les Att SGL Co 1Pk Ma	rum rum vel 2 unt 2	Band 0.00 di 35	3m Off	set 2.4	42 dB 👄	NT 1-DH5 RBW 100 kH2	2480MF Mode			Emission	
Ref Lee Att SGL Co 1Pk Ma 10 dBm- M1	rum rum vel 2 unt 2	Band 0.00 di 35	3m Off	set 2.4	42 dB 👄	NT 1-DH5 RBW 100 kH2	2480MH Mode .	Auto FFT		Emission 2.479	-0.77 dBm
Ref Le Att SGL Co 1Pk Ma 10 dBm- M1 0 dBm-	rum vel 2 unt 2 ax	Band 0.00 di 35	3m Off	set 2.4	42 dB 👄	NT 1-DH5 RBW 100 kH2	2480MH Mode .	Auto FFT 1[1]		Emission 2.479	-0.77 dBm 05000 GHz 55.68 dBm
Ref Le Att SGL Co 1Pk Ma 10 dBm- 0 dBm- -10 dBm	E rum vel 2 unt 2	3and 0.00 dl 35 0/20	3m Off: dB SW	set 2.4	42 dB 👄	NT 1-DH5 RBW 100 kH2	2480MH Mode .	Auto FFT 1[1]		Emission 2.479	-0.77 dBm 05000 GHz 55.68 dBm
Ref Lev Att SGL Co IPk Ma 10 dBm- 0 dBm- -10 dBm -29 dBm	E vel 2 unt 2 ax	3and 0.00 dl 35 0/20	3m Off	set 2.4	42 dB 👄	NT 1-DH5 RBW 100 kH2	2480MH Mode .	Auto FFT 1[1]		Emission 2.479	-0.77 dBm 05000 GHz 55.68 dBm
Ref Le Att SGL Co 1Pk Ma 10 dBm- 0 dBm- -10 dBm	E vel 2 unt 2 ax	3and 0.00 dl 35 0/20	3m Off: dB SW	set 2.4	42 dB 👄	NT 1-DH5 RBW 100 kH2	2480MH Mode .	Auto FFT 1[1]		Emission 2.479	-0.77 dBm 05000 GHz 55.68 dBm
Ref Lev Att SGL Co IPk Ma 10 dBm- 0 dBm- -10 dBm -29 dBm	E rum vel 2 unt 2 ax	3and 0.00 dl 35 0/20	3m Off: dB SW	set 2.4	42 dB 👄	NT 1-DH5 RBW 100 kH2	2480MH Mode .	Auto FFT 1[1]		Emission 2.479	-0.77 dBm 05000 GHz 55.68 dBm
Ref Le' Att SGL Co P1Pk Ma 10 dBm- -10 dBm- -20 dBm -20 dBm -30 dBm	E rum vel 2 ax	3and 0.00 dl 35 0/20	3m Off: dB SW	set 2.4 T 227	42 dB ● .5 μs ●	NT 1-DH5 RBW 100 kHz YBW 300 kHz	2480MH Mode 	Auto FFT  1[1]  2[1]	lopping E	2.479 2.483	-0.77 dBm 05000 GHz 55.68 dBm
Ref Le' Att SGL Co P1Pk Ma 10 dBm- -10 dBm- -20 dBm -20 dBm -30 dBm	E rum vel 2 unt 2 ax	3and 0.00 dl 35 0/20	3m Off: dB SW	set 2.4 T 227	42 dB ● .5 μs ●	NT 1-DH5 RBW 100 kH2	2480MH Mode 	Auto FFT  1[1]  2[1]	lopping E	2.479 2.483	-0.77 dBm 05000 GHz 55.68 dBm
Ref Le' Att SGL Co ● 1Pk Ma 10 dBm- 10 dBm- -10 dBm -30 dBm -30 dBm -30 dBm	E Turm Vel 2 NX D D 12 Vel 2 NX NA NA NA NA NA NA NA NA NA NA	3and 0.00 dl 35 0/20	3m Off: dB SW	set 2.4 T 227	42 dB ● .5 μs ●	NT 1-DH5 RBW 100 kHz YBW 300 kHz	2480MH Mode 	Auto FFT  1[1]  2[1]	lopping E	2.479 2.483	-0.77 dBm 05000 GHz 55.68 dBm
Ref Le' Att SGL Co IPk Ma 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm -50 dBm -70 dBm		3and 0.00 dd 35 0/20	3m Off: dB SW	set 2.4 T 227	42 dB ● .5 μs ●	NT 1-DH5 RBW 100 kHz yBW 300 kHz	2480MH Mode M	Auto FFT  1[1]  2[1]	lopping E	2.479 2.483	-0.77 dBm 005000 GHz 55.68 dBm 50000 GHz
Ref Le' Att SGL Co 10 dBm- 10 dBm- -10 dBm- -20 dBm -30 dBm -30 dBm -30 dBm -50 dBm -70 dBm Start 2 Marker	E rum vel 2 ax D	3and 3and 0.00 di 35 0/20 1 -19.9 GHz	3m Off: dB SW	set 2.4 T 227	42 dB ● .5 μs ●	NT 1-DH5 RBW 100 kHz YBW 300 kHz	2480MH Mode M	Auto FFT  1[1]  2[1]	lopping E	2.479 2.483	-0.77 dBm 05000 GHz 55.68 dBm
Ref Le' Att SGL Co 10 dBm- 10 dBm- -10 dBm- -10 dBm- -20 dBm -30 dBm -30 dBm -50 dBm -70 dBm -70 dBm <b>Start 2</b> Marker <b>Type</b>	E rum vel 2 ax D	3and 0.00 d 35 0/20 1 -19.9	3m Off: dB SW	set 2.4 T 227	42 dB .5 μs .5 μs	NT 1-DH5 RBW 100 kH2 VBW 300 kH2	2480MH	Auto FFT  1[1]  2[1]		2.479 2.483	-0.77 dBm 005000 GHz 55.68 dBm 55000 GHz
Ref Le' Att SGL Co 10 dBm- 10 dBm- -10 dBm- -20 dBm -30 dBm -30 dBm -30 dBm -50 dBm -70 dBm Start 2 Marker	E rum vel 2 ax D	3and 3and 0.00 di 35 0/20 1 -19.9 GHz	3m Off: dB SW	set 2.4	42 dB .5 μs .5 μs	NT 1-DH5	2480MH	Auto FFT  1[1]  2[1]		Emission 2.479 2.483 2.483	-0.77 dBm 005000 GHz 55.68 dBm 55000 GHz
Ref Le' Att SGL Co IPk Ma 10 dBm- -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm -70 dBm -70 dBm <b>Start 2</b> Marker <b>Type</b> M1	E rum vel 2 ax D	3and 0.00 d 35 0/20 1 -19.4 GHz GHz	3m Off: dB SW	set 2.47905 2.47905 2.47905	42 dB .5 μs .5 μs .5 μs .5 μs .5 GHz 5 GH	NT 1-DH5 RBW 100 kHz VBW 300 kHz	2480MH	Auto FFT  1[1]  2[1]		Emission 2.479 2.483 2.483	-0.77 dBm 005000 GHz 55.68 dBm 55000 GHz



Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-54	-20	Pass
NVNT	1-DH5	2441	Ant1	-48.88	-20	Pass
NVNT	1-DH5	2480	Ant1	-46.55	-20	Pass





SGL Count 1		SWT	18.9 µs 👄	VBW 300 kHz	Mode .	Auto FFT			
					M1 M	1[1]		2 4020	1.51 dB 859970 GH
0 dBm								2.4020	
-10 dBm							~~		
-20 dBm								-	
-20 0811									
-30 dBm									
-40 dBm				+					
-50 dBm									
-60 dBm									
-70 dBm									
-80 dBm				++					
00 0.0			1	1		I I			
	17			30001	nts			Sna	an 1.5 MH:
CF 2.402 GH Spectrum Ref Level	)(	Offset 2	2.38 dB 👄	30001 /NT 1-DH5 RBW 100 kHz YBW 300 kHz	2402MI		mission	Sp.	Ki)
CF 2.402 GH Spectrum Ref Level Att SGL Count 1	10.00 dBm 20 dB	Offset 2	2.38 dB 👄	/NT 1-DH5	2402MI		mission	Spa	Ki
CF 2.402 GH Spectrum Ref Level Att SGL Count 1 • 1Pk Max M1	10.00 dBm 20 dB	Offset 2	2.38 dB 👄	/NT 1-DH5 RBW 100 kHz	2402MI Mode		mission		1.60 dBi
CF 2.402 GH Spectrum Ref Level Att SGL Count 1 1Pk Max 0 dBm	10.00 dBm 20 dB	Offset 2	2.38 dB 👄	/NT 1-DH5 RBW 100 kHz	2402MI Mode . M	Auto Sweep	mission	2.	1.60 dBr 402070 GH -52.49 dBr
CF 2.402 GH Spectrum Ref Level Att SGL Count 1 1Pk Max M1 0 dBm -10 dBm	10.00 dBm 20 dB	Offset 2 SWT	2.38 dB 👄	/NT 1-DH5 RBW 100 kHz	2402MI Mode . M	Auto Sweep 1[1]	mission	2.	1.60 dBr 402070 GH -52.49 dBr 205135 GH
CF 2.402 GH Spectrum Ref Level Att SGL Count 1 9 1Pk Max M1 0 dBm -10 dBm	10.00 dBm 20 dB 0/10	Offset 2 SWT	2.38 dB 👄	/NT 1-DH5 RBW 100 kHz	2402MI Mode . M	Auto Sweep 1[1]	mission	2.	1.60 dBr 402070 GH -52.49 dBr
CF 2.402 GH Spectrum Ref Level Att SGL Count 1 1Pk Max 10 dBm -10 dBm -20 dBm	10.00 dBm 20 dB 0/10	Offset 2 SWT	2.38 dB 👄	/NT 1-DH5 RBW 100 kHz	2402MI Mode . M	Auto Sweep 1[1]	mission	2.	1.60 dBr 402070 GH -52.49 dBr
CF 2.402 GH Spectrum Ref Level Att SGL Count 1 9 1Pk Max 0 dBm -10 dBm -20 dBm -30 dBm	10.00 dBm 20 dB 0/10	Offset 2 SWT	2.38 dB	/NT 1-DH5 RBW 100 kHz	2402MI Mode . M	Auto Sweep 1[1]	mission	2.	1.60 dBr 402070 GH -52.49 dBr
CF 2.402 GF Spectrum Ref Level Att SGL Count 1 1Pk Max -10 dBm -20 dBm -30 dBm -40 dBm	10.00 dBm 20 dB 0/10	Offset 2 SWT	2.38 dB 👄	/NT 1-DH5 RBW 100 kHz yBW 300 kHz	2402MI Mode . 	Auto Sweep 1[1] 2[1]		2. 7:	1.60 dBr 402070 GH -52.49 dBr 205135 GH
CF 2.402 GH	10.00 dBm 20 dB 0/10	Offset 2 SWT	2.38 dB	/NT 1-DH5 RBW 100 kHz yBW 300 kHz	2402MI Mode . 	Auto Sweep 1[1] 2[1]		2.	1.60 dBr 402070 GH -52.49 dBr 205135 GH
CF 2.402 GH	10.00 dBm 20 dB 0/10	Offset 2 SWT	2.38 dB	/NT 1-DH5 RBW 100 kHz yBW 300 kHz	2402MI Mode . 	Auto Sweep 1[1] 2[1]		2. 7:	1.60 dBr 402070 GH -52.49 dBr 205135 GH
CF 2.402 GH	10.00 dBm 20 dB 0/10	Offset 2 SWT	2.38 dB	/NT 1-DH5 RBW 100 kHz yBW 300 kHz	2402MI	Auto Sweep 1[1] 2[1]		2.	1.60 dBr 402070 GH -52.49 dBr 205135 GH
CF 2.402 GF Spectrum Ref Level Att SGL Count 1 PIPK Max M1 0 dBm -10 dBm -20 dBm -20 dBm -20 dBm -30 dBm -30 dBm -60 dBm -80 dBm -8	10.00 dBm 20 dB 0/10 1 -18.487	Offset 2 SWT	2.38 dB	/NT 1-DH5  RBW 100 kHz yBW 300 kHz	2402MI Mode . 	Auto Sweep 1[1] 2[1]	synde Skatelov Karponyne Karne Alfred Skatelov Karponyne	2.	1.60 dBi 402070 GH -52.49 dBi 205135 GH
CF 2.402 GF           Spectrum           Ref Level           Att           SGL Count 1           1Pk Max           10 dBm           -10 dBm           -20 dBm           -30 dBm           -60 dBm           -60 dBm           -80 dBm           Start 30.0 M           Marker           Type           Ref           M1	10.00 dBm 20 dB 0/10 1 -18.487 1 -18.487 HIZ	Offset 2 SWT : dBm dBm MB  MB  X-value 2.4021 7.2051:	2.38 dB  265 ms 265 ms	/NT 1-DH5  RBW 100 kHz VBW 300 kHz	2402MI	Auto Sweep 1[1] 2[1]	synde Skatelov Karponyne Karne Alfred Skatelov Karponyne	2. 7. 	1.60 dBi 402070 GH -52.49 dBi 205135 GH
CF 2.402 GF Spectrum Ref Level Att SGL Count 1 9 1Pk Max M1 0 dBm -10 dBm -20 dBm -20 dBm -30 dBm -30 dBm -60 dBm -60 dBm -60 dBm -80 dBm -	10.00 dBm 20 dB 0/10 1 -18.487	Offset 2 SWT	2.38 dB  265 ms 265 ms  7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	/NT 1-DH5  RBW 100 kHz VBW 300 kHz	2402MI	Auto Sweep 1[1] 2[1]	synde Skatelov Karponyne Karne Alfred Skatelov Karponyne	2. 7. 	1.60 dBi 402070 GH -52.49 dBi 205135 GH

