TEST REPORT

Applicant:	Shenzhen Hollyland Technology Co.,Ltd
Address :	8F,Building 5D,Skyworth Innovation Valley, Tangtou Road, Shiyan Street, Baoan District Shenzhen, China
Report Number :	SZ1211231-68532E-RF-07B

Test Standard (s)

Item 21-2 of Article 2 Paragraph 1

Sample Description

Product Type:	FULL-DUPLEX WIRELESS INTERCOM SYSTEM
Model No.:	Solidcom C1
Multiple Model(s) No.:	Solidcom S1, Solidcom S2, Solidcom S3, Solidcom M2, Solidcom M3, Solidcom C2, Solidcom C3, Solidcom C4 (Please refer to the DOS for model difference)
Trade Mark:	HOLLYLAND
Date Received:	2021/12/31
Date of Test:	2022/01/20~2022/02/07
Report Date:	2022/02/17

Test Result:	Pass*

* In the configuration tested, the EUT complied with the standards above.

Prepared and Checked By:

Black Chen

Black Chen
RF Engineer

Approved By:

Jimmy Xiao

Jimmy Xiao
RF Engineer

Note: BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with an asterisk '*'. Customer model name, addresses, names, trademarks etc. are not considered data.
This report cannot be reproduced except in full, without prior written approval of the Company. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

Bay Area Compliance Laboratories Corp. (Shenzhen)
5F(B-West) , 6F, 7F, the 3rd Phase of Wan Li Industrial Building D, Shihua Rd, FuTian Free Trade Zone, Shenzhen, China
Tel: +86-755-33320018 Fax: +86-755-33320008 www.baclcorp.com.cn

TABLE OF CONTENTS

GENERAL INFORMATION **4**
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT) 4
OBJECTIVE 4
MEASUREMENT UNCERTAINTY 4
TEST FACILITY 4
TEST VOLTAGE 4
EUT TEST CONFIGURATION **5**
DESCRIPTION OF TEST CONFIGURATION 5
EUT EXERCISE SOFTWARE 5
EQUIPMENT MODIFICATIONS 5
SUPPORT EQUIPMENT LIST AND DETAILS 5
EXTERNAL I/O CABLE 5
CONFIGURATION OF TEST SETUP 5
SUMMARY OF TEST RESULTS **6**
TEST EQUIPMENT LIST **7**
FREQUENCY DEVIATION **8**
LIMIT 8
TEST PROCEDURE 8
TEST DATA 8
OCCUPIED BANDWIDTH **9**
LIMIT 9
TEST PROCEDURE 9
MEASURING INSTRUMENTS AND SETTING 9
TEST DATA 10
UNWANTED EMISSION STRENGTH **13**
LIMIT 13
TEST PROCEDURE 13
TEST DATA 14
ANTENNA OUTPUT POWER AND ANTENNA POWER TOLERANCE **38**
LIMIT 38
TEST PROCEDURE 38
TEST DATA 38
TRANSMITTER RATE OF MODULATION SIGNAL AND BIT ERROR RATE **43**
LIMIT 43
TEST PROCEDURE 43
TEST DATA 43
SECONDARY RADIATED EMISSION STRENGTH **45**
LIMIT 45
TEST PROCEDURE 45
TEST DATA 45

CARRIER SENSING FUNCTION **55**
LIMIT 55
TEST PROCEDURE 55
TEST DATA 55
LEAKAGE POWER AT NO-CARRIER TRANSMISSION **58**
LIMIT 58
TEST PROCEDURE 58
TEST DATA 58
INTERFERENCE PREVENTION FUNCTION **63**
REQUIREMENT 63
TEST PROCEDURE 63
TEST DATA 63
AUTOMATIC TRANSMISSION STOP FUNCTION **64**
REQUIREMENT 64
TEST PROCEDURE 64
TEST DATA 64
CONSTRUCTION PROTECTION CONFIRMATION **65**
LIMIT 65
CONFIRMATION METHOD 65
SPECIFIC ABSORPTION RATE AT HUMAN **66**
REQUIREMENT 66
TEST DATA 66

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Radio Type		DECT
Technical Parameters	Modulation Type	GFSK
	Frequency Range	1895.616-1902.528MHz
	Output Power	76mW
	Antenna Gain*	1.0dBi(It is provided by the manufacturer)
Nominal Power Supply		DC 3.8V for battery
Sample serial number		SZ1211231-68532E-RF-S1-PP (Assigned by BACL, Shenzhen)
Sample/EUT Status		Good condition
Adapter information		Model:GQ24-120200-AX Input: 100-240V~ 50/60Hz, 1.0A Max Output: DC 12.0V, 2.0A, 24.0W

Objective

The objective of the manufacturer is to demonstrate compliance with Radio Law of Japan, rules and limits for this device, Article 2, Paragraph 1, Item (21)-2-Digital cordless phone.

Measurement Uncertainty

Item	Frequency Range	Expanded Measurement uncertainty
Frequency Error	/	213.55Hz (k=2, 95% level of confidence)
RF output power, conducted	/	0.74dB(k=2, 95% level of confidence)
Unwanted Emission, conducted	/	1.75dB(k=2, 95% level of confidence)
Temperature	/	±1℃
Supply voltages	/	±0.4%
Time	/	±1%

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 5F(B-West) , 6F, 7F, the 3rd Phase of Wan Li Industrial Building D, Shihua Rd, FuTian Free Trade Zone, Shenzhen, China.
Each test item follows test standards and with no deviation.

Test Voltage

The EUT has the voltage regulator chip SGM2028 which has a fluctuation of the output voltage to the RF circuit is less than ±1%. So only test at the normal voltage.

EUT TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in a testing mode which was selected by manufacturer.

Channel List

Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	1902.528	1	1900.800
2	1899.072	3	1897.344
4	1895.616	/	/

Note: Test on channel 0, 2 and 4.

EUT Exercise Software

N/A

Equipment Modifications

No modification was made to the EUT tested.

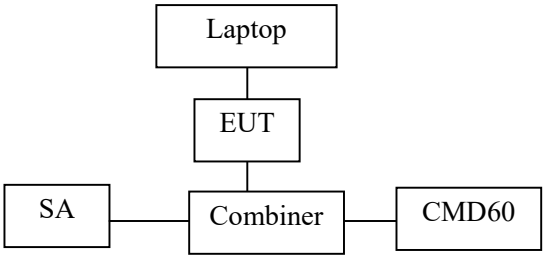
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
DELL	Laptop	Latitude E5430	6
Rohde & Schwarz	Digital Radio Communication Tester	CMD60	830861/029

External I/O Cable

Cable Description	Length (m)	From/Port	To
USB Cable	0.5	Laptop	EUT

Configuration of Test Setup



SUMMARY OF TEST RESULTS

Article 2, Paragraph 1, Item (21)-2	
Description of Test	**Result**
Frequency Tolerance	Compliant
Occupied Bandwidth	Compliant
Unwanted Emission Strength	Compliant
Antenna Output Power and Power Tolerance	Compliant
Transmitter Rate of Modulation Signal	Compliant
Secondary Radiated Emission Strength	Compliant
Carrier Sensing Function	Compliant
Construction Protection Confirmation	Compliant
Leakage Power at No-Carrier Transmission	Compliant
Interference Prevention Function	Compliant
Automatic Transmission Stop Function	Compliant
Specific Absorption Rate at Human	Not Applicable

Note: The EUT has two antennas, pre-scan with them, the antenna 1 was the worst case which was recorded.

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date	Calibration Authority	Calibration Method
Rohde & Schwarz	SPECTRUM ANALYZER	FSU26	200120	2021/04/02	2022/04/01	CCIC	c)
Rohde & Schwarz	Digital Radio Communication	CMD60	830861/029	2021/07/06	2022/07/05	CCIC	c)
Agilent	MXG Vector Signal Generator	N5182B	MY53051503	2021/07/07	2022/07/06	CCIC	c)
Agilent	Signal Generator	N5183A	MY51040755	2021/10/8	2022/10/7	CCIC	c)

Note: Calibration Method

a) Calibration conducted by the National Institute of Information and Communications Technology (NICR) or a designated calibration agency under Article 102-18 paragraph (1)

b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Law (Law No. 51 of 1992) ~Japan Calibration Service System~

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

d) Calibration conducted by using other equipment that listed above from a) to c)

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FREQUENCY DEVIATION

Limit

10 ppm

Test Procedure

Using CMD 60 to test for more than 100 times and then calculate the average data

Test Data

Environmental Conditions

Temperature:	26.3 ℃
Relative Humidity:	45 %
ATM Pressure:	101.0 kPa

The testing was performed by Pedro Yun on 2022-01-20.

Test Result: Compliant

Test Mode: Transmitting

Item	Low channel (1895.616MHz)	Mid channel (1899.072MHz)	High channel (1902.528MHz)	Result
Frequency Error (kHz)	10	7	11	Pass
Frequency Error (ppm)	5.28	3.69	5.78	
Limit (ppm)	10	10	10	

OCCUPIED BANDWIDTH

Limit

Equal or Less than 1728 kHz

Test Procedure

(1) Set spectrum analyzer.
(2) Repeat sweep until variations are not observed in the display, and input all the data point values to the computer array variable.
(3) Transform dB value to dimensional power antilogarithm, for all the data. (4) Summation of all power data, and register the result as “Total Power”.
(5) Starting from the minimum frequency data, power is added in increasing order, this value should be 0.5% of the “Total Power”, and the critical (limit) data is obtained. The critical point is converted to frequency and registered as “Lower limit frequency”.
(6) Starting from the maximum frequency data, power is added in decreasing order, this value should be 0.5% of the “Total Power”, and the critical (limit) data is obtained. The critical point is converted to frequency and registered as “Upper limit frequency”.

Measuring Instruments and setting

(1) The spectrum analyzer is set as follows:

- Central frequency: 1895.616, 1899.072, 1902.528 MHz
- Sweep frequency width: 2 times to 3.5 times of bandwidth
- Resolution bandwidth: ＜1% bandwidth
- Video bandwidth: Same as resolution bandwidth
- Y scale 10 dB/Div
- Input level: Carrier wave level sufficiently higher than spectrum analyzer noise level
- Sweep time: Minimum time ensuring measurement accuracy
- Data points: More than 400
- Sweep mode: Continuous
- Detection mode: Positive peak
- Display mode: Max hold

(2) The values obtained in spectrum analyzer measurements are processed using an external or internal computer.

Test Data

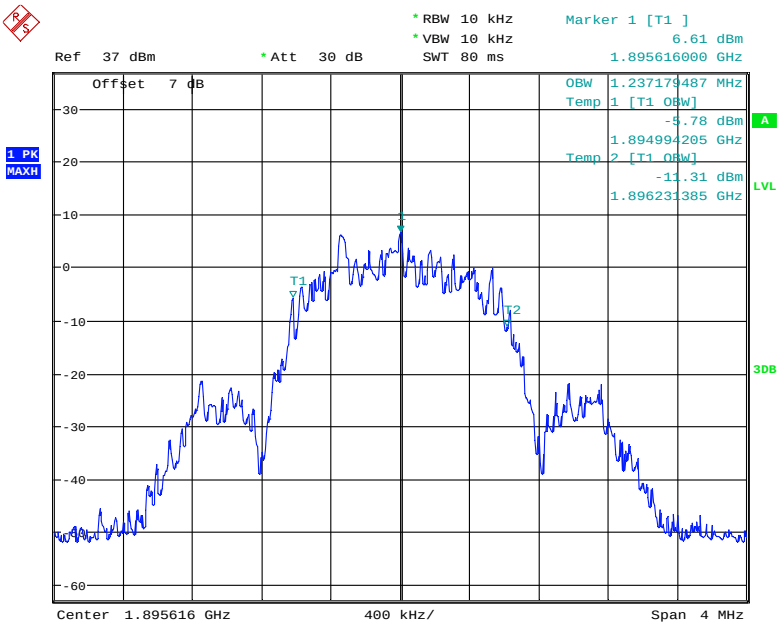
Environmental Conditions

Temperature:	26.3 ℃
Relative Humidity:	45 %
ATM Pressure:	101.0 kPa

The testing was performed by Pedro Yun on 2022-01-20.

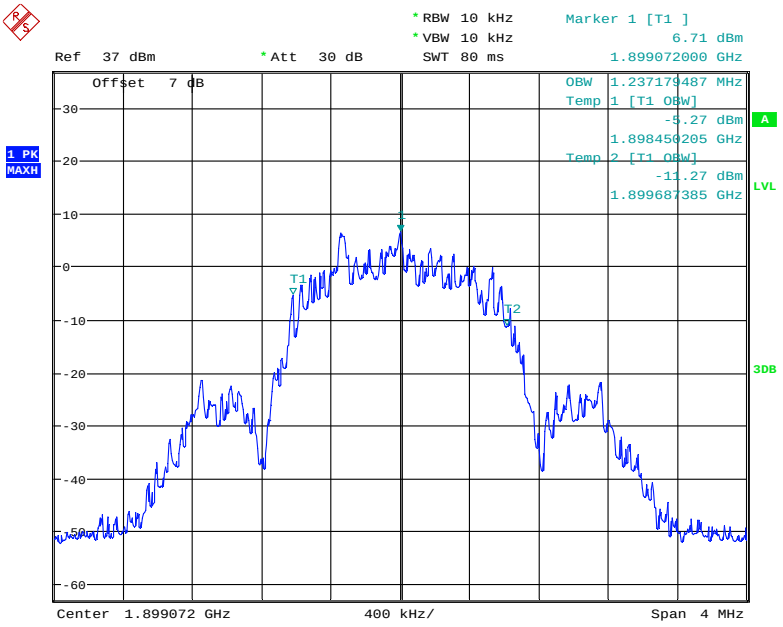
Item	Low channel (1895.616MHz)	Mid channel (1899.072MHz)	High channel (1902.528MHz)	Result
OBW(MHz)	1.237	1.237	1.244	PASS

Low channel:



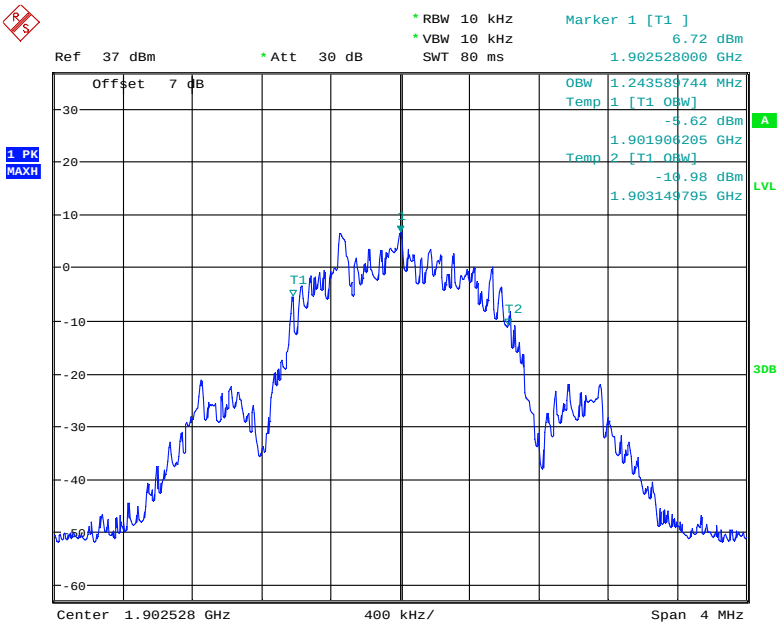
Date: 20.JAN.2022 03:16:53

Middle channel:



Date: 20.JAN.2022 03:17:58

High channel:



Date: 20.JAN.2022 03:15:47

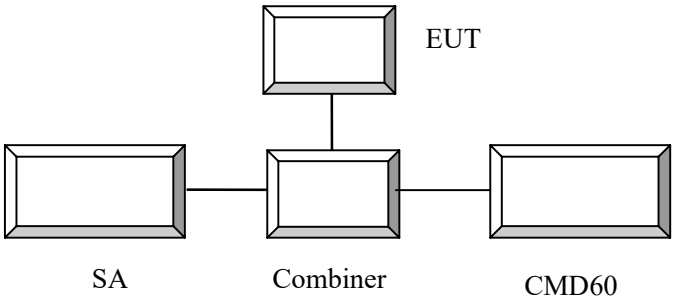
UNWANTED EMISSION STRENGTH

Limit

	Frequency range	Limit
1. Unwanted emission strength of spurious area(except 3)	30 MHz-10 GHz	-36 dBm/MHz
2. Unwanted emission strength of out-band area (except 3)	Mistuned frequency: 864-1228 kHz	-5.6 dBm/192 kHz
	Mistuned frequency: 1228-2592 kHz	-9.5 dBm/MHz
	Mistuned frequency: 2592-4320 kHz	-29.5 dBm/MHz
3. Unwanted emission strength	1891.296-1892.846 MHz	-36 dBm/192 kHz
	1892.846-1893.146 MHz	-31 dBm/192 kHz
	1906.100-1906.754 MHz	-31 dBm/192 kHz
	1906.754-1906.848 MHz	-36 dBm/192 kHz

Test Procedure

Measurement System Diagram



Conditions of Application Equipment (EUT)

- The modulation state shall be in continuously transmitting mode.

Spectrum Analyzer Conditions

Test Data

Environmental Conditions

Temperature:	26.3 ℃
Relative Humidity:	45 %
ATM Pressure:	101.0 kPa

The testing was performed by Pedro Yun on 2022-01-20.

Test Result: Compliant

Test Mode: Transmitting

Note:

Note 1: The factor was added into the offset on the spectrum analyzer when the RBW setting from 1MHz to 100kHz. The factor is 10lg(1MHz/100kHz)=10dB.

Note 2: The factor was added into the offset on the spectrum analyzer when the RBW setting from 192kHz to 100kHz. The factor is 10lg(192kHz/100kHz)=2.8dB.

Note 3: The factor was added into the offset on the spectrum analyzer when the RBW setting from 192kHz to 30kHz. The factor is 10lg(192kHz/30kHz)=8.1dB.

Note 4: The factor was added into the offset on the spectrum analyzer when the RBW setting from 1MHz to 50kHz. The factor is 10lg(1MHz/50kHz)=12dB.

Note 5: The factor was added into the offset on the spectrum analyzer when the RBW setting from 1MHz to 10kHz. The factor is 10lg(1MHz/10kHz)=20dB.

Low channel

Channel	Frequency Band	Normal voltage	Limited
Low channel (1895.616MHz)	30MHz-1GHz	-63.17	-36 dBm/MHz
	1 GHz -1.891296 GHz	-39.65	-36 dBm/MHz
	1.899936-1.9061 GHz	-43.88	-36 dBm/MHz
	1.906848-10 GHz	-49.96	-36 dBm/MHz
	1.891296-1.892846 GHz	-40.25	-36 dBm/192kHz
	1.892846-1.893146 GHz	-43.41	-31 dBm/192kHz
	1.9061-1.906754 GHz	-53.94	-31 dBm/192kHz
	1.906754-1.906848 GHz	-55.47	-36 dBm/192kHz
	1.891296-1.893024 GHz	-33.14	-29.5 dBm/MHz
	1.893024-1.894388 GHz	-14.76	-9.5 dBm/MHz
	1.894388-1.894752 GHz	-10.91	-5.6 dBm/192kHz
	1.89648-1.896844 GHz	-11.04	-5.6 dBm/192kHz
	1.896844-1.898208 GHz	-10.98	-9.5 dBm/MHz
	1.898208-1.8999936 GHz	-35.47	-29.5 dBm/MHz

Middle channel

Channel	Frequency Band	Normal voltage	Limited
Middle channel (1899.072MHz)	30MHz-1GHz	-61.52	-36 dBm/MHz
	1 GHz -1.891296 GHz	-48.40	-36 dBm/MHz
	1.893146-1.894752 GHz	-42.38	-36 dBm/MHz
	1.903392-1.9061 GHz	-41.45	-36 dBm/MHz
	1.906848-10 GHz	-49.63	-36 dBm/MHz
	1.891296-1.892846 GHz	-51.75	-36 dBm/192kHz
	1.892846-1.893146 GHz	-52.35	-31 dBm/192kHz
	1.9061-1.906754 GHz	-52.77	-31 dBm/192kHz
	1.906754-1.906848 GHz	-54.25	-36 dBm/192kHz
	1.894752-1.89648 GHz	-33.29	-29.5 dBm/MHz
	1.89648-1.897844 GHz	-9.96	-9.5 dBm/MHz
	1.897844-1.898208 GHz	-6.57	-5.6 dBm/192kHz
	1.899936-1.9003 GHz	-11.02	-5.6 dBm/192kHz
	1.9003-1.901664 GHz	-12.94	-9.5 dBm/MHz
	1.901664-1.903392 GHz	-31.93	-29.5 dBm/MHz

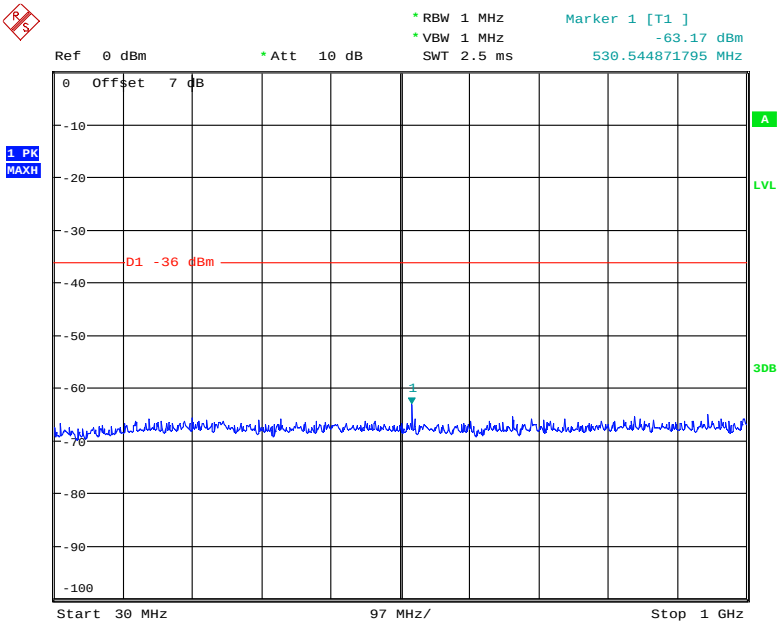
High channel

Channel	Frequency Band	Normal voltage	Limited
Middle channel (1902.528MHz)	30M-1 GHz	-54.97	-36 dBm/MHz
	1 GHz -1.891296 GHz	-46.35	-36 dBm/MHz
	1.893146-1.898208 GHz	-43.55	-36 dBm/MHz
	1.906848-10 GHz	-40.93	-36 dBm/MHz
	1.891296-1.892846 GHz	-50.62	-36 dBm/192kHz
	1.892846-1.893146 GHz	-54.57	-31 dBm/192kHz
	1.9061-1.906754 GHz	-43.67	-31 dBm/192kHz
	1.906754-1.906848 GHz	-50.23	-36 dBm/192kHz
	1.898208-1.899936 GHz	-37.84	-29.5 dBm/MHz
	1.899936-1.9013 GHz	-14.39	-9.5 dBm/MHz
	1.9013-1.901664 GHz	-10.26	-5.6 dBm/192kHz
	1.903392-1.903756 GHz	-10.98	-5.6 dBm/192kHz
	1.903756-1.90512 GHz	-10.50	-9.5 dBm/MHz
	1.90512-1.906848 GHz	-32.07	-29.5 dBm/MHz

Please refer to the below plots under normal conditions.

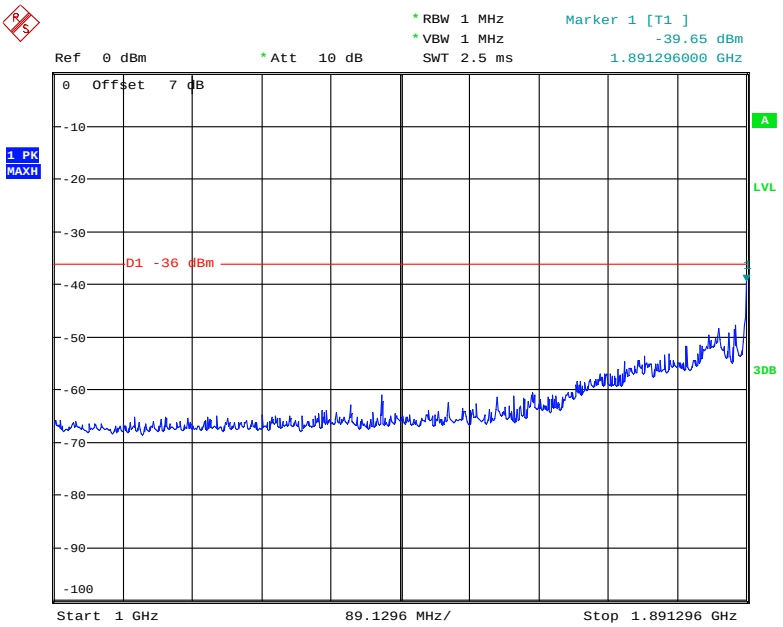
Low channel

30 MHz~1 GHz



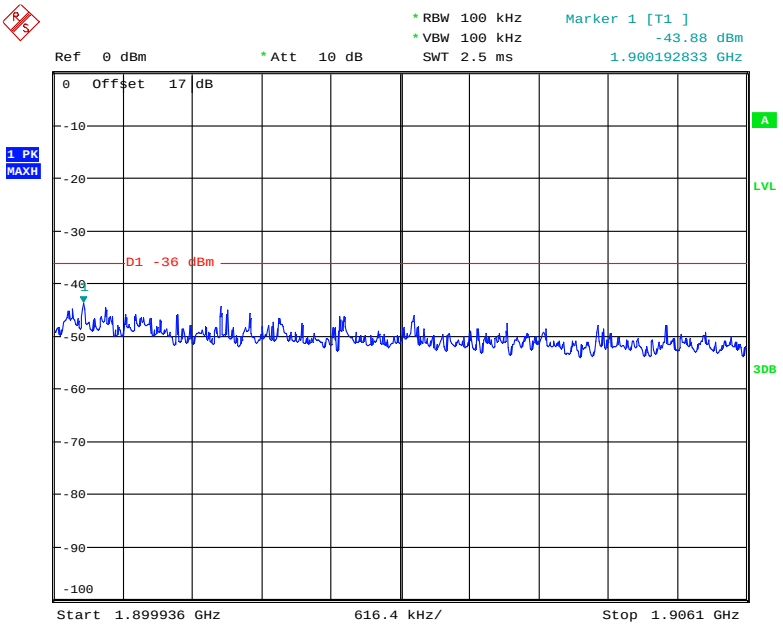
Date: 20.JAN.2022 02:25:55

1 GHz ~1.891296 GHz



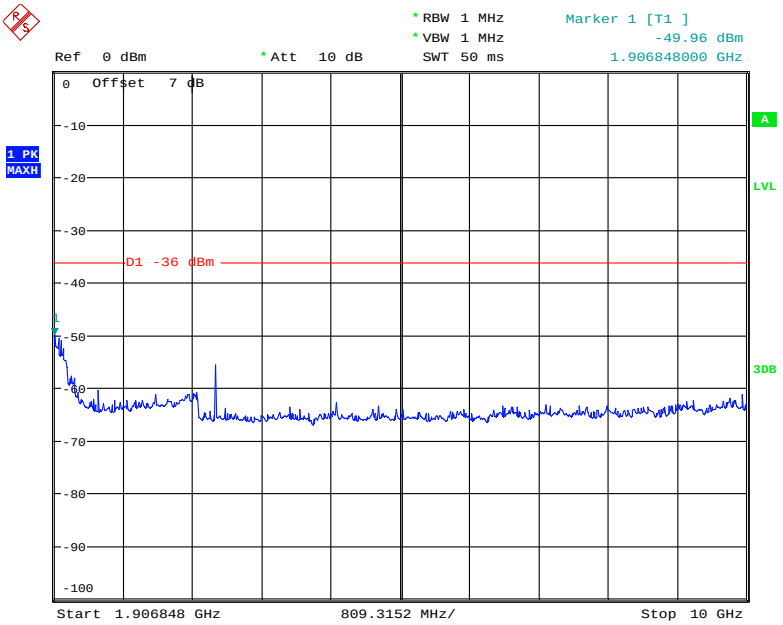
Date: 20.JAN.2022 02:25:22

1.899936 GHz~1.9061 GHz



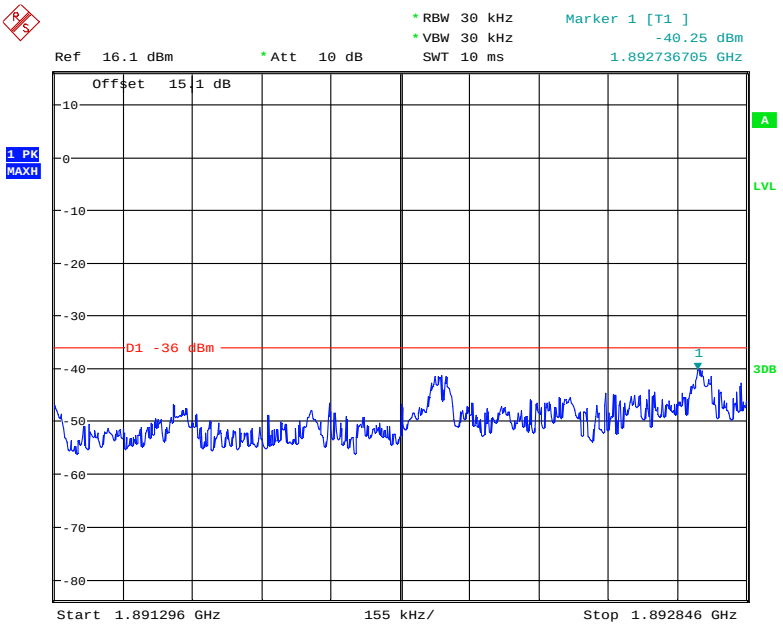
Date: 20.JAN.2022 02:21:38

1.906848 GHz~10 GHz



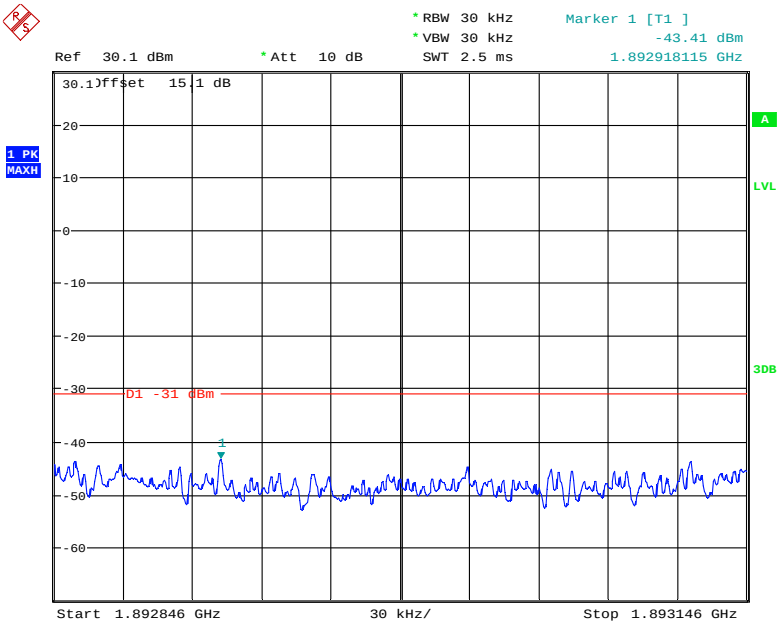
Date: 20.JAN.2022 02:24:38

1.891296 GHz~1.892846 GHz



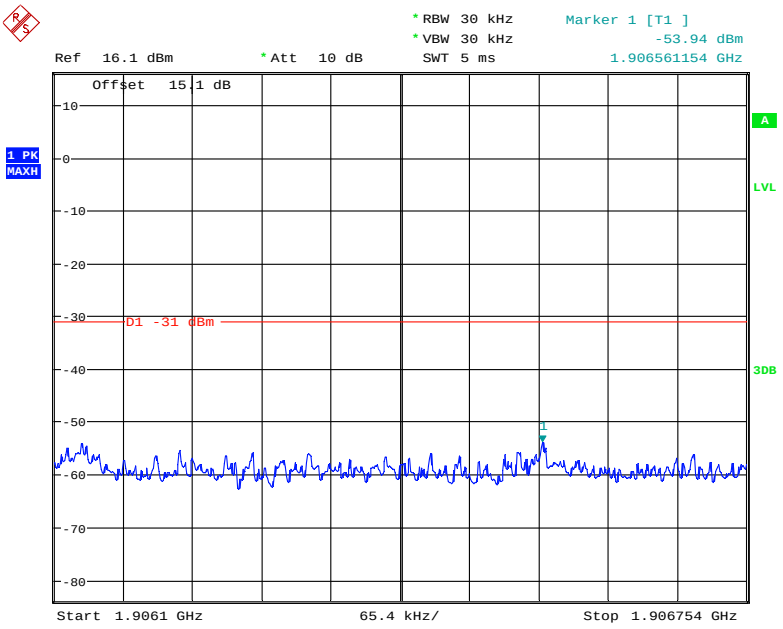
Date: 20.JAN.2022 02:10:28

1.892846 GHz~1.893146 GHz



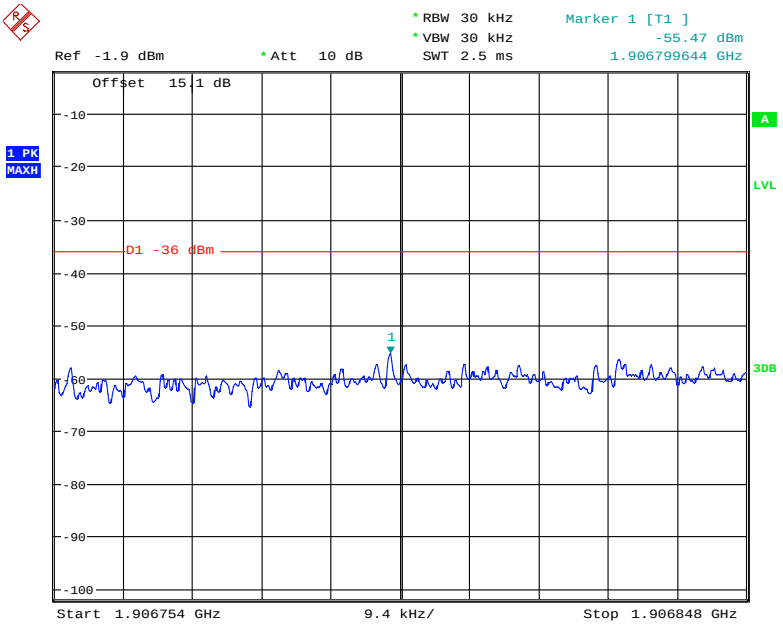
Date: 20.JAN.2022 02:29:01

1.9061 GHz ~1.906754 GHz



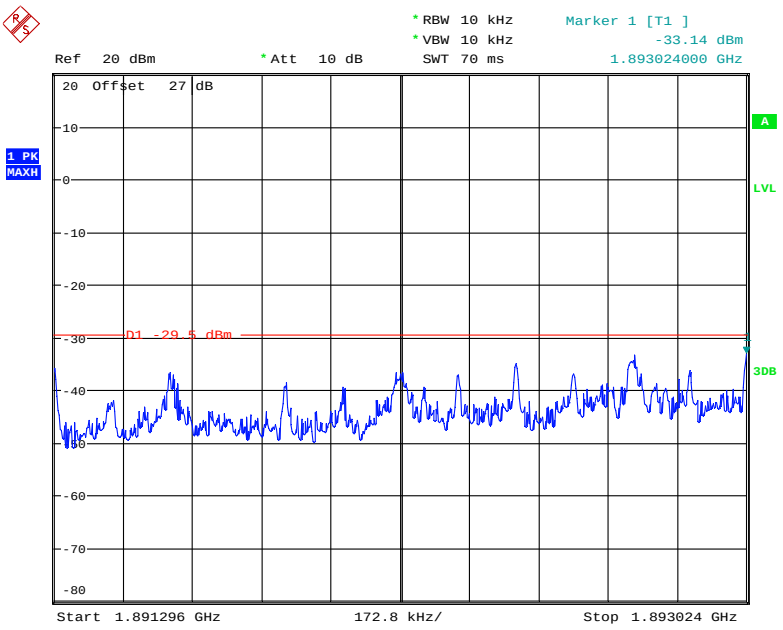
Date: 20.JAN.2022 02:08:33

1.906745 GHz~1.906848 GHz



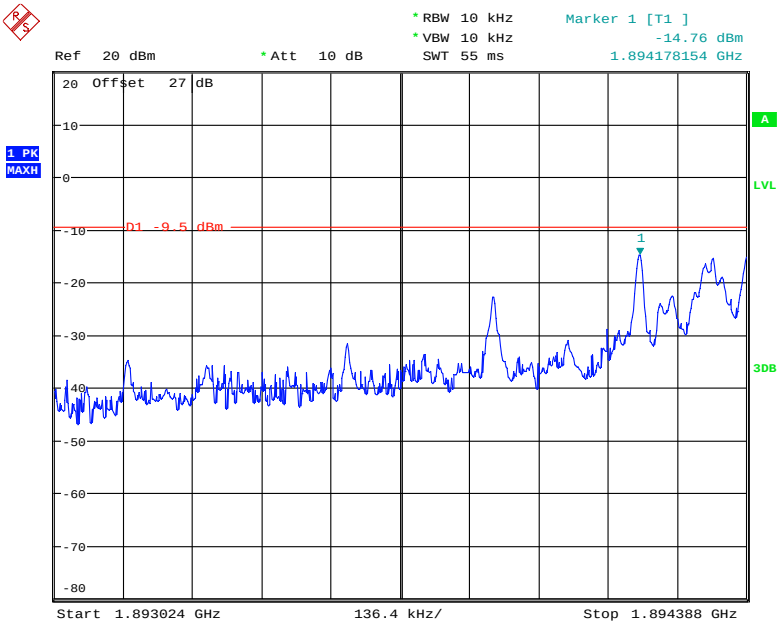
Date: 20.JAN.2022 02:22:36

1.891296 GHz~1.893024 GHz



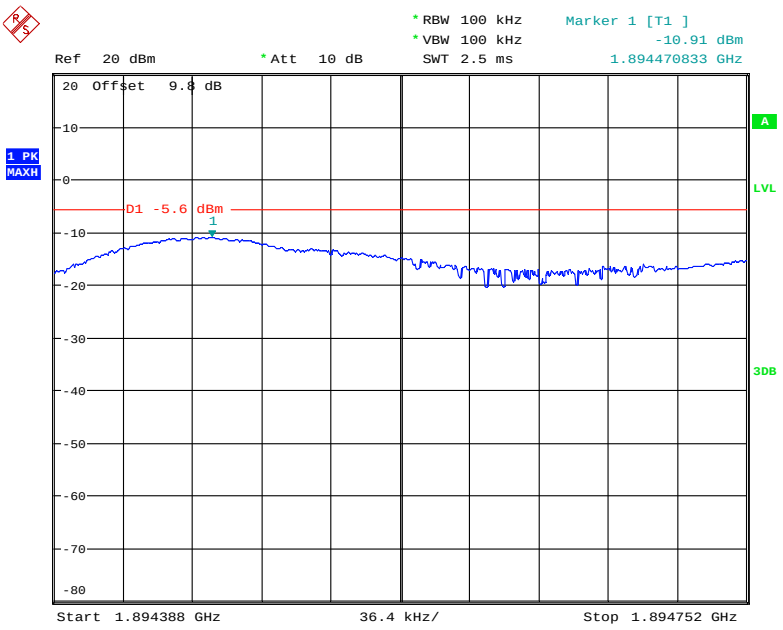
Date: 20.JAN.2022 02:13:06

1.893024 GHz~1.894388 GHz



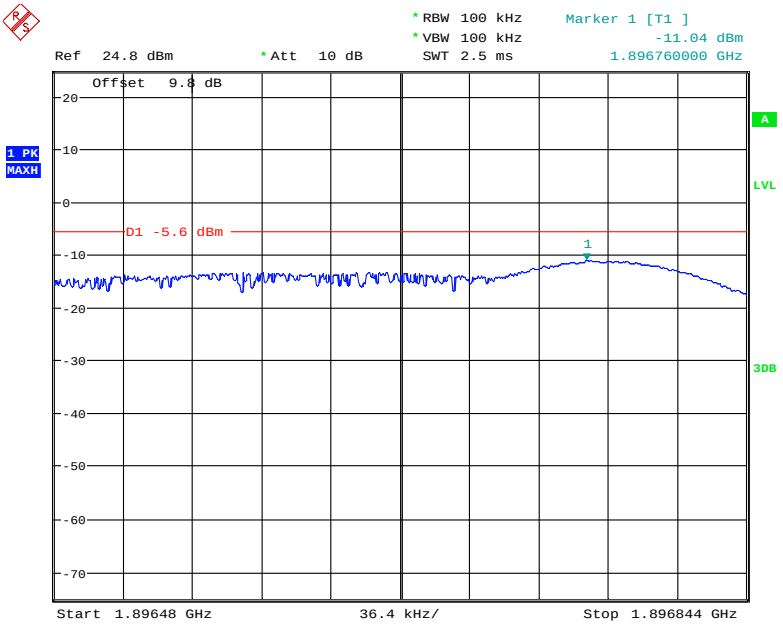
Date: 20.JAN.2022 02:14:15

1.894388 GHz~1.894752 GHz



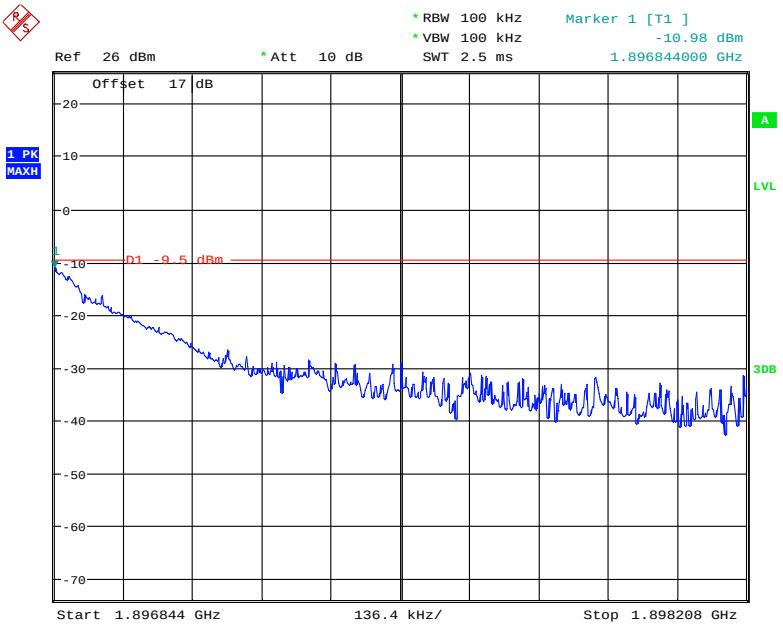
Date: 20.JAN.2022 02:16:25

1.89648 GHz ~1.896844 GHz



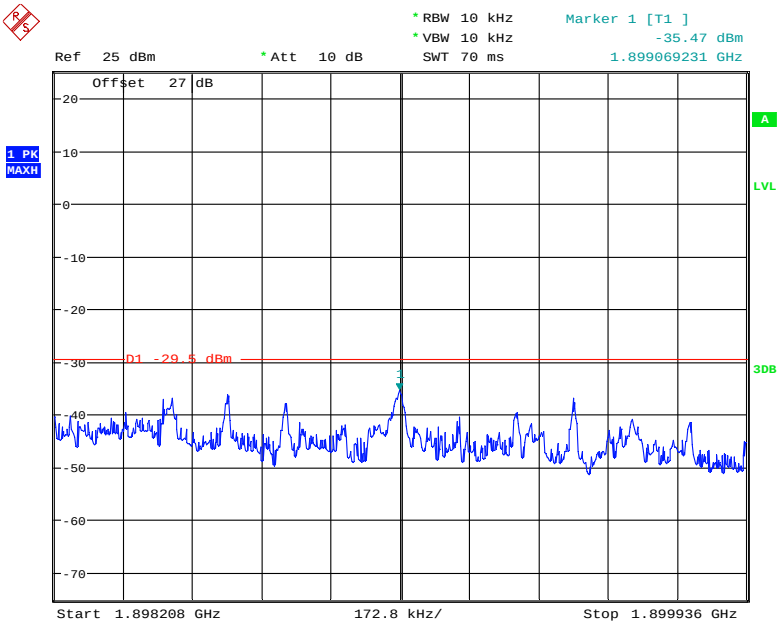
Date: 20.JAN.2022 02:27:28

1.896844 GHz~1.898208 GHz



Date: 20.JAN.2022 19:24:46

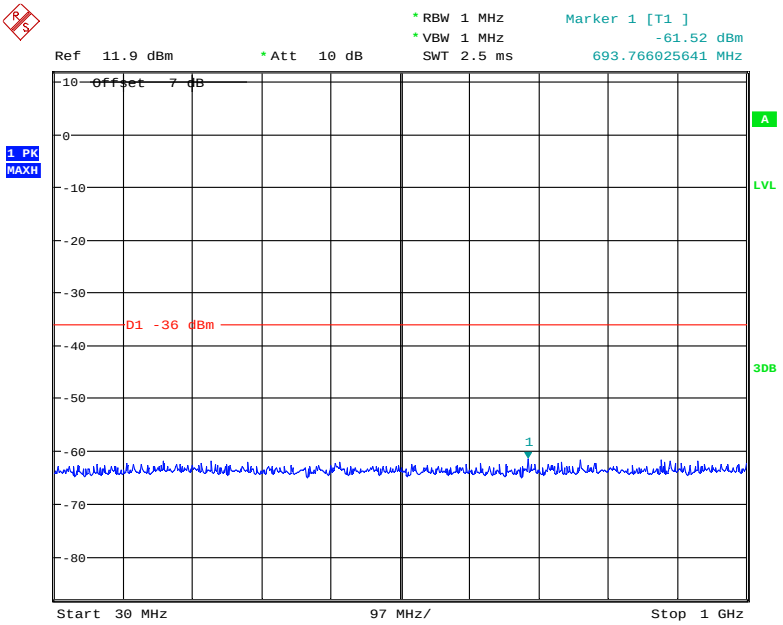
1.898208 GHz ~1.8999936 GHz



Date: 20.JAN.2022 02:19:57

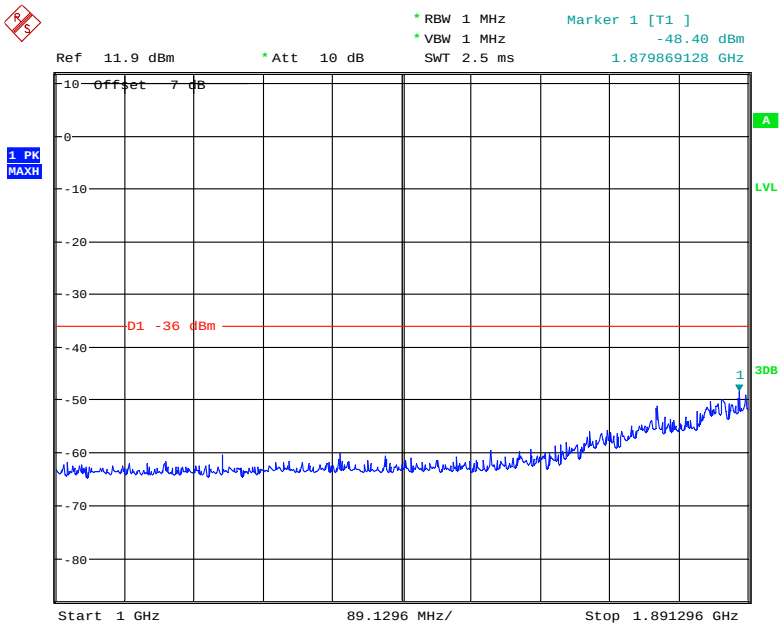
Middle channel

30 MHz~1 GHz



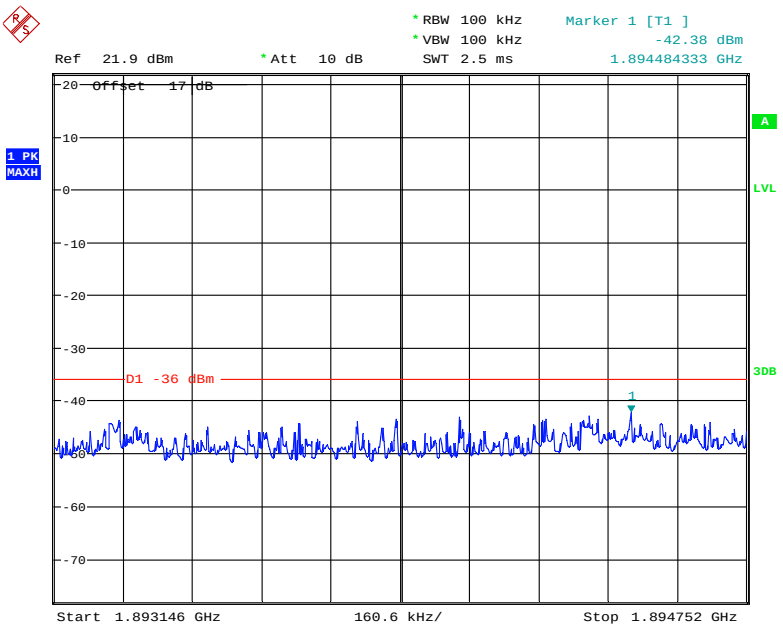
Date: 20.JAN.2022 02:30:38

1 GHz ~1.891296 GHz



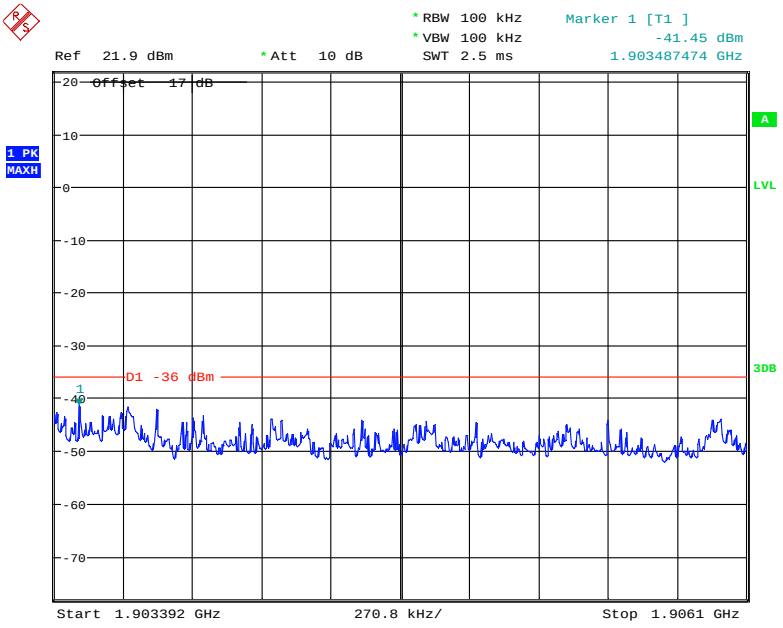
Date: 20.JAN.2022 02:31:21

1.893146 GHz~1.894752 GHz



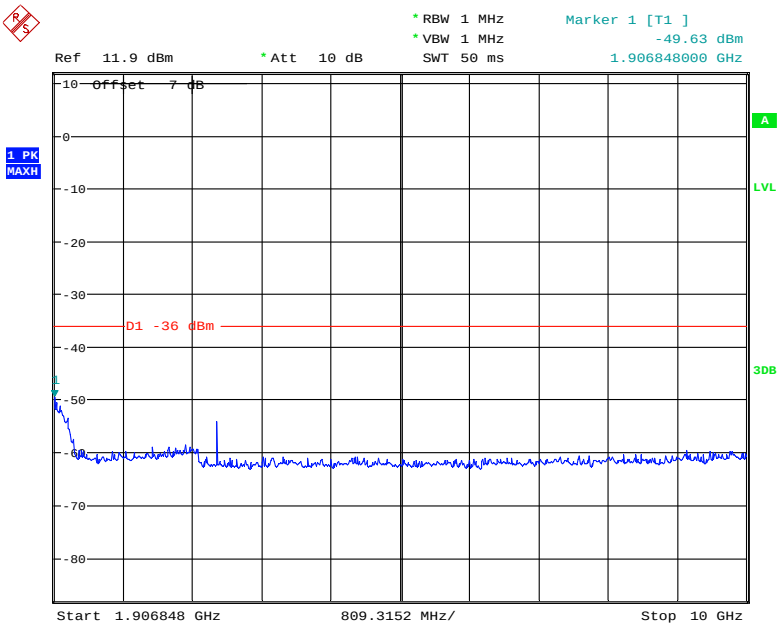
Date: 20.JAN.2022 02:43:59

1.903392 GHz~1.9061 GHz



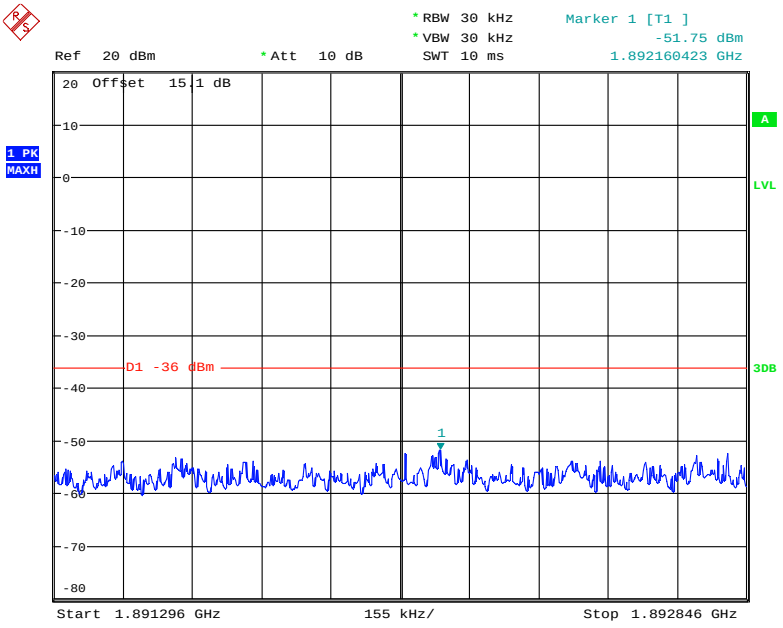
Date: 20.JAN.2022 02:35:09

1.906848 GHz~10 GHz



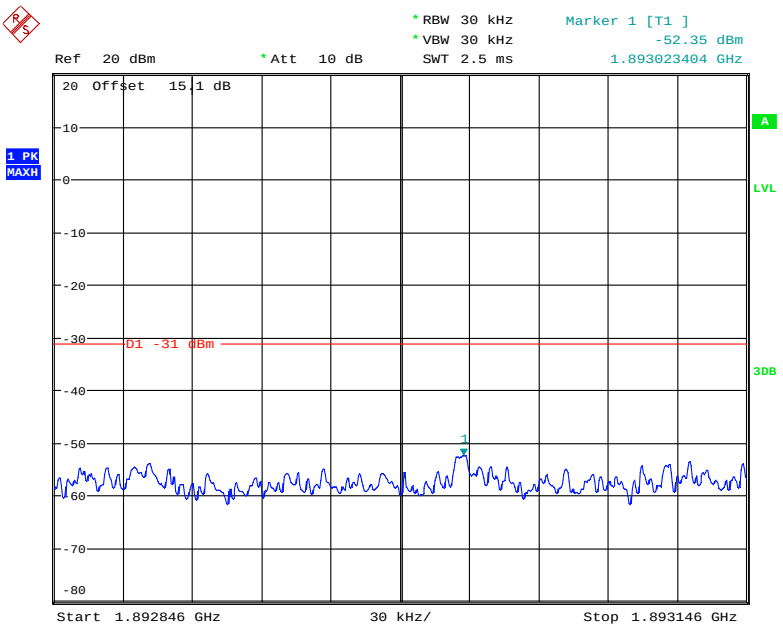
Date: 20.JAN.2022 02:32:28

1.891296 GHz~1.892846 GHz



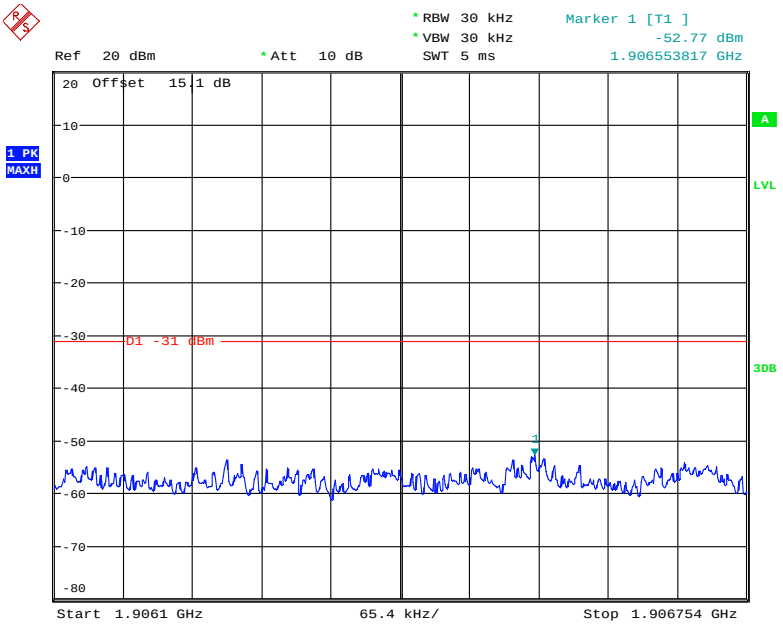
Date: 20.JAN.2022 02:46:15

1.892846 GHz~1.893146 GHz



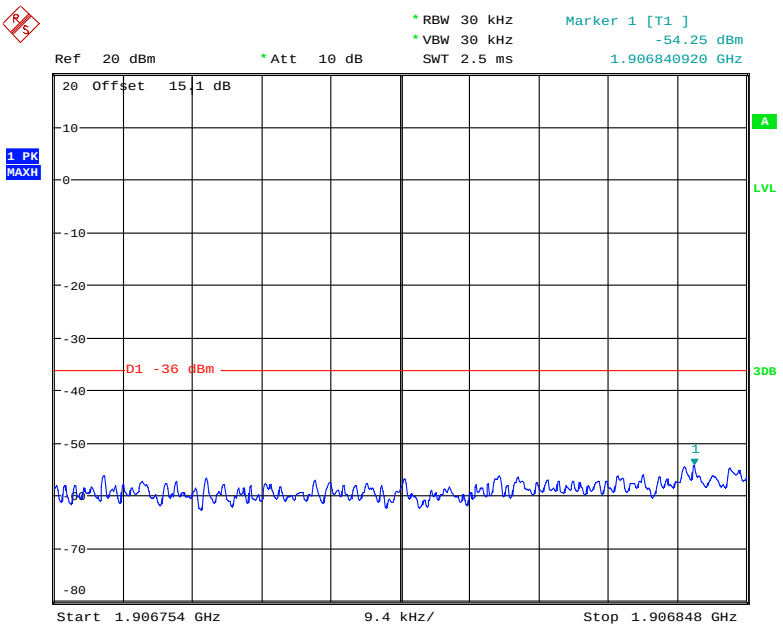
Date: 20.JAN.2022 02:44:57

1.9061 GHz~1.906754 GHz



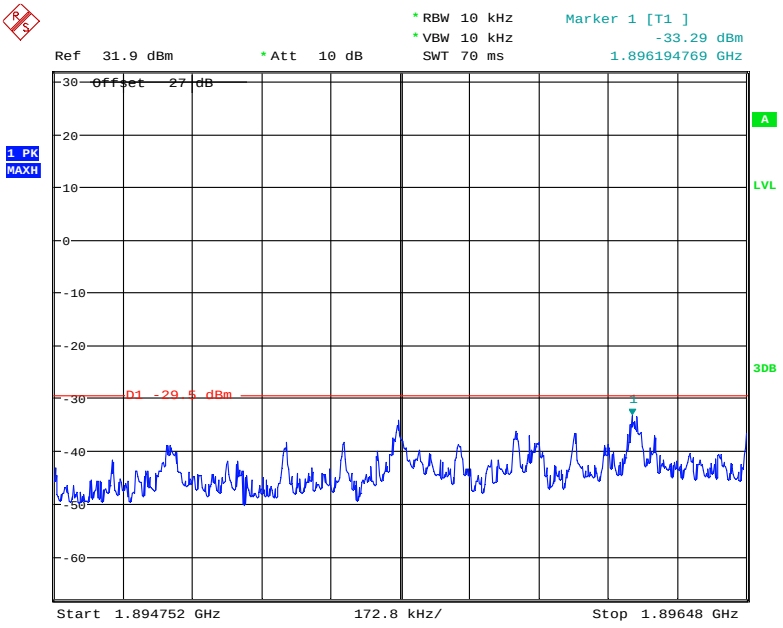
Date: 20.JAN.2022 02:49:08

1.906754 GHz ~1.906848 GHz



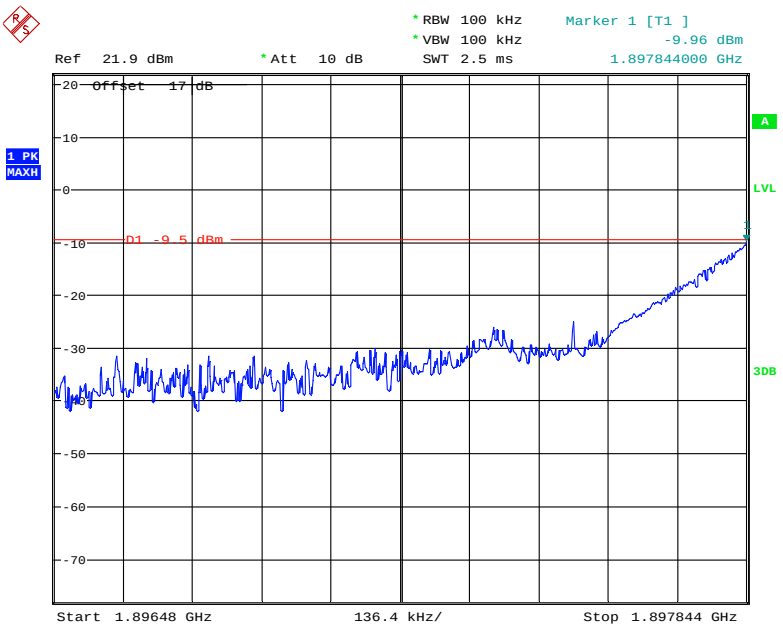
Date: 20.JAN.2022 02:33:33

1.894752 GHz~1.89648 GHz



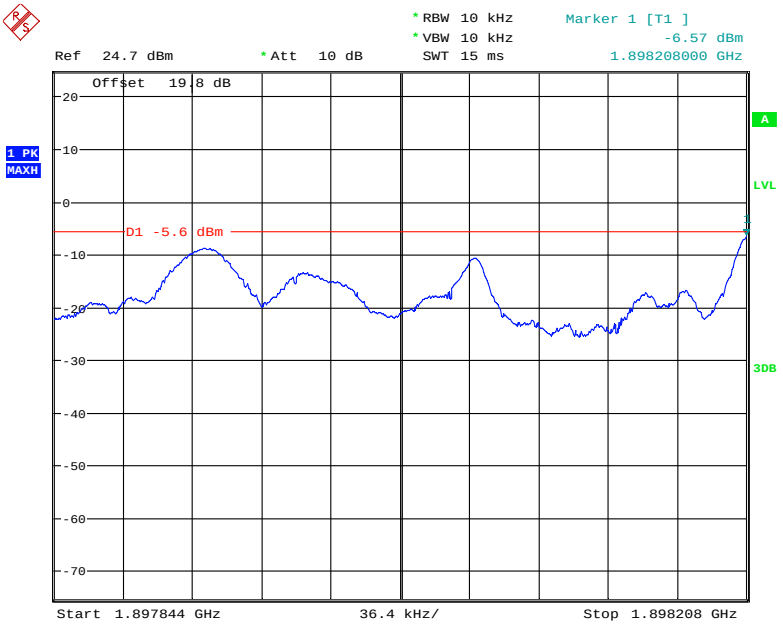
Date: 20.JAN.2022 02:42:39

1.89648 GHz~1.897844GHz



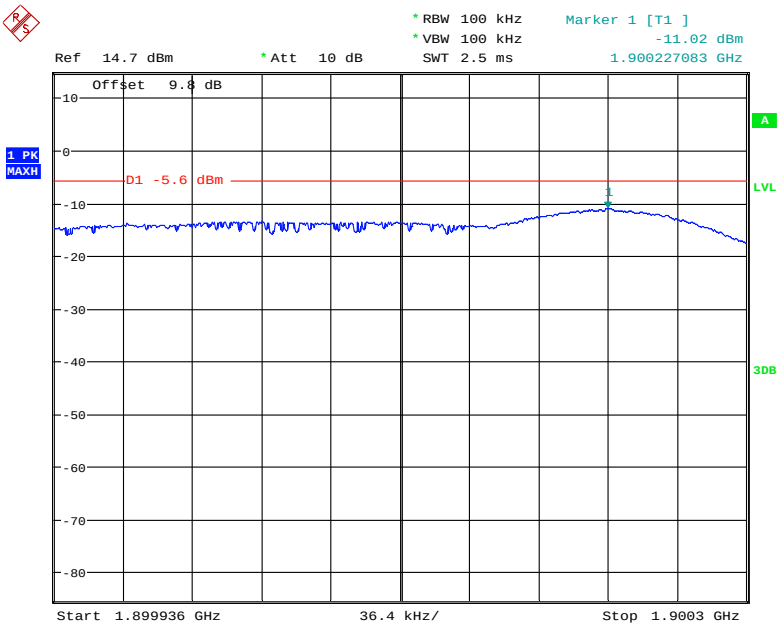
Date: 20.JAN.2022 02:47:54

1.897844GHz~1.898208 GHz



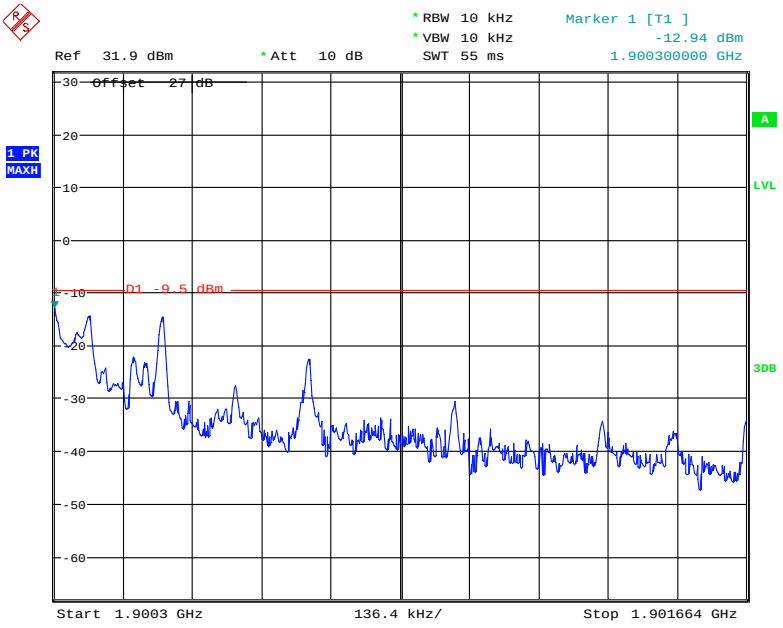
Date: 20.JAN.2022 02:41:04

1.899936 GHz~1.9003 GHz



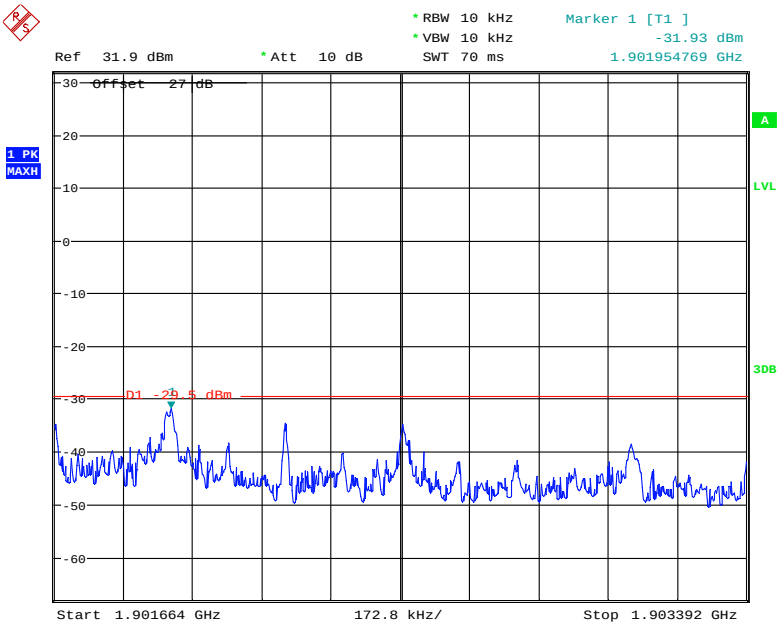
Date: 20.JAN.2022 02:39:26

1.9003 GHz ~1.901664 GHz



Date: 20.JAN.2022 02:51:08

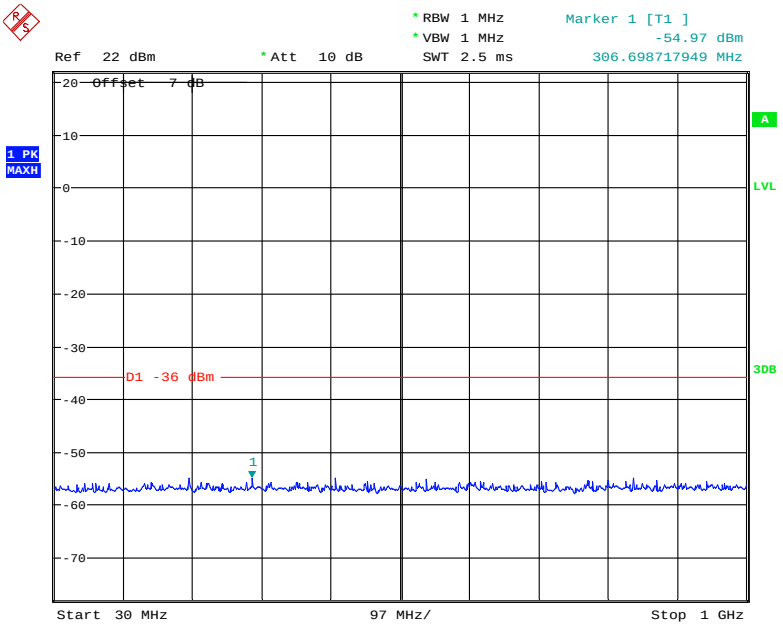
1.901664 GHz~1.903392 GHz



Date: 20.JAN.2022 02:37:41

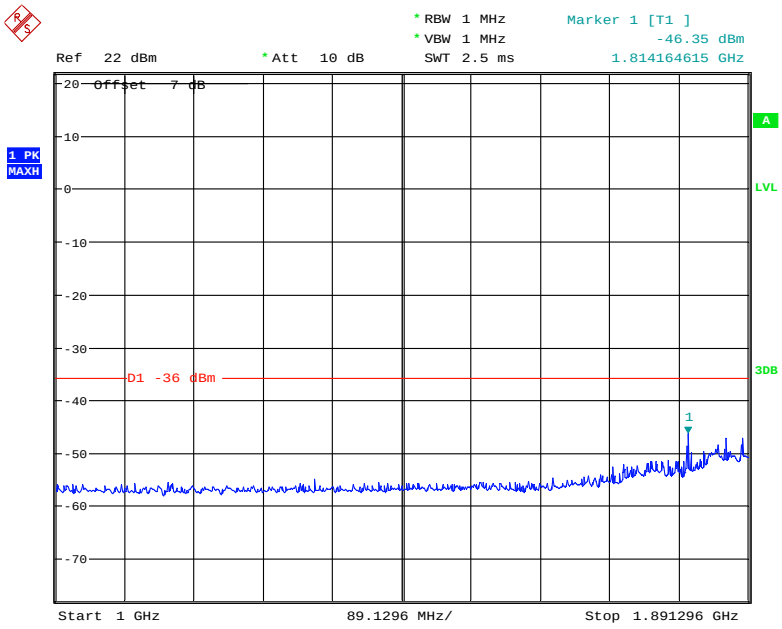
High channel

30 MHz~1 GHz



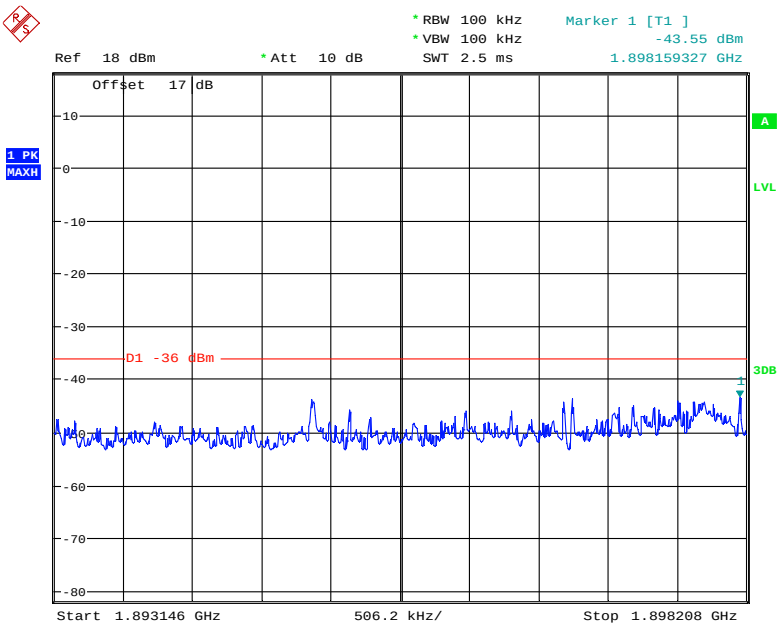
Date: 20.JAN.2022 01:43:31

1 GHz ~1.891296 GHz



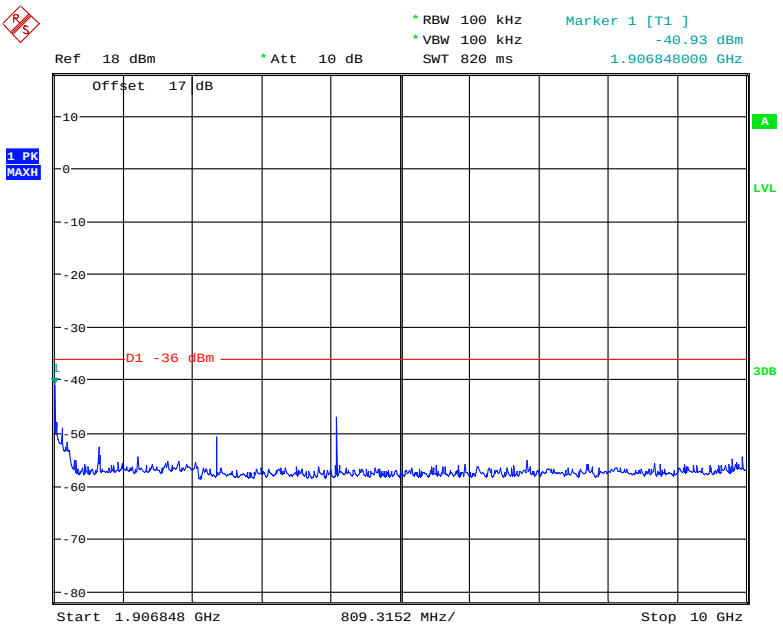
Date: 20.JAN.2022 01:45:30

1.893146 GHz~1.898208 GHz



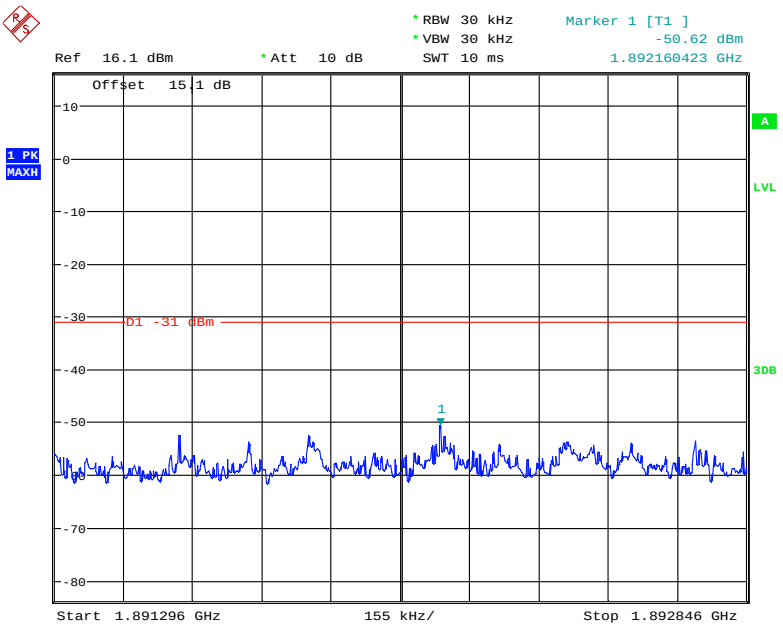
Date: 20.JAN.2022 01:57:52

1.906848 GHz~10 GHz



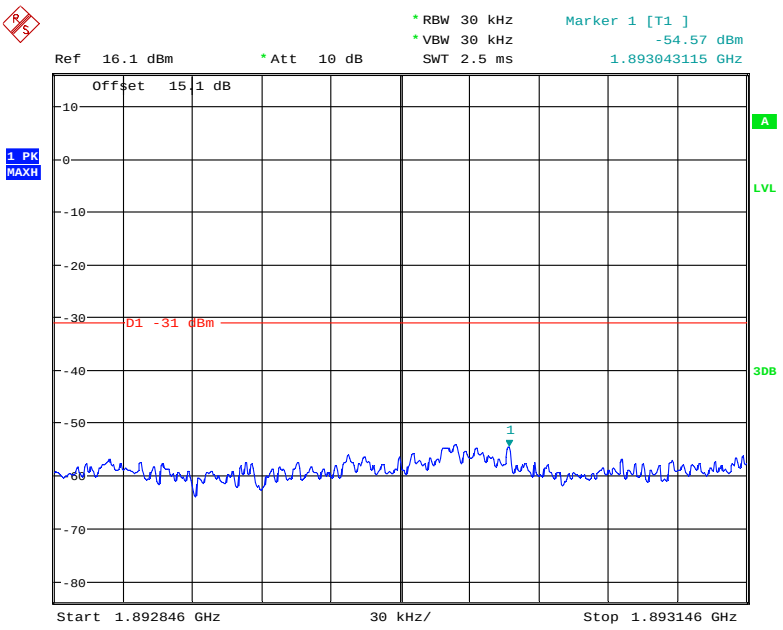
Date: 20.JAN.2022 01:48:44

1.891296 GHz~1.892846 GHz



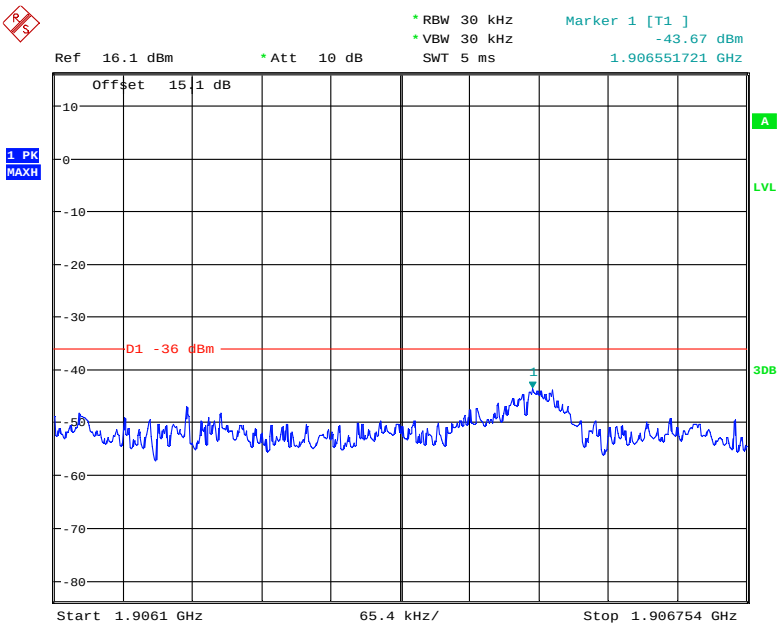
Date: 20.JAN.2022 02:00:16

1.892846 GHz~1.893146 GHz



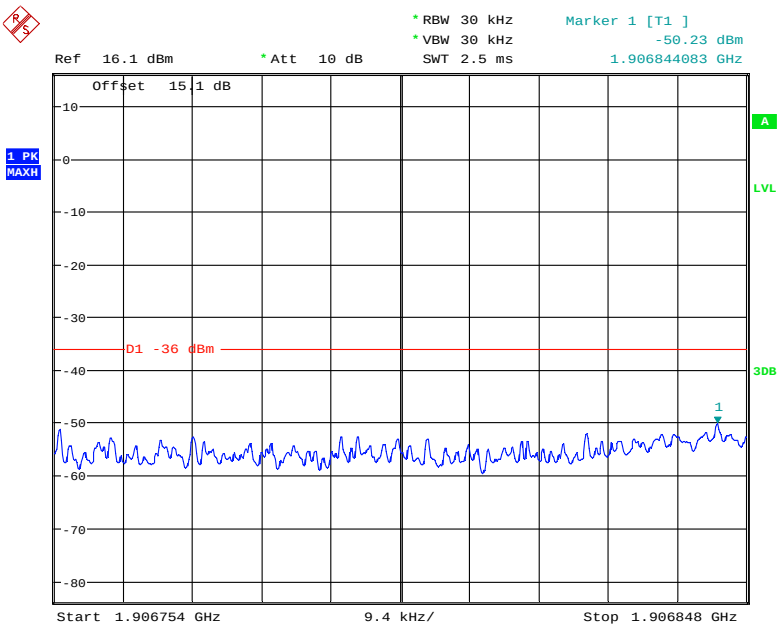
Date: 20.JAN.2022 01:59:04

1.9061 GHz ~1.906754 GHz



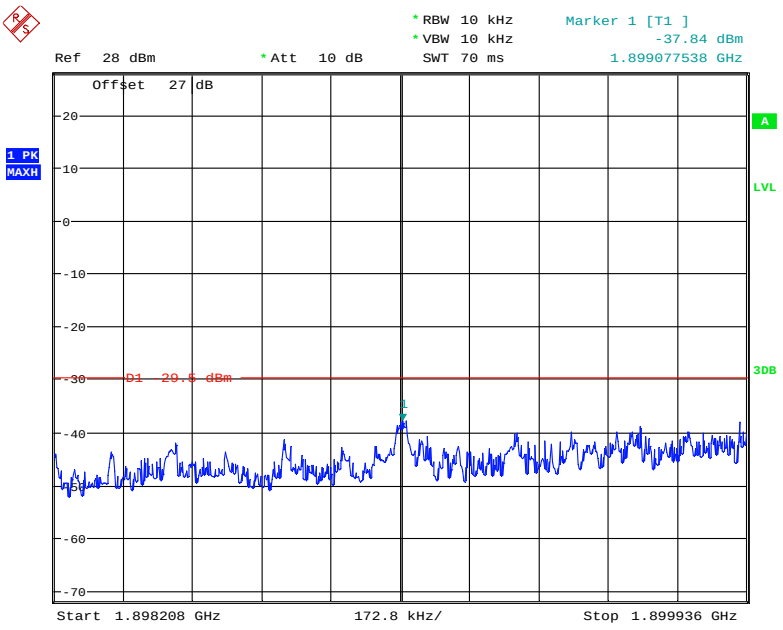
Date: 20.JAN.2022 02:03:50

1.906754 GHz~1.906848 GHz



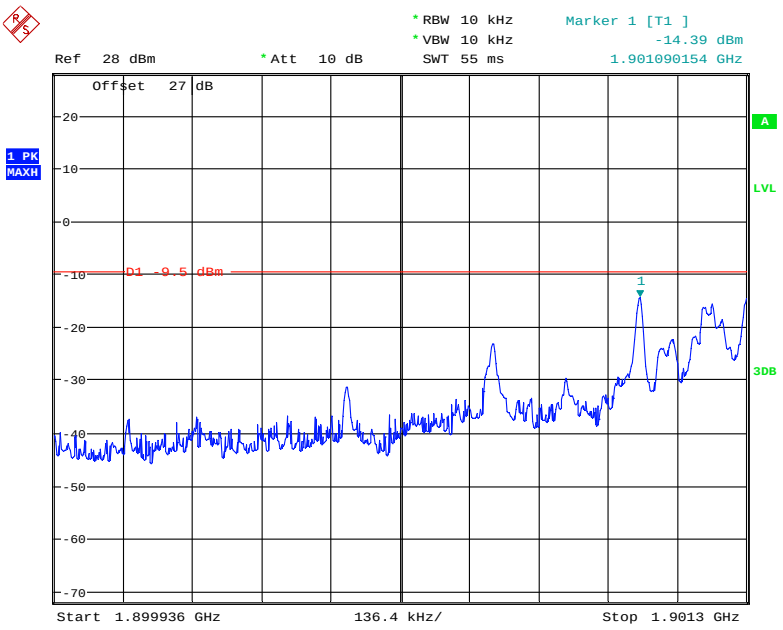
Date: 20.JAN.2022 01:49:58

1.898208 GHz~1.899936 GHz



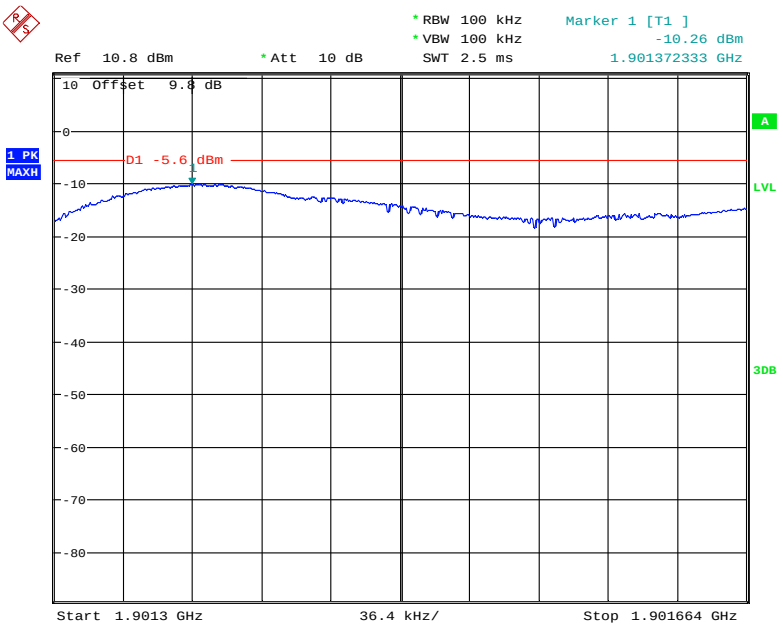
Date: 20.JAN.2022 01:56:31

1.899936 GHz~1.9013 GHz



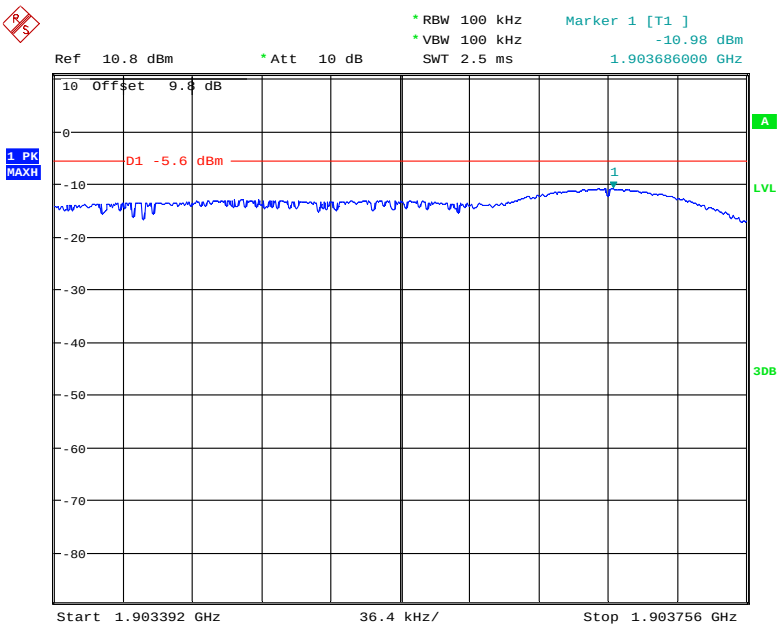
Date: 20.JAN.2022 01:54:52

1.9013 GHz~1.901664 GHz



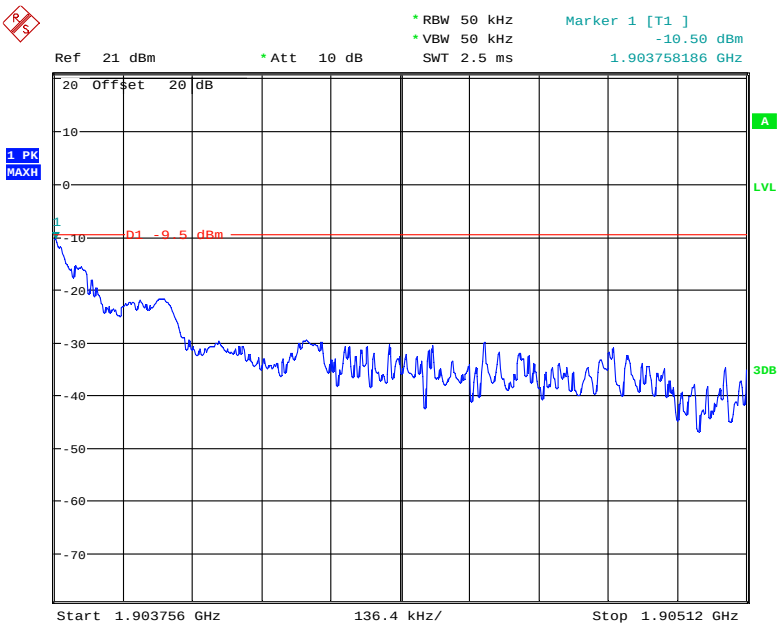
Date: 20.JAN.2022 02:06:19

1.903392 GHz ~1.903756 GHz



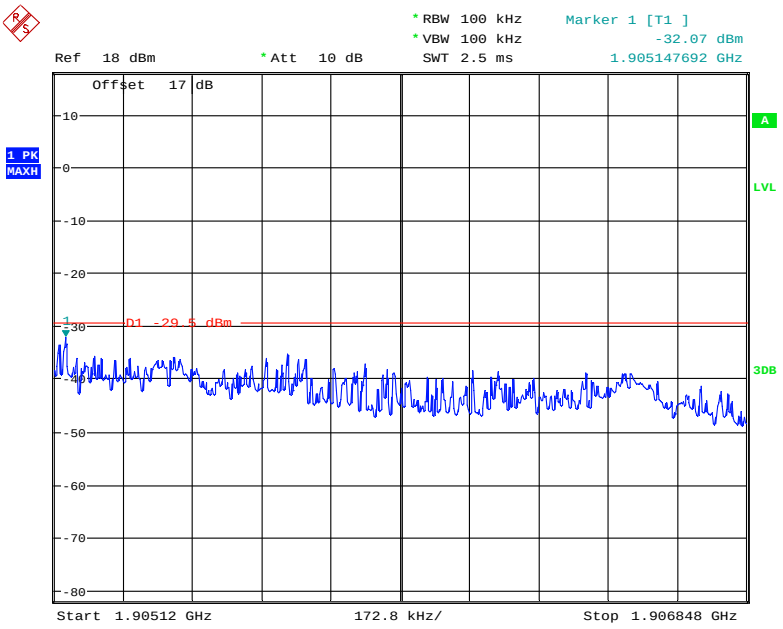
Date: 20.JAN.2022 01:53:26

1.903756 GHz~1.90512 GHz



Date: 20.JAN.2022 01:51:51

1.90512 GHz ~1.906848 GHz



Date: 20.JAN.2022 02:02:04

ANTENNA OUTPUT POWER AND ANTENNA POWER TOLERANCE

Limit

Item	Limit
Antenna Power	≤ 0.24W
Permissible deviation	+20～-50%

Test Procedure

Using CMD 60 to test for more than 100 times and then calculate the average data

Test Data

Environmental Conditions

Temperature:	26.3 ℃
Relative Humidity:	56 %
ATM Pressure:	100.0 kPa

The testing was performed by Pedro Yun on 2022-01-20.

Test Result: Compliant

Test Mode: Transmitting

Ant 0

Frequency	1895.616MHz	1899.072MHz	1902.528MHz	Limit
Antenna power (dBm)	18.2	18.3	18.4	23.8
Antenna power(mW)	66.07	67.61	69.18	240
Antenna power error(%)	-13.07	-11.04	-8.97	-50~+20
EIRP(dBm)	19.2	19.3	19.4	27.8

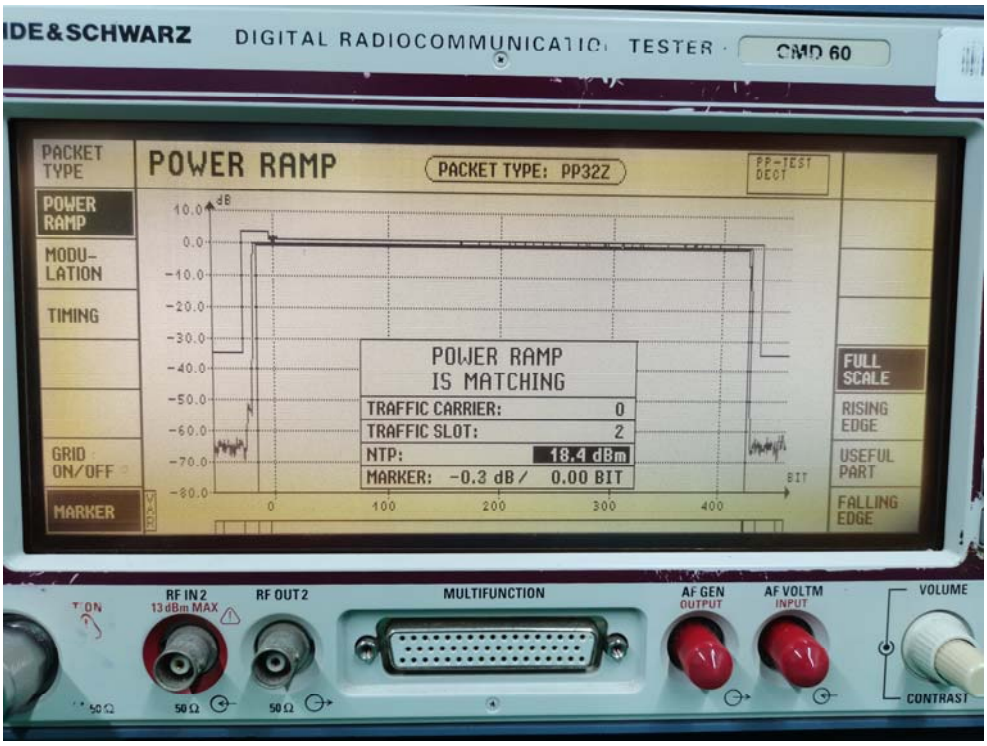
Ant 1

Frequency	1895.616MHz	1899.072MHz	1902.528MHz	Limit
Antenna power (dBm)	18.3	18.5	18.6	24
Antenna power(mW)	67.61	70.79	72.44	240
Antenna power error(%)	-11.04	-6.85	-4.68	-50~+20
EIRP(dBm)	19.3	19.5	19.6	27.8

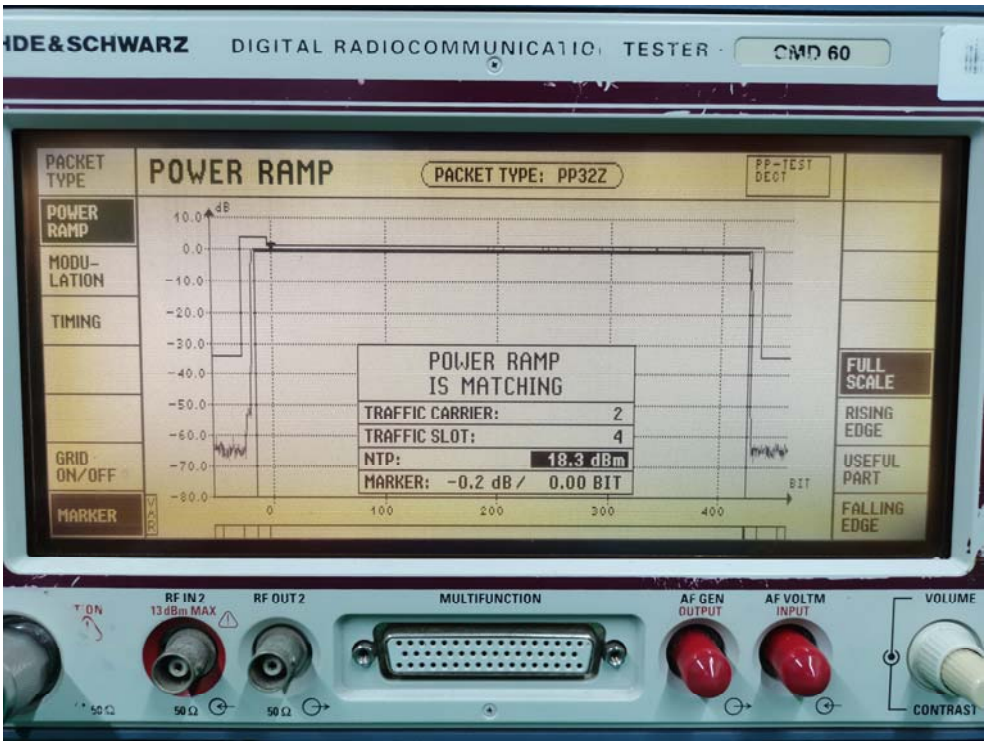
Note:
1) Antenna output power tolerance = (Antenna output power - declared power)/declared power*100%
2) Maximum antenna gain is 1.0dBi
3) The declared power is 76mW.

Ant 0

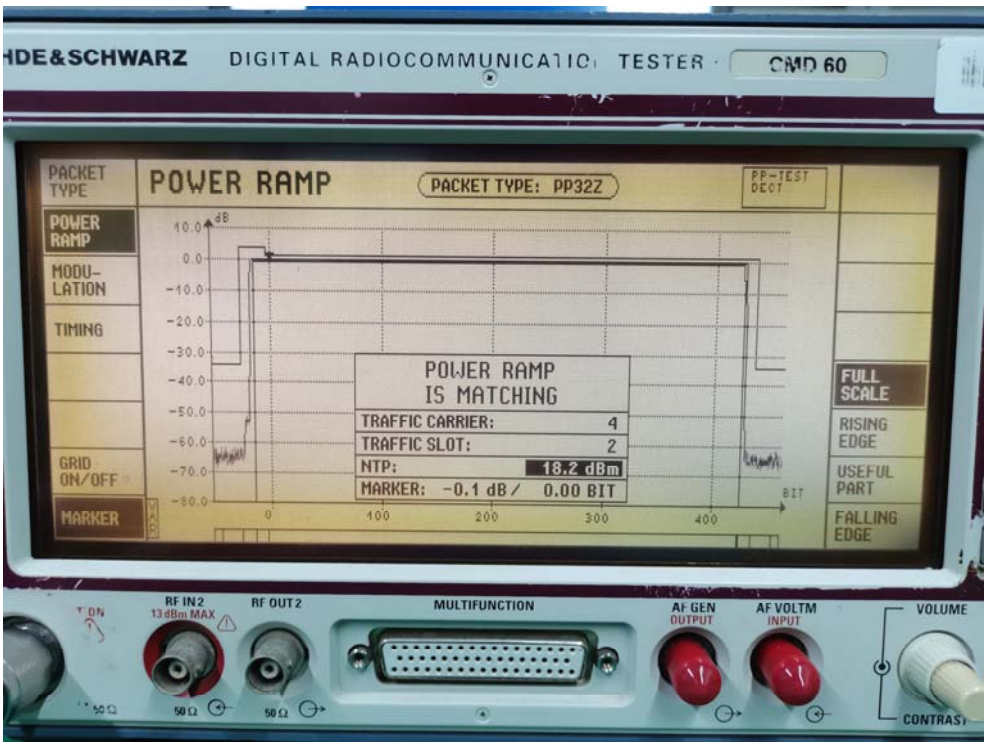
High channel



Middle channel

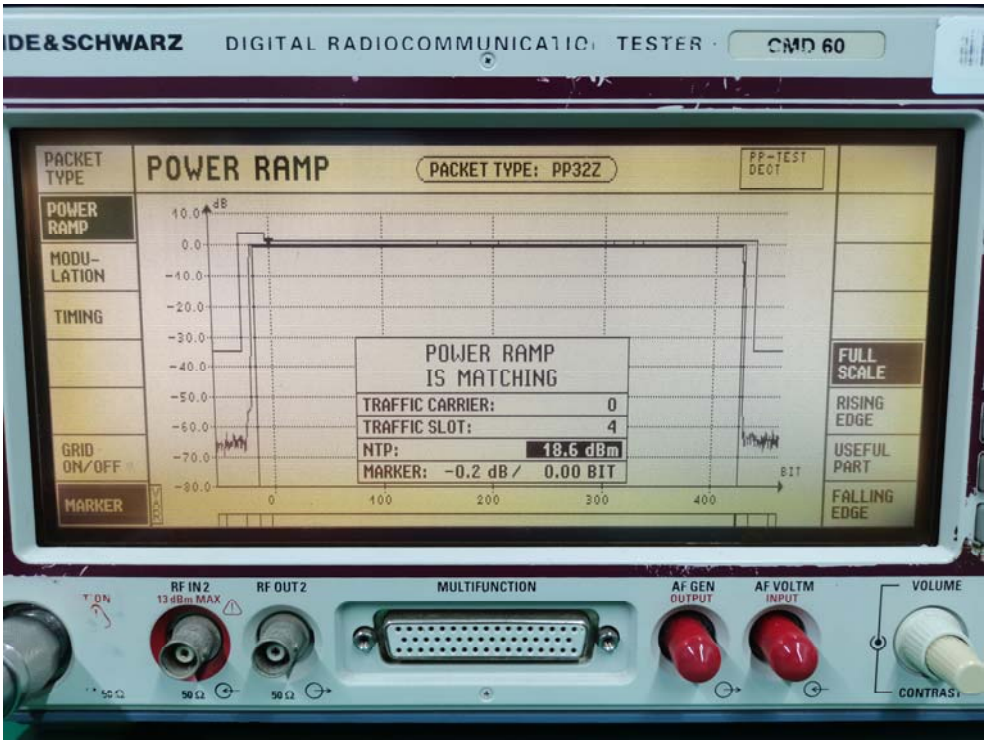


Low channel

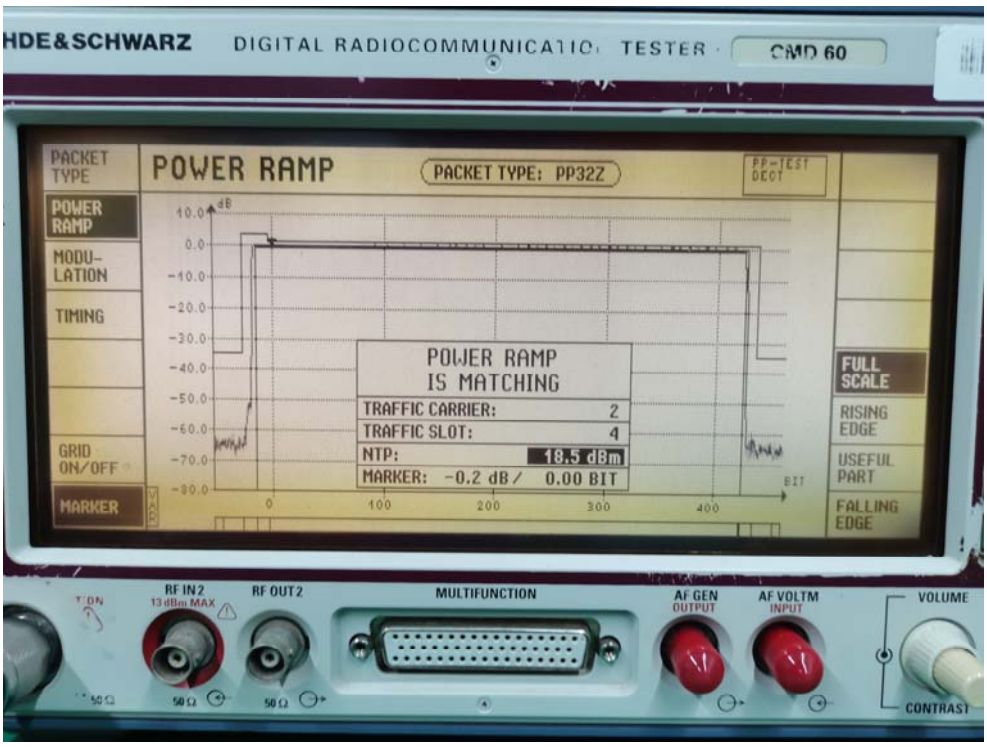


Ant 1

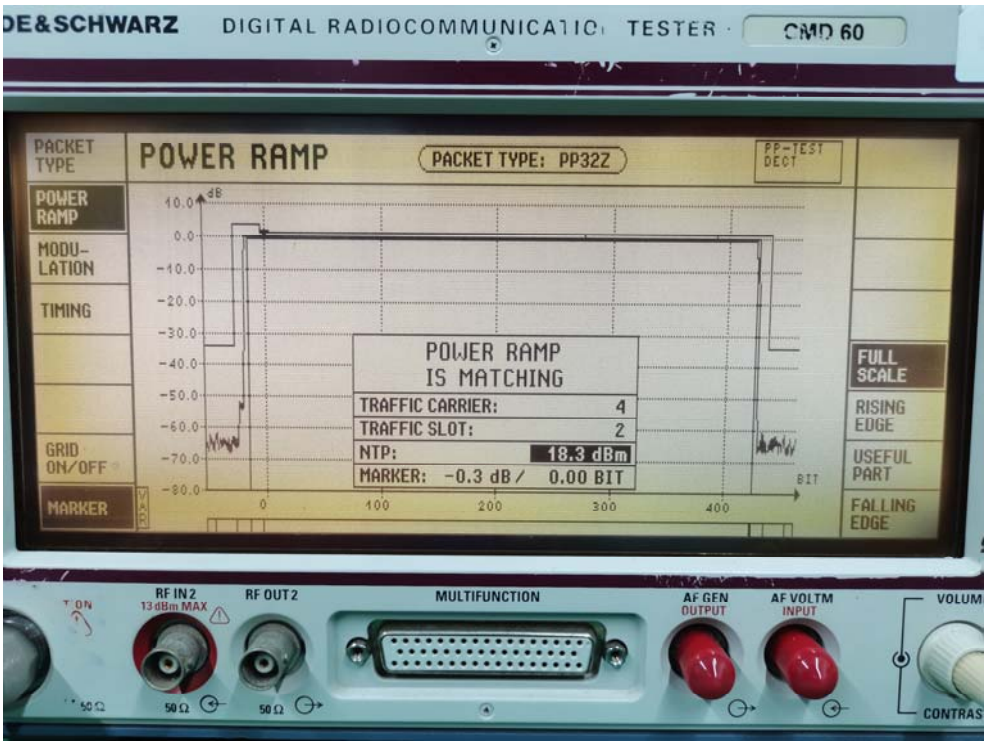
High channel



Middle channel



Low channel


DE&SCHWARZ
DIGITAL RADIOCOMMUNICATION TESTER
CMD 60
PACKET TYPE
POWER RAMP
PACKET TYPE: PP32Z
PP-TEST DECT
POWER RAMP
MODU-LATION
TIMING
GRID ON/OFF
MARKER
POWER RAMP
IS MATCHING
TRAFFIC CARRIER: 4
TRAFFIC SLOT: 2
NTP: 18.3 dBm
MARKER: -0.3 dB / 0.00 BIT
FULL SCALE
RISING EDGE
USEFUL PART
FALLING EDGE
RF IN2
13 dBm MAX
RF OUT2
MULTIFUNCTION
AF GEN
OUTPUT
AF VOLTM
INPUT
VOLUM
CONTRAS

TRANSMITTER RATE OF MODULATION SIGNAL AND BIT ERROR RATE

Limit

Modulation	Rate
FSK, π/2-BPSK	1152 kbit/s
π/4-QPSK	2304 kbit/s
π/8-8PSK	3456 kbit/s
16QAM	4608 kbit/s
64QAM	6912 kbit/s
Tolerance: $\pm 100*10^{-6}$	

Test Procedure

Using CMD 60 to test for more than 100 times and then calculate the average data

Test Data

Environmental Conditions

Temperature:	26.3 ℃
Relative Humidity:	45 %
ATM Pressure:	101.0 kPa

The testing was performed by Pedro Yun on 2022-01-20.

Test Result: Compliant, please see the below tables

Test Mode: Transmitting

Frequency (MHz)	Test Voltage	Bit Error Ratio (ppm)	Limit (ppm)
1895.616	Normal Voltage	0	±100
1899.072	Normal Voltage	0	±100
1902.528	Normal Voltage	0	±100

Frequency (MHz)	Test Voltage	Transmission Rate (Bit/s)	Transmission Rate (kBit/s)	Limit (kBit/s)
1895.616	Normal Voltage	32000	31.25	1152
1899.072	Normal Voltage	32000	31.25	1152
1902.528	Normal Voltage	32000	31.25	1152

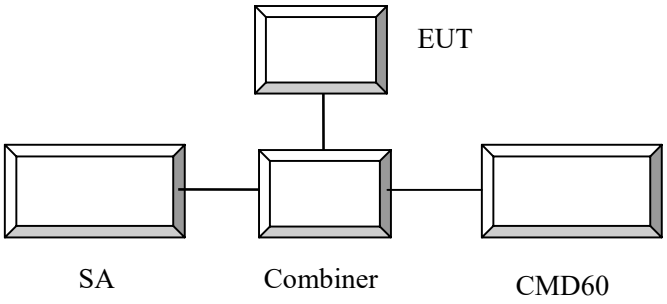
SECONDARY RADIATED EMISSION STRENGTH

Limit

Secondary Radiated Emission Strength	30 (≤) ~ (<) 1000 MHz : 2nW / 100kHz 1000 (≤) ~ (<) 1893.5 MHz : 20nW / 100kHz 1893.5 (≤) ~ (≤) 1906.1 MHz (Either value) *1893.55 (≤) ~ (≤) 1906.05 MHz : 2nW / MHz (100kHz interval 126channels) (Consecutive 10 channels : 20nW / MHz) *1893.515 (≤) ~ (≤) 1906.085 MHz : 0.06nW / 30kHz (30kHz interval 420channels) (Arbitrary 2 channels : 250nW / 30kHz) 1906.1 (<) ~ (<) 12.75GHz : 20nW / 100kHz

Test Procedure

Measurement System Diagram



Conditions of Application Equipment (EUT)

- The modulation state shall be “continuous receiving mode”.

Spectrum Analyzer Conditions

Test Data

Environmental Conditions

Temperature:	26.3 ℃
Relative Humidity:	45 %
ATM Pressure:	101.0 kPa

The testing was performed by Pedro Yun on 2022-01-11.

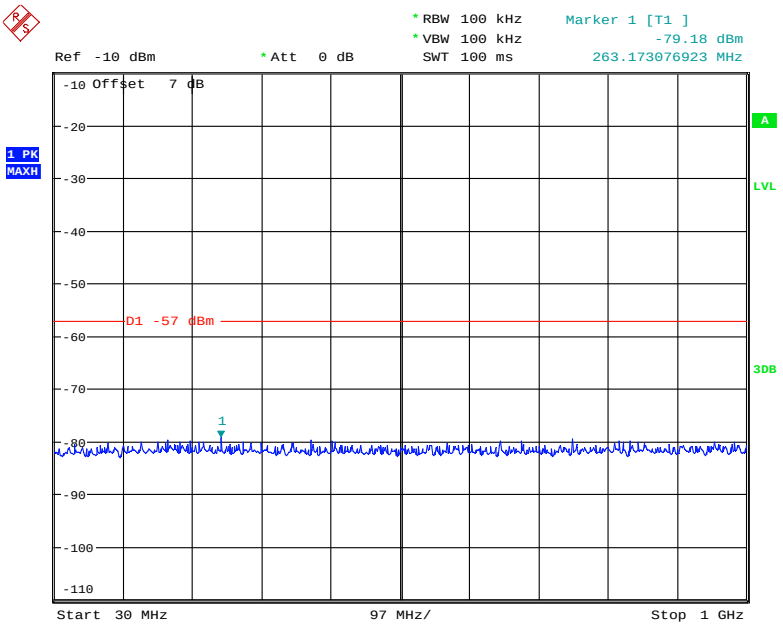
Test Result: Compliant, please see the below tables and plots

Normal Condition Test Data as below:

Frequency Band	Low channel	Middle channel	High channel	Limit
30MHz-1GHz	-79.18	-79.87	-79.80	2nW/100kHz （-57dBm/100kHz）
1-1.8935GHz	-78.62	-79.55	-79.31	20nW/100kHz (-47dBm/100kHz)
1.893515-1.906085GHz	-86.01	-84.79	-85.03	0.06nW/30kHz (-72.3dBm/30kHz)
1.89355-1.90605GHz	-73.25	-72.33	-72.63	2nW/100kHz (-57dBm/100kHz)
1.9061-12.75GHz	-77.80	-77.59	-77.93	20nW/100kHz (-47dBm/100kHz)

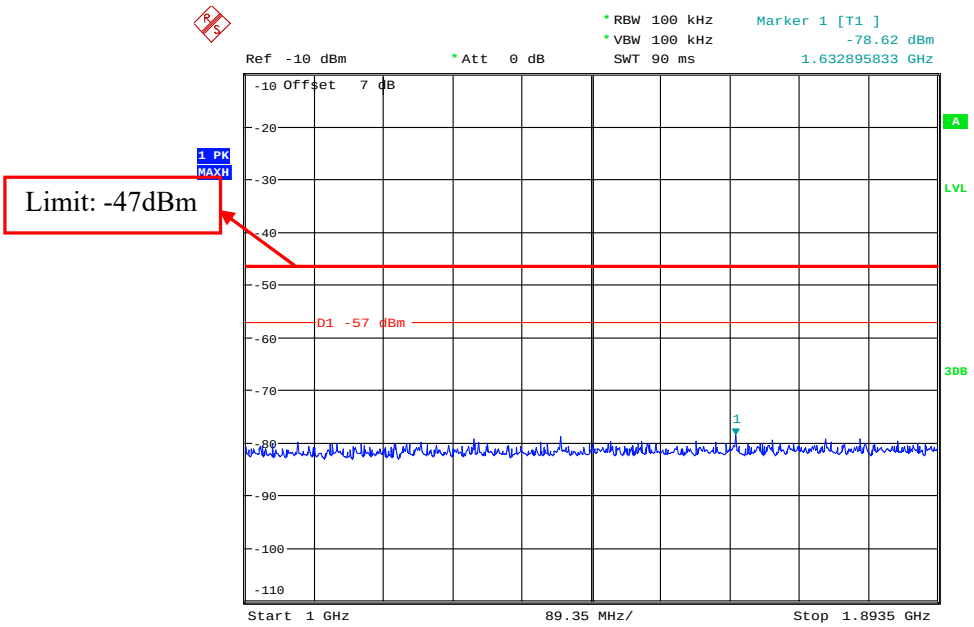
Low channel:

30 MHz~1 GHz



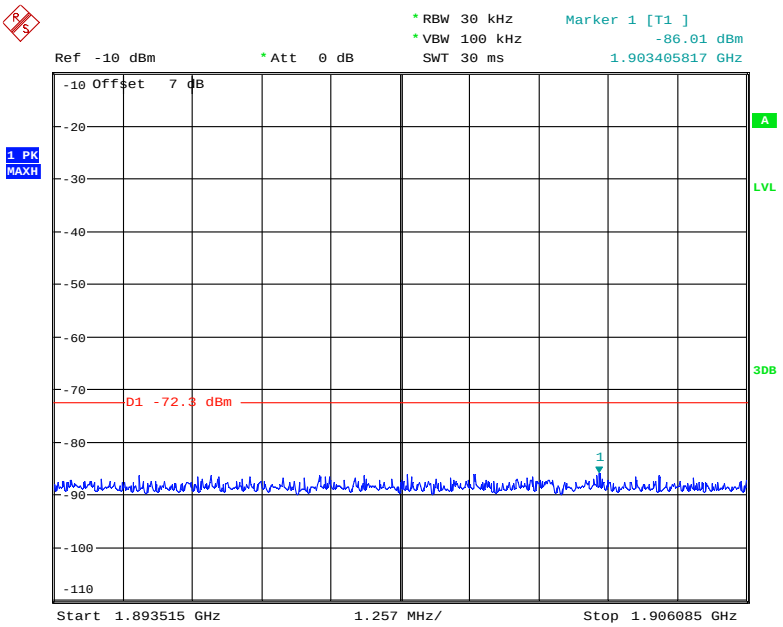
Date: 11.JAN.2022 20:19:25

1 GHz~1.8935 GHz



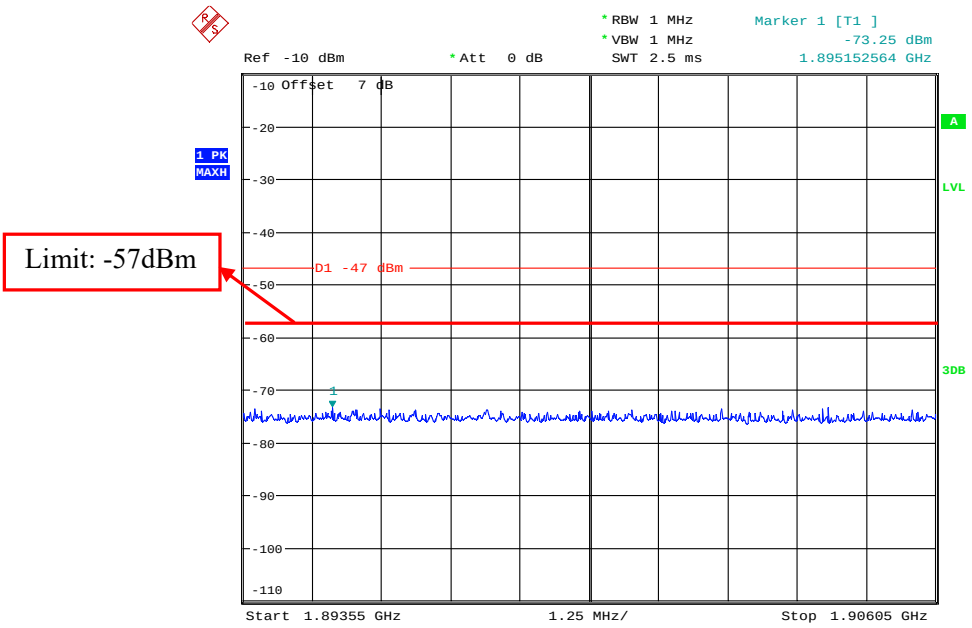
Date: 11.JAN.2022 20:20:00

1.893515 GHz~1.906085 GHz



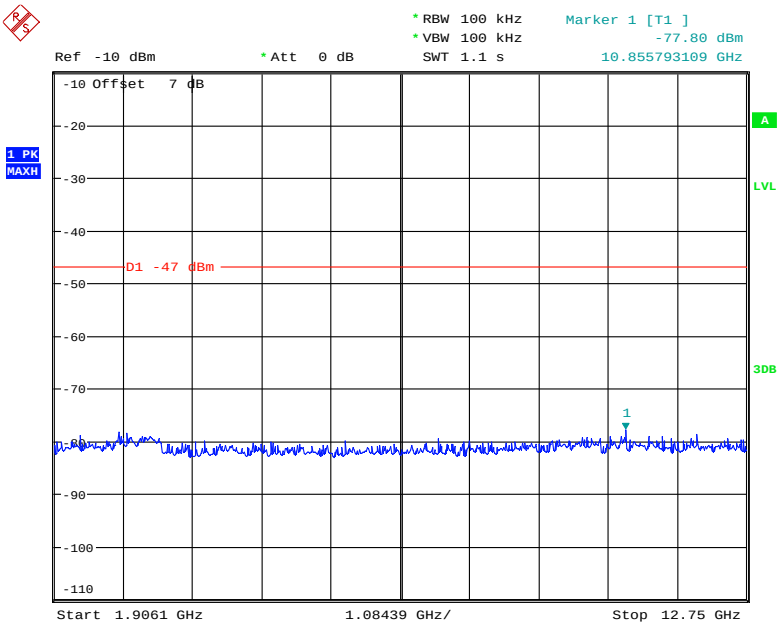
Date: 11.JAN.2022 20:23:30

1.89355 GHz~1.90605 GHz



Date: 11.JAN.2022 20:22:12

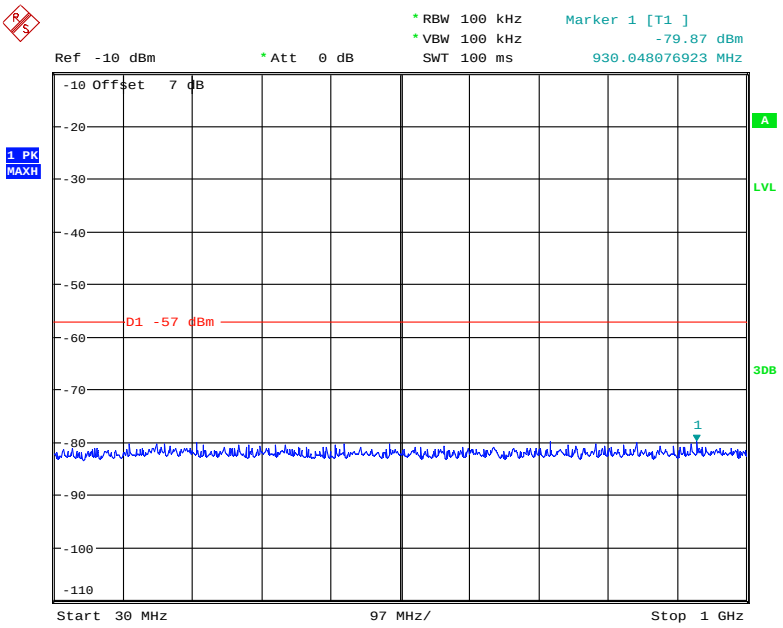
1.9061 GHz~12.75 GHz



Date: 11.JAN.2022 20:21:25

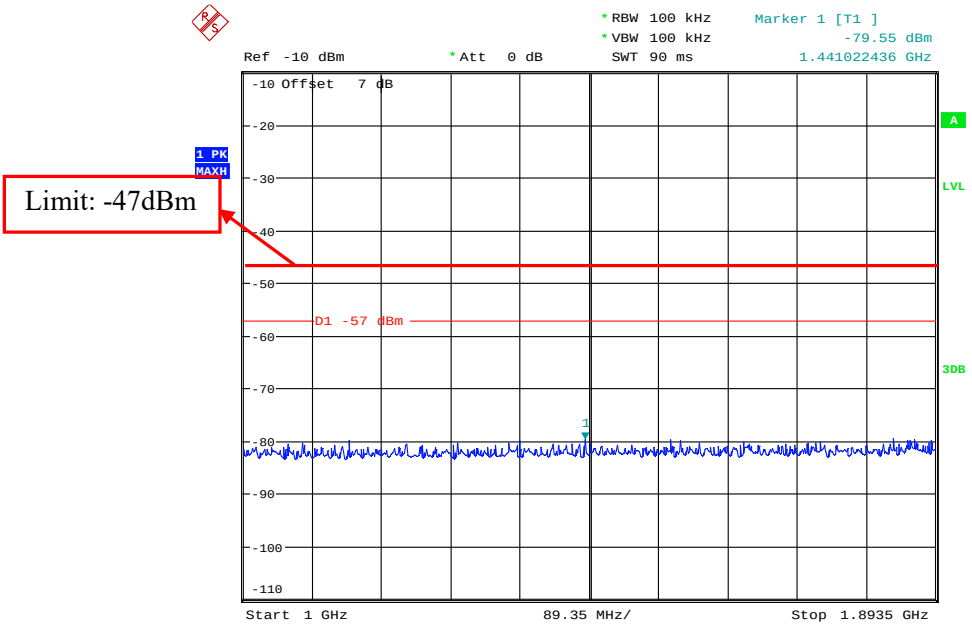
Middle channel:

30 MHz~1 GHz



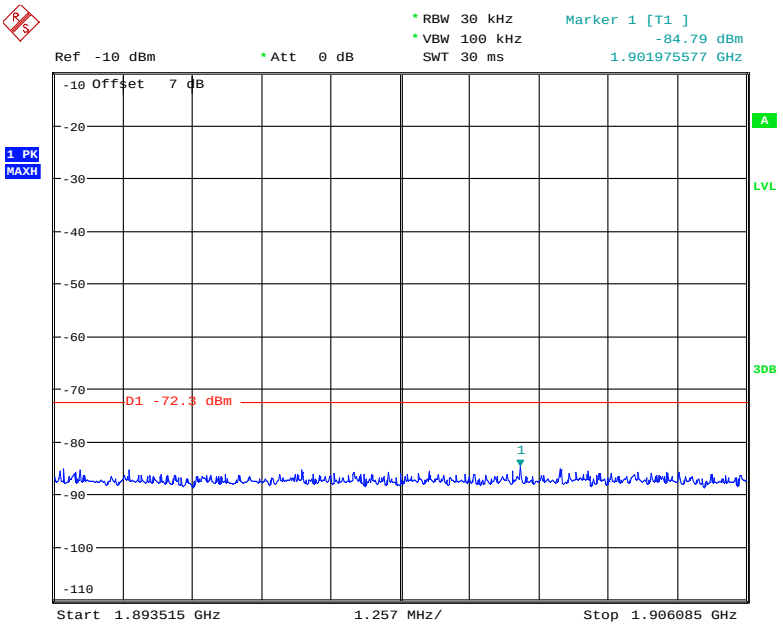
Date: 11.JAN.2022 20:26:56

1 GHz~1.8935 GHz



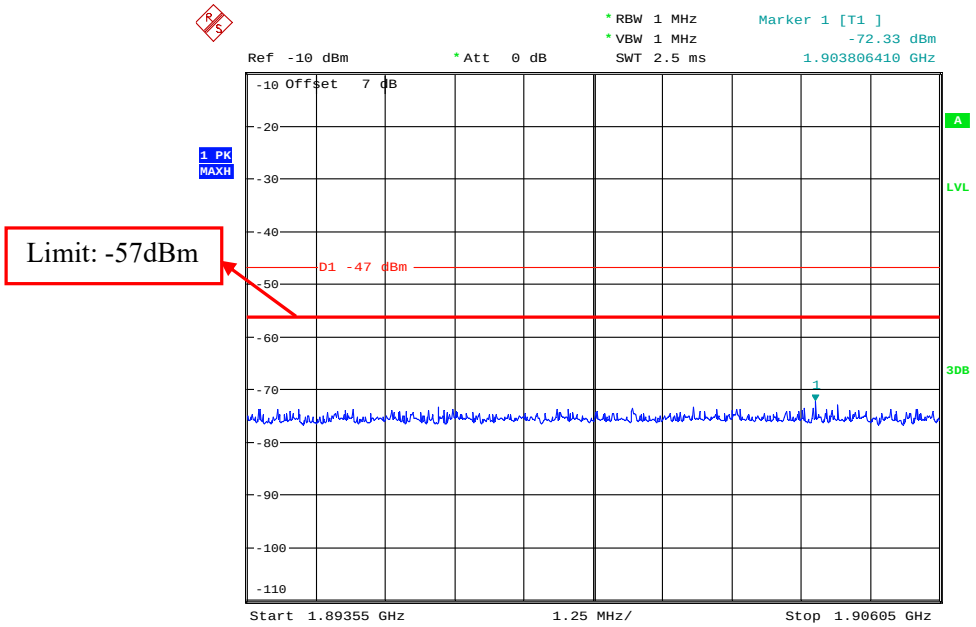
Date: 11.JAN.2022 20:26:26

1.893515 GHz~1.906085 GHz



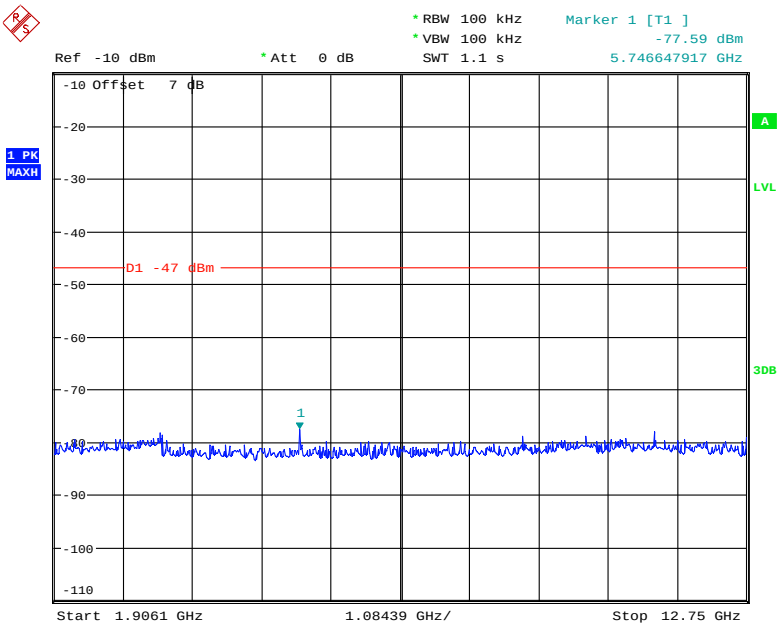
Date: 11.JAN.2022 20:24:27

1.89355 GHz~1.90605 GHz



Date: 11.JAN.2022 20:27:36

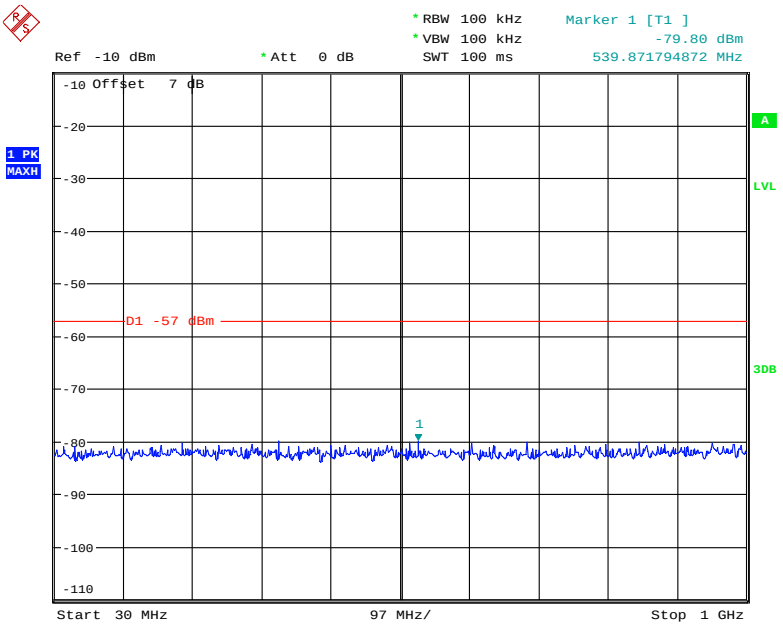
1.9061 GHz~12.75 GHz



Date: 11.JAN.2022 20:25:47

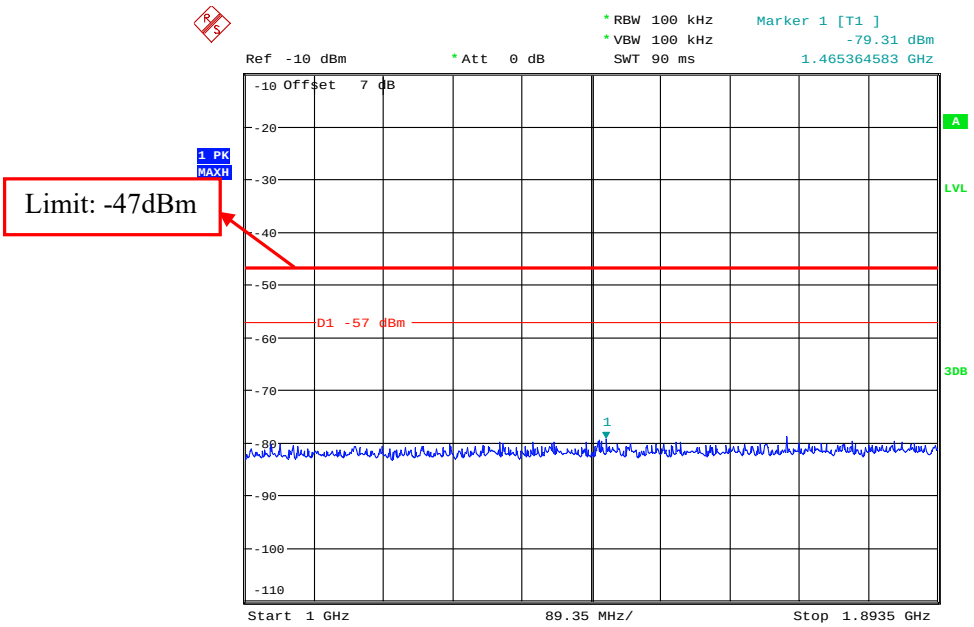
High channel:

30 MHz~1 GHz



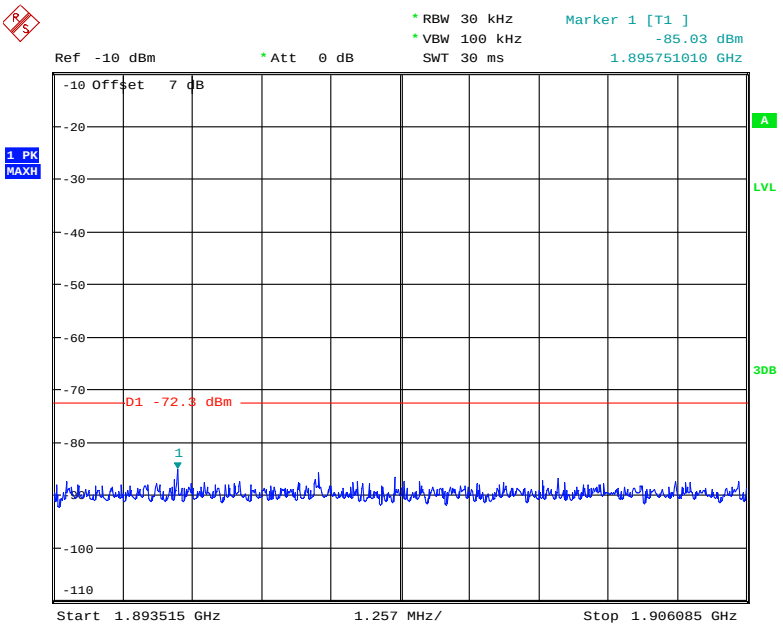
Date: 11.JAN.2022 20:18:01

1 GHz~1.8935 GHz



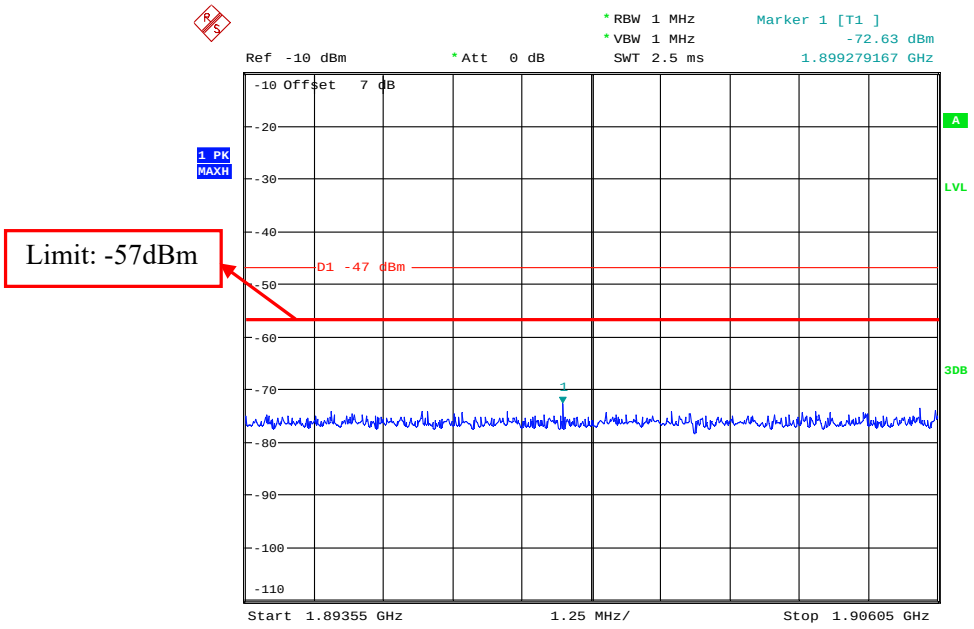
Date: 11.JAN.2022 20:17:31

1.893515 GHz~1.906085 GHz



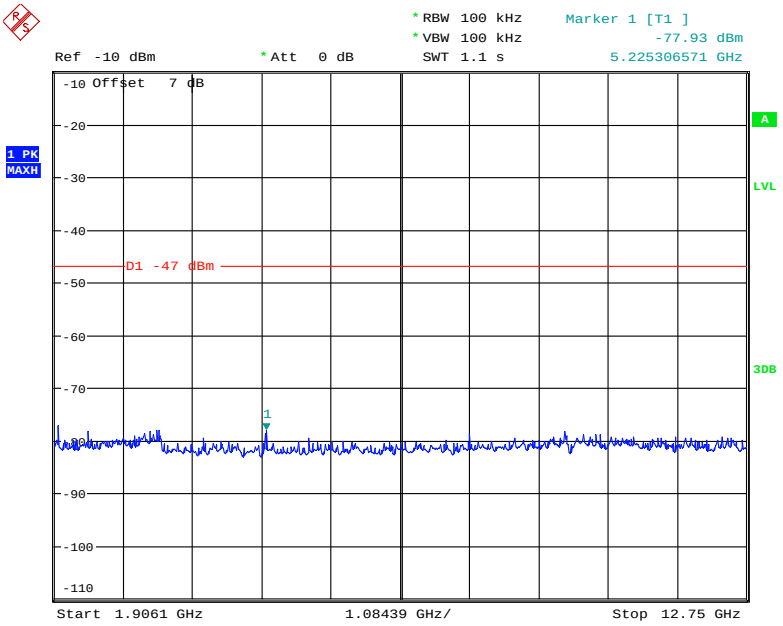
Date: 11.JAN.2022 20:16:49

1.89355 GHz~1.90605 GHz



Date: 11.JAN.2022 20:13:11

1.9061 GHz~12.75 GHz



Date: 11.JAN.2022 20:11:54

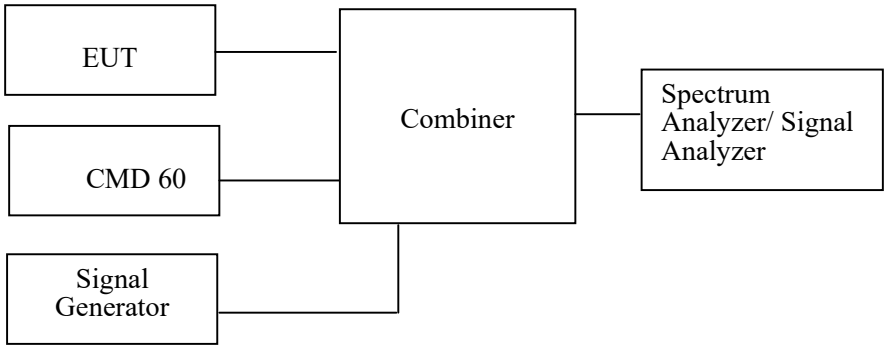
CARRIER SENSING FUNCTION

Limit

Consecutive 2 flame or more: -62 dBm or less
Base unit: 1897.344, 1899.072, 1900.8 MHz (control channel): -82 dBm or less

Test Procedure

Measurement System Diagram



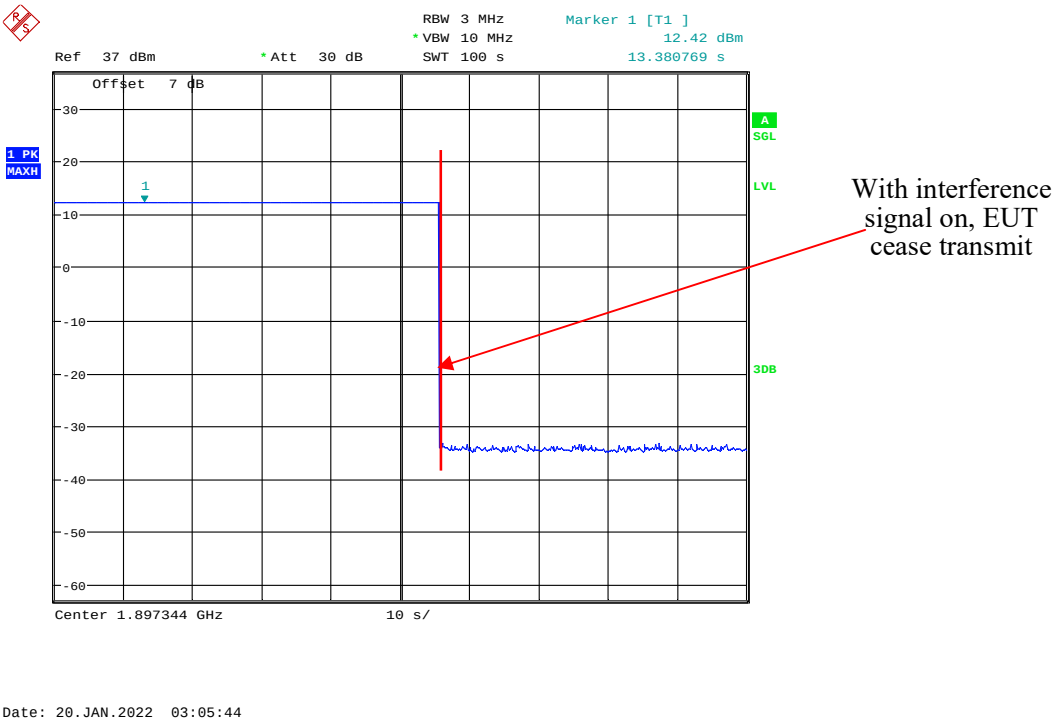
Test Data

Environmental Conditions

Temperature:	26.3 ℃
Relative Humidity:	45 %
ATM Pressure:	101.0 kPa

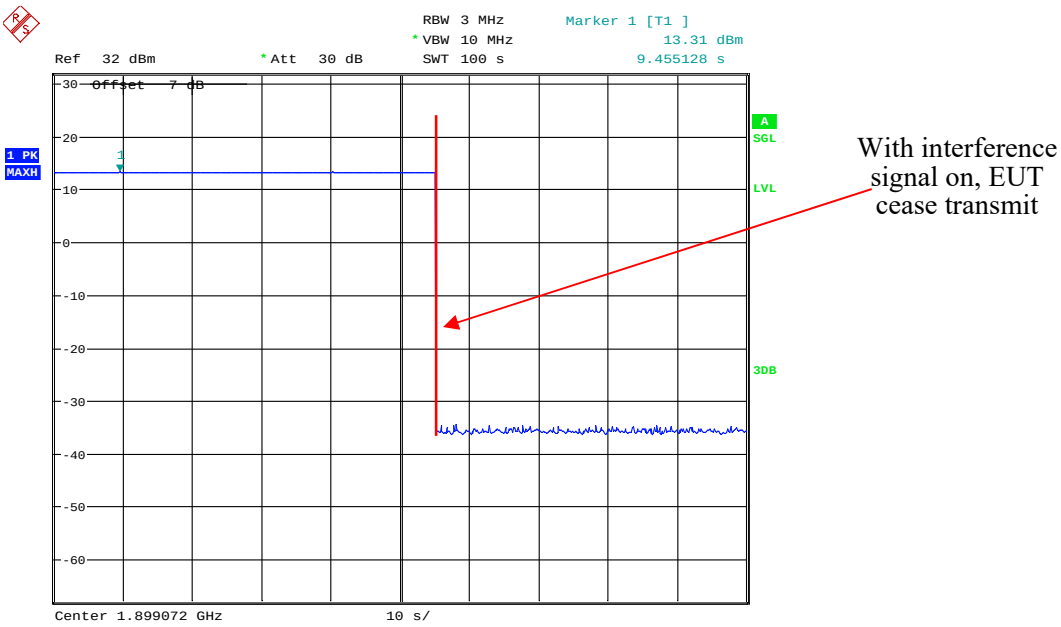
The testing was performed by Pedro Yun on 2022-01-20 and 2022-02-07.

1897.344 MHz



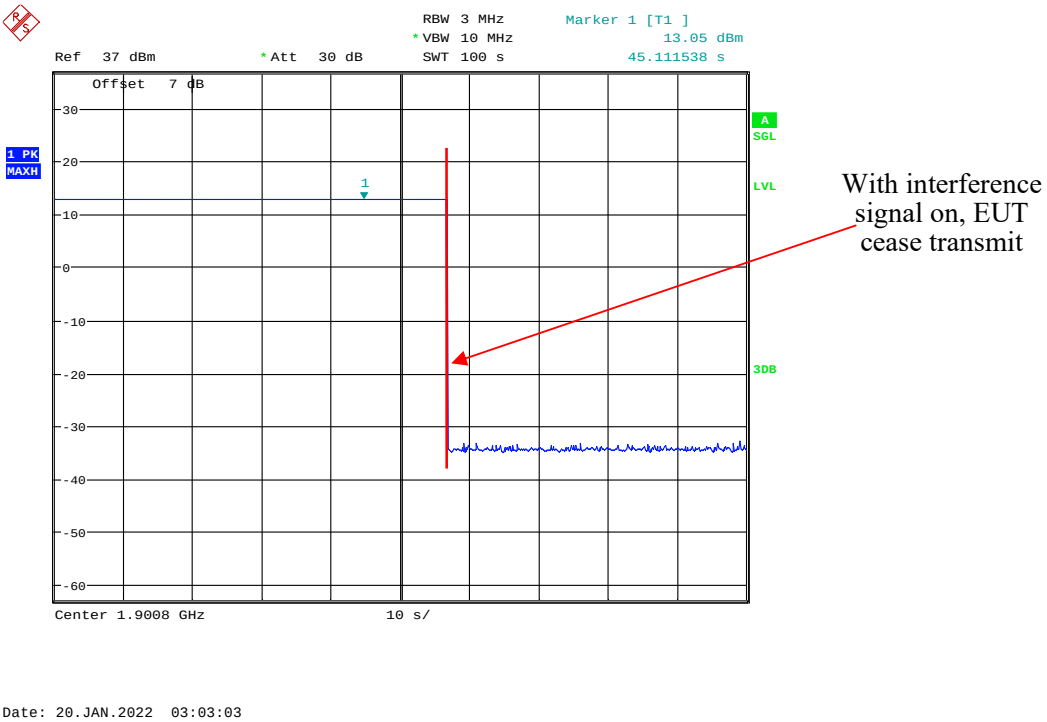
Date: 20.JAN.2022 03:05:44

1899.072 MHz



Date: 7.FEB.2022 18:25:24

1900.8 MHz



Date: 20.JAN.2022 03:03:03

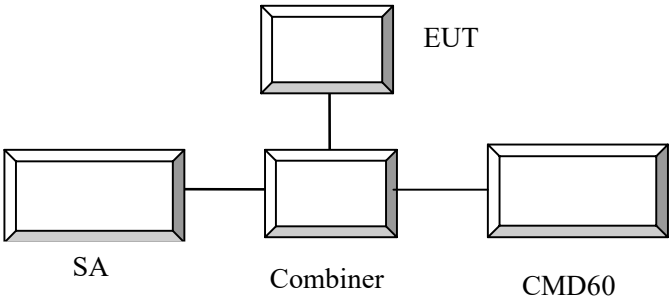
LEAKAGE POWER AT NO-CARRIER TRANSMISSION

Limit

Less or equal than 80 nW

Test Procedure

Measurement System Diagram



Test Data

Environmental Conditions

Temperature:	26.3 ℃
Relative Humidity:	45 %
ATM Pressure:	101.0 kPa

The testing was performed by Pedro Yun from 2022-01-11 to 2022-01-20.

Calculation formula list below:

Leakpower=P+13.8-10*Log (P_{on}/P_{off})

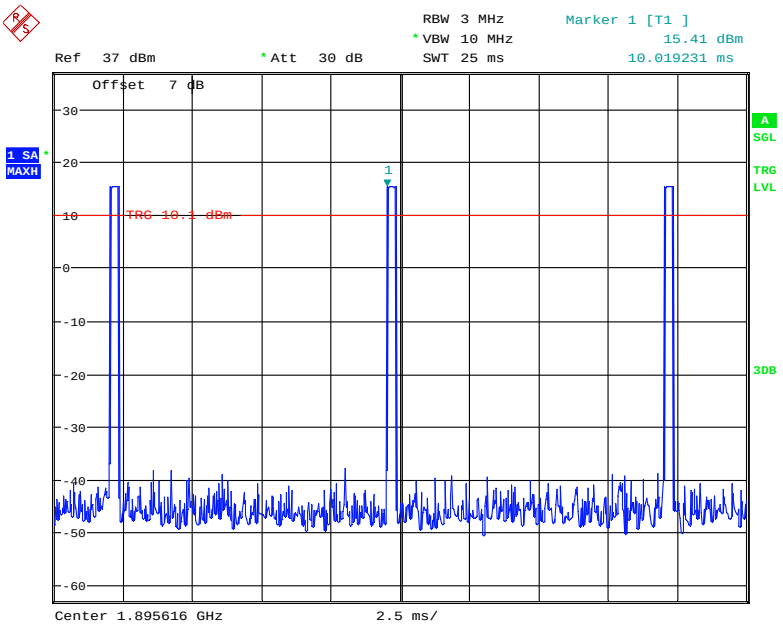
Note: The antenna power "P" please refer to the section "antenna output power and power tolerance".

Normal Voltage

Item	Low channel	Middle channel	High channel	Limit	Result
Antenna power(dBm)	18.3	18.5	18.6	23.8	Pass
Pon(dBm)	15.41	15.49	15.39	/	
Pon(mW)	34.75	35.40	34.59	/	
Poff(dBm)	-63.84	-62.41	-62.60	/	
Poff(mW)	0.00000041	0.00000057	0.00000055	/	
Leak power (nW)	19.28	27.54	27.61	80	

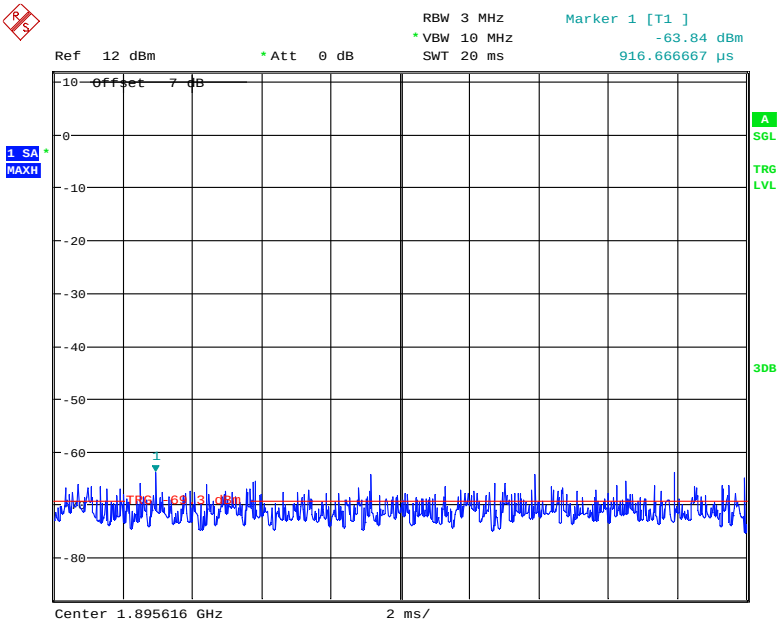
Normal test data:
Low channel:

On



Date: 20.JAN.2022 03:12:21

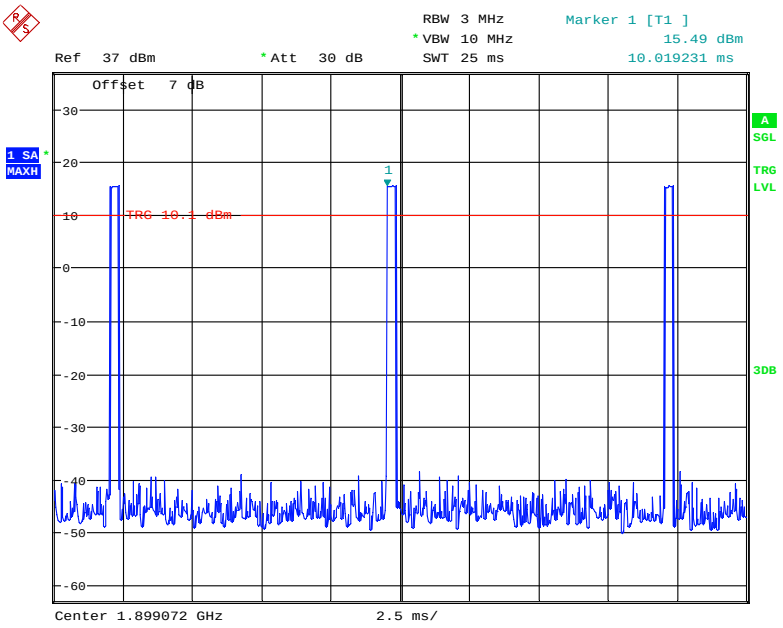
Off



Date: 11.JAN.2022 19:56:46

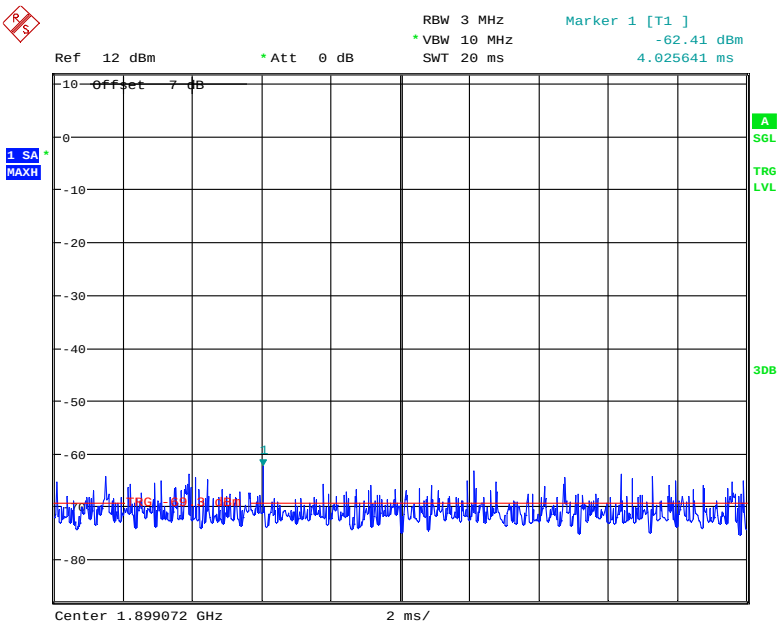
Middle channel:

On



Date: 20.JAN.2022 03:13:10

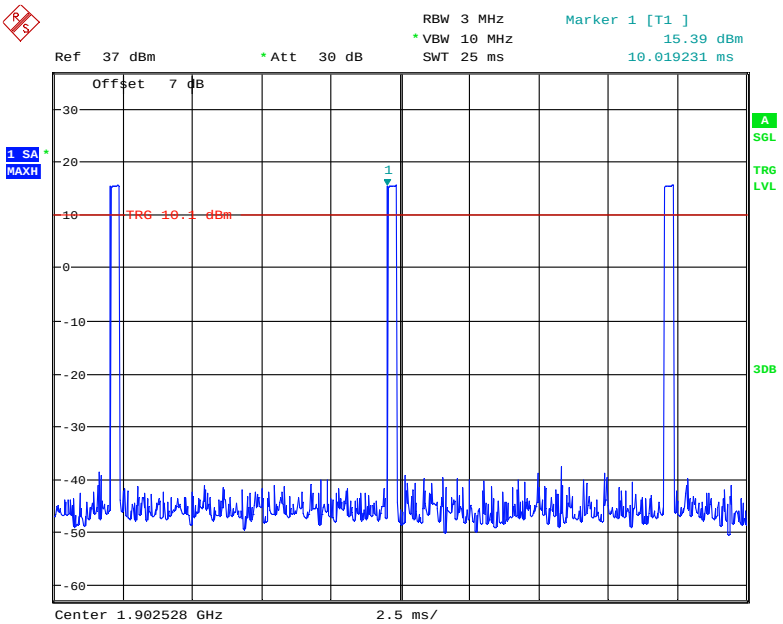
Off



Date: 11.JAN.2022 19:57:23

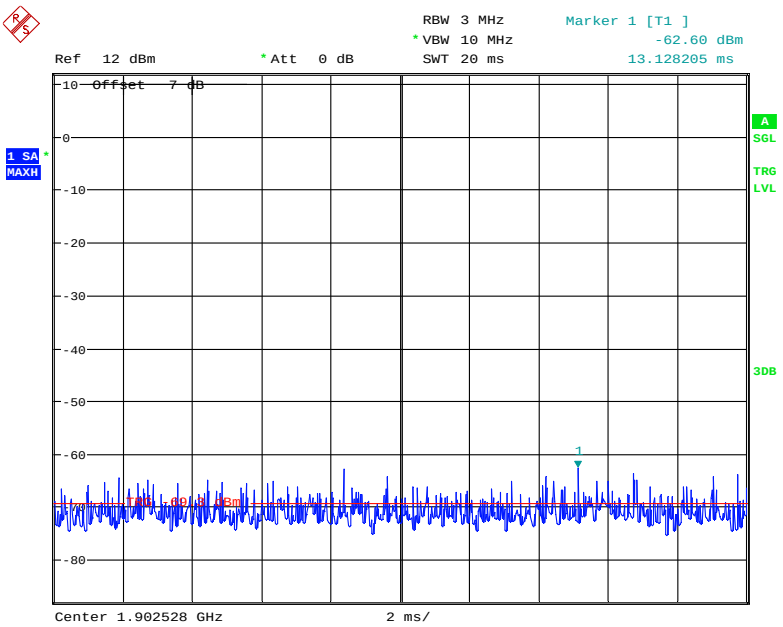
High channel:

On



Date: 20.JAN.2022 03:14:00

Off



Date: 11.JAN.2022 19:56:07

INTERFERENCE PREVENTION FUNCTION

Requirement

The EUT shall have the interference prevention capability to transmit or to receive the identification automatically, so that sender and receiver shall exclude other equipment.

Test Procedure

In the case that the EUT has the function of automatically transmitting the identification code:
1. Transmit the predetermined identification codes from EUT
2. Check the transmitted identification codes with the demodulator.

In the case of receiving the identification codes:
1. Transmit the predetermined identification codes from the counterpart.
2. Check if communication is normal
3. Transmit the signal other than predetermined ID codes from the counterpart.
4. Check if the EUT stops the transmission, or if it displays that identification codes are different from the predetermined ones.

Test Data

Environmental Conditions

Temperature:	26.3 ℃
Relative Humidity:	45 %
ATM Pressure:	101.0 kPa

The testing was performed by Pedro Yun on 2022-01-20.

Test Result: Good.

AUTOMATIC TRANSMISSION STOP FUNCTION

Requirement

The EUT shall have the functions as below:

When emissions are radiated continuously because of a failure in the radio equipment, the radiation shall be automatically stopped before the radiation continues for 60 seconds.

When operation for stopping communications is performed or emissions of speech channels are not received, the radiation of emissions shall be stopped automatically.

Test Procedure

1. Using CMD 60 to monitor the EUT, when emissions are radiated continuously.
2. Using Headset to monitor the EUT, when operation for stopping communications.

Test Data

Environmental Conditions

Temperature:	26.3 ℃
Relative Humidity:	45 %
ATM Pressure:	100.0 kPa

The testing was performed by Pedro Yun on 2022-01-20.

Test Result: This equipment has been implemented for automatic transmission stop functions.

CONSTRUCTION PROTECTION CONFIRMATION

Limit

The high-frequency section and modulation section of the radio equipment except for the antenna system shall not be capable of being opened easily.

Confirmation Method

The EUT has shielding case for the high-frequency section and modulation section. Please refer to the EUT photos.

SPECIFIC ABSORPTION RATE AT HUMAN

Requirement

Specific Absorption Rate at Human (Head-SAR, Body-SAR)	2W / kg (Limbs : 4W / kg) *SAR requirement is not applied to the equipment of the following. •Body ; "Average power : 20mW or less", or "Equipment that the separation distance between the human body and the transmission antenna (except head and both hand) is used in at least 20cm." •Head ; "Average power : 20mW or less", or "Equipment that is not used in close proximity to the human head"

Test Data

The tune-up Peak antenna power is 18.8dBm (76mW), the antenna gain is 1.0dBi.

So the maximum tune up EIRP is 18.8dBm+1.0dBi=19.8dBm (95.5mW)

For DECT, duty cycle is 1:24

So, the time base average power= tune-up EIRP * duty cycle=3.98mW<20mW

Result: Not Applicable. This equipment is excluded from SAR test.

******END OF REPORT******