Prüfbericht - Nr.: *Test Report No.:*	**50328926 001**	**Auftrags-Nr.:** *Order No:*	180117684	Seite 1 von 122 *Page 1 of 122*
Kunden-Referenz-Nr.: *Client Reference No.:*	N/A	**Auftragsdatum:** *Order date:*	06.12.2019	
Auftraggeber: *Client:*	Ring LLC 1523 26th St, Santa Monica, CA 90404, USA			
Prüfgegenstand: *Test item:*	Solar Steplight			
Bezeichnung / Typ-Nr. : *Identification / Type No. :*	5AT1S7			
Auftrags-Inhalt: *Order content:*	TÜV Rheinland – FCC/IC Service			
Prüfgrundlage: *Test specification:*	CFR47 FCC Part 15: Subpart C Section 15.207 CFR47 FCC Part 15: Subpart C Section 15.209 FCC Part15, Subpart B:2018 CFR47 FCC Part 15: Subpart C Section 15.247 RSS-247 Issue 2 February 2017 RSS-Gen Issue 5 March 2019 ICES-003:2016			
Wareneingangsdatum: *Date of receipt:*	06.12.2019	*N. A*		
Prüfmuster-Nr.: *Test sample No.:*	A001053318 001-002			
Prüfzeitraum: *Testing period:*	13.12.2019-19.12.2019			
Ort der Prüfung: *Place of testing:*	Refer to section 1.1.			
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland / CCIC (Ningbo) Co., Ltd.			
Prüfergebnis*: *Test result*:*	Pass			

geprüft von / *tested by:*			**kontrolliert von** / *reviewed by:*		
08.01.2020	Caidong Xie/PE	Caidong Xie	08.01.2020	Feng Liang/TC	Feng Liang
Datum *Date*	**Name/Stellung** *Name/Position*	**Unterschrift** *Signature*	**Datum** *Date*	**Name/Stellung** *Name/Position*	**Unterschrift** *Signature*

Sonstiges/ *Other:* Refer to the test report 50329128 001 for the conformance of the BLE radiated Emission above 1GHz requirement according to the standards FCC part 15.209 & RSS-Gen. Refer to the test report 50331839 001 for the conformance of Radio Frequency Exposure requirement. Refer to page 5 to 7 for more information.

Zustand des Prüfgegenstandes bei Anlieferung: *Condition of the test item at delivery :*	Prüfmuster vollständing und unbeschädigt *Test item complete and undamaged*

*Legende:	1= Sehr gut	2 = gut	3= befriedigend	4= ausreichend	5 = mangelhaft
	P(ass) =entspricht o.g. Prüfgrundlage(n)		F(ail)= entspricht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T =nicht getestet
Legend:	*1= very good*	*2 = good*	*3= satisfactory*	*4= sufficient*	*5 = poor*
	P(ass) = passed a.m. test specification(s)		*F(ail)= failed a.m. test specification(s)*	*N/A = not applicable*	*N/T = not tested*

Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.
This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.

TEST SUMMARY

4.1.1 ANTENNA REQUIREMENT
Result:
Pass

4.1.2 6DB AND 20DB BANDWIDTH MEASUREMENT
Result:
Pass

4.1.3 99% EMISSION BANDWIDTH MEASUREMENT
Result:
Pass

4.1.4 MAXIMUM PEAK CONDUCTED OUTPUT POWER
Result:
Pass

4.1.5 EQUIVALENT ISOTROPICALLY RADIATED POWER
Result:
Pass

4.1.6 POWER SPECTRAL DENSITY
Result:
Pass

4.1.7 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 KHZ BANDWIDTH
Result:
Pass

4.1.8 CARRIER SEPARATION MEASUREMENT
Result:
Pass

4.1.9 THE NUMBER OF HOPPING CHANNELS
Result:
Pass

4.1.10 DWELL TIME
Result:
Pass

4.1.11 CONDUCTED EMISSION
Result:
Pass

4.1.12 RADIATED EMISSION
Result:
Pass

Contents

1 TEST SITES 4

1.1 TEST FACILITIES 4
1.2 LIST OF TEST AND MEASUREMENT INSTRUMENTS 4
1.3 MEASUREMENT UNCERTAINTY 4

2 GENERAL PRODUCT INFORMATION 5

2.1 PRODUCT FUNCTION AND INTENDED USE 5
2.2 RATINGS AND SYSTEM DETAILS 5
2.3 INDEPENDENT OPERATION MODES 7
2.4 NOISE GENERATING AND NOISE SUPPRESSING PARTS 7
2.5 SUBMITTED DOCUMENTS 7

3 TEST SET-UP AND OPERATION MODES 8

3.1 PRINCIPLE OF CONFIGURATION SELECTION 8
3.2 TEST OPERATION AND TEST SOFTWARE 8
3.3 SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT 8
3.4 COUNTERMEASURES TO ACHIEVE EMC COMPLIANCE 8
3.5 TEST SET-UP 9

4 TEST RESULTS 10

4.1 TRANSMITTER REQUIREMENT & TEST SUITES 10
4.1.1 Antenna Requirement 10
4.1.2 6dB and 20dB Bandwidth Measurement 11
4.1.3 99% Emission Bandwidth Measurement 20
4.1.4 Maximum Peak Conducted Output Power 29
4.1.5 Equivalent Isotropically Radiated Power 38
4.1.6 Power Spectral Density 40
4.1.7 Conducted Spurious Emissions Measured in 100 kHz Bandwidth 44
4.1.8 Carrier Separation Measurement 59
4.1.9 The number of hopping channels 63
4.1.10 Dwell Time 68
4.1.11 Conducted Emission 76
4.1.12 Radiated Emission 81

5 PHOTOGRAPHS OF THE TEST SET-UP 114

6 LIST OF TABLES 121

7 LIST OF FIGURES 122

8 LIST OF PHOTOGRAPHS 122

1 Test Sites

1.1 Test Facilities

Laboratory: TÜV Rheinland /CCIC(Ningbo) Co., Ltd.

1st Floor, Building 11, Scholar Innovation Park, No.1188 Zhongguan Road, Zhenhai District, Ningbo 315200 P.R. China.

The used test equipment is in accordance with CISPR 16-1 series standards for measurement of radio interference.

1.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

No.	Equipment	Model	Inventory no.	Last cal. date	Cal. due date
1.	EMI test receiver	ESR7	101929	2019.11.26	2020.11.25
2.	Spectrum analyzer	FSV40	101412	2019.11.26	2020.11.25
3.	Pre-amplifier	SCU-18F	180051	2019.11.26	2020.11.25
4.	Horn antenna	HF907	102653	2017.08.03	2020.08.02
5.	Bilog Antenna	CBL6112D	49033	2018.04.13	2021.04.12
6.	EMI receiver	ESR3	102331	2019.11.26	2020.11.25
7.	LISN	ENV216	102250	2019.11.26	2020.11.25

1.3 Measurement Uncertainty

Test Item	Expanded Measurement Uncertainty (k=2)
Conducted Emission (9-150kHz)	3.70dB
Conducted Emission (150k-30MHz)	3.30dB
Radiated Emission (30-1000MHz)	4.52dB
Radiated Emission (1-18GHz)	4.37dB

2 General Product Information

2.1 Product Function and Intended Use

The EUT(equipment under test) is a Solar Steplight which support Bluetooth, LoRa DTS, LoRa FHSS and FSK HFSS function operated at 2400-2483.5MHz and 902-928MHz respectively. For the further information, refer to the user's manual.

Model list:

Model name	**Function**	**FCC ID/IC**
5AT1S7	Block A: BLE operated at 2.4GHz Block B: LoRa DTS, LoRa FHSS and FSK FHSS operated at 902-928MHz	FCC ID: 2AEUPRBDS001 IC: 20271-RBDS001

2.2 Ratings and System Details

Input Voltage : DC 3.7V
Input current : 1A
Protection Class : Class III

Refer to the user's manual for further information.

Technical Specification of BLE

Technical Specification	BLE
Operating Frequency band	2402 – 2480 MHz
Bluetooth Core Version	Bluetooth Low Energy 4.2
Channel separation	2MHz
Extreme Temperature Range	-20℃ ~ 50℃
Modulation	GFSK
Antenna Type	PCB Layout Antenna
Antenna Gain(dBi)	3.26
Channel	0~39

Technical Specification of LoRa DTS

Technical Specification	LoRa DTS 500KHz 902.5-926.5MHz	LoRa DTS 500KHz 903-914.2MHz	LoRa DTS 500KHz 923.3-926.9MHz
Operating Frequency band	902 – 928 MHz		
Extreme Temperature Range	-20℃ ~ 50℃		
Bandwidth(KHz)	500		
Modulation	LoRa DTS		
Antenna Type	Folded Stamped Metal Inverted-F Antenna		
Antenna Gain(dBi)	0.14		
Channel Separation (KHz)	800	1600	600
Channel Number	31	8	7

Channel (MHz)	902.5, 903.3, 904.1, 904.9, 905.7, 906.5, 907.3, 908.1, 908.9, 909.7, 910.5, 911.3, 912.1, 912.9, 913.7, 914.5, 915.3, 916.1, 916.9, 917.7, 918.5, 919.3, 920.1, 920.9, 921.7, 922.5, 923.3, 924.1, 924.9, 925.7, 926.5	903, 904.6, 906.2, 907.8, 909.4, 911, 912.6, 914.2	923.3, 923.9, 924.5, 925.1, 925.7, 926.3, 926.9

Technical Specification of LoRa FHSS

Technical Specification	LoRa 250KHz FHSS 902.3-926.7MHz	LoRa 125KHz FHSS 902.3-914.9MHz	LoRa 125KHz FHSS 902.2-927.8MHz
Operating Frequency band	902 – 928 MHz		
Extreme Temperature Range	-20°C ~ 50°C		
Modulation	LoRa FHSS		
Antenna Type	Folded Stamped Metal Inverted-F Antenna		
Antenna Gain(dBi)	0.14		
Channel Separation (KHz)	400	200	200
Channel Number	62	64	129
Bandwidth (KHz)	250	125	125
Hopping channel(MHz)	902.3~926.7	902.3~914.9	902.2-927.8

Technical Specification of FSK FHSS

Technical Specification	FSK150Kbps FHSS	FSK 50Kbps FHSS	FSK 5Kbps FHSS	FSK 250Kbps FHSS
Operating Frequency band	902 – 928 MHz			
Extreme Temperature Range	-20°C ~ 50°C			
Modulation	FSK FHSS			
Antenna Type	Folded Stamped Metal Inverted-F Antenna			
Antenna Gain(dBi)	0.14			
Channel Separation (KHz)	400	200	200	500
Channel Number	64	129	129	51
Data Rate (Kbps)	150	50	5	250
Hopping Channel(MHz)	902.4~927.6	902.2~927.8	902.2~927.8	902.5~927.5

2.3 Independent Operation Modes

The basic operation modes are:
Light On, BLE, LoRa DTS, LoRa FHSS, and FSK FHSS.

2.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit diagram for further information.

2.5 Submitted Documents

Circuit diagram, PCB layout, Labels, user's manual, etc.

3 Test Set-up and Operation Modes

3.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power level.
The test modes were adapted accordingly in reference to the instructions for use.

3.2 Test Operation and Test Software

During testing, Channel & Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power was selected according to the instruction given by the manufacturer. The setting of the RF output power expected by the customer shall be fixed on the firmware of the final end product.

All testing were performed according to the procedures in ANSI C63.10: 2013.

Test Software EMC32 V10.30 was used in the radiated emission test.

3.3 Special Accessories and Auxiliary Equipment

Description	Manufacturer	Model No.
notebook	Lenovo	T420

3.4 Countermeasures to achieve EMC Compliance

The tested sample contained noise suppression components as specified in the circuit diagram.
No special measure is employed to achieve the requirement.

3.5 Test set-up

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

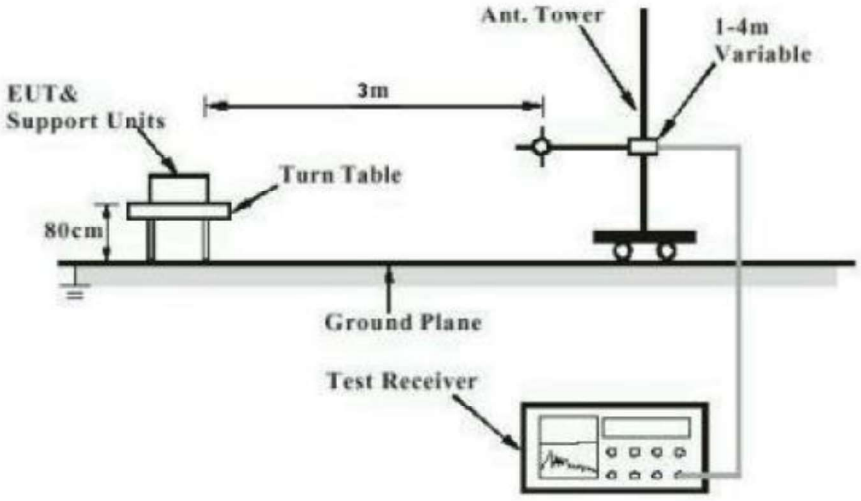


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

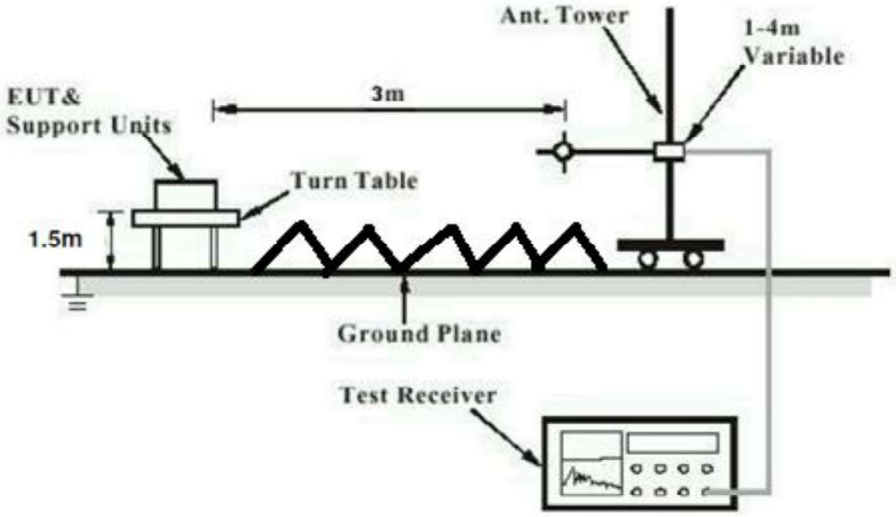
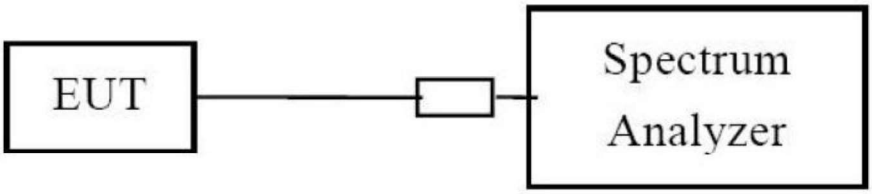


Diagram of Measurement Configuration for Conducted Transmitter Measurement



4 Test Results

4.1 Transmitter Requirement & Test Suites

4.1.1 Antenna Requirement

Result: **Pass**

Test Specification
Test standard : FCC Part 15.247(b)(4) and Part 15.203
Limits : the use of antennas with directional gains that do not exceed 6dBi

According to the manufacturer declared, the EUT has two internal antennas, the maximum directional gain of antennas is 3.26dBi, and the antennas connector are designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision. For more details, refer to EUT photo.

4.1.2 6dB and 20dB Bandwidth Measurement

Result: **Pass**

Test Specification

Test standard	:	FCC Part 15.247(a)(1), (a)(2) RSS-247 Issue 2 February 2017 Clause 5.1, Clause5.2
Basic standard	:	ANSI C63.10: 2013
Limits	:	At least 500kHz for BLE, LoRa 500DTS Not more than 500KHz for LoRa FHSS, FSK FHSS
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	13.12.2019-18.12.2019
Input voltage	:	DC 3.7V
Operational mode	:	Test mode of BLE, LoRa DTS, LoRa FHSS, FSK FHSS
Test channel	:	Lo, Mi, Hi
Temperature	:	20-22°C
Relative humidity	:	54-57%
Atmospheric pressure	:	101 kPa

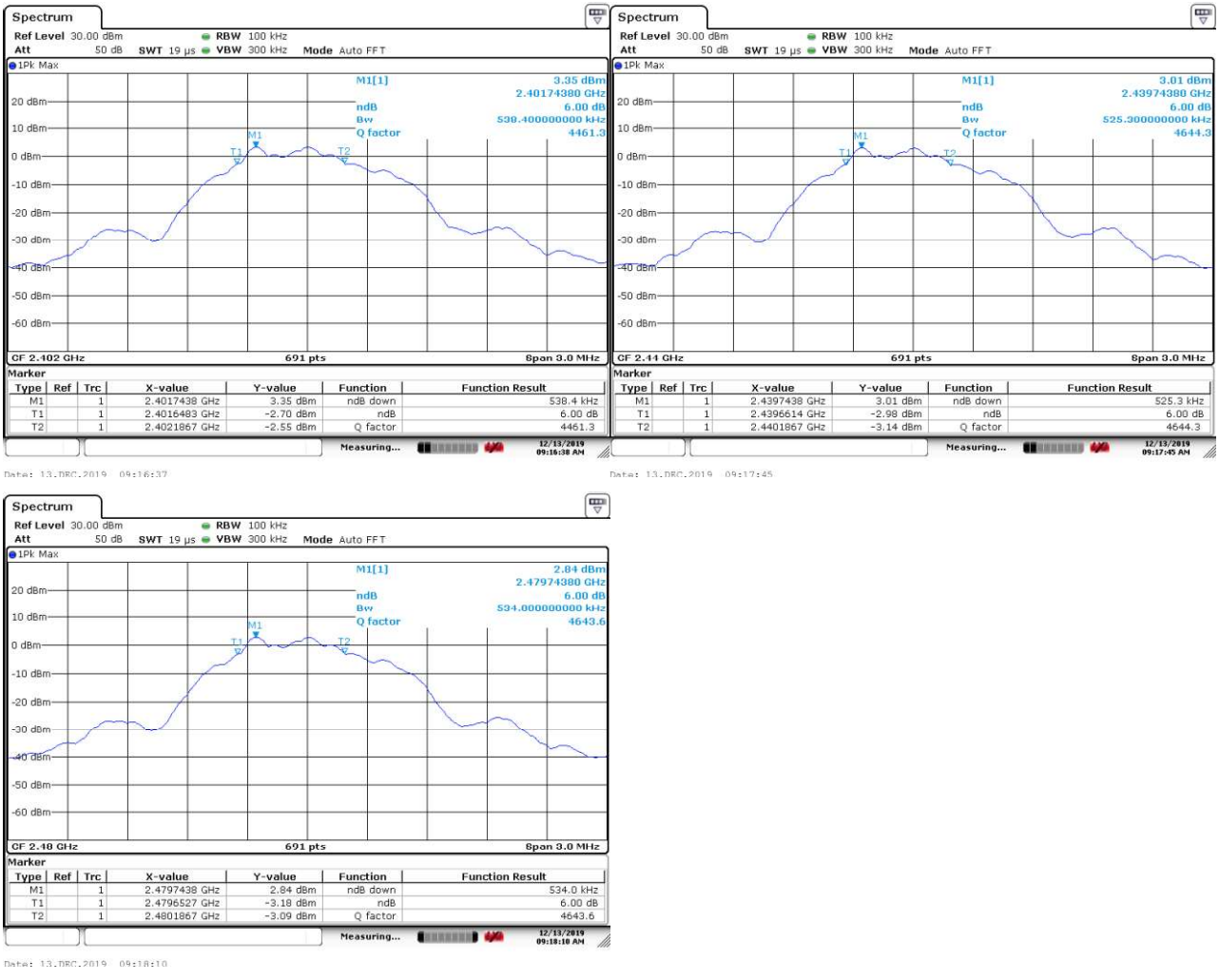
Table 2: Test result of 6dB Bandwidth for BLE and LoRa DTS, 20dB Bandwidth for LoRa FHSS and FSK FHSS

Modulation Type and Operation band	Channel	Channel Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Result
1. BLE 2402MHz~2480MHz 6dB Bandwidth	Low Channel	2402	538.4	500	Pass
	Mid Channel	2440	525.3	500	Pass
	High Channel	2480	534.0	500	Pass
2. LoRa 500KHz DTS 902.5MHz~926.5 6dB Bandwidth	Low Channel	902.5	625.2	500	Pass
	Mid Channel	914.5	625.2	500	Pass
	High Channel	926.5	620.8	500	Pass
3. LoRa 500KHz DTS 903MHz~914.2MHz 6dB Bandwidth	Low Channel	903	620.8	500	Pass
	Mid Channel	907.8	625.2	500	Pass
	High Channel	914.2	620.8	500	Pass
4. LoRa 500KHz DTS 923.3MHz~926.9MHz 6dB Bandwidth	Low Channel	923.3	620.8	500	Pass
	Mid Channel	925.1	625.2	500	Pass
	High Channel	926.9	616.5	500	Pass
5. LoRa 250KHz FHSS 902.3MHz~926.7MHz 20dB Bandwidth	Low Channel	902.3	319.8	500	Pass
	Mid Channel	914.3	312.6	500	Pass
	High Channel	926.7	315.5	500	Pass
6. LoRa 125KHz FHSS 902.3MHz~914.9MHz	Low Channel	902.3	146.89	500	Pass
	Mid Channel	908.5	147.61	500	Pass

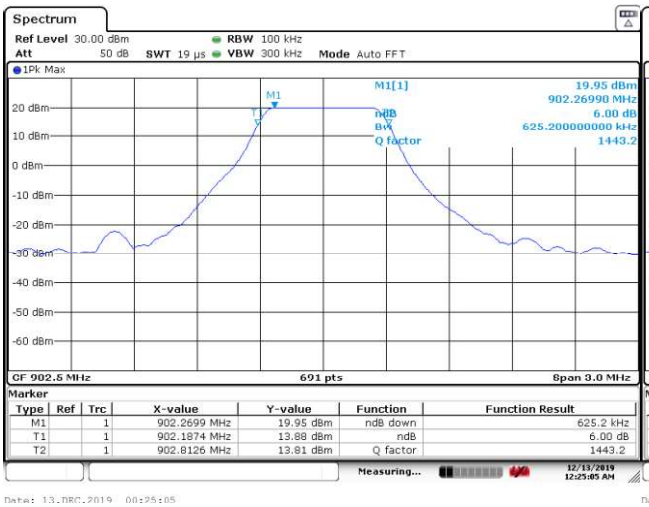
20dB Bandwidth	High Channel	914.9	148.34	500	Pass
7. LoRa 125KHz FHSS 902.2-927.8MHz 20dB Bandwidth	Low Channel	902.2	148.34	500	Pass
	Mid Channel	915	149.06	500	Pass
	High Channel	927.8	149.06	500	Pass
8. FSK 150Kbps FHSS 902.4MHz~927.6MHz 20dB Bandwidth	Low Channel	902.4	178.00	500	Pass
	Mid Channel	914.8	172.94	500	Pass
	High Channel	927.6	171.49	500	Pass
9. FSK 50Kbps FHSS 902.2MHz~927.8MHz 20dB Bandwidth	Low Channel	902.2	109.99	500	Pass
	Mid Channel	915	107.09	500	Pass
	High Channel	927.8	106.37	500	Pass
10. FSK 5Kbps FHSS 902.2MHz~927.8MHz 20dB Bandwidth	Low Channel	902.2	10.42	500	Pass
	Mid Channel	915	10.507	500	Pass
	High Channel	927.8	10.55	500	Pass
11. FSK 250Kbps FHSS 902.5MHz~927.5MHz 20dB Bandwidth	Low Channel	902.5	273.5	500	Pass
	Mid Channel	915	276.4	500	Pass
	High Channel	927.5	283.6	500	Pass

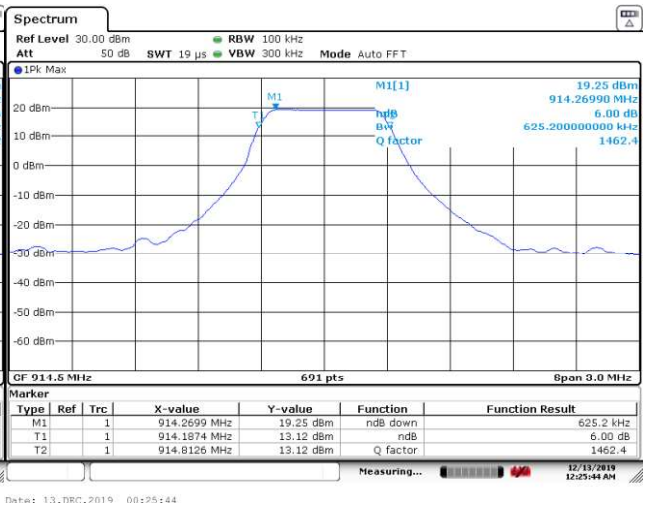
Figure 1: 6dB&20dB Bandwidth Measurement

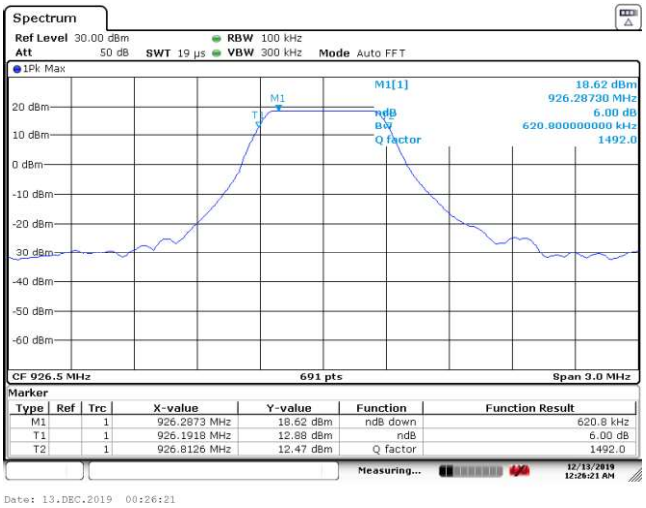
1. BLE, 6dB Bandwidth, 2402MHz~2480MHz



2. LoRa 500KHz DTS, 6dB Bandwidth, 902.5MHz~926.5

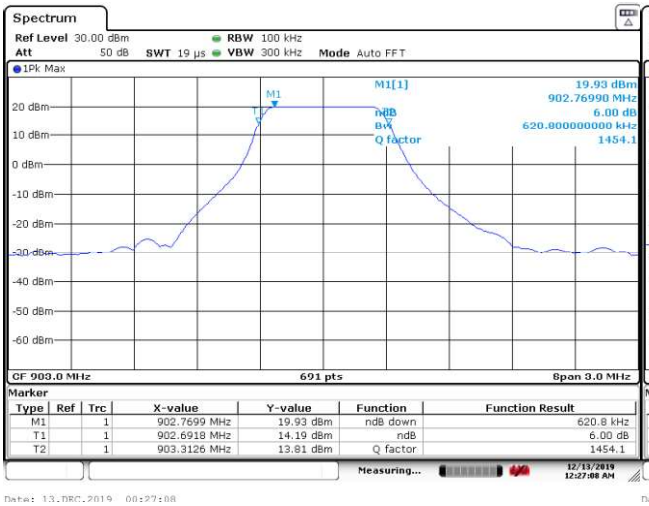


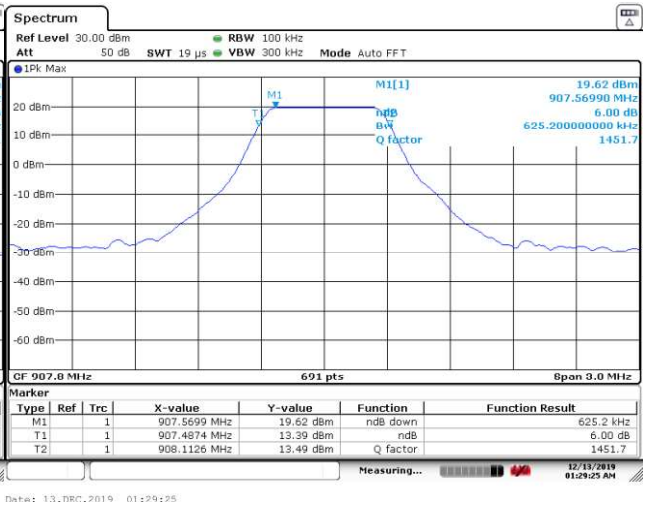




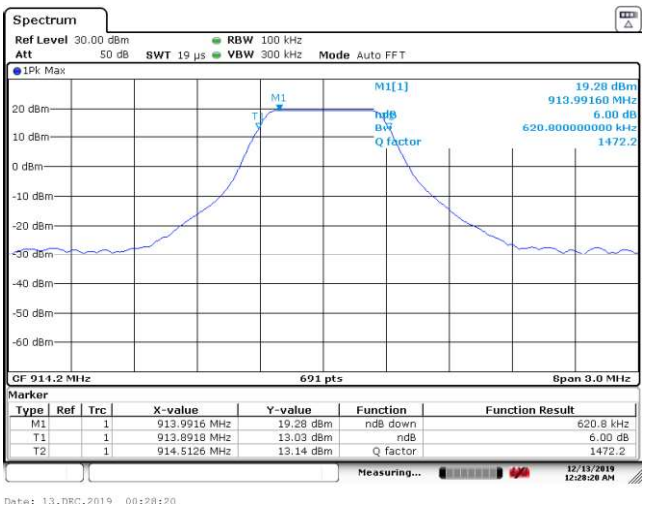
Date: 13.DEC.2019 00:26:21

3. LoRa 500KHz DTS, 6dB Bandwidth, 903MHz~914.2MHz



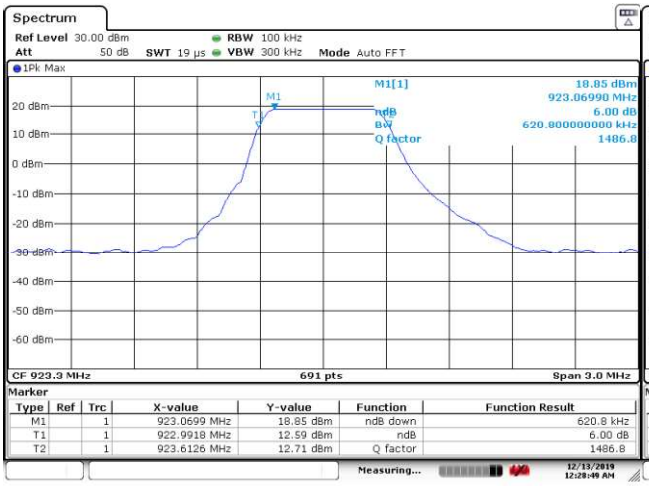


Date: 13.DEC.2019 00:27:08 Date: 13.DEC.2019 01:29:25

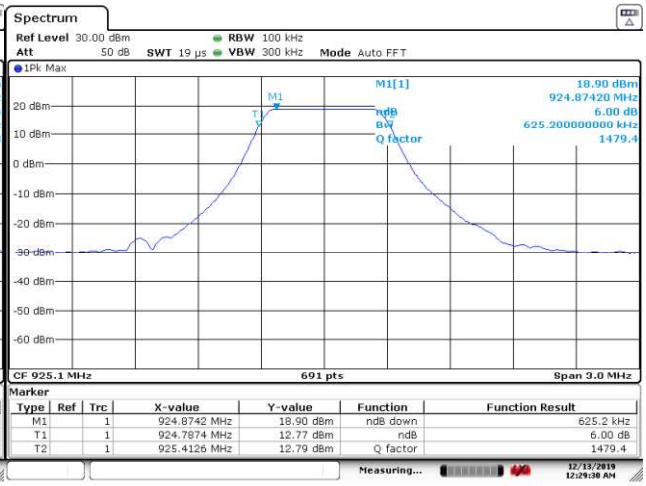


Date: 13.DEC.2019 00:28:20

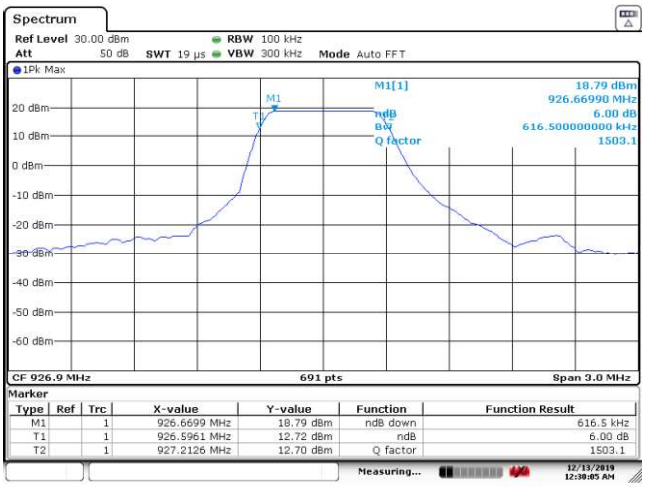
4. LoRa 500KHz DTS, 6dB Bandwidth, 923.3MHz~926.9MHz



Date: 13.DEC.2019 00:28:48

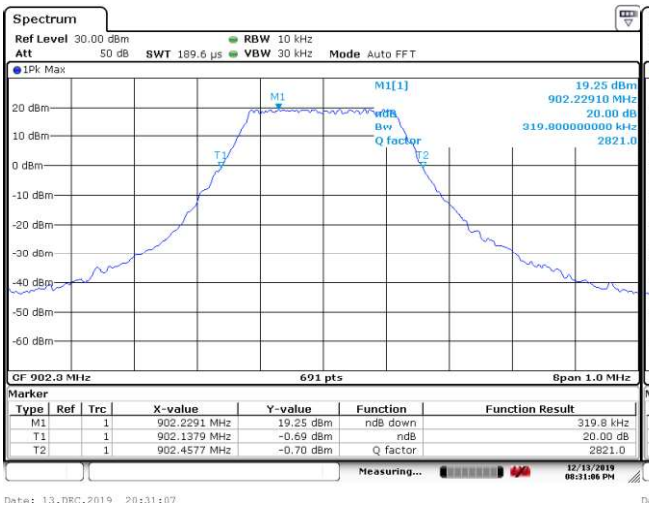


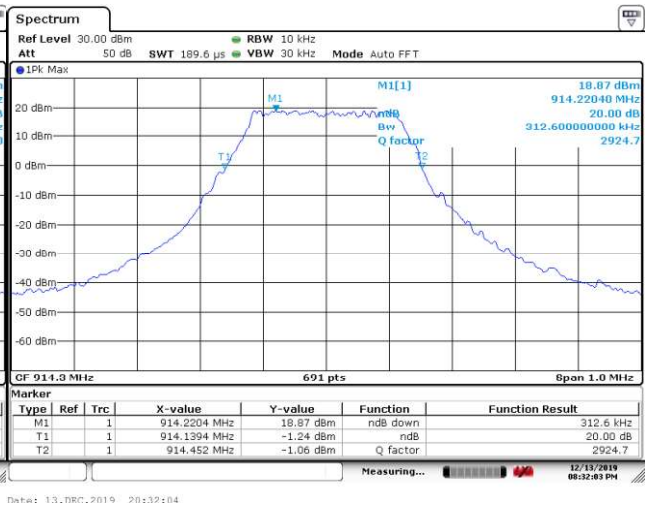
Date: 13.DEC.2019 00:29:30

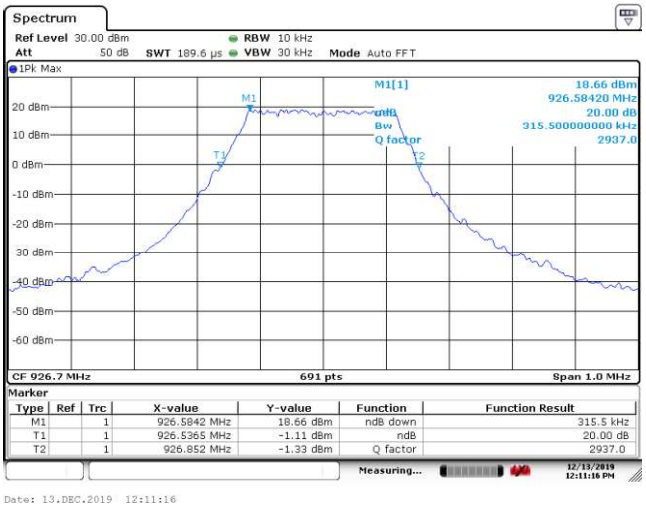


Date: 13.DEC.2019 00:30:04

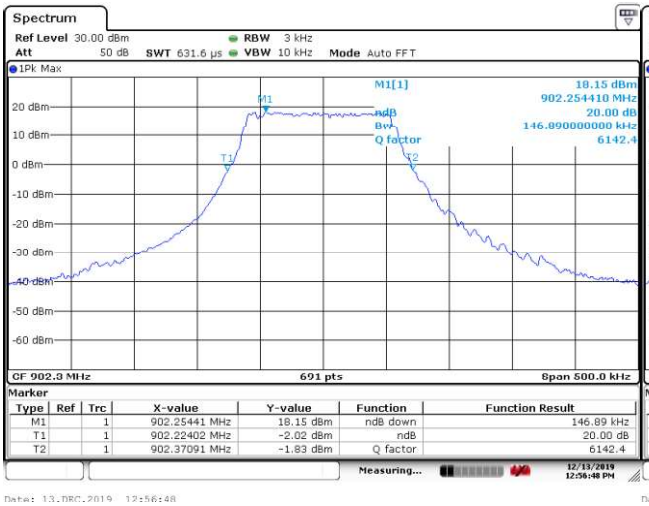
5. LoRa 250KHz FHSS, 20dB Bandwidth, 902.3MHz~926.7MHz

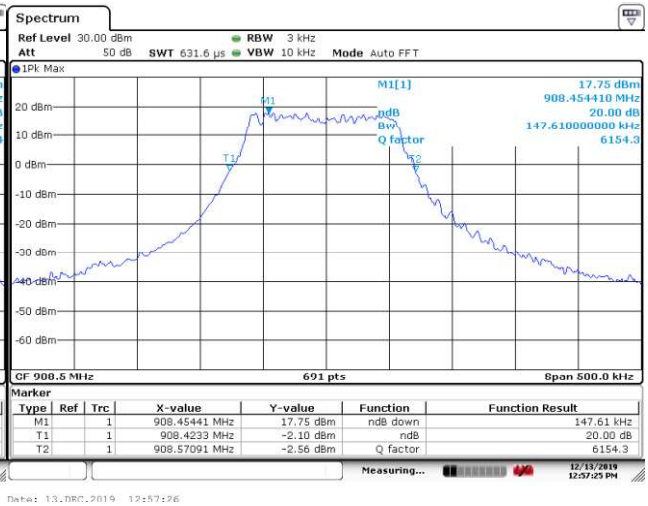


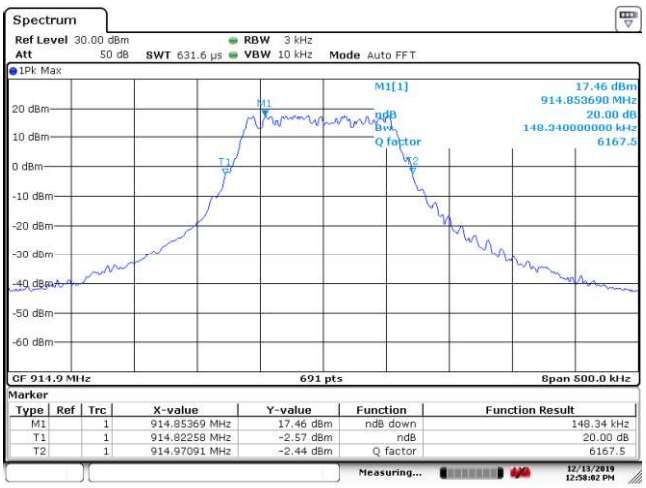




6. LoRa 125KHz FHSS, 20dB Bandwidth, 902.3MHz~914.9MHz

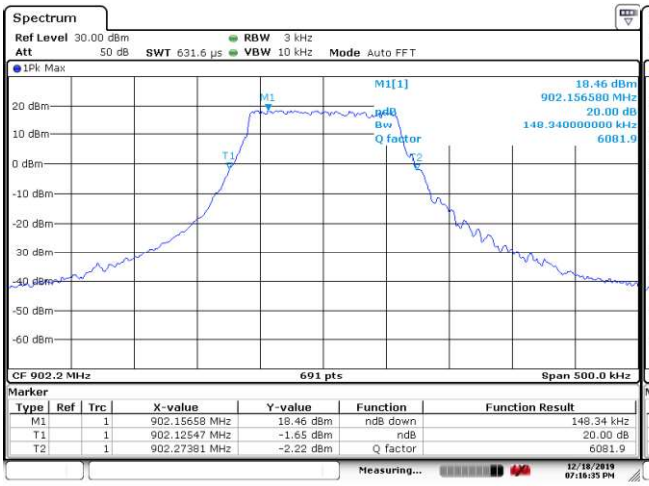




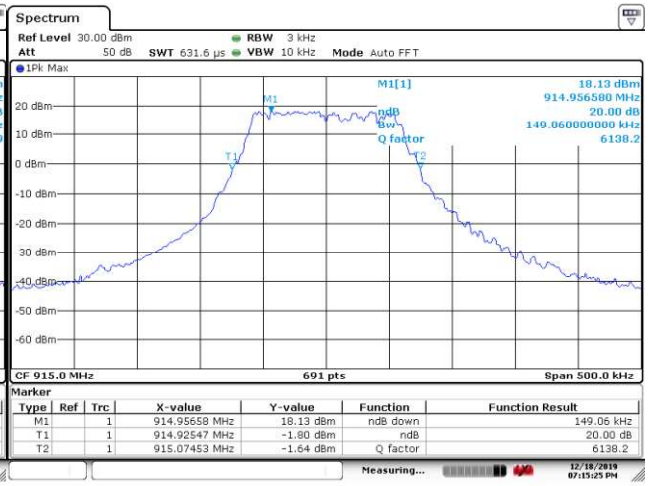


Date: 13.DEC.2019 12:58:02

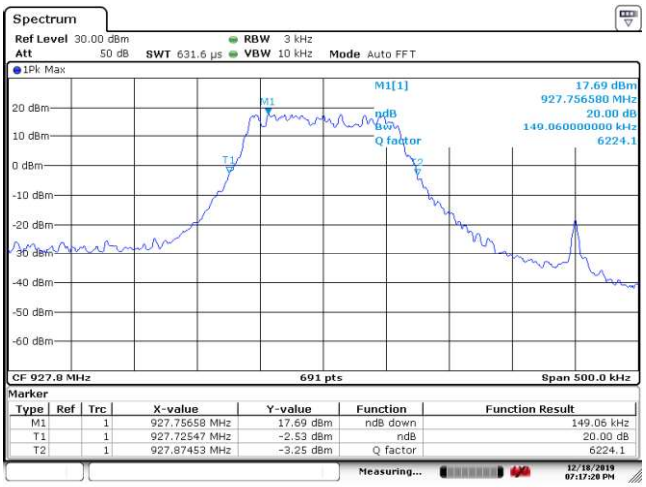
7. LoRa 125KHz FHSS, 20dB Bandwidth, 902.2-927.8MHz



Date: 18.DEC.2019 19:16:36

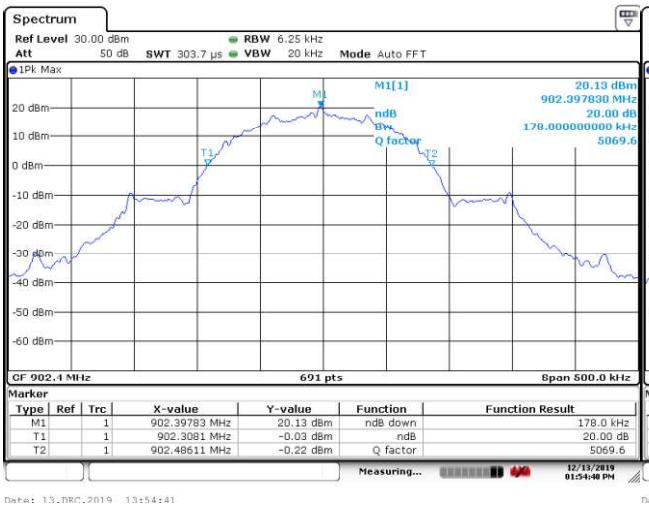


Date: 18.DEC.2019 19:15:26

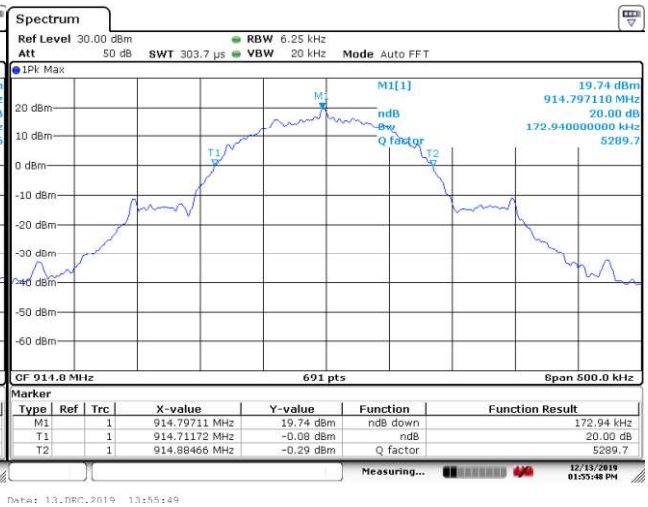


Date: 18.DEC.2019 19:17:20

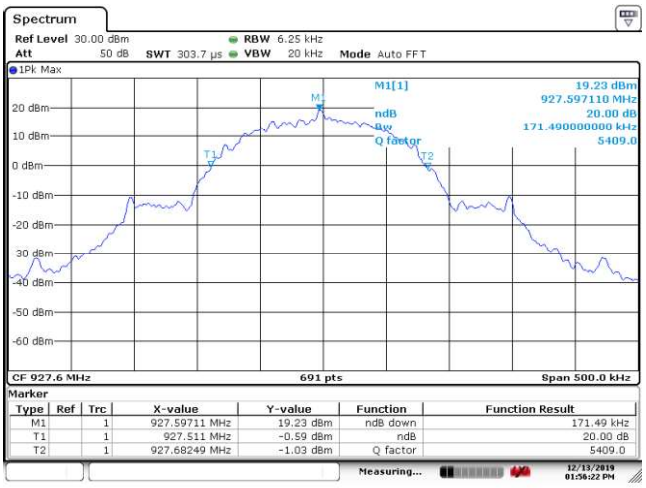
8. FSK 150Kbps FHSS, 20dB Bandwidth, 902.4MHz~927.6MHz



Date: 13.DEC.2019 13:54:41



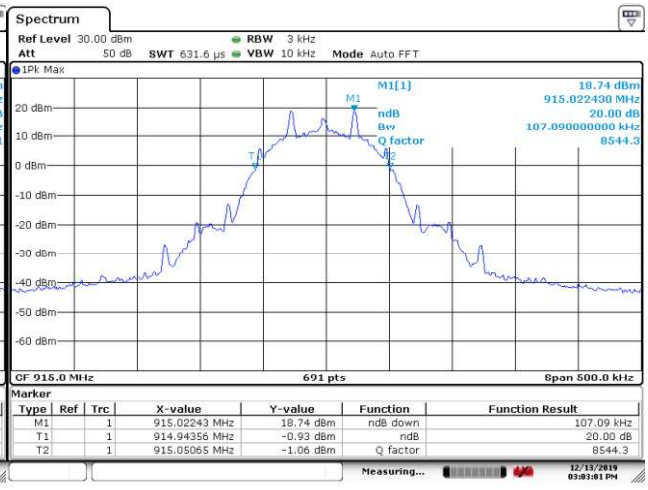
Date: 13.DEC.2019 13:55:49



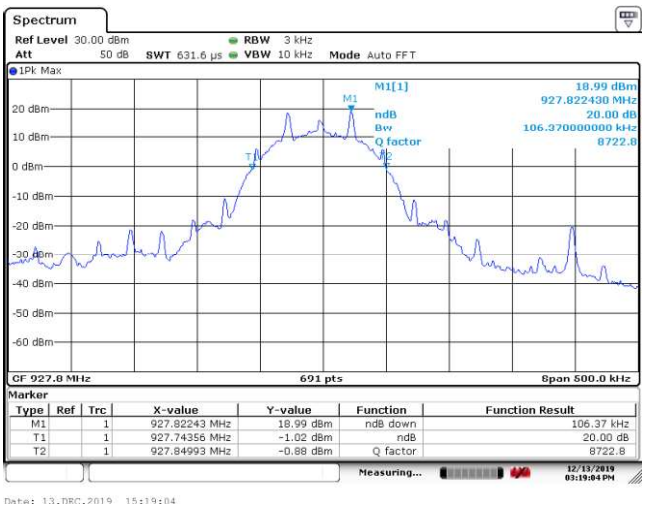
Date: 13.DEC.2019 13:56:22

9. FSK 50Kbps FHSS, 20dB Bandwidth, 902.2MHz~927.8MHz

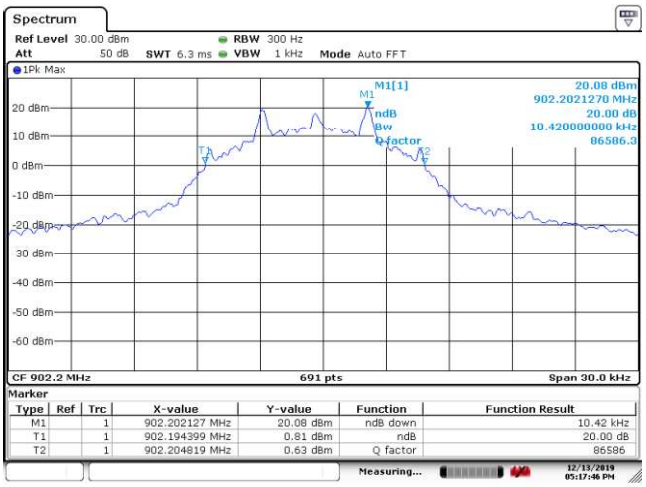
Date: 13.DEC.2019 15:03:43

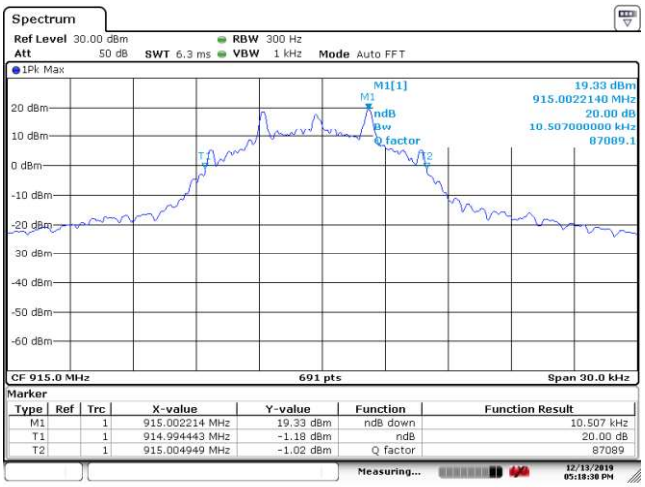


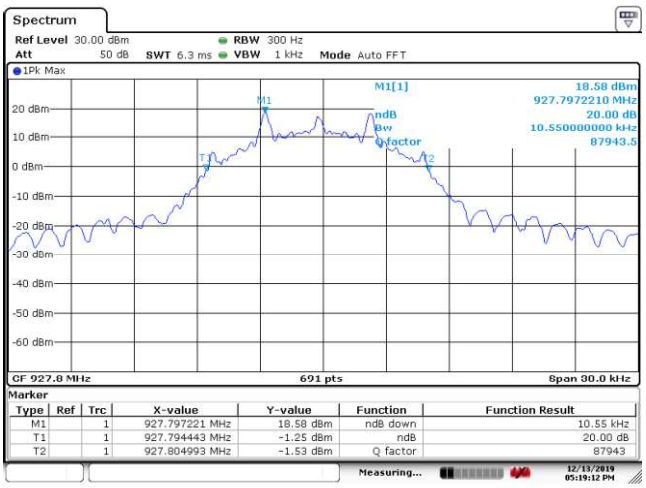
Date: 13.DEC.2019 15:03:01



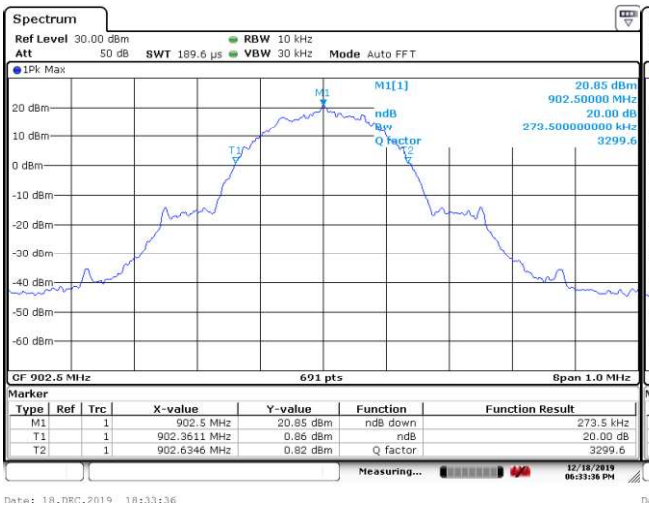
10. FSK 5Kbps FHSS, 20dB Bandwidth, 902.2MHz~927.8MHz



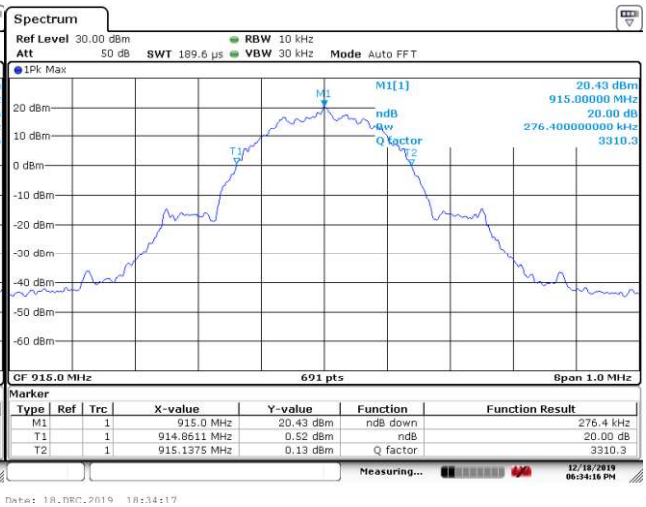




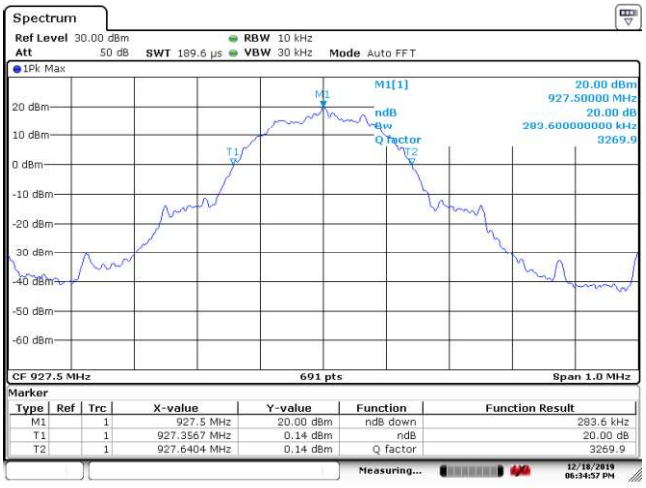
11. FSK 250Kbps FHSS, 20dB Bandwidth, 902.5MHz~927.5MHz



Date: 18.DEC.2019 18:33:36



Date: 18.DEC.2019 18:34:17



Date: 18.DEC.2019 18:34:58

4.1.3 99% Emission Bandwidth Measurement

Result: **Pass**

Test Specification
Test standard : RSS Gen Issue 5 March 2019, clause 6.7
Kind of test site : Shielded Room

Test Setup

Date of testing : 13.12.2019-18.12.2019
Input voltage : DC 3.7V
Operational mode : Test mode of BLE, LoRa DTS, LoRa FHSS, FSK FHSS
Test channel : Lo, Mi, Hi
Temperature : 20-22°C
Relative humidity : 54-57%
Atmospheric pressure : 101 kPa

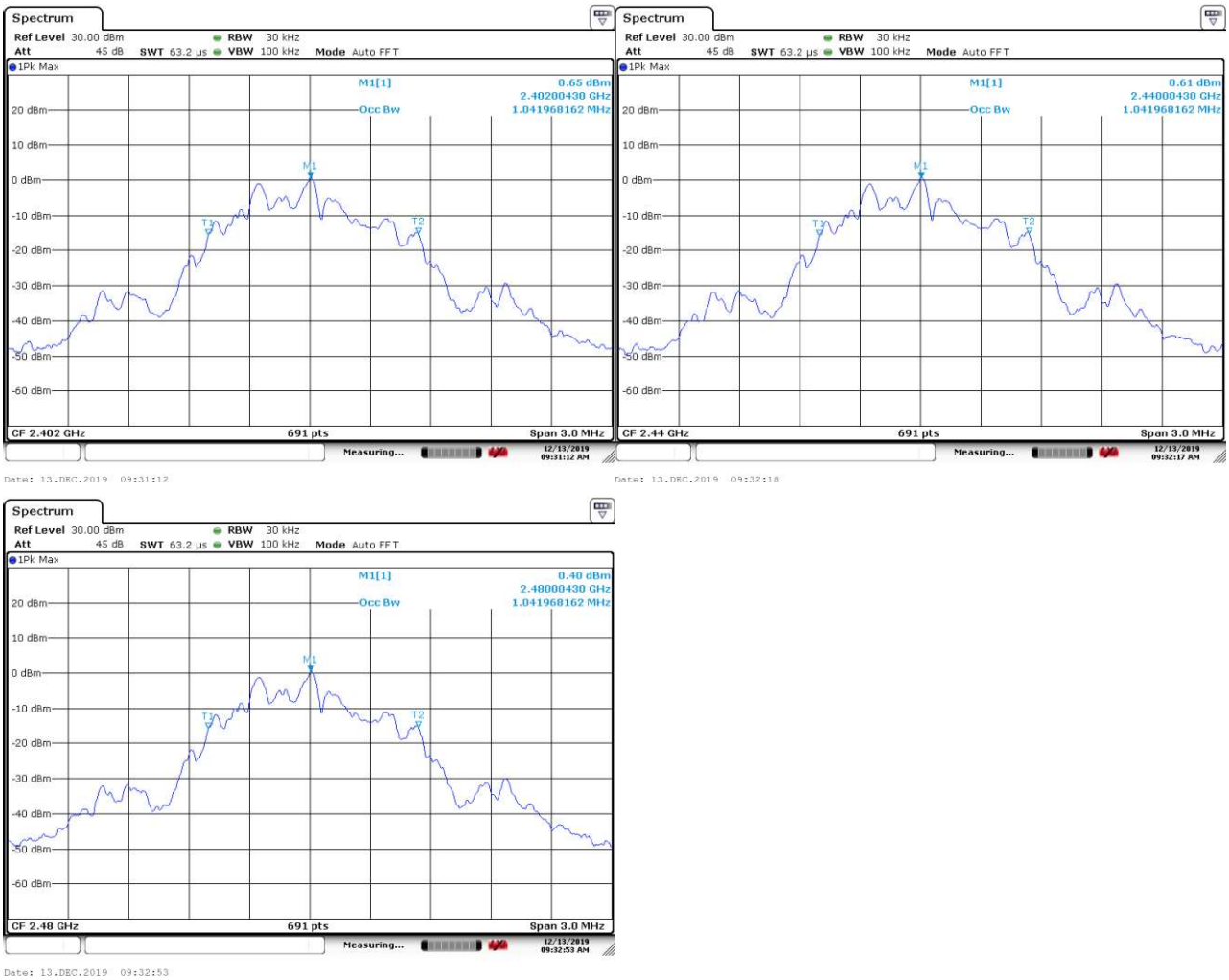
Table 3 Test result of 99% Emission Bandwidth for BLE, LoRa DTS, LoRa FHSS and FSK FHSS

Modulation Type and Operation band	Channel	Channel Frequency (MHz)	Bandwidth (kHz)
1. BLE 2402MHz~2480MHz 99% Emisson Bandwidth	Low Channel	2402	1041.968
	Mid Channel	2440	1041.968
	High Channel	2480	1041.968
2. LoRa 500KHz DTS 902.5MHz~926.5 99% Emisson Bandwidth	Low Channel	902.5	506.512
	Mid Channel	914.5	500.723
	High Channel	926.5	512.300
3. LoRa 500KHz DTS 903MHz~914.2MHz 99% Emisson Bandwidth	Low Channel	903	503.617
	Mid Channel	907.8	506.512
	High Channel	914.2	503.617
4. LoRa 500KHz DTS 923.3MHz~926.9MHz 99% Emisson Bandwidth	Low Channel	923.3	500.723
	Mid Channel	925.1	509.406
	High Channel	926.9	497.829
5. LoRa 250KHz FHSS 902.3MHz~926.7MHz 99% Emisson Bandwidth	Low Channel	902.3	270.622
	Mid Channel	914.3	274.963
	High Channel	926.7	272.069
6. LoRa 125KHz FHSS 902.3MHz~914.9MHz 99% Emisson Bandwidth	Low Channel	902.3	125.180
	Mid Channel	908.5	125.180
	High Channel	914.9	127.351
7. LoRa 125KHz FHSS 902.2MHz~927.8MHz 99% Emisson Bandwidth	Low Channel	902.2	125.180
	Mid Channel	915	125.904
	High Channel	927.8	125.904
8. FSK 150Kbps FHSS 902.4MHz~927.6MHz	Low Channel	902.4	159.913
	Mid Channel	914.8	156.295

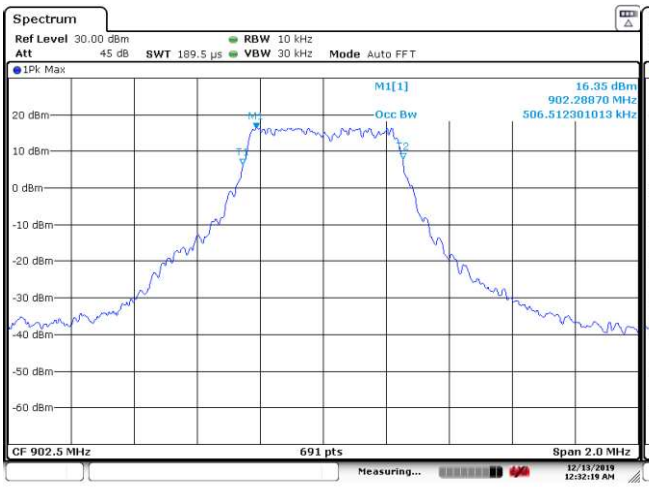
99% Emisson Bandwidth	High Channel	927.6	157.018
9. FSK 50Kbps FHSS 902.2MHz~927.8MHz 99% Emisson Bandwidth	Low Channel	902.2	103.473
	Mid Channel	915	102.026
	High Channel	927.8	103.473
10. FSK 5Kbps FHSS 902.2MHz~927.8MHz 99% Emisson Bandwidth	Low Channel	902.2	10.202
	Mid Channel	915	10.202
	High Channel	927.8	10.115
11. FSK 250Kbps FHSS 902.5MHz~927.5MHz 99% Emisson Bandwidth	Low Channel	902.5	248.914
	Mid Channel	915	250.361
	High Channel	927.5	254.703

Figure 2: 99% Emission Bandwidth Measurement

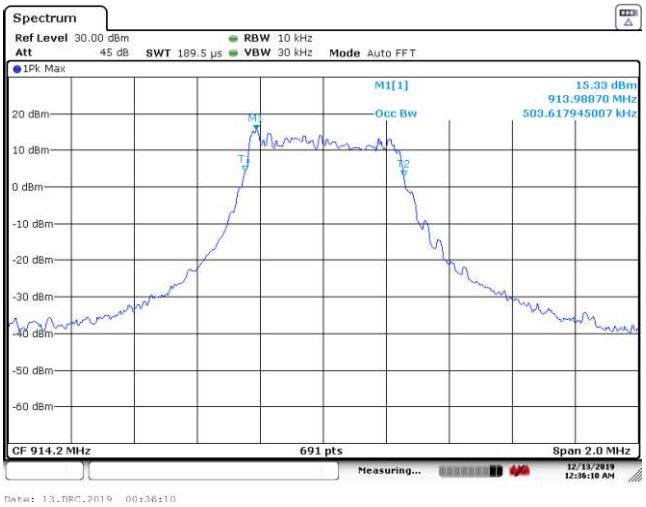
1. BLE, 99% Emission Bandwidth, 2402MHz~2480MHz



2. LoRa 500KHz DTS, 99% Emission Bandwidth, 902.5MHz~926.5MHz



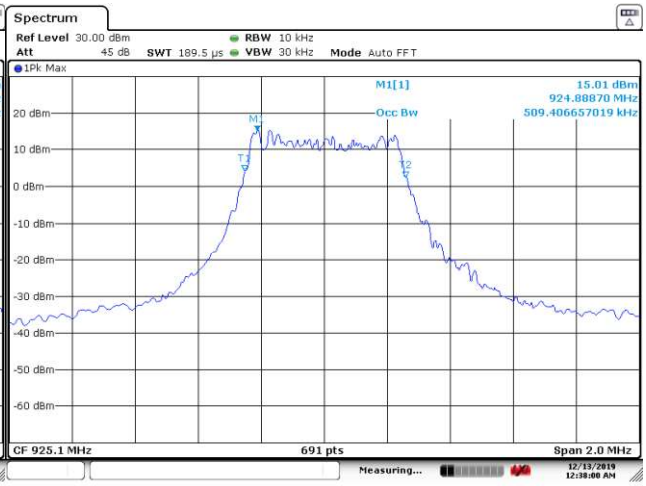
3. LoRa 500KHz DTS, 99% Emission Bandwidth, 903MHz~914.2MHz



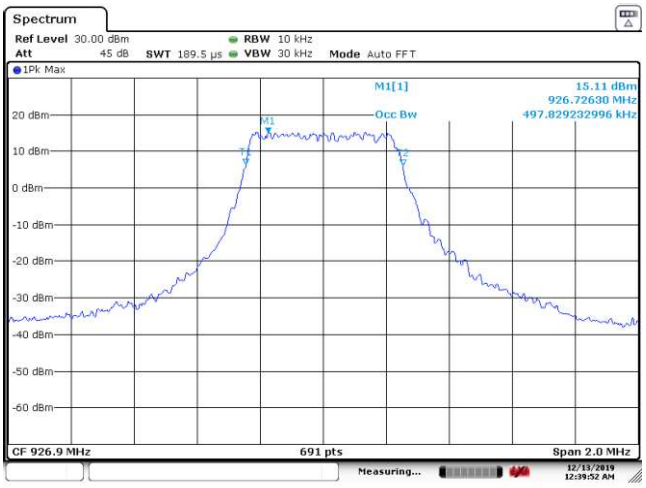
Date: 13.DEC.2019 00:36:10

4. LoRa 500KHz DTS, 99% Emission Bandwidth, 923.3MHz~926.9MHz

Date: 13.DEC.2019 00:37:14

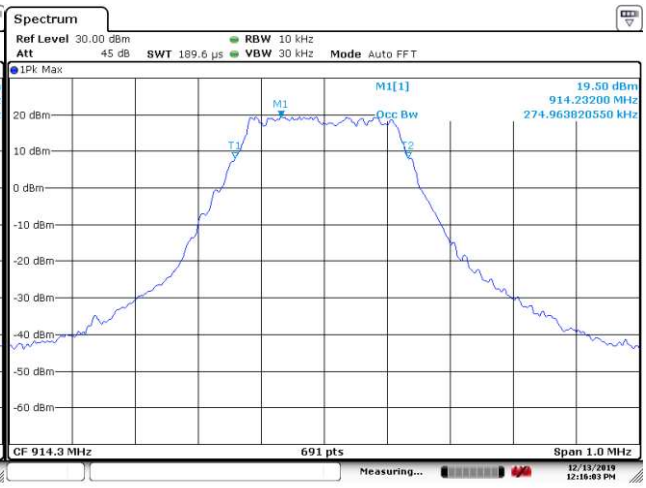


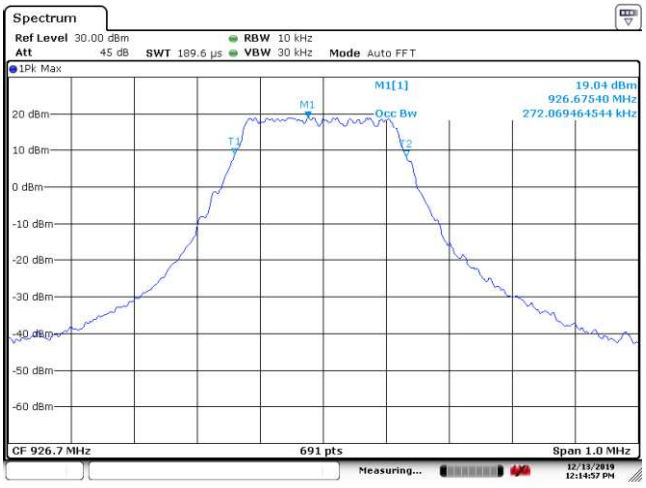
Date: 13.DEC.2019 00:38:00



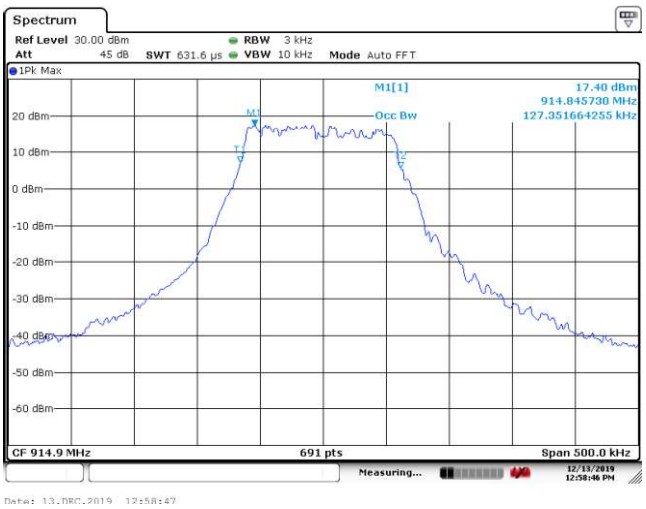
Date: 13.DEC.2019 00:39:51

5. LoRa 250KHz FHSS, 99% Emission Bandwidth, 902.3MHz~926.7MHz

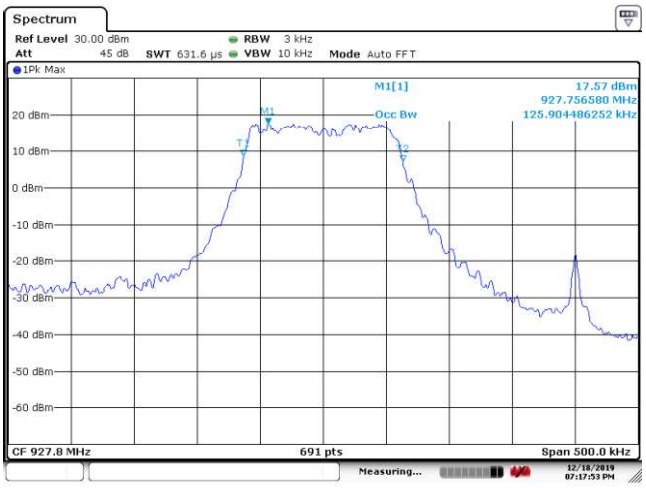




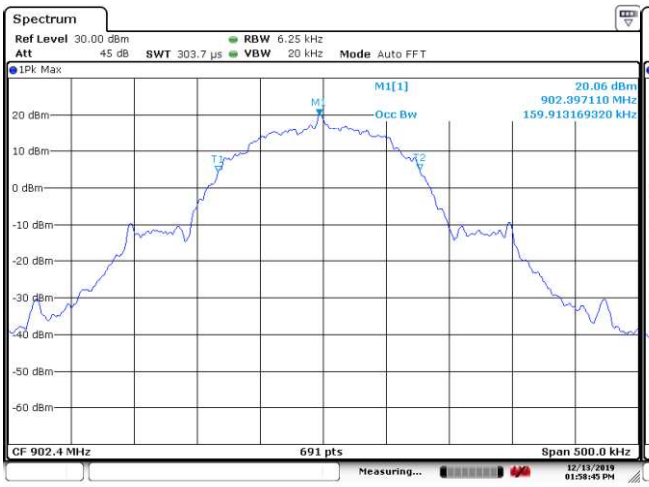
6. LoRa 125KHz FHSS, 99% Emission Bandwidth, 902.3MHz~914.9MHz

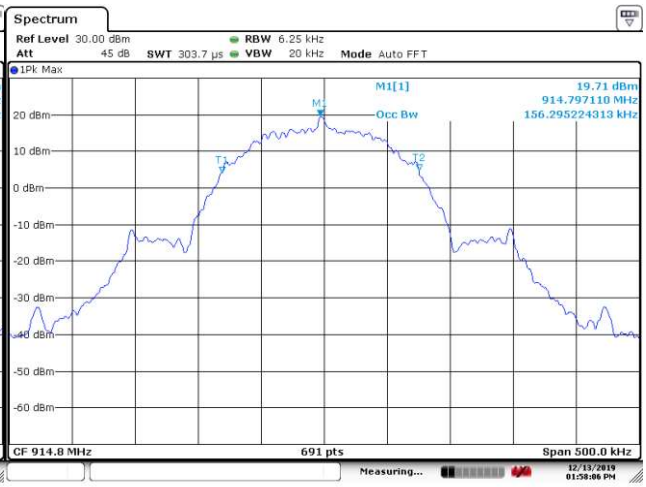


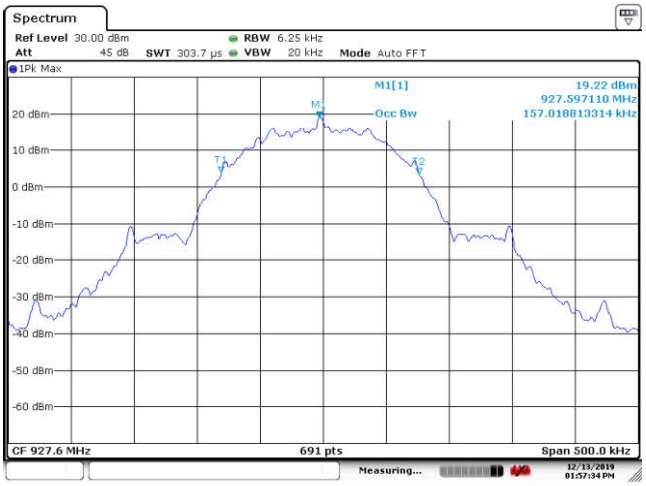
7. LoRa 125KHz FHSS, 99% Emission Bandwidth, 902.2MHz~927.8MHz



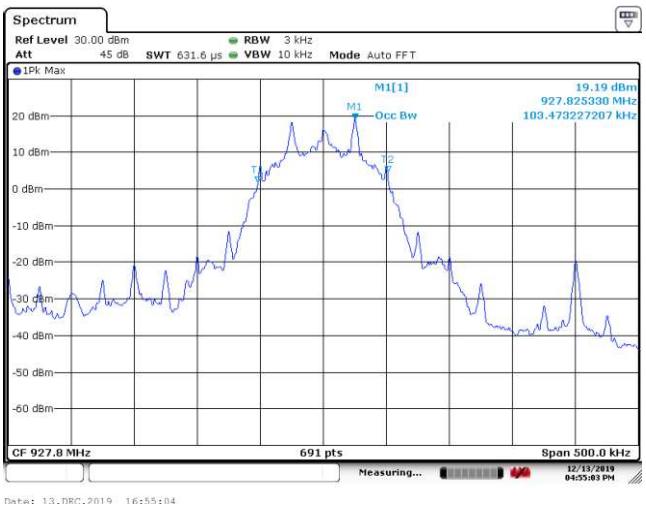
8. FSK 150Kbps FHSS, 99% Emission Bandwidth, 902.4MHz~927.6MHz



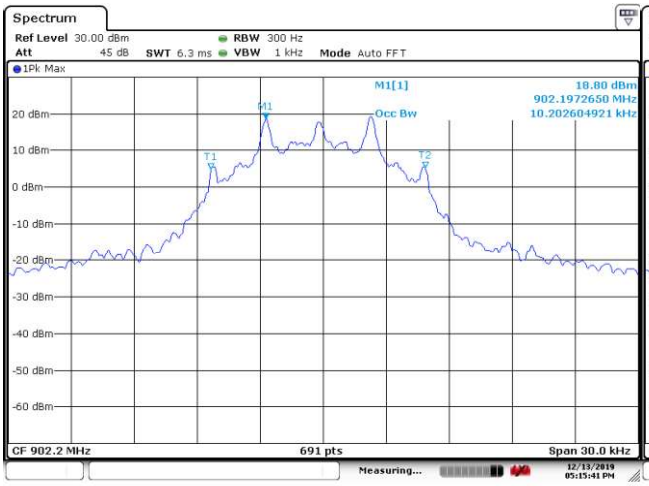


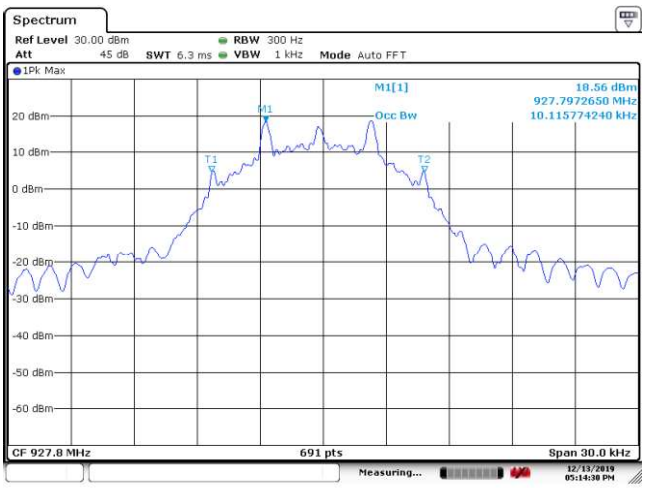


9. FSK 50Kbps FHSS, 99% Emission Bandwidth, 902.2MHz~927.8MHz

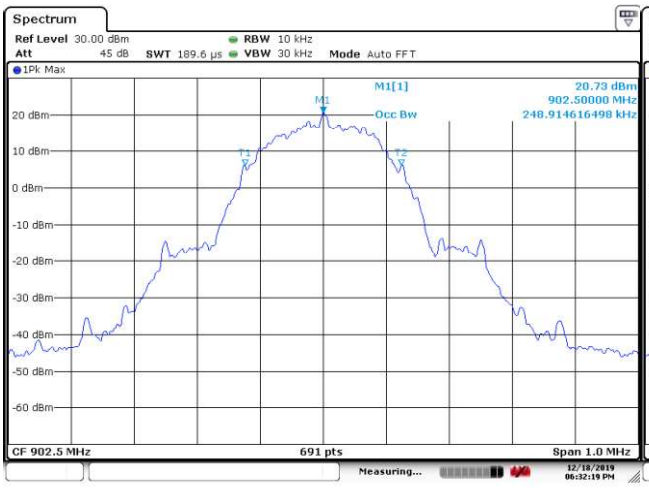


10. FSK 5Kbps FHSS, 99% Emission Bandwidth, 902.2MHz~927.8MHz

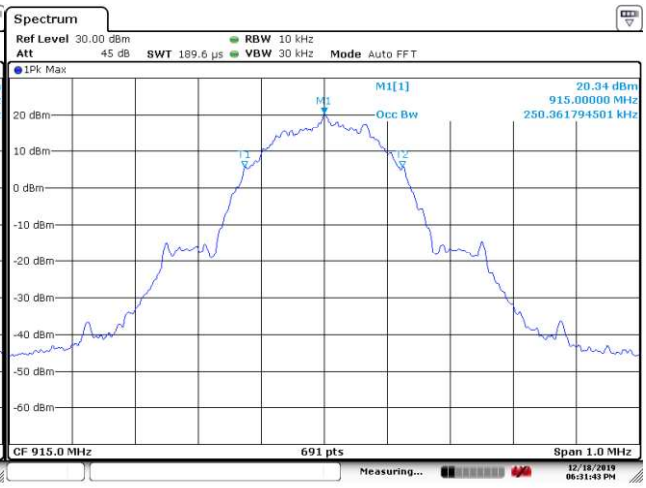




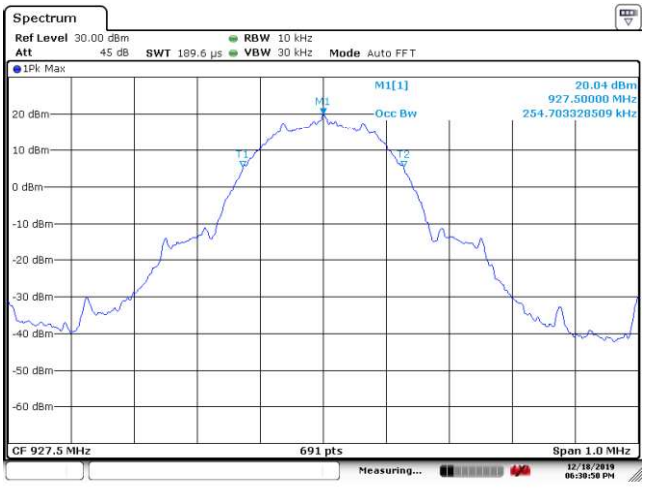
11. FSK 250Kbps FHSS, 99% Emission Bandwidth, 902.5MHz~927.5MHz



Date: 18.DEC.2019 18:32:19



Date: 18.DEC.2019 18:31:43



Date: 18.DEC.2019 18:30:51

4.1.4 Maximum Peak Conducted Output Power

Result: **Pass**

Test Specification		
Test standard	:	FCC Part 15.247(b)(2)&(3) RSS-247 Issue 2 February 2017 Clause 5.4(a)&(d)
Basic standard	:	ANSI C63.10: 2013
Limits	:	Not more than 1 Watt for DTS; Not more than 1Watt for 902~928 FHSS system with more than 50 hopping channels;
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	13.12.2019~18.12.2019
Input voltage	:	DC 3.7V
Operational mode	:	Test mode of BLE, LoRa DTS, LoRa FHSS, FSK FHSS
Test channel	:	Lo, Mi, Hi
Temperature	:	20-22°C
Relative humidity	:	54-57%
Atmospheric pressure	:	101 kPa

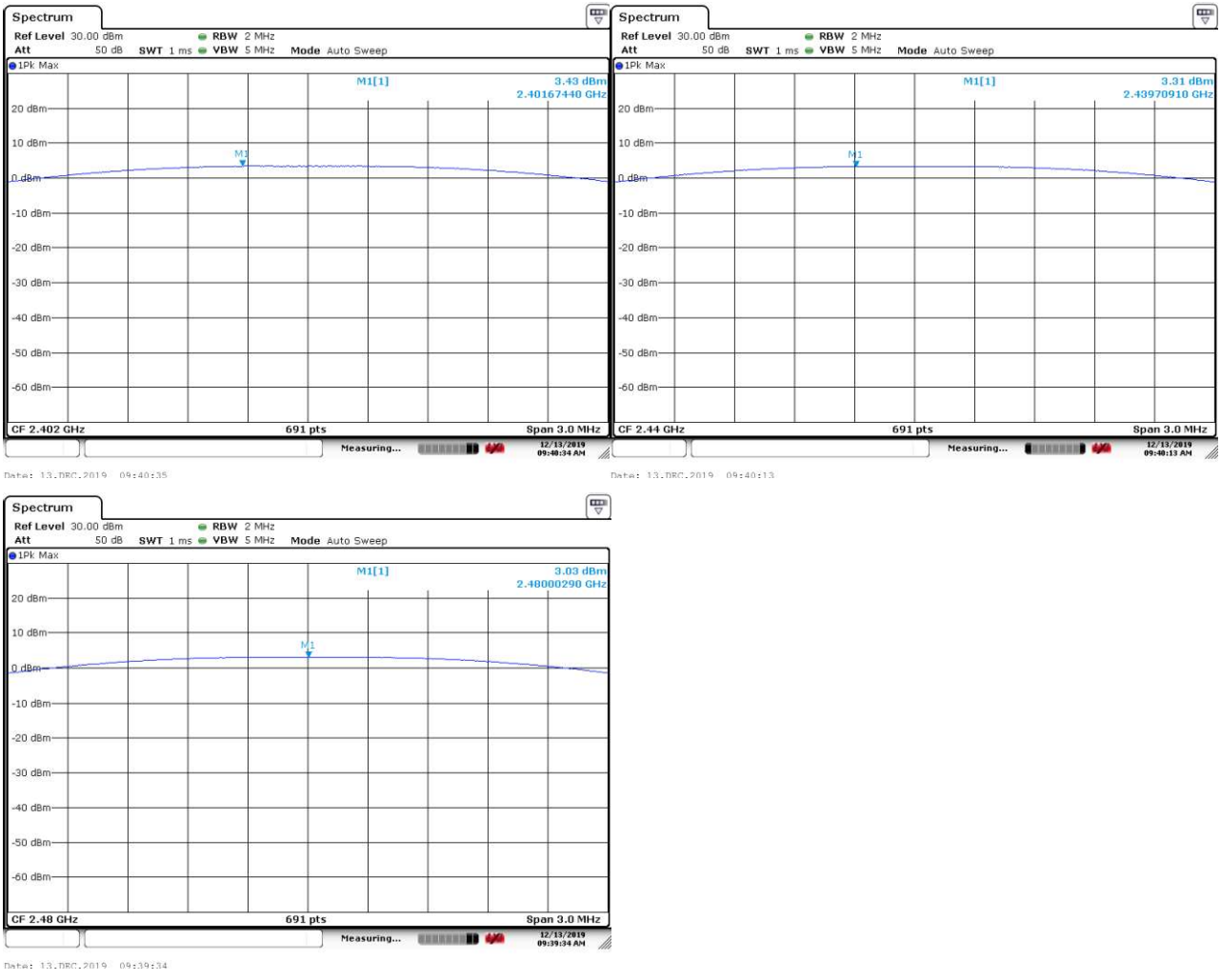
Table 4: Test result of Maximum Peak Output Power for BLE, LoRa DTS, LoRa FHSS and FSK FHSS

Modulation Type and Operation band	Channel	Channel Frequency (MHz)	Peak Output Power (dBm)	Limit (dBm)
1. BLE 2402MHz~2480MHz	Low Channel	2402	3.43	30
	Mid Channel	2440	3.31	30
	High Channel	2480	3.03	30
2. LoRa 500KHz DTS 902.5MHz~926.5	Low Channel	902.5	20.00	30
	Mid Channel	914.5	19.39	30
	High Channel	926.5	18.91	30
3. LoRa 500KHz DTS 903MHz~914.2MHz	Low Channel	903	19.97	30
	Mid Channel	907.8	19.78	30
	High Channel	914.2	19.42	30
4. LoRa 500KHz DTS 923.3MHz~926.9MHz	Low Channel	923.3	18.98	30
	Mid Channel	925.1	18.96	30
	High Channel	926.9	18.84	30
5. LoRa 250KHz FHSS 902.3MHz~926.7MHz	Low Channel	902.3	20.75	30
	Mid Channel	914.3	20.30	30
	High Channel	926.7	20.04	30
6. LoRa 125KHz FHSS 902.3MHz~914.9MHz	Low Channel	902.3	20.59	30
	Mid Channel	908.5	20.43	30

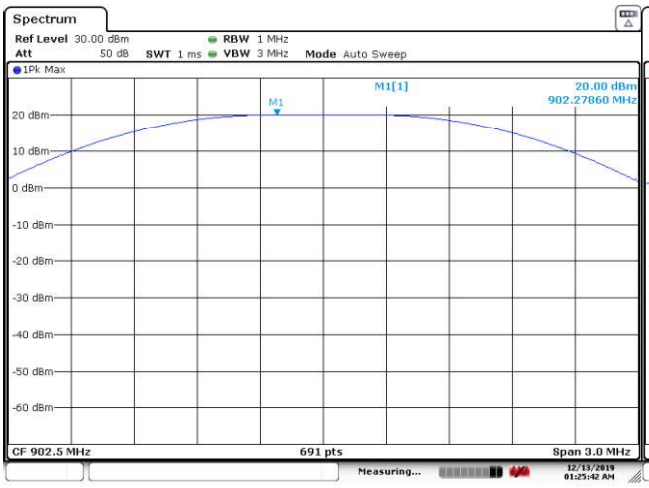
	High Channel	914.9	20.12	30
7. LoRa 125KHz FHSS 902.2MHz~927.8MHz	Low Channel	902.2	20.12	30
	Mid Channel	915	20.74	30
	High Channel	927.8	20.23	30
8. FSK 150Kbps FHSS 902.4MHz~927.6MHz	Low Channel	902.4	20.61	30
	Mid Channel	914.8	20.18	30
	High Channel	927.6	19.65	30
9. FSK 50Kbps FHSS 902.2MHz~927.8MHz	Low Channel	902.2	20.63	30
	Mid Channel	915	20.20	30
	High Channel	927.8	19.63	30
10. FSK 5Kbps FHSS 902.2MHz~927.8MHz	Low Channel	902.2	21.14	30
	Mid Channel	915	20.97	30
	High Channel	927.8	20.40	30
11. FSK 250Kbps FHSS 902.5MHz~927.5MHz	Low Channel	902.5	21.06	30
	Mid Channel	915	20.68	30
	High Channel	927.5	20.26	30

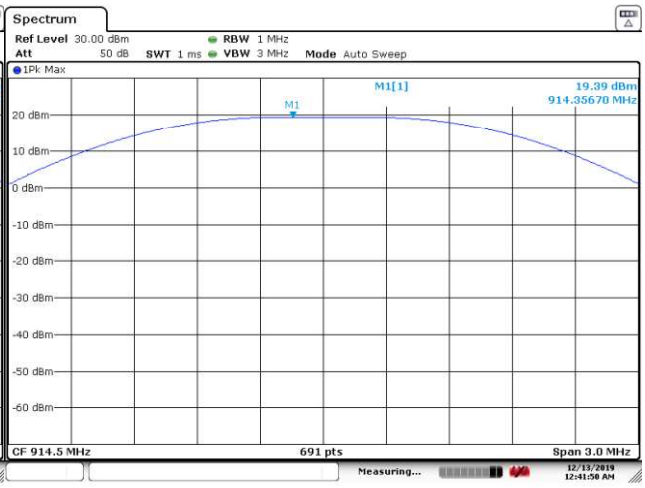
Figure 3: Maximum peak Conducted Output Power

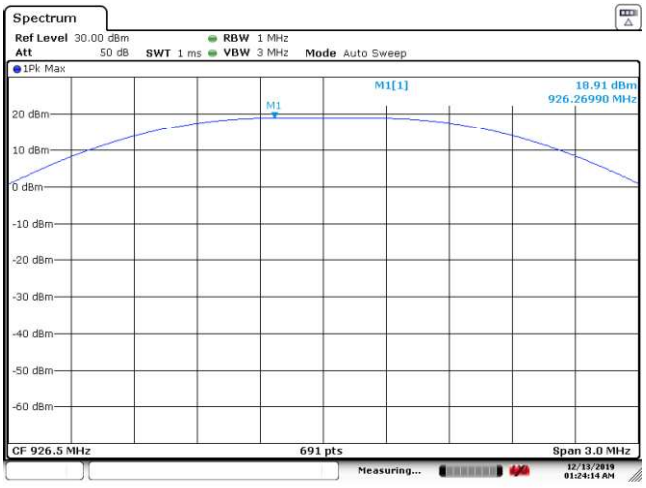
1. BLE, Maximum Peak Conducted Output Power, 2402MHz~2480MHz



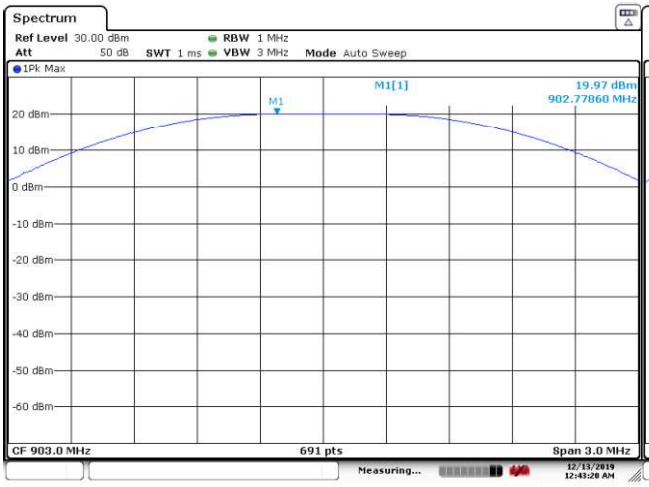
2. LoRa 500KHz DTS, Maximum Peak Conducted Output Power, 902.5MHz~926.5

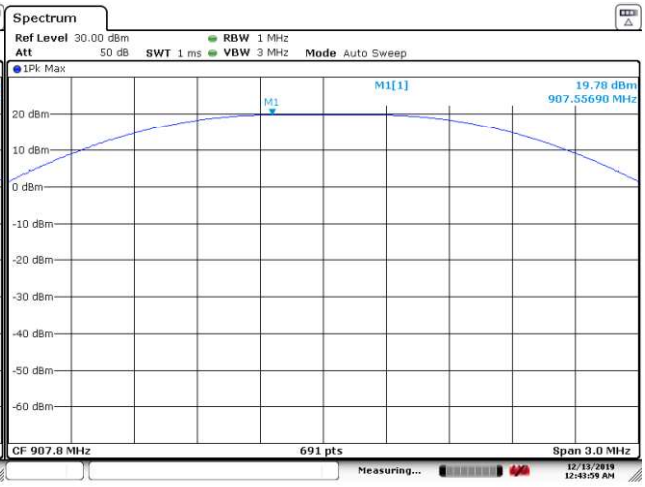


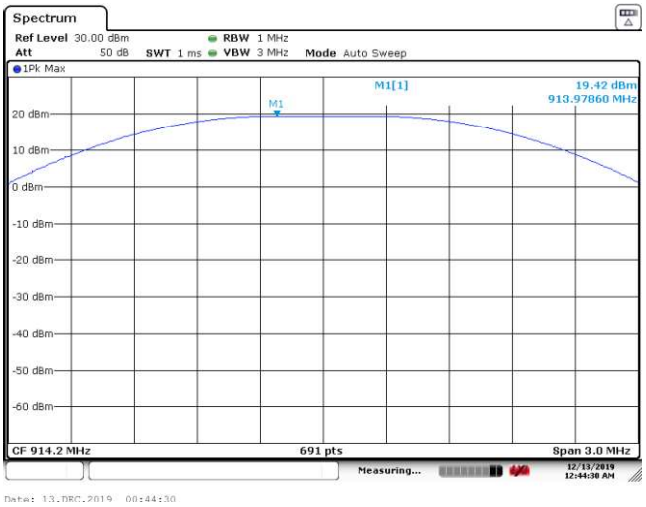




3. LoRa 500KHz DTS, Maximum Peak Conducted Output Power, 903MHz~914.2MHz

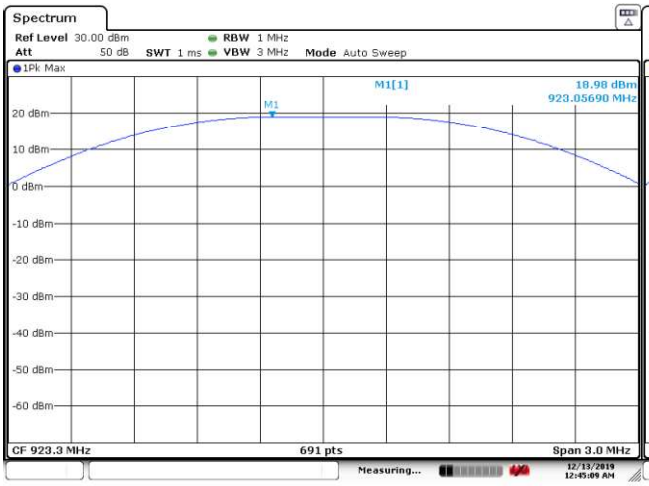




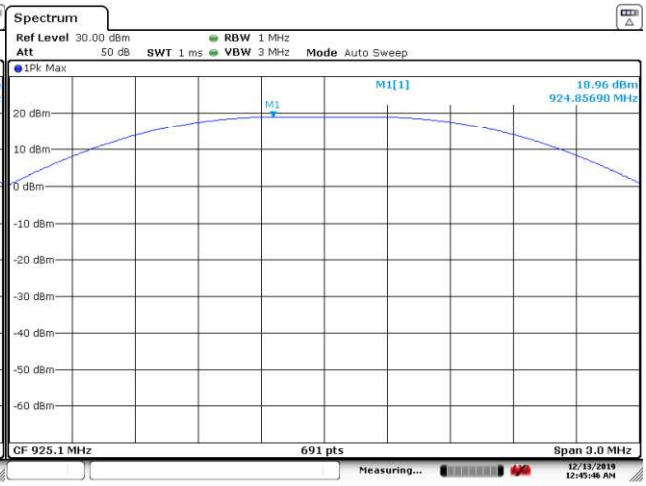


Date: 13.DEC.2019 00:44:30

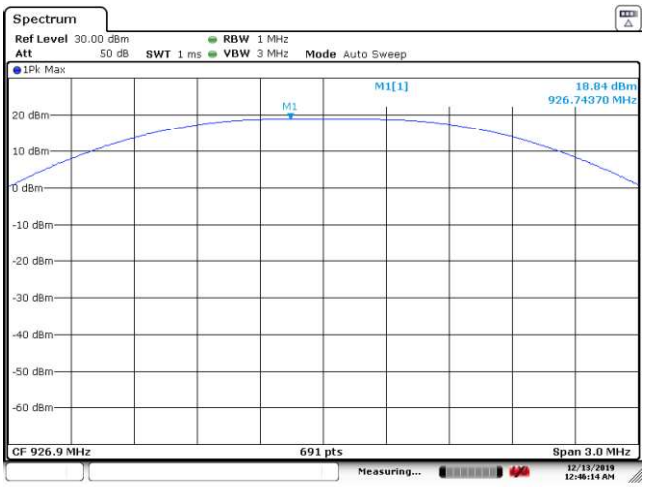
4. LoRa 500KHz DTS, Maximum Peak Conducted Output Power, 923.3MHz~926.9MHz



Date: 13.DEC.2019 00:45:09

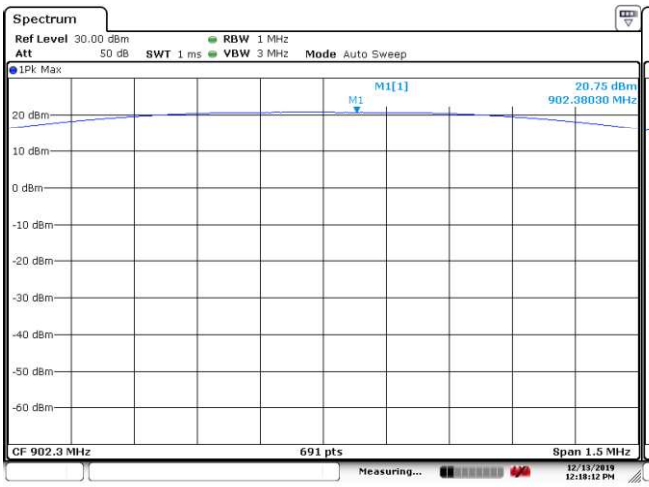


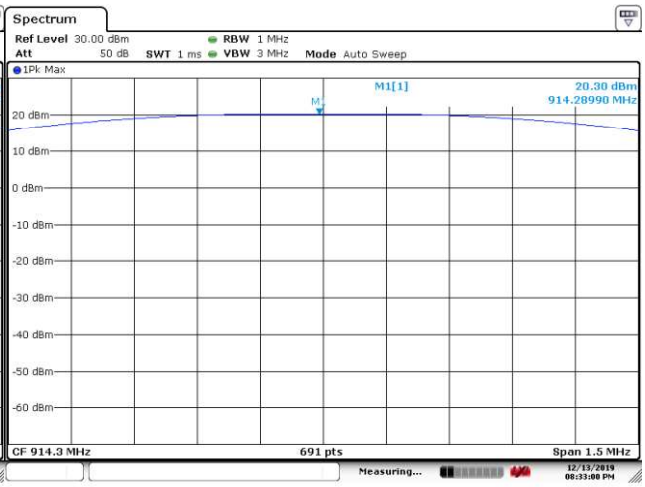
Date: 13.DEC.2019 00:45:46

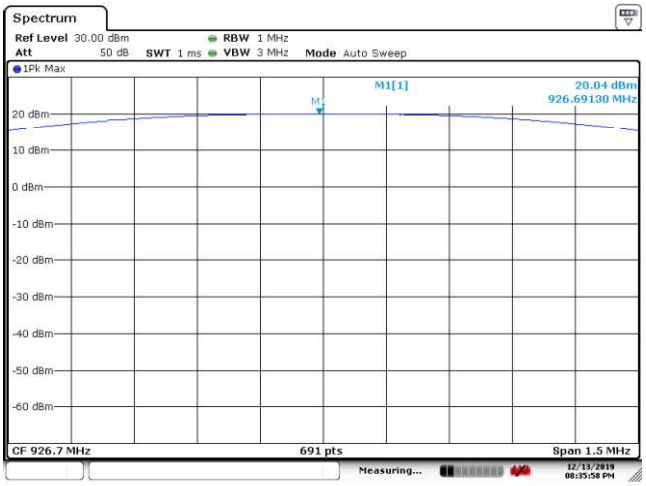


Date: 13.DEC.2019 00:46:14

5. LoRa 250KHz FHSS, Maximum Peak Conducted Output Power, 902.3MHz~926.7MHz







6. LoRa 125KHz FHSS, Maximum Peak Conducted Output Power, 902.3MHz~914.9MHz